

Turn to the **Pros**

HARRIS
INDUSTRIAL
EQUIPMENT
CATALOG



HARRIS KNOWS WHAT IT TAKES TO GET THINGS DONE, THAT'S WHY WE'VE BEEN EQUIPPING PROS



CUT



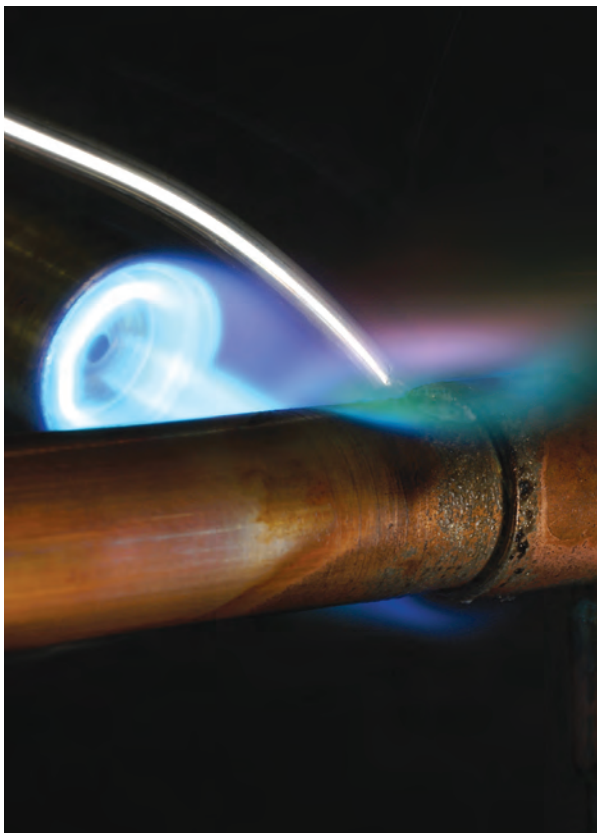
WELD



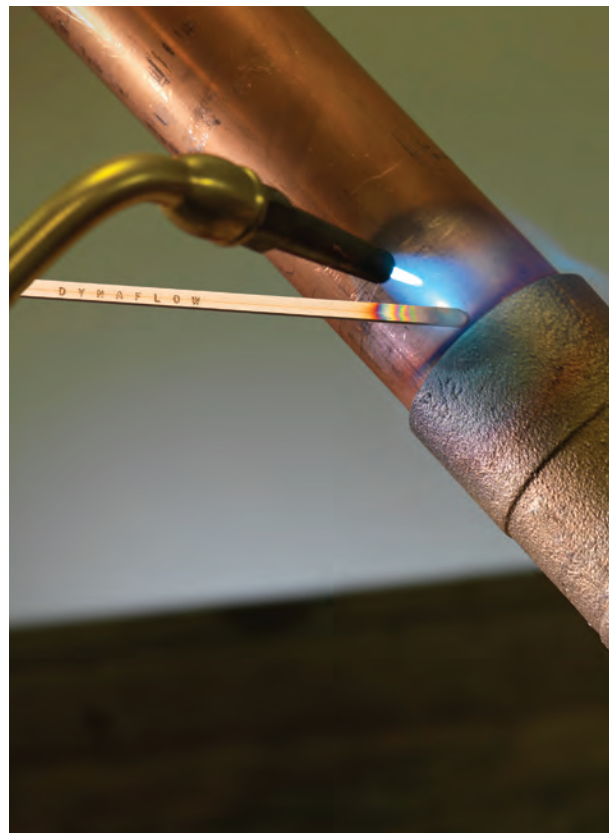
TURN TO THE PROS

WITH THE BEST STUFF FOR OVER 100 YEARS.

EACH DAY, HARRIS SETS OUT TO MAKE THE BEST AND MOST COMPLETE LINE OF INDUSTRIAL GRADE TOOLS IN THE WORLD. WHY? BECAUSE SUPERIOR RESULTS COUNT TO PROFESSIONAL TRADESMEN. HAVING THE RIGHT TOOLS FROM HARRIS WILL DELIVER A JOB WELL DONE, EVERY TIME. WE'RE GOING TO KEEP DOING WHAT WE DO BEST, SO YOU CAN DO WHAT YOU DO BEST. FOR THE BEST AND MOST COMPLETE LINE OF INDUSTRIAL GRADE PRODUCTS, **TURN TO THE PROS – TURN TO HARRIS.**



SOLDER



BRAZE



CONTENTS

THE HARRIS PRODUCTS GROUP	4	INERT GAS GUARDS	52	TIPS	102
WHY PROFESSIONAL TRADESMEN TURN TO THE PROS	6	Model 25 IGG, 301 IGG	54	ACETYLENE HAND CUTTING TIPS	
SINGLE-STAGE REGULATORS	8	Model 447 IGG	55	Model 3690, 3690AC	104
Model 601, 301	10	TORCH HANDLES	56	Model 6290, 6290-S	105
Model 25GX	11	Model 18-5	59	Model 6290AC	106
Model 25GX HVAC	12	Model 43-2	60	ALTERNATE FUEL HAND CUTTING TIPS	
Model 425	13	Model V-315C	62	Model 3690-P, 6290 N & NX	107
Model 45, 2500	14	Model VH31	63	Model 6290NFF, 6290NXP	108
Model 450, 45S	15	Model 19-6	64	V-SERIES CUTTING TIPS	
Model 29, 330	16	Model 50-9	65	Model V1-101	109
Model HP 750	17	Model 50-10	66	Model V1-101AC	110
Model 8700	18	Model 85	67	Model 1-GPN, 1-GPP	111
Model 3500	19	Model V-100C	69	Model V3-101	112
Model 3510, 3520	20	Model 15-3	70	Model 3-GPN, 3-GPP	113
Model 3530, 3540	21	CUTTING ATTACHMENTS	72	ALTERNATE FUEL MACHINE CUTTING TIPS	
Model 3560, 3580	22	Model 49-3F, 73-3	74	Model 6290-VVC	114
Model 3590	23	Model V-2460, 39-3F	75	Model 6290-VVCU	115
Model 247	24	Model 72-3, V-1350	76	Model 6290-VVCP	116
Model 447	25	Model VH24, 36-2N	77	Model 8090	117
Model 547	26	Model 36-2	78	HEAVY HAND CUTTING TIPS	
Model 2548, 647	27	MIXERS	80	Model 136	117
TWO-STAGE REGULATORS	28	Model E-43, V-W	82	Model 140, 140-HS	118
Model 2561	30	Model E2-43, V-W-2	83	WELDING AND BRAZING TIPS	
Model 9296	31	Model E3-43, V-W-3	84	Model 23A90	120
Model 9296SS	32	Model B-43-N, D-85	85	Model 5090	121
Model 9200	33	Model V-W-1, H-16-E	86	Model 1390	122
Model 9235, HP705	34	Model H-16-2E, H-16-S	87	Model 8490	123
FLOWMETERS	36	Model B-15-3, B-15-3S	88	Model 1390-N	124
Model 351	38	HAND CUTTING TORCHES	90	Model 8490-N	126
Model 55-2	39	Model 42-4E, 42-4F	92	HEATING TIPS	
Model 355-2, 6CD	40	Model V242	93	Model 2290-H&HPM	127
Model 6S, 356	41	Model 62-5E	94	Model J&H-Series	128
Model 2555, HP725	42	Model 62-5F	95	Model RBA	129
Model 351, 355-2 Kits	43	Model V-62-5F	96	Model RBP	130
FLOWGAUGES	44	Model 62-5SSF	98	ALTERNATE FUEL SPECIALTY TIPS	
Model 601, 301	46	Model 136	99	Model 6290	131
Model 425, 330	47	HEATING TORCHES AND ASSEMBLIES	100	ACETYLENE FUEL SPECIALTY TIPS	
Model 247, 447	48	Model 89-3	100	Model 6290	132
Model 547, HP715	49	Model K-43	101	MACHINE CUTTING TORCHES	134
Model 601 AR/CD, 301 AR/CD	50			Model 98-6F, 98-6E	136
				Machine Cutting Guide	137
				Model 80	138
				Straight Line Cutting Machine	138

KITS 140

COMBO - ALL FUEL GASES

Pipelinor® Classic	141
Steelworker® Classic	141
Expert® Classic	141

COMBO - ALTERNATE FUELS

Pipelinor® Classic/Propane Kit	142
Steelworker® Classic/Propane Kit	142
Pipelinor® Classic/Propylene Kit	142
Steelworker® Classic/Propylene Kit	142

CLASSIC PORT-A-TORCH® 143

V-SERIES® COMBO - ALL FUEL GASES

V-Series® Pipelinor®	143
V-Series® Steelworker®	144
V-Series® Expert®	144
V-Series® LPG®	144

IRONWORKER®

Ironworker® Acetylene	145
Ironworker® 2 Acetylene	145

V-SERIES® CLASSIC PORT-A-TORCH® 145

CUTTER PAC® - ALL FUEL GASES

Classic 62-5E	146
---------------	-----

CUTTER PAC® - ALTERNATE FUEL

Classic 62-5F	146
---------------	-----

CLASSIC HARDHAT™ - ALL FUEL GASES

Classic 62-5E Cutter Pac®	147
---------------------------	-----

CLASSIC HARDHAT™ - ALTERNATE FUEL

Classic Cutter Pac®	147
Classic Alternate Fuel Combo®	147

CLASSIC HARDHAT™ V-SERIES® COMBO

V-Series®	148
-----------	-----

GAS DISTRIBUTION 150

Laser Kits	150
Two-Gas Blenders	151
Gas Manifolds	151

ACCESSORIES 154

Regulator and Torch Accessories	154
Machine Cutting Accessories	161
Pipeline and Manifold Accessories	162

TECHNICAL DATA 165

Regulator Technical Data	165
Torch Technical Data	183



THE HARRIS PRODUCTS GROUP



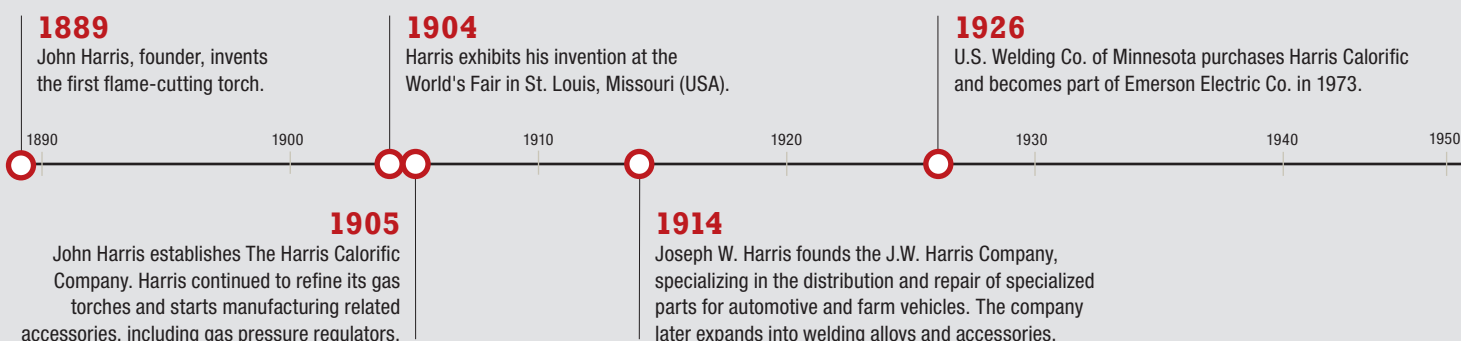
The Harris Products Group was formed by combining two strong names in the welding business—Harris Calorific and J.W. Harris. The Harris Products Group is a world leader in metalworking products used in the brazing, soldering, welding, cutting and gas distribution industries. The combined company offers excellence in the manufacture of:

- Gas welding and cutting equipment
- Industrial and specialty gas regulation equipment
- Gas distribution systems
- Brazing and soldering alloys
- Welding alloys
- Pre-formed bends, rings and return bends



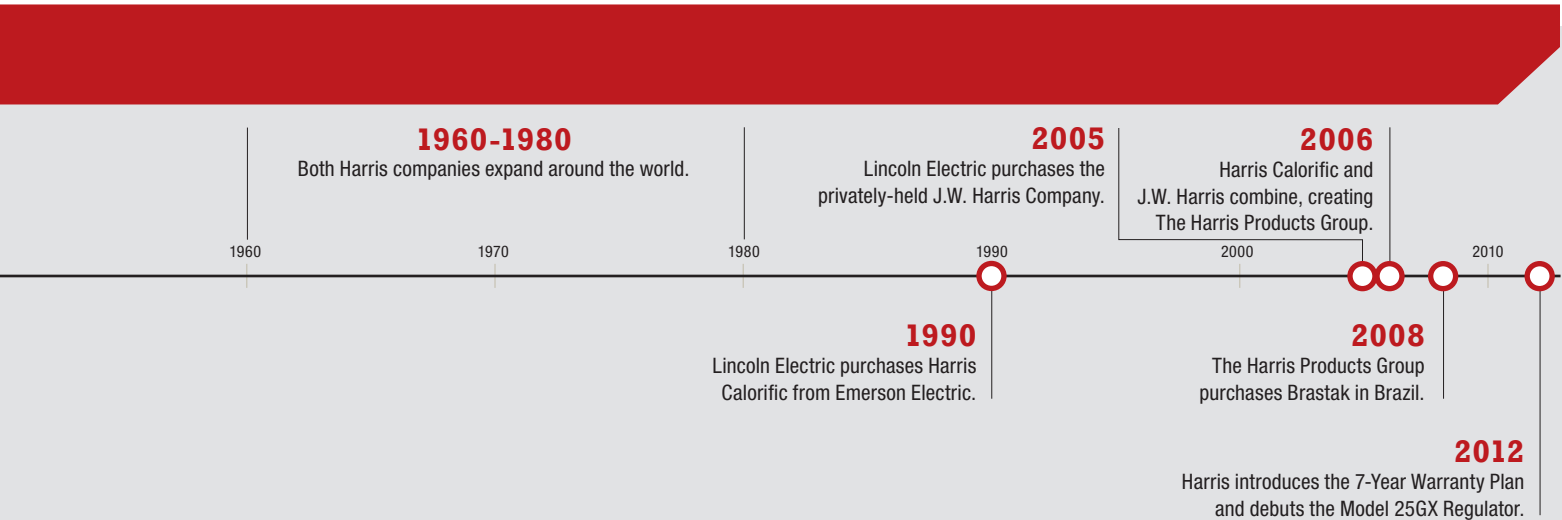
The Harris Products Group is a wholly-owned subsidiary of The Lincoln Electric Company. Lincoln has more than 45 manufacturing locations, including operations and joint ventures in 20 countries and a worldwide network of distributors and sales offices covering more than 160 countries.

THE HARRIS PRODUCTS GROUP HISTORY



MANUFACTURING FACILITIES

Based in Mason, Ohio, The Harris Products Group has five manufacturing locations in four countries and a worldwide network of distributors and sales offices covering more than 90 countries.



WHY PROFESSIONAL TRADESMEN TURN TO THE PROS

EXPERIENCE

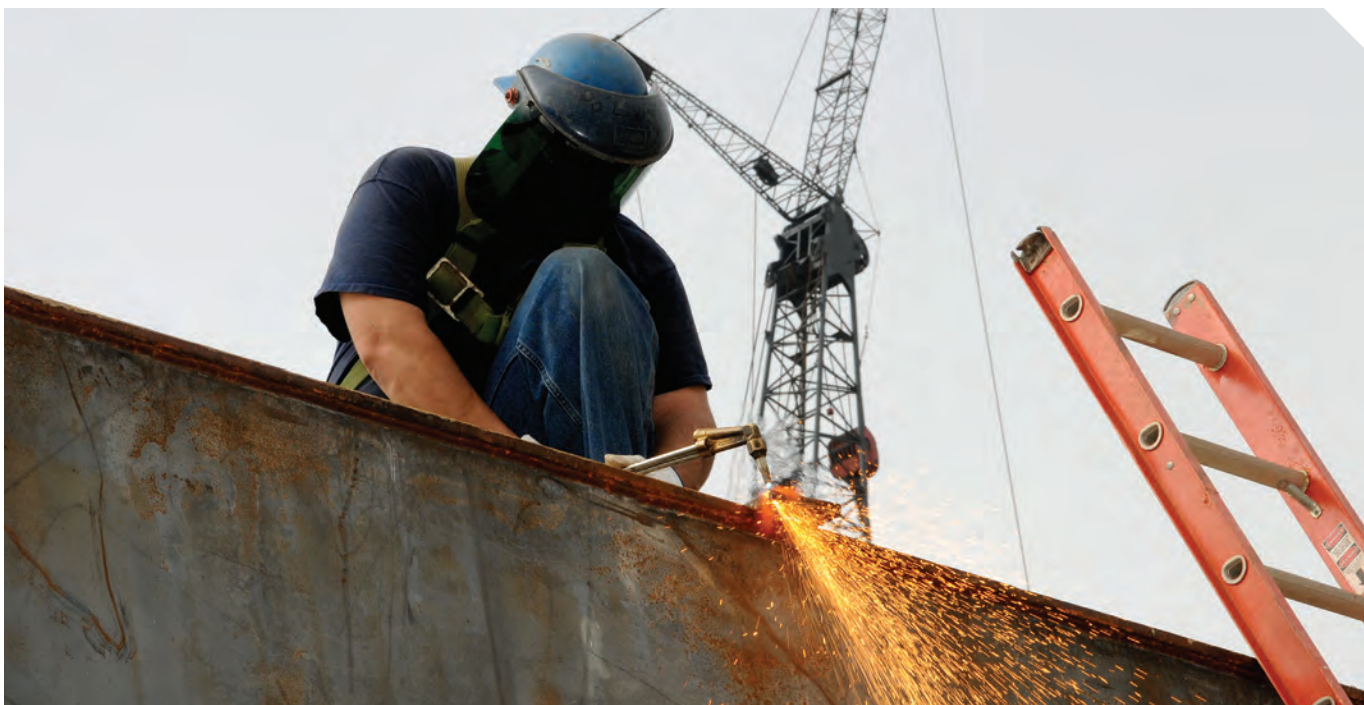
We know your industry. Our customers worldwide will attest that Harris products improve their processes, drive down costs and increase profits. We understand your business and the challenges you face every day.



COMMITMENT

The Harris Products Group is committed to a continuous pursuit of improvement in manufacturing excellence through the implementation of “lean manufacturing” concepts. Incorporated in our lean manufacturing initiatives are the principal concepts of continuous flow, pull demand, elimination of waste and pursuit of a system that is responsive to customers but lean in inventory, labor and manufacturing costs. Tools we currently use in this effort include Six Sigma, statistical process control, preventive maintenance, kanban and kaizen.

In addition to our lean manufacturing efforts we have also implemented automation systems, robotic systems and a incentive pay system. We use a rigorous financial planning process in conjunction with disciplined project management for the implementation of planned cost reductions for material, labor and overhead, as well as new product development.



QUALITY

The Harris Products Group is certified to ISO 9001:2000. Quality is an integral part in all processes of the company from development, planning, design and manufacturing to sales and service activities. Our quality system is regularly audited on both an internal and external basis to ensure that consistent business processes are applied.

EXPERTISE

Good companies become great companies when their employees are passionate about the company and the products they produce. We make it our business to know your company so that we can provide the right products for your processes. Our sales team is comprised of product application engineers that can complete on-site evaluations and surveys. They work closely with you to provide a total solution. This also includes support for our customers after the sale through our safety and factory training.

CERTIFICATIONS

The Harris Products Group is committed to environmental stewardship and resource conservation throughout the world. All Harris facilities are certified to ISO 14001.

The Harris Products Group is certified to ISO 9001:2000. Quality is an integral part in all processes of the company from development, planning, design and manufacturing to sales and service activities.

All Harris industrial gas regulators and torches are certified to the UL® listed standard. For more than a century, Underwriters Laboratories® has been one of the most recognized and trusted resources for product safety testing, certification and information. Choosing to work with UL® standards demonstrates our commitment to the highest levels of safety and quality. No other compliance organization speaks with more authority and integrity than UL.®

SINGLE-STAGE PRESSURE CONTROL REGULATORS

OUR REGULATORS ARE MADE FROM THE HIGHEST QUALITY INDUSTRIAL-GRADE COMPONENTS. THEY ARE DESIGNED TO WITHSTAND THE HARSHTEST ENVIRONMENTS AND ARE 100% TESTED PRIOR TO SHIPMENT FROM OUR FACILITY IN GAINESVILLE, GEORGIA. WE OFFER A COMPLETE RANGE OF SINGLE-STAGE INDUSTRIAL REGULATORS TO MEET YOUR APPLICATIONS AND BUDGET.



GET CONNECTED

Go to www.facebook.com/HarrisProductsGroup

QUICK SELECTION GUIDE

ECONOMICAL/COMPACT/ LIGHT WEIGHT



**601
MODEL**
ECONOMICAL

p.10

**301
MODEL**
COMPACT

p.10

GENERAL PURPOSE



**25GX
MODEL**
BEST VALUE

p.11

**25GX
MODEL**
HVAC PURGING

p.12

**425
MODEL**
BEST FEATURES

p.13

**45
MODEL**
HEAVY DUTY

p.14

STAINLESS STEEL DIAPHRAGM



**2500
MODEL**
PREMIUM
p.14

**450
MODEL**
STAINLESS STEEL
DIAPHRAGM
p.15

**45S
MODEL**
STAINLESS STEEL
DIAPHRAGM
p.15

GAUGELESS



**29
MODEL**
TOUGH
p.16

LIQUID CYLINDER



**330
MODEL**
LIQUID CYLINDER
GASEOUS
WITHDRAWAL
p.16



HISTORY

Tradesmen today demand rugged, industrial-grade tools that can stand up to harsh work environments and are engineered to last. The time-proven technology of the Model 25 regulator has made it the workhorse of the Harris regulator offering. Fabricators everywhere depend on it to deliver consistent performance and reliability.

Harris is proud to introduce its newest regulator platform—Generation Next—the Model 25GX.

We've taken everything you've come to trust about the Model 25 performance and made it even better. Whether it's our silky smooth adjusting knob, our large easy-to-read gauges or our new 7-year warranty, we are delivering the next generation of regulation equipment now.

We've been designing the best equipment money can buy for over 100 years—and we are just getting started...

DOME LOADED		HP 750 MODEL CONSTANT PRESSURE/ HIGH FLOW p.17
		8700 MODEL ULTRA HIGH PRESSURE p.18
HIGH PRESSURE		3500 MODEL HIGH PRESSURE p.19
		3510 MODEL MANIFOLD p.20
		3520 MODEL SIDE ENTRY p.20
		3530 MODEL HIGH FLOW PIPELINE p.21
		3540 MODEL ULTRA PIPELINE p.21
HIGH FLOW		3560 MODEL ULTRA HIGH FLOW p.22
		3580 MODEL ULTRA HIGH FLOW STAINLESS STEEL PIPELINE p.22
		3590 MODEL ULTRA HIGH FLOW STAINLESS STEEL DIAPHRAGM p.23
PIPELINE STATION		247 MODEL ECON. LINE/ STATION REG p.24
		447 MODEL HEAVY DUTY PIPELINE/STATION p.25
		547 MODEL HEAVY DUTY STATION p.26
		2548 MODEL STAINLESS STEEL DIAPHRAGM p.27
		647 MODEL PANEL MOUNT p.27



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

601

MODEL



ECONOMICAL

MODEL SHOWN:
601-15-520 A

DESCRIPTION

This single-stage regulator is designed to be compact and economical, but with features typically available in more expensive regulators. It is used where weight, cost and size are factors.

DETAILS

Capacity: Light duty

C_v: 0.08

Gauges: 50mm ABS plastic

Pressure Regulation:
0.4 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications: UL® listed/CGA E-4

Featured In: Expert® series kits, air fuel equipment kits, Port-A-Torch®

Weight: 1.39 lbs. /0.63 kg.



Additional Technical Information: PG. 166

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000295	601-15-200	ACETYLENE	400	0 - 15	30RZ	400	CGA 200	"B" 1/16" - 18 LH
3000407	601-15-200 A	ACETYLENE	400	0 - 15	30RZ	400	CGA 200	"A" 3/8" - 24 LH
3000408	601-15-520 A	ACETYLENE	400	0 - 15	30RZ	400	CGA 520	"A" 3/8" - 24 LH
3000411	601-15-520	ACETYLENE	400	0 - 15	30RZ	400	CGA 520	"B" 1/16" - 18 LH
3000331	601-15-510	ACETYLENE	400	0 - 15	30RZ	400	CGA 510	"B" 1/16" - 18 LH
3000322	601-15-300	ACETYLENE	400	0 - 15	30RZ	400	CGA 300	"B" 1/16" - 18 LH
3000409	601-50-510P	LPG*	400	0 - 50	60	400	CGA 510P	"B" 1/16" - 18 LH
3002317	601-50-600	LPG*	400	0 - 50	60	400	CGA 600	"B" 1/16" - 18 LH
3002318	601-50-600A	LPG*	400	0 - 50	60	400	CGA 600	"A" 3/8" - 24 LH
3000296	601-80-540	OXYGEN	3000	0 - 80	100	4000	CGA 540	"B" 1/16" - 18 RH
3000412	601-80-540 A	OXYGEN	3000	0 - 80	100	4000	CGA 540	"A" 3/8" - 24 RH

*Regulator designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.

301

MODEL



COMPACT

MODEL SHOWN:
301-100-540

DESCRIPTION

This single-stage regulator is designed to be compact, light weight and rugged. It provides accurate pressure regulation to 100 PSIG.

DETAILS

Capacity: Light to medium duty

C_v: 0.08

Gauges: 2" Steel dual scale

Pressure Regulation:
0.4 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications:
UL® listed/CGA E-4

Weight: 2.2 lbs./0.99 kg.



Additional Technical Information: PG. 166

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000165	301-15-200MC	ACETYLENE	400	0 - 15	30RZ	400	CGA 200 MC	1/16" - 18 LH
3000160	301-15-300	ACETYLENE	400	0 - 15	30RZ	400	CGA 300	1/16" - 18 LH
3000161	301-15-510	ACETYLENE	400	0 - 15	30RZ	400	CGA 510	1/16" - 18 LH
3000166	301-15-520B	ACETYLENE	400	0 - 15	30RZ	400	CGA 520B	1/16" - 18 LH
3000162	301-100-540	OXYGEN	3000	0 - 100	150	4000	CGA 540	1/16" - 18 RH
3000187	301-100-580	Ar, He, N ₂	3000	0 - 100	150	4000	CGA 580	1/16" - 18 RH
3000192	301-100-320	CO ₂	3000	0 - 100	150	4000	CGA 320	1/16" - 18 RH

GX 25 MODEL



BEST VALUE

MODEL SHOWN:
25GX-145-540

DESCRIPTION

The 25GX is designed to be the next generation workhorse of the Harris industrial regulator line. It features larger, easier to read gauges and an ergonomic adjusting knob that also shields the adjusting mechanism from contaminants.

DETAILS

Capacity: Medium to heavy duty

C_v: 0.17

Gauges: 2.5" Steel dual scale

Pressure Regulation:
0.2 PSIG/100 PSIG Decay

Seat: One-piece encapsulated seat design with PTFE Teflon® seat

Certifications: UL® listed/
CGA E-4

Featured In: Steelworker® Classic &
V-Series® kits

Weight: 2.9 lbs./1.32 kg.

Related Equipment: Gauge Guards
Green (Oxygen) P/N: 4300239
Red (Fuel) P/N: 4300238
See P. 160



Additional Technical Information: PG. 168

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000350	25GX-15-300	ACETYLENE	500	0 - 15	400	CGA 300	1/8" - 18 LH
3000380	25GX-15-510	ACETYLENE	500	0 - 15	400	CGA 510	1/8" - 18 LH
3000450	25GX-50-510P	PROPANE*	500	0 - 50	400	CGA 510P	1/8" - 18 LH
3000510	25GX-145-540	OXYGEN	3000	0 - 145	4000	CGA 540	1/8" - 18 RH
3000540	25GX-145-580	Ar, He, N ₂	3000	0 - 145	4000	CGA 580	1/8" - 18 RH **
3000550	25GX-145-590	INDUS. AIR	3000	0 - 145	4000	CGA 590	1/8" - 18 LH
3000806	25GX-200-580	Ar, He, N ₂	3000	0 - 200	4000	CGA 580	1/8" - 18 RH **

*Regulators designed for propane service can be used with any other LPG fuel. NOT FOR USE WITH ACETYLENE.

**Supplied with 1/8"-18 adaptor P/N: 9000002

ON THE HUNT FOR AN ALL-AROUND REGULATOR? CHECK OUT THE HARRIS **MODEL 25GX**.

The Harris Model 25GX is a legendary American classic. It is a medium to heavy duty regulator that provides you with a time-proven design that is built for those who want an economical, high-performance regulator.



ORIGIN:

Made in the USA in an ISO 9001 and 14001 certified facility.

QUALITY:

100% tested, 100% of the time

SAFETY:

Meets or exceeds all relevant industry standards —
UL® listed and CGA E-4. Passes all CGA E-4 ignition tests.

CAPACITY:

Medium to Heavy Duty

RELIABILITY:

One-piece encapsulated seat prevents damaging particles from entering the high pressure valve seat.

DESIGN:

Ergonomic modern design allows for precise pressure adjustments. Knob offers additional protection by shrouding the bonnet housing. Outlet angle improved for LP cylinder clearance.

DELIVERY PRESSURES:

0-15, 0-50, 0-145, 0-250 and 0-500

PRESSURE REGULATION:

Excellent pressure regulation from full to empty cylinder.

WARRANTY:

7 years



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

11

25GX MODEL



HVAC PURGING

MODEL SHOWN:
25GX-500-580

DESCRIPTION

This single-stage nitrogen purging regulator is designed for performance and economy, but with features typically available in more expensive regulators. Specifically designed for HVAC and other Nitrogen pressure testing and blanketing applications. Both the 25GX-250 and 25GX-500 feature a "T" bar for easier adjusting at high pressures.

DETAILS

Capacity: Medium to heavy duty

C_v: 0.17

Gauges: 2.5" Steel dual scale

Pressure Regulation:
0.2 PSIG/100 PSIG Decay

Certifications: CGA E-4

Where Used: HVAC purging, pressure testing and blanketing

Weight: 3.2 lbs./1.45 kg.

Related Equipment: Gauge Guards
Green (Oxygen) P/N: 4300239
Red (Fuel) P/N: 4300238
See P. 160



Additional Technical Information: PG. 167

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000616	25GX-250-580	Ar, He, N ₂	3000	0 - 250	4000	CGA 580	¼" 45° Flare SAE
3000606	25GX-500-580	Ar, He, N ₂	3000	0 - 500	4000	CGA 580	¼" 45° Flare SAE

THE TRUE MEASURE OF A REGULATOR

Performance = Pressure Regulation

There is a reason they are called "pressure" regulators. Regulators take unusable high pressure, for example, from a cylinder and break it down into a lower usable pressure. This is the true function of a regulator. How well a regulator maintains the lower pressure, despite the changes in pressure upstream, is the true measure of a regulator. The more constant the set pressure is held, the better the regulator. The Harris Model 450 offers superior pressure regulation over competitive models.

Pressure Comparison

Both of the competitive models, delivery pressure rises twice as fast as the Harris Model 450. This is important because the Harris Model 450 user will get a better, more constant delivery pressure, as the cylinder empties. Additionally, the user won't have to adjust the regulator as much, meaning more time spent working.

Calculations were performed per the Compressed Gas Association (CGA) E-4 standard. It is the most up-to-date and comprehensive regulator standard in the world today for the welding industry. It defines product safety and production test requirements and it defines performance characteristics required to meet field applications.

Model Number	Pressure Rise PSI / 100PSI	Change In Delivery Pressure	Final Outlet Pressure	Percent Change
Harris Model 450	0.30	+ 7.65	37.65	25%
Competitive Model 1a	0.56	+ 14.28	44.28	47%
Competitive Model 1b	0.70	+ 17.85	47.85	60%

425

MODEL



BEST FEATURES

DESCRIPTION

Model 425 is a premium, single-stage, industrial regulator that is an ideal choice for most industrial applications. This regulator incorporates a number of Harris features designed to make it a rugged, long-lasting performer, including an exclusive tamper-proof, self-seating internal HP safety valve. The 425 is also available in a multitude of pressure ranges and for all standard industry gases.

DETAILS

Capacity: Heavy duty

C_v: 0.17

Gauges: 2.5" brass

Pressure Regulation:
0.2 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications: UL® listed/CGA E-4

Featured In:
Pipeliner® Classic kits

Weight: 3.7 lbs./1.67 kg.

Related Equipment: Gauge Guards
Green (Oxygen) P/N: 4300239
Red (Fuel) P/N: 4300238
See P. 160



Additional Technical Information: PG. 168

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000816	425-15-300	ACETYLENE	500	0 - 15	30RZ	400	CGA 300	1/16" - 18 LH
3000815	425-15-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	1/16" - 18 LH
3000713	425-50-510P	LPG**	3000	0 - 50	60	400	CGA 510P	1/16" - 18 LH
3000784	425-50A-350*	H ₂ METHANE	3000	0 - 50	60	4000	CGA 350	1/16" - 18 LH
3000794	425-125A-350*	H ₂ METHANE	3000	0 - 125	200	4000	CGA 350	1/16" - 18 LH
3000787	425-125-350	ETHYLENE, METHANE	3000	0 - 125	200	4000	CGA 350	1/16" - 18 LH
3000795	425-50-540	OXYGEN	3000	0 - 50	60	4000	CGA 540	1/16" - 18 RH
3000714	425-125-540	OXYGEN	3000	0 - 125	200	4000	CGA 540	1/16" - 18 RH
3000796	425-200-540	OXYGEN	3000	0 - 200	400	4000	CGA 540	1/16" - 18 RH
3000762	425-125-346	MEDICAL AIR	3000	0 - 125	200	4000	CGA 346	1/16" - 18 RH
3000764	425-200-346	MEDICAL AIR	3000	0 - 200	400	4000	CGA 346	1/16" - 18 RH
3000821	425-125-590	INDUSTRIAL AIR	3000	0 - 125	200	4000	CGA 590	1/16" - 18 RH
3000837	425-15-580	Ar, He, N ₂	3000	0 - 15	30	4000	CGA 580	1/16" - 18 RH
3000843	425-50-580	Ar, He, N ₂	3000	0 - 50	50	4000	CGA 580	1/16" - 18 RH
3000767	425-125-580	Ar, He, N ₂	3000	0 - 125	200	4000	CGA 580	1/16" - 18 RH
3000765	425-125A-580*	Ar, He, N ₂	3000	0 - 125	200	4000	CGA 580	1/16" - 18 RH
3000773	425-200-580	Ar, He, N ₂	3000	0 - 200	400	4000	CGA 580	1/16" - 18 RH
3000848	425-15-555	BUTANE	3000	0 - 15	30	4000	CGA 555	1/16" - 18 RH
3000775	425-125-320	CO ₂	3000	0 - 125	200	4000	CGA 320	1/16" - 18 RH

*Regulators designed specifically for LPG service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.

**Models with anti-vibrator "A" for He and H₂ applications feature the standard Harris internal safety.

PERFORMANCE FOCUS

CHOOSE THE RIGHT HARRIS FLOW CONTROL DEVICES

The most common use for gas flow control devices in the industrial gas market is to control shielding gases for GTAW (TIG) and GMAW (MIG) welding. No other manufacturer in the industry offers a more complete line of shielding gas equipment than Harris. Harris offers many designs and models of flow meters, flow meter regulators and flow gauge regulators for all gas supply systems, high-pressure cylinders, liquid cylinders and pipelines.

CONTACT YOUR HARRIS REPRESENTATIVE FOR THE FEATURES AND BENEFITS THAT BEST FIT YOUR APPLICATION(S).



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

13

45

MODEL



HEAVY DUTY REGULATORS

MODEL SHOWN:
45S-145-540

DESCRIPTION

The Model 45 single stage regulator is available with a neoprene diaphragm for extra safety, longer life, and greater dependability. Model 45 regulators have internal, tamper-proof high pressure safeties.

DETAILS

Capacity: Heavy duty**C_v:** 0.17**Gauges:** 2.5" brass**Seat:** One-piece encapsulated seat design with PTFE Teflon® seat**Pressure Regulation:**
.2 PSI/100 PSIG**Certifications:** CGA E-4**Featured In:** Ironworker® 2 kits**Weight:** 3.2 lbs./ 1.45 kg.**Related Equipment:** Gauge Guards
Green (Oxygen) P/N: 4300239
Red (Fuel) P/N: 4300238

See P. 160



Additional Technical Information: PG. 169

PART #	Model #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3001781	45-145-540	OXYGEN	3000	0 - 145	4000	CGA 540	9/16" - 18RH
3001782	45-15-510	ACETYLENE	500	0 - 15	400	CGA 510	9/16" - 18LH
3001783	45-15-300	ACETYLENE	500	0 - 15	400	CGA 300	9/16" - 18LH

2500

MODEL



PREMIUM STAINLESS STEEL DIAPHRAGM

MODEL SHOWN:
2500-125-540

DESCRIPTION

The Model 2500 is a Harris premium single-stage regulator offering. It features a stainless steel diaphragm, a tamper-proof, self-reseating internal HP safety valve and a one-piece encapsulated seat.

DETAILS

Capacity: Heavy duty**C_v:** 0.17**Gauges:** 2.5" brass**Pressure Regulation:**
0.3 PSIG/100 PSIG**Seat:** One-piece encapsulated seat design with internal filter and PTFE Teflon® seat**Certifications:** UL® listed/
CGA E-4**Where Used:** V-Series®
Pipeliner® kits**Weight:** 4.6 lbs./2.09 kg.

Additional Technical Information: PG. 169

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3002508	2500-15-300	ACETYLENE	500	0 - 15	30RZ	400	CGA 300	9/16" - 18 LH
3002500	2500-15-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	9/16" - 18 LH
3002502	2500-50-510P	LPG*	500	0 - 50	100	400	CGA 510P	9/16" - 18 LH
3002504	2500-125-540	OXYGEN	3000	0 - 125	200	4000	CGA 540	9/16" - 18 RH
3002511	2500-50-540	OXYGEN	3000	0 - 50	100	4000	CGA 540	9/16" - 18 RH
3002519	2500-125-580	Ar, He, N ₂	3000	0 - 125	200	4000	CGA 580	5/8" - 18 RH

*Regulators designed specifically for LPG service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.

450

MODEL



STAINLESS STEEL DIAPHRAGM

MODEL SHOWN:
450-125-540

DESCRIPTION

The Model 450 is an economically priced industrial duty regulator, but with premium features found only in high priced regulators. The 450 has a stainless steel diaphragm and a Harris exclusive tamper-proof self-seating safety relief device.

DETAILS

Capacity: Heavy duty**C_v:** 0.17**Gauges:** 2.5" brass**Pressure Regulation:**
0.3 PSIG/100 PSIG**Seat:** One-piece encapsulated seat design with internal filter and PTFE Teflon® seat**Certifications:** UL® listed/CGA E-4**Weight:** 4.6 lbs./2.09 kg.

Additional Technical Information: PG. 169

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3002493	450-15-300	ACETYLENE	500	0 - 15	30RZ	400	CGA 300	1/16" - 18 LH
3002494	450-15-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	1/16" - 18 LH
3002495	450-50-510P	LPG*	500	0 - 50	100	400	CGA 510P	1/16" - 18 LH
3002496	450-50-540	OXYGEN	3000	0 - 50	100	4000	CGA 540	1/16" - 18 RH
3002497	450-125-540	OXYGEN	3000	0 - 125	200	4000	CGA 540	1/16" - 18 RH
3002499	450-200-540	OXYGEN	3000	0 - 200	400	4000	CGA 540	1/16" - 18 RH
3002498	450-125-580	AR, HE, N ₂	3000	0 - 125	200	4000	CGA 580	1/16" - 18 RH

*Regulator designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.

45S

MODEL



HEAVY DUTY REGULATORS

MODEL SHOWN:
45S-145-540

DESCRIPTION

The Model 45S single stage regulator is available with a stainless steel diaphragm for extra safety, longer life, and greater dependability. Model 45S regulators have internal, tamper-proof high pressure safety and features a self-reseating high pressure safety.

DETAILS

Capacity: Heavy duty**C_v:** 0.17**Gauges:** 2.5" brass**Seat:** One-piece encapsulated seat design with PTFE Teflon® seat**Pressure Regulation:**
.3 PSI/ 100 PSIG**Certifications:** CGA E-4**Featured In:** Ironworker® kits**Weight:** 3.2 lbs./ 1.45 kg.**Related Equipment:** Gauge Guards
Green (Oxygen) P/N: 4300239
Red (Fuel) P/N: 4300238
See P. 160

Additional Technical Information: PG. 170

PART #	Model #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3001776	45S-145-540	OXYGEN	3000	0 - 145	4000	CGA 540	1/16" - 18RH
3001777	45S-15-510	ACETYLENE	500	0 - 15	400	CGA 510	1/16" - 18LH
3001778	45S-15-300	ACETYLENE	500	0 - 15	400	CGA 300	1/16" - 18LH



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

15

29

MODEL



GAUGELESS

MODEL SHOWN:
29-15C-300

DESCRIPTION

The Model 29 gaugeless regulator is specifically designed for use in installations where rough handling of gas apparatus is commonplace. The color coded cylinder contents indicator and the delivery pressure calibration on the bonnet are easy to read.

DETAILS

Capacity: Heavy duty

C_v: 0.17

Gauges: N/A

Pressure Regulation:
0.2 PSIG/100 PSIG

Seat: One-piece encapsulated

seat design with internal filter
and PTFE Teflon® seat

Certifications: UL® listed/
CGA E-4

Weight: 2.7 lbs./1.22 kg.



Additional Technical Information: PG. 168

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3600260	29-15C-510	ACETYLENE	500	0 - 15	-	-	CGA 510	1/16" - 18 LH
3600250	29-15C-300	ACETYLENE	500	0 - 15	-	-	CGA 300	1/16" - 18 LH
3600320	29-50C-510P	LPG*	500	0 - 50	-	-	CGA 510P	1/16" - 18 LH
3600340	29-100C-540	OXYGEN	3000	0 - 100	-	-	CGA 540	1/16" - 18 RH
3600200	29-100C-540SG	OXYGEN	3000	0 - 100	-	-	CGA 540SG	1/16" - 18 RH
3600345	29-100C-580	Ar, He, N ₂	3000	0 - 100	-	-	CGA 580	1/16" - 18 RH

*Regulator designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.

330

MODEL



LIQUID CYLINDER GASEOUS WITHDRAWAL

MODEL SHOWN:
330-125-580

DESCRIPTION

The Model 330 regulator allows for gaseous withdrawal from oxygen, carbon dioxide, argon and/or nitrogen liquid cylinders. It has a stainless steel diaphragm and a tamper-proof, self-reseating internal HP safety valve. Its unique design permits inlet pressures of up to 3000 PSIG for use on high pressure cylinders.

DETAILS

Capacity: Heavy duty

C_v: 0.37

Gauges: 2" Brass

Pressure Regulation:
0.2 PSIG/100 PSIG

Seat: One-piece encapsulated
seat design with internal filter
and PTFE Teflon® seat

Certifications: CGA E-4

Where Used: Cryogenic
cylinders for vapor withdrawal

Weight: 4.3 lbs./1.95 kg.



Additional Technical Information: PG. 170

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3001090	330-125-540	OXYGEN	3000	0 - 125	200	-	CGA 540	1/16" - 18
3001093	330-350-540	OXYGEN	3000	0 - 350	500	-	CGA 540	1/16" - 18
3001097	330-500-540	OXYGEN	3000	0 - 500	600	-	CGA 540	1/4" - NPT
3001091	330-125-580	Ar, NITROGEN	3000	0 - 125	200	-	CGA 580	1/16" - 18
3001094	330-350-580	Ar, NITROGEN	3000	0 - 350	500	-	CGA 580	1/16" - 18
3001098	330-500-580	Ar, NITROGEN	3000	0 - 500	600	-	CGA 580	1/4" - NPT
3001092	330-125-320	CO ₂	3000	0 - 125	200	-	CGA 320	1/16" - 18
3001095	330-350-320	CO ₂	3000	0 - 350	500	-	CGA 320	1/16" - 18
3001099	330-500-320	CO ₂	3000	0 - 500	600	-	CGA 320	1/4" - NPT

HP750 MODEL



CONSTANT PRESSURE/HIGH FLOW

MODEL SHOWN:
HP750-500-3000

DESCRIPTION

The Model HP750 series regulator is a high pressure, high flow regulator system. The key to the performance of this regulator is the servo-dome load technology. The servo-dome load feature allows the regulator to supply high flow rates with straight line pressure regulation. Typical applications include high flow laser assist gases, pressure transfer, blanketing and high flow manifolds.

DETAILS

Capacity: High flow/constant pressure

C_v: 0.55 for 3000 PSI inlet Models
& 0.4 for 5500 PSI inlet Models

Gauges: 2.5" Brass - psi/bar

Pressure Regulation:

0.3 PSIG/100PSIG on 5500 inlet models

0.5 PSIG/100PSIG on 3000 psi inlet models

Bushing: ½" MNPT x ¼" NPT (F) P/N:9005806

Seat: One-piece encapsulated seat with internal filter and PTFE Teflon® seat – 3000 PSIG Models and CTFE (Kel-F®) 5500 PSIG Models

Certifications: CGA E-4

Weight: 8.5 lbs./3.85 kg.

Related Options: Panel Mount Nut: P/N: 9100887

Adapters: CGA 580 P/N: 9103616, CGA 540 P/N:9103615,

CGA 680 P/N: 9103617

Additional Technical Information: PG. 171



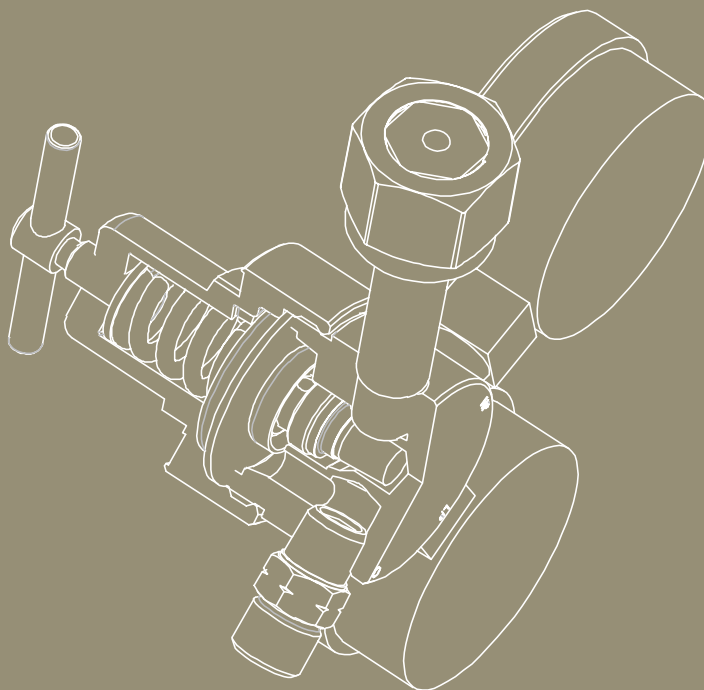
PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000865	HP750-250-3000	NON CORROSIVE	3000	0 - 250	400	4000	½" NPT (F)	½" NPT (F)
3000860	HP750-500-3000	NON CORROSIVE	3000	0 - 500	600	4000	½" NPT (F)	½" NPT (F)
3000866	HP750-1000-3000	NON CORROSIVE	3000	0 - 1000	2000	4000	½" NPT (F)	½" NPT (F)
3000867	HP750-250-5500	NON CORROSIVE	5500	0 - 250	400	6000	½" NPT (F)	½" NPT (F)
3000868	HP750-500-5500	NON CORROSIVE	5500	0 - 500	600	6000	½" NPT (F)	½" NPT (F)
3000869	HP750-1000-5500	NON CORROSIVE	5500	0 - 1000	2000	6000	½" NPT (F)	½" NPT (F)

PRODUCT OVERVIEW SINGLE-STAGE REGULATORS

All regulators are designed to reduce the inlet pressure to a desired working pressure. The regulator can reduce the pressure in either one step or two steps. A single-stage regulator reduces the pressure in one step and a two-stage regulator reduces the pressure in two steps, either may be suitable for the application based on the desired pressure control.

ADVANTAGES OF SINGLE-STAGE REGULATORS

- Smaller Size
- Lighter Weight
- Lower Cost
- Higher Gas Flows



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

17

8700

MODEL



ULTRA HIGH PRESSURE UP TO 7500 PSI INLET

MODEL SHOWN:
8700-2500-350

DESCRIPTION

The Model 8700 is a single-stage, high pressure regulator designed to operate on high pressure cylinders up to 7500 PSIG. Typical applications include high pressure testing, charging accumulators and pressurizing aircraft struts. Models for inert gas and air are self-relieving for safety.

DETAILS

Capacity: Ultra High pressure

C_v: 0.08

Gauges: 2.5" Brass psi/bar

Pressure Regulation:

3.3 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and CTFE (Kel F®) seat

Certifications: CGA E-4

Related Items:

Panel mount nut P/N: 9100887

Weight: 5.8 lbs./2.63 kg.



Additional Technical Information: PG. 172

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3200306	8700-1500-540	OXYGEN	3000	0 - 1500	3000	4000	CGA 540	¼" - SS TUBE FITTING
3200307	8700-2500-540	OXYGEN	3000	0 - 2500	4000	4000	CGA 540	¼" - SS TUBE FITTING
3200308	8700-1500-540SG	OXYGEN	3000	0 - 1500	3000	4000	CGA 540	¼" - SS TUBE FITTING
3200309	8700-2500-540SG	OXYGEN	3000	0 - 2500	4000	4000	CGA 540	¼" - SS TUBE FITTING
3200273	8700-800-590*	INDUST. AIR	3000	0 - 800	1000	4000	CGA 590	¼" - SS TUBE FITTING
3200304	8700-1500-590*	INDUST. AIR	3000	0 - 1500	3000	4000	CGA 590	¼" - SS TUBE FITTING
3200305	8700-2500-590*	INDUST. AIR	3000	0 - 2500	4000	4000	CGA 590	¼" - SS TUBE FITTING
3200270	8700-800-346*	MEDICAL AIR	3000	0 - 800	1000	4000	CGA 346	¼" - SS TUBE FITTING
3200310	8700-1500-346*	MEDICAL AIR	3000	0 - 1500	3000	4000	CGA 346	¼" - SS TUBE FITTING
3200311	8700-2500-346*	MEDICAL AIR	3000	0 - 2500	3000	4000	CGA 346	¼" - SS TUBE FITTING
3200312	8700-1500-347*	MEDICAL AIR	5500	0 - 1500	3000	6000	CGA 347	¼" - SS TUBE FITTING
3200314	8700-3000-347*	MEDICAL AIR	5500	0 - 3000	4000	6000	CGA 347	¼" - SS TUBE FITTING
3200315	8700-4500-347*	MEDICAL AIR	5500	0 - 4500	6000	6000	CGA 347	¼" - SS TUBE FITTING
3200320	8700-1500-677*	Ar, He, N ₂	7500	0 - 1500	3000	10000	CGA 677	¼" - SS TUBE FITTING
3200321	8700-3000-677*	Ar, He, N ₂	7500	0 - 3000	4000	10000	CGA 677	¼" - SS TUBE FITTING
3200322	8700-4500-677*	Ar, He, N ₂	7500	0 - 4500	6000	10000	CGA 677	¼" - SS TUBE FITTING
3200323	8700-6000-677*	Ar, He, N ₂	7500	0 - 6000	10000	10000	CGA 677	¼" - SS TUBE FITTING
3200324	8700-1500-680*	Ar, He, N ₂	5500	0 - 1500	3000	6000	CGA 680	¼" - SS TUBE FITTING
3200326	8700-3000-680*	Ar, He, N ₂	5500	0 - 3000	4000	6000	CGA 680	¼" - SS TUBE FITTING
3200327	8700-4500-680*	Ar, He, N ₂	5500	0 - 4500	6000	6000	CGA 680	¼" - SS TUBE FITTING
3200272	8700-800-580*	Ar, He, N ₂	3000	0 - 800	1000	4000	CGA 580	¼" - SS TUBE FITTING
3200300	8700-1500-580*	Ar, He, N ₂	3000	0 - 1500	3000	4000	CGA 580	¼" - SS TUBE FITTING
3200301	8700-2500-580*	Ar, He, N ₂	3000	0 - 2500	4000	4000	CGA 580	¼" - SS TUBE FITTING
3200271	8700-800-350	H ₂ , METHANE	3000	0 - 800	1000	4000	CGA350	¼" - SS TUBE FITTING
3200302	8700-1500-350	H ₂ , METHANE	3000	0 - 1500	3000	4000	CGA 350	¼" - SS TUBE FITTING
3200303	8700-2500-350	H ₂ , METHANE	3000	0 - 2500	4000	4000	CGA 350	¼" - SS TUBE FITTING
3200316	8700-1500-695	H ₂ , METHANE	5500	0 - 1500	3000	6000	CGA 695	¼" - SS TUBE FITTING
3200318	8700-3000-695	H ₂ , METHANE	5500	0 - 3000	4000	6000	CGA 695	¼" - SS TUBE FITTING
3200319	8700-4500-695	H ₂ , METHANE	5500	0 - 4500	6000	6000	CGA 695	¼" - SS TUBE FITTING

*Self venting for safety and ease of adjustment
SG – Surge Guard – for Safety with Oxygen

3500

MODEL



HIGH PRESSURE/HIGH FLOW

MODEL SHOWN:
3500-125-540

DESCRIPTION

The Model 3500 is specifically designed to provide high gas flows from cylinders and to supply manifold gas systems. It is also ideal for special high flow cylinder applications such as heavy cutting and heating. All models offer dual port outlets.

DETAILS

Capacity: High pressure, High Flow

C_v: Up To 0.55

Gauges: 2.5" Brass

Pressure Regulation:

1.6 PSIG/100 PSIG on 0.55

C_v models & 0.9 PSIG/100 PSIG on 0.4 C_v models

Seat: One-piece encapsulated seat design with internal filter and CTFE (Kel F®) seat

Certifications: CGA E-4

Related Items:

¼" plug P/N: 9000306

⅜" plug P/N: 9000373

Weight: 4.6 lbs./2.09 kg.



Additional Technical Information: PG. 173

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3003504	3500-15-510	ACETYLENE	500	0 - 15	30	400	CGA 510	⅜" - 18LH
3003505	3500-15-300	ACETYLENE	500	0 - 15	30	400	CGA 300	⅜" - 18LH
3003514	3500-50-510P*	LPG	500	0 - 50	100	400	CGA 510P	⅜" - 18LH
3003503	3500-125-350	H ₂ , METHANE	3000	0 - 125	200	4000	CGA 350	⅜" - 18LH
3003509	3500-125-695	H ₂ , METHANE	5500	0 - 125	200	6000	CGA 695	⅜" - 18LH
3003513	3500-200-350	H ₂ , METHANE	3000	0 - 200	400	4000	CGA 350	⅜" - 18LH
3003518	3500-200-695	H ₂ , METHANE	5500	0 - 200	400	6000	CGA 695	⅜" - 18LH
3003500	3500-125-540	OXYGEN	3000	0 - 125	200	4000	CGA 540	⅜" - 18RH
3003510	3500-200-540	OXYGEN	3000	0 - 200	400	4000	CGA 540	⅜" - 18RH
3003502	3500-125-346	AIR	3000	0 - 125	200	4000	CGA 346	⅜" - 18RH
3003508	3500-125-347	AIR	5500	0 - 125	200	6000	CGA 347	⅜" - 18RH
3003512	3500-200-346	AIR	3000	0 - 200	400	4000	CGA 346	⅜" - 18RH
3003517	3500-200-347	AIR	5500	0 - 200	400	6000	CGA 347	⅜" - 18RH
3003501	3500-125-580	Ar, He, N ₂	3000	0 - 125	200	4000	CGA 580	⅜" - 18RH
3003507	3500-125-680	Ar, He, N ₂	5500	0 - 125	200	6000	CGA 680	⅜" - 18RH
3003511	3500-200-580	Ar, He, N ₂	3000	0 - 200	400	4000	CGA 580	⅜" - 18RH
3003516	3500-200-680	Ar, He, N ₂	5500	0 - 200	400	6000	CGA 680	⅜" - 18RH
3003540	3500-400-580	Ar, He, N ₂	3000	0 - 400	600	4000	CGA 580	⅜" - NPT(M)
3003541	3500-600-580	Ar, He, N ₂	3000	0 - 600	1000	4000	CGA 580	⅜" - NPT(M)

*Regulators designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.

**All 3500 series have auxiliary ports. Those with ⅜" "outlet connections" have ⅜" auxiliary ports. Those with ⅜" or ⅝" connections have ⅜" auxiliary connections.



DESCRIPTION

The Model 3500 is ideal for wheel guns used in NASCAR®, IRL® and CART® racing. In addition, our Model 3500-600-580 is especially designed for integral pit jack systems common in IRL® and CART® vehicles. Both models feature a ¼" NPT(F) auxiliary delivery port.

MODEL SHOWN:
3500-600-580



PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3003538	3500-400-580	Ar, He, N ₂	3000	0-400	600	4000	CGA 580	⅜" NPT(M)
3003539	3500-600-580	Ar, He, N ₂	3000	0-600	1000	4000	CGA 580	⅜" NPT(M)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

19

3510

MODEL



HIGH FLOW MANIFOLD

MODEL SHOWN:
3510-200-RH

DESCRIPTION

The Model 3510 is a high flow manifold regulator. It is equipped with inlet and outlet connections required on Harris manifold systems. The body ports are 1/2" NPT for direct mounting in piping systems.

DETAILS

Capacity: Heavy duty

C_v: 0.4 for 15 PSIG models and 0.55 for all other models

Gauges: 2.5" Brass psi/bar

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat. 0-15 models have neoprene seat.

Pressure Regulation:

1.6 PSIG/100 PSIG

Certifications: CGA E-4

Where Used: Manifold systems, pipeline systems

Weight: 5.5 lbs./2.49 kg.



Additional Technical Information: PG. 173

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3003547**	3510-15-LH	FUEL GAS	400	0 - 15	30	400	1.00-11.5 NPS LH (F)	1.00-11.5 NPS LH (M)
3003548*	3510-125-LH	FUEL GAS	3000	0 - 125	200	4000	1.00-11.5 NPS LH (F)	1.00-11.5 NPS LH (M)
3003551*	3510-200-LH	FUEL GAS	3000	0 - 100	400	4000	1.00-11.5 NPS LH (F)	1.00-11.5 NPS LH (M)
3003546**	3510-15-RH	NON-FUEL GAS	400	0 - 15	30	400	1.00-11.5 NPS RH (F)	1.00-11.5 NPS RH (M)
3003549	3510-125-RH	NON-FUEL GAS	3000	0 - 125	200	4000	1.00-11.5 NPS RH (F)	1.00-11.5 NPS RH (M)
3003550	3510-200-RH	NON-FUEL GAS	3000	0 - 200	400	4000	1.00-11.5 NPS RH (F)	1.00-11.5 NPS RH (M)

*NOT FOR USE WITH ACETYLENE.

** NOT FOR HIGH PRESSURE CYLINDER GASES

CGAs Gas-996(RH), 997(LH)

3520

MODEL



CYLINDER/PIPELINE HIGH FLOW

MODEL SHOWN:
HP 3520-25NPT(F)

DESCRIPTION

The Model 3520 is a high flow, two gauge, in-line manifold regulator for pipeline and other applications up to 3000 PSIG inlet pressure. Typically used for high flow, non-corrosive gas applications, high purity gas applications, process analyzer gases and bulk gas distribution systems.

DETAILS

Capacity: High flow

C_v: 0.55

Gauges: 2.5" Brass - psi/bar

Pressure Regulation:

1.6 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat. 15 PSIG model has neoprene seat.

Certifications: CGA E-4

Where Used: Manifold systems, pipeline systems

Related Items: CGA adaptor kits:

CGA 540 - P/N: 9103615,

CGA 580 - P/N: 9103616

Weight: 4.5 lbs./2.04 kg.



Additional Technical Information: PG. 174

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3003560	HP 3520-15	NON CORROSIVE	500	0 - 15	30	600	1/2" - NPT(F)	1/2" - NPT(F)
3003561	HP 3520-50	NON CORROSIVE	3000	0 - 50	100	4000	1/2" - NPT(F)	1/2" - NPT(F)
3003562	HP 3520-125	NON CORROSIVE	3000	0 - 125	200	4000	1/2" - NPT(F)	1/2" - NPT(F)
3003563	HP 3520-250	NON CORROSIVE	3000	0 - 250	400	4000	1/2" - NPT(F)	1/2" - NPT(F)
3003564	HP 3520-500	NON CORROSIVE	3000	0 - 500	600	4000	1/2" - NPT(F)	1/2" - NPT(F)

3530

MODEL



HIGH FLOW PIPELINE

MODEL SHOWN:
HP 3530-250 – ½" NPT

DESCRIPTION

The Model 3530 is a brass barstock regulator for pipeline and manifold applications, plumbed in-line for inlet pressures up to 3000 PSIG. Designed for non-corrosive, high flow gas applications, process analyzer gases, laser gas systems and emission monitoring system gases.

DETAILS

Capacity: High flow

C_v: 0.55

Gauges: 2.5" Brass psi/bar

Pressure Rise: 1.6 PSIG/100 PSIG

Seat: One-piece encapsulated valve design with internal filter and PTFE Teflon® seat

Certifications: CGA E-4

Where Used: Manifold systems, pipeline systems

Related Items: Stainless steel bushing ¼" NPT (F) x ½" MNPT
P/N: 9005806

Weight: 4.3 lbs./1.95 kg.



Additional Technical Information: PG. 174

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000800	HP 3530-15	NON CORROSIVE	500	0 - 15	30	-	½" - NPT (F)	½" - NPT (F)
4000801	HP 3530-50	NON CORROSIVE	3000	0 - 50	100	-	½" - NPT (F)	½" - NPT (F)
4000802	HP 3530-125	NON CORROSIVE	3000	0 - 125	200	-	½" - NPT (F)	½" - NPT (F)
4000803	HP 3530-250	NON CORROSIVE	3000	0 - 250	400	-	½" - NPT (F)	½" - NPT (F)
4000804	HP 3530-500	NON CORROSIVE	3000	0 - 500	600	-	½" - NPT (F)	½" - NPT (F)

3540

MODEL



EXTREMELY HIGH FLOW

MODEL SHOWN:
3540-50-½" NPT(F)

DESCRIPTION

The Model 3540 is a single-stage, neoprene diaphragm, brass barstock regulator. It is designed specifically for applications demanding ultra high gas flows at low incoming pressures. The 3540 features the new Harris twin encapsulated seat design and a variable inlet/outlet configuration.

DETAILS

Capacity: Ultra high flow

C_v: 1.0

Gauges: 2.5" Brass psi/bar

Pressure Rise: 5.5 PSIG/100 PSIG

Seat: One-piece encapsulated valve design with internal filter and neoprene seats

Certifications: CGA E-4

Where Used: High flow pipeline, manifold systems and bulk systems

Related Items: Stainless steel bushing ¼" NPT (F) x ½" MNPT
P/N: 9005806

Panel Mount: Rear panel mountable

Weight: 6.9 lbs./3.13 kg.



Additional Technical Information: PG. 175

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG/BAR	SUPPLY PRESSURE GAUGE PSIG/BAR	INLET CONNECTION	OUTLET CONNECTION
4000950	HP 3540-15	NON CORROSIVE	500	0 - 15	30	600/40	½" - NPT (F)	½" - NPT (F)
4000951	HP 3540-50	NON CORROSIVE	500	0 - 50	100	600/40	½" - NPT (F)	½" - NPT (F)
4000952	HP 3540-125	NON CORROSIVE	500	0 - 125	200	600/40	½" - NPT (F)	½" - NPT (F)
4000953	HP 3540-250	NON CORROSIVE	500	0 - 250	400	600/40	½" - NPT (F)	½" - NPT (F)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

21

3560

MODEL



ULTRA HIGH FLOW PIPELINE

MODEL SHOWN:
3560-125-½" NPT (F)

DESCRIPTION

The Model 3560 is a single-stage neoprene diaphragm brass barstock regulator. It is designed specifically for applications demanding extremely high gas flows at low incoming pressures. The 3560 features the new Harris twin encapsulated seat design and a variable inlet/outlet configuration.

DETAILS

Capacity: Ultra high flow

C_v: 1.0

Gauges: 2.5" Brass psi/bar

Pressure Regulation: 5.5 PSIG/100 PSIG

Seat: One-piece encapsulated valve design with internal filter and neoprene seats

Certifications: CGA E-4

Where Used: High flow pipeline, manifold systems and bulk systems

Related Items:

Bushing ¼" NPT (F) x ½" MNPT
P/N: 9005806

Panel Mount: Rear panel mountable

Weight: 6.7 lbs./3.04 kg.



Additional Technical Information: PG. 175

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG/BAR	INLET CONNECTION	OUTLET CONNECTION
4000959	3560-15	NON CORROSIVE	500	0 - 15	30	N/A	½" NPT (F)	½" NPT (F)
4000960	3560-50	NON CORROSIVE	500	0 - 50	100	N/A	½" NPT (F)	½" NPT (F)
4000961	3560-125	NON CORROSIVE	500	0 - 125	200	N/A	½" NPT (F)	½" NPT (F)
4000962	3560-250	NON CORROSIVE	500	0 - 250	400	N/A	½" NPT (F)	½" NPT (F)

3580

MODEL



ULTRA HIGH FLOW STAINLESS STEEL PIPELINE REGULATOR

MODEL SHOWN:
3580-125-½" NPT (F)

DESCRIPTION

The 3580 is a single-stage stainless steel diaphragm regulator with a stainless steel barstock body. Designed specifically for applications demanding ultra high gas flows at low incoming pressures. The 3580 features the new Harris twin encapsulated seat design and a variable inlet/outlet configuration.

DETAILS

Capacity: Ultra high flow

C_v: 1.0

Gauges: 2" Brass psi/bar

Pressure Regulation: 5.5 PSIG/100 PSIG

Seat: One-piece encapsulated valve design with internal filter and PTFE Teflon® seats

Certifications: CGA E-4

Where Used: Manifold systems, bulk systems

Related Items: Stainless steel bushing ¼" NPT (F) x ½" MNPT
P/N: 9005752

Panel Mount: Rear panel mountable

Weight: 6.9 lbs./3.13 kg.



Additional Technical Information: PG. 176

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG/BAR	INLET CONNECTION	OUTLET CONNECTION
4000968	3580-15	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 15	30	600/40	½" NPT (F)	½" NPT (F)
4000969	3580-50	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 50	100	600/40	½" NPT (F)	½" NPT (F)
4000970	3580-125	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 125	200	600/40	½" NPT (F)	½" NPT (F)
4000971	3580-250	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 250	400	600/40	½" NPT (F)	½" NPT (F)
4000972	3580-500	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 500	1000	600/40	½" NPT (F)	½" NPT (F)

3590

MODEL



ULTRA HIGH FLOW PIPELINE WITH STAINLESS STEEL DIAPHRAGM AND BODY

MODEL SHOWN:
3590-125-1/2" NPT (F)

DESCRIPTION

The Model 3590 is a pipeline type stainless steel diaphragm regulator with a stainless steel barstock body. It is designed specifically for applications demanding extremely high flows at low incoming pressures. The 3590 features the new Harris twin encapsulated seat design and variable inlet/outlet configuration.

DETAILS

Capacity: Ultra high flow

C_v: 1.0

Gauges: 2" Stainless steel psi/bar

Pressure Regulation: 5.5 PSIG rise/100 PSIG

Seat: One-piece encapsulated valve design with internal filter and PTFE® seats

Certifications: CGA E-4

Where Used: Manifold and pipeline systems, bulk systems

Related Items: Stainless steel bushing 1/4" NPT (F) x 1/2" MNPT
P/N: 9005752

Panel Mount: Rear panel mountable

Weight: 6.9 lbs./3.13 kg.



Additional Technical Information: PG. 176

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG/BAR	INLET CONNECTION	OUTLET CONNECTION
4000973	3590-15	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 15	30	—	1/2" NPT (F)	1/2" NPT (F)
4000974	3590-50	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 50	100	—	1/2" NPT (F)	1/2" NPT (F)
4000975	3590-125	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 125	200	—	1/2" NPT (F)	1/2" NPT (F)
4000976	3590-250	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 250	400	—	1/2" NPT (F)	1/2" NPT (F)
4000977	3590-500	ATMOSPHERIC OR MILDLY CORROSIVE	500	0 - 500	1000	—	1/2" NPT (F)	1/2" NPT (F)



FOR APPLICATIONS
WHERE **EXTREMELY
HIGH VOLUMES OF
GAS ARE REQUIRED**

CHOOSE THE BEST-CHOOSE HARRIS



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

23

247

MODEL



ECONOMY PIPELINE/STATION BACK ENTRY

MODEL SHOWN:
247-125-CR

DESCRIPTION

The economically priced Model 247 provides high gas flow for gas distribution systems. It is available in both pipeline and station models. They feature chrome plated zinc die-cast bonnets.

DETAILS

Capacity: Heavy duty

C_v: 0.53

Gauge: 2" Steel

Pressure Regulation:
1.6 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat, low pressure versions feature a neoprene seat (NC)

Certifications: CGA E-4

Related Equipment:

Station Drops p.164

Station Valves p.163

Weight: 3.6 lbs./1.63 kg.



Additional Technical Information: PG. 177

PIPELINE ¼ NPT Inlet

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000812	247NC-1-¼"L	FUEL GAS	500	0 - 1	15	¼" - NPT (F)	⅝" - 18LH
4000815	247NC-15-¼"L	FUEL GAS	500	0 - 15	30	¼" - NPT (F)	⅝" - 18LH
4000820	247-50-¼"L	FUEL GAS	500	0 - 50	100	¼" - NPT (F)	⅝" - 18LH
4000814	247NC-15-¼"R	OXYGEN	500	0 - 15	30	¼" - NPT (F)	⅝" - 18RH
4000819	247-50-¼"R	OXYGEN	500	0 - 50	100	¼" - NPT (F)	⅝" - 18RH
4000825	247-125-¼"R	OXYGEN	500	0 - 125	150	¼" - NPT (F)	⅝" - 18RH
4000829	247-200-¼"R	OXYGEN	500	0 - 200	400	¼" - NPT (F)	⅝" - 18RH
4000811	247NC-1-¼"R(F)	AIR, INERT GAS, OIL FREE	500	0 - 1	15	¼" - NPT (F)	⅝" - 18RH (F)
4000826	247-125-¼"R(F)	AIR, INERT GAS, OIL FREE	500	0 - 125	150	¼" - NPT (F)	⅝" - 18RH (F)
4000821	247-50-¼"R(F)	AIR, INERT GAS, OIL FREE	500	0 - 50	100	¼" - NPT (F)	⅝" - 18RH (F)
4000818	247-20P-¼"R	AIR, INERT GAS, OIL FREE	500	20 PRESET	NO GAUGE	¼" - NPT (F)	⅝" - 18RH (M)

STATION "C" Inlet

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000813	247NC-1-CL	FUEL GAS	200	0 - 1	15	⅝" - 14LH (F)	⅝" - 18LH
4000817	247NC-15-CL	FUEL GAS	200	0 - 15	30	⅝" - 14LH (F)	⅝" - 18LH
4000823	247-50-CL	FUEL GAS	200	0 - 50	100	⅝" - 14LH (F)	⅝" - 18LH
4000816	247NC-15-CR	OXYGEN	200	0 - 15	30	⅝" - 14RH (F)	⅝" - 18RH
4000822	247-50-CR	OXYGEN	200	0 - 50	100	⅝" - 14RH (F)	⅝" - 18RH
4000827	247-125-CR	OXYGEN	200	0 - 125	150	⅝" - 14RH (F)	⅝" - 18RH
4000830	247-200-CR	OXYGEN	200	0 - 200	400	⅝" - 14RH (F)	⅝" - 18RH
4000831	247-200-CRM	AIR, INERT GAS, OIL FREE	200	0 - 200	400	⅝" - 14RH (M)	⅝" - 18RH (F)
4000824	247-50-CRM	AIR, INERT GAS, OIL FREE	200	0 - 50	100	⅝" - 14RH (M)	⅝" - 18RH (F)
4000828	247-125-CRM	AIR, INERT GAS, OIL FREE	200	0 - 125	150	⅝" - 14RH (M)	⅝" - 18RH (F)

Note: "C" or station CGA inlet connection - fuel gas - 025, oxygen - 024, inert gas - 034

447

MODEL



PIPELINE/STATION BACK ENTRY

MODEL SHOWN:
447-125-CRM

DESCRIPTION

The Model 447 regulators are designed to deliver high gas flows from piping systems that are equipped with standard pipe connection outlets or with station regulator connections. The 447 also has a brass bonnet and gauge.

DETAILS

Capacity: Heavy duty, high flow

C_v: 0.53

Gauge: 2.5" Brass

Pressure Regulation:
1.6 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat, low pressure versions feature neoprene seats(NC)

Certifications: CGA E-4

Weight: 3.6 lbs./1.63 kg.

Related Equipment:

Station Drops p.164

Station Valves p.163



Additional Technical Information: PG. 177

PIPELINE 1/4" NPT Inlet

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000568	447NC-1-1/4" L	FUEL	500	0 - 1	15	1/4" NPT (F)	9/16" - 18 LH
4000569	447NC-15-1/4" L	FUEL	500	0 - 15	30	1/4" NPT (F)	9/16" - 18 LH
4000571	447-50-1/4" L	FUEL	500	0 - 50	100	1/4" NPT (F)	9/16" - 18 LH
4000585	447-125-1/4" L	FUEL	500	0-125	200	1/4" NPT (F)	9/16" - 18 LH
4000587	447-125-1/4" L	FUEL	500	0-200	400	1/4" NPT (F)	9/16" - 18 LH
4000573	447-50-1/4" R	OXYGEN	500	0 - 50	100	1/4" NPT (F)	9/16" - 18 RH
4000575	447-125-1/4" R	OXYGEN	500	0 - 125	200	1/4" NPT (F)	9/16" - 18 RH
4000577	447-200-1/4" R	OXYGEN	500	0 - 200	400	1/4" NPT (F)	9/16" - 18 RH
4000586	447-200-1/4" R	OXYGEN	500	0 - 200	400	1/4" NPT (F)	9/16" - 18 RH
4000579	447NC-15-1/4" R	OXYGEN	500	0 - 15	30	1/4" NPT (F)	9/16" - 18 RH
4000580	447-50-1/4" RF	AIR, INERT	500	0 - 50	100	1/4" NPT (F)	5/8" - 18 RH (F)
4000582	447-125-1/4" RF	AIR, INERT	500	0 - 125	200	1/4" NPT (F)	5/8" - 18 RH (F)
4000590	447-200-1/4" RF	AIR, INERT	500	0 - 200	400	1/4" NPT (F)	5/8" - 18 RH (F)
4000584	447-20P-1/4" R	AIR, INERT	500	20 PRESET	N/A	1/4" NPT (F)	9/16" - 18 RH (M)
4000588	447NC-1-1/4" RF	AIR, INERT	500	0 - 1	15	1/4" NPT (F)	5/8" - 18 RH (F)

STATION "C" Inlet (7/8" - 14")

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000548	447NC-1-CL	FUEL	200	0 - 1	15	7/8" - 14 LH (F)	9/16" - 18 LH
4000549	447NC-15-CL	FUEL	200	0 - 15	30	7/8" - 14 LH (F)	9/16" - 18 LH
4000551	447-50-CL	FUEL	200	0 - 50	100	7/8" - 14 LH (F)	9/16" - 18 LH
4000566	447NC-15-CR	OXYGEN	200	0 - 15	30	7/8" - 14 RH (F)	9/16" - 18 RH
4000553	447-50-CR	OXYGEN	200	0 - 50	100	7/8" - 14 RH (F)	9/16" - 18 RH
4000555	447-125-CR	OXYGEN	200	0 - 125	200	7/8" - 14 RH (F)	9/16" - 18 RH
4000557	447-200-CR	OXYGEN	200	0 - 200	100	7/8" - 14 RH (F)	9/16" - 18 RH
4000559	447-50-CRM	AIR, INERT GAS	200	0 - 50	100	7/8" - 14 RH (M)	5/8" - 18 RH (F)
4000561	447-125-CRM	AIR, INERT GAS	200	0 - 50	100	7/8" - 14 RH (M)	5/8" - 18 RH (F)
4000563	447-200-CRM	AIR, INERT GAS	200	0 - 200	400	7/8" - 14 RH (M)	5/8" - 18 RH (F)

Note: "C" or station CGA inlet connection - fuel gas - 025, oxygen - 024, inert gas - 034



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

25

547 MODEL



HEAVY DUTY STATION - SIDE ENTRY

MODEL SHOWN:
547-125-CR

DESCRIPTION

The Model 547 high flow station regulator is designed to deliver high gas flows from piping systems that are equipped with station regulator connections.

DETAILS

Capacity: Heavy duty, high flow

C_v: 0.53

Gauge: 2.5" brass

Pressure Regulation:

1.6 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat, low pressure versions feature neoprene seats (NC).

Certifications: CGA E-4

Weight: 3.6 lbs./1.63 kg.

Related Equipment:

Station Drops p.164

Station Valves p.163



Additional Technical Information: PG. 177

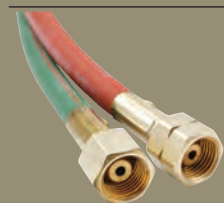
PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000601	547NC-15-CL	FUEL GAS	200	0 - 15	30	-	7/8"-14-LH-025	1/8" - 18 LH
4000603	547-50-CL	FUEL GAS	200	0 - 50	100	-	7/8"-14-LH-025	1/8" - 18 LH
4000605	547-50-CR	OXYGEN	200	0 - 50	100	-	7/8"-14-RH-024	1/8" - 18 RH
4000607	547-125-CR	OXYGEN	200	0 - 125	200	-	7/8"-14-RH-024	1/8" - 18 RH
4000609	547-200-CR	OXYGEN	200	0 - 200	400	-	7/8"-14-RH-024	1/8" - 18 RH
4000620	547NC-1-CRM	AIR, INERT GAS OIL FREE	200	0 - 1	15	-	7/8"-14-RH-034	1/8" - 18 RH
4000611	547-50-CRM	AIR, INERT GAS OIL FREE	200	0 - 50	100	-	7/8"-14-RH-034	1/8" - 18 RH
4000613	547-125-CRM	AIR, INERT GAS OIL FREE	200	0 - 125	200	-	7/8"-14-RH-034	1/8" - 18 RH
4000615	547-200-CRM	AIR, INERT GAS OIL FREE	200	0 - 200	400	-	7/8"-14-RH-034	1/8" - 18 RH

WHAT IS THE DIFFERENCE BETWEEN A STATION AND A PIPELINE REGULATOR?

"A" Nut



"B" Nut



"C" Nut and Stem



A station regulator is essentially a pipeline regulator with a "C" hose connection installed on the inlet to prevent the regulator from being used on a pressure source higher than its intended use.

Visually, a "C" nut and stem is a little larger (7/8"-18"), than the more popular "B" size (9/16"-18"), found on the majority of regulators and torches in the welding industry. Both "B" and "C" hoses are limited to a maximum gas pressure of 200 psig according to the standard set by The Compressed Gas Association.

The station regulator with the "C" inlet connection is, therefore, limited to a maximum gas pressure of 200 psig. A pipeline regulator, on the other hand, has no inlet pressure limit other than that specified by its manufacturer. For example, Harris Models 247, 447 and 547 pipeline regulators are limited by Harris to a stated maximum of 500 psig, unless equipped with a "C" inlet, thus limiting them to 200 psig.

The intent of the "C" connection station regulator standard is to prevent the use of a low pressure design regulator on a high pressure source, causing an accident and/or possible injury.

2548

MODEL



STAINLESS STEEL DIAPHRAGM

MODEL SHOWN:
2548-125-1/4"

DESCRIPTION

The Model 2548 high flow pipeline regulator is ideal for special gas applications requiring stainless steel diaphragms at inlet pressures up to 3000 PSIG with a variety of inlet/outlet port configurations. High pressure (3000 PSIG) models feature an internal high pressure relief valve.

DETAILS

Capacity: Heavy duty, high flow

C_v: 0.4

Gauge: 2.5" brass

Pressure Regulation:

0.9 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications: CGA E-4

Weight: 3.8 lbs./1.72 kg.

Related Equipment:

Station Drops p.161



Additional Technical Information: PG. 178

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000701	2548-15-1/4"	FUEL GAS	500	0 - 15	30 RZ	1/4" NPT	1/4" NPT
4000702	2548-50-1/4"	FUEL GAS	500	0 - 50	100	1/4" NPT	1/4" NPT
4000705	2548-125-1/4"	FUEL GAS	500	0 - 125	200	1/4" NPT	1/4" NPT
4000708	2548-200-1/4"	FUEL GAS	500	0 - 200	400	1/4" NPT	1/4" NPT
4000704	2548-50-1/4"	OXYGEN	3000	0 - 50	100	1/4" NPT	1/4" NPT
4000707	2548-125-1/4"	OXYGEN	3000	0 - 125	200	1/4" NPT	1/4" NPT
4000710	2548-200-1/4"	OXYGEN	3000	0 - 200	400	1/4" NPT	1/4" NPT
4000703	2548-50-1/4"	AIR, INERT GAS OIL FREE	3000	0 - 50	100	1/4" NPT	1/4" NPT
4000706	2548-125-1/4"	AIR, INERT GAS OIL FREE	3000	0 - 125	200	1/4" NPT	1/4" NPT
4000709	2548-200-1/4"	AIR, INERT GAS OIL FREE	3000	0 - 200	400	1/4" NPT	1/4" NPT

647

MODEL



PANEL MOUNT

MODEL SHOWN:
647PM-125-000

DESCRIPTION

The Model 647 is a panel mount pipeline regulator for accurate, repeatable delivery pressures. It is available in four pressure ranges that can be further customized to specific lower pressures. Panel mount nut is included.

DETAILS

Capacity: Heavy duty

C_v: 0.17

Gauge: 2" Steel

Pressure Regulation:

0.6 PSIG/100 PSIG

Seat: One-piece encapsulated seat designed with internal filter and neoprene seat

Certifications: CGA E-4

Weight: 3.8 lbs./1.72 kg.



Additional Technical Information: PG. 171

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000680	647PM-015-000	NON-CORROSIVE	500	0 - 15	60	1/4" NPT (F)	1/4" NPT (F)
4000681	647PM-050-000	NON-CORROSIVE	500	0 - 50	60	1/4" NPT (F)	1/4" NPT (F)
4000682	647PM-125-000	NON-CORROSIVE	500	0 - 125	150	1/4" NPT (F)	1/4" NPT (F)
4000683	647PM-175-000	NON-CORROSIVE	500	0 - 175	400	1/4" NPT (F)	1/4" NPT (F)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

27

TWO-STAGE

PRESSURE CONTROL REGULATORS

FOR DEMANDING APPLICATIONS WHERE CONSTANT OUTLET PRESSURE OVER A WIDE RANGE OF INLET PRESSURES IS REQUIRED. HARRIS DELIVERS WITH A COMPREHENSIVE OFFERING OF TWO-STAGE INDUSTRIAL REGULATORS.



GET CONNECTED

Go to www.twitter.com/HarrisProducts

QUICK SELECTION GUIDE

ECONOMICAL

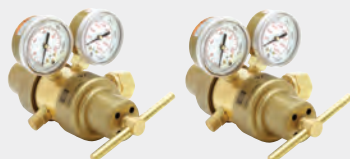


2561 MODEL

ECONOMICAL

p.30

GENERAL PURPOSE



9296 MODEL

NEOPRENE
DIAPHRAGM

p.31

9296SS MODEL

STAINLESS STEEL
DIAPHRAGM

p.32

HIGH FLOW



9200 MODEL

HEAVY DUTY

p.33

9235 MODEL

TWO-STAGE
MANIFOLD

p.34

ELECTRICALLY HEATED



HP705 MODEL

HIGH FLOW CO₂

p.34



A LINCOLN ELECTRIC COMPANY

TURN TO THE PROS – TURN TO HARRIS.

To learn more about the most complete line of industrial grade tools in the world, visit us online.

www.harrisproductsgroup.com



MODEL SHOWN:
2561-125C-540

OVERVIEW

The basic function of a gas pressure regulator is to reduce unusable high pressure from the source to a lower usable delivery pressure. Two-stage regulators are designed to lower the high pressure in two stages. They require less readjustment and provide a more constant delivery pressure despite changes in inlet pressure. They are exceptionally well suited for high pressure cylinder applications.

TYPICAL APPLICATIONS

- Oxy-Fuel Welding and Brazing
- Oxy-Fuel Cutting
- Other allied processes

PRO INFO

Visit www.harrisproductsgroup.com for complete details on our entire product line.



WHEN IS A TWO-STAGE REGULATOR REQUIRED?

CHECKLIST

- 1 Applications where the delivery pressure rise from cylinder pressure decay cannot be tolerated.
- 2 Situations where proper pressure is critical and the cylinders in use are in a remote or difficult to monitor location.
- 3 Typically are not required when using gases from low pressure (<500 PSIG) sources.

2561

MODEL



ECONOMICAL

MODEL SHOWN:
2561-125C-540

DESCRIPTION

The Model 2561 is an economical two-stage regulator for welding and similar applications where neoprene diaphragms are acceptable. It is used when constant delivery pressure is required over a wide range of inlet pressures.

DETAILS

Capacity: Medium to heavy duty

C_v: 0.15

Gauges: 2" Steel

Pressure Regulation:
0.04 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications: CGA E-4

Weight: 4.8 lbs./2.18 kg.



Additional Technical Information: PG. 179

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3300910	2561-15C-300	ACETYLENE	500	0 - 15	30RZ	400	CGA 300	1/8" - 18LH
3300909	2561-15C-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	1/8" - 18LH
3300911	2561-50C-510P	LPG*	500	0 - 50	60	400	CGA 510	1/8" - 18LH
3300916	2561-125C-540	OXYGEN	3000	0 - 125	150	4000	CGA 540	1/8" - 18RH
3300912	2561-125C-580	Ar, He, N ₂	3000	0 - 125	150	4000	CGA 580	1/8" - 18RH**

*Regulators designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.

**Includes 1/8" adaptor - P/N: 9000002

TYPICAL CYLINDER SIZE WEIGHT AND CONTENT DATA

The data below, along with the oxy-acetylene tip charts in this catalog, can aid in estimating the minimum cylinder size requirements and/or the maximum tip size recommended for a particular oxy-acetylene application.

Acetylene consumption rate from tip chart x 7 = Minimum Cylinder Size in cubic feet (@60° F).

Cylinder size in cubic feet/7 = Maximum Cylinder Withdrawal Rate in SCFH (@60° F).

OXYGEN

SIZE	CU. FT.	HEIGHT	WEIGHT FULL
R	20	14"	14 lbs.
AXL	58	41"	54 lbs.
Q	92	35"	70 lbs.
D	125	48"	124 lbs.
S	155	51"	92 lbs.
K	251	56"	153 lbs.
H	281	56"	162 lbs.
T	337	60"	172 lbs.

ACETYLENE

SIZE	CU. FT.	HEIGHT	WEIGHT FULL
MC	8	14"	8 lbs.
B	33	23"	26 lbs.
2AWQ	55	31"	61 lbs.
#4	90-150	36"	113 lbs.
#4	151-230	37.5"	150 lbs.
#5WK	250-380	43.5"	200 lbs.

Data above may vary slightly because of ambient temperature, cylinder conditions, etc.

9296

MODEL



GENERAL PURPOSE NEOPRENE DIAPHRAGM

MODEL SHOWN:
9296-125-540

DESCRIPTION

The Model 9296 is a standard for general purpose, laboratory, industrial and welding applications where neoprene diaphragms are acceptable. It is designed for applications where a constant delivery pressure is required over a wide range of inlet pressures. Low delivery models feature a neoprene seat (NC).

DETAILS

Capacity: Heavy duty

C_v: 0.15

Gauges: 2" steel

Pressure Regulation:
0.04 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® or neoprene seats (NC)

Certifications: CGA E-4

Weight: 4.8 lbs./2.18 kg.



Additional Technical Information: PG. 179

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3302600	9296NC-15-300	ACETYLENE	500	0 - 15	30RZ	400	CGA 300	9/16" - 18LH
3302601	9296NC-15-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	9/16" - 18LH
3302602	9296-50-510P	LPG*	500	0 - 50	60	400	CGA 510P	9/16" - 18LH
3302610	9296NC-15-350	H ₂ , METHANE	3000	0 - 15	30	4000	CGA 350	9/16" - 18LH
3302611	9296-50-350	H ₂ , METHANE	3000	0 - 50	60	4000	CGA 350	9/16" - 18LH
3302612	9296-125-350	H ₂ , METHANE	3000	0 - 125	150	4000	CGA 350	9/16" - 18LH
3302613	9296-250-350	H ₂ , METHANE	3000	0 - 250	400	4000	CGA 350	1/4" NPT (F)
3302779	9296NC-15-540	OXYGEN	3000	0 - 15	30	4000	CGA 540	9/16" - 18RH
3302603	9296-50-540	OXYGEN	3000	0 - 50	60	4000	CGA 540	9/16" - 18RH
3302604	9296-125-540	OXYGEN	3000	0 - 125	150	4000	CGA 540	9/16" - 18RH
3302605	9296-250-540	OXYGEN	3000	0 - 250	400	4000	CGA 540	1/4" NPT (F)
3302606	9296NC-15-580	Ar, He, N ₂	3000	0 - 15	30	4000	CGA 580	5/8" - 18RH (F)
3302607	9296-50-580	Ar, He, N ₂	3000	0 - 50	60	4000	CGA 580	5/8" - 18RH (F)
3302608	9296-125-580	Ar, He, N ₂	3000	0 - 125	150	4000	CGA 580	5/8" - 18RH (F)
3302609	9296-250-580	Ar, He, N ₂	3000	0 - 250	400	4000	CGA 580	1/4" NPT (F)
3302780	9296-15-320	CO ₂	3000	0 - 15	30	4000	CGA 320	5/8" - 18RH (F)
3302614	9296-50-320	CO ₂	3000	0 - 50	60	4000	CGA 320	5/8" - 18RH (F)
3302615	9296-125-320	CO ₂	3000	0 - 125	150	4000	CGA 320	5/8" - 18RH (F)
3302616	9296-250-320	CO ₂	3000	0 - 250	400	4000	CGA 320	1/4" NPT (F)

*Regulators designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

31

9296SS

MODEL



GENERAL PURPOSE STAINLESS STEEL DIAPHRAGM

MODEL SHOWN:
9296SS-125-540

DESCRIPTION

The Model 9296SS with a stainless steel-diaphragm is recommended for applications where outgassing and/or permeation are concerns. It is also designed for applications where a constant delivery pressure is required over a wide range of inlet pressures.

DETAILS

Capacity: Heavy duty

C_v: 0.15

Gauges: 2" Brass

Pressure Regulation:
0.04 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications: CGA E-4

Weight: 5.4 lbs./2.45 kg.



Additional Technical Information: PG. 180

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3302681	9296SS-15-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	1/16" - 18LH
3302693	9296SS-15-350	H ₂ , METHANE	3000	0 - 15	30	4000	CGA 350	1/16" - 18LH
3302694	9296SS-50-350	H ₂ , METHANE	3000	0 - 50	60	4000	CGA 350	1/16" - 18LH
3302695	9296SS-125-350	H ₂ , METHANE	3000	0 - 125	150	4000	CGA 350	1/16" - 18LH
3302696	9296SS-250-350	H ₂ , METHANE	3000	0 - 250	400	4000	CGA 350	1/4" NPT (F)
3302683	9296SS-50-540	OXYGEN	3000	0 - 50	60	4000	CGA 540	1/16" - 18RH
3302684	9296SS-125-540	OXYGEN	3000	0 - 125	150	4000	CGA 540	1/16" - 18RH
3302685	9296SS-250-540	OXYGEN	3000	0 - 250	400	4000	CGA 540	1/4" NPT (F)
3302697	9296SS-50-590	IND. AIR	3000	0 - 50	60	4000	CGA 590	5/8" - 18RH (F)
3302698	9296SS-125-590	IND. AIR	3000	0 - 125	150	4000	CGA 590	5/8" - 18RH (F)
3302699	9296SS-250-590	IND. AIR	3000	0 - 250	400	4000	CGA 590	1/4" NPT (F)
3302701	9296SS-50-346	MEDICAL AIR	3000	0 - 50	60	4000	CGA 346	5/8" - 18RH (F)
3302702	9296SS-125-346	MEDICAL AIR	3000	0 - 125	150	4000	CGA 346	5/8" - 18RH (F)
3302703	9296SS-250-346	MEDICAL AIR	3000	0 - 250	400	4000	CGA 346	1/4" NPT (F)
3302686	9296SS-15-580	Ar, He, N ₂	3000	0 - 15	30	4000	CGA 580	5/8" - 18RH (F)
3302687	9296SS-50-580	Ar, He, N ₂	3000	0 - 50	60	4000	CGA 580	5/8" - 18RH (F)
3302688	9296SS-125-580	Ar, He, N ₂	3000	0 - 125	150	4000	CGA 580	5/8" - 18RH (F)
3302689	9296SS-250-580	Ar, He, N ₂	3000	0 - 250	400	4000	CGA 580	1/4" NPT (F)
3302690	9296SS-50-320	CO ₂	3000	0 - 50	60	4000	CGA 320	5/8" - 18RH (F)
3302691	9296SS-125-320	CO ₂	3000	0 - 125	150	4000	CGA 320	5/8" - 18RH (F)
3302692	9296SS-250-320	CO ₂	3000	0 - 250	400	4000	CGA 320	1/4" NPT (F)

*Regulators designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.



“HARRIS MAKES PRODUCTS THAT ARE **DURABLE AND BUILT TO LAST**, THAT’S WHY WE OFFER A 7-YEAR WARRANTY ON OUR MOST POPULAR INDUSTRIAL REGULATORS.”

9200

MODEL



HEAVY DUTY

MODEL SHOWN:
9200NC-15-510

DESCRIPTION

The Model 9200 is a standard for general purpose laboratory, industrial and welding applications. It is designed for applications where a constant delivery pressure is required over a wide range of inlet pressures.

DETAILS

Capacity: Heavy duty

C_v: 0.53 for LP. fuel models & 0.37 for other models

Gauges: 2.5" brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® or neoprene seats (NC)

Pressure Regulation:

0.05 PSIG/100 PSIG LP models and 0.03 PSIG/100 PSIG other models

Certifications: CGA E-4

Weight: 6.8 lbs./3.08 kg.



Additional Technical Information: PG. 181

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3302210	9200NC-15-300	ACETYLENE	500	0 - 15	30RZ	400	CGA 300	1/16" - 18LH
3302211	9200NC-15-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	1/16" - 18LH
3302212	9200-50-510P	LPG**	500	0 - 50	100	400	CGA 510P	1/16" - 18LH
3302215	9200-250-540	Ar, He, N ₂	CGA 580	0 - 15	30	4000	CGA 580	1/16" - 18RH (F)
3302293	9200NC-2-350	H ₂ , METHANE	3000	0 - 2	5	4000	CGA 350	1/4" NPT(M)
3302220	9200NC-15-350	H ₂ , METHANE	3000	0 - 15	30	4000	CGA 350	1/16" - 18LH
3302221	9200-50-350	H ₂ , METHANE	3000	0 - 50	100	4000	CGA 350	1/16" - 18LH
3302222	9200-125-350	H ₂ , METHANE	3000	0 - 125	200	4000	CGA 350	1/16" - 18LH
3302223	9200-250-350	H ₂ , METHANE	3000	0 - 250	400	4000	CGA 350	1/16" - 18LH
3302213	9200-50-540	OXYGEN	3000	0 - 50	100	4000	CGA 540	1/16" - 18RH
3302214	9200-125-540	OXYGEN	3000	0 - 125	200	4000	CGA 540	1/16" - 18RH
3302224	9200-50-346	AIR	3000	0 - 50	100	4000	CGA 346	1/16" - 18RH
3302225	9200-125-346	AIR	3000	0 - 125	200	4000	CGA 346	1/16" - 18RH
3302226	9200-250-346	AIR	3000	0 - 250	400	4000	CGA 346	1/16" - 18RH
3302227	9200-50-590	IND. AIR	3000	0 - 50	100	4000	CGA 590	1/16" - 18RH
3302228	9200-125-590	IND. AIR	3000	0 - 125	200	4000	CGA 590	1/16" - 18RH
3302229	9200-250-590	IND. AIR	3000	0 - 250	400	4000	CGA 590	1/16" - 18RH
3302292	9200NC-2-580	Ar, He, N ₂	3000	0 - 2	5	4000	CGA 580	1/4" NPT(M)
3302284	9200NC-5-580	Ar, He, N ₂	3000	0 - 5	15	4000	CGA 580	5/16" - 18RH (F)
3302216	9200NC-15-580	Ar, He, N ₂	3000	0 - 15	30	4000	CGA 580	5/16" - 18RH (F)
3302217	9200-50-580	Ar, He, N ₂	3000	0 - 50	100	4000	CGA 580	5/16" - 18RH (F)
3302218	9200-125-580	Ar, He, N ₂	3000	0 - 125	200	4000	CGA 580	5/16" - 18RH (F)
3302219	9200-250-580	Ar, He, N ₂	3000	0 - 250	400	4000	CGA 580	5/16" - 18RH (F)
3302276	9200-15-320	CO ₂	3000	0 - 15	30	4000	CGA 320	5/16" - 18RH (F)
3302273	9200-50-320	CO ₂	3000	0 - 50	100	4000	CGA 320	5/16" - 18RH (F)
3302274	9200-125-320	CO ₂	3000	0 - 125	200	4000	CGA 320	5/16" - 18RH (F)
3302275	9200-250-320	CO ₂	3000	0 - 250	400	4000	CGA 320	5/16" - 18RH (F)

*Regulators designed specifically for propane service can be used with any of the other welding grade liquid petroleum gases. NOT FOR USE WITH ACETYLENE.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

33

9235

MODEL



TWO-STAGE MANIFOLD

MODEL SHOWN:
9235-350-350

DESCRIPTION

The Model 9235 is a high flow two-stage manifold regulator. Typical applications for the 9235 are gas purging, gas blanketing, pressure testing and other high flow applications. Inlet and outlet body ports are 3/8" NPT (F).

DETAILS

Capacity: Heavy duty

C_v: 0.4

Gauges: 2.5" brass

Pressure Regulation:

.05 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications: CGA E-4

Weight: 6.9 lbs./3.13 kg.



Additional Technical Information: PG. 182

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3302300	9235-350-350	H ₂ , METHANE	3000	0-350	600	4000	CGA 350	3/8" NPT (M)
3302301	9235-350-540	OXYGEN	3000	0-350	600	4000	CGA 540	3/8" NPT (M)
3302302	9235-350-580	Ar, He, N ₂	3000	0-350	600	4000	CGA 580	3/8" NPT (M)

HP705

MODEL



HIGH FLOW CO₂

MODEL SHOWN:
HP705-125-320-A-1

DESCRIPTION

The Model HP705 is an electrically heated two-stage regulator used for non-corrosive liquefied gases or gas mixtures with up to 3000 PSIG inlet pressure. It has a stainless steel diaphragm and is suitable for chemical storage blanketing, CO₂ incubators, inert gas purging and Ph control. Chrome plated brass construction.

DETAILS

Capacity: Heavy duty

C_v: 0.15

Gauges: 2.5" Chrome-plated brass

Pressure Regulation:

0.09 PSIG/100 PSIG

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Certifications: CGA E-4, electrical components UL® listed

Flow Capacity: CO₂-up to 500 SCFH peak flow, up to 100 SCFH continuous

Heater: 200 watt 120 or 240 VAC

Weight: 6.8 lbs./3.08 kg.



Additional Technical Information: PG. 182

MODEL #	DELIVERY PRESSURE		CGA/INLET FITTING	ACCESSORIES	VOLTAGE
HP 705	Range 0 - 125 PSIG	Outlet Gauge (200 psi/14 bar)	320 326 580 000 – No Inlet	A – ¼" MNPT Needle Valve B – ¼" NPT (F) Diaph. Valve C – ¼" NPT (F) Port D – ¼" MNPT Nipple E – ¼" Tube Fitting F – ⅛" Tube Fitting G – ¼" NPT (M) Hose Barb H – ⅛" NPT (M) Hose Barb J – Inert fitting (P/N: 9100986)	1 – 120 VAC 2 – 240 VAC
SPECIFY CATALOG ▼ ORDER CODE					
HP705	– 125		– 320	– A	– 1

SAMPLE CODE: HP705-125-320-A-1

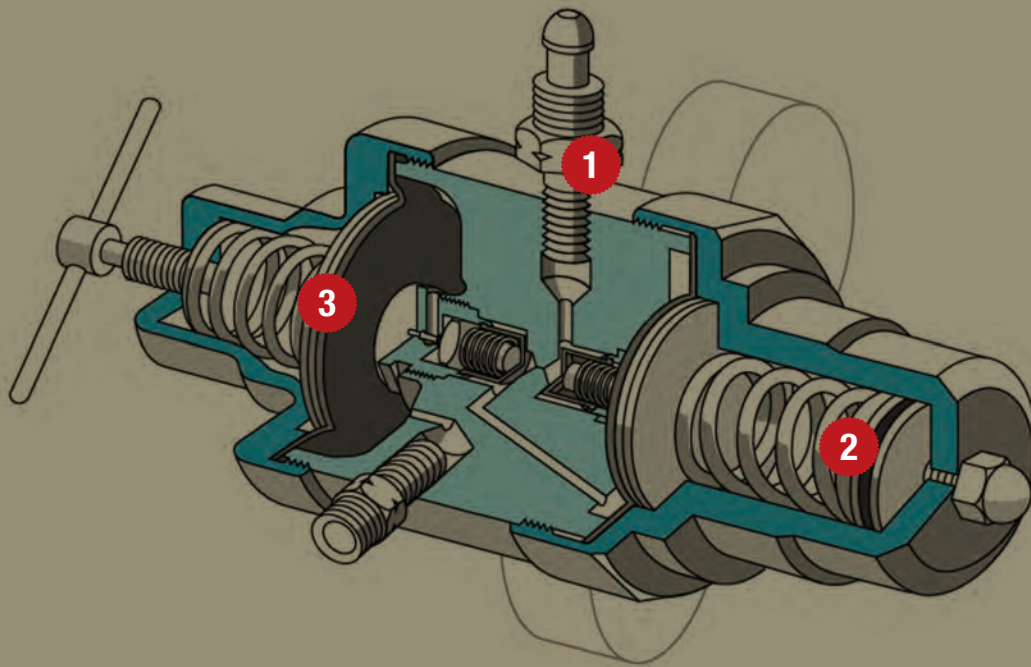
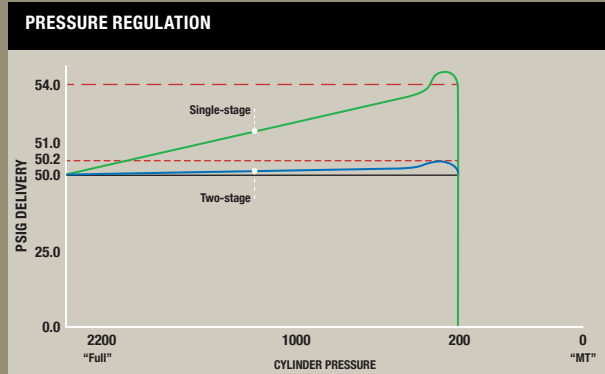
TWO-STAGE REGULATORS

OPERATION OF TWO-STAGE REGULATORS

Two-stage regulators are two regulators built into a single regulator body. The first regulator (first stage) is preset at a non-adjustable pressure to reduce the incoming pressure to a lower pressure referred to as the intermediate pressure. The second regulator (second stage) is adjustable within the desired delivery range.

These regulators incorporate all components of a single-stage regulator. They also contain an additional stage to include a second pressure adjusting spring, diaphragm, and valve seat assembly. The first stage is not user adjustable. The pressure adjusting spring is “pre-compressed” at the factory. This allows the first stage to feed pressure to the second (adjustable) stage. The normal maximum delivery pressure for two-stage regulators is 500 PSI.

The second stage then performs in a manner similar to that of a single-stage regulator, except that the inlet pressure to the second stage is relatively constant. The two-step pressure reduction produces a final delivery pressure showing little effect from changes in cylinder pressure.



1 INLET PRESSURE IS REDUCED IN TWO STAGES

2 FACTORY PRESET FIRST STAGE

3 ADJUSTABLE SECOND STAGE

FLOWMETERS

FLOW
CONTROL
EQUIPMENT

HARRIS FLOW CONTROL EQUIPMENT AND FLOWMETER REGULATORS ARE MADE IN GAINESVILLE, GEORGIA. THEY ARE 100% TESTED AND MANUFACTURED TO THE SAME EXACTING STANDARDS AS OUR OTHER GAS CONTROL EQUIPMENT.



GET CONNECTED

Go to www.youtube.com/harrisproductsgroup

QUICK SELECTION GUIDE

ECONOMICAL



**351
MODEL**

ZERO COMPENSATED
PIPELINE
p.38

**351
MODEL**

ZERO COMPENSATED
CYLINDER
p.38

GENERAL PURPOSE



**55-2
MODEL**

COMPENSATED
p.39

**355-2
MODEL**

COMPENSATED
p.40

CARBON DIOXIDE



**6CD
MODEL**

HIGH CAPACITY
p.40

**6S
MODEL**

SINGLE-STAGE
HIGH CAPACITY
p.41

DUAL FLOWMETER



**356
MODEL**

DUAL
FLOWMETER
p.41

HIGH PRESSURE



**2555
MODEL**

FOR 4500 PSIG
CYLINDERS
p.42

ELECTRONICALLY HEATED



**HP725
MODEL**

HIGH FLOW CO₂
p.42

SHIELDING GAS KITS



**351
MODEL**

ECONOMICAL
COMPLETE WITH HOSE
p.43

**355-2
MODEL**

COMPACT COMPLETE
WITH HOSE
p.43



MODEL SHOWN:
2555-Ar70-680

MODEL SHOWN:
425-Ar100-580

OVERVIEW

There are two basic types of flow control devices, generally referred to as "fixed pressure/variable orifice" and "variable pressure/fixed orifice". A typical flowmeter regulator is a "fixed pressure/variable orifice" device, pressure fixed at the factory to a "compensated" or "calibrated" pressure, depending on the flow range desired and the gases being used.

A third type of flow regulator is called a "zero" or "non-compensated" flowmeter regulator. It shares some features and advantages of both flow meter and flow gauge regulators. It uses a flowmeter as an indicator, but generally functions as a variable pressure flowgauge regulator.

PRO INFO

Visit www.harrisproductsgroup.com for complete details on our entire product line.

DEVICES FOR GAS FLOW CONTROL

All three types of regulators have their advantages. Use the comparison table below to select the type that best fits your application(s).



FLOWGAUGE REGULATOR	FLOWMETER REGULATOR	"ZERO" COMPENSATED FLOWMETER REGULATOR
Zero Compensated Variable Pressure/Fixed Orifice	Pressure Compensated Fixed Pressure/Variable Orifice	Zero Compensated Variable Pressure/Fixed Orifice
New	Traditional	New
\$\$	\$\$\$	\$
Tolerates More Abuse	Exposed Components Susceptible to Damage	Compact Less Susceptible to Damage
No Flow Indicator	Indicates When Flowing	Indicates When Flowing
All Position	Vertical Only	Vertical Only
Common Parts	Unique Parts	Few Unique Parts
Accuracy = $\pm 3, 2, 3\%$ of Full Scale	Accuracy = $\pm 5\%$ of Full Scale @ Mid Range	Accuracy = $\pm 5\%$ of Full Scale @ Mid Range
Surge Control Capability	No Surge Control Capability	Surge Control Capability



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

37

351

MODEL



"ZERO" COMPENSATED PIPELINE

MODEL SHOWN:
351-70Ar/CD- $\frac{5}{8}$ "M

DESCRIPTION

This pipeline version of the Model 351 is zero-compensated for more efficient shielding gas use. It is a compact flowmeter regulator at the price and size of most competitive flowmeters. It is designed to give an accurate consistent flow despite wide fluctuations in pipeline pressure.

DETAILS

Capacity: Heavy duty

Gauges: None

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Brass

Certifications: CGA E-4

Where Used: Gas-shielded welding and other pipeline applications

Related Items: $\frac{3}{16}$ " x 10' Inert Hose
P/N: 4300138

Weight: 2 lbs./ 0.91 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	INLET CONNECTION	OUTLET CONNECTION
3100332	351-70Ar/CD- $\frac{1}{4}$ "M	Ar/CO ₂	0-70	0	200	$\frac{1}{4}$ " NPT (M)	$\frac{5}{8}$ " - 18 (F)
3100333	351-70Ar/CD- $\frac{1}{6}$ "F	Ar/CO ₂	0-70	0	200	$\frac{1}{6}$ " - 18 (F)	$\frac{5}{8}$ " - 18 (F)
3100334	351-70Ar/CD- $\frac{5}{8}$ "M	Ar/CO ₂	0-70	0	200	$\frac{5}{8}$ " - 18 (M)	$\frac{5}{8}$ " - 18 (F)

351

MODEL



"ZERO" COMPENSATED CYLINDER

MODEL SHOWN:
351-60Ar-580

DESCRIPTION

This version of the Model 351 is designed for cylinder applications. Its unique design makes it more resistant to CO₂ freeze up than comparable competitive models. The Model 351 is zero-compensated for more efficient gas use.

DETAILS

Capacity: Heavy duty

Gauges: 50mm ABS

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Brass

Certifications: CGA E-4

Where Used: Gas-shielded arc welding and other industrial applications

Related Items: $\frac{3}{16}$ " x 10' Inert Hose
P/N: 4300138

Weight: 2.3 lbs./ 1.04 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100331	351-60Ar-580	Ar, CO ₂	0 - 70	0	3000	4000	CGA 580	$\frac{5}{8}$ " - 18 (F)
3100330	351-60CD-320	Ar, CO ₂	0 - 70	0	3000	4000	CGA 320	$\frac{5}{8}$ " - 18 (F)

55-2 MODEL



FLOWMETER

MODEL SHOWN:
55-2-Ar/CD-1/4"

DESCRIPTION

The Model 55-2 flowmeter is designed to give precise flow control in SCFH. They are compensated at 20 or 50 PSIG and calibrated for most common industrial gases. The 55-2 is equipped with a 70 PSIG relief value.

DETAILS

Capacity: Heavy duty

Gauges: N/A

Seat: N/A

Body: Brass

Certifications: CGA E-4

Where Used: Gas shielded welding and other pipeline applications

Related Items:

447-20 Pipeline Reg-1/4RH P/N: 4000584,

3/16" x 10' Inert Hose P/N: 4300138

Adapter: 5/8"-18(M) x 1/4" - NPT (M)

Weight: 1.5 lbs./ 0.68 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	INLET CONNECTION	OUTLET CONNECTION
5400613	55-2 N ₂ /AIR	N ₂ , AIR	0 - 100	20	75	1/8" - 18 (F)	1/8" - 18 (F)
5400612	55-2 He/H ₂	He, H ₂	0 - 100 (0 - 140)	20	75	1/8" - 18 (F)	1/8" - 18 (F)
5400615	55-2 Ar/He	Ar, He	0 - 45 (0 - 140)	20	75	1/8" - 18 (F)	1/8" - 18 (F)
5400609	55-2 Ar/CD	Ar, CO ₂	0 - 70	20	75	1/8" - 18 (F)	1/8" - 18 (F)
5400614	55-2 Ar/CD	Ar, CO ₂	0 - 70	20	75	1/8" - 18 (M)	1/8" - 18 (F)
5400610	55-2 Ar/CD	Ar, CO ₂	0 - 70	20	75	1/4" NPT (M)	1/8" - 18 (F)
5400611	55-2 Ar/CD	Ar, CO ₂	0 - 100	50	75	1/8" - 18 (F)	1/8" - 18 (F)
5400616	55-2 Ar/CD	Ar, CO ₂	0 - 100	50	75	1/4" NPT (M)	1/8" - 18 (F)

ON THE HUNT FOR AN ALL-AROUND FLOWMETER REGULATOR? CHECK OUT HARRIS MODEL 351.

The new Harris Model 351 promises to become a legendary American classic. It is a time-proven design that is specifically built for those who want economical, rugged, high-performance, flow control equipment.

- 1 ACCURATE DUAL-SCALE PSI/BAR
- 2 STANDARD 5/8"-18F INERT OUTLET CONNECTION
- 3 THE MODEL 351 DESIGN IS AVAILABLE FOR EITHER CYLINDER OR PIPELINE GAS FLOW CONTROL
- 4 DELIVERS UP TO 70 SCFH
- 5 ZERO COMPENSATED FOR MORE EFFICIENT GAS USAGE



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

39

355-2

MODEL



COMPACT PRESSURE COMPENSATED FLOWMETER REGULATOR

MODEL SHOWN:
355-2-Ar-580

DESCRIPTION

The Model 355-2 incorporates a regulator and flowmeter into one compact unit. The flow tube and float are easily changed for different gases. As supplied, the flow tube has dual calibration. It includes a sensitive needle valve for finger tip control.

DETAILS

Capacity: Up to 140 SCFH

Gauges: 1.5" Steel

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Brass

Certifications: UL® listed/CGA E-4

Where Used: Gas shielded welding and other industrial applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 2.9 lbs./ 1.32 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100200	355-2-Ar-580	Ar, CO ₂	0 - 70	20	3000	0 - 4000	CGA 580	5/8" - 18 (F)
3100201	355-2-CD-320	CO ₂	0 - 70 *	20	3000	0 - 4000	CGA 320	5/8" - 18 (F)
3100205	355-2-He-580	He, H	0 - 100 (0 - 140)	20	3000	0 - 4000	CGA 580	5/8" - 18 (F)
3100207	355-N2/Air-580	N ₂ , Air	0 - 100	20	3000	0 - 4000	CGA 580	5/8" - 18 (F)
3100204	355-2-Ar/He-580	Ar, He	0 - 45 (0 - 140)	20	3000	0 - 4000	CGA 580	5/8" - 18 (F)

*On maximum continuous duty cycle, CO₂ flows to 20 SCFH

6-CD

MODEL



TWO-STAGE HIGH CAPACITY CO₂

MODEL SHOWN:
6-CD100F-320

DESCRIPTION

The Model 6CD is a multi-stage designed flowmeter regulator specifically to deliver CO₂ flow rates of up to 100 SCFH continuously without freeze-up. This multi-stage design spreads out the cooling effect of CO₂ pressure reduction. Multi-finned black aluminum body design provides a high rate of heat transfer into the regulator. It requires no electrical power.

DETAILS

Capacity: Heavy duty

Gauges: 2.5" Brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Aluminum bar stock

Certifications: UL® listed/CGA E-4

Where Used: High flow CO₂/CO₂ mix shielded-gas welding & other industrial applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 6 lbs./ 2.72 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100090	6-CD100F-320	CO ₂	100	50	3000	4000	CGA 320	5/8" - 18 (F)

6S

MODEL



SINGLE-STAGE HIGH CAPACITY CO₂

MODEL SHOWN:
6S-CD85F-320

DESCRIPTION

The Model 6S is a compact, competitively priced single-stage version of our heavy duty two-stage high flow CO₂ flowmeter regulator. Designed specifically for CO₂ applications, where CO₂ freeze-up cannot be tolerated. Its sensitive needle valve permits highly accurate flow settings. It requires no electrical power.

DETAILS

Capacity: Medium - heavy duty

Gauges: 2" steel

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Aluminum bar stock

Certifications: CGA E-4

Where Used: High flow CO₂/CO₂ mix shielding-gas welding & other industrial applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 4 lbs./ 1.8 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100096	6S-CD85F-320	CO ₂ and mix	0 - 70	80	3000	4000	CGA 320	3/8" - 18 (F)

356

MODEL



DUAL FLOWMETER REGULATOR

MODEL SHOWN:
356-Ar/He-580

DESCRIPTION

The Model 356 is a dual flowmeter regulator, capable of providing two separate independent flows from one common gas source. It is equipped with two Model 55 flowmeters that can be set at different flow rates. Ideal for back purging, trail purging and/or other dual applications.

DETAILS

Capacity: Dual heavy duty

Gauges: 2" Brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Brass

Certifications: UL® listed/CGA E-4

Where Used: Gas shielded welding and other industrial applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 4.8 lbs./ 2.18 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100140	356-Ar/He-580	Ar, He	0 - 45 (0 - 140)	20	3000	4000	CGA 580	3/8" - 18 (F)

PERFORMANCE FOCUS

CO₂ FREEZE-UP

Carbon Dioxide (CO₂) gas can, under certain conditions of temperature and pressure, freeze-up and form a solid (dry ice). If this condition occurs, for example, within a MIG shielding gas system, the required CO₂ gas flow can be restricted or blocked entirely producing a costly adverse affect on weld quality.

Harris offers an extensive line of flow-control equipment, manufactured specifically for welding or other similar high-flow CO₂ applications. They are designed to prevent CO₂ freeze-up and deliver continuous flows to 100 SCFH without regulator freeze-up.

If you use CO₂ in a critical application that can be, or has been, adversely affected by an interruption in gas flow, contact your Harris gas flow experts for an extensive list of preventive options to CO₂ freeze-up.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

41

2555

MODEL



5K CYLINDER FLOWMETER REGULATOR

MODEL SHOWN:
2555-Ar70-680

DESCRIPTION

The Model 2555 was specifically designed to provide precise flow control of gases from ultra-high pressure (5500 PSIG) cylinders.

DETAILS

Capacity: Heavy duty

Gauges: 2.5" brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Brass

Certifications: CGA E-4

Where Used: Gas shielded welding and other industrial applications

Related Items: 3/16" x 10' inert hose P/N: 4300138

Weight: 4.5 lbs./ 2.04 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3102555	2555-Ar70-680	Ar, CO ₂	0 - 70	50	5500	0 - 6000	CGA 680	3/8"-18 (F)

HP725

MODEL



ELECTRICALLY HEATED FLOWMETER REGULATOR

MODEL SHOWN:
HP725-100SCFH-320 120

DESCRIPTION

The Model HP725 is a two-stage electrically heated flowmeter regulator designed to resist CO₂ regulator freeze up. It has stainless steel diaphragms and it is well suited for shielding arc welding, chemical blanketing, purging and Ph control.

DETAILS

Capacity: Heavy duty

Gauges: 2.5" chrome plated brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Chrome plated brass

Certifications: CGA E-4/ electrical components UL® listed

Where Used: High flow CO₂/CO₂ mix gas-shielded welding and other industrial applications

Heater: 200 watt 120v or 240v

Weight: 4.6 lbs./ 2.09 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION	ELECTRICAL POWER REQUIREMENTS
3100405	HP725-100SCFH-580 120	Ar, CO ₂	0 - 100	50	3000	4000	CGA 580	3/8" - 18 (F)	120V
3100406	HP725-100SCFH-580 240	Ar, CO ₂	0 - 100	50	3000	4000	CGA 580	3/8" - 18 (F)	240V
3100402	HP725-100SCFH-320 120	CO ₂	0 - 100	50	3000	4000	CGA 320	3/8" - 18 (F)	120V
3100404	HP725-100SCFH-320 240	CO ₂	0 - 100	50	3000	4000	CGA 320	3/8" - 18 (F)	240V

351

MODEL



351 SHIELDING- ECONOMICAL GAS KIT

MODEL SHOWN:
351-60CD-32010

DESCRIPTION

The Model 351 flowmeter regulator kits are designed to control argon, CO₂ mix shielding gases. The kit is supplied with a 3/16" x 10' approved inert gas hose.

DETAILS

Capacity: Heavy Duty

Gauges: 1.5" Steel

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Certifications: UL® listed/
CGA E-4

Where Used: Gas-shielded welding & other industrial applications

Weight: 3.5 lbs./ 1.59 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100353	351Ar-58010	Ar	70	0	3000	4000	CGA 580	5/8"-18 (F)
3100401	351-60CD-32010	CO ₂	70	0	3000	4000	CGA 320	5/8"-18 (F)

355-2

MODEL



355-2 SHIELDING- COMPACT GAS KIT

MODEL SHOWN:
355-2Ar-58010

DESCRIPTION

The Model 355-2 flowmeter regulator kits are designed to control argon and or argon CO₂ mix shielding gases. The 355-2Ar-58010 shielding gas kit is supplied with a 3/16" x 10' approved inert gas hose.

DETAILS

Capacity: Heavy Duty

Gauges: 1.5" Steel

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Certifications: UL® listed/
CGA E-4

Where Used: Gas-shielded welding & other industrial applications

Weight: 4.1 lbs./ 1.86 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4400235	355-2Ar-58010	Ar/CO ₂	70	20	3000	4000	CGA 580	5/8" - 18 (F)
4400234	355-2CD-32010	CO ₂	70	20	3000	4000	CGA 320	5/8" - 18 (F)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

43

FLOWGAUGES

FLOW CONTROL
EQUIPMENT

HARRIS FLOWGAUGE REGULATORS ARE MADE IN GAINESVILLE,
GEORGIA. THEY ARE 100% TESTED AND MANUFACTURED TO THE SAME
EXACTING STANDARDS AS OUR OTHER GAS CONTROL EQUIPMENT.



GET CONNECTED

Go to www.facebook.com/HarrisProductsGroup

QUICK SELECTION GUIDE

GENERAL PURPOSE



**601
MODEL**

ECONOMICAL

p.46

**301
MODEL**

COMPACT

p.46

**425
MODEL**

BEST FEATURES

p.47

**330
MODEL**

LIQUID CYLINDER
GAS WITHDRAWAL

p.47

PIPELINE STATION



**247
MODEL**

ECONOMICAL

p.48

**447
MODEL**

PREMIUM PIPELINE

p.48

**547
MODEL**

PREMIUM PIPELINE
SIDE ENTRY

p.49

ELECTRONICALLY HEATED



**HP715
MODEL**

HIGH FLOW CO₂

p.49

SHIELDING GAS KITS



**601 AR/CD
MODEL**

LIGHT DUTY WITH HOSE

p.50

**301 AR/CD
MODEL**

HEAVY DUTY WITH HOSE

p.50



A LINCOLN ELECTRIC COMPANY

TURN TO THE PROS – TURN TO HARRIS.

To learn more about the most
complete line of industrial grade
tools in the world, visit us online.

www.harrisproductsgroup.com



MODEL SHOWN:
301Ar

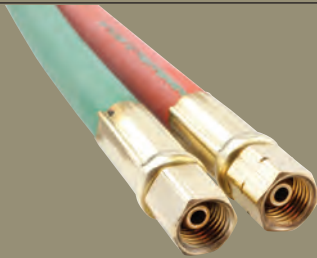
WHY DO PEOPLE USE FLOWGAUGE REGULATORS?

The most common use for gas flow control devices in the industrial gas market is to control shielding gases for GTAW (TIG) and GMAW (MIG) welding. Harris has the most complete line in the industry. Harris offers many designs and models of flowmeters, flowmeter regulators and flowgauge regulators for all gas supply systems, high-pressure cylinders, liquid cylinders and pipelines.

Contact your Harris representative for the devices that have the features and benefits that best fit your application(s).

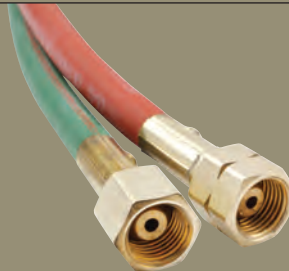
WHAT ARE THE THREAD SIZES FOR THE MOST COMMON HOSE CONNECTIONS?

"A" HOSE CONNECTION



HVAC/R or Plumbing Applications
1/8" - 24

"B" HOSE CONNECTION



"Standard" Twin Welding Hose
9/16" - 18

"C" HOSE CONNECTION



Station Regulators
High-Flow Torch Applications
7/8" - 14

601

MODEL



ECONOMICAL GENERAL PURPOSE

MODEL SHOWN:
601-60Ar-580

DESCRIPTION

This single-stage flowgauge regulator is designed to be compact and economical with features only available in more expensive flow control devices. The 601 flowgauge regulator is used where size and/or cost are major factors.

DETAILS

Capacity: Light/Medium Duty

Gauges: 50mm ABS plastic

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Featured In: 601-Ar/CD shielding gas kits

Certifications: UL® listed/CGA E-4

Where Used: Gas shielded welding and other industrial gas applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 1.39 lbs./ 0.63 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3001298	601-60Ar-580	Ar + Mixes	60	3000	4000	CGA 580	3/8" - 18 (F)
3001299	601-60CD-320	CO ₂	60	3000	4000	CGA 320	3/8" - 18 (F)

301

MODEL



COMPACT GENERAL PURPOSE

MODEL SHOWN:
301-Ar60-580

DESCRIPTION

This single-stage flowgauge regulator is designed to be compact, light weight and rugged. It is time-proven to give accurate flow-control to 60 SCFH using the most common welding shielding gases.

DETAILS

Capacity: Medium/Heavy Duty

Gauges: 2" Steel

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Featured In: 301-Ar/CD shielding gas kits

Certifications: UL® listed / CGA E-4

Where Used: Gas-shielded welding and other industrial gas applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 2.2 lbs./1.0 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000163	301-Ar60-580	Ar + Mixes	60	3000	4000	CGA 580	3/8" - 18 (F)
3000232	301-Ar30-580	Ar + Mixes	30	3000	4000	CGA 580	3/8" - 18 (F)
3000244	301-Ar60-680	Ar + Mixes	60	5500	6000	CGA 680	3/8" - 18 (F)
3000164	301-CD60-320	CO ₂	60	3000	4000	CGA 320	3/8" - 18 (F)

425

MODEL



GENERAL PURPOSE BEST FEATURES

MODEL SHOWN:
425-Ar100-580

DESCRIPTION

The Model 425-AR/CD flowgauge regulator is based upon our premium Model 425 single-stage pressure regulator. It is a rugged, long lasting performer capable of 100 SCFH flow and it features an internal, self-seating high pressure safety valve.

DETAILS

Capacity: Heavy Duty**Gauges:** 2.5" brass**Seat:** One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat**Body:** Brass**Certifications:** UL® listed/CGA E-4**Where Used:** Gas shielded welding and other industrial gas applications**Related Items:** 3/16" x 10' Inert Hose P/N: 4300138**Weight:** 3.7 lbs./1.69 kg.

PART #	MODEL #	GAS	FLOW CAPACITY SCFH	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	DELIVERY FLOW GAUGE	INLET CONNECTION	OUTLET CONNECTION
3000774	425-Ar100-580	Ar + Mixes	100	3000	4000	0-100 SCFH	CGA 580	3/8" - 18RH (F)
3000776	425-CD100-320	CO ₂	100	3000	4000	0-100 SCFH	CGA 320	3/8" - 18RH (F)

330
MODEL

LIQUID CYLINDER GAS WITHDRAWAL

MODEL SHOWN:
330-Ar100-580

DESCRIPTION

The Model 330 Ar/CD is a single-stage flowgauge regulator designed specifically for liquid cylinders. It features a stainless steel diaphragm. The Harris exclusive self-seating, tamper-proof internal safety allows it to be used on high pressure cylinders of up to 3000 PSIG.

DETAILS

Capacity: Heavy Duty**Gauges:** 2.5" brass**Seat:** One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat**Body:** Brass**Diaphragm:** Stainless Steel**Certifications:** UL® listed/CGA E-4**Where Used:** Gas-shielded welding and other industrial gas applications**Related Items:** 3/16" x 10' Inert Hose P/N: 4300138**Weight:** 3.7 lbs./1.68 kg.

PART #	MODEL #	GAS	FLOW CAPACITY SCFH	MAX. INLET PSIG	DELIVERY FLOW GAUGE	INLET CONNECTION	OUTLET CONNECTION
3001089	330-Ar100-580	Ar + Mixes	100	3000	0-100 SCFH	CGA 580	3/8" - 18RH (F)
3001096	330-CD100-320	CO ₂	100	3000	0-100 SCFH	CGA 320	3/8" - 18RH (F)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

47

247

MODEL



ECONOMICAL PIPELINE

MODEL SHOWN:
247-FG-1/4"

DESCRIPTION

Harris Model 247 flowmeter regulator is designed to deliver high gas flows from low pressure piping systems. The 247 features a brass body and chrome-plated bonnet. For installations requiring back entry equipment.

DETAILS

Capacity: Medium Duty

Gauges: 2" steel

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Bonnet: Chrome-Plated Zinc

Certifications: CGA E-4

Where Used: Gas-shielded welding and other industrial applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 3.6 lbs./1.63 kg.



PART #	MODEL #	GAS	MAXIMUM INLET PSIG	DELIVERY PRESSURE RANGE	DELIVERY PRESSURE GAUGE	INLET CONNECTION	OUTLET CONNECTION
4000810	247-FG-1/4"	Ar, CO ₂ , He and Mixes	500	0-100 SCFH	100 SCFH	1/4" - NPT (F)	5/8" - 18RH (M)

447

MODEL



HEAVY DUTY BACK ENTRY

MODEL SHOWN:
447-FG-1/4"

DESCRIPTION

The Harris Model 447 flowmeter regulator was designed to deliver high gas flows from low pressure piping systems. The 447 features a solid brass body and bonnet. For installations requiring back entry equipment.

DETAIL

Capacity: Heavy Duty

Gauges: 2.5" Brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Bonnet: Brass

Certifications: CGA E-4

Where Used: Gas-shielded welding and other industrial gas applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 3.6 lbs./1.63 kg.



PART #	MODEL #	GAS	MAXIMUM INLET PSIG	DELIVERY FLOW RANGE	DELIVERY FLOW GAUGE	INLET CONNECTION	OUTLET CONNECTION
4000565	447-FG-1/4"	Ar, CO ₂ , He and Mixes	500	0-100 SCFH	100 SCFH	1/4"NPT (F)	5/8" - 18(F)

547

MODEL



PREMIUM PIPELINE SIDE ENTRY

MODEL SHOWN:
547-FG-1/4"

DESCRIPTION

The Harris Model 547 flowmeter regulator was designed to deliver high gas flows from low pressure piping systems. The 547 features a brass body and bonnet. For installations requiring side entry equipment.

DETAILS

Capacity: Light/Medium Duty

Gauges: 2.5" Brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Featured In: 601-Ar/CD shielding gas kits

Certifications: CGA E-4

Where Used: Gas-shielded welding and other industrial gas applications

Related Items: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 3.6 lbs./1.63 kg.



PART #	MODEL #	GAS	MAXIMUM INLET PSIG	DELIVERY PRESSURE RANGE	DELIVERY PRESSURE GAUGE	INLET CONNECTION	OUTLET CONNECTION
4000617	547-FG-1/4"	Ar, CO ₂ , He and Mixes	500	0-100 SCFH	100 SCFH	1/4"NPT (F)	5/8" - 18RH (F)

HP715

MODEL



ELECTRICALLY HEATED FLOWGAUGE REGULATOR

MODEL SHOWN:
HP715-100CD-320-240

DESCRIPTION

The Model HP715 is an electrically heated two-stage flowgauge regulator designed to resist high-flow CO₂ regulator freeze-up. It is perfectly suited for gas shielded welding, Ph control, blanketing and purging.

DETAILS

Capacity: Heavy Duty

Gauges: 2.5" Chrome-Plated Brass

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® Seat

Body: Brass

Diaphragm: Stainless Steel

Certifications: CGA E-4

Where Used: Gas-shielded welding and other industrial gas applications

Related Items: Heater - 200 watts, 120V or 240V

Weight: 6.8 lbs./ 3.08 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION	ELECTRICAL POWER REQUIREMENTS
3100220	HP715-100CD-320-120	CO ₂	100	3000	4000	CGA 320	5/8" - 18RH (F)	120V
3100221	HP715-100CD-320-240	CO ₂	100	3000	4000	CGA 320	5/8" - 18RH (F)	240V



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

49

601AR/CD MODEL



SHIELDING GAS KIT

MODEL SHOWN:
601Ar-60-58010

DESCRIPTION

The Model 601Ar/CD shielding gas kits are ideal for low amperage MIG welders with built-in wire feeders. Designed to give precise flow-control at an economical price. Includes a $\frac{3}{16}$ " x 10' inert hose with fittings.

DETAILS

Capacity: Light Duty

Gauges: 50mm ABS plastic

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Brass

Certifications: CGA E-4

Where Used: Gas-shielded welding

Related Items: $\frac{3}{16}$ " x 10' Inert Hose P/N: 4300138

Weight: 2.6 lbs./ 1.18 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000322	601Ar-60-58010	Ar + Mixes	60	(N/A)	3000	4000	CGA 580	$\frac{5}{8}$ " - 18 RH (F)
3000988	601CD-60-32010	CO ₂	60	(N/A)	3000	4000	CGA 320	$\frac{5}{8}$ " - 18 RH (F)

301AR/CD MODEL



SHIELDING GAS KIT

MODEL SHOWN:
301Ar-58010

DESCRIPTION

The Model 301Ar/CD shielding gas kits include 10' of $\frac{3}{16}$ " ID approved hose with inert fittings. They feature the Harris time proven 301 flowgauge regulators to give precise control of the most common welding shielding gases up to 60 SCFH.

DETAILS

Capacity: Medium/Heavy Duty

Gauges: 2" Steel

Seat: One-piece encapsulated seat design with internal filter and PTFE Teflon® seat

Body: Brass

Diaphragm: Neoprene

Certifications: UL® listed/CGA E-4

Where Used: Gas-shielded welding and other industrial gas applications

Related Items: $\frac{3}{16}$ " x 10' Inert Hose P/N: 4300138

Weight: 3.9 lbs./ 1.77 kg.



PART #	MODEL #	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4400229	301Ar-58010	Ar + Mixes	60	(N/A)	3000	4000	CGA 580	$\frac{5}{8}$ " - 18 RH (F)
4400231	301CD-32010	CO ₂	60	(N/A)	3000	4000	CGA 320	$\frac{5}{8}$ " - 18 RH (F)



**CAN'T FIND
WHAT YOU ARE
LOOKING FOR?**

**CONTACT YOUR HARRIS
REPRESENTATIVE**

**FOR THE DEVICES THAT HAVE THE FEATURES
AND BENEFITS THAT BEST FIT
YOUR APPLICATION(S)**

1.800.241.0804

INERT GAS GUARDS

FLOW GAUGE REGULATORS FOR GAS SHIELDED ARC WELDING

HARRIS HAS A SOLID UNDERSTANDING OF THE IMPORTANCE OF GAS FLOW IN WELDING APPLICATIONS. THIS EXPERTISE, COMBINED WITH OUR KNOWLEDGE OF GAS EQUIPMENT, HAS RESULTED IN THE INDUSTRY'S MOST COMPREHENSIVE RANGE OF SURGE CONTROL REGULATION EQUIPMENT. THE HARRIS INERT GAS GUARD LINE OF FLOWGAUGE REGULATORS VIRTUALLY ELIMINATES THE GAS WASTE ASSOCIATED WITH ALL GAS-SHIELDED ARC WELDING.



GET CONNECTED

Go to www.twitter.com/HarrisProducts

QUICK SELECTION GUIDE

GENERAL PURPOSE



**25 IGG
MODEL**

CYLINDER MOUNT

p.54

ADD ON



**301 IGG
MODEL**

ADD-ON TO CURRENT
EQUIPMENT

p.54

ECONOMICAL



**447 IGG
MODEL**

PIPELINE
SHIELDING GASES

p.55



A LINCOLN ELECTRIC COMPANY

TURN TO THE PROS – TURN TO HARRIS.

To learn more about the most complete line of industrial grade tools in the world, visit us online.

www.harrisproductsgroup.com



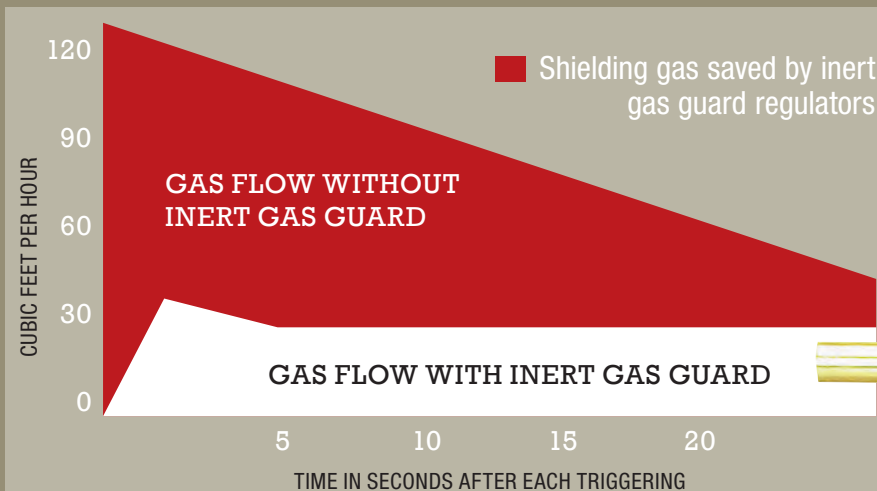
MODEL SHOWN:
301-80-IGGRF-032

HARRIS INERT GAS GUARD REGULATORS ARE DESIGNED TO SAVE SHIELDING GASES IN TWO WAYS.

First, Inert Gas Guard Regulators reduce gas surge when a MIG gun or TIG torch is activated. Gas surge is created by excess pressure trapped in the supply hose between the pressure control system and the valve or solenoid. Inert Gas Guard regulators lower the excess pressure on the supply hose and reduce the surge or gas waste when the gas system is activated.

Secondly, Inert Gas Guard Regulators deliver a more controlled flow rate. Operators tend to set shielding gas rates much higher than necessary for a welding operation. Inert Gas Guard Regulators are tamper-proof and can be set to deliver the precise amount of flow for the operation, eliminating the needless waste of shielding gas.

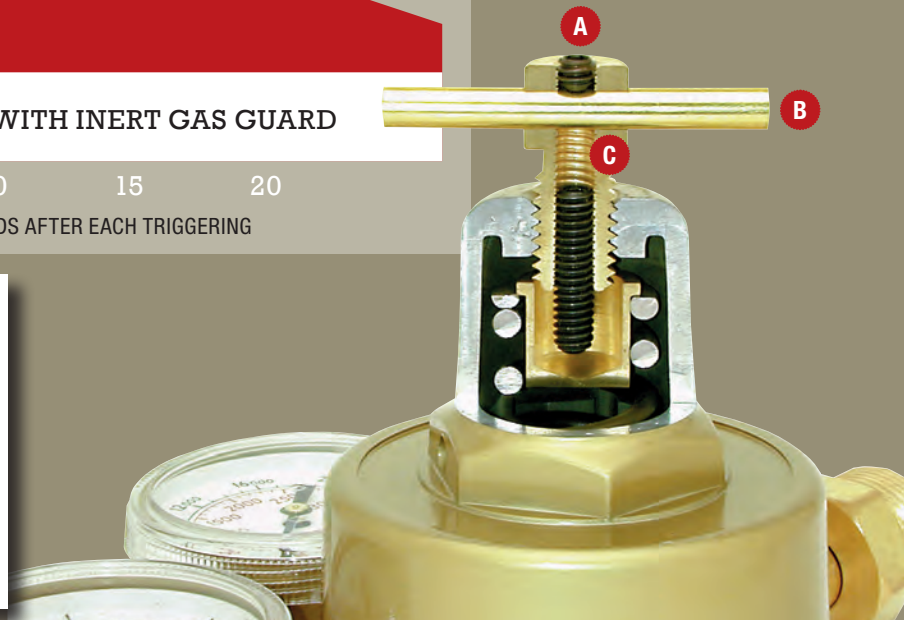
GAS SAVINGS WITH HARRIS IGG REGULATORS



If preferred, you can set a flow limit. Remove set screw **A** and crossbar **B**. With gas flowing, set inner set screw **C** to desired flow rate. To prevent tampering, replace crossbar and install customer supplied padlock.



Shown with a customer supplied pad lock to prevent tampering.



IGG 25 MODEL



FOR CYLINDER APPLICATIONS

MODEL SHOWN:
25-60-IGG-320

DESCRIPTION

The Model 25 Inert Gas Guard Regulator are special cylinder-mounted flowgauge regulators for argon and argon-mix shielding gases. These are designed to save shielding gases by controlling surge. Models are available for MIG and TIG.

DETAILS

Capacity: Heavy Duty

Gauges: 2" Steel

Seat: One-piece encapsulated seat designed with internal filter and PTFE Teflon® seat

Certifications: UL® listed/CGA E-4

Where Used: Gas-shielded welding

Weight: 2.9 lbs./ 1.32 kg.



PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY FLOW RANGE SCFH	DELIVERY FLOWGAUGE SCFH	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000433	25-40-IGG-580	Ar, CO ₂	3000	0 - 40	40	4000	CGA 580	½" - 18RH (F)
3000432	25-60-IGG-320	CO ₂	3000	0 - 60	60	4000	CGA 320	½" - 18RH (F)
3000431	25-80-IGG-580	Ar, CO ₂	3000	0 - 80	80	4000	CGA 580	½" - 18RH (F)

IGG 301 MODEL



ADD-ON TO ELIMINATE SURGE IN EXISTING EQUIPMENT

MODEL SHOWN:
301-80-IGGRFNG-032
301-80-IGGRF-032

DESCRIPTION

The Model 301 Inert Gas Guard Regulator is a special regulator designed to correct surge and provide full flow control when added to existing flow control equipment. Models available will mount to flowmeter, regulator or wire feeder. A feeder mount is available with a flowgauge.

DETAILS

Capacity: Heavy Duty

Gauges: 2" Steel

Seat: One-piece encapsulated seat designed with internal filter and PTFE Teflon® seat

Certifications: UL® listed/CGA E-4

Where Used: Gas-shielded welding



301-80-IGGRFNG-032
Weight: 2.1 lbs./ 0.95 kg.



301-80-IGGRF-032
with Flowgauge
Weight: 2.4 lbs./ 1.09 kg.

PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY FLOW RANGE SCFH	DELIVERY FLOW GAUGE SCFH	INLET CONNECTION	OUTLET CONNECTION	MOUNTING LOCATION
3000326	301-80-IGG-032	Ar, CO ₂	200	0 - 80	-	½" - 18RH (M)	½" - 18RH (F)	Flowmeter Outlet
3000328	301-80-IGGRF-032	Ar, CO ₂	200	0 - 80	80	½" - 18RH (F)	½" - 18RH (M)	Feeder Inlet
3000340	301-80-IGGRFNG-032	Ar, CO ₂	200	0 - 80	-	½" - 18RH (F)	½" - 18RH (M)	Feeder Inlet

IGG 447 MODEL



FOR PIPELINE APPLICATIONS

MODEL SHOWN:
447-80-IGG-1/4"

DESCRIPTION

The Model 447 is a special pipeline flow control device designed to deliver shielding gases more economically than other flow control devices, thus eliminates wasteful "surge". Available models for MIG and TIG.

DETAILS

Capacity: Heavy Duty

Gauges: 2" Steel

Seat: One-piece encapsulated seat designed with internal filter and PTFE Teflon® seat

C_v: N/A

Certifications: UL® listed/CGA E-4

Where Used: Gas-shielded welding

Weight: 3.37 lbs./ 1.53 kg.



PART #	MODEL #	GAS	MAX. INLET PSIG	DELIVERY FLOW RANGE SCFH	DELIVERY FLOW GAUGE SCFH	INLET CONNECTION	OUTLET CONNECTION
4000547	447-40-IGG-1/4	Ar, CO ₂	500	0 - 40	40	1/4" FNTP	3/8" - 18RH (F)
4000546	447-80-IGG-1/4	Ar, CO ₂	500	0 - 80	80	1/4" FNTP	3/8" - 18RH (F)



HARRIS MANUFACTURES
THE MOST COMPLETE
LINE OF INDUSTRIAL
REGULATOR PRODUCTS
DESIGNED TO
PERFORM.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

REGULATORS

55

TORCH HANDLES

GET THE BEST HANDLE ON IT! HARRIS MANUFACTURES ONLY INDUSTRIAL-DUTY EQUIPMENT INCLUDING OUR COMBINATION TORCH HANDLES. WHEN YOU BUY A HARRIS HANDLE, YOU CAN BE SURE THAT IT IS THE **BEST** THAT MONEY CAN BUY. OUR HANDLES ARE DESIGNED TO GIVE THE BEST PERFORMANCE, MADE OF THE BEST MATERIALS BY THE BEST MANUFACTURER IN THE INDUSTRY.



GET CONNECTED

Go to www.youtube.com/harrisproductsgroup

QUICK SELECTION GUIDE

HEAVY DUTY



**18-5
MODEL**
AUTOMATIC
p.59



**43-2
MODEL**
HIGH FLOW
p.60



**V-315C
MODEL**
VICTOR® COMPATIBLE
p.62



**VH31
MODEL**
VICTOR® COMPATIBLE
p.63



A LINCOLN ELECTRIC COMPANY

TURN TO THE PROS – TURN TO HARRIS.

To learn more about the most complete line of industrial grade tools in the world, visit us online.

www.harrisproductsgroup.com

MEDIUM DUTY



**19-6
MODEL**
FRONT VALVES
p.64



**50
MODEL**
AUTOMATIC
p.65/66



**85
MODEL**
CLASSIC
p.67

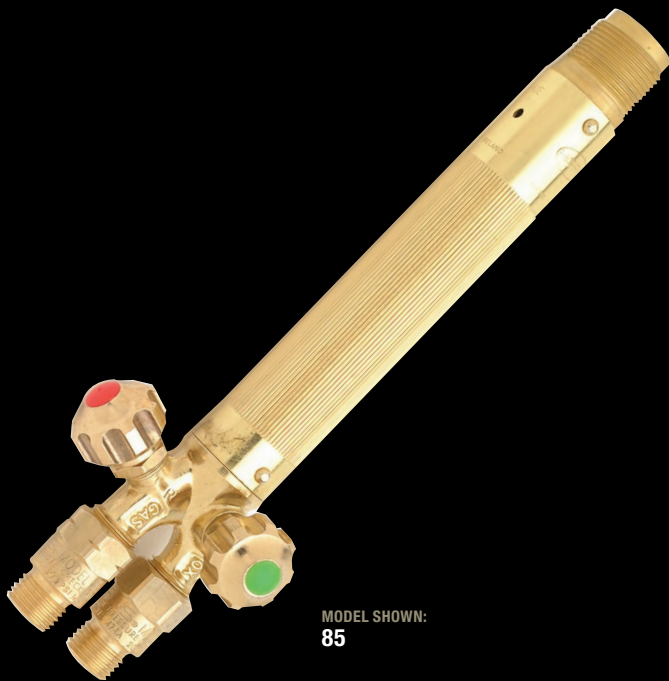


**V-100C
MODEL**
VICTOR® COMPATIBLE
p.69

LIGHT DUTY



**15-3
MODEL**
AIRCRAFT
p.70



MODEL SHOWN:
85

OVERVIEW

Most Harris combination torch handles have silver-brazed twin inner tube construction for strength and are light weight. For special applications, where weight can be compromised, Harris features tube-within-a-tube construction to provide optimum flow performance.

TYPICAL APPLICATIONS

- Metal fabrication
- Shipbuilding
- Maintenance
- Construction

PRO INFO

Visit www.harrisproductsgroup.com for complete details on our entire product line.



TURN TO THE PROS-
TURN TO HARRIS



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TORCH HANDLES

57

WHEN CONSTRUCTION MATTERS USING **HARRIS** **MAKES THE DIFFERENCE.**



MODEL SHOWN:
85

For most applications Harris combination torch handles have silver-brazed twin inner tube construction for strength, light weight and maximum leak integrity.



MODEL SHOWN:
43-2

For special applications where gas flow requirements are critical and light weight can be compromised, Harris uses tube-within-a-tube construction to fulfill those requirements while still maintaining the strength and leak integrity that these applications require.

WHAT IS THE DIFFERENCE BETWEEN **BRAZING**, **SOLDERING** & **GAS WELDING**?

- 1 BRAZING** is a metal joining process utilizing a filler metal which melts above 840°F (450°C) and below the melting point of the base metal(s). The filler metal is drawn into the joint by capillary attraction producing a sound, leak-proof connection.
- 2 SOLDERING** has the same definition as brazing except for the fact that the filler metal (s) melts below 840°F (450°C).
- 3 GAS WELDING** the base metal(s) allow the metal(s) to actually melt and flow together along with the filler metal if used. Filler metal(s) are used when the joint size or properties of the joint require it.

5-8-1

MODEL

1YR
WARRANTY

HEAVY-DUTY AUTOMATIC TORCH HANDLE

MODEL SHOWN:
18-5

DESCRIPTION

The Model 18-5 is a heavy-duty automatic torch handle. The thumb-operated on/off control can be used for welding, brazing, cutting and light heating with all fuel gases. The pilot light feature can be used for acetylene welding and brazing only.

The 18-5 is not recommended for heavy heating.

DETAILS

Capacity:



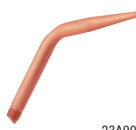

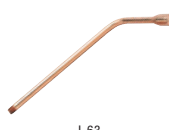

Welds to ½"/12.7mm; cuts to 5"/127.0mm

Length: 10½"/266.7mm



Weight: 1.4 lbs./ 0.64 kg.

Equipped with: FlashGuard® check valves



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 82)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H ₂ (SIZE) (PG. 120)	ALT. FUEL (SIZE) (PG. 124)	ACET/H ₂ (PG. 128)	ALT. FUEL (PG. 124)
		 E-43	 8593	 23A90	 1390-N	 J-63	 1390-B
1401820	18-5	E-43	—	23A90 (1-10)	—	J-63 (1&2)	—
		E-43	8593	1390 (0-10)	1390-N (2-10)	1390 (HA)	1390 (B&H)
		E2-43	—	23A90 (13 & 15)	—	—	—
		E2-43	T-43	1390 (13)	1390-N (13, 15, 20, 30, 80)	—	1390 (3H)
		E3-43	T-43	1390 (13)	1390-N (13, 15, 20, 30, 80)	—	1390 (3H)
		B-43-N	T-43	—	1390-N (13, 15, 20, 30, 80)	—	1390 (3H)

Example of Brazing Combination: 18-5 + E-43 + 23A90

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING CUTTING ATTACHMENT (PG. 76)	CUTTING TIP STYLE (PG. 105)
		 73-3	 6290
1401820	18-5	73-3	6290, 6290AC & S, 6290 NX, NXP, NXM, & NFF
		49-3F*	6290 NX, NXP, NXM, & NFF

Example of Cutting Combination: 18-5 + 73-3 + 6290

*For alternate fuels only.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TORCH HANDLES

59

43-2

MODEL

1YR
WARRANTY

HIGH-CAPACITY COMBINATION HANDLE

MODEL SHOWN:
43-2

DESCRIPTION

The Model 43-2 high-capacity combination handle with the capacity to maximize the performance of the largest Harris tips. The 43-2 is Harris' premium heavy-duty combination torch handle.

DETAILS

Capacity:

Welds to 1"/25.4mm; cuts to 5"/127mm

Length: 9½"/241.3mm



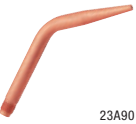

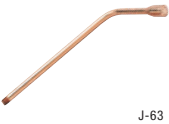

Weight: 1.4 lbs./ 0.64 kg.

Certification: UL®listed



Equipped with: FlashGuard® check valves

Featured in Pipeliner®, Alternate Fuel Classic and HardHat™ kits



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 82)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H ₂ (SIZE) (PG. 120)	ALT. FUEL (SIZE) (PG. 124)	ACET/H ₂ (PG. 128)	ALT. FUEL (PG. 127)
		 E-43	 8593	 23A90	 1390-N	 J-63	 2290-HPM
1401150	43-2	E-43	—	23A90 (0-10)	—	J-63 (1 & 2)	—
		E-43	8593	1390 (0-10)	1390-N (2-10)	1390 (HA)	1390 (B&H)
		E2-43	—	23A90 (13 & 15)	—	J-63 (3 & 4)	—
		E2-43	T-43	1390 (13)	1390-N (13, 15, 20, 30, 80)	—	1390 (3H)
		E2-43	2393	—	—	—	2290-H & HPM (1-3)
		E2-43	2393	—	—	RBA (2, 4, 6)	RBP (2, 4, 6)
		E3-43	T-43	1390 (13)	1390-N (13, 15, 20, 30, 80)	—	1390 (3H)
		E3-43	2393	—	—	—	2290-H & HPM (1-5)
		E3-43	2393	—	—	RBA (2, 4, 6)	RBP (2, 4, 6)
		B-43-N	T-43	—	1390-N (13, 15, 20, 30, 80)	—	1390 (3H)
		B-43-N	2393	—	—	—	2290-H & HPM (1-3)
		B-43-N	2393	—	—	—	RBP (2, 4, 6)

Example of Brazing Combination: 43-2 + E2-43 + T-43 + 1390-N

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 76)	CUTTING TIP STYLE (PG. 105)
		 73-3	 6290
1401150	43-2	73-3	6290, 6290 S, 6290 AC, 6290 NX, NXP, NXM & NFF
		49-3F*	6290 NX, NXP, NXM & NFF

Example of Cutting Combination: 43-2 + 49-3F + 6290 NX

*For alternate fuels only.

ON THE HUNT FOR AN ALL-AROUND TORCH HANDLE? CHECK OUT THE HARRIS **MODEL V-315C**.

Convert your Victor® oxy-fuel equipment to Harris "V" Series and get all the features, advantages and benefits of Harris designed equipment.



- 1 Harris V-315C supplied with Harris Flashguard® high-capacity check valves
- 2 Equipped with Harris high-volume, long-lasting ball valves.
- 3 Tube-within-a-tube construction for the highest heating capacity.
- 4 Selecting the proper Harris V-W series mixer allows use of Harris tips for welding, brazing or heating.
- 5 Harris also offers a V-2460 cutting attachment, compatible with Victor® style cutting tips (PG. 63).
- 6 Guaranteed UL® listed

WHAT IS V-SERIES?



The Harris "V" Series products allow users of Victor® style cutting torches, handles, cutting attachments, mixers and tips to inexpensively convert to and enjoy the benefits of genuine Harris designed gas apparatus.

Only Harris "V" Series V-315C handles, V-2460 cutting attachments and Type V-W, V-W-2 and V-W-3 mixers have genuine UL® listing—the industry's most trusted standard of quality.

V-315C

MODEL

1YR
WARRANTY

VICTOR® COMPATIBLE COMBINATION HANDLE

MODEL SHOWN:
V-315C

DESCRIPTION

The Model V-315C is a Victor® compatible combination handle for welding, brazing, heating and cutting. This heavy-duty handle is compatible with all fuel gases and features tube-within-a-tube construction.

DETAILS

Capacity:

Welds to 1"/25.4mm; cuts to 5"/127.0mm

Length: 9½"/241.3mm







Weight: 1.4 lbs./0.64 kg.

Certification: UL® listed



Equipped with: FlashGuard® check valves

Featured in "V" Series
Pipeliner®, Alternate Fuel
Combo and HardHat™ kits



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 82)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H2 (SIZE) (PG. 120)	ALT. FUEL (SIZE) (PG. 124)	ACET/H2 (PG. 128)	ALT. FUEL (PG. 127)
		 V-W	 8593	 23A90	 1390-N	 J-63	 2290-HPM
1400315	V-315C	V-W	—	23A90 (0-10)	—	J-63 (1 & 2)	—
		V-W	8593	1390 (0-10)	1390-N (2-10)	1390 (HA)	1390 (B&H)
		V-W-2	—	23A90 (13 & 15)	—	J-63-(3 & 4)	—
		V-W-2	T-43	1390 (13)	1390-N (20,30,80)	—	1390 (3H)
		V-W-2	2393	—	—	—	2290-H & HPM (1-3)
		V-W-2	2393	—	—	RBA (2, 4, 6)	RBP (2, 4, 6)
		V-W-3	—	23A90 (13 & 15)	—	J-43 (5)	—
		V-W-3	T-43	1390 (13)	1390-N (13, 15, 20, 30, 80)	—	1390 (3H)
		V-W-3	2393	—	—	—	2290-H & HPM (1-5)
		V-W-3	2393	—	—	RBA (2, 4, 6)	RBP (2, 4, 6)

Example of Brazing Combination: V-315C + V-W-2 + T-43 + 1390-N

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 75)	CUTTING TIP STYLE (PG. 109)
		 V-2460	 V1-101
1400315	V-315C	V-2460	V1-101, V1-101AC 1-GPN, 1-GPP

Example of Cutting Combination: V-315C + V-2460 + V1-101

*For alternate fuels only.

VH31

MODEL

1YR
WARRANTY

VICTOR® COMPATIBLE COMBINATION HANDLE

MODEL SHOWN:
VH31

DESCRIPTION

The model VH31 is a Victor® compatible heavy duty combination handle for welding, brazing, heating and cutting. It is designed to offer the highest flow possible allowing the use of larger tips. The handle is designed with a tube within a tube construction and is o-ring sealed for greater strength and higher capacity.

DETAILS

Capacity:

Welds to 1/2" / 12.7mm; cuts to 8" / 203.2mm

Length: 11" / 279.4mm

Weight: 1.91 lbs. / 0.86 kg.







Hose Connection:



9/16-18 "B" FITTING



All VH31 handles include model 88-5N FBT&R flashback arrestors installed.

Featured in Ironworker® and Ironworker® 2 kits

WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	Model #	COMPATIBLE MIXER(S) (PG. 82)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H ₂ (SIZE) (PG. 120)	ALT. FUEL (SIZE) (PG. 124)	ACET/H ₂ (PG. 120)	ALT. FUEL (PG. 124)
		 V-W	 8593	 23A90	 1390-N	 J-63-1	 1390-B
1400422	VH31	V-W	8593	23A90-3 (0-10)	1390-N (2-80N)	J-63 (1-3)	1390 (H, 3H, B)
Example of Heating Combination: VH31 + V-W + 23A90-3							

CUTTING			
PART #	Model #	COMPATIBLE CUTTING ATTACHMENT (PG. 77)	CUTTING TIP STYLE (PG. 109)
		 VH24	 V1-101
1400422	VH31	VH24	V-101, V-101AC
Example of Cutting Combination: VH31+VH24+ V1-101			



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TORCH HANDLES

63

19-6 MODEL

1YR
WARRANTY

COMBINATION HANDLE FOR MEDIUM-DUTY

MODEL SHOWN:
19-6

DESCRIPTION

The Models 19-6 and 19-6A are combination handles for medium-duty welding, brazing, heating and cutting. They can be used with oxy-acetylene or any of the alternate fuel gases. The Model 19 features silver brazed twin-tube construction. Both Models 19-6 and 19-6A have front valves for easier adjustment while welding and brazing. The 19-6A features $\frac{3}{8}$ "-24 class "A" hose fittings.

DETAILS

Capacity: Welds to $\frac{5}{16}$ "/7.9mm; cuts to 2"/50.8 mm

Lengths: 7 $\frac{1}{2}$ "/190.5mm

Weight: 0.7 lbs./0.32 kg.

Certification: UL® listed







Equipped with: FlashGuard® check valves

Inlet connections:



19-6: $\frac{9}{16}$ " - 18

19-6A: $\frac{3}{8}$ " - 24



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 86)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H ₂ (SIZE) (PG. 121)	ALT. FUEL (SIZE) (PG. 124)	ACET/H ₂ (PG. 128)	ALT. FUEL (PG. 124)
		 H-16-E	 D-50-C	 5090	 1390-N	 J-16	 1390-B
1401143 1401156	19-6A 19-6	H-16-E	—	5090 (0-10)	—	J-16 (1&2)	—
		H-16-E	D-50-C	1390 (0-10)	1390-N (4-10)	1390 (HA)	1390 (B&H)
		H-16-E	D-50-CXL	1390 (0-10)	1390-N (4-10)	1390 (HA)	1390 (B&H)
		H-16-E	TH-50-2	8490 (2, 4, 6, 8)	8490-N (4-8)	8490-6-65	8490-6-65
		H-16-E	TH-50-2XL	8490 (2, 4, 6, 8)	8490-N (4-8)	8490-6-65	8490-6-65
		H-16-2E	—	23A90 (0-10)	—	J-63 (1 & 2)	—
		H-16-2E	8593	1390 (0-10)	1390-N (4-10)	1390 (HA)	1390 (B&H)
		H-16-S	D-50-C	—	1390-N (2-10)	—	1390 (B&H)
		H-16-S	D-50-CXL	—	1390-N (2-10)	—	1390 (B&H)
		H-16-S	TH-50-2	—	8490-N (4-8)	—	8490-6-65
		H-16-S	TH-50-2XL	—	8490-N (4-8)	—	8490-6-65

Example of Welding Combination: 19-6 + H-16-E + 5090

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 78)	CUTTING TIP STYLE (PG. 104)
		 36-2	 3690
1401143 1401156	19-6	36-2	3690, 3690AC
		36-2N*	3690-P
	19-6A	36-2	3690, 3690AC
		36-2N*	3690-P

Example of Cutting Combination: 19-6 + 36-2 + 3690AC

*For alternate fuels only.

6-50-9

MODEL

1YR
WARRANTY

MEDIUM-DUTY AUTOMATIC TORCH HANDLE

MODEL SHOWN:
50-9

DESCRIPTION

The Model 50-9 is an automatic medium-duty handle. The handle features a lever control on/off for welding, brazing and cutting; and a unique pilot light for welding and brazing with acetylene. The on/off feature is not recommended for acetylene heating applications.

DETAILS

Capacity: Welds to 1/2"/12.7mm; cuts to 3"/76.2mm







Length: 8"/203.2mm



Weight: 0.8 lbs./0.36 kg.

Equipped with: FlashGuard® check valves

Gas service:
Acetylene & hydrogen



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 86)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H2 (SIZE) (PG. 121)	ALT. FUEL (SIZE) (PG. 122)	ACET/H2 (PG. 122)	ALT. FUEL (PG. 124)
		 H-16-E	 D-50-C	 5090	 1390	 1390-HA	 1390-B
1401585	50-9	H-16-E	—	5090 (0-10)	—	J-16 (1&2)	—
		H-16-E	D-50-C	1390 (0-10)	1390 (0-10)	1390 (HA)	1390 (B&H)
		H-16-E	D-50-CXL	1390 (0-10)	1390(0-10)	1390 (HA)	1390 (B&H)
		H-16-E	TH-50-2	8490 (2, 4, 6, 8)	8490 (2,4,6,8)	8490-6-65	8490-6-65
		H-16-E	TH-50-2XL	8490 (2, 4, 6, 8)	8490 (2,4,6,8)	8490-6-65	8490-6-65
		H-16-2E	8593	1390 (0-10)	1390(0-10)	1390 (HA)	1390 (B&H)
		H-16-2E	—	23A90 (0-10)	—	J-63 (1&2)	—
		H-16-S	D-50-C	—	1390 (0-10)	—	1390 (B&H)
		H-16-S	D-50-CXL	—	1390 (0-10)	—	1390 (B&H)
		H-16-S	TH-50-2	—	8490 (2,4,6,8)	—	8490-6-65
		H-16-S	TH-50-2XL	—	8490 (2,4,6,8)	—	8490-6-65
Example of Welding Combination: 50-9 + H-16-E + 8593 + 1390							

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 78)	CUTTING TIP STYLE (PG. 104)
		 36-2	 3690
1401585	50-9	36-2, 36-2N	3690, 3690AC
Example of Cutting Combination: 50-9 + 36-2 + 3690			



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TORCH HANDLES

65

50-10

MODEL

1YR
WARRANTY

MEDIUM-DUTY AUTOMATIC TORCH HANDLE

MODEL SHOWN:
50-10

DESCRIPTION

The Model 50-10 is an automatic medium-duty handle. The handle features a lever control on/off for welding, brazing and cutting, and a unique pilot light for brazing. The Model 50-10 is not recommended for any acetylene heating applications.

DETAILS

Capacity: Welds to ½"/12.7mm, cuts to 3"/76.2mm

Length: 8"/203.2mm





Weight: 0.8 lbs./0.36 kg.

Equipped with: FlashGuard®
check valves



Gas service:

Propane, propylene,
natural gas/methane



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	BRAZING TIP STYLE	HEATING TIP STYLE
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 86)	COMPATIBLE TIP TUBE(S) (PG. 122)	ALT. FUEL (SIZE) (PG. 124)	ALT. FUEL (PG. 124)
		 H-16-E	 D-50-C	 1390-N	 1390-B
1401590	50-10	H-16-S	D-50-C	1390-N (2-10)	1390 (B&H)
		H-16-S	D-50-CXL	1390-N (2-10)	1390 (B&H)
		H-16-S	TH-50-2	8490-N (4-8)	8490-6-65
		H-16-S	TH-50-2XL	8490-N (4-8)	8490-6-65
		H-16-E	D-50-C	1390-N (2-10)	1390 (B&H)
		H-16-E	D-50-CXL	1390-N (2-10)	1390 (B&H)
		H-16-E	TH-50-2	8490-N (4-8)	8490-6-65
		H-16-2E	TH-50-2XL	8490-N (4-8)	8490-6-65

Example of Brazing Combination: 50-10 + H-16-E + D-50-C + 1390-N

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 77)	CUTTING TIP STYLE (PG. 107)
		 36-2N	 3690-P
1401590	50-10	36-2N*	3690-P

Example of Cutting Combination: 50-10 + 36-2N + 3690-P

*For alternate fuels only.

85 MODEL

1YR
WARRANTY

MEDIUM-DUTY COMBINATION HANDLE

MODEL SHOWN:
85

DESCRIPTION

The Model 85 is a medium-duty combination handle designed for welding, brazing, cutting or heating with acetylene or alternate fuels. The 85 features twin-tube silver-brazed connections for safety and durability. The Model 85 is Harris' most popular torch handle.

DETAILS

Capacity: Welds to ½"/12.7mm; cuts to 5"/127.0mm

Length: 8½"/215.9mm







Weight: 1 lb./0.45 kg.

Certification: UL® listed



Equipped with: FlashGuard®
Check Valves

*Featured in Expert®, Steelworker®,
Alternate Fuel Combo and
Port-A-Torch® Classic kits*



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 120)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H ₂ (SIZE) (PG. 120)	ALT. FUEL (SIZE) (PG. 124)	ACET/H ₂ (PG. 128)	ALT. FUEL (PG. 124)
		 D-85	 8593	 23A90	 1390-N	 J-63	 1390-B
1401340	85	D-85	—	23A90 (0-10)	—	J-63 (1&2)	—
		D-85	8593	1390 (0-10)	1390-N (4-10)	1390 (HA)	1390 (B&H)

Example of Welding Combination: 85 + D-85 + 23A90

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 76)	CUTTING TIP STYLE (PG. 105)
		 72-3	 6290
1401340	85	72-3	6290, 6290S, 6290AC, 6290NX, NXP, NXM, & NFF
		39-3F*	6290 NX, NXP, NXM & NFF

Example of Cutting Combination: 85 + 72-3 + 6290AC

*For alternate fuels only.



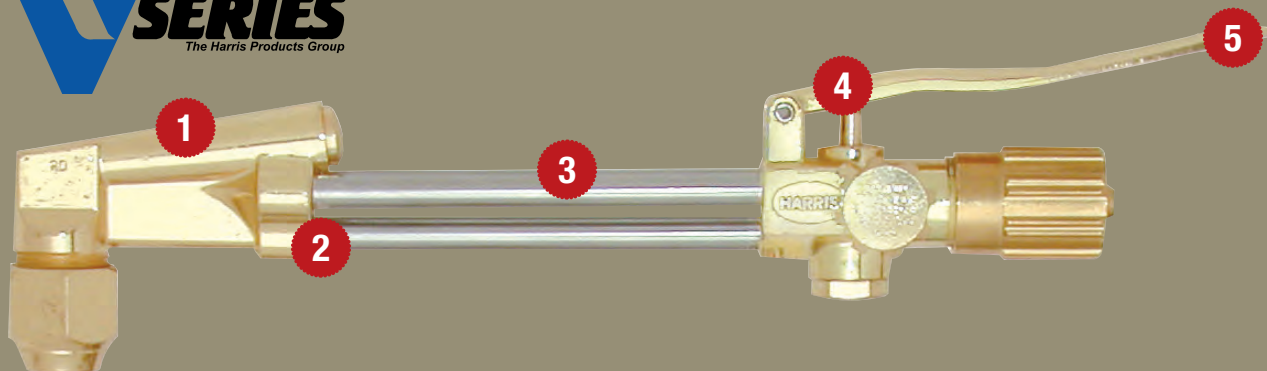
THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TORCH HANDLES

67

THE HARRIS V-SERIES® ADVANTAGE



1 SOLID FORGED HEAD WITH MIXER

- Resist flashback damage
- Readily accessible mixer
- Alternate fuel injector mixer available

2 BRAZED CONSTRUCTION

- Superior strength
- Cannot loosen

3 TRIANGULAR TUBE CONSTRUCTION

- Lightweight with strength and rigidity

4 CUTTING OXYGEN VALVE

- Ease-on for smoother starts
- Easily accessible for service

5 SOLID BRASS FORGED LEVER

- Exceptional strength and durability
- Flips forward for safety and convenience

"V" SERIES CUTTING ATTACHMENTS MAKE IT POSSIBLE FOR VICTOR® TORCH HANDLE USERS TO ENJOY THE UNIQUE FEATURES AND BENEFITS OF HARRIS CUTTING ATTACHMENTS.

FEATURES AND ADVANTAGES OF HARRIS V-SERIES® EQUIPMENT

The heavy duty construction of the Harris V-Series® components will deliver years of superior performance.

- Harris V-Series® handles feature Harris flashguard replaceable check valves
- Harris V-Series® cutting attachment features:
 - Solid forged head for long service life
 - Brazed triangular tube construction for added strength and rigidity
 - Protected torch unions to reduce damage from abuse
 - Head mixing design for safety and efficiency
 - Use Victor® or Harris V-Series® cutting tips available in both acetylene and alternate fuels
 - Cutting lever flips away for safety and ease of service
 - Cutting oxygen valve has ease-on for smoother starts
- Harris V-Series® welding and brazing mixers are compatible with high-performance Harris welding, brazing and heating tips

V-100C

MODEL

1YR
WARRANTY

VICTOR® COMPATIBLE COMBINATION HANDLE

MODEL SHOWN:
V-100C

DESCRIPTION

The Model V-100C is a Victor® compatible combination handle for welding, brazing, heating and cutting. It is a medium duty handle compatible with all fuel gases. It has silver-brazed twin-tube construction. Select the Harris V-W-1 mixer to use Harris welding, brazing and heating tips.

DETAILS

Capacity:

Welds to ½"/12.7mm; cuts to 5"/127.0mm







Length: 8 ½"/215.9mm

Weight: 1 lb./0.45 kg



Equipped with: FlashGuard® check valves

Featured in "V" Series
Steelworker®, Expert®,
HardHat™ and "V"
Port-A-Torch® kits



WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART #	MODEL #	COMPATIBLE MIXER(S) (PG. 82)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H ₂ (SIZE) (PG. 120)	ALT. FUEL (SIZE) (PG. 124)	ACET/H ₂ (PG. 128)	ALT. FUEL (PG. 124)
		 V-W-1	 8593	 23A90	 1390-N	 J-63-1	 1390-B
1400402	V-100C	V-W-1	—	23A90 (0-10)	—	J-63 (1 & 2)	—
		V-W-1	8593	1390 (0-10)	1390-N (4-10)	1390 (HA)	1390 (B&H)

Example of Heating Combination: V-100C + V-W-1 + J-63

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 76)	CUTTING TIP STYLE (PG. 112)
		 V-1350	 V3-101
1400402	V-100C	V-1350	V3-101, 3-GPN, 3-GPP

Example of Cutting Combination: V-100C + V-1350 + V3-101



A LINCOLN ELECTRIC COMPANY

THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TORCH HANDLES

69

15-3

MODEL



LIGHTWEIGHT AIRCRAFT-STYLE HANDLE

MODEL SHOWN:
15-3

DESCRIPTION

The Model 15 is a lightweight aircraft-style (Class "A" $\frac{3}{8}$ "-24 hose connection) handle with front valves for more convenient adjustment while welding or brazing. The Model 15 is compatible with all fuel gases. The Model 15 can be used for welding, brazing and light heating.

DETAILS

Capacity: Welds to $\frac{5}{16}$ "/7.9mm

Length: 5 $\frac{3}{4}$ "/146.0mm







Weight: 0.5 lb./0.23 kg.

Hose connections: $\frac{3}{8}$ " - 24 "A"

Optional Equipment:

$\frac{3}{8}$ " - 24 check valves P/N: 4300835



PART #	MODEL #	MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
		COMPATIBLE MIXER(S) (PG. 88)	COMPATIBLE TIP TUBE(S) (PG. 122)	ACET/H ₂ (SIZE) (PG.121)	ALT. FUEL (SIZE) (PG. 126)	ACET/H ₂ (PG. 126)	ALT. FUEL (PG. 124)
		 B-15-3	 D-50-C	 5090	 8490-N	 8490-6-65	 1390-B
1400010	15-3	B-15-3	—	5090 (0-10)	—	—	—
		B-15-3	TH-50-2	8490 (2,4,6,8)	8490-N (4-8)	8490-6-65	8490-6-65
		B-15-3	TH-50-2XL	8490 (2,4,6,8)	8490-N (4-8)	8490-6-65	8490-6-65
		B-15-3	D-50-C	1390 (0-10)	1390-N (2-10)	1390 (HA)	1390 (H&B)
		B-15-3	D-50-CXL	1390 (0-10)	1390-N (2-10)	1390 (HA)	1390 (H&B)
		B-15-3S	8493-N	—	8490-N (4-8)	8490-6-65	8490-6-65

Example of Brazing Combination: 15-3 + B-15-3S + 8493-N + 8490-6-65

NEED A SPECIAL TORCH?

Harris manufactures a wide variety of torch products that will meet the needs of most fabricators. Harris also can custom design a torch to meet your special requirements. Whether you need to cut 60' material or any specialty alloy such as aluminum, stainless or cast iron, Harris can design and manufacture a specialty torch to meet your needs. These include torches for the heavy scrap industry, steel mills and demolition.

CALL YOUR LOCAL HARRIS REPRESENTATIVE FOR DETAILS: 1-800-241-0804



NEED A SPECIAL TORCH?

THE INFERNO[®] PROPANE TORCH

**MAKING HOME, FARM, INDUSTRIAL
AND CONSTRUCTION WORK EASIER.**

- Repairing road surfaces.
- Removing paint.
- Burning brush, weeds and stumps.
- Melting snow and ice.
- Roofing, melts tar and asphalt.

FEATURES

- 500,000 BTU Output • Excess flow safety valve
- Brass valve for flame adjustment • 10' LP Gas hose • Flint striker



P/N.: KH825-01



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TORCH HANDLES

71

CUTTING ATTACHMENTS

HARRIS CUTTING ATTACHMENTS HAVE THE BEST FEATURES IN THE INDUSTRY. ALL HARRIS AND HARRIS "V" SERIES HAVE THE SAME GREAT FEATURES FOR SAFETY, RELIABILITY AND LONG LIFE. ALL HARRIS CUTTING ATTACHMENTS ARE SUITABLE FOR INDUSTRIAL USE.



GET CONNECTED

Go to www.facebook.com/HarrisProductsGroup

QUICK SELECTION GUIDE

HEAVY DUTY



**49-3F
MODEL**

ALTERNATE FUEL
INJECTOR
p.74



**73-3
MODEL**

ALL FUELS
p.74



**V-2460
MODEL**

VICTOR COMPATIBLE
ALL FUEL
p.75



A LINCOLN ELECTRIC COMPANY

TURN TO THE PROS – TURN TO HARRIS.
To learn more about the most complete line of industrial grade tools in the world, visit us online.

www.harrisproductsgroup.com

MEDIUM DUTY



**39-3F
MODEL**

ALTERNATE FUEL
INJECTOR
p.75



**72-3
MODEL**

ALL FUELS
p.76



**V-1350
MODEL**

VICTOR COMPATIBLE
ALL FUEL
p.76



**VH24
MODEL**

VICTOR COMPATIBLE
ALL FUEL
p.77

LIGHT DUTY



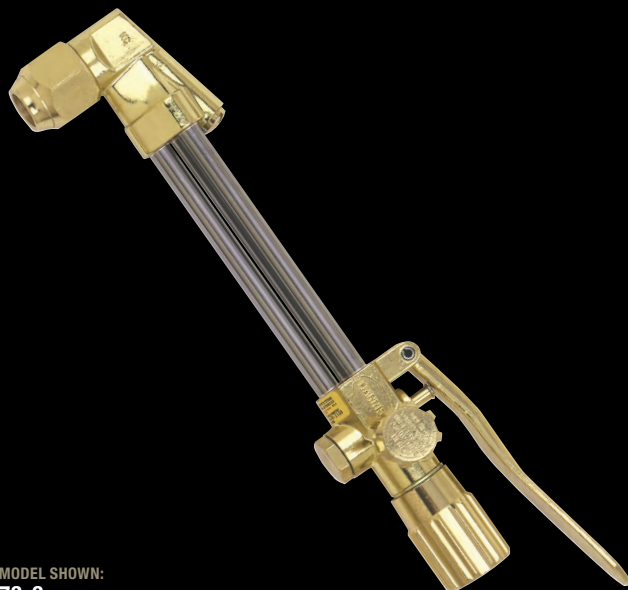
**36-2N
MODEL**

ALTERNATE FUEL
INJECTOR
p.77



**36-2
MODEL**

ALL FUELS
p.78



MODEL SHOWN:
73-3

OVERVIEW

All Harris Cutting Attachments share these great features:

- Brazed triangular tube construction for safety and durability
- Solid forged brass heads for performance and long service life
- Flip-up oxygen cutting lever for convenience and ease of operation
- Captive union nut protects connections from damage
- Ease-on cutting valve for safety and cutting control

TYPICAL APPLICATIONS

- Metal fabrication
- Shipbuilding
- Maintenance
- Construction

PRO INFO

Visit www.harrisproductsgroup.com for complete details on our entire product line.



**TOUGH JOBS DEMAND
RUGGED EQUIPMENT
THAT'S WHY PROS
CHOOSE HARRIS**



A LINCOLN ELECTRIC COMPANY

THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

CUTTING ATTACHMENTS

73

49-3F

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALTERNATE* FUELS

MODEL SHOWN:
49-3F

DESCRIPTION

The Model 49-3F is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight while still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage. It features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions. This model also features a unique low pressure injector mixing system for the hottest preheat flame and the most efficient use of alternate fuels.

DETAILS

Capacity: 6"/152.4mm

Duty: Heavy

Length: 10 1/4"/260.3mm

Weight: 1.5 lbs./0.68 kg.

Mixer Type: Low pressure injector

Certification: UL® listed

Where Used: Fabrication, construction, shipbuilding, etc.

Related Equipment:

Circle cutting attachment – R-69-3B
P/N: 4300200

Featured in Classic Alternate Fuel kits



				TIP STYLES
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLES	ALTERNATE* FUEL
1300440	49-3F	90°	43-2, 18-5	6290-NX, 6290-NXP, NXM, & NFF
1300430	49-3AF	70°	43-2, 18-5	6290-NX, 6290-NXP, NXM, & NFF

*Propylene or propane-based fuels and natural gas. NOT FOR USE WITH ACETYLENE.

73-3

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
73-3

DESCRIPTION

The Model 73-3 is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight while still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage. It features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions.

DETAILS

Capacity: 6"/152.4mm

Duty: Heavy

Length: 9 1/2"/241.3mm

Weight: 1.5 lbs./0.68 kg

Mixer Type: Equal pressure

Certification: UL® listed

Where Used: Fabrication, construction, shipbuilding, etc.

Related Equipment:

Circle cutting attachment – R-69-3B
P/N: 4300200

Featured in Classic Pipeliner® kits



				TIP STYLES	
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLES	ACET/H ₂	ALTERNATE* FUEL
1300340	73-3	90°	43-2, 18-5	6290, 6290AC, 6290S	6290-NX, NXP, NXM, & NFF

*Propylene or propane-based fuels and natural gas.

V-2460

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
V-2460

DESCRIPTION

The Model V-2460 is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight while still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage. It features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions.

DETAILS

Capacity: 6"/152.4mm

Duty: Heavy

Length: 10 1/4"/260.3mm

Weight: 1.5 lbs./0.68 kg.

Mixer Type: Equal pressure

Certification: UL® listed

Where Used: Fabrication, construction, shipbuilding, etc.

Featured in "V" Series Pipeliner® and Alternate Fuel kits



				TIP STYLES	
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLES	ACET/H ₂	ALTERNATE* FUEL
1300512	V-2460	90°	V-315C	V-101, V-101AC	1-GPN, GPP

*Propylene or propane-based fuels and natural gas.

39-3F

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALTERNATE* FUELS

MODEL SHOWN:
39-3F

DESCRIPTION

The Model 39-3F is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight but still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage. It features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions. This model also features a unique low pressure injector mixing system for the hottest preheat flame and the most efficient use of alternate fuels.

DETAILS

Capacity: 6"/152.4mm

Duty: Medium

Length: 10 1/4"/260.3mm

Weight: 1.5 lbs./0.68 kg.

Mixer Type: Low pressure injector

Certification: UL® listed

Where Used: Fabrication, construction, maintenance, etc.

Related Equipment:

Circle cutting attachment – R-69-3B
P/N: 4300200

Featured in Classic Alternate Fuel kits



				TIP STYLES
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLE	ALTERNATE* FUEL
1300405	39-3F	90°	85	6290NX, 6290NXP, 6290NXM,

*Propylene or propane-based fuels and natural gas. NOT FOR USE WITH ACETYLENE.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

CUTTING ATTACHMENTS

75

72-3

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
72-3

DESCRIPTION

The Model 72-3 is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight while still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage. It features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions.

DETAILS

Capacity: 5"/127.0mm

Duty: Medium

Length: 9 1/2"/241.3mm

Weight: 1.5 lbs./0.68 kg.

Mixer Type: Equal pressure

Certification: UL® listed

Where Used: Construction, maintenance, agriculture, etc.

Related Equipment:

Circle cutting attachment – R-69-3B
P/N: 4300200

Featured in Classic Steelworker® and Expert® kits



				TIP STYLES	
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLES	ACET/H ₂	ALTERNATE* FUEL
1300380	72-3	90°	85	6290, 6290AC, 6290S	6290-NX, NXP, NXM, NFF

*Propylene or propane-based fuels and natural gas.

V-1350

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
V-1350

DESCRIPTION

The Model V-1350 is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight while still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage and it features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions.

DETAILS

Capacity: 4"/101.6mm

Duty: Medium

Length: 10 1/4"/260.3mm

Weight: 1.5 lbs./0.68 kg.

Mixer Type: Equal pressure

Where Used: Construction, maintenance, agriculture, etc.

Featured in "V" Series Steelworker® and Expert® kits



				TIP STYLES	
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLES	ACET/H ₂	ALTERNATE* FUEL
1300506	V-1350	90°	V-100C	V3-101	3-GPN, 3-GPP

*Propylene or propane-based fuels and natural gas.

VH24

MODEL

1YR
WARRANTY

VICTOR® COMPATIBLE CUTTING ATTACHMENT

MODEL SHOWN:
VH24

DESCRIPTION

The Model VH24 is a Victor® compatible heavy duty cutting attachment. The mixer design resists damage due to flashback. It is equipped with a durable stainless steel lever, has a coupling nut with locking ring to protect cutting attachment seat, and the cutting oxygen valve has an ease-on feature for more precise control.

DETAILS

Capacity: Cuts to 8" / 203.2mm

Duty: Heavy

Length: 12 1/8" / 307.9mm

Weight: 2.41 lbs/ 1.09 kg.

Mixer Type: Equal pressure

Where Used: Heavy fabrication, construction, ship building, pipeline connection

Featured in Ironworker® and Ironworker® 2 kits



				TIP STYLES	
PART #	Model #	HEAD ANGLE	COMPATIBLE HANDLES	ACET/H ₂	ALTERNATE* FUEL
1300452	VH24	90°	VH31	V-101, V-101AC	1-GPN, GPP

*Propylene or propane-based fuels and natural gas.

36-2N

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALTERNATE* FUELS

MODEL SHOWN:
36-2N

DESCRIPTION

The Model 36-2N is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight while still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage and it features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions. This model also features a unique low pressure injector mixing system for the hottest preheat flame and the most efficient use of alternate fuels.

DETAILS

Capacity: 1"/25.4mm

Duty: Light

Length: 8"/203.2mm

Weight: 0.75 lbs. /0.34 kg.

Mixer Type: Low pressure injector

Where Used: HVAC, maintenance, metal art, etc.



				TIP STYLES
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLES	ALTERNATE* FUEL
1300011	36-2N	90°	50-10, 50-9, 19-6, 19-6A	3690-P

*Propylene or propane-based fuels and natural gas. NOT FOR USE WITH ACETYLENE.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

CUTTING ATTACHMENTS

77

36-2

MODEL

1YR
WARRANTY

CUTTING ATTACHMENT – FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
36-2

DESCRIPTION

The Model 36-2 is a classic design Harris cutting attachment with brazed triangular stainless steel tubes, making it light in weight while still providing exceptional strength and rigidity. The captive union nut protects the seats and "O" rings from damage and it features a fold forward cutting lever allowing easier connection, even with gloves on. The ease-on cutting valve provides smoother controlled starts. The forged solid brass head provides years of safe, dependable service, even under the most abusive conditions.

DETAILS

Capacity: 3"/76.2mm acetylene;
1"/25.4mm alternate fuels

Duty: Light

Length: 7½"/190.5mm

Weight: 0.75 lbs./0.34 kg.

Mixer Type: Equal pressure

Where Used: HVAC, maintenance,
metal art, etc.



				TIP STYLES	
PART #	MODEL #	HEAD ANGLE	COMPATIBLE HANDLES	ACET/H ₂	ALTERNATE* FUEL
1300020	36-2	90°	50-9, 19-6, 19-6A	3690, 3690AC	3690-P

*Propylene or propane-based fuels and natural gas.



**HERE'S A TIP:
WHEN PROS USE
HARRIS, THEY
USE THE BEST**



VISIT OUR YOUTUBE CHANNEL

Go to www.youtube.com/harrisproductsgroup



A LINCOLN ELECTRIC COMPANY

MIXERS

HARRIS COMBINATION TORCH MIXERS ARE DESIGNED TO PROVIDE OPTIMUM PERFORMANCE FROM HARRIS WELDING, BRAZING AND HEATING TIPS. HARRIS MIXERS ARE VARIABLE-PRESSURE TYPE MIXERS ALLOWING THE USE OF THE SAME MIXER ON A FULL RANGE OF WELDING OR BRAZING TIPS ELIMINATING ADDITIONAL EXPENSES FOR SEPARATE MIXERS OF EACH TIP SIZE.



GET CONNECTED

Go to www.twitter.com/HarrisProducts

QUICK SELECTION GUIDE

HEAVY DUTY



**E-43
MODEL**
EQUAL PRESSURE
p.82



**V-W
MODEL**
HEAVY DUTY
V-SERIES®
p.82



**E2-43
MODEL**
HIGH FLOW
EQUAL PRESSURE
p.83



**V-W-2
MODEL**
HIGH FLOW
V-SERIES®
p.83



**E3-43
MODEL**
MAXIMUM FLOW
EQUAL PRESSURE
p.84



**V-W-3
MODEL**
MAXIMUM HIGH FLOW
V-SERIES®
p.84



**B-43-N
MODEL**
HIGH FLOW ALT.
FUEL INJECTOR
p.85

MEDIUM DUTY



**D-85
MODEL**
EQUAL PRESSURE
p.85



**V-W-1
MODEL**
MEDIUM DUTY
V-SERIES®
p.86



**H-16-E
MODEL**
EQUAL PRESSURE
p.86



**H-16-2E
MODEL**
EQUAL PRESSURE
p.87



**H-16-S
MODEL**
ALTERNATE FUEL
INJECTOR
p.87

LIGHT DUTY



**B-15-3
MODEL**
LIGHT DUTY
EQUAL PRESSURE
p.88



**B-15-3S
MODEL**
LIGHT DUTY ALT.
FUEL INJECTOR
p.88



MODEL SHOWN:
B-15-3

OVERVIEW

Harris mixers are available in either "equal pressure" or "injector styles." Equal pressure injectors are recommended for acetylene-oxygen, but also work well on alternate fuels when low or inconsistent pressure is not an issue. Harris recommends equal pressure mixers when absolute control of the oxy-fuel ration is a must—as in critical brazing applications.

TYPICAL APPLICATIONS

- Metal fabrication
- Shipbuilding
- Maintenance
- Construction

PRO INFO

Visit www.harrisproductsgroup.com for complete details on our entire product line.



EQUIPPING PROS WITH THE
**BEST FOR OVER
100 YEARS**



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

MIXERS

81

E-43

MODEL

1YR
WARRANTY

HEAVY DUTY EQUAL PRESSURE

MODEL SHOWN:
E-43

DESCRIPTION

The Model E-43 is an "E" or positive pressure mixer for welding, brazing or light heating. It can be use with all fuel gases. The E-43 is for use with all fuel gases.

DETAILS

Capacity: Welding: 1/2"/12.7mm;
Heating: 100,000 BTU

Thread size: Mixer to
tip tube 23/64" - 26

Certification: UL® listed

Where Used: Metal fabrication,
maintenance, etc.

Featured in Pipeliner® Classic kits



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100312	E-43	43-2	—	23A90 (0-10)	—	J-63-1 & 2	—
		43-2	8593	1390 (0-10)	1390-N (2-10)	1390-HA	1390-(B&H)
		18-5*	8593	1390 (0-10)	1390-N (2-10)	—	1390-(B&H)

*18-5 handle is recommended for light alternate fuel heating only.

V-W

MODEL

1YR
WARRANTY

HEAVY DUTY EQUAL PRESSURE

MODEL SHOWN:
V-W

DESCRIPTION

The Model V-W is a "V" Series "E" or positive pressure mixer for welding, brazing or light heating. It is for use with all fuel gases. The V-W is for use with all fuel gases.

DETAILS

Capacity:
Welding: 1/2"/12.7mm;
Heating: 100,000 BTU

Thread size: Mix to tip or
tube 23/64" - 26

Certification: UL® listed

Where Used: Metal fabrication,
maintenance, etc.

*Featured in Pipeliner® V-Series
kits*



PART #	MODEL #	COMPATIBLE HANDLE(S)*	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9105214	V-W	V-315C	—	23A90 (0-10)	—	J-63-1 & 2	—
		V-315C	8593	1390 (0-10)	1390-N (2-10)	1390-HA	1390-(B&H)

*The V-W is also compatible with Victor® 315C Series handles.

E2-43

MODEL

1YR
WARRANTY

HIGH FLOW EQUAL PRESSURE

MODEL SHOWN:
E2-43

DESCRIPTION

The Model E2-43 is an "E" equal or positive pressure mixer for all fuel gases. The E2-43 mixer is recommended for light to medium duty welding, brazing and heating tip applications.

DETAILS

Capacity: Welding: 1"/25.4mm;
Heating: 590,000 BTU

Duty: Heavy

Thread Size: Mixer to
tip tube 1/2" - 25

Certification: UL® listed

Where Used: Metal fabrication,
shipbuilding, etc.



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100314	E2-43	43-2	—	23A90 (13 & 15)	—	J-63 (3 & 4)	—
		43-2	T-43	1390 (13)	1390-N (13 & 15)	—	1390 (3H)
		43-2	2393	—	—	—	2290 H&HPM (1-3)

V-W-2

MODEL

1YR
WARRANTY

HIGH FLOW EQUAL PRESSURE

MODEL SHOWN:
V-W-2

DESCRIPTION

The Model V-W-2 is V-Series "E" equal or positive pressure mixer for all fuel gases. The V-W-2 mixer is recommended for light to medium duty welding, brazing and heating tip applications.

DETAILS

Capacity: Welding: 1"/25.4mm;
Heating: 590,000 BTU

Duty: Heavy

Thread Size: Mixer to
tip tube 1/2" - 25

Certifications: UL® listed

Where Used: Metal fabrication,
shipbuilding, etc.



PART #	MODEL #	COMPATIBLE HANDLE(S)*	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9105217	V-W-2	V-315C	—	23A90 (13 & 15)	—	J-63 (3 & 4)	—
		V-315C	T-43	1390 (13 & 15)	1390-N (13 & 15)	—	1390 (3H)
		V-315C	2393	—	—	—	2290 H&HPM (1-3)

*The V-W-2 is also compatible with Victor® 315C Series handles.



A LINCOLN ELECTRIC COMPANY

THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

MIXERS

83

E3-43

MODEL

1YR
WARRANTY

HIGH FLOW EQUAL PRESSURE

MODEL SHOWN:
E3-43

DESCRIPTION

The Model E3-43 is an "E" equal or positive pressure mixer for welding, brazing and heating with all fuel gases. The E3-43 mixer can be used to supply Harris largest welding, brazing and heating tips.

DETAILS

Capacity:

Welding: 3/4"/19.0mm;
Heating: 1,025,000 BTU

Duty:

Heavy
Thread Size: Mixer to tip
tube 1/2" - 25

Certification: UL® listed

Where Used: Metal fabrication,
shipbuilding



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100316	E3-43/ (F-43)	43-2	—	23A90 (13 & 15)	—	J-63-4 J-43-5	—
		43-2	T-43	1390 (13 & 15)	1390-N (13-80)	—	1390 (3H)
		43-2	2393	—	—	—	2290 (1 thru 5 H&HPM)
		18-5*	T-43	23A90 (13 & 15)	—	—	—
		18-5*	T-43	1390 (13 & 15)	1390-N (13-80)	—	1390 (3H)

*18-5 handle is recommended for light alternate fuel heating only.

V-W-3

MODEL

1YR
WARRANTY

HIGH FLOW EQUAL PRESSURE

MODEL SHOWN:
V-W-3

DESCRIPTION

The Model V-W-3 is a V-Series "E" equal or positive pressure mixer for welding, brazing or heating with all fuel gases. The V-W-3 mixer can be used to supply Harris largest welding, brazing and heating tips.

DETAILS

Capacity:

Welding: 3/4"/19.0mm
Heating: 1,025,000 BTU

Duty:

Heavy
Thread Size: Mixer to
tip tube 1/2" - 25

Certification: UL® listed

Where Used: Metal fabrication,
shipbuilding



PART #	MODEL #	COMPATIBLE HANDLE(S)*	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9105220	V-W-3	V-315C	—	23A90 (13 & 15)	—	J-63-4 J-43-5	—
		V-315C	T-43	1390 (13 & 15)	1390-N (13-80)	—	1390 (3H)
		V-315C	2393	—	—	—	2290 (1 thru 5 H&HPM)

*The V-W-3 is also compatible with Victor® 315C Series handles.

B-43-N

MODEL

1YR
WARRANTY

HIGH FLOW ALTERNATE FUEL INJECTOR

MODEL SHOWN:
B-43-N

DESCRIPTION

The Model B-43-N is an "F" injector or low-pressure mixer for brazing and heating, providing maximum performance from alternate fuels.* The B-43-N is for medium to heavy heating and brazing with alternate fuels only.

DETAILS

Capacity:

Heating: 590,000 BTU

Duty: Heavy

Thread size: Mixer to
tip tube 1/2" - 25

Certification: UL® listed

Where Used: Metal fabrication,
ship building, etc.



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ALTERNATE FUEL BRAZING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100306	B-43-N	43-2, 18-5	T-43	1390-20N, 30N & 80N	
		43-2	2393-1 thru 5	—	2290-1 thru 3, H & HPM

* Propylene or propane-based fuels and natural gas. NOT FOR USE WITH ACETYLENE.

D-85

MODEL

1YR
WARRANTY

MEDIUM DUTY EQUAL PRESSURE

MODEL SHOWN:
D-85

DESCRIPTION

The Model D-85 is an "E" equal or positive pressure mixer for welding, brazing and heating with all fuel gases.

DETAILS

Capacity:

Welding: 1/2"/12.7mm;

Heating: 100,000 BTU

Duty: Medium

Thread size: Mixer to
tip tube — 23/64" - 26

Certification: UL® listed

Where Used: Metal fabrication,
maintenance, etc.

*Featured in Steelworker®,
Expert® and Port-A-Torch®
Classic kits*



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100614	D-85	85	—	23A90 (0-10)	—	J-16 (1 & 2)	—
		85	8593	1390 (0-10)	1390-N (2-10)	—	1390 (B&H)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

MIXERS

85

V-W-1

MODEL

1YR
WARRANTY

MEDIUM DUTY EQUAL PRESSURE

MODEL SHOWN:
V-W-1

DESCRIPTION

The Model V-W-1 is a V-Series "E" equal or positive pressure mixer for welding, brazing and heating with all fuel gases.

DETAILS

Capacity:

Welding: 1/2"/12.7mm

Heating: 100,000 BTU

Duty: Medium

Thread size: Mixer to tip or
tube - 2 3/4" - 26

Where Used: Metal fabrication,
maintenance, etc.

*Featured in Steelworker[®],
Expert[®] and Port-A-Torch[®]
V-Series kits*



PART #	MODEL #	COMPATIBLE HANDLE(S)*	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9105213	V-W-1	V-100C	-	23A90 (0-10)	-	J-63 (1 or 2)	-
		V-100C	8593	1390 (0-10)	1390-N (2-10)	-	1390 (B&H)

*The V-W-1 is also compatible with Victor[®] 100C handles.

H-16-E

MODEL

1YR
WARRANTY

MEDIUM DUTY EQUAL PRESSURE

MODEL SHOWN:
H-16-E

DESCRIPTION

The Model H-16-E is an "E" or positive pressure mixer for welding, brazing or heating and is for use with all fuel gas.

DETAILS

Capacity:

Welding to 1/2"/12.7mm

Heating: 100,000 BTU

Duty: Medium

Thread size: Mixer to tip or tip
tube 5/16" - 27

Certification: UL[®] listed

Where Used: Metal art,
maintenance, production brazing



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100096	H-16-E	50-9	-	5090 (0-10)	-	J-16 (1&2)	-
		50-9	D-50-C & CXL	1390 (0-10)	-	1390-HA	-
		50-10	D-50-C & CXL	-	1390-N (2-10)	-	1390-(H&B)
		19-6 & 6A	TH-50-2 & 2XL	8490 (2, 4, 6 & 8)	8490-N (4-8)	8490-6-65	8490-6-65
		19-6 & 6A	D-50-CRCXL	1390 (0-10)	1390-N (2-10)	1390-HA	1390-(H&B)
		19-6 & 6A	-	5090 (0-10)	-	J-16 (1&2)	-

H-16-2E

MODEL

1YR
WARRANTY

MEDIUM DUTY EQUAL PRESSURE

MODEL SHOWN:
H-16-2E

DESCRIPTION

The Model H-16-2E is an "E" equal or positive pressure mixer for welding, brazing or heating with all fuel gas.

DETAILS

Capacity:

Welding to 1/2"/12.7mm

Heating: 100,000 BTU

Duty: Medium to heavy

Thread size: Mixer to tip or tip
tube - 2 5/8" - 26

Certification: UL® listed

Where Used: Metal art,
maintenance, production brazing



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100787	H-16-2E	50-9	-	23A90 (0-10)	-	J-63 (1&2)	-
		50-10	8593	-	1390-N (2-10)	1390-HA	1390-(H&B)
		19-6 & 6A	8593	1390 (2, 4, 6 & 8)	1390-N (2-10)	1390-HA	1390-(H&B)
		19-6 & 6A	-	23A90 (0-10)	-	J-63 (1&2)	-

H-16-S

MODEL

1YR
WARRANTY

MEDIUM DUTY ALTERNATE FUEL INJECTOR

MODEL SHOWN:
H-16-S

DESCRIPTION

The Model H-16-S is an "F" injector or low pressure mixer for brazing and heating with alternate fuels.*

DETAILS

Capacity:

Heating: 100,000 BTU

Duty: Medium

Thread size: 5/16" - 27

Certification: UL® listed

Where Used: Metal art,
maintenance, production
brazing, etc.



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100100	H-16-S	50-9	D-50-C & CXL	-	1390-N (2-10)	-	1390 (H&B)
		50-10	D-50-C & CXL	-	1390 (2-10)	-	1390 - (H&B)
		19-6 & 6A	TH-50-2 & 2XL	-	8490-N (4-8)	-	8490-6-65
		19-6 & 6A	D-50-C & CXL	-	1390-N (2-10)	-	1390 (H&B)

*Propylene or propane-based fuels and natural gas. NOT FOR USE WITH ACETYLENE.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

MIXERS

87

B-15-3

MODEL

1YR
WARRANTY

LIGHT DUTY EQUAL PRESSURE

MODEL SHOWN:
B-15-3

DESCRIPTION

The Model B-15-3 is an "E" equal or positive pressure mixer for welding, brazing and heating with all fuel gases.

DETAILS

Capacity:

Welding: 1/2"/12.7mm

Heating: 60,000 BTU

Duty:

Light

Thread size:

Mixer to tip or tube - 5/16" - 27

Where Used:

Metal art, maintenance, production brazing



PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100070	B-15-3	15-3	-	5090 (0-10)	-	-	-
		15-3	D-50-C & CXL	1390 (0-10)	1390-N (2-10)	1390 (HA)	1390-(B&H)
		15-3	TH-50-2 & 2XL	8490 (2, 4, 6 & 8)	8490-N (4-8)	8490-6-65	8490-6-65

B-15-3S

MODEL

1YR
WARRANTY

LIGHT DUTY ALTERNATE FUEL INJECTOR

MODEL SHOWN:
B-15-3S

DESCRIPTION

The Model B-15-3S is an "F" injector or low-pressure mixer for brazing and heating, providing maximum performance for alternate fuels.*

DETAILS

Capacity:

Heating: 30,000 BTU

Duty:

Light

Thread size:

Mixer to tip or tip tube 1/4" - 32

Where Used:

Metal art, maintenance, production brazing, etc.



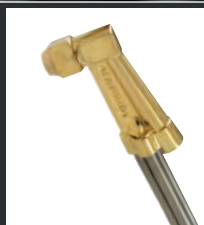
PART #	MODEL #	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIP (SIZES)
9100072	B-15-3S	15-3	8493-N	NA	8490-N (4-8)	NA	8490-(6-65)

*Propylene or propane-based fuels and natural gas. NOT FOR USE WITH ACETYLENE.

CHANGING TO ALTERNATE FUELS

GET THE RIGHT TORCH

Use an injector style torch to maximize your performance with alternate fuel

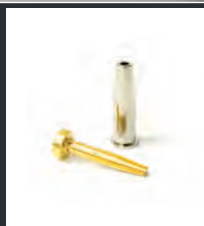


1

TORCH

GET THE RIGHT TIP

There are tips designed for the alternate fuel of your choice



2

TIP

GET THE RIGHT REGULATOR

A Harris Model 25GX-50-510P is a great option



3

REGULATOR

GET THE RIGHT HOSE

Grade "T" hose should always be used with all alternate fuels



4

HOSE



View an alternate fuel equipment video at www.HarrisProductsGroup.com

⚠ WARNING

MIXING DIFFERENT FUEL GASES CAN CAUSE FIRE OR EXPLOSION.

- Do not change over equipment used with acetylene, like the regulator, tip or hose, to a different fuel gas.
- Be sure your equipment is rated for the fuel gas you plan to use and, if not, replace it with the proper equipment.
- Read and follow the Harris Equipment Operation Safety Guidelines available at <http://www.harrisproductsgroup.com/> and Compressed Gas Association (CGA) Safety Bulletin SB-8 available at <http://www.cganet.com/>

HAND CUTTING TORCHES

HARRIS CUTTING TORCHES FEATURE BRAZED CONNECTIONS FOR STRENGTH AND DURABILITY. ALL FEATURED TORCHES ARE AVAILABLE FOR USE WITH ALL FUEL GASES AND ARE AVAILABLE WITH CUTTING CAPACITIES OF UP TO 50".



GET CONNECTED

Go to www.youtube.com/harrisproductsgroup

QUICK SELECTION GUIDE

MEDIUM DUTY



**42-4E
MODEL**
MEDIUM DUTY
ALL FUELS
p.92



**42-4F
MODEL**
MEDIUM DUTY
ALTERNATE FUEL
p.92



**V242
MODEL**
VICTOR COMPATIBLE
ALL FUELS
p.93

LOOKING FOR AN EXTENDED LENGTH TORCH OR A HIGH CUTTING CAPACITY TORCH.

**CALL CUSTOMER SERVICE AND REQUEST
OUR HEAVY INDUSTRIES CATALOG**
P/N 9502736

HEAVY DUTY



**62-5E
MODEL**
HEAVY DUTY
ALL FUELS
p.94



**62-5F
MODEL**
HEAVY DUTY
ALTERNATE FUEL
p.95



**V-62-5F
MODEL**
HEAVY DUTY
ALTERNATE FUEL
p.96



**62-5SSFL
MODEL**
HIGH CAPACITY
ALTERNATE FUEL
p.98



**136
MODEL**
EXTRA HIGH
CAPACITY ALT. FUEL
p.99



A LINCOLN ELECTRIC COMPANY

TURN TO THE PROS – TURN TO HARRIS.

To learn more about the most complete line of industrial grade tools in the world, visit us online.

www.harrisproductsgroup.com



MODEL SHOWN:
62-5F

OVERVIEW

Harris specializes in straight cutting torches that use readily available, low cost and safe alternate fuels. Harris pioneered and perfected the low-pressure injector mixer that maximizes performance when using alternate fuels.

TYPICAL APPLICATIONS

- Metal fabrication
- Shipbuilding
- Maintenance
- Construction

PRO INFO

Visit www.harrisproductsgroup.com for complete details on our entire product line.



**TURN TO HARRIS FOR THE
MOST COMPLETE LINE
OF INDUSTRIAL
GRADE EQUIPMENT**

FOR ADDITIONAL EQUIPMENT SEE OUR HEAVY INDUSTRIES CATALOG (P/N: 9502736)

WWW.HARRISPRODUCTSGROUP.COM



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

HAND CUTTING TORCHES 91

42-4E

MODEL

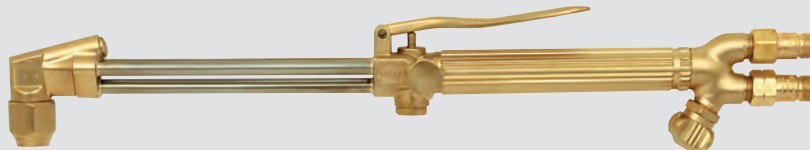
1YR
WARRANTY

MEDIUM DUTY CUTTING TORCH FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
42-4E

DESCRIPTION

The Model 42-4E is a medium duty straight cutting torch designed to use all fuel gases. The 42-4E is lightweight, has a solid forged head, brazed triangular tubes and a solid forged brass cutting lever.



DETAILS

Capacity: 6"/152.4mm**Mixer Type:** Equal or positive pressure**Duty:** Medium**Lengths:** 17" and 20"**Certifications:** UL® listed**Where Used:** Fabrication, maintenance, etc.**Related Items:** Flashback arrestors
P/N: 4301650**Equipped with:** FlashGuard® check valves

		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH	WEIGHT	TIP STYLES
1001204	42-4E	90°	17" / 431.8mm	2.4 lbs. / 1.0886 kg.	6290, 6290AC, 6290S, 6290NX, 6290NXP, 6290NFF
1001218	42-4EL-20	90°	20" / 508.0mm	2.5 lbs. / 1.1339 kg.	

42-4F

MODEL

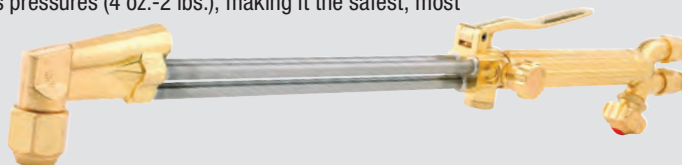
1YR
WARRANTY

MEDIUM DUTY CUTTING WITH ALTERNATE FUELS*

MODEL SHOWN:
42-4FL

DESCRIPTION

The Model 42-4F is a medium duty straight cutting torch designed to provide maximum performance using low-cost alternate fuel gases.* Our special "F" injector can produce the hottest flame possible at the lowest gas pressures (4 oz.-2 lbs.), making it the safest, most efficient design in the industry.



DETAILS

Capacity: 6"/152.4mm**Mixer Type:** Injector**Duty:** Medium**Lengths:** 17" and 20"**Certifications:** UL® listed**Where Used:** Fabrication, maintenance, etc.**Related Items:** Flashback Arrestors
P/N: 4301650**Equipped with:** FlashGuard® check valves

		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH	WEIGHT	TIP STYLES
1001210	42-4F	90°	17" / 431.8mm	2.4 lbs. / 1.0886 kg.	6290 NX, 6290 NXP, 6290 NFF
1001212	42-4AF	70°	17" / 431.8mm	2.4 lbs. / 1.0886 kg.	
1001214	42-4FL	90°	20" / 508mm	2.5 lbs. / 1.1339 kg.	
1001216	42-4AFL	70°	20" / 508mm	2.5 lbs. / 1.1339 kg.	

NOT FOR USE WITH ACETYLENE *Propane or propylene-based fuel gases and natural gas.

V242

MODEL

1YR
WARRANTY

"V" SERIES HAND CUTTING TORCH FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
V2422HV

DESCRIPTION

The Model V242 is a Victor® compatible medium duty straight cutting torch designed for use with all fuel gases. The V242 features stainless steel cutting lever, ease on cutting valve and triangular tube design.

DETAILS

Capacity: 6"/152.4mm

Mixer Type: Equal

Duty: Medium

Lengths: 18" and 21"

Where Used: Fabrication, maintenance

Related Items: Flashback arrestor
P/N: 4301650

Cutting Tip Style: Victor®

Equipped with: FlashGuard®
check valves



		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH	WEIGHT	TIP STYLES
1004618	V2422HV	90°	18" / 457.2mm	3.0 lbs. / 1.36 kg.	V1-101, V1-101AC, 1-GPN, 1-GPP
1004639	V2422AHV	70°	18" / 457.2mm	3.0 lbs. / 1.36 kg.	
1004603	V2422L	90°	21" / 533.4 mm	3.2 lbs./ 1.45 kg.	
1004637	V2422AL	70°	21" / 533.4 mm	3.2 lbs./ 1.45 kg.	

WHATEVER THE
TORCH LENGTH

WHATEVER THE
METAL

WHATEVER THE
THICKNESS

WHATEVER THE
FUEL GAS

**HARRIS
MAKES A
TORCH
FOR
THAT!**



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

HAND CUTTING TORCHES 93

62-5E

MODEL

1YR
WARRANTY

HEAVY DUTY CUTTING TORCH FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
62-5E

DESCRIPTION

The Model 62-5E is a heavy duty straight cutting torch designed to use any fuel gas. The 62 is an industry standard that is less expensive to own and operate, and is safer to use. Its triangular tube design and brazed connections offer strength, safety and a long service life.



DETAILS

Capacity: 12"/304.8mm

Certifications: UL® listed

Mixer Type: Equal pressure

Warranty: 1 year

Duty: Heavy

Where Used: Fabrication, demolition, etc.

Lengths: 18", 21", 36"*

Related Items: Flashback arrestors
P/N: 4301650

Equipped with:
FlashGuard® check valves

*Featured in Harris Classic
and HardHat™ Cutter Pac®*

		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH*	WEIGHT	**TIP STYLES
1003350	62-5AE	70°	18" / 457.2mm	3 lbs. / 1.3607 kg.	6290
1003430	62-5E	90°	18" / 457.2mm	3 lbs. / 1.3607 kg.	6290 AC
1003464	62-5AEL	70°	21" / 533.4mm	3.1 lbs. / 1.4061 kg.	6290 NX
1003440	62-5EL	90°	21" / 533.4mm	3.1 lbs. / 1.4061 kg.	6290 NXP
1003351	62-5AEL	70°	36" / 914.4mm	3.8 lbs. / 1.7236 kg.	6290 NFF
1003441	62-5EL	90°	36" / 914.4mm	3.8 lbs. / 1.7236 kg.	Acetylene Specialty Tips

*Also available in other lengths as a special.

**All tips fit all torches

HEAD ANGLES



70° Head



90° Head



180° Head

ACCESSORIES



70°/90° Skid
P/N: QC1HZSTK2



180° Slitting Skid
P/N: QC1HZSTK5

62-5F

MODEL

1YR
WARRANTY

MAXIMUM PERFORMANCE WHEN USING ALTERNATE FUELS*

MODEL SHOWN:
62-5F

DESCRIPTION

The 62-5F is a heavy-duty straight cutting torch designed to give maximum performance using low-cost alternate fuel gases.* Our special "F" injector can produce the hottest flame possible at the lowest gas pressures, making it the safest, most efficient design in the industry.



DETAILS

Capacity: 12"/304.8mm

Mixer Type: Injector

Duty: Heavy

Lengths: 18", 21", 27",
36" & 48"***

Certifications: UL® listed

Where Used: Fabrication,
shipbuilding, maintenance, etc.

Related Items:

Flashback arrestor P/N: 4301650

Slitting skid P/N: QC1HZSTK5

70°/90° Skid P/N: QC1HZSTK2

Equipped with:

FlashGuard® check valves

Featured in Classic and HardHat™
Cutter Pac®

		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH**	WEIGHT	TIP STYLES
1003360	62-5AF	70°	18" / 457.2mm	3 lbs. / 1.3607 kg.	6290 NX 6290 NXP 6290 NFF Alternate Fuel Specialty Tips
1003450	62-5F	90°	18" / 457.2mm	3 lbs. / 1.3607 kg.	
1003460	62-5BF	180°	18" / 457.2mm	3 lbs. / 1.3607 kg.	
1003370	62-5AFL	70°	21" / 533.4mm	3.1 lbs. / 1.4061 kg.	
1003470	62-5FL	90°	21" / 533.4mm	3.1 lbs. / 1.4061 kg.	
1003400	62-5AFL	70°	36" / 914.4mm	3.8 lbs. / 1.7236 kg.	
1003480	62-5FL	90°	36" / 914.4mm	3.8 lbs. / 1.7236 kg.	
1003426	62-5BFL	180°	36" / 914.4mm	3.8 lbs. / 1.7236 kg.	
1003411	62-5AFL	70°	48" / 1219.2mm	4.4 lbs. / 1.9958 kg.	
1003481	62-5FL	90°	48" / 1219.2mm	4.4 lbs. / 1.9958 kg.	
1003421	62-5BFL	180°	48" / 1219.2mm	4.4 lbs. / 1.9958 kg.	

NOT FOR USE WITH ACETYLENE.

*Propane or Propylene based fuels and natural gas

**Available in other lengths as a "special order."

HEAD ANGLES



70° Head



90° Head



180° Head

ACCESSORIES



70°/90° Skid
P/N: QC1HZSTK2



180° Slitting Skid
P/N: QC1HZSTK5



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

V-62-5F

MODEL

1YR
WARRANTY

MAXIMUM PERFORMANCE WHEN USING ALTERNATE FUELS*

MODEL SHOWN:
V-62-5FL

DESCRIPTION

The V-62-5F is a Victor® compatible heavy-duty straight cutting torch designed to give maximum performance using low-cost alternate fuel gases.* Our special "F" injector can produce the hottest flame possible at the lowest gas pressures, making it the safest and most efficient design in the industry. All the features of the classic Harris 62-5F Torch but compatible with Victor® style cutting tips.



DETAILS

Capacity: 12"/305 mm
Mixer Type: Injector
Duty: Heavy
Lengths: 21" & 36" **
Certifications: UL® listed
Where Used: Fabrication, shipbuilding, maintenance, etc.

Related Items:
 Flashback arrestor P/N: 4301650
 Slitting skid P/N: QC1HZSTK5
 70°/90° Skid P/N: QC1HZSTK2

Equipped with:
 FlashGuard® check valves

		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH*	WEIGHT	TIP STYLES
1003261	V-62-5FL	90°/VICTOR® STYLE	21" / 533.4mm	3 lbs. / 1.36 kg.	1-GPP, 1-GPN (000 THRU 6)
1003266	V-62-5AFL	70°/VICTOR® STYLE	21" / 533.4mm	3 lbs. / 1.36 kg.	
1003287	V-62-5AFL	70°/VICTOR® STYLE	36" / 914.4mm	3 lbs. / 1.36 kg.	
1003274	V-62-5FL	90°/VICTOR® STYLE	36" / 914.4mm	3lbs. / 1.40 kg.	

NOT FOR USE WITH ACETYLENE.

*Propane or Propylene based fuels and natural gas

**Available in other lengths as a "special order."

HEAD ANGLES



70° Head



90° Head

ACCESSORIES



70°/90° Skid
 P/N: QC1HZSTK2

NEED HELP SETTING UP A PROPER FLAME



VISIT OUR YOUTUBE CHANNEL

Go to www.youtube.com/harrisproductsgroup



A LINCOLN ELECTRIC COMPANY

62-5\$SF

MODEL

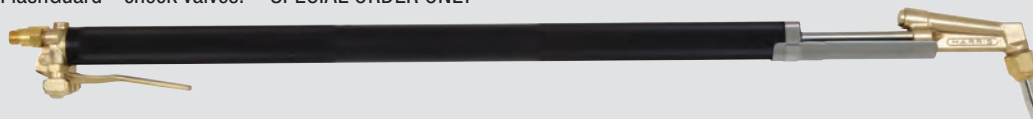


EXTRA HEAVY CUTTING WHEN USING ALTERNATE FUELS**

MODEL SHOWN:
62-5SSAFL

DESCRIPTION

Model 62-5SSAFL is an extra capacity (14") heavy duty straight cutting torch with full-length handle for added strength and operator comfort. Features solid forged head, triangular tube design and brazed connections and is equipped with FlashGuard® check valves. * SPECIAL ORDER ONLY



DETAILS

Capacity: 14"/355.6mm

Mixer Type: Injector

Duty: Extra heavy

Lengths: 36" and 48"*

Certifications: UL® listed

Where Used: Demolition, Steel Mills

Related Items: 70°/90° Skid, tube guard,
180° Slitting skid

Equipped with: FlashGuard® check valves



(shown with optional Tube Guard)

		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH**	WEIGHT	TIP STYLES
QC1003550	62-5SSAFL-36K	70°	36" / 914.4mm	3 lbs. / 1.3607 kg.	6290 NX
QC1003554	62-5SSFL-36	90°	36" / 914.4mm	3 lbs. / 1.3607 kg.	6290 NFF
QC1003553	62-5SSBFL-36	180°	36" / 914.4mm	3 lbs. / 1.3607 kg.	6290 NXP
QC1003551	62-5SSAFL-48	70°	48" / 1219.2mm	4.8 lbs. / 2.1772 kg.	Alternate Fuel
QC1003555	62-5SSFL-48	90°	48" / 1219.2mm	4.8 lbs. / 2.1772 kg.	Specialty Tips
QC1003552	62-5SSBFL-48	180°	48" / 1219.2mm	4.8 lbs. / 2.1772 kg.	6290-NH

*Also available as a special in other lengths.

**Propane or Propylene based fuels and natural gas. Not for use with acetylene.

HEAD ANGLES



70° Head



90° Head



180° Head

ACCESSORIES



70°/90° Skid
P/N: QC1HZSTK2



Tube Guard
P/N: QC1WHP625031P



180° Slitting Skid
P/N: QC1HZSTK5

136 MODEL



HIGH CAPACITY CUTTING FOR USE WITH ALTERNATE FUELS

MODEL SHOWN:
136 - 2L-36"

DESCRIPTION

The Model 136 is a very high capacity (36") designed cutting torch for use with alternate fuels. The 136 features brazed triangular SS tubes, SS head and an internal tip nut for long service life under the most abusive working conditions.

Special order only.

DETAILS

Capacity: 36"/914.4mm

Mixer Type: Equal pressure head mix

Duty: High capacity (extra heavy duty)

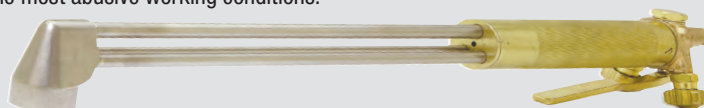
Lengths: To 12'

Where Used: Demolition, foundries, etc.

Related Items:

75°/90° Skid P/N: QC1HZSTK1

180° Slitting skid P/N: QC1HSTK6



		DESCRIPTION			
PART #	MODEL #	HEAD	LENGTH*	WEIGHT	TIP STYLES
QC1362A21	136-2A-21"	75°	21" / 533.4mm	3.8 lbs. / 1.7236 kg.	136 & 140
QC136221	136-2-21"	90°	21" / 533.4mm	3.8 lbs. / 1.7236 kg.	136 & 140
QC1362B21	136-2B-21"	180°	21" / 533.4mm	3.8 lbs. / 1.7236 kg.	136 & 140
QC1362A36	136-2A-36"	75°	36" / 914.4mm	4 lbs. / 1.8143 kg.	136 & 140
QC136236	136-2L-36"	90°	36" / 914.4mm	4 lbs. / 1.8143 kg.	136 & 140
QC1362B36	136-2BL-36"	180°	36" / 914.4mm	4 lbs. / 1.8143 kg.	136 & 140
QC1362A48	136-2AL-48"	75°	48" / 1219.2mm	4.65 lbs. / 2.1092 kg.	136 & 140
QC136248	136-2L-48"	90°	48" / 1219.2mm	4.65 lbs. / 2.1092 kg.	136 & 140
QC1362B48	136-2BL-48"	180°	48" / 1219.2mm	4.65 lbs. / 2.1092 kg.	136 & 140

*Propane or Propylene based fuels and natural gas

**Requires 3/8" hose for proper gas flow. Not for use with acetylene.

TIPS



MODEL SHOWN:
8090
(See P. 117)



MODEL SHOWN:
136
(See P. 117)

ACCESSORIES



75°/90° Skid
P/N: QC1HZSTK1
(Only for Model 136 Torches with welded on brackets.
(Special order only.)



180° Slitting Skid
P/N: QC1HSTK6
(For 180° heads only)

WE'VE GOT YOUR BACK™

GAS APPARATUS EQUIPMENT
FOR FABRICATORS, DEMOLITION,
FOUNDRIES, SCRAP & RECYCLING
INDUSTRIES

TO SEE OUR FULLLINE OF HEAVY DUTY TORCH EQUIPMENT
CALL AND REQUEST OUR HEAVY INDUSTRIES CATALOG
P/N: 9502736



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

HEATING TORCHES AND ASSEMBLIES

89-3
MODEL

1YR
WARRANTY

PROPANE/NATURAL GAS AIR FUEL HEATING TORCH

MODEL SHOWN:
89-3

DESCRIPTION

The Model 89-3 heating and soldering torch is designed to operate with natural gas or propane 4 oz.-2 lbs. and compressed air 50-100 PSIG. The 89-3 is automatic. Once adjusted to the proper flame a pilot light can be retained during down time and a full flame returned instantly by pressing the hand lever. The pilot light can also be adjusted to a lower secondary flame when desired for applications like soldering. The tip can be adjusted in any direction. Order tip separately.

DETAILS

Capacity: BTU – natural gas, 85,000;
propane, 130,000

Duty: Heavy

Related Items: Heating tip – 81-12
P/N: 1601950

Where Used:

Large area soldering
Preheat metal for welding
Heating pipes in chemical plants
Mold drying
Burning vegetation
Removing paint
Heating forming dies prior to hand facing
Stress relieving die shoes
Metal cleaning: Brewery vats, rubber
molds, etc.



PART #	MODEL #	DESCRIPTION
1400382	89-3	Torch and Tube
1601950	81-12	Tip*

*Tip sold separately.



81-12 Tip P/N: 1601950

- Bell shaped design has wick flame adjustment eliminating the need for numerous sizes
- Stainless steel construction for long life and heat resistance

K-43

MODEL

1YR
WARRANTY

ALTERNATE FUELS HEATING TORCH ASSEMBLY

MODEL SHOWN:
K-43

DESCRIPTION

The Model K-43 Heating Torch Assemblies features the heavy duty 42-3 heating handle, 2393 SS tip tube and the high-flow E3-43 (F-43) mixer. It is designed to use the Harris 2290-H and HPM high-performance multi-flame heating tips. Ideal for use with RBA and RBP flame cleaning heads.



DETAILS

Capacity: 1,025,000 BTU
Mixer Type: "E" or positive pressure
Duty: Heavy
Lengths: 20" - 46"

Where Used: Shipbuilding, fabrication, etc.

Related Items: Model 2290-H or HPM tips

Fuel gas pressure requirements: Minimum 10 PSIG *

PART #	MODEL #	HANDLE	MIXER	TIP TUBE	HEATING TIP RECOMMENDATIONS **
1801350	K-43-1	43-2	E3-43	2393-1F 36" / 914.4mm	2290-H or HPM Size 1-5
1801360	K-43-2	43-2	E3-43	2393-2F 28" / 711.2mm	2290-H or HPM Size 1-5
1801370	K-43-3	43-2	E3-43	2393-3F 16" / 406.4mm	2290-H or HPM Size 1-5
1801380	K-43-4	43-2	E3-43	2393-4F 10" / 254.0mm	2290-H or HPM Size 1-5

*Propylene or propane-based fuels or natural gas

**B-43-N mixer is limited to sizes 1 thru 3 2290-H or HPM tip.

NOTE: Assembly does NOT include heating tip.


2290-H and HPM PERFORMANCE DATA

2290-H ID HPM	OXYGEN PSIG	OXYGEN SCFH	FUEL GAS PSIG	FUEL GAS SCFH	OXYGEN PSIG	OXYGEN SCFH	FUEL GAS PSIG	FUEL GAS SCFH	PROPANE	PROPYLENE	MAPP®	NATURAL GAS
	CLASSIC E-3-43/(F43) MIXER				PRO SERIES H-2030 MIXER				BTU/HR. RATING			
Tip Size #1	10 25	160 320	4 12	40 80	15 30	160 320	3 6	40 80	103,000 205,000	95,000 190,000	96,000 192,000	65,000 130,000
Tip Size #2	15 45	220 520	7 22	55 130	15 40	220 520	5 10	55 130	141,000 333,000	130,000 308,000	132,000 312,000	90,000 212,000
Tip Size #3	25 70	340 920	8 25	85 230	20 80	340 920	7 13	85 230	218,000 590,000	201,000 545,000	204,000 552,000	139,000 375,000
Tip Size #4	50 110	640 1,300	10 30	160 325	50 100	640 1,200	7 21	160 325	410,000 833,000	379,000 770,000	384,000 780,000	216,000 530,000
Tip Size #5	60 135	720 1,600	14 40	180 400	60 150	720 1,600	8 23	180 400	461,000 1,025,000	427,000 950,000	432,000 960,000	293,000 652,000

NOTES: 1. For maximum flow and BTU output use 3/8" hose.

2. On continuous duty, withdrawal manifold of cylinders may be required.

COUPLINGS & ADAPTORS

	1/2" - 25		1/2" - 25		1/2" - 25		1/2" - 25		1/4" - NPT
2357-3	1/2" - 25	2543-3	1/4" - NPT	2327	1/2" - 25	2357	1/4" - NPT	P/N: 8800985	1/4" - NPT
P/N: 9000738		P/N: 8800584		P/N: 9000720		P/N: 9000734			

Multiple arrangements of 2290-H Heating Tips can be assembled using Harris coupling 2327, nipple 2357 and standard 1/4" pipe fittings when wider bands of heat are necessary. Capacity of K-43 heating torch is 5 #1-H tips. Use coupling 2543-3 to couple 2393 Tip Tubes for extended reach. For extended tube and tip life, use adaptor 2357-3.

2393 HEATING TIP TUBES

PART #	MODEL #	LENGTH
1800200	2393-1F	36" Curved
1800210	2393-2F	28" Curved
1800220	2393-3F	16" Curved
1800230	2393-4F	10 1/2" Curved
1800241	2393-F	60" Curved
1800240	2393-5F	36" Straight
1800211	2393-2F	28" Straight
1800221	2393-3F	16" Straight
1800231	2393-4F	10 1/2" Straight
1800206	2393-6F	48" Straight

1/2"-25(M) X 1/2"-25(M)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

HEATING TORCHES

101

TIPS



GET CONNECTED

Go to www.facebook.com/HarrisProductsGroup

QUICK SELECTION GUIDE

ACETYLENE HAND CUTTING TIPS



**3690
MODEL**

ONE-PIECE
GENERAL PREHEAT
p.104

**3690-AC
MODEL**

TWO-PIECE
HEAVY PREHEAT
p.104

**6290
MODEL**

ONE-PIECE
GENERAL PREHEAT
p.105

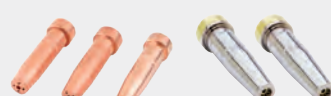
**6290-S
MODEL**

ONE-PIECE
HEAVY PREHEAT
p.105

**6290-AC
MODEL**

TWO-PIECE
HEAVY PREHEAT
p.106

ALTERNATE FUEL HAND CUTTING TIPS



**3690-P
MODEL**

TWO-PIECE
GENERAL PREHEAT
p.107

**6290-N&NX
MODEL**

TWO-PIECE
GENERAL PREHEAT
p.107

ALTERNATE FUEL HAND CUTTING TIPS



**6290-NFF
MODEL**

TWO-PIECE
HEAVY PREHEAT
p.108

**6290-NXP
MODEL**

TWO-PIECE
GENERAL PREHEAT
p.108

V-SERIES® CUTTING TIPS



**V1-101
MODEL**

ONE-PIECE
GENERAL PREHEAT
p.109

**V1-101AC
MODEL**

TWO-PIECE
HEAVY PREHEAT
p.110

**1-GPN
MODEL**

ONE-PIECE
GENERAL PREHEAT
p.111

**1-GPP
MODEL**

ONE-PIECE
HEAVY PREHEAT
p.111

**V3-101
MODEL**

TWO-PIECE
HEAVY PREHEAT
p.112

V-SERIES® CUTTING TIPS



**3-GPN
MODEL**

TWO-PIECE
HEAVY PREHEAT
p.113

**3-GPP
MODEL**

TWO-PIECE
GENERAL PREHEAT
p.113

ALTERNATE FUEL MACHINE CUTTING TIPS



**6290-VVC
MODEL**

PREMIUM NAT. GAS/
PROPANE HIGH SPEED TIP
p.114

**6290-VVCU
MODEL**

NATURAL GAS/PROPANE
HIGH SPEED TIP
p.115

**6290-VVCP
MODEL**

PREMIUM PROPYLENE
HIGH SPEED TIP
p.116

**8090
MODEL**

NATURAL GAS/PROPANE
HEAVY MACHING CUTTING
p.117

HEAVY HAND CUTTING TIPS



**136
MODEL**
HIGH CAPACITY
CAPTIVE NUT
p.117

**140
MODEL**
HIGH CAPACITY
p.118

**140-HS
MODEL**
HIGH CAPACITY
DIVERGENT BORE
p.118

WELDING AND BRAZING TIPS



**23A90
MODEL**
STANDARD TIP
p.120

**5090
MODEL**
LIGHT DUTY TIP
p.121

**1390
MODEL**
SEPARABLE TIP
p.122

**8490
MODEL**
LIGHT DUTY
SEPARABLE TIP
p.123

WELDING AND BRAZING TIPS



**1390-N
MODEL**
SEPERATEABLE
TIP
p.124

**8490-N
MODEL**
LIGHT DUTY
SEPERATEABLE TIP
p.126

HEATING TIPS



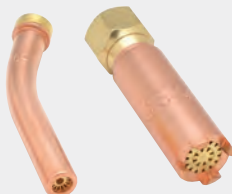
**2290-H&HPM
MODEL**
ALTERNATE FUEL HEATING
p.127

**J&H-SERIES
MODEL**
ACYLENE HEATING
p.128

**RBA
MODEL**
ACETYLENE CLEANING
HEAD
p.129

**RBP
MODEL**
ALTERNATE FUEL
CLEANING HEAD
p.130

ALTERNATE FUEL SPECIALTY TIPS



**6290
MODEL**
p.131

ACETYLENE FUEL SPECIALTY TIPS



**6290
MODEL**
p.132



A LINCOLN ELECTRIC COMPANY

**TURN TO THE PROS –
TURN TO HARRIS.**

To learn more about the most
complete line of industrial grade
tools in the world, visit us online.

www.harrisproductsgroup.com



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

103

3690

MODEL

1YR
WARRANTY

GENERAL PREHEAT SINGLE-PIECE HAND CUTTING TIPS

MODEL SHOWN:
3690

DESCRIPTION

Acetylene cutting tips specifically used with the light duty Harris Model 36 series of cutting attachments.

DETAILS

Construction: One-piece

Preheat Type: General

Where Used: HVAC,
maintenance, metal art, etc.

Compatible Equipment:
C-9 Tip cleaner P/N: 9000156



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	FUEL SCFH	DRILL CUT SIZE
1500650	3690-0	¼" - ½"	20 - 25	70 - 80	5	10 - 15	# 60
1500660	3690-1	½" - 1"	25 - 40	95 - 105	5	15 - 25	# 56
1500670	3690-2	1" - 3"	40 - 60	180 - 215	5	20 - 30	# 52

AC 3690

MODEL

1YR
WARRANTY

HEAVY PREHEAT TWO-PIECE HAND CUTTING TIPS

MODEL SHOWN:
3690AC

DESCRIPTION

Acetylene cutting tips specifically used with the Harris Model 36 cutting attachment.

DETAILS

Construction: Two-piece

Preheat Type: Heavy

Where Used: HVAC,
maintenance, metal art, etc.

Compatible Equipment:
E-9 Tip cleaner P/N: 9000160



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	FUEL SCFH	DRILL CUT SIZE
36900AC	3690-0AC	¼" - ½"	20-25	70-85	5	10-15	# 60
36901AC	3690-1AC	½" - 1"	25-45	95-105	5	15-25	# 56
36902AC	3690-2AC	1" - 2"	40-60	180-215	5	20-30	# 52

6290

MODEL



GENERAL PREHEAT SINGLE PIECE HAND CUTTING TIPS

MODEL SHOWN:
6290

DESCRIPTION

A single-piece acetylene cutting tip for cutting relatively clean steel.

DETAILS

Construction: One-piece

Preheat Type: General

Where Used: Fabrication, maintenance, etc.

Compatible Equipment:
C-9 Tip cleaner P/N: 9000156



PART #	SIZE	DEPTH OF CUT	O ₂ PSIG	TOTAL O ₂ SCFH	ACETYLENE FUEL PSIG	FUEL SCFH	DRILL CUT SIZE
1500810	000	Light gauge to 3/16"	15 - 20	35 - 40	5 - 15	10 - 15	# 68
1500820	00	3/16" - 3/8"	20 - 25	45 - 50	5 - 15	10 - 15	# 64
1500830	0	3/8" - 1/2"	35 - 40	45 - 50	5 - 15	10 - 15	# 60
1500840	1	1/2" - 1"	35 - 40	100 - 110	5 - 15	15 - 25	# 56
1500850	2	1" - 2"	40 - 45	180 - 195	10 - 15	20 - 30	# 52
1500860	3	2" - 3"	45 - 50	270 - 290	10 - 15	20 - 35	# 48
1500870*	4	3" - 6"	50 - 75	450 - 600	10 - 15	25 - 40	# 42

*To provide proper gas flow, use 3/4" 1D hose for size 4 tip and larger

6290-S

MODEL



HEAVY PREHEAT SINGLE PIECE TIPS

MODEL SHOWN:
6290-S

DESCRIPTION

A single-piece acetylene tip with a heavy preheat to facilitate cutting steel that is painted, rusted or has a heavily scaled surface.

DETAILS

Construction: One-piece

Preheat Type: Heavy

Where Used: Demolition, maintenance, repair, etc.

Compatible Equipment:
C-9 Tip cleaner P/N: 9000156



PART #	SIZE	DEPTH OF CUT	O ₂ PSIG	TOTAL O ₂ SCFH	ACETYLENE FUEL PSIG	FUEL SCFH	DRILL CUT SIZE
1501470	1S	5/8" - 1"	35 - 40	100 - 110	5 - 15	15 - 25	# 56
1501480	2S	1" - 2"	40 - 45	190 - 205	5 - 15	20 - 30	# 52
1501490	3S	2" - 3"	45 - 50	285 - 305	5 - 15	20 - 35	# 48
1501500	4S	3" - 6"	50 - 75	465 - 615	10 - 15	25 - 40	# 42
1501510*	5S	6" - 8"	65 - 80	700 - 850	10 - 15	35 - 40	# 35
1501520*	6S	8" - 12"	70 - 90	960 - 1160	10 - 15	40 - 60	# 30

*To provide proper gas flow, use 3/4" ID hose for Size 4 tip and larger.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

105

AC 6290 MODEL



HEAVY PREHEAT TWO-PIECE TIPS

MODEL SHOWN:
6290-AC

DESCRIPTION

A two-piece acetylene tip with a heavy preheat to facilitate cutting steel that is painted, rusted or has a heavily scaled surface.

DETAILS

Construction: Two-piece

Preheat Type: Heavy

Where Used: Demolition, maintenance acetylene machine cutting

Compatible Equipment:
E-9 Tip cleaner P/N: 9000160



PART #	SIZE	DEPTH OF CUT	O ₂ PSIG	TOTAL O ₂ SCFH	ACETYLENE FUEL PSIG	FUEL SCFH	DRILL CUT SIZE
1502170	00AC	3/16" - 3/8"	15 - 30	38 - 55	8 - 15	9 - 18	# 64
1502171	0AC	3/8" - 5/8"	20 - 35	45 - 73	8 - 15	9 - 18	# 60
1502172	1AC	5/8" - 1"	30 - 50	73 - 128	8 - 15	18 - 36	# 56
1502173	2AC	1" - 2"	40 - 65	161 - 252	8 - 15	18 - 36	# 53
1502174	3AC	2" - 4"	40 - 65	196 - 287	8 - 15	18 - 36	# 52
1502175	4AC	4" - 7"	50 - 80	338 - 534	8 - 15	18 - 36	# 42
1502176*	5AC	7" - 10"	65 - 80	494 - 625	8 - 15	32 - 54	# 35
1502177	6AC	10" - 12"	70 - 95	565 - 731	8 - 15	32 - 54	# 31

*To provide proper gas flow, use 3/4" ID hose for Size 4 tip and larger.

TWO-PIECE OXY-ACETYLENE CUTTING TIPS

Commonly one-piece tips are for oxy-acetylene cutting and two-piece tips are for cutting with alternate fuels such as natural gas, propane and propylene. Harris, however, offers both one and two-piece tips for acetylene cutting.

WHAT ARE THE ADVANTAGES OF HARRIS AC TWO-PIECE ACETYLENE TIPS?

Two-piece acetylene tips are less expensive, easier to clean, and produce a special high pre-heat for fast cutting of dirty, scaled and/or heavily rusted plate. AC tips are also highly recommended for acetylene machine cutting.

Available for both Harris and Victor® style torches.

3690-P

MODEL



GENERAL PREHEAT TWO PIECE HAND CUTTING TIPS

MODEL SHOWN:
3690-P

DESCRIPTION

Propane/natural gas cutting tips specifically designed for Harris Model 36 series cutting attachments.

DETAILS

Construction: Two-piece

Preheat Type: General

Where Used: HVAC, metal art, maintenance, etc.

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG		FUEL SCFH	DRILL CUT SIZE
					EQUAL	INJECTOR OR LOW		
1500600	00P	TO ¼"	15 - 30	50 - 60	5	4 oz. - 2 lbs.	8.7	# 64
1500610	0P	¼" - ½"	20 - 25	65 - 75	5	4 oz. - 2 lbs.	8.7	# 60
1500620	1P	½" - 1"	25 - 45	85 - 105	5	4 oz. - 2 lbs.	8.7	# 56

N&NX

6290

MODEL



GENERAL PREHEAT TWO-PIECE HAND CUTTING TIPS

MODEL SHOWN:
6290-NX

DESCRIPTION

Propane/natural gas cutting tips for the most popular Harris hand torches, machine torches and cutting attachments. Features a general preheat for a relatively clean plate.

DETAILS

Construction: Two-piece

Preheat Type: General

Where Used: Steel fabricating, demolition, shipbuilding, etc.

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG		FUEL SCFH	DRILL CUT SIZE
					EQUAL	INJECTOR OR LOW		
1500970	000N	LIGHT GAUGE	15 - 30	50 - 60	5 - 15	4 oz. - 2 lbs.	7.5	# 68
1501200	000NX	LIGHT GAUGE ⅜"	10 - 30	50 - 60	5 - 15	4 oz. - 2 lbs.	7.5	# 68
1501210	00NX	⅜" - ⅝"	20 - 30	65 - 75	5 - 15	4 oz. - 2 lbs.	7.5	# 64
1501220	0NX	⅝" - ⅞"	20 - 30	85 - 100	5 - 15	4 oz. - 2 lbs.	7.5	# 60
1501230	1NX	⅞" - 1"	35 - 50	100 - 135	5 - 15	4 oz. - 2 lbs.	8.7	# 56
1501240	2NX	1" - 2"	40 - 55	200 - 250	5 - 15	4 oz. - 2 lbs.	10	# 52
1501250	3NX	2" - 3"	45 - 60	290 - 365	5 - 15	4 oz. - 2 lbs.	10	# 48
1501260	4NX	3" - 6"	50 - 70	475 - 625	5 - 15	4 oz. - 2 lbs.	12.5	# 42
1501270	5NX	6" - 8"	65 - 80	710 - 860	5 - 15	4 oz. - 2 lbs.	15	# 35
1501280	6NX	8" - 12"	70 - 90	970 - 1100	5 - 15	4 oz. - 2 lbs.	17.5	# 30



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

107

NFF 6290 MODEL



HEAVY PREHEAT TWO PIECE HAND CUTTING TIPS

MODEL SHOWN:
6290-NFF

DESCRIPTION

Propane/natural gas cutting tips with a heavy preheat for hand cutting steel with rusted, painted or heavily scaled surfaces.

DETAILS

Construction: Two-piece

Preheat Type: Heavy

Where Used: Demolition, maintenance, etc.

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG*		FUEL SCFH	DRILL CUT SIZE
					EQUAL	INJECTOR		
1501020	1NFF	T0 5/8"	20 - 35	115 - 140	5 - 15	4 oz. - 2 lbs.	17.5	# 56
1501030	2NFF	5/8" - 2"	30 - 55	170 - 230	5 - 15	4 oz. - 2 lbs.	17.5	# 53
1501040	3NFF	2" - 4"	45 - 65	355 - 420	5 - 15	4 oz. - 2 lbs.	17.5	# 47
1501050	4NFF	4" - 7"	55 - 75	520 - 645	5 - 15	4 oz. - 2 lbs.	17.5	# 42
1501060	5NFF	7" - 10"	60 - 80	660 - 870	10 - 15	4 oz. - 2 lbs.	17.5	# 35
1501070	6NFF	10" - 11"	80 - 90	870 - 1020	10 - 15	4 oz. - 2 lbs.	17.5	# 31
1501080	7NFF	12" - 13"	80 - 90	1050 - 1205	10 - 15	4 oz. - 2 lbs.	17.5	# 30

*High fuel PSIG - "E" or positive pressure torches

NXP 6290 MODEL



GENERAL PREHEAT TWO PIECE HAND CUTTING TIPS

MODEL SHOWN:
6290-NXP

DESCRIPTION

A general preheat hand cutting tip designed for long life and excellent performance when using propylene gas.

DETAILS

Construction: Two-piece

Preheat Type: General

Where Used: Fabrication, ship building, etc.

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG*		FUEL SCFH	DRILL CUT SIZE
					EQUAL	INJECTOR		
1502150	00ONXP	LIGHT GAUGE - 3/16"	15 - 30	20 - 30	5 - 15	4 oz. - 2 lbs.	11.5	# 68
1502152	00ONXP	3/16" - 3/8"	20 - 30	30 - 40	5 - 15	4 oz. - 2 lbs.	11.5	# 64
1502154	0NXP	3/8" - 5/8"	30 - 40	50 - 65	5 - 15	4 oz. - 2 lbs.	11.5	# 60
1502156	1NXP	5/8" - 1"	35 - 50	75 - 100	5 - 15	4 oz. - 2 lbs.	11.5	# 56
1502158	2NXP	1" - 2"	40 - 55	160 - 210	5 - 15	4 oz. - 2 lbs.	11.5	# 52
1502160	3NXP	2" - 3"	45 - 60	250 - 325	5 - 15	4 oz. - 2 lbs.	11.5	# 48
1502162	4NXP	3" - 6"	50 - 75	425 - 575	5 - 15	4 oz. - 2 lbs.	11.5	# 42
1502164	5NXP	6" - 8"	65 - 80	650 - 800	5 - 15	4 oz. - 2 lbs.	11.5	# 35
1502166	6NXP	8" - 12"	70 - 90	900 - 1100	5 - 15	4 oz. - 2 lbs.	11.5	# 30

*High fuel PSIG - "E" or positive pressure torches

V1-101

MODEL



GENERAL PREHEAT SINGLE PIECE "V" SERIES HAND CUTTING TIP

MODEL SHOWN:
V1-101

DESCRIPTION

A single piece acetylene hand cutting tip for relatively clean steel. The V1-101 is compatible with V-Series and Victor® style torches.

DETAILS

Construction: One-piece

Preheat Type: General

Where Used: Metal fabrication,
shipbuilding

Compatible Equipment:
C9 Tip cleaner P/N: 9000156



			OPERATING PRESSURES		
PART #	TIP SIZE	DEPTH OF CUT	OXYGEN PSIG	ACETYLENE PSIG	DRILL CUT SIZE
1502088	000	LIGHT GAUGE to 1/8"	20-30	5	#70
1502089	00	1/8" - 5/16"	20-30	5	#69
1502090	0	5/16" - 5/8"	30-40	7	#61
1502091	1	5/8" - 1"	40-50	7	#56
1502092	2	1" - 2"	45-55	8	#53
1502093	3	2" - 3"	50-60	9	#50
1502094	4	3" - 4"	60-75	10	#46
1502095	5	4" - 6"	70-80	11	#39
1502096	6	6"	75-80	12	#31

*For best performance use 3/8" I.D. hose for tip sizes 6 and larger



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

109

AC V1-101A

MODEL



HEAVY PREHEAT TWO PIECE "V" SERIES HAND CUTTING TIP

MODEL SHOWN:
V1-101AC

DESCRIPTION

A two piece acetylene handcutting tip for scaled, painted or rusted plate. The V1-101AC is compatible with V-Series and Victor® style torches.

DETAILS

Construction: Two piece

Preheat Type: Heavy

Where Used: Construction, demolition
maintenance

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



			OPERATING PRESSURES		
PART #	TIP SIZE #	DEPTH OF CUT	OXYGEN PSIG	ACETYLENE PSIG	DRILL CUT SIZE
1502069	000	LIGHT GAUGE to 1/8"	20-25	3-5	# .031
1502070	00	1/8" - 1/4"	20-25	3-5	# .036
1502071	0	1/4" - 1/2"	25-35	7	# .040
1502072	1	1/2" - 3/4"	30-35	3-5	# .046
1502073	2	3/4" - 1 1/2"	35-45	3-7	# .059
1502074	3	1 1/2" - 3 1/2"	40-50	4-10	# .067
1502075	4	1 1/2" - 2 1/2"	40-50	5-10	# .093
1502076	5	2 1/2"-3	45-55	5-13	# .110
1502077	6*	5-8	45-55	7-14	# .120

*For best performance use 3/8" I.D. hose for tip sizes 6 and larger

I-GPN

MODEL



GENERAL PREHEAT TWO PIECE "V" SERIES HAND CUTTING TIPS

MODEL SHOWN:
GPN-1

DESCRIPTION

A two piece propane/ natural gas hand cutting tip for relatively clean steel.

DETAILS

Construction: Two-piece

Preheat Type: General

Where Used: Metal fabrication,
shipbuilding, construction

Compatible Equipment:
E-9 Tip cleaner P/N: 9000160



			OPERATING PRESSURES		
PART #	TIP SIZE #	DEPTH OF CUT	OXYGEN PSIG	FUEL GAS	DRILL CUT SIZE
1502300	000	LIGHT GAUGE to 1/8"	20-25	3-5	#71
1502301	00	1/4"	20-25	3-5	#67
1502302	0	3/8" - 1/2"	25-35	3-5	#60
1502303	1	3/4"	30-35	4-6	#56
1502304	2	1 - 1 1/2"	35-45	4-9	#53
1502305	3	2 - 2 1/2"	40-50	5-10	#50
1502306	4	3"	45-50	8-12	#45
1502307	5	4-5"	45-55	8-12	#39
1502308	6*	6"	45-55	10-15	#31

*For best performance use 3/8" I.D. hose for tip sizes 6 and larger

I-GPP

MODEL



GENERAL PREHEAT SINGLE PIECE HAND CUTTING TIPS

MODEL SHOWN:
GPP-1

DESCRIPTION

A two piece propane/ natural gas hand cutting tip for relatively clean steel.

DETAILS

Construction: Two-piece

Preheat Type: General

Where Used: Metal Fabrication,
shipbuilding, maintenance

Compatible Equipment:
E-9 Tip cleaner P/N: 9000160



			OPERATING PRESSURES		
PART #	TIP SIZE #	DEPTH OF CUT	OXYGEN PSIG	FUEL GAS	DRILL CUT SIZE
1502317	000	LIGHT GAUGE to 1/8"	20-25	3-5	#.031
1502318	00	1/4"	20-25	3-5	#.036
1502319	0	3/8" - 1/2"	25-35	7	#.040
1502320	1	3/4"	30-35	3-5	#.046
1502321	2	1 1/2" - 1 1/2"	35-45	3-7	#.059
1502322	3	2 - 2 1/2"	40-50	4-10	#.067
1502323	4	3"	40-50	5-10	#.093
1502324	5	4 - 5"	45-55	5-13	#.110
1502325	6*	6 - 8"	45-55	7-14	#.120

*For best performance use 3/8" I.D. hose for tip sizes 6 and larger



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

111

V3-101

MODEL

1YR
WARRANTY



GENERAL PREHEAT SINGLE PIECE ACETYLENE HAND CUTTING TIP

MODEL SHOWN:
V3-101

DESCRIPTION

A single piece acetylene hand cutting tip for relatively clean plate. The V3-101 is compatible with V-Series and Victor® style torches.

DETAILS

Construction: One piece

Preheat Type: General

Where Used: Maintenance , metal art construction

Compatible Equipment:
C-9 Tip cleaner P/N: 9000156



			OPERATING PRESSURES		
PART #	TIP SIZE #	DEPTH OF CUT	OXYGEN PSIG	ACETYLENE PSIG	DRILL CUT SIZE
1502080	000	LIGHT GAUGE to 1/8"	20-30	5	#70
1502081	00	1/8" - 5/16"	20-30	5	#69
1502082	0	5/16" - 5/8"	30-40	7	#61
1502083	1	5/8" - 1"	40-50	7	#56
1502084	2	1" - 2"	45-55	8	#53
1502085	3	2" - 3"	50-60	9	#50
1502086	4	3" - 4"	60-75	10	#46
1502136	5	4 - 6"	70-80	12	#39
1502137	6*	6"	75-80	15	#31

*For best performance use 3/8" I.D. hose for tip sizes 6 and larger

3-GPN

MODEL

1YR
WARRANTY

MADE IN THE
USA

GENERAL PREHEAT TWO PIECE PROPANE/ NATURAL GAS HAND CUTTING TIPS

MODEL SHOWN:
GPN-3

DESCRIPTION

A two piece propane/natural gas hand cutting tip for relatively clean steel.

DETAILS

Construction: Two-piece

Preheat Type: General

Where Used: Maintenance,
metal sculpture construction

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



PART #	TIP SIZE #	DEPTH OF CUT	OPERATING PRESSURES		DRILL CUT SIZE
			OXYGEN PSIG	FUEL GAS	
1502309	000	LIGHT GAUGE to 1/8"	20-25	3-5	#71
1502310	00	1/4"	20-25	3-5	#67
1502311	0	3/8" - 1/2"	25-35	3-5	#60
1502312	1	3/4"	30-35	4-6	#56
1502313	2	1 - 1 1/2"	35-45	4-9	#53
1502314	3	2 - 2 1/2"	40-50	5-10	#50
1502315	4	3"	45-50	8-12	#45
1502316	5*	4-5"	45-55	8-12	#39

*For best performance use 3/8" I.D. hose for tip sizes 6 and larger

3-GPP

MODEL

1YR
WARRANTY

MADE IN THE
USA

GENERAL PREHEAT SINGLE PIECE HAND CUTTING TIPS

MODEL SHOWN:
GPP-3

DESCRIPTION

A two piece propylene hand cutting tip for relatively clean steel.

DETAILS

Construction: Two-piece

Preheat Type: General

Where Used: Maintenance, Metal
Art, Construction

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



PART #	TIP SIZE #	DEPTH OF CUT	OPERATING PRESSURES		DRILL CUT SIZE
			OXYGEN PSIG	FUEL GAS	
1502330	000	LIGHT GAUGE to 1/8"	20-25	3-5	#71
1502331	00	1/4"	20-25	3-5	#67
1502332	0	3/8" - 1/2"	25-35	3-5	#60
1502333	1	3/4"	30-35	4-6	#56
1502334	2	1" - 1 1/2"	35-45	4-9	#53
1502335	3	2 - 2 1/2"	40-50	5-10	#50
1502336	4	3"	45-50	8-12	#45
1502337	5	4 - 5"	45-55	8-12	#39



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

113

VVC 6290

MODEL

1YR
WARRANTY

PREMIUM MACHINE CUTTING TIPS

MODEL SHOWN:
6290 VVC

DESCRIPTION

High-speed oxy-propane/natural gas cutting tip with a chrome-plated shell (.088 cup depth).

DETAILS

- Minimizes kerf
- Increased cutting speeds, reduces heat input
- High-quality cut, reduces after work
- Used with low-cost fuel gases
- NH tips listed are not plated and have heat-resistant heavy shell

Compatible Equipment:
E-9 Tip cleaner P/N: 9000160



PART #	TIP SIZE	PLATE THICKNESS INCHES	CUTTING SPEED I.P.M	CUTTING OXYGEN PSIG	PREHEAT OXYGEN PSIG		PREHEAT FUEL PSIG	CUTTING OXYGEN CONSUMPTION SCFH	LOW PREHEAT OXYGEN CONSUMPTION SCFH	PROPANE CONSUMPTION SCFH	NATURAL GAS CONSUMPTION SCFH	APPROXIMATE KERF INCHES
					HIGH	LOW						
1501310	5/0	3/16	20	40	15	8	4 oz.-2PSIG	15	20 - 30	6	15	.05
1501320	4/0	1/4	20	50	15	10	4 oz.-2PSIG	40	20 - 35	7	18	.06
1501330	3/0	5/16	18	75	35	10	4 oz.-2PSIG	80	20 - 35	7	18	.07
1501340	2/0	1/2	18	75	35	10	4 oz.-2PSIG	90	25 - 35	7	18	.07
1501350	0	3/4	15	90	35	10	4 oz.-2PSIG	125	25 - 35	7	18	.08
1501360	0 1/2	1 1/4	14	100	35	12	4 oz.-2PSIG	170	25 - 40	8	20	.09
1501370	1	2	13	100	35	12	4 oz.-2PSIG	200	25 - 40	8	20	.11
1501380	1 1/2	3	9	100	35	12	4 oz.-2PSIG	250	25 - 40	8	20	.12
1501390	2	4	7	100	35	12	4 oz.-2PSIG	325	25 - 40	8	20	.13
1501400	2 1/2	5	6	100	35	12	4 oz.-2PSIG	395	25 - 40	8	20	.14
1501410	3	6	5	100	40	30	4 oz.-2PSIG	425	25 - 40	8	20	.16
1501420	4	8	5	100	40	35	4 oz.-2PSIG	525	25 - 40	8	20	.20
1501430	5	9	4	90	40	30	4 oz.-2PSIG	580	50 - 100	20	50	.25
1501440	5 1/2	10	4	90	40	30	4 oz.-2PSIG	600	50 - 100	20	50	.25
1501120	5NH*	10	4	60	40	30	4 oz.-2PSIG	600	50 - 100	20	50	.25
1501130	6NH*	11	4	60	40	30	4 oz.-2PSIG	690	50 - 100	20	50	.25
1501140	7NH*	12	4	60	50	40	4 oz.-2PSIG	825	50 - 100	20	50	.25
1501190	8NH*	15	3	60	50	40	4 oz.-2PSIG	925	50 - 100	20	50	.30

NOTES:

(1) next size larger tip with same PSIG for contour or intricate cutting.

(2) For thin plate cutting use a highly carburizing preheat flame.

(3) Cutting oxygen pressures should be measured at torch entry.

(4) When using two hose machine torches set oxygen pressure at cutting oxygen PSIG above.

* NH Tips are not plated

VVCU**6290****MODEL****1YR**
WARRANTY**ECONOMICAL MACHINE CUTTING TIPS****MODEL SHOWN:**
6290 VVCU**DESCRIPTION**

High-speed oxygen propane/natural gas cutting tip with an unplated shell (.062 cup depth).

DETAILS

- Minimizes kerf
- Increased cutting speeds, reduces heat input
- High-quality cut, reduces after work
- Used with low-cost fuel gases

Compatible Equipment:

E-9 Tip cleaner P/N: 9000160



PART #	TIP SIZE #	PLATE THICKNESS INCHES	CUTTING SPEED I.P.M	CUTTING OXYGEN PSIG	PREHEAT OXYGEN PSIG		PREHEAT FUEL PSIG	CUTTING OXYGEN CONSUMPTION SCFH	LOW PREHEAT OXYGEN CONSUMPTION SCFH	PROPANE CONSUMPTION SCFH	NATURAL GAS CONSUMPTION SCFH	APPROXIMATE KERF INCHES
					HIGH	LOW						
1502120	5/0	3/16	20	40	15	8	4 oz.-2PSIG	15	30	6	15	.05
1502121	4/0	1/4	20	50	15	10	4 oz.-2PSIG	40	35	7	18	.06
1502122	3/0	3/8	18	75	35	10	4 oz.-2PSIG	80	35	7	18	.07
1502123	2/0	1/2	18	75	35	10	4 oz.-2PSIG	90	35	7	18	.07
1502124	0	3/4	15	90	35	10	4 oz.-2PSIG	125	35	7	18	.08
1502125	0 1/2	1 1/4	14	100	35	12	4 oz.-2PSIG	170	40	8	20	.08
1502126	1	2	13	100	35	12	4 oz.-2PSIG	200	40	8	20	.09
1502127	1 1/2	3	9	100	30	25	4 oz.-2PSIG	250	40	8	20	.11
1502128	2	4	7	100	30	35	4 oz.-2PSIG	325	40	8	20	.12
1502129	2 1/2	5	6	100	30	35	4 oz.-2PSIG	395	40	8	20	.13
1502130	3	6	5	100	50	40	4 oz.-2PSIG	425	40	8	20	.14
1502131	4	8	5	100	50	40	4 oz.-2PSIG	525	40	8	20	.16
1502132	5	9	4	90	50	40	4 oz.-2PSIG	580	100	20	50	.20

NOTES:

- (1) Use next size larger tip with same PSIG for contour or intricate cutting.
- (2) For thin plate cutting use a highly carburizing preheat flame.
- (3) Cutting oxygen pressures should be measured at torch entry.
- (4) When using two hose machine torches set oxygen pressure at cutting oxygen PSIG above.



**AS MANUFACTURERS
STRIVE TO REDUCE
OVERALL COSTS,**

**HARRIS CAN ASSIST IN
THOSE EFFORTS.**

**OUR TECHNICAL TEAM IS
FOCUSED ON COST REDUCTION
SOLUTIONS FOR SPECIFIC
APPLICATIONS IN YOUR PLANT.**



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

115

VVCP

6290

MODEL



PREMIUM MACHINE CUTTING TIPS FOR PROPYLENE

MODEL SHOWN:
6290-VVCP

DESCRIPTION

High speed oxygen propylene cutting tips with a chrome-plated shell (.034 cup depth).
Ideal for machining cutting using propylene-based fuel gases.

DETAILS

- Minimizes kerf
- Increases cutting speed
- Reduces heat input
- High-quality cut reduces after work
- Uses lower-cost fuel gases

Compatible Equipment:

E-9 Tip cleaner P/N: 900160



PART #	TIP SIZE #	PLATE THICKNESS INCHES	CUTTING SPEED I.P.M	CUTTING OXYGEN PSIG	HIGH	LOW	PREHEAT FUEL PSIG	CUTTING OXYGEN CONSUMPTION	LOW PREHEAT OXYGEN CONSUMPTION	PROPYLENE CONSUMPTION SCFH	APPROX. KERF IN.
1502200	5/0	3/16	20	40	12	8	2	15	32	13	.05
1502202	4/0	1/4	20	50	12	8	2	40	32	13	.06
1502204	3/0	3/8	18	75	25	8	2	80	32	13	.08
1502206	2/0	1/2	18	90	25	8	2	90	32	13	.07
1502208	0	3/4	15	100	25	8	2	125	32	13	.08
1502210	0 - 1/2	1 1/4	14	100	25	8	2	170	32	13	.08
1502212	1	2	13	100	25	10	2	200	40	16	.09
1502214	1 1/2	3	9	100	25	10	2	250	40	16	.11
1502216	2	4	7	100	25	10	2	325	40	16	.12
1502218	2 1/2	5	6	100	30	10	2	395	40	16	.13
1502220	3	6	5	100	30	10	2	425	40	16	.14
1502222	4	8	5	100	30	10	2	525	40	16	.16
1502224	5	9	4	90	30	10	2	580	40	16	.20

NOTES:

- (1) Use next size larger tip with same PSIG for contour or intricate cutting.
- (2) For thin plate cutting use a highly carburizing preheat flame.
- (3) Cutting oxygen pressures should be measured at torch entry.
- (4) When using two hose machine torches set oxygen pressure at cutting oxygen PSIG above.

8090

MODEL



HEAVY CUTTING MACHINE TIPS

MODEL SHOWN:
8090

DESCRIPTION

For Model 8090 Jumbo Machining Torch (see p. 138) used with propane and natural gas.* Operates on fuel pressures of 10 to 15 PSIG.

DETAILS

Construction: Screw in/Tip mix

Where Used: For heaving cutting
8"-30"



PART #	TIP SIZE #	METAL THICKNESS INCHES	SPEED INCHES PER MINUTE	OPERATING PRESSURES PSIG	ORIFICE DIA. INCHES	GAS FLOW CUBIC FEET PER HOUR
1501910	0	8 - 12	6 - 3	CUT. OXYGEN - 30-60	5/32	600 - 1500
1501920	1	—	—	P.H. OXYGEN - 20-40	3/16	200 - 375
				PROPANE - 10-15	—	55 - 105
1501920	1	12 - 16	6 - 3	CUT. OXYGEN - 30-60	3/16	1900 - 3600
1501930	2	—	—	P.H. OXYGEN - 25-50	1/4	250 - 425
				PROPANE - 10-20	—	55 - 125
1501930	2	16 - 20	4 - 2	CUT. OXYGEN - 25-50	1/4	1900 - 3600
1501940	3	—	—	P.H. OXYGEN - 25-50	9/32	250 - 425
				PROPANE - 10-20	—	55 - 125
1501940	3	20 - 25	3 - 1½	CUT. OXYGEN - 25-50	9/32	2100 - 4400
1501950	4	—	—	P.H. OXYGEN - 25-50	5/16	250 - 425
				PROPANE - 10-20	—	55 - 125
1501950	4	OVER 25	3 - 1	CUT/ OXYGEN - 40-90	5/16	2100 - 4400
1501960	4½	—	—	P.H. OXYGEN - 25-50	1½/32	250 - 425
				PROPANE - 10-20	—	55 - 125

*NOTE: Propylene style available as SPECIAL ORDER.

136

MODEL



HEAVY-DUTY HAND CUTTING TIPS

MODEL SHOWN:
136

DESCRIPTION

Propane/natural gas* cutting tips specifically for Harris Model 136 (see p. 99) cutting torches.

DETAILS

- Heavy shell with shroud
- Captive nut
- General preheat



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	FUEL SCFH	DRILL CUT SIZE	TORCH MODEL
QC13611	136-11	12 - 19"	60 - 80	950 - 2900	8 - 15	130 - 350	3/16"	136
QC13613	136-13	19 - 28"	60 - 80	2100 - 4000	10 - 15	150 - 400	1/4"	136
QC13615	136-15	28 - 36"	80 - 100	2500 - 4800	15 - 20	180 - 450	1½/32"	136

*NOT FOR USE WITH ACETYLENE.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

117

I40

MODEL



HEAVY-DUTY HAND CUTTING TIPS

MODEL SHOWN:
140

DESCRIPTION

Propane/natural gas* cutting tips specifically for Harris Model 136 cutting torches.

DETAILS

- Low cost
- Straight bore
- Heavy preheat
- Single-piece: requires separate tip nut
P/N: QC1WHP13601P



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	FUEL SCFH	DRILL CUT SIZE	TORCH MODEL
QC14009	140-09	15"	65 - 85	1300 - 1500	12 - 15	100 - 120	5/32"	136
QC14011	140-11	19"	65 - 85	1700 - 1950	12 - 15	130 - 160	3/16"	136
QC14012	140-12	20"	65 - 85	1800 - 2250	12 - 15	165 - 180	7/32"	136
QC14013	140-13	25"	65 - 85	2100 - 2500	15 - 18	175 - 210	1/4"	136

*NOT FOR USE WITH ACETYLENE.

HS

I40

MODEL



HEAVY-DUTY HIGH SPEED MACHINE CUTTING TIPS

MODEL SHOWN:
140-HS

DESCRIPTION

Propane/natural gas* cutting tips specifically for Harris Model 136 cutting torches.

DETAILS

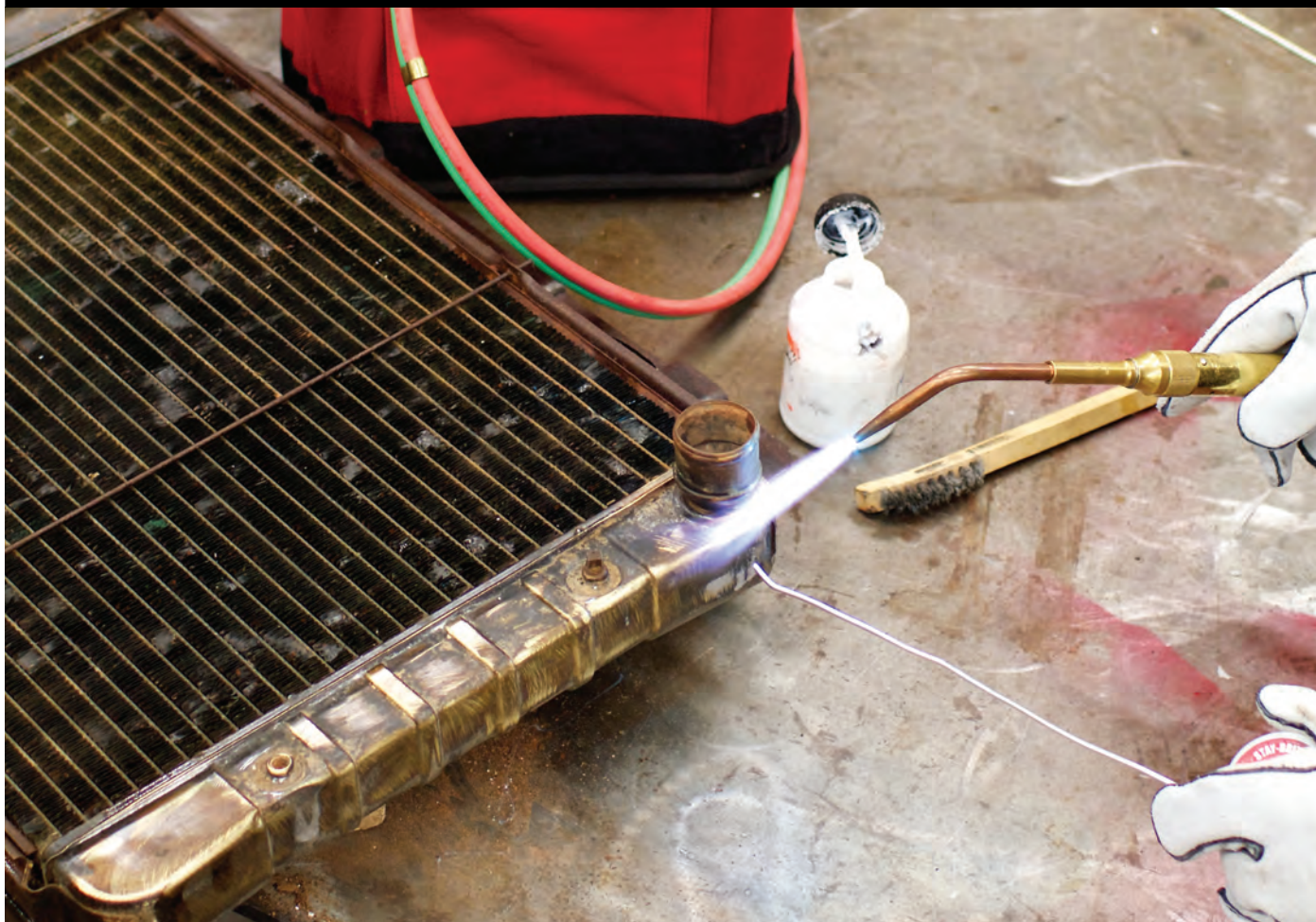
- High-speed divergent bore
- General preheat
- Single-piece: requires separate tip nut
P/N: QC1WHP13601P



PART #	MODEL #	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	FUEL SCFH	DRILL SIZE	TORCH MODEL
QC140160	140-160	15"	90 - 130	2100 - 2300	12 - 15	100 - 120	—	136
QC140200	140-200	19"	90 - 130	3100 - 3500	12 - 15	130 - 160	—	136
QV140240	140-240	25"	90 - 130	4600 - 5100	12 - 15	165 - 180	—	136

*NOT FOR USE WITH ACETYLENE.

THE HARRIS ADVANTAGE **OUR MOST POPULAR WELDING & BRAZING TIPS**



**23A90
AND
5090**

**WELDING &
BRAZING
TIPS**

- 1 Are made from lead-free, environmentally friendly tellurium copper that has excellent machinability characteristics resulting in a higher quality tip with more precise flames.
- 2 Are swaged for more precise and consistent flames.
- 3 Use a universal mixer that fits the complete line of sizes (0-10) eliminating the extra expense of requiring a special mixer for each tip size.
- 3 Have a metal to metal mixer contact seat virtually eliminating thread leaks and the need for thread sealants.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

119

23A90

MODEL



ACETYLENE WELDING AND BRAZING TIPS

MODEL SHOWN:
23A90

DESCRIPTION

Model 23A90 tips are manufactured using environmentally-friendly tellurium copper that has excellent machining properties resulting in a higher quality tip. They are swaged for more precise and consistent flames. They use a universal mixer for sizes 0-10, eliminating the expense of using a different mixer for every tip size. All 23A90 tips have a metal-to-metal seat, virtually eliminating possible leaks and the need for thread sealants.

DETAILS

Warranty: 1 year

Where Used: Fabricating, maintenance

Compatible Equipment:
C-9 Tip cleaner P/N: 9000156



PART #	TIP SIZE #	METAL THICKNESS INCHES	EQUAL PRESSURE		ACETYLENE SCFH *	RECOMMENDED HOSE ID **	TIP THREAD
			OXYGEN PSIG	ACETYLENE PSIG			
1600840	0	1/64"	1	1	1 - 3	3/16"	23/64" - 26
1600850	1	1/32"	1	1	2 - 5	3/16"	23/64" - 26
1600860	2	3/64"	2	2	3 - 8	3/16"	23/64" - 26
1600870	3	1/16"	3	3	5 - 11	3/16"	23/64" - 26
1600880	4	3/32"	4	4	6 - 14	3/16"	23/64" - 26
1600890	5	1/8"	5	5	8 - 18	3/16"	23/64" - 26
1600900	6	3/16"	6	6	10 - 20	3/16"	23/64" - 26
1600910	7	1/4"	7	7	13 - 25	3/16"	23/64" - 26
1600920	8	5/16"	8	8	16 - 32	3/16"	23/64" - 26
1600930	9	3/8"	9	9	20 - 37	1/4"	23/64" - 26
1600940	10	1/2"	10	10	24 - 42	1/4"	23/64" - 26
1600960	13	3/4"	13	13	30 - 50	3/8"	1/2" - 25
1600970	15	1"	15	15	35 - 65	3/8"	1/2" - 25

* Oxygen SCFH is equal to 1.1 times acetylene for neutral flame.

** Hose sizes are suitable for hoses up to 25'; for longer hoses higher pressures should be used.
Observe 1/4th acetylene rule when determining gas supply.

HEAVY DUTY EQUAL PRESSURE MIXERS FOR MODEL 43-2 HANDLE



E-43



E3-43/(F-43)



E2-43

MEDIUM DUTY EQUAL PRESSURE MIXERS FOR MODEL 85 HANDLE



D-85

LIGHT DUTY EQUAL PRESSURE MIXERS FOR MODEL 16, 19 AND 50-9 HANDLES



H-16-2E

5090

MODEL



ACETYLENE WELDING AND BRAZING TIPS

MODEL SHOWN:
5090

DESCRIPTION

Model 5090 tips are manufactured using environmentally-friendly tellurium copper that has excellent machining properties resulting in a higher quality tip. They are swaged for more precise and consistent flames. They use a universal mixer for sizes 0-10, eliminating the expense of using a different mixer for every tip size. All 5090 tips have a metal-to-metal mixer seat virtually eliminating the possibility of leaks and the need for thread sealants.

DETAILS

Where Used: Maintenance, metal art production, brazing

Compatible Equipment:
C-9 Tip Cleaner P/N: 900156



PART #	TIP SIZE #	METAL THICKNESS INCHES	EQUAL PRESSURE		ACETYLENE SCFH *	RECOMMENDED HOSE ID **	TIP THREAD
			OXYGEN PSIG	ACETYLENE PSIG			
1601690	0	1/64"	1	1	1 - 3	3/16"	5/16" - 27
1601700	1	1/32"	1	1	2 - 5	3/16"	5/16" - 27
1601710	2	3/64"	2	2	3 - 8	3/16"	5/16" - 27
1601730	3	1/16"	3	3	5 - 11	3/16"	5/16" - 27
1601740	4	3/32"	4	4	6 - 14	3/16"	5/16" - 27
1601760	5	1/8"	5	5	8 - 18	3/16"	5/16" - 27
1601780	6	3/16"	6	6	10 - 20	3/16"	5/16" - 27
1601800	7	1/4"	7	7	13 - 25	3/16"	5/16" - 27
1601810	8	5/16"	8	8	16 - 32	3/16"	5/16" - 27
1601830	9	3/8"	9	9	20 - 37	1/4"	5/16" - 27
1601840	10	1/2"	10	10	24 - 42	1/4"	5/16" - 27

*Oxygen SCFH is equal to 1.1 times acetylene for neutral flame.

**Hose sizes are suitable for hoses up to 25'. For longer hoses, higher pressures should be used.

Observe 1/4th acetylene rule when determining gas supply.

MEDIUM DUTY EQUAL PRESSURE MIXERS FOR MODEL 16, 19 AND 50-9 HANDLES



H-16-E

LIGHT DUTY EQUAL PRESSURE MIXERS FOR MODEL 15 HANDLE



B-15-3



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

121

1390 MODEL



ACETYLENE SEPARABLE WELDING AND BRAZING TIPS

MODELS SHOWN:
1390 and 1390-HA

DESCRIPTION

Model 1390 tips are manufactured using environmentally friendly tellurium copper that has excellent machining properties resulting in a higher quality tip. They are precision drilled for more precise and consistent flames. They use a universal separable tip tube and mixer system for tip sizes 0-10 eliminating the expense of using special mixers for each tip. All 1390 tips have a metal to metal tip contact seat virtually eliminating the possibility of leaks and the need for thread sealants.

DETAILS

Where Used: Maintenance, metal art production, brazing, etc.

Compatible Equipment: C-9 Tip Cleaner P/N: 9000156

1390
3/8" - 24



1390-HA
3/8" - 24



PART #	TIP SIZE #	METAL THICKNESS INCHES	EQUAL PRESSURE		ACETYLENE SCFH *	RECOMMENDED HOSE ID **	TIP THREAD
			OXYGEN PSIG	ACETYLENE PSIG			
1600020	0	1/64"	1	1	1 - 3	3/16"	3/8" - 24
1600030	1	1/32"	1	1	2 - 5	3/16"	3/8" - 24
1600040	2	3/64"	2	2	3 - 8	3/16"	3/8" - 24
1600050	3	1/16"	3	3	5 - 11	3/16"	3/8" - 24
1600060	4	3/32"	4	4	6 - 14	3/16"	3/8" - 24
1600070	5	1/8"	5	5	8 - 18	3/16"	3/8" - 24
1600080	6	3/16"	6	6	10 - 20	3/16"	3/8" - 24
1600090	7	1/4"	7	7	13 - 25	3/16"	3/8" - 24
1600100	8	5/16"	8	8	16 - 32	3/16"	3/8" - 24
1600140	9	3/8"	9	9	20 - 37	1/4"	3/8" - 24
1600150	10	1/2"	10	10	24 - 42	1/4"	3/8" - 24
1600160	13	3/4"	13	13	30 - 50	3/8"	1/2" - 25
1800025	HA	Heating	5 - 10	5 - 10	35 - 52	1/4"	3/8" - 24

*Oxygen SCFH is equal to 1.1 times acetylene for neutral flame.

**Hose sizes are suitable for hoses lengths up to 25'. For longer lengths, higher pressures should be used. Observe acetylene 1/4th rule when determining gas supply.

HEAVY DUTY EQUAL PRESSURE MIXERS FOR MODEL 43-2 HANDLE



E-43



E3-43/(F-43)



E2-43

MEDIUM DUTY EQUAL PRESSURE MIXERS FOR MODEL 85 HANDLE



D-85

LIGHT DUTY EQUAL PRESSURE MIXERS FOR MODEL 16, 19 AND 50-9 HANDLES



H-16-E

COMPATIBLE TIP TUBES - MATCH THREAD SIZE

23/64" - 26



8593
P/N: 9003678
Length: 4"

5/16" - 27



D-50-C
P/N: 9100379
Length: 4"

1/2" - 25



T-43
P/N: 9100322
Length: 9.8"

8490 MODEL



ACETYLENE SEPARABLE WELDING AND BRAZING TIPS

MODEL SHOWN:
8490-1

DESCRIPTION

The Model 8490 series separable welding and brazing tips are made of high-quality brass bar stock. The 8490 tips include a special compact multi-flame heating tip using standard mixer and tip tube combinations.

DETAILS

Where Used: Metal art, maintenance and production brazing

Compatible Equipment:
C-9 Tip Cleaner P/N: 9000156



PART #	TIP SIZE #	METAL THICKNESS INCHES	EQUAL PRESSURE		ACETYLENE SCFH *	RECOMMENDED HOSE ID **	TIP THREAD
			OXYGEN PSIG	ACETYLENE PSIG			
1601990	2	3/64"	2	2	3 - 8	3/16"	1/4" - 27
1602010	4	3/32"	4	4	6 - 14	3/16"	1/4" - 27
1602030	6	3/16"	6	6	10 - 20	3/16"	1/4" - 27
1602060	8	5/16"	8	8	16 - 32	3/16"	1/4" - 27
1602040	6 - 65	Heating	8	8	45 - 56	1/4"	1/4" - 27

*Oxygen SCFH is equal to 1.1 times acetylene for neutral flame.

**Hose sizes are suitable for hoses up to 25'. For longer hoses, higher pressures should be used. Observe 1/4th acetylene rule when determining gas supply.

MEDIUM DUTY EQUAL PRESSURE MIXERS FOR 16, 19 AND 50-9 HANDLES



LIGHT DUTY EQUAL PRESSURE MIXERS FOR MODEL 15 HANDLE



COMPATIBLE TIP TUBES - MATCH THREAD SIZE



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

123

1390-N

MODEL



ALTERNATE FUEL SEPARABLE BRAZING TIPS

MODELS SHOWN:
1390-N, 1390-B, 1390-H

DESCRIPTION

Model 1390-N separable brazing/heating tips are made from environmentally-friendly tellurium copper. They are designed to be used with a Harris universal tip tube and mixer system for tip sizes 2-10 and sizes 15-80N eliminating the expense of using a special mixer for each size tip. The 1390-N series are designed with a counter-bored tip end for maximum performance using alternate fuels. They are stable over an extremely broad BTU range, consequently one tip size can be used over a very wide range of joint sizes. A unique metal to metal seat reduces leaks eliminating the need for joint sealants.

DETAILS

Where Used: Production brazing, arts and crafts, HVAC, maintenance, etc.

Compatible Equipment:
E-9 Two-piece Tip cleaner
P/N: 9000160



PART #	TIP SIZE	OXYGEN PSIG	INJECTOR*			EQUAL PRESSURE				THREAD SIZE	RECOMMENDED Hose ID
			INJECTOR FUEL GAS PSIG	OXYGEN SCFH	NATURAL GAS SCFH	OXYGEN PSIG	PROPANE PSIG	OXYGEN SCFH	PROPANE SCFH		
1600180	2N	15	4 oz to 2 PSIG	6	3	2	1	12	3	3/8" - 24	3/16"
1600190	3N	15	4 oz to 2 PSIG	10	5	2	1	20	5	3/8" - 24	3/16"
1600200	4N	20	4 oz to 2 PSIG	12	6	2	1	20	5	3/8" - 24	3/16"
1600210	5N	25	4 oz to 2 PSIG	13	6.5	2	1	22	5.5	3/8" - 24	3/16"
1600220	6N	25	4 oz to 2 PSIG	15	7.5	2	2	25	6.3	3/8" - 24	3/16"
1600230	7N	30	4 oz to 2 PSIG	20	10.5	3	2	30	7.5	3/8" - 24	1/4"
1600240	8N	30	4 oz to 2 PSIG	25	12.5	3	2	35	7.8	3/8" - 24	1/4"
1600250	9N	35	4 oz to 2 PSIG	30	15	4	3	40	10	3/8" - 24	1/4"
1600260	10N	40	4 oz to 2 PSIG	35	17.5	4	3	45	11.2	3/8" - 24	1/4"
1600270	13N	40	4 oz to 2 PSIG	60	30	7	4	100	25	1/2" - 25	3/8"
1600280	15N	45	4 oz to 2 PSIG	65	32.5	12	8	150	38	1/2" - 25	3/8"
1600290	20N	50	4 oz to 2 PSIG	185	92.5	15	12	200	50	1/2" - 25	3/8"
1600300	30N	50	4 oz to 2 PSIG	200	100	18	14	225	56	1/2" - 25	3/8"
1600310	80N	60	4 oz to 2 PSIG	215	107.5	20	16	250	63	1/2" - 25	3/8"
1800020	1390-H Heating	50	4 oz to 2 PSIG	40 - 128	12 - 40	5 - 25	2 - 12	48 - 160	12 - 40	3/8" - 24	1/4"
1800098	1390-3H Heating	50	4 oz to 2 PSIG	90 - 250	20 - 65	30	15	250	63	1/2" - 25	3/8"
1800015	1390-B Heating	50	4 oz to 2 PSIG	40 - 128	12 - 40	5 - 25	2 - 12	48 - 160	12 - 40	3/8" - 24	1/4"

*NOTE: Low-pressure injector-type mixers

PERFORMANCE FOCUS

1390-N BRAZING TIPS AND TIP TUBE ADVANTAGES

- 1390-N tips are designed with a counter-bored tip end for maximum performance using alternate fuels. They produce flames that are stable over an extremely broad BTU range. One tip size can cover a very wide range of joint sizes.
- The 1390-N tips and tip tubes use a special universal size mixer covering a broad range of sizes. This unique design reduces initial equipment costs and storage space requirements.
- The mass of the bell-shaped tip tubes for the 1390 series tips help dissipate much of the reflective heat from the flame, allowing the tip tube to run cooler and last longer.
- The 1390-N brazing equipment include special compact multi-flame heating tips that can produce up to 100,000 BTUs using the standard mixer and tip-tube configuration.

MIXERS AND TIP TUBES FOR 1390-N TIPS FOR PROPANE AND NATURAL GAS

HEAVY DUTY EQUAL PRESSURE FOR MODEL 43-2 AND 18-5 HANDLES



MEDIUM DUTY EQUAL PRESSURE FOR MODEL 85 HANDLE



LIGHT DUTY EQUAL PRESSURE FOR MODEL 16, 19 AND 50-9 HANDLES



HEAVY DUTY INJECTOR MIXER COMPATIBLE WITH MODEL 43-2 HANDLE



LIGHT DUTY INJECTOR MIXER COMPATIBLE WITH MODEL 16, 19 AND 50-9



VERY LIGHT DUTY EQUAL PRESSURE MIXER FOR MODEL 15-3 HANDLE



COMPATIBLE TIP TUBES - MATCH THREAD SIZE



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

125

8490-N

MODEL



ALTERNATE FUELS SEPARABLE BRAZING TIPS

MODEL SHOWN:
8490-4N

DESCRIPTION

The Model 8490-N series separable brazing tips are made of high-quality brass bar stock. The 8490-N series tips are designed with a counter bored tip end for maximum performance with alternate fuels. They are stable over a broad BTU range, consequently, one tip size can be used over a wide range of joint sizes. The 8490-N series includes a special multi-flame heating tiip, 8490-6-65.

DETAILS

Where Used: Production brazing, maintenance, arts and crafts, HVAC, etc.

Compatible Equipment:
E-9 Two-piece tip cleaner
P/N: 9000160



PART #	MODEL #	OXYGEN PSIG	INJECTOR*			EQUAL PRESSURE				THREAD SIZE "F"	HOSE ID
			FUEL GAS PSIG	OXYGEN SCFH	NATURAL GAS SCFH	OXYGEN PSIG	PROPANE PSIG	OXYGEN SCFH	PROPANE SCFH		
1602090	4N	20	4 oz. - 2 lbs	12	6	2	1	8	2	1/4" - 27	3/16"
1602100	5N	25	4 oz. - 2 lbs	13	6.5	2	1	10	2.5	1/4" - 27	3/16"
1602110	6N	25	4 oz. - 2 lbs	15	7.5	3	1	12	3	1/4" - 27	3/16"
1602120	7N	30	4 oz. - 2 lbs	20	10.5	4	1	20	4	1/4" - 27	1/4"
1602130	8N	30	4 oz. - 2 lbs	25	12.5	5	2	24	6	1/4" - 27	1/4"
1602040	6-65 (heating)	50	4 oz. - 2 lbs	30	15	8	8	30	8	1/4" - 27	1/4"

*NOTE: Low-pressure injector-type mixers

LIGHT DUTY EQUAL PRESSURE MIXERS FOR MODEL 16, 19 AND 50-9 HANDLES



5/16" - 27

H-16-E

MEDIUM DUTY EQUAL PRESSURE MIXERS FOR MODEL 15-3 HANDLE



5/16" - 27

B-15-3

COMPATIBLE TIP TUBES - MATCH THREAD SIZE



1/4" - 27

1/4" - 27

5/16" - 27

TH-50-2
P/N: 1601590
Length: 5 1/2"

TH-50-2XL
P/N: 1601596
Length: 7 1/4"

LIGHT DUTY INJECTOR MIXER COMPATIBLE WITH MODEL 16, 19 AND 50-9



5/16" - 27

Injector mixer
H-16-S

LIGHT DUTY INJECTOR MIXER COMPATIBLE WITH MODEL 16, 19 AND 50-9



1/4" - 32

Injector mixer
B-15-3S



1/4" - 27

1/4" - 32

8493-N
P/N: 9003656
Length: 5"

H&HPM**2290**
MODEL**ALTERNATE FUEL HEAVY HEATING TIPS****MODELS SHOWN:**
2290-H & HPMs**DESCRIPTION**

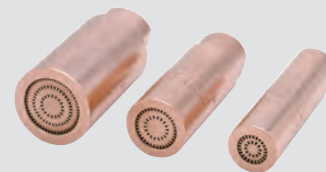
Model 2290 heating tips are capable of producing more than 1 million BTU per hour using low-cost, readily available, safe alternate fuels. They are available in five sizes. Each size is adjustable over a broad heat range.

DETAILS**Warranty:** 1 year**Where used:** Fabrication, shipbuilding, etc.**Related items:**

Adaptors P/N: 2373-9000738
 P/N: 2357-9000734
 P/N: 2327-9000720
 P/N: 2543-9000584



2290-H



2290-HPM

HANDLE MODEL #	MIXER MODEL #	MIXER PART #	PROPANE & NATURAL GAS		PROPYLENE	
			MODEL #	PART #	MODEL #	PART #
43-2	E2-43	9100314	2290-1H	1800130	2290-1HPM	1800136
43-2	E2-43	9100314	2290-2H	1800140	2290-2HPM	1800146
43-2	E2-43	9100314	2290-3H	1800150	2290-3HPM	1800156
43-2	E3-43 (or F-43)	9100316	2290-4H	1800160	2290-4HPM	1800166
43-2	E3-43 (or F-43)	9100316	2290-5H	1800170	2290-5HPM	1800176

2290-H and HPM PERFORMANCE DATA

2290-H ID HPM	OXYGEN PSIG	OXYGEN SCFH	FUEL GAS PSIG	FUEL GAS SCFH	OXYGEN PSIG	OXYGEN SCFH	FUEL GAS PSIG	FUEL GAS SCFH	PROPANE	PROPYLENE	MAPP®	NATURAL GAS
	CLASSIC E-3-43/(F43) MIXER				PRO SERIES H-2030 MIXER				BTU/HR. RATING			
Tip Size #1	10 25	160 320	4 12	40 80	15 30	160 320	3 6	40 80	103,000 205,000	95,000 190,000	96,000 192,000	65,000 130,000
Tip Size #2	15 45	220 520	7 22	55 130	15 400	220 520	5 10	55 130	141,000 333,000	130,000 308,000	132,000 312,000	90,000 212,000
Tip Size #3	25 70	340 920	8 25	85 230	20 80	340 920	7 13	85 230	218,000 590,000	201,000 545,000	204,000 552,000	139,000 375,000
Tip Size #4	50 110	640 1,300	10 30	160 325	50 100	640 1,200	7 21	160 325	410,000 833,000	379,000 770,000	384,000 780,000	216,000 530,000
Tip Size #5	60 135	720 1,600	14 40	180 400	60 150	720 1,600	8 23	180 400	461,000 1,025,000	427,000 950,000	432,000 960,000	293,000 652,000

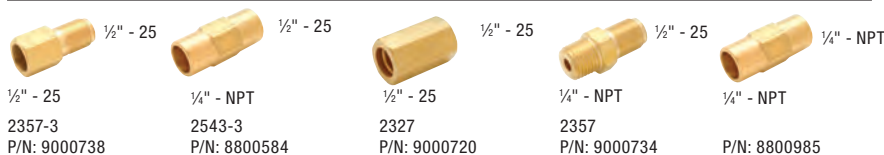
NOTES: 1. For maximum flow and BTU output use 3/4" hose.

2. On continuous duty, withdrawal manifolding of cylinders may be required.

2393 HEATING TIP TUBES

PART #	MODEL #	LENGTH
1800200	2393-1F	36" Curved
1800210	2393-2F	28" Curved
1800220	2393-3F	16" Curved
1800230	2393-4F	10 1/2" Curved
1800241	2393-F	60" Curved
1800240	2393-5F	36" Straight
1800211	2393-2F	28" Straight
1800221	2393-3F	16" Straight
1800231	2393-4F	10 1/2" Straight
1800206	2393-6F	48" Straight

1/2"-25(M) X 1/2"-25(M)

**COUPLINGS & ADAPTORS**

Multiple arrangements of 2290-H Heating Tips can be assembled using Harris coupling 2327, nipple 2357 and standard 1/4" pipe fittings when wider bands of heat are necessary. Capacity of K-43 heating torch is 5 #1-H tips. Use coupling 2543-3 to couple 2393 Tip Tubes for extended reach. For extended tube and tip life, use adaptor 2357-3.


THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS**127**

SERIES

"J" & "H"



ACETYLENE HEATING TIPS AND ASSEMBLIES

MODELS SHOWN:
"J" & "H"

DESCRIPTION

The Model "J" heating tips are a single-piece, all copper tip tube and tip combination specifically used for oxygen acetylene heating applications. The Model "H" series heating tips are a tip tube, tip and mixer combination that are available for the most popular Harris torch handles.

DETAILS

Warranty: 1 year

Where used: Fabrication, shipbuilding, maintenance, etc.

Related items: C-9 Tip cleaner
P/N: 9000156



"J" Heating Tip



"H" Heating Assembly

TORCH AND MIXER		MIXER	"J" SERIES TIP LESS MIXER		"H" SERIES TIP ASSEMBLY WITH MIXER	
TORCH MODEL #	MIXER MODEL #	PART #	MODEL #	PART #	MODEL #	PART #
43-2	E-43	9100312	J-63-1	1800710	H-63-1	1800810
43-2	E-43	9100312	J-63-2	1800720	H-63-2	1800820
43-2	E2-43	9100314	J-63-4	1800730	H-63-3	1800830
43-2	E2-43	9100314	J-63-5	1800740	H-63-4	1800840
43-2	E3-43	9100316	J-43-5	1800117	H-43-5	1800115
V-315-C	V-W	9105214	J-63-1	1800710	—	—
V-315-C	V-W	9105214	J-63-2	1800720	—	—
V-315-C	V-W-2	9105217	J-63-3	1800730	—	—
V-315-C	V-W-2	9105217	J-63-4	1800740	—	—
V-315-C	V-W-3	9105220	J-63-5	1800117	—	—
85	D-85	9100614	J-63-1	1800710	H-85-1	1800500
85	D-85	9100614	J-63-2	1800720	H-85-2	1800510
16 or 19-6	H-16-E	9100096	J-16-1	1800102	H-16-1	1800100
16 or 19-6	H-16-E	9100096	J-16-1	1800112	H-16-2	1800110
16 or 19-6	H-16-2E	9100787	J-63-1	1800710	—	—
		9100787	J-63-2	1800720	—	—
V-100C	V-W-1	9105213	J-63-1	1800710	—	—
		9105213	J-63-2	1800720	—	—

TIP SIZE #	HOLE PATTERN DRAWING	ORIFICE (NUMBER) & SIZE	OXY-ACETYLENE EQUAL PRESSURE		ACETYLENE SCFH ³		HEAT OUTPUT BTU/HR ⁴	
			MIN PSIG ¹	MAX PSI ²	MIN FLOW	MAX FLOW	MIN	MAX
1		#60(6) (.040)	2	6	20	35	29,500	51,500
2		#60(8) (.040)	3	7	30	50*	44,000	74,000
3		#56(8) (.0465)	4	8	50*	80*	74,000	118,000
4		#56(12) (.065)	8	15	80*	140*	118,000	206,500
5		#52(13) (.0635)	Oxy-12 Acet-15	Oxy-20 Acet-8	160*	300*	236,000	442,500

¹Minimum pressure – neutral flame with no flame blow-off (lowest stable flame)

²Maximum pressure – neutral flame with no flame pop-out (highest stable flame)

³Acetylene flow shown – oxygen flow theoretically 1.1 of acetylene for neutral flame

⁴Heat output calculated with 1,475 BTU/cu.ft.

NOTE: Hose size recommendations – 1/4" ID for sizes 1 and 2; 3/8" ID for sizes 3, 4 and 5

*Caution: Exceeds the withdrawal capacity of one standard 320 CF acetylene cylinder 1/4th Rule

RBA

MODEL



FLAME CLEANING HEADS

MODEL SHOWN:
RBA-2

DESCRIPTION

Model RBA flame cleaning heads are designed specifically for cleaning rust, mill scale and paint from metal surfaces prior to welding, painting, etc. They can also be used for general surface heating or spalling using oxy-acetylene⁽¹⁾. Features steel-scraping plate on either side of the tip.

DETAILS

Warranty: 1 year

Where used: Flame cleaning and general heating

Related items: Tip tubes – select from 2393 chart below



RECOMMENDED		MIXER	FLAME CLEANING HEAD			GAS PRESSURES PSIG MIN-MAX		GAS FLOWS SCFH ⁽¹⁾	
TORCH MODEL #	MIXER MODEL #	MIXER PART #	MODEL #	PART #	WIDTH	OXYGEN	ACETYLENE	OXYGEN	ACETYLENE
43-2	E3-43	9100312	RBA-2	1800440	2"	6 - 10	6 - 10	29 - 40	25 - 35
	or E2-43	9100314	RBA-4	1800450	4"	10 - 12	10 - 12	55 - 59	49 - 53
V-315-C	V-W-3	9105220	RBA-2	1800440	2"	6 - 10	6 - 10	29 - 40	25 - 35
	or V-W-2	9105217	RBA-4	1800450	4"	10 - 12	10 - 12	55 - 59	49 - 53

(1) Multiply acetylene SCFH times 1470 to calculate BTU/Hr
Observe 1/3" rule of acetylene when determining acetylene supply required.

2393 HEATING TIP TUBES

PART #	MODEL #	LENGTH	STYLE	THREAD
1800200	2393-1F	36"	"Curved" 70°	1/2" - 25
1800210	2393-2F	28"	"Curved" 70°	1/2" - 25
1800220	2393-3F	16"	"Curved" 70°	1/2" - 25
1800230	2393-4F	10 1/2"	"Curved" 70°	1/2" - 25
1800241	2393-F	60"	"Curved" 70°	1/2" - 25
1800240	2393-5F	36"	"Straight" 180°	1/2" - 25
1800211	2393-2F	28"	"Straight" 180°	1/2" - 25
1800221	2393-3F	16"	"Straight" 180°	1/2" - 25
1800231	2393-4F	10 1/2"	"Straight" 180°	1/2" - 25
1800206	2393-6F	48"	"Straight" 180°	1/2" - 25

2393 TIP TUBE 1/2" - 25(M) X 1/2" - 25(M)



For additional heating tip adaptors and instructions refer to page 101 or page 127.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

129

FLAME CLEANING HEADS

MODEL SHOWN:
RBP-43-2, 4 & 8

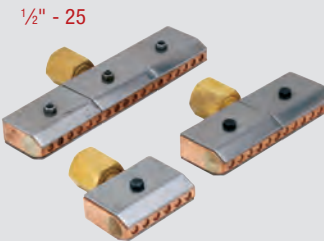
DESCRIPTION

Model RBP flame cleaning heads are designed specifically for removing rust, paint and mill scale from metal surface before welding, painting, etc. They are also used for general surface heating and spalling using oxy-propane or natural gas. Features steel scraping plates on either side of tip.

DETAILS

Duty: Heavy

Related items: Select 2393 tip tube length and style from chart below



CLEANING HEAD					OXYGEN		FUEL		BTU PER HOUR (PROPANE)
PART #	MODEL #	TIP WIDTH	RECOMMENDED HANDLE	MIXER	PSIG MIN/MAX	SCFH MIN/MAX	PSIG MIN/MAX	SCFH MIN/MAX	MIN/MAX
1800470	RBP-43-2	2"	43-2	E3-43 or E2-43	5 - 10	90 - 120	4 - 8	27 - 38	69,200 - 97,395
1800480	RBP-43-4	4"	43-2	E3-43 or E2-43	10 - 22	225 - 300	6 - 12	65 - 88	166,600 - 225,544
1800490	RBP-43-6	6"	43-2	E3-43 or E2-43	25 - 55	490 - 640	10 - 20	106 - 146	271,700 - 374,200
1800470	RBP-43-6	2"	V-315-C	V-W-2 or V-W-3	5 - 10	90 - 120	4 - 8	27 - 38	69,200 - 97,395
1800480	RBP-43-6	4"	V-315-C	V-W-2 or V-W-3	10 - 22	225 - 300	6 - 12	65 - 88	166,600 - 225,544
1800490	RBP-43-6	6"	V-315-C	V-W-2 or V-W-3	25 - 55	490 - 640	10 - 20	106 - 146	271,700 - 225,544

To calculate BTU/hr using Propylene, multiply fuel gas flow by 2375.
To calculate BTU/hr using Natural Gas, multiply BTU/hour by 1000.

2393 HEATING TIP TUBES

PART #	MODEL #	LENGTH	STYLE	THREAD
1800200	2393-1F	36"	"Curved" 70°	1/2" - 25(M)
1800210	2393-2F	28"	"Curved" 70°	1/2" - 25(M)
1800220	2393-3F	16"	"Curved" 70°	1/2" - 25(M)
1800230	2393-4F	10 1/2"	"Curved" 70°	1/2" - 25(M)
1800241	2393-5F	60"	"Curved" 70°	1/2" - 25(M)
1800240	2393-1F	36"	"Straight" 180°	1/2" - 25(M)
1800211	2393-2F	28"	"Straight" 180°	1/2" - 25(M)
1800221	2393-3F	16"	"Straight" 180°	1/2" - 25(M)
1800231	2393-4F	10 1/2"	"Straight" 180°	1/2" - 25(M)
1800206	2393-5F	48"	"Straight" 180°	1/2" - 25(M)

2393 TIP TUBES 1/2" - 25(M) X 1/2" - 25(M)



For additional heating tip adaptors and instructions refer to page 101 or page 127.

6290

MODEL

1YR
WARRANTY

ALTERNATE FUEL SPECIALTY TIPS

MODELS SHOWN:
6290-GG & H-62-1P

DESCRIPTION

Model 6290 alternate fuel specialty tips are designed to allow additional performance from our straight cutting torches. Applications like heating, rivet washing, rivet cutting, gouging and extended reach cutting can be performed using standard cutting torches eliminating the need for separate handles, tip tubes etc. Tips are designed for use with alternate fuels.* Especially useful where storage space is at a premium.



6290-GG



H-62-1P

DETAILS

Duty: Heavy

Where used: Metal heating, beam cutting and weld repair

Related items: 62-5F, 62-5SSF and 98-6 torches

Additional 6290 Tips

6290-NFFL



6290-NFW



6290-NFFR



HEATING, CUTTING AND WASHING TIPS

PART #	MODEL #	APPLICATION	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	
					EQUAL PRESSURE	INJECTOR
9100516	H-62-1P	HEATING TIP	45	160	5 - 15	4 oz. 2 lbs. PRESSURE
9100518	H-62-2P	HEATING TIP	50	220	5 - 15	4 oz. 2 lbs. PRESSURE
9100520	H-62-3P	HEATING TIP	55	340	5 - 15	4 oz. 2 lbs. PRESSURE
1501090	6290-NFFR	RIVET CUTTING	45	—	—	4 oz. 2 lbs. PRESSURE
1501100	6290-NFW	RIVET WASHING	50	—	—	4 oz. 2 lbs. PRESSURE
1501110	6290-8NFW	RIVET WASHING	50	—	—	4 oz. 2 lbs. PRESSURE
1501054	6290-0NFFL	8" CUTTING TIP	80	75 - 100	5 - 15	4 oz. 2 lbs. PRESSURE
1501055	6290-1NFFL	8" CUTTING TIP	80	100 - 150	5 - 15	4 oz. 2 lbs. PRESSURE
1501053	6290-2NFFL	8" CUTTING TIP	80	175 - 200	5 - 15	4 oz. 2 lbs. PRESSURE
1501051	6290-4NFFL	8" CUTTING TIP	80	350 - 400	5 - 15	4 oz. 2 lbs. PRESSURE
1501052	6290-6NFFL	8" CUTTING TIP	80	500 - 650	5 - 15	4 oz. 2 lbs. PRESSURE

PROPANE GOUGING TIPS

GOUGE SIZE

1500940	6290-1GG	1/8" - 1/4" WIDE	35	—	5 - 15	4 oz. 2 lbs. PRESSURE
1500950	6290-2GG	3/16" - 3/8" WIDE	50	—	5 - 15	4 oz. 2 lbs. PRESSURE
1500960	6290-3GG	1/4" - 1/2" WIDE	50	—	5 - 15	4 oz. 2 lbs. PRESSURE

PROPYLENE GOUGING TIPS

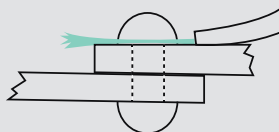
GOUGE SIZE

1500944	6290-1GGM	1/8" - 1/4" WIDE	35	—	5 - 15	4 oz. 2 lbs. PRESSURE
1500954	6290-2GGM	3/16" - 3/8" WIDE	50	—	5 - 15	4 oz. 2 lbs. PRESSURE
1500964	6290-3GGM	1/4" - 1/2" WIDE	50	—	5 - 15	4 oz. 2 lbs. PRESSURE

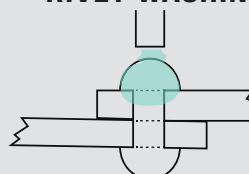
For maximum performance use straight torch
*NOT FOR USE WITH ACETYLENE.

**CUTTING.
WASHING.
GOUGING.**

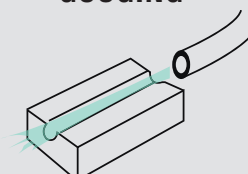
RIVET CUTTING



RIVET WASHING



GOUGING



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TIPS

131

6290

MODEL

1YR
WARRANTY

ACETYLENE SPECIALTY TIPS FOR HARRIS CUTTING TORCHES

MODEL SHOWN:
6290-G, -HA & -R

DESCRIPTION

Acetylene tips are made available to add more versatility to the Harris cutting torch line. Specialty tips allow the use of existing torches to heat gouge and rivet cut without the need to purchase additional equipment.

DETAILS

Duty: Heavy*

Where used: Metal heating, gouging, rivet cutting



6290-G



6290-HA**



6290-R

PART #	MODEL #	APPLICATION	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	FUEL SCFH
					EQUAL PRESSURE	
1500910	6290-1G	GOUGE - 1/8" - 1/4"	35	—	5 - 15	—
1500920	6290-2G	GOUGE - 3/16" - 3/8"	50	—	5 - 15	—
1500930	6290-3G	GOUGE - 1/4" - 1/2"	50	—	5 - 15	—
1501290	6290-R	RIVET CUTTING	45	—	5 - 15	—
1800495	6290-1HA	HEATING	12	90	5 - 15	80
1800496	6290-2HA	HEATING	14	170	5 - 15	160

*For maximum performance Harris recommends the use of tips only with straight cutting torches.

**6290-HA cannot be used with "V" Series torches.

CAN'T FIND THE BRAZING EQUIPMENT YOU LIKE? CHECK OUT OUR **CUSTOM BRAZING EQUIPMENT SOLUTIONS**

Contact your Harris Products Group Representative in your area: 1-800-241-0804



MODEL 50-10P PISTOL TORCH

It is an ergonomically designed, full featured Model 50-10P automatic torch with a pistol grip. The new design retains all the features of the original Model 50-10P but with greater operator comfort to help eliminate the unnatural hand position that causes fatigue and often results in carpal tunnel syndrome.

The original Harris Model 50-10P automatic torch handles feature a unique gas control system to reduce operating cost and improve safety and convenience. The thumb operated on/off gas control and adjustable pilot light eliminates relighting and flame readjustment each time the torch is used. The on/off feature can be used for welding, brazing and heating.



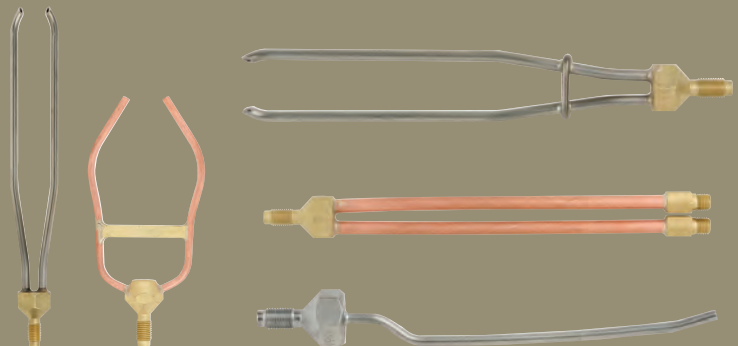
MODEL 19-6AP PISTOL TORCH

The newly designed Model 19-AP Pistol torch is an ergonomically designed, light weight, front valve medium duty torch for welding, brazing and heating. The pistol grip, "A" class hose fittings and light weight are for operator comfort and to help eliminate the unnatural hand position that causes fatigue and often results in carpal tunnel syndrome.

The Model 19-6AP also features silver brazed twin tube construction and front valves for more precise control while welding, soldering and brazing. The 19-6AP is suitable for use with any fuel gas.

CUSTOM BRAZING TIPS TO MEET YOUR SPECIFICATIONS

Contact your Harris Products Group
Representative in your area:
1-800-241-0804



MACHINE CUTTING TORCHES

NOBODY IN THE INDUSTRY KNOWS MORE ABOUT OXY-FUEL MACHINE CUTTING THAN HARRIS. WHETHER YOU ARE SHAPE CUTTING, STRIP CUTTING, OR BEVELING, HARRIS MACHINES TORCHES ALLOW YOU TO DO IT BETTER, FASTER, AND MORE ECONOMICALLY.



GET CONNECTED

Go to twitter.com/HarrisProducts

QUICK SELECTION GUIDE

MACHINE CUTTING TORCHES



98-6F MODEL

HEAVY DUTY,
ALTERNATE FUEL
p.136



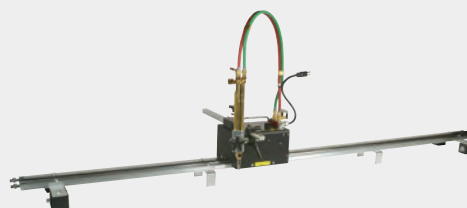
98-6E MODEL

HEAVY DUTY,
ACETYLENE
p.136



80 MODEL

JUMBO, HIGH
CAPACITY, ALT FUEL
p.138



STRAIGHT LINE CUTTING MACHINE

STRAIGHT LINE CUTTING MACHINE
p.138



A LINCOLN ELECTRIC COMPANY

TURN TO THE PROS – TURN TO HARRIS.

To learn more about the most complete line of industrial grade tools in the world, visit us online.

www.harrisproductsgroup.com

MODEL 98 MACHINE TORCHES

Harris machine cutting torches are designed to handle all types of machine cutting applications. Rugged and dependable, these torches provide up to 15" cutting capacity. The Model 98-6 torches are available in two-hose and three-hose design for all fuel gases.

MODEL 98 FEATURES

- Solid head for maximum strength
- Standard 1 $\frac{3}{8}$ " diameter barrel
- Use with 6290 high speed machine cutting tips
- Equipped with Flash Guard® check valves
- Rack supplied is 32 pitch (10.12 teeth/in.)

98-6TAFR-32 THREE-HOSE TORCHES

- Quick opening cutting oxygen valve for immediate full flow
- Separate preheat and cutting oxygen valves for high and low preheat control
- Cutting capacity to 15"
- 98-6 torches supplied with check valves on preheat oxygen and preheat fuel

98-6FR-32 TWO-HOSE TORCHES

- Cutting capacity to 8"
- 98-6 torches supplied with check valves on preheat oxygen and preheat fuel

98-6TFR-32 THREE-HOSE TORCHES

- Three-hose valveless design for pipe beveling, multiple beveling and similar applications
- Cutting capacity to 15"



MODEL SHOWN:
98-6TAFR-32



MODEL SHOWN:
98-6FR-32



MODEL SHOWN:
98-6TFR-32



HAVING THE RIGHT TOOLS FROM
HARRIS WILL RESULT IN
**A JOB WELL DONE,
EVERY TIME**



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

MACHINE CUTTING TORCHES **135**

F9-86

MODEL



ALTERNATE FUEL MACHINE CUTTING TORCH

MODEL SHOWN:
98-6TAFR-32

DESCRIPTION

The Model 98-6F machine cutting torch feature has a cutting "F" or (low pressure) for maximum performance using alternate fuels. Model 98 three hose machine cutting torches have a cutting capacity of 15". Two hose 98-6 torches have a barrel diameter of 1 3/8" and 32 pitch, 10.12 TPI rack that will fit any industry standard torch holder. Model 98 10" barrel torches have a cutting lever, and 18" barrel torches have a separate valve knob to actuate the cutting oxygen. The 98-6F is also available in a 3-hose valveless design for pipe beveling and multiple torch beveling.

DETAILS

Capacity: 2 hose - 8",
3 hose - 15"

Certifications: UL® listed

Mixer Type: "F" or low
pressure injector

Duty: Heavy

Where used: Straight and
contour machine cutting

Length: 10", 18" and 5 1/2"

Related items:

BV-98-2 P/N: 1200124

S-98-C P/N: 1200080

TH-98 P/N: 1200090



						RECOMMENDED TIP STYLES	
PART #	MODEL #	STYLE	CUTTING VALVE TYPE	BARREL LENGTH	WEIGHT (LBS.)	ACETYLENE-H ₂	ALTERNATE FUELS*
1101455	98-6FR-32	2 Hose	Lever	10"	3.3	—	6290 VVC
1101465	98-6TFR-32	3 Hose	Knob	10"	3.3	—	6290 VVCU
1101475	98-6TAFR-32	3 Hose	Knob	18"	4.2	—	6290 VVCP
1100231	98-3TFR-32	3 Hose	None	5 1/2"	2.2	—	66290 VVCM

*Propylene or propane-based fuels and natural gas. NOT FOR USE WITH ACETYLENE.

F9-86

MODEL



ACETYLENE MACHINE CUTTING TORCH

MODEL SHOWN:
98-6ER-32

DESCRIPTION

The Harris Model 98-6E machine cutting torch features an "E" or positive equal pressure mixer for all fuel gases. Harris Model 98-6 three hose cutting torches have a cutting capacity of 15" and two hose torches cut to 8". All machine torches have a barrel diameter of 1 3/8" and 32 pitch, 10.12 TPI rack that will fit any industry standard torch holder. Model 98 10" barrel torches have a cutting lever and 18" barrel torches have a separate valve knob to actuate the cutting oxygen.

DETAILS

Capacity: 2 hose - to 8",
3 hose - to 15"

Certifications: UL® listed

Mixer Type: "E" or positive
pressure

Duty: Heavy

Where used: Straight and
contour cutting

Length: 10"-18"

Related items:

S-98-C - P/N: 1200080

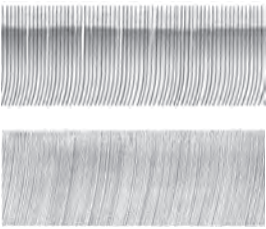

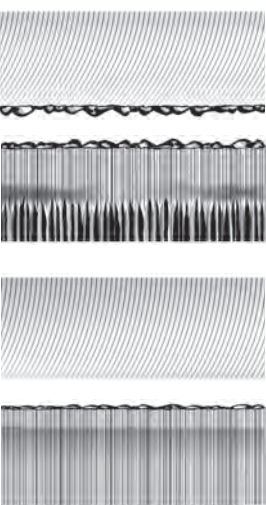


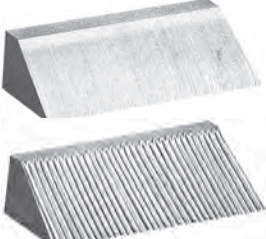
TH-98 - P/N: 1200090



						RECOMMENDED TIP STYLES	
PART #	MODEL #	STYLE	CUTTING VALVE TYPE	BARREL LENGTH	WEIGHT (LBS.)	ACETYLENE-H ₂	ALTERNATE FUELS*
1101425	98-6ER-32	2 Hose	Lever	10"	3.3	6290	6290 VVC
1101435	98-6TER-32	3 Hose	Knob	10"	3.3	6290AC	6290 VVCM
1101445	98-6TAER-32	3 Hose	Knob	18"	4.2	6290S	6290 VVCP 6290 VVCU

*Recommended for Acetylene.

MACHINE CUTTING GUIDE

CORRECT CUTS		<p>PERFECT CUT - Regular surface with slightly sloping drag lines indicates a perfect cut. A slight amount of scale at the top of the cut is caused by preheat flames and is easily removed. This surface can be used for many purposes without machining.</p> <p>PRODUCTION CUT - Moderately sloping drag lines and a reasonably smooth surface characterize a production cut. For production operations a cut of this type represents the best combination of quality and economy.</p>
DIRTY TIP		<p>DIRTY TIP - Dirt or scale in the tip will deflect the oxygen stream and cause one or more of the following problems: Excess slag on the steel, an irregular cut surface, pitting and undercutting.</p>
CUTTING SPEED		<p>EXTREMELY FAST - Rake angle of drag lines shows extremely fast cutting speed. Top edge is good and cut face is smooth. However, slag adheres to the bottom side and there is danger of losing the cut. Not enough time is allowed for slag to blow out of the kerf. Cut face often slightly concave.</p> <p>EXTREMELY SLOW - Pressure marks indicate too much oxygen for cutting conditions. Either the tip is too big, cutting oxygen pressure too high, or speed is too slow as shown by a rounded or beaded top edge as in this case. As oxygen volume nears correct proportions, pressure marks appear closer to the bottom edge until they finally disappear.</p> <p>SLIGHTLY TOO FAST - Drag lines incline backwards, but a "drop cut" is still attained. Top edge is good. Cut face is smooth and slag free. Quality is satisfactory for most production work.</p> <p>SLIGHTLY TOO SLOW - Cut is high quality although there is some surface roughness caused by vertical drag lines. Top edge is usually slightly beaded. Quality is generally acceptable, faster speeds are more desirable.</p>
TIP DISTANCE		<p>TOO CLOSE - Grooves and deep drag lines caused by unstable cutting action. Part of preheat cone burns inside kerf where normal gas expansion deflects oxygen cutting stream.</p> <p>TOO HIGH - Top edge is beaded or rounded, cut face is not smooth and often is slightly beveled when preheat effectiveness is partially lost due to the tip being held too high. Cutting speed is reduced because of the danger of losing the cut.</p>
GAS ADJUSTMENT		<p>TOO MUCH CUTTING OXYGEN - Pressure marks are caused by too much cutting oxygen. When more oxygen is supplied than can be consumed in oxidation, the remainder goes around the slag creating gouges, or pressure marks. Correct this fault by lowering cutting oxygen pressure, increasing speed, or using a smaller tip. As oxygen volume nears correct proportion, pressure marks appear closer to the bottom edge until they finally disappear.</p> <p>TOO HOT PREHEAT - Rounded top edge caused by too much preheat. Excess preheat does not increase cutting speed, it only wastes gases.</p>
WHAT TO LOOK FOR IN BEVEL CUTTING		<p>GOOD QUALITY - Top edge is excellent and cut face extremely smooth. Slag should be easy to remove and the cut part dimensionally accurate. Cutting speed is slower than vertical cutting because preheat effect is partially deflected from plate.</p> <p>POOR QUALITY - Gouging is the most common fault. It is caused by either a speed that is too fast or preheat flames that are too mild. Another fault is a rounded top edge, caused by too much preheat, indicating excessive gas consumption.</p>

80

MODEL



JUMBO MACHINE CUTTING TORCH

MODEL SHOWN:
80

DESCRIPTION

The Model 80 Jumbo Machine Cutting Torch has a recommended cutting range of 8" to 30". (See P. 117 for Model 8090 tips) It operates on fuel pressures of 10-15 PSIG. It features a solid head for maximum strength, and requires 1/2" oxygen cutting hose with "C" or 7/8" - 14 connections. Equipped with standard barrel diameter of 1 3/8" and a 32 pitch, 10.12 TPI rack.

DETAILS

Capacity: 30"

Mixer Type: "E" equal or positive pressure

Where used: Heavy straight or contour cutting

Duty: Heavy

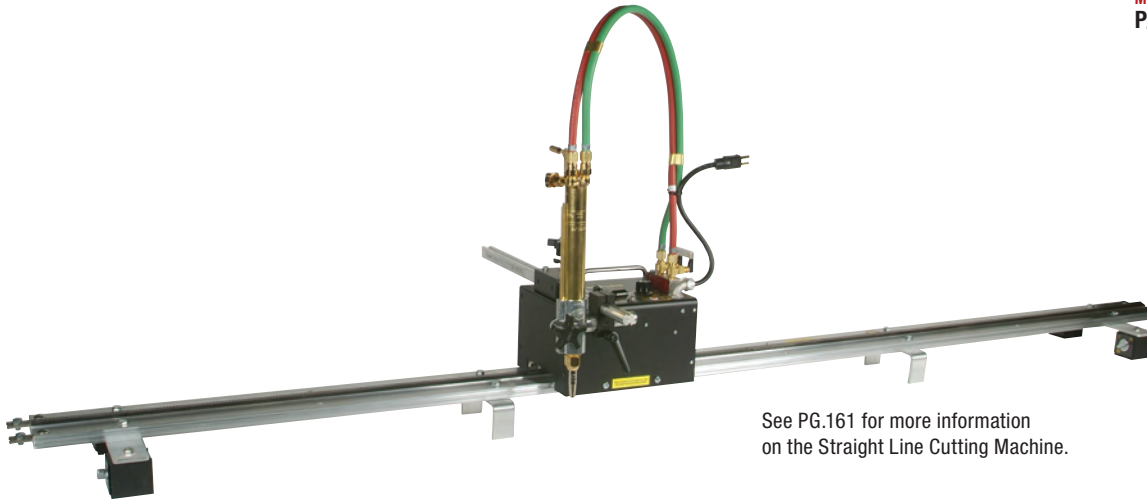


				TIP STYLES
PART #	MODEL #	STYLE	CUTTING VALVE TYPE	ALTERNATE FUELS*
1100010	80	3 Hose, no rack	Lever	8090
1100030	80-R	3 Hose, w/ rack	Lever	8090

*Propylene or propane-based fuels and natural gas

STRAIGHT LINE CUTTING MACHINE FOR BOTH MODELS 98 & 80

MODEL SHOWN:
P/N:4300950



See PG.161 for more information on the Straight Line Cutting Machine.

MACHINE CUTTING ACCESSORIES FOR MODEL 98-6 TORCHES



MODEL SHOWN:

BV-98-2 Beveling Head
P/N: 1200124

Increases speed of quality bevel cuts. Preheat tip swivels for either left or right travel. Equipped with 1390-3H heating tip. Use with natural gas or propane 6290 tips (not included).



MODEL SHOWN:

S-98-C Adjustable Tip Adapter
P/N: 1200080

Adjust tip to any angle without moving the torches. Use with any 6290 tips (not included).



MODEL SHOWN:

Model TH-98 Adjustable Twin Tip Holder
P/N: 1200090

For making two cuts simultaneously with one torch. Adjust from 1 1/2" to 12" width. Use with any 6290 tips (not included).

SHAPE CUTTING



BEVEL CUTTING



STRAIGHT CUTTING



KITS

HARRIS MAKES A WIDE VARIETY OF INDUSTRIAL GRADE METALWORKING OUTFITS. PROFESSIONALS KNOW THAT WHEN THEY WANT TO GET THE JOB DONE FAST AND DONE RIGHT - THEY CHOOSE HARRIS.



GET CONNECTED

Go to twitter.com/HarrisProducts

WHAT'S YOUR STYLE?

HARRIS MANUFACTURES DIFFERENT TYPES OF KITS

COMBINATION KIT

Contain all the major components to allow you to weld, braze, heat and cut. Determine the fuel gas needed, and if you prefer heavy, medium or light duty.

CUTTERPAC®

Contain the major components necessary for cutting and some special applications. As with combination kits, determine the fuel gas to be used.

PORT-A-TORCH®

are generally combination kits with the emphasis on portability. Choose between these with or without cylinders.

YOUR CHOICE

Choose between Classic, "V" series, and Ironworker. Classic style components are genuine Harris. The Harris "V" series is compatible with Victor® style equipment but with superior Harris design features.



COMBINATION KITS-ALL FUEL GASES

MODEL SHOWN:
Pipeliner®
Classic
P/N: 4403235



MODEL SHOWN:
Steelworker®
Classic
P/N: 4403225



PIPELINER® CLASSIC

Cuts up to 1" plate, welds up to 1/8" plate with supplied tips. Cuts up to 5" plate, welds up to 1" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403236	43425-300 DLX	43-2	E-43	6290-1AC	73-3	23A90-5	425-125-540	425-15-300	• Goggles • Striker • 20' x 1/4" Hose • Tool Bag	18.9 lbs./ 8.57 kg.
4403235	43425-510 DLX	43-2	E-43	6290-1AC	73-3	23A90-5	425-125-540	425-15-510		
4403237	43425-300 STD	43-2	E-43	6290-1AC	73-3	23A90-5	425-125-540	425-15-300	• Tool Bag	17.6 lbs./ 7.98 kg.
4403234	43425-510 STD	43-2	E-43	6290-1AC	73-3	23A90-5	425-125-540	425-15-510	• Tool Bag	17.6 lbs./ 7.98 kg.

STEELWORKER® CLASSIC

Cuts up to 1" plate, welds up to 1/8" plate with supplied tips. Cuts up to 5" plate, welds up to 1/2" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403225	8525GX-300 DLX	85	D-85	6290-1AC	72-3	23A90-5	25GX-145-540	25GX-15-300	• Goggles • Striker • 20' x 3/16" Hose • Tool Bag	15.8 lbs./ 7.17 kg.
4403224	8525GX-510 DLX	85	D-85	6290-1AC	72-3	23A90-5	25GX-145-540	25GX-15-510		
4403227	8525FGX-300 STD	85	D-85	6290-1AC	72-3	23A90-5	25GX-145-540	25GX-15-300	• Tool Bag	11.14 lbs./ 5.05 kg.
4403226	8525FGX-510 STD	85	D-85	6290-1AC	72-3	23A90-5	25GX-145-540	25GX-15-510	• Tool Bag	11.14 lbs./ 5.05 kg.

EXPERT® CLASSIC

Cuts up to 1" plate, welds up to 1/8" plate with supplied tips. Cuts up to 4" plate, welds up to 1/2" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403229	85601-300 DLX	85	D-85	6290-1AC	72-3	23A90-5	601-80-540	601-15-300	• Goggles • 20' x 3/16" Hose • Striker • Tool Bag	12.9 lbs./ 5.85 kg.
4403228	85601-510 DLX	85	D-85	6290-1AC	72-3	23A90-5	601-80-540	601-15-510		
4403244	85601-300 STD	85	D-85	6290-1AC	72-3	23A90-5	601-80-540	601-15-300	• Tool Bag	11.28 lbs./ 5.12 kg.
4403243	85601-510 STD	85	D-85	6290-1AC	72-3	23A90-5	601-80-540	601-15-510	• Tool Bag	11.28 lbs./ 5.12 kg.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

KITS

141

COMBINATION KITS-ALTERNATE FUELS

MODEL SHOWN:
Pipeliner®
Classic/Propane Kit
P/N: 4403240



MODEL SHOWN:
Steelworker®
Classic/Propane Kit
P/N: 4403239



PIPELINER® CLASSIC/PROPANE KIT*

Cuts up to 1" plate with supplied tips. Cuts up to 5" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	REGULATORS		ACCESSORIES	WEIGHT
						OXYGEN	FUEL		
4403240	43425F-510P DLX	43-2	—	6290-1NX	49-3F	425-125-540	425-50-510P	<ul style="list-style-type: none"> Goggles 20' x 1/4" "T" Hose Striker Tool Bag Tip 	15.8s. / 7.08 kg.

STEELWORKER® CLASSIC/PROPANE KIT*

Cuts up to 1" plate with supplied tips, cuts up to 4" plate with larger tips

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	REGULATORS		ACCESSORIES	WEIGHT
						OXYGEN	FUEL		
4403239	8525FGX-510P DLX	85	—	6290-1NX	39-3F	25GX-145-540	25GX-15-510P	<ul style="list-style-type: none"> Goggles 20' x 1/4" "T" Hose Striker Tool Bag 	14.7 lbs. / 2.13 kg.

*Supplied with Propane/Natural Gas or Propylene tips.

MODEL SHOWN:
Pipeliner®
Classic/Propylene Kit
P/N: 4403255



MODEL SHOWN:
Steelworker®
Classic/Propylene Kit
P/N: 4403254



PIPELINER® CLASSIC/PROPYLENE KIT*

Cuts up to 1" plate with supplied tips. Cuts up to 5" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	REGULATORS		ACCESSORIES	WEIGHT
						OXYGEN	FUEL		
4403255	43425F-510P DLX	43-2	—	6290-1NXP	49-3F	425-125-540	425-50-510P	<ul style="list-style-type: none"> Goggles 20' x 1/4" "T" Hose Striker Tool Bag 	20 lbs. / 9.07 kg.

*Supplied with Propane/Natural Gas or Propylene tips.

STEELWORKER® CLASSIC/PROPYLENE KIT*

Cuts up to 1" plate with supplied tips. Cuts up to 4" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	REGULATORS		ACCESSORIES	WEIGHT
						OXYGEN	FUEL		
4403254	8525FGX-510P DLX	85	—	6290-1NXP	39-3F	25GX-145-540	25GX-15-510P	<ul style="list-style-type: none"> Goggles 20' x 1/4" "T" Hose Striker Tool Bag 	19 lbs. / 8.62 kg.

*Supplied with Propane/Natural Gas or Propylene tips.

CLASSIC PORT-A-TORCH®

HARRIS PORT-A-TORCH®

A Harris Port-A-Torch® contains all the quality equipment needed for cutting, welding and brazing packaged in a rugged, molded plastic carrying case. The outfit is designed to carry one MC acetylene cylinder and one 20 cu. ft. oxygen cylinder. As supplied, the outfit is capable of cutting up to a 1" plate and welding up to a 1/16" plate. The outfit can cut up to a 4" plate and weld up to a 1/2" plate with larger tips and acetylene cylinder.

MODEL SHOWN:
Port-A-Torch®
P/N: 4403211



CLASSIC PORT-A-TORCH® WITH CYLINDERS

Cuts up to 1" plate, welds up to 1/16" plate with supplied tips.

Cuts up to 4" plate, welds up to 1/2" plate with larger tips and Acetylene cylinder.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403211	85601-200 w/Cyl.	85	D-85	6290-1AC	72-3	23A90-3	601-80-540B	601-15-200B	<ul style="list-style-type: none"> Goggles Striker 12' x 3/16" Hose 20 CU. Ft. O₂ Cylinder 10 CU. FT. Acet. Cylinder Acet. Cylinder Wrench Tool Bag (Cylinders shipped empty) 	38.0 lbs. / 17.24 kg.

CLASSIC PORT-A-TORCH® WITHOUT CYLINDERS

Cuts up to 1" plate, welds up to 1/16" plate with supplied tips.* Cuts up to 4" plate, welds up to 1/2" plate with larger tips and Acetylene cylinder.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403213	85601-200 w/o Cyl.	85	D-85	6290-1AC	72-3	23A90-3	601-80-540B	601-15-200B	<ul style="list-style-type: none"> Goggles 20' x 3/16" Hose Toolbag Striker Acet. Cylinder Wrench 	16.0 lbs. / 7.26 kg.

V-SERIES® COMBINATION KITS - ALL FUEL GASES

MODEL SHOWN:
V-Series® Pipeliner®
All Gas/Acetylene Kit
P/N: 4403230



MODEL SHOWN:
V-Series® Steelworker®
All Gas/Acetylene Kit
P/N: 4403222

* See next page



V-SERIES® PIPELINER® ALL GAS/ACETYLENE KIT

Cuts up to 1" plate, welds up to 1/8" with supplied tips. Cuts up to 6" plate, welds up to 1" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403223	V-3152500-300 DLX	V-315C	V-W	N/A	V-2460	23A90-5	2500-125-540	2500-15-300	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Tool Bag 	19.86 lbs. / 9.01 kg
4403221	V-3152500-510 DLX	V-315C	V-W	N/A	V-2460	23A90-5	2500-125-540	2500-15-510	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Tool Bag 	13.36 lbs. / 6.17 kg.
4403230	V-3152500-510 DLX (Plus)	V-315C	V-W	1-V1-101	V-2460	23A90-3, 5 & 8	2500-125-540	2500-15-510	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose J-63-2 Heating Tip 	13.36 lbs. / 6.17 kg.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

KITS

143

V-SERIES® COMBINATION KITS - ALL FUEL GASES

V-SERIES® STEELWORKER® ALL GAS/ACETYLENE KIT

Cuts up to 1" plate, welds up to 1/8" with supplied tips. Cuts up to 4" plate, welds up to 1/2" plate with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT	
							OXYGEN	FUEL			
4403220	V-100C25GX-510	V-100C	V-W-1	1-V3-101	V-1350	23A90-5	25GX-145-540	25GX-15-300	• Goggles • 20' x ¼" Hose	• Striker • Tool Bag	14.92 lbs. / 6.77 kg.
4403222	V-100C25GX-300 DLX	V-100C	V-W-1	1-V3-101	V-1350	23A90-5	25GX-145-540	25GX-15-300	• Goggles • 20' x ¼" Hose	• Striker • Tool Bag	14.92 lbs. / 6.77 kg.
4403231	V-100C25GX-510 DLX (Plus)	V-100C	V-W-1	1-V3-101	V-1350	23A90-3, 5 & 8	25GX-145-540	25GX-15-510	• Goggles • 20' x ¼" Hose	• Striker • Tool Bag • J-63-2 Heating Tip	14.92 lbs. / 6.77 kg.

MODEL SHOWN:
V-Series® Expert
All Gas/Acetylene Kit
P/N: 4403233



MODEL SHOWN:
V-Series®
LPG Combo Kit
P/N: 4403241



V-SERIES® EXPERT ALL GAS/ACETYLENE KIT

Cuts up to 1" plate, welds up to 1/8" with supplied tips. Cuts up to 4" plate, welds up to 1/2" with larger tips.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403233	V-100601-300 DLX	V-100C	V-W-1	1-V3-101	V-1350	23A90-5	601-80-540 B	601-15-300 B	• Goggles • Striker	13.16 lbs./ 5.97 kg.
4403232	V-100601-510 DLX	V-100C	V-W-1	1-V3-101	V-1350	23A90-5	601-80-540 B	601-15-510 B	• 20' x 1/4" Hose • Tool Bag	
4403246	V-100601-300 STD	V-100C	V-W-1	1-V3-101	V-1350	23A90-5	601-80-540 B	601-15-300 B	• Tool Bag	11.28 lbs. / 5.12 kg.
4403245	V-100601-510 STD (Plus)	V-100C	V-W-1	1-V3-101	V-1350	23A90-5	601-80-540 B	601-15-510 B		

V-SERIES® LPG COMBO KIT

Cuts up to 1" plate supplied tip. Cuts up to 6" plate with larger tip.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT	
							OXYGEN	FUEL			
4403241	V-315C-2500-510P DLX	V-315C	—	—	V-2460-F	—	2500-125-540	2500-50-510 P	• Goggles • 20' x 1/4" "T" Grade Hose	• Striker • Tool Bag	15.56 lbs. / 7.06 kg.

IRONWORKER® KITS

MODEL SHOWN:
IRONWORKER®
Acetylene Kit
P/N: 4400359



MODEL SHOWN:
IRONWORKER® 2
Acetylene Kit
P/N: 4400361



IRONWORKER® ACETYLENE KIT WITH STAINLESS STEEL DIAPHRAGM REGULATORS

Cuts up to 1" plate, welds up to 1/16" with supplied tips. Cuts up to 8" plate, weld up to 1/2" Plate with larger tips.

PART #	Model #	TORCH HANDLE	FLASHBACK ARRESTORS		MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
			OXYGEN	FUEL					OXYGEN	FUEL		
4400359	HV3145S-300 DLX	VH31	88-5N FBTR	88-5N FBTL	V-W	V1-101-1	VH24	23A90-3	45S-145-540	45S-15-300	<ul style="list-style-type: none"> Goggles Striker Tip Cleaner Replacement Flints 20' x 1/4" Grade R Hose Cooler Bag 	18 lbs./ 8.16 kg
4400358	HV3145S-510 DLX	VH31	88-5N FBTR	88-5N FBTL	V-W	V1-101-1	VH24	23A90-3	45S-145-540	45S-15-510		

IRONWORKER® 2 ACETYLENE KIT WITH NEOPRENE DIAPHRAGM REGULATORS

Cuts up to 1" plate. Cuts up to 8" plate, weld up to 1/2" Plate with larger tips.

PART #	Model #	TORCH HANDLE	FLASHBACK ARRESTORS		MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
			OXYGEN	FUEL					OXYGEN	FUEL		
4400361	HV3145-300 DLX	VH31	88-5N FBTR	88-5N FBTL	-	V1-101-1	VH24	-	45-145-540	45-15-300	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Grade RHose Cooler Bag 	17 lbs./ 7.71 kg
4400360	HV3145-510 DLX	VH31	88-5N FBTR	88-5N FBTL	-	V1-101-1	VH24	-	45-145-540	45-15-510		

V-SERIES® CLASSIC PORT-A-TORCH®

HARRIS PORT-A-TORCH®

A V-Series® Port-A-Torch® contains all the quality equipment needed for cutting, welding and brazing packaged in a rugged, molded plastic carrying case. The outfit is designed to carry one MC acetylene cylinder and one 20 cu. ft. oxygen cylinder. As supplied, the outfit is capable of cutting up to a 1" plate and welding up to a 1/16" plate. The outfit can cut up to a 4" plate and weld up to a 1/2" plate with larger tips and acetylene cylinder.

MODEL SHOWN:
Port-A-Torch®
P/N: 4403214



V-SERIES® PORT-A-TORCH®

Cuts up to 1" plate, welds up to 1/16" plate with supplied tips. Cuts up to 4" plate, welds up to 1/2" with larger tips and acetylene cylinder.

PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4403214	V-100601-200 DLX	100C	V-W-1	1-V3-101	V-2460	23A90-3	601-80-540	601-15-200	<ul style="list-style-type: none"> Goggles Striker 12' x 3/16" Hose 20 CU. Ft. O₂ Cylinder 10 CU. FT. Acet. Cylinder Acet. Cylinder Wrench Tool Bag (Cylinders shipped empty) 	38.30 lbs. / 17.37 kg.
4403215	V-100601-200 STD.	100C	V-W-1	1-V3-101	V-2460	23A90-3	601-80-540	601-15-200	<ul style="list-style-type: none"> Goggles Striker 12' x 3/16" Hose Acet. Cylinder Wrench Tool Bag 	33 lbs./ 14.97 kg.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

KITS

145

CUTTER PAC® - ALL FUEL GASES

MODEL SHOWN:
Cutter Pac®
Classic 62-5E Acetylene Gas
P/N: 4401640



MODEL SHOWN:
Cutter Pac®
Classic 62-5E Acetylene Gas
P/N: 4401638



CLASSIC 62-5E ACETYLENE GAS CUTTER PAC®

Cuts up to 1" plate. Cuts up to 12" plate with optional tips.

PART #	MODEL #	TORCH	TORCH LENGTH	TORCH HEAD ANGLE	CUTTING TIP	REGULATORS		WEIGHT
						OXYGEN	FUEL	
4401640	6225EGX-300	62-5E	18"	90°	—	25GX-145-540	25GX-15-300	10.42 lbs. / 4.73 kg.

CLASSIC 62-5E ACETYLENE GAS CUTTER PAC® *

Cuts up to 1" plate with supplied tip. Cuts up to 12" plate with larger tips.

PART #	MODEL #	TORCH	TORCH LENGTH	TORCH HEAD ANGLE	CUTTING TIP*	REGULATORS		WEIGHT
						OXYGEN	FUEL	
4401638	6225EGX-510	62-5E	18"	90°	6290-1AC	25GX-145-540	25GX-15-510	10.69 lbs./ 4.85 kg.

*Includes Acetylene tip—other tips available.

CUTTER PAC® - ALTERNATE FUELS

MODEL SHOWN:
Cutter Pac®
Classic 62-5F Alternate
Fuel/Propane Gas
P/N: 4401639



CLASSIC 62-5F ALTERNATE FUEL/PROPANE GAS CUTTER PAC® *

Cuts up to 1" plate with supplied tip. Cuts up to 12" plate with larger tips.

PART #	MODEL #	TORCH	TORCH LENGTH	TORCH HEAD ANGLE	CUTTING TIP*	REGULATORS		WEIGHT
						OXYGEN	FUEL	
4401639	6225FGX-510P	62-5F	18"	90°	6290-1NX	25GX-145-540	25GX-50-510P	10.68 lbs./ 4.84 kg.

*Includes Propane tip—other alternate fuel tips available.



HARDHAT™ SERIES

ALL HARDHAT KITS FEATURE FLASHBACK ARRESTORS



MODEL SHOWN:
Oxygen 88-5N FBTR
P/N: 4301628

MODEL SHOWN:
Fuel 88-5N FBTL
P/N: 4301629

CLASSIC HARDHAT™ CUTTER PAC® - ALL FUEL GASES

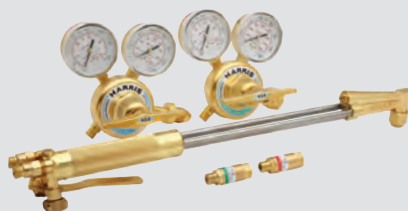
CLASSIC 62-5E ALL FUEL CUTTER PAC®

Cuts up to 12" plate with optional tips.

PART #	MODEL #	TORCH	FLASHBACK ARRESTORS		TORCH LENGTH	TORCH HEAD ANGLE	REGULATORS		WEIGHT
			OXYGEN	FUEL			OXYGEN	FUEL	
4401739	62450E-510	62-5EL-21	88-5N FBTR	88-5N FBTL	21"	90°	450-125-540	450-15-510	14.20 lbs. / 6.44 kg.

CLASSIC HARDHAT™ CUTTER PAC® - ALTERNATE FUELS

MODEL SHOWN:
Classic Hardhat
Cutter Pac®
P/N: 4401735



MODEL SHOWN:
Classic Hardhat
Cutter Pac®
P/N: 4401732



CLASSIC HARDHAT CUTTER PAC®

Cuts up to 12" plate with optional tips.

PART #	MODEL #	TORCH	FLASHBACK ARRESTORS		TORCH LENGTH	TORCH HEAD ANGLE	REGULATORS		WEIGHT
			OXYGEN	FUEL			OXYGEN	FUEL	
4401735	62450F-510P	62-5FL-21	88-5N FBTR	88-5N FBTL	21"	90°	450-125-540	450-50-510P	13.5 lbs. / 6.12 kg.
4401733	62425F-510P	62-5FL-21	88-5N FBTR	88-5N FBTL	21"	90°	425-125-540	425-50-510P	13.5 lbs. / 6.12 kg.

CLASSIC HARDHAT CUTTER PAC®

Cuts up to 6" plate with optional tips.

PART #	MODEL #	TORCH	FLASHBACK ARRESTORS		TORCH LENGTH	TORCH HEAD ANGLE	REGULATORS		WEIGHT
			OXYGEN	FUEL			OXYGEN	FUEL	
4401734	42450F-510P	42-4FL-20	88-5N FBTR	88-5N FBTL	20"	90°	450-125-540	450-50-510P	13.5 lbs. / 6.12 kg.
4401732	42425F-510P	42-4FL-20	88-5N FBTR	88-5N FBTL	20"	90°	425-125-540	425-50-510P	13.5 lbs. / 6.12 kg.

MODEL SHOWN:
Classic Hardhat
Alternate Fuel Cutter Pac®
P/N: 4401743



MODEL SHOWN:
Classic Hardhat
All Fuel Cutter Pac®
P/N: 4401739



CLASSIC HARDHAT ALTERNATE FUEL COMBO KIT

Maximum capacity. Cuts up to 12" plate with optional tips.

PART #	MODEL #	TORCH HANDLE	FLASHBACK ARRESTORS		MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		WEIGHT
			OXYGEN	FUEL					OXYGEN	FUEL	
4401743	43450F-510P	43-2	88-5N FBTR	88-5N FBTL	—	—	49-3F	—	450-125-540	450-50-510P	15.5 lbs. / 7.03 kg.



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

KITS

147

CLASSIC HARDHAT™ V-SERIES® COMBINATION KITS - ALL FUEL GASES

MODEL SHOWN:
V-Series® Hardhat
P/N: 4401737



MODEL SHOWN:
V-Series® Hardhat
P/N: 4401742



V-SERIES® HARDHAT

Cuts up to 6" plate, welds up to ½" plate with optional tips.

PART #	MODEL #	TORCH HANDLE	FLASHBACK ARRESTORS		CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		WEIGHT
			OXYGEN	FUEL			OXYGEN	FUEL	
4401741	V-315450-300	V-315C	88-5N FBTR	88-5N FBTL	V-2460	—	450-125-540	450-15-300	13.8 lbs. / 6.26 kg.
4401737	V-315450-510	V-315C	88-5N FBTR	88-5N FBTL	V-2460	—	450-125-540	450-15-510	13.8 lbs. / 6.26 kg.
4401740	V-315425-300	V-315C	88-5N FBTR	88-5N FBTL	V-2460	—	425-125-540	425-15-300	11.6 lbs. / 5.26 kg.
4401736	V-315425-510	V-315C	88-5N FBTR	88-5N FBTL	V-2460	—	425-125-540	425-15-510	11.6 lbs. / 5.26 kg.

V-SERIES® HARDHAT

Cuts up to 4" plate, welds up to ½" plate with optional tips.

PART #	MODEL #	TORCH HANDLE	FLASHBACK ARRESTORS		CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		WEIGHT
			OXYGEN	FUEL			OXYGEN	FUEL	
4401738	V-100C450-510	V-100C	88-5N FBTR	88-5N FBTL	V-1350	—	450-125-540	450-15-510	11.2 lbs. / 5.08 kg.
4401742	V-100C425-300	V-100C	88-5N FBTR	88-5N FBTL	V-1350	—	425-125-540	425-15-300	11.2 lbs. / 5.08 kg.



NOW THAT'S A HOT TIPSM

Harris offers a complete line of air fuel equipment.
Call customer service at 1.800.241.0804
and request the HVAC/R & Plumbing catalog
P/N: 9500980



VISIT OUR WEBSITE
Go to www.harrisproductsgroup.com

4000° —
—
3800° —
—
3600° —
—
3400° —
—
3200° —
—
3000° —
—
2800° —
—
2600° —
—
2400° —
—
2200° —
—
2000° —
—
1800° —
—
1600° —
—
1400° —
—
1200° —
—
1000° —
—

GAS DISTRIBUTION



GET CONNECTED

Go to twitter.com/HarrisProducts

LASER KITS

BASIC LASER GAS START-UP KITS



TYPICAL APPLICATION

Harris Universal Basic Laser Start-Up Kits provide the most common equipment necessary for supplying resonator and assist gases to the laser. Basic kits contain high purity regulators for resonator gases, high-flow dome-loaded regulators for nitrogen and oxygen assist gases. Laser grade hose is included for the resonator gas, as well as, two high-capacity hoses for the assist gases and various fittings.

DETAILS:

- High purity laser gas regulator with purge for resonator kits
- High flow dome loaded regulators for N_2 and O_2 for assist kits
- High flow assist gas and high purity laser hose for assist kits
- Assorted fittings for easy hook-up



PART #	DESCRIPTION
4703521	Universal Basic Assist Gas Start-Up Kit
4703522	Harris Basic Resonator Laser Start-Up Kit, Premix Gas Universal
4703519	Harris Basic Resonator Laser Start-Up Kit, 3-Gas Universal

PREMIUM LASER GAS START-UP KITS



TYPICAL APPLICATION

Harris Universal Premium Laser Start-Up Kits provide the essential equipment for supplying resonator and assist gases from source to point-of-use. All premium kits include switchover systems for the resonator gases, high-flow dome-loaded regulators for the assist gases and cylinder process stations. Premium kits also include purges and "T" filters to protect laser optics and various fittings.

DETAILS

- High purity laser gas switchover with purges
- High flow dome loaded regulators for N_2 and O_2
- High flow assist gas and high purity laser hose
- T-Type particle filters to protect optics
- Assorted fittings for easy hook-up



PART #	DESCRIPTION
4703515	Universal Premium Assist Gas Start-Up Kit
4703518	Nitrogen Only Premium Assist Start-Up Gas Kit
4703514	Premium Mazak® Laser Start-Up Kit Resonator and Assist Gas
4703516	Harris Premium Laser Start-Up Kit, Premix Universal
4703517	Harris Premium Laser Start-Up Kit, 3-Gas Universal

TWO-GAS BLENDERS

FOR WELDING GASES AND OTHER APPLICATIONS



DESCRIPTION

Harris offers a full range of industrial gas blenders for a wide array of applications including welding processes, packaging and food service. These gas blenders are designed to create a custom gas mixture defined by the user with the turn of a single knob.

FEATURES

- Variable ratios up to 100% on some Models
- Flow ranges up to 2500 SCFH
- 1/4" NPT or 1/2" NPT inlet/outlet connection
- Accuracy +/- 2%



PART #	MODEL #	GAS SERVICE	MAXIMUM FLOW	RANGE	RECEIVER TANK REQUIRED
4302053	US-S10-1	Ar/CO ₂	500 SCFH	0-100% CO ₂ in Ar	No
4302054	US-S10-2	Ar/O ₂	500 SCFH	0-25% O ₂ in Ar	No
4302063	US-S10-3	Ar/He	500 SCFH	0-100% He in Ar	No
4302068	US-S10-4	N ₂ /O ₂ s	500 SCFH	0-25% O ₂ in N ₂	No
4302070	US-L20-1	Ar/CO ₂	700 SCFH	0-100% CO ₂ in Ar	Yes (included)
4302071	US-L20-2	Ar/O ₂	700 SCFH	0-25% O ₂ in Ar	Yes (included)
4307072	US-L20-3	Ar/He	700 SCFH	0-100% He in Ar	Yes (included)
4302067	MG 75-2 Fixed	Ar/CO ₂	2500 SCFH	Custom Fixed Blend of Ar/CO ₂ (specify when ordering)	Not required
4302066	MG 75-2 Flex	Ar/CO ₂	2500 SCFH	Variable Ratio of Ar/CO ₂ from 5-41%	Not required
ACCESSORY					
4302076	Oxybaby M+	CO ₂ and O ₂ Blends	N/A	CO ₂ and O ₂ Gas Analyzer	N/A

GAS MANIFOLDS

BOXED SWITCHOVER MANIFOLDS



MODEL 220 AND 220HP —

High pressure cylinder switchover systems

The Models 220 and 220HP are automatic switchover systems designed to provide uninterrupted gas supply from high pressure gas cylinders.

MODEL 240 AND 240HP —

Liquid cylinder switchover systems

The Models 240 and 240HP are automatic switchover systems designed to provide uninterrupted gas supply from liquid cylinders.

See our INDUSTRIAL MANIFOLD BROCHURE (P/N: 9503065)
Order online www.harrisproductsgroup.com



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

GAS DISTRIBUTION

151

GAS MANIFOLDS

OPEN SWITCHOVER SYSTEMS



MODEL 260 AND 260LE (LIQUID CYLINDER) — High pressure/high flow cylinder switchover systems

The Model 260 and 260 LE are automatic switchover systems designed to deliver flows to 5500 SCFH and pressures up to 500 psig. Typical applications include laser assist gas supply, bulk gas back-up and high flow blanketing.

FEATURES

- Outlet line control regulator included
- Max inlet 3000 PSIG for Model 260 and 350 PSIG for Model 260 LE
- 72" pigtails with integral check valves
- Inlet/outlet 1/2" NPT
- Stainless steel panel
- Model 260 LE has built-in gas economizer circuit



PART #	DESCRIPTION	GAS SERVICE
4701502	Model 260 Switchover (250 PSI)	Industrial High Purity
4701508	Model 260-IR42-1L72-580 (250 PSI)	Ar/He/N ₂
4701525	Model 260-IR72-1L72-540	Oxygen

* For a complete listing, see the Gas Distribution systems catalog

MODEL 900 — High Purity or Industrial Switchover System

The Model 900 is an automatic switchover system designed to provide uninterrupted gas supply from cylinders.

FEATURES

- Outlet line control regulator included
- Max inlet 3000 PSIG
- Delivery pressure 0-125 PSIG
- Inlet/Outlet 1/4" NPT
- Max flow up to 750 SCFH
- Can be used with industrial or high-purity gases



PART #	DESCRIPTION	GAS SERVICE
4700232	Model 900 Switchover 125 PSI	Industrial High Purity
4700250	Model 900BR-IR-IL-580	Ar/He/N ₂
4700247	Model 900BR-IR-IL-540	Oxygen
4700233	Model 900BR-IR-IL-320	CO ₂

*For a complete listing, see the Gas Distribution systems catalog

MODEL 905 — Economical High Purity or Industrial Switchover System

The Model 905 is a compact economical automatic switchover system designed to provide uninterrupted gas supply from cylinders.

FEATURES

- Compact design
- Includes outlet line control regulator
- Delivery pressure 0-125 PSIG
- Inlet/Outlet 1/4" NPT
- 24" or 36" pigtails available
- Can be used with industrial or high-purity gases



PART #	DESCRIPTION	GAS SERVICE
4701204	SG905-125 Switchover	Industrial or High Purity
4701240	SG905-IR-IL-580	Ar/He/N ₂
4701239	SG905-IR-IL-580	Oxygen

*For a complete listing, see the Gas Distribution systems catalog

For more information on Harris' complete line of manifolds, see the Gas Distribution Systems catalog.

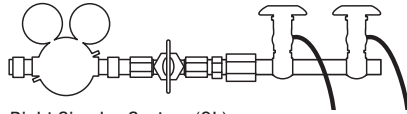
GAS MANIFOLDS

SIMPLEX AND DUPLEX ALL BRASS INDUSTRIAL MANIFOLDS

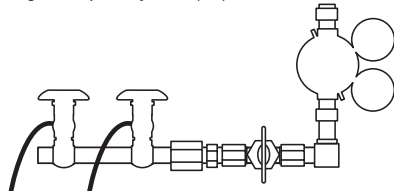


MODEL 200 — Single Regulator Simplex (R or L) or Duplex System

The Model 200 is a manual switchover system for single source or dual source gas supply. High flow Model 3510 line control regulator sold separately.



Right Simplex System (OL)



Left Simplex System (OR)



MODEL 210* — Duplex Automatic Switchover/Manual Reset System

The Model 210 is a basic automatic switchover system requiring manual resetting of cylinder tanks when empty.

*Line control regulator sold separately.

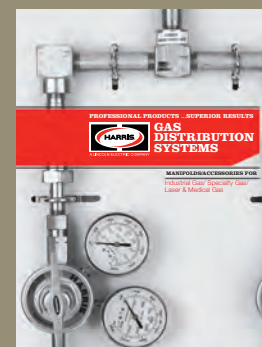


LOOKING FOR SPECIALTY GAS REGULATORS OR MANIFOLDS?

Contact your Harris Products Group Representative in your area:
1-800-241-0804



P/N: 9505646



P/N: 9505658



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

GAS DISTRIBUTION

153

ACCESSORIES



GET CONNECTED

Go to www.youtube.com/harrisproductsgroup

REGULATOR AND TORCH ACCESSORIES

GAUGES

1½" DUAL SCALE STEEL (PSI/kPA)

PART #	PRESSURE PSI/kPA
9006044	30/200 Red Zone
9006051	30/200
9006035	150/1,000
9006030	400/2,800
9006025	4,000/28,000

NOTE: 1/8-NPT Stem

2" DUAL SCALE STEEL (PSI/kPA)

PART #	PRESSURE PSI/kPA
9006127	30/200 Red Zone
9006128	30/200
9006120	60/400
9006125	150/1,000
9006130	400/2,800
9006131	1,000/700
9006135	4,000/28,000

NOTE: 1/4-NPT Stem

2½" DUAL SCALE BRASS (PSI/kPA)

PART #	PRESSURE PSI/kPA
9006100	30/200 Red Zone
9006070	60/400
9006077	100/700
9006065	200/1,400
9006060	400/2,800
9006085	2,000/14,000
9006050	4,000/28,000

NOTE: 1/4-NPT Stem

2½" DUAL SCALE BRASS PLATED (PSI/BAR)

PART #	PRESSURE PSI/BAR
9006118	30/2
9006289	100/7
9006109	200/14
9006108	400/28
9006117	500/35
9006302	600/40
9006203	3,000/200
9006107	4,000/280
9006252	6,000/400
9006251	10,000/700

NOTE: 1/4-NPT Stem

2½" DUAL SCALE STEEL (PSI/ kPa)

PART #	PRESSURE PSI/BAR
9007248	30/200 Red Zone
9007249	30/200
9007246	60/400
9007247	200/1,400
9007250	400/2,800
9007251	1,000/7,000
9007252	4,000/28,000

NOTE: 1/4-NPT Stem

FLOWGAUGES* 1/4-NPT

PART #	SIZE	FLOW SCFH	(DRILL) %" F
9006133	2"	0-60	(#59-P/N 9100408)
9006417	2"	5-30	(#64-P/N 9100906)
9006139	2½"	0-100	(#76-P/N 9100908)

NOTE: 1/4-NPT Stem

*Flowgauge must be matched with the proper drilled orifice and gas to be accurate.



50MM DUAL SCALE ABS (PSI/BAR)

PART #	PRESSURE PSI/BAR
9006257	30/2
9006255	100/7
9006256	400/28
9006254	4000/300

NOTE: 1/8-BSP Stem - Requires Gasket P/N: 9000643

50MM DUAL SCALE ABS (SCFH/LPM)

PART #	PRESSURE SCFH/LPM
9006253	60 CFH/30 LPM
9006303	60 CFH/15 LPM

NOTE: 1/8-BSP Stem - Requires Gasket P/N: 9000643

REGULATOR AND TORCH ACCESSORIES

TIP NUTS

PART #	MODEL #	DESCRIPTION
9002560	6259-B	Tip Nut (for 98, 62, 72-3, 71-3,39-3, 49-3 and 42-4)
9005227	7259-2R	Tip Nut (for V-1350)
9005236	6259-V	Tip Nut (for V-2460, V-62 and V-242)
9002537	213159	Tip Nut (for 2101, 3101 and 880)
9002925	110059	Tip Nut (for 1000)
9008437	3659-1	Tip Nut (for 36 CAs)



"V" Series



Classic Series

NEEDLE VALVES-NPT

PART #	INLET	OUTLET
9100412	1/4"	1/4"
9100416	1/4"	3/16"-18 RH
9100414	1/4"	3/16"-18 LH



HOSES

PART #	DESCRIPTION
4300556	3/16" x 12' twin hose
4300725	3/16" x 12.5' twin hose, B & B fittings, "T" grade
4300005	3/16" x 12' twin hose, A & B fittings
4300771	3/16" x 12.5' twin hose, A & B fittings, "T" grade*
4300499	3/16" x 20' twin hose
4300532	3/16" x 20' twin hose, "T" grade*
4300772	3/16" x 20' twin hose, A & B fittings, "T" grade*
4300583	1/4" x 12.5' twin hose, "T" grade*
4300500	1/4" x 20' twin hose
4300533	1/4" x 20' twin hose, "T" grade*
4300530	1/4" x 50' twin hose
4300138	3/16" x 10' single line inert gas hose

*Recommended for Alternate Fuels



OTHER ACCESSORIES ARE AVAILABLE

Contact your Harris Products Group Representative in your area:
1-800-241-0804

WELDING CABLE
SOAPSTONE
WELDING HELMETS
BRUSHES
GLOVES
CYLINDER CAPS

CHIPPING HAMMERS
WELPERS
LENSES
ANTI-SPATTER
FLINTS & LIGHTERS
GOUGING CARBONS
ELECTRODE HOLDERS



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

ACCESSORIES

155

REGULATOR AND TORCH ACCESSORIES

TIP CLEANERS

Always use the proper type and size tip cleaners. The right tip cleaner does the job more efficiently, maintaining the proper gas stream, and lessening the chance of permanent damage to more expensive torches and tips.

STANDARD TIP CLEANER

CLEANING INSTRUCTIONS: Care should be taken not to be too aggressive when cleaning tips. Always use the proper size tip cleaner and be careful not to enlarge or distort the original tip bore size.



C-9 Standard Tip Cleaner
MODEL SHOWN:
P/N: 9000156

LARGE TIP CLEANER

CLEANING INSTRUCTIONS: Care should be taken not to be too aggressive when cleaning tips. Always use the proper size tip cleaner and be careful not to enlarge or distort the original tip bore size.



D-9 For Large Bore Tips
MODEL SHOWN:
P/N: 9000158

TWO-PIECE AND DIVERGENT BORE TIP CLEANER

CLEANING INSTRUCTIONS: The wire brush included with tip cleaner E-9 (P/N: 9000160) should be used for cleaning preheat slots and for removing spatter from the tip face. When cleaning the preheat slots, do not brush across the slots as this motion can damage the slots. Always brush along the length of the slot to remove dirt or spatter.



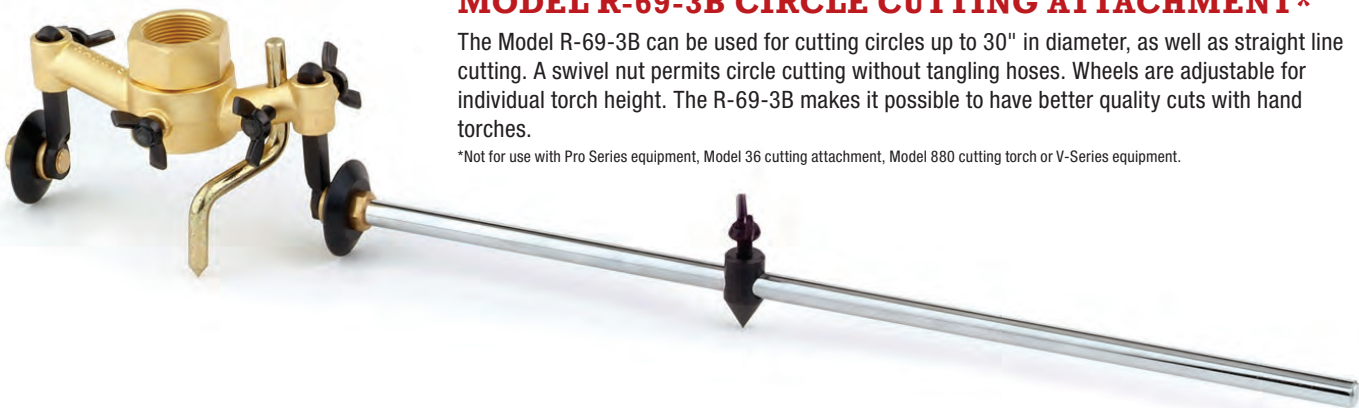
E-9 Two-piece Tip Cleaner
MODEL SHOWN:
P/N: 9000160

CIRCLE CUTTING ATTACHMENT

MODEL R-69-3B CIRCLE CUTTING ATTACHMENT*

The Model R-69-3B can be used for cutting circles up to 30" in diameter, as well as straight line cutting. A swivel nut permits circle cutting without tangling hoses. Wheels are adjustable for individual torch height. The R-69-3B makes it possible to have better quality cuts with hand torches.

*Not for use with Pro Series equipment, Model 36 cutting attachment, Model 880 cutting torch or V-Series equipment.



MODEL SHOWN:
P/N: 4300200

REGULATOR AND TORCH ACCESSORIES

INLET NUTS AND STEMS



CGA 200 "MC" Cylinder



CGA 300



CGA 320



CGA 326



CGA 346



CGA 350



CGA 510



CGA 520 "B" Cylinder



CGA 540



CGA 590



CGA 580



CGA 600

COMMON INLET NUTS AND STEMS

CGA CONN #	STANDARD CONN FOR (TYPE GAS)	NUT #	STEM # 1/4" NPT	RING #	NUT	STEM # 15MM
CGA 200	Acetylene	9003056 9005132	- 9005126	9004030 9005133	9005132 (Assembly 9100934)	9000667
CGA 300	Acetylene	9002984	9005108	9004030	9000699	9000693
CGA 320	Carbon Dioxide (Gasket 9002910)	9002986	9005114	9004030	9000659	9000661 9005692 (3 1/2")
CGA 326	Nitrous Oxide	9002966	9005149	9004030	-	-
CGA 346	Medical Air	9002969	9000319	9004030	-	-
CGA 350	Hydrogen	9003006	9005145	9004030	-	-
CGA 510	Acetylene LPG*	9002972 9002974	9005109 9005109	- -	9000968 9003119	9000647 9000647
CGA 520	Acetylene	9002980	9005125	9004030	9002980	9003118
CGA 540	Oxygen	9002950	9005110	9004030	9000671	9000673
CGA 580	Nitrogen, Argon, Helium	9003048	9005109	-	9000645	9000647 9005693 (3 1/2")
CGA 590	Industrial Air (Argon, Helium, Nitrogen)	9003052	9005109	-	-	-
CGA 600	LPG*	-	-	-	(Assembly 9101181)	-

*LPG compatible with all Liquid Petroleum Gases

SURGE GUARD PROTECTION

CGA CONN #	STANDARD CONN OXYGEN	STEM # 1/4" NPT
540	Oxygen	9105602



HIGH PRESSURE 5500 PSIG INLET STEMS AND NUTS

CGA CONN #	STANDARD CONN FOR (TYPE GAS)	NUT #	STEM # 1/4" NPT	RING #
CGA 347	Air	9003001	9005161	N/A
CGA 680	Argon, Helium, Nitrogen	9003000	9005160	N/A
CGA 695	Hydrogen	9002963	9005160	N/A
CGA 677	Argon, Helium, Nitrogen	9005197	9005196	N/A



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

ACCESSORIES

157

REGULATOR AND TORCH ACCESSORIES

OSHA COMPLIANT OXYGEN-FUEL QUICK CONNECTORS

FEATURES

- Long-lasting stainless steel pin connection
- Automatic gas cut-off feature to positively shut off the gas supply when disconnected
- Helps prevent theft by making it easier to take down and put away equipment
- Durable brass and stainless steel construction
- $\frac{9}{16}$ " - 18 "B" connections
- Meets OSHA 29CFR, 1926.350(f)(5) and ISO 7289



MODEL SHOWN:

Regulator Type Model 26-QCR (R&L)
P/N: 4301653 - (Sold in pairs only)



MODEL SHOWN:

Torch Type Model 26-QCT (R&L)
P/N: 4301654 - (Sold in pairs only)

REGULATOR OUTLET MOUNT TYPE

PART #	MODEL #	PACK	FUEL/OXYGEN
4301653	26-QCR (R&L)	Pairs only	Fuel and Oxygen

TORCH INLET TYPE

PART #	MODEL #	PACK	FUEL/OXYGEN
4301654	26-QCT (R&L)	Pairs only	Fuel and Oxygen

INERT QUICK CONNECTORS

HARRIS REGULATOR TO HOSE OR MACHINE TO HOSE QUICK CONNECTORS

FEATURES

- Long-lasting stainless steel pin connection
- Automatic gas cut-off feature to positively shut off the gas supply when disconnected
- Durable brass and stainless steel construction
- Available for regulator or machine mount
- Makes moving equipment fast and easy
- Flow up to 200 SCFH; pressure up to 200 PSIG



MODEL SHOWN:

Regulator to Hose Type
P/N: 4301613



MODEL SHOWN:

Hose to Machine Type
P/N: 4301614

REGULATOR TO HOSE TYPE

PART #	MODEL #	CONNECTIONS	GAS TYPE
4301613	IQC M-F	$\frac{5}{8}$ " - 18	Inert

HOSE TO MACHINE TYPE

PART #	MODEL #	CONNECTIONS	GAS TYPE
4301614	IQC F-M	$\frac{5}{8}$ " - 18	Inert

REGULATOR AND TORCH SAFETY ACCESSORIES

REGULATOR AND TORCH FLASHBACK ARRESTORS

FEATURES

- Prevents reverse flow of gases with built-in check valves
- Extinguishes flashback fire with stainless steel sintered element
- $\frac{9}{16}$ "-18 connections CGA "B" size
- 100 Micron inlet filter helps keep dust and dirt out
- Flow Capacity: Models 88-5FBT (R&L) and 88-5FBR (R&L) arrestors should not be used with tip sizes larger than those noted below:
 - Hand Cutting Tips: #5 (except for NFF Tips -#4)
 - Machine Cutting Tips: #5 1/2
 - Acetylene Heating Tips: #4
 - Alternate Fuel Heating Tips: #2
 - Cleaning Heads: #2 RBP (no limitation with RBA)



MODEL SHOWN:
Torch Type - Model 88-5FBT (R&L)
P/N: 4302202 - (Sold in pairs only)



MODEL SHOWN:
Regulator Type - Model 88-5FBR (R&L)
P/N: 4301651 - (Sold in pairs only)



B" HOSE ($\frac{9}{16}$ "-18) HIGH FLOW REGULATOR TYPE FLASHBACK ARRESTORS

FEATURES

- Same features as Model 88-5FBR (R&L) above, plus a thermal shut-off which positively shuts off the gas in case of hose fire, burn back or repeated flashbacks
- 100 Micron inlet filter helps keep dust and dirt out
- High flow capacity: can use all Harris tips featured in this catalog



MODEL SHOWN:
High-Flow Regulator Type -
Model 88-5FBHFR (R&L)
OXYGEN P/N: 4301652 - (Sold separately)
FUEL P/N: 4301655 - (Sold separately)



FLASHGUARD ($\frac{3}{8}$ "-14) TORCH TYPE ARRESTORS FOR HVAC APPLICATIONS

FEATURES

- Automatically stops flashback fire at the torch with stainless steel sintered element, no resetting necessary
- 100 Micron inlet screen helps keep dust and dirt out
- Prevents reverse flow of gases with built-in check valves
- Fits Harris HVAC torches ($\frac{3}{8}$ "-24 CGA "A" connections)



MODEL SHOWN:
Torch Type - Model 88-5FBT A (R&L)
P/N: 4302205 - (Sold in pairs only)



C" HOSE ($\frac{7}{8}$ "-14) HIGH FLOW REGULATOR TYPE FLASHBACK ARRESTORS

FEATURES

- Same features as Model 88-5FBHFR above except with $\frac{7}{8}$ "-14 connections CGA "C" size
- 100 Micron inlet screen helps keep dust and dirt out
- High flow capacity: can supply all Harris tips featured in this catalog



MODEL SHOWN:
High-Flow Regulator Type -
Model 88-5FBHFR C (R&L)
OXYGEN P/N: 4300235 - (Sold separately)
FUEL P/N: 4300236 - (Sold separately)



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

ACCESSORIES

159

REGULATOR AND TORCH SAFETY ACCESSORIES

FLASHGUARD® CHECK VALVES

Check valves fully open with only ounces of pressure. If reverse flow starts, the valve closes immediately for total shut-off.

FEATURES

- High capacity: adequate for cutting 15 steel and for operating the largest heating torches
- Quality manufacture: valve spring made of stainless steel for long life
- 100% production tested: individually tested and packaged immediately to assure cleanliness
- 1/16"-18 connections
- Conforms to OSHA regulations



MODEL SHOWN:
88-6CVRL
P/N: 4300384

MODEL SHOWN:
88-6CVRR
P/N: 4300383



MODEL SHOWN:
88-7CVRL
P/N: 4300382

MODEL SHOWN:
88-6CVRR
P/N: 4300383

REGULATOR OUTLET CHECK VALVES

REGULATOR OUTLET MOUNT TYPE

PART #	MODEL #	PACK	FUEL/OXYGEN
4300389	88-6CVR (R&L)	Pair	Fuel and Oxygen
4300384	88-6CVL	Individual	Fuel
4300383	88-6CVR	Individual	Oxygen

Regulator Type - Model 88-6CVR (R&L)- Mounts on regulator outlet.
P/N: 4300389 (Blister pack pair)

REGULATOR OUTLET REPLACEMENT TYPE

PART #	MODEL #	PACK	FUEL/OXYGEN
4300382	88-7CVRL	Individual	Fuel
4300381	88-7CVRR	Individual	Oxygen

Regulator Type - Mount 88-7CVR-Permanently mounts in the regulator, replacing the outlet nipple. (Sold separately only)

TORCH TYPE CHECK VALVES

TORCH INLET MOUNT TYPE

PART #	MODEL #	PACK	FUEL/OXYGEN
4300390	88-6CVT (R&L)	Pair	Fuel and Oxygen
4300161	88-6CVTL	Individual	Fuel
4300162	88-6CVTR	Individual	Oxygen

Torch Type - Model 88-6CVT (R&L) P/N: 4300390, Blister pack pair



MODEL SHOWN:
88-6CVTL
P/N: 4300161

MODEL SHOWN:
88-6CVTR
P/N: 4300162

TORCH TYPE HVAC CHECK VALVES

"A" TYPE (1/8" - 24) CHECK VALVES

PART #	MODEL #	PACK	FUEL/OXYGEN
4300835	88-6CVTA (R&L)	Pair	Fuel and Oxygen



MODEL SHOWN:
88-6CVTA (R&L)
P/N: 4300835

GAUGE GUARDS

FEATURES

- Sturdy, heavy duty gauge guard that can withstand multiple impacts
- 100% carbon steel construction
- Not stamped - laser cut and hand TIG welded fabrication
- Easy gas identification with color coded exterior (green for oxygen and red for fuel)
- Powder coated surfaces that will not fade from exposer sunlight and harsh environments
- Cork lined clamp band for contact with the regulator that will not damage regulator finish and dampens vibration that may cause guard to loosen
- Clear unobstructed view of pressure readings with complete protection of the gauges
- Fits Harris models 25GX, 425, 45, 45S and 25 regulators



MODEL SHOWN:
GREEN (OXYGEN)
P/N: 4300239



MODEL SHOWN:
RED (FUEL)
P/N: 4300238

MACHINE CUTTING ACCESSORIES

The Harris Straight Line Cutting Machine can be used for flame and plasma cutting for both Models 98 & 80. Each machine has with on/off magnets for easy set-up and positive positioning on magnetic material. Included with every machine is a quick-acting manifold that eliminates the need to reset the torch when flame cutting. It's easy to take the machine to the job site. The machine is compact, lightweight and has a convenient carrying handle. Cut surfaces are smooth and accurate so that grinding and restarts are basically eliminated.

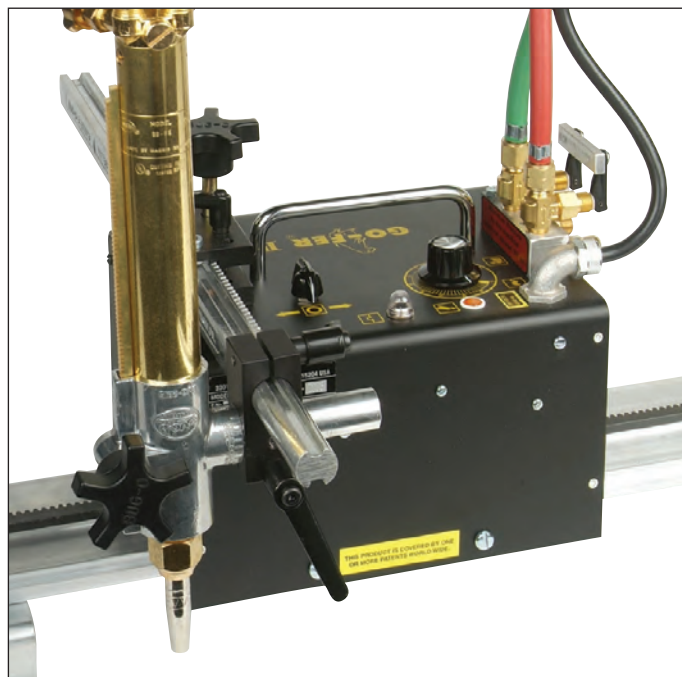
FEATURES

- Positive rack and pinion drive
- Wide speed range (5-100 I.P.M.)
- Dynamic brake
- Convenient carrying handle
- Torch holder assembly for standard 1 1/2" barrel/32 pitch rack

PART #	MODEL #	DESCRIPTION
4300950	GOF-3250-HS	Deluxe Cutting Machine
Replacement Parts		
4300951	ARM-2505	Spacer bar assembly
4300952	ARM-2500	On/Off magnet plate assembly
4300953	ARM-1080	Heavy duty rigid rail 93.5" (2.37m)
4300962	BUG-2915	Torch holder assembly
4300954	ARR-1085	Heavy duty rigid rail 48" (1.18m)
4300955	BUG-2975	Plasma cable mounting assembly

TECHNICAL DATA

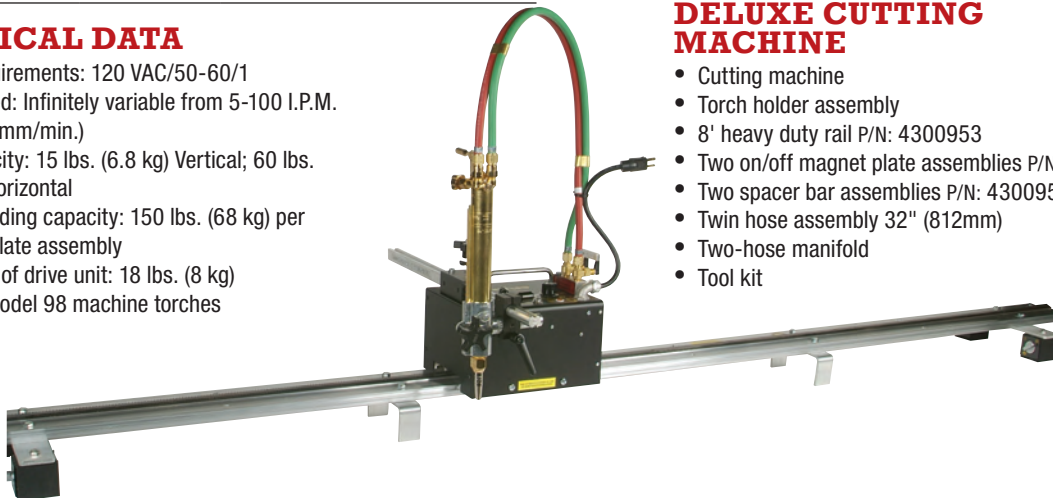
- Power requirements: 120 VAC/50-60/1
- Travel speed: Infinitely variable from 5-100 I.P.M. (127-2450 mm/min.)
- Load capacity: 15 lbs. (6.8 kg) Vertical; 60 lbs. (27.3 kg) Horizontal
- Magnet holding capacity: 150 lbs. (68 kg) per magnetic plate assembly
- Net weight of drive unit: 18 lbs. (8 kg)
- Use with Model 98 machine torches



DELUXE CUTTING MACHINE

MODEL SHOWN:
P/N: 4300950
Torch not included

- Cutting machine
- Torch holder assembly
- 8' heavy duty rail P/N: 4300953
- Two on/off magnet plate assemblies P/N: 4300952
- Two spacer bar assemblies P/N: 4300951
- Twin hose assembly 32" (812mm)
- Two-hose manifold
- Tool kit



ACCESSORIES FOR MODEL 98-6 TORCHES



MODEL SHOWN:
BV-98-2 Beveling Head
P/N: 1200124

Increases speed of quality bevel cuts. Preheat tip swivels for either left or right travel. Equipped with 1390-3H heating tip. Use with natural gas or propane 6290 tips (not included).



MODEL SHOWN:
S-98-C Adjustable Tip Adapter
P/N: 1200080

Adjust tip to any angle without moving the torches. Use with any 6290 tips (not included).



MODEL SHOWN:
Model TH-98 Adjustable Twin Tip Holder
P/N: 1200090

For making two cuts simultaneously with one torch. Adjust from 1 1/2" to 12" width. Use with any 6290 tips (not included).



THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

ACCESSORIES

161

PIPELINE AND MANIFOLD ACCESSORIES

REMOTE ALARM KITS NOT FOR FUEL GAS SERVICE

PART #	DESCRIPTION	USE WITH MANIFOLD SERIES
4300698	A/V Alarm Box	220 and 240 Systems
4300699	10ft Cable	220 and 240 Systems
4300709	50ft Cable	220 and 240 Systems

REMOTE ALARM KITS FOR FUEL GAS SERVICE

PART #	GAS SERVICE	DESCRIPTION	USE WITH MANIFOLD SERIES
4300343	Acetylene	Visual and audio	Optional on 220 Acetylene Systems
4300344	Hydrogen	Visual and audio	Optional on 220 Hydrogen Systems
4300345	LPG Gases	Visual and audio	Optional on 220 LPG Gas Systems



FUEL GAS SAFETY KITS (Kit includes piping)

PART #	GAS SERVICE	DESCRIPTION	FLOW CAPACITY	USE WITH MANIFOLD SERIES	RELIEF VALVES
4300346	LPG/H ₂	Dry Arrestor Kit	300 SCFH	Optional on 220 LPG/H ₂ Systems	35 PSIG
4300347	Acetylene	Hydraulic Arrestor Kit	300 SCFH	Optional on 220 Acetylene Systems	20 PSIG

PIPELINE FLASHBACK ARRESTORS

8530 AND 147 MODELS DRY TYPE FLASHBACK ARRESTOR SYSTEMS

Flashback arrestors incorporate ASME relief valves and check valves in their design. They meet the requirements of NFPA 51 in oxy-fuel gas piping systems. Unlike hydraulic flash arrestors, dry arrestors are virtually maintenance free, do not require fluid, take up less space and provide continuous safe operation in fuel gas distribution systems. BAM/ABZ/003 Approved.

8530 AND 147 FEATURES

- High surface area stainless steel flash arrestor material extinguishes flashback
- Temperature sensitive shut-off valve extinguishes sustained flashbacks
- Check valve prevents reverse flow from forming explosive mixtures in the gas supply system
- Can be mounted in any position

PART #	MODEL #	GAS	FLOW SCFH	INLET/OUTLET	RELIEF VALVE
4300222	8530-A-1"	Acetylene	750	1" NPT	20 PSIG
4300221	8530-A-½"	Acetylene	750	½" NPT	20 PSIG
4300223	8530-FG-1"	LPG, Natural Gas, H ₂	1000	1" NPT	40 PSIG
4300224	8530-FG-½"	LPG, Natural Gas, H ₂	1000	½" NPT	40 PSIG
4300228	147-OX-1"	Oxygen	5000	1" NPT	225 PSIG
4300229	147-OX-½"	Oxygen	5000	½" NPT	225 PSIG

HYDRAULIC FLASHBACK ARRESTORS

PART #	DESCRIPTION	GAS	FLOW CAPACITY	INLET/OUTLET	RELIEF VALVE
4300350	Hydraulic Arrestor	Acetylene	300 SCFH	1" NPT	20 PSIG
4300354	Hydraulic Arrestor	LPG, Natural Gas, H ₂	300 SCFH	1" NPT	40 PSIG
4300357	Floor Stand	LPG, Natural Gas, H ₂	-	-	-



PIPELINE AND MANIFOLD ACCESSORIES

HEADER EXTENSION

PART #	MATERIALS	LENGTH	CONNECTIONS	HEADER PLUG
9103300	Brass	10"	½" NPT	9005711
9103304	Stainless Steel	10"	½" NPT	9005715



ADJUSTABLE WALL BRACKET

PART #	DESCRIPTION
9103308	90°, Black, includes U-bolt and mounting clamp



HEADER AND STATION VALVES

PART #	MATERIAL	VALVE TYPE	INLET	OUTLET
9005700	Brass	Packed Stem	½" MNPT	580 CGA
9107062	Stainless Steel	Diaphragm	¼" MNPT	¼" NPT (F)
9005706	Brass	Master Shut-off Valve	½" NPT (F)	½" NPT (F)
9005086	Brass	Station Oxygen	½" MNPT	⅞"-14 RH
9005088	Brass	Station Fuel	½" MNPT	⅞"-14 LH



MODEL SHOWN:
Diaphragm Valve
P/N: 9107062



MODEL SHOWN:
Master Shutoff Valve
P/N: 9005706



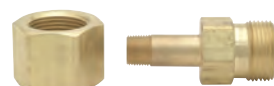
MODEL SHOWN:
Packed Stem Valve
P/N: 9005700



MODEL SHOWN:
Station Valve
P/N: 9005088

MANIFOLD CONNECTION FITTINGS

PART #	MATERIAL	VALVE TYPE	PRESSURE RATING PSIG
9005701	Brass	1.00-11.5 NPS union nut, RH	3000
9005725	Brass	1.00-11.5 NPS union nut, LH	3000
9005703	Brass	½" NPT union nipple, 3" long	3000
9005759	Brass	¾" NPT union nipple, 3" long	3000
9005708	Brass	1.00-11.5 NPS x ½" NPT union bushing, RH	3000
9005726	Brass	1.00-11.5 NPS x ½" NPT union bushing, LH	3000
9005747	Brass	1.00-11.5 NPS x ¾" NPT union bushing, RH	3000
9005727	Brass	1.00-11.5 NPS x ¾" NPT union bushing, LH	3000



Union Nut

Union Bushing



Union Nipple

PIPELINE AND MANIFOLD ACCESSORIES

LOW PRESSURE/HIGH FLOW PIPELINE PARTICLE FILTER FOR OXYGEN, FUEL GASES AND INERT GASES

Removes dust, rust, scale and other particulate matter that can damage critical down stream components such as regulators, flash arrestors, valves, torches, etc. They feature an easy-to-replace 60 micron sinters bronze filter element.

FILTER FEATURES

- "T" style design allows filter replacement without removing from piping
- Low initial pressure drop within capacity of up to 25,000 SCFH (air)
- Pressure rating of up to 350 psi
- 1 year warranty
- Can be mounted in a vertical or horizontal position
- Cartridge included with filter

FILTER PART #	GAS	INLET/OUTLET	FLOW SCFH AIR @ 100 PSI
QC2HLF2560	Fuel	1" NPT (F)	25,000
QC2HLF2580	Oxygen/Inert	1" NPT (F)	25,000
QC2HLF2460	Fuel	¾" NPT (F)	20,000
QC2HLF2480	Oxygen/Inert	¾" NPT (F)	20,000
QC2HLF2360	Fuel	½" NPT (F)	14,000
QC2HLF2380	Oxygen/Inert	½" NPT (F)	14,000

CARTRIDGE PART #	FOR MODEL
QC2HLF2600	2400 and 2500
QC2HLF2610	2300



Filter

Cartridge

PIPELINE AND MANIFOLD ACCESSORIES

STATION DROPS

Equipped with an in-line shut-off valve, drip leg, outlet cap or plug, chain and labeled for the gas type.



MODEL SHOWN:
Single Outlet Drop
P/N: 4300361



MODEL SHOWN:
Double Outlet Drop
P/N: 4300393

PART #	GAS SERVICE	OUTLET CONNECTION	LENGTH	DESCRIPTION
4300361	Acetylene	⅜"-14 LH (M)	25"	½" Single Outlet Station Drop
4300362	Compressed Air	⅝"-18 RH (F)	25"	½" Single Outlet Station Drop
4300363	Argon	⅝"-18 RH (F)	25"	½" Single Outlet Station Drop
4300364	Carbon Dioxide	⅝"-18 RH (F)	25"	½" Single Outlet Station Drop
4300365	Helium	⅝"-18 RH (F)	25"	½" Single Outlet Station Drop
4300366	Hydrogen	⅜"-14 LH (M)	25"	½" Single Outlet Station Drop
4300367	Nitrogen	⅝"-18 RH (F)	25"	½" Single Outlet Station Drop
4300368	Oxygen	⅜"-14 RH (M)	25"	½" Single Outlet Station Drop
4300369	LPG Gases	⅜"-14 LH (M)	25"	½" Single Outlet Station Drop
4300391	Acetylene	⅜"-14 LH (M)	35"	½" Double Outlet Station Drop
4300392	Compressed Air	⅝"-18 RH (M)	35"	½" Double Outlet Station Drop
4300393	Argon	⅝"-18 RH (F)	35"	½" Double Outlet Station Drop
4300394	Carbon Dioxide	⅝"-18 RH (F)	35"	½" Double Outlet Station Drop
4300395	Helium	⅝"-18 RH (F)	35"	½" Double Outlet Station Drop
4300396	Hydrogen	⅜"-14 LH (M)	35"	½" Double Outlet Station Drop
4300397	Nitrogen	⅝"-18 RH (F)	35"	½" Double Outlet Station Drop
4300398	Oxygen	⅜"-14 RH (M)	35"	½" Double Outlet Station Drop
4300399	LPG Gases	⅜"-14 LH (M)	35"	½" Double Outlet Station Drop

TECHNICAL DATA

REGULATOR TECHNICAL DATA

REGULATOR PERFORMANCE DEFINITIONS

WHAT INFORMATION CAN BE DETERMINED FROM A FLOW CURVE?

The following sketch explains how to interpret the flow curves presented in this catalog.

Maximum Flow - A rating defined as the maximum amount a regulator can flow when the set delivery pressure approaches 0 PSIG (vertical axis on flow curve). This point on the curve represents a blanketing operation.

Rated Flow - A rating defined as 80% of the maximum flow. This point on the flow curve corresponds to typical operating conditions.

Note: All regulator flow curves in the catalog have been developed using air at 70°F. To obtain flow rates for other gases, multiply flow by the correction factor in Table 1a (to the right).

WHAT IS C_v ?

The C_v or the flow coefficient is a number that represents the flow capacity of a regulator for a given set of conditions. The C_v can be used to compare flow capacity between two regulators. The higher the C_v , the greater the flow capacity. The C_v values listed in this catalog represent the overall C_v of the regulator including the outlet fitting.

WHAT IS PRESSURE RISE?

Pressure rise is the change in set delivery pressure as a result of a drop or decay in inlet pressure. For example, the rise on a Model 25GX is expressed as 0.2 PSIG/100 PSIG. Regulators are measured on their ability to provide a flat delivery curve. Pressure rise can be used to explain the main advantage of two stage vs. single-stage. See pressure regulation chart.

WHAT IS CGA E-4?

CGA E-4 is a regulator standard developed by the Industrial Gas Apparatus Committee of the Compressed Gas Association. The standard defines product safety requirements, product test requirements and performance characteristics to meet field applications.

WHAT ARE GAS FLOW CORRECTION FACTORS?

Each gas has a different density and therefore flows at different rates under the same pressures and conditions. The correction factor compares their densities to air.

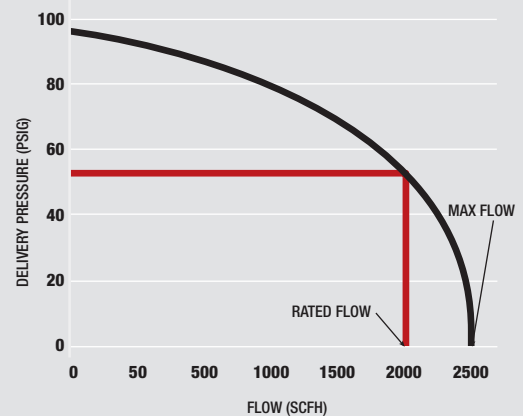
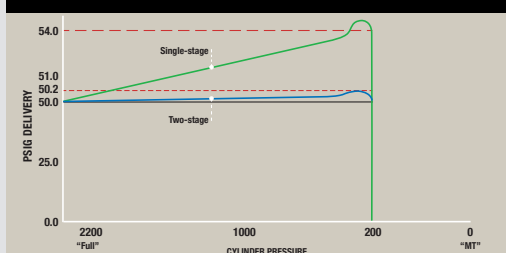


TABLE 1a. GAS CORRECTION FACTORS

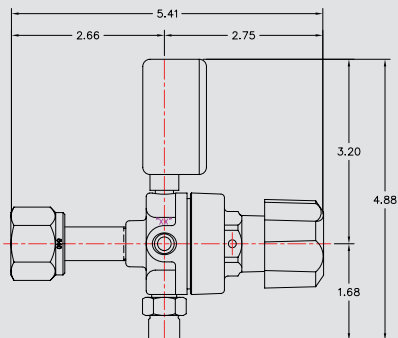
Carbon Dioxide	0.81
Propane	0.81
Propylene	0.83
Argon	0.85
Oxygen	0.95
Air	1.00
Nitrogen	1.02
Acetylene	1.05
Methane	1.34
Helium	2.69
Hydrogen	3.79

PRESSURE REGULATION



MODELS 601 & 301

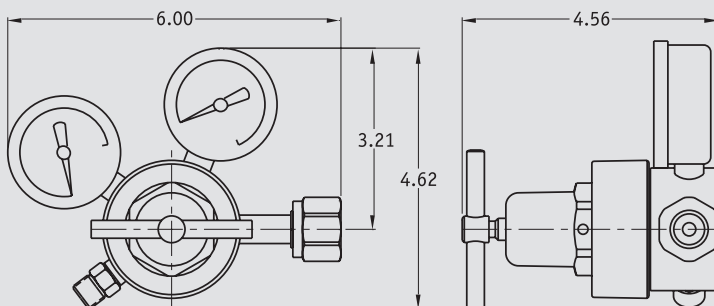
MODEL 601



DETAILS

Regulator Weight: 1.39 lbs./0.63 kg.
Pressure Rise: 0.43 PSIG per 100 PSIG
C_v: 0.08

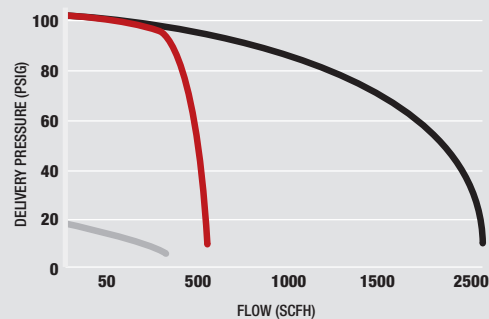
MODEL 301



DETAILS

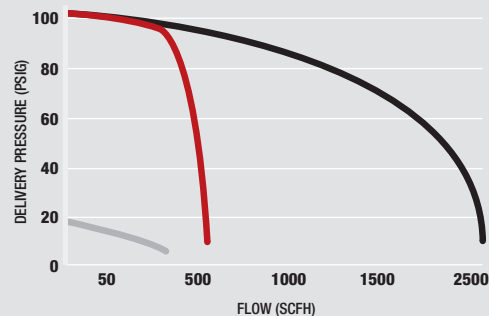
Regulator Weight: 2.2 lbs./0.99 kg
Pressure Rise: 0.4 PSIG per 100 PSIG
C_v: 0.08

PERFORMANCE CHART
 ALL FLOWS BASED ON AIR @ 70°F



MODEL 601 SINGLE-STAGE REGULATOR

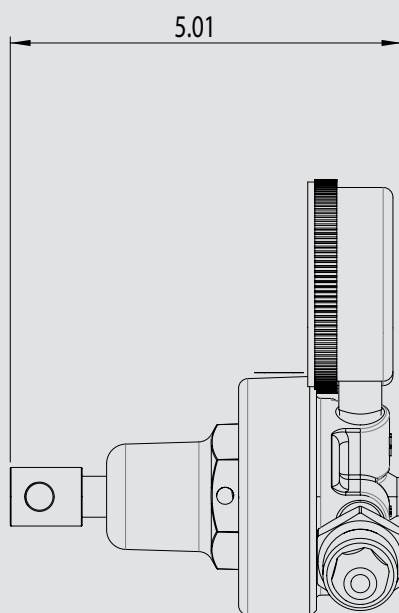
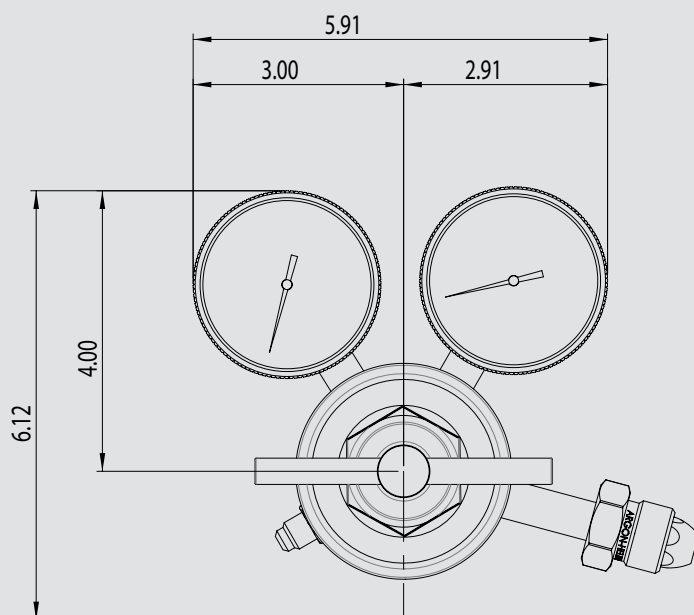
- 601-100 @ 2000 PSIG inlet
- 601-100 @ 200 PSIG inlet
- 601-15 @ 200 PSIG inlet



MODEL 301 SINGLE-STAGE REGULATOR

- 301-100 @ 2000 PSIG inlet
- 301-100 @ 200 PSIG inlet
- 301-15 @ 200 PSIG inlet

MODEL 25GX HVAC



DETAILS

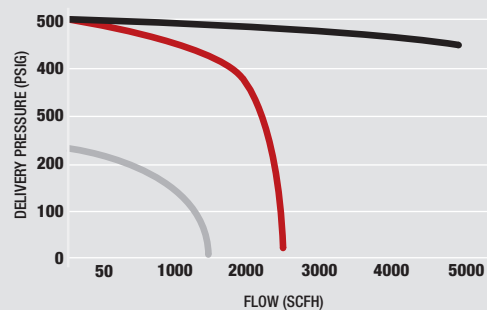
Regulator Weight: 3.2 lbs./1.45 kg

Pressure Rise: 0.2 PSIG per 100 PSIG

C_v: 0.17

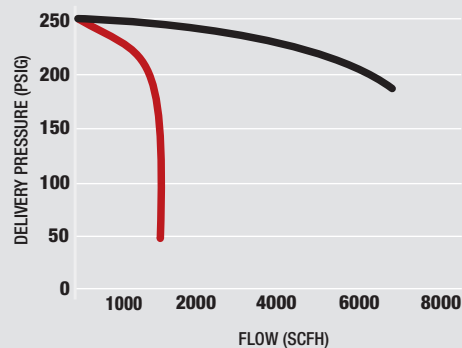
PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



MODEL 25GX-500 HIGH PRESSURE SINGLE-STAGE REGULATOR

- 25GX-500 @ 2000 PSIG inlet
- 25GX-500 @ 500 PSIG inlet

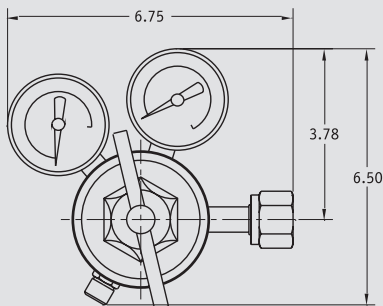


MODEL 25GX-250 HIGH PRESSURE SINGLE-STAGE REGULATOR

- 25GX-250 @ 2000 PSIG inlet
- 25GX-250 @ 250 PSIG inlet

MODELS 425, 29 & 25GX

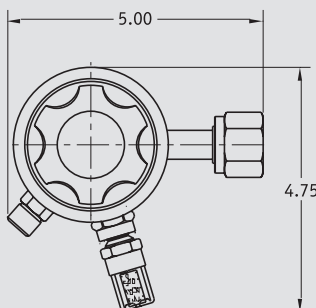
MODEL 425



DETAILS

Regulator Weight: 3.7 lbs. /1.67 kg.
Pressure Rise: 0.2 PSIG per 100 PSIG
C_v: 0.17

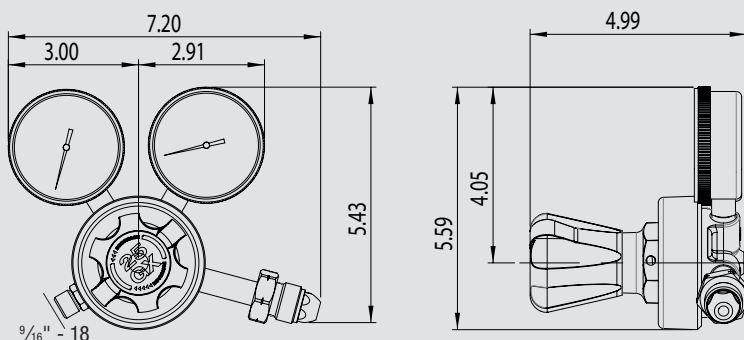
MODEL 29



DETAILS

Regulator Weight: 2.7 lbs./1.22 kg.
Pressure Rise: 0.2 PSIG per 100 PSIG
C_v: 0.17

MODEL 25GX

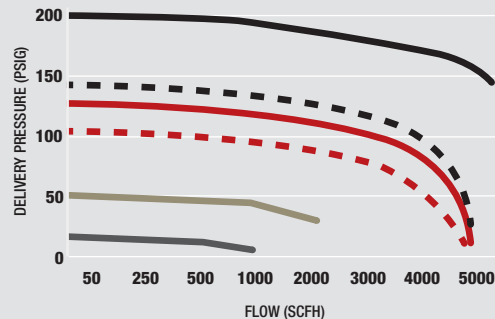


DETAILS

Regulator Weight: 3.2 lbs. /1.45 kg.
Pressure Rise: 0.2 PSIG per 100 PSIG
C_v: 0.17

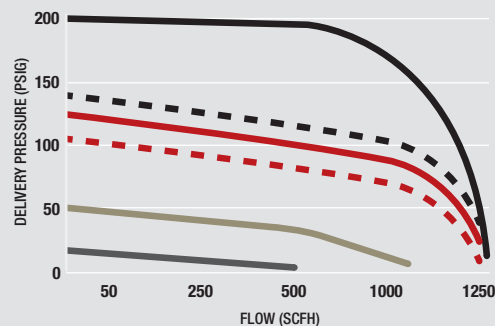
PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



MODEL 425, 29, 25GX AND 45 - 2000 PSIG INLET

- 425, 25GX-200@ 2000 PSIG inlet
- - 25GX-145@ 2000 PSIG inlet
- 425-125@ 2000 PSIG inlet
- - 29-100 @ 2000 PSIG inlet
- 425, 29, 25GX-50 @ 2000 PSIG inlet
- 425, 29, 25GX-15 @ 2000 PSIG inlet

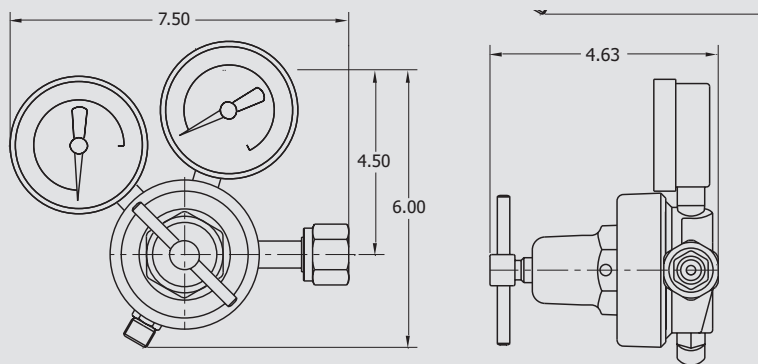


MODEL 425, 29, 25GX AND 45- 200 PSIG INLET

- 425, 25GX-200@ 200 PSIG inlet
- - 25GX-145@ 200 PSIG inlet
- 425-125@ 200 PSIG inlet
- - 29-100 @ 200 PSIG inlet
- 425, 29, 25GX-50 @ 200 PSIG inlet
- 425, 29, 25GX-15 @ 200 PSIG inlet

MODEL 45, 2500 & 450

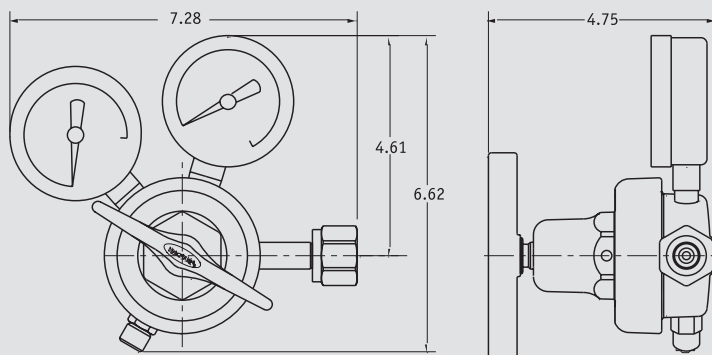
MODEL 45



DETAILS

Regulator Weight: 3.2 lb / 1.45 kg
Pressure Rise: 0.2 PSIG per 100 PSIG
C_v: 0.17

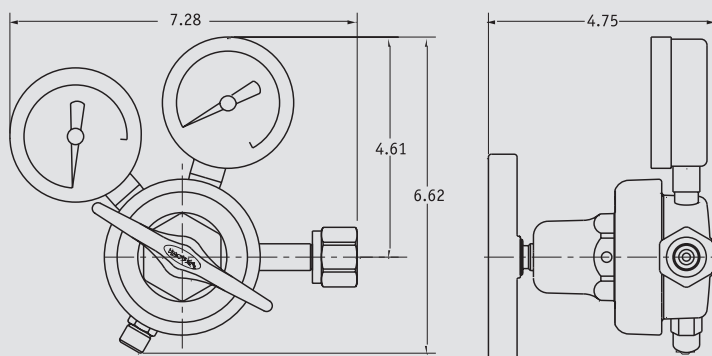
MODEL 2500



DETAILS

Regulator Weight: 4.6 lb / 2.09 kg
Pressure Rise: 0.3 PSIG per 100 PSIG
C_v: 0.17

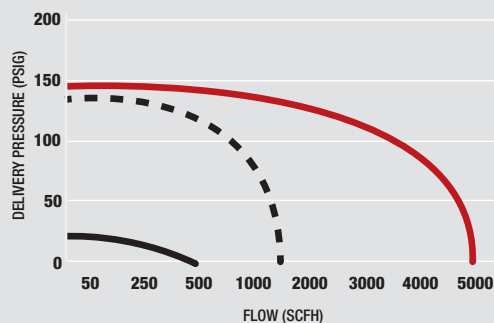
MODEL 450



DETAILS

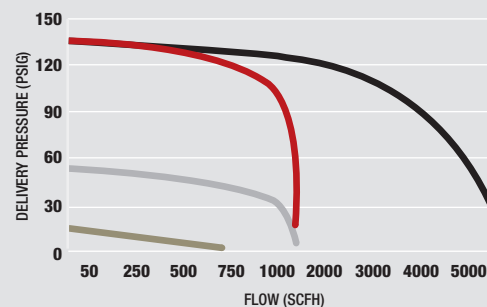
Regulator Weight: 4.6 lb / 2.09 kg
Pressure Rise: 0.3 PSIG per 100 PSIG
C_v: 0.17

PERFORMANCE CHART
 ALL FLOWS BASED ON AIR @ 70°F



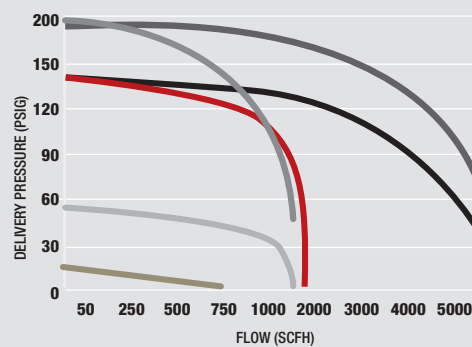
MODEL 45 SINGLE-STAGE REGULATOR

- 45-145 @ 2000 PSIG inlet
- - 45-145 @ 200 PSIG inlet
- 45-15 @ 200 PSIG inlet



MODEL 2500 SINGLE-STAGE REGULATOR

- 2500-125 @ 2000 PSIG inlet
- 2500-125 @ 200 PSIG inlet
- 2500-50 @ 200 PSIG inlet
- 2500-15 @ 200 PSIG inlet

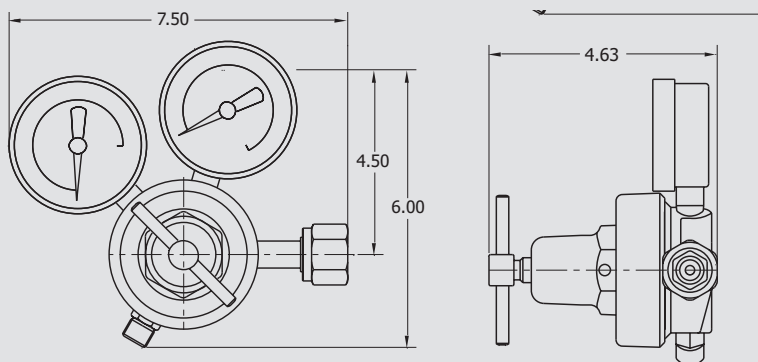


MODEL 450 SINGLE-STAGE REGULATOR

- 450-200 @ 200 PSIG inlet
- 450-200 @ 2000 PSIG inlet
- 450-125 @ 2000 PSIG inlet
- 450-125 @ 200 PSIG inlet
- 450-50 @ 200 PSIG inlet
- 450-15 @ 200 PSIG inlet

MODEL 45S & 330

MODEL 45S



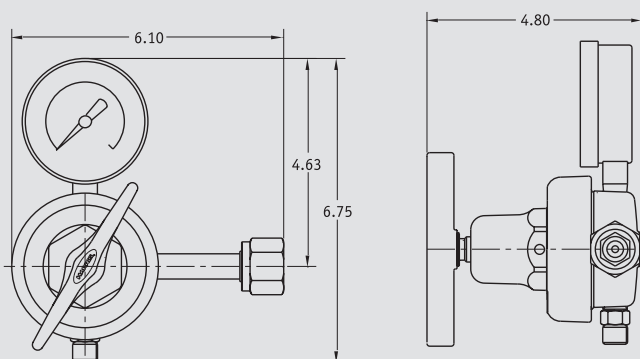
DETAILS

Regulator Weight: 3.2 lb / 1.45 kg

Pressure Rise: 0.3 PSIG per 100 PSIG

C_v: 0.17

MODEL 330



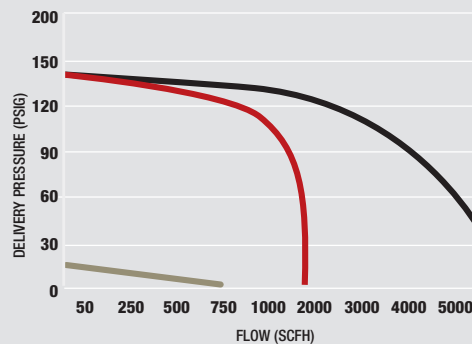
DETAILS

Regulator Weight: 4.3 lb / 1.95 kg.

C_v: 0.37

PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F

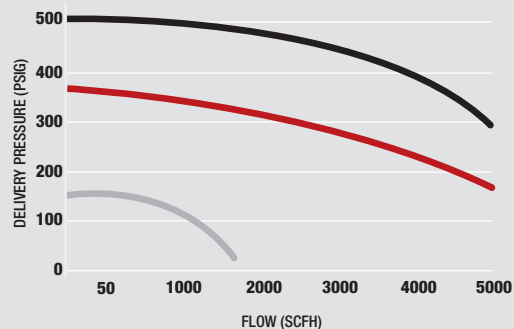


MODEL 45S SINGLE-STAGE REGULATOR

— 45S-145 @ 2000 PSIG inlet

— 45S-145 @ 200 PSIG inlet

— 45S-15 @ 200 PSIG inlet



MODEL 330 LIQUID CYLINDER REGULATOR

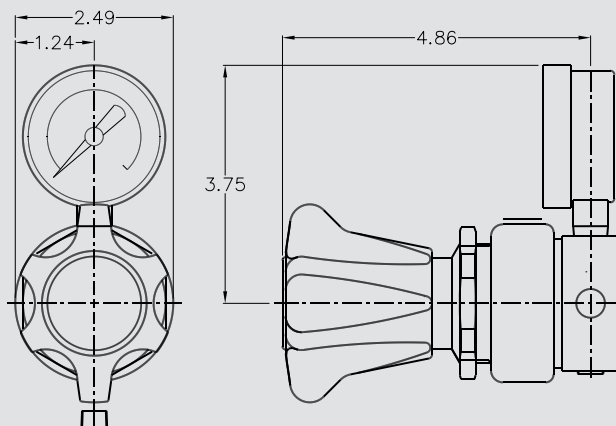
— 330-125 @ 200 PSIG inlet

— 330-350 @ 400 PSIG inlet

— 330-500 @ 600 PSIG inlet

MODEL 647 & HP 750

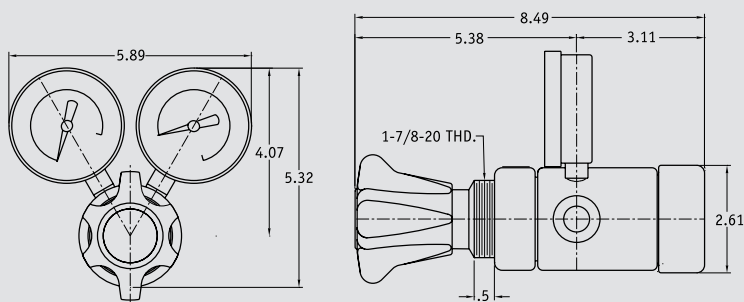
MODEL 647



DETAILS

Regulator Weight: 3.8 lb /1.72 kg

C_v: 0.17



DETAILS

Regulator Weight: 8.5 lbs. /3.85 kg.

Pressure Rise: 0.4 on 5500 psi inlet models

C_v: 0.55 on 3000 psi inlet models

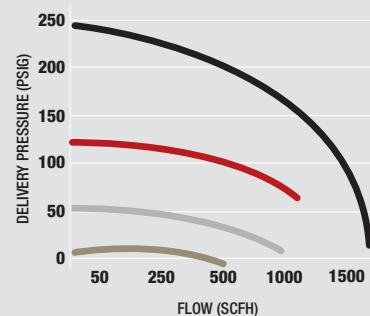
PRESSURE REGULATION

0.3 PSIG/100 PSIG on 5500 psi inlet Models

0.5 PSIG/100 PSIG on 3000 psi inlet Models

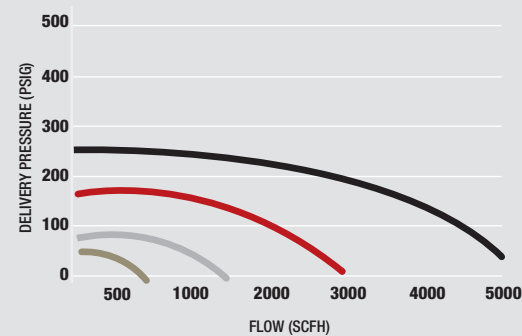
PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



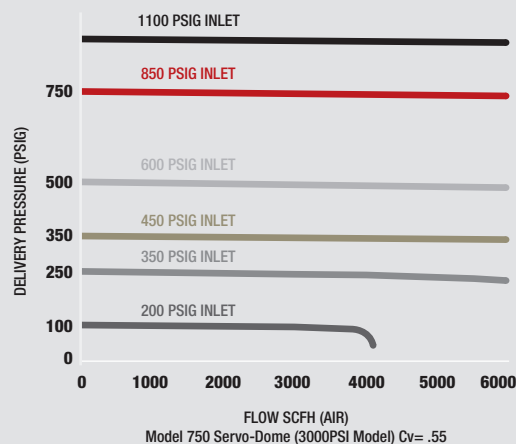
MODEL 647 SINGLE-STAGE REGULATOR - 200 PSIG INLET

- 647-250 @ 200 PSIG inlet
- 647-125 @ 200 PSIG inlet
- 647-50 @ 200 PSIG inlet
- 647-15 @ 200 PSIG inlet



MODEL 647 SINGLE-STAGE REGULATOR - 2000 PSIG INLET

- 647-250 @ 2000 PSIG inlet
- 647-125 @ 2000 PSIG inlet
- 647-50 @ 2000 PSIG inlet
- 647-15 @ 2000 PSIG inlet



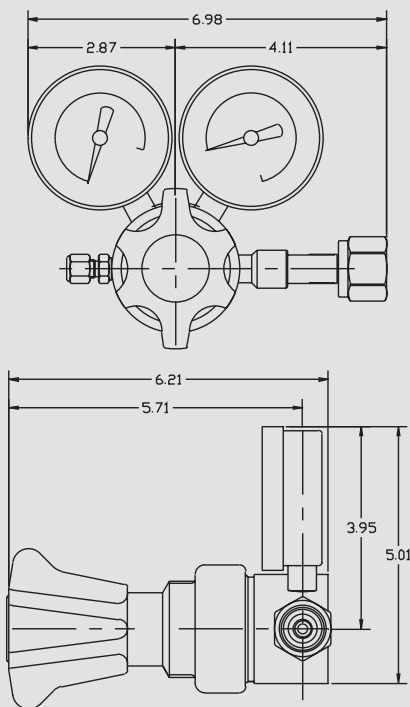
THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TECHNICAL DATA

171

MODEL 8700



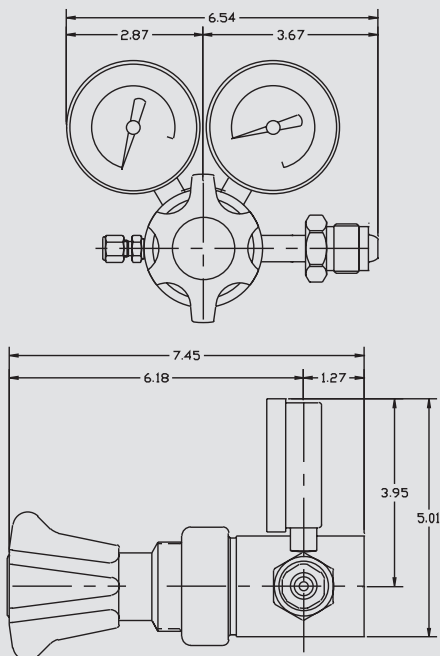
DETAILS

NON-RELIEVING VALVES

Regulator Weight: 5.8 lb /2.63 kg

Pressure Rise: 3.3 PSIG per 100 PSIG

C_v: 0.08



DETAILS

SELF-RELIEVING VALVES

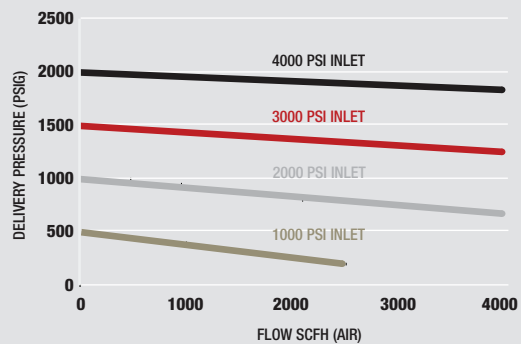
Regulator Weight: 7.0 lb /3.17 kg.

Pressure Rise: 3.3 PSIG per 100 PSIG

C_v: 0.08

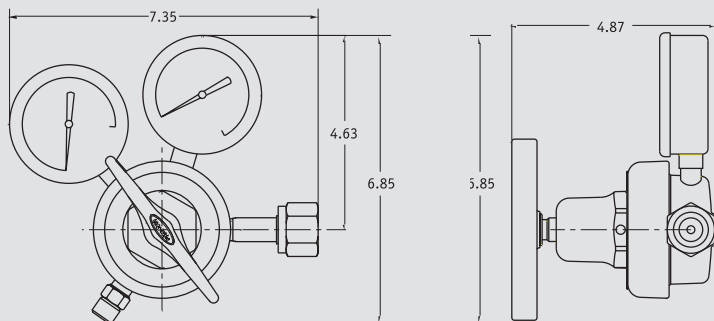
PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



MODELS 3500 & 3510

MODEL 3500



DETAILS

Regulator Weight: 4.6 lbs. /2.09 kg.

Pressure Rise: 1.6 PSIG per 100 PSIG

C_v: 0.55

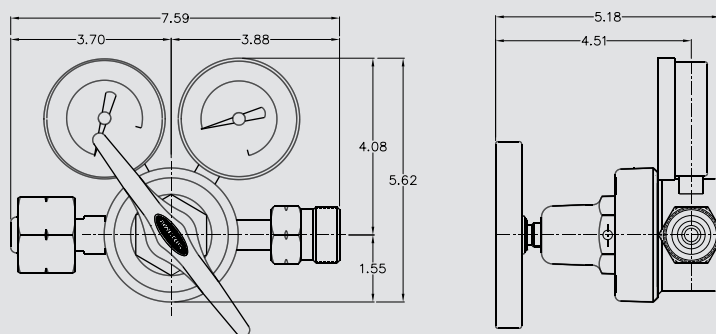
For Models 3003504, 3003505, 3003514, 3003540, 3003541, 3003538, 3003539 and all 3510 Manifold Regulator

FOR OTHER MODELS

Pressure Rise: 0.9 PSIG per 100 PSIG

C_v: 0.4

MODEL 3510



DETAILS

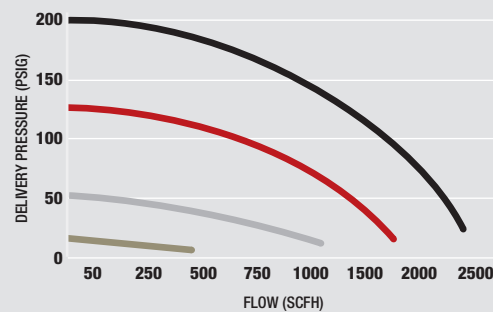
Regulator Weight: 5.5 lbs. /2.49 kg.

Pressure Rise: 1.6 PSIG per 100 PSIG

C_v: 0.4 for 15 PSIG models and 0.55 for all other models

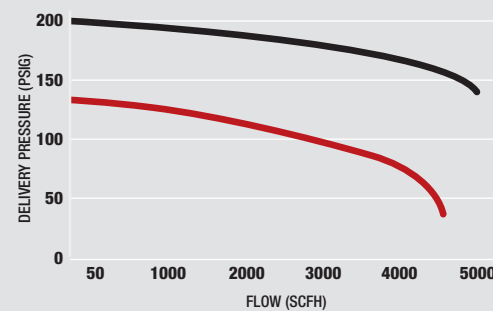
PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



MODEL 3500 & 3510 REGULATOR - 200 PSIG INLET

- 3500-200 @ 200 PSIG inlet
- 3500-125 @ 200 PSIG inlet
- 3500-50 @ 200 PSIG inlet
- 3500-15 @ 200 PSIG inlet

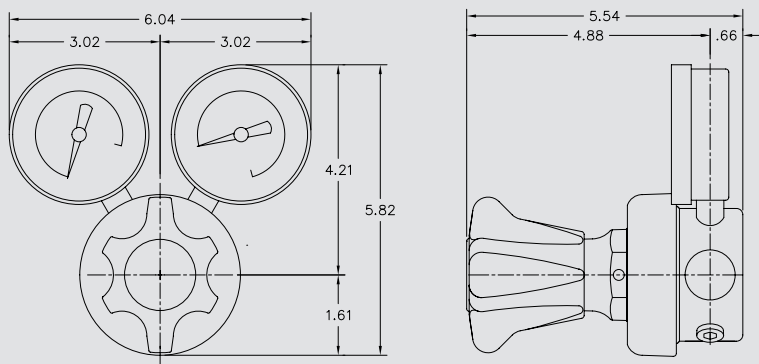


MODEL 3500 & 3510 REGULATOR - 2000 PSIG INLET

- 3500-200 @ 2000 PSIG inlet
- 3500-125 @ 2000 PSIG inlet

MODELS 3520 & 3530

MODEL 3520



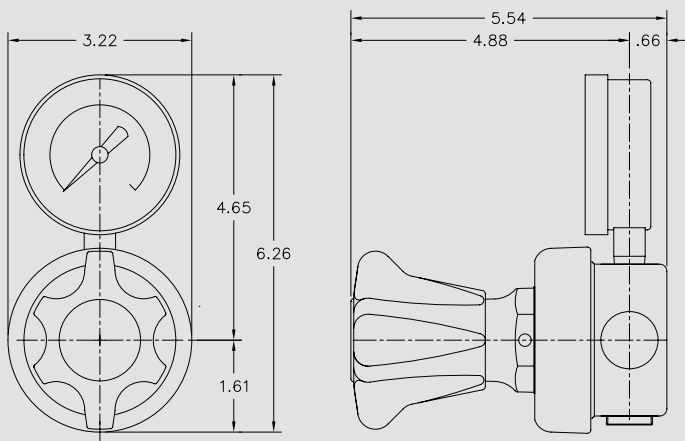
DETAILS

Regulator Weight: 4.5 lbs.

Pressure Rise: 1.6 PSIG per 100 PSIG

C_v: 0.55

MODEL 3530



DETAILS

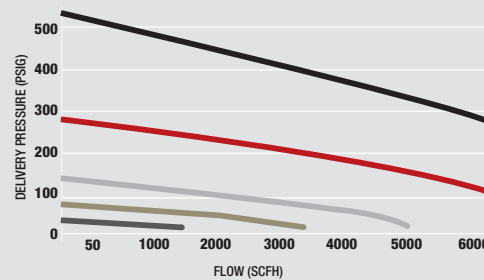
Regulator Weight: 4.3 lbs.

Pressure Rise: 1.6 PSIG per 100 PSIG

C_v: 0.55

PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F

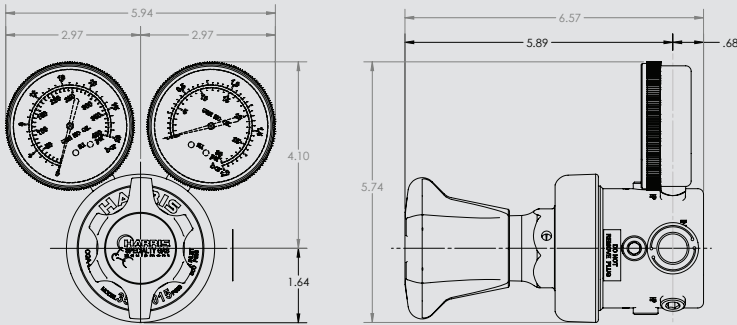


MODEL 3520 & 3530 TWO STAGE REGULATOR

- 3520-500 @ 750 PSIG inlet
- 3520-250 @ 500 PSIG inlet
- 3520-125 @ 250 PSIG inlet
- 3520-50 @ 200 PSIG inlet
- 3520-15 @ 100 PSIG inlet

MODELS 3540 & 3560

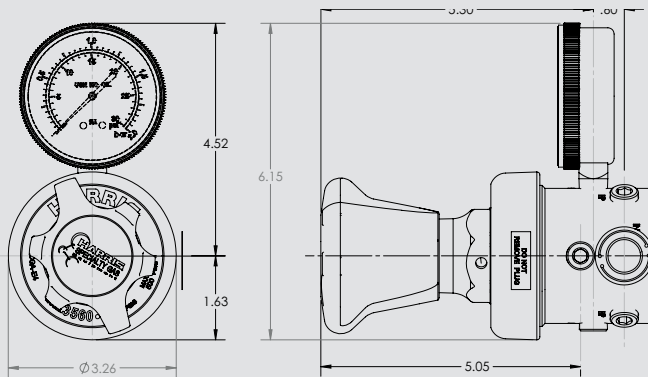
MODEL 3540



DETAILS

Regulator Weight: 6.9 lbs. /3.13 kg.
Pressure Rise: 5.5 PSIG per 100 PSIG
C_v: 1.0

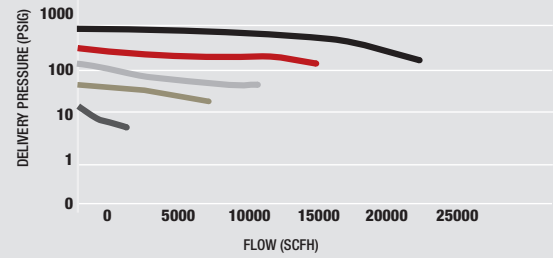
MODEL 3560



DETAILS

Regulator Weight: 6.7 lbs. /3.04 lbs.
Pressure Rise: 5.5 PSIG per 100 PSIG
C_v: 1.0

PERFORMANCE CHART
 ALL FLOWS BASED ON AIR @ 70°F

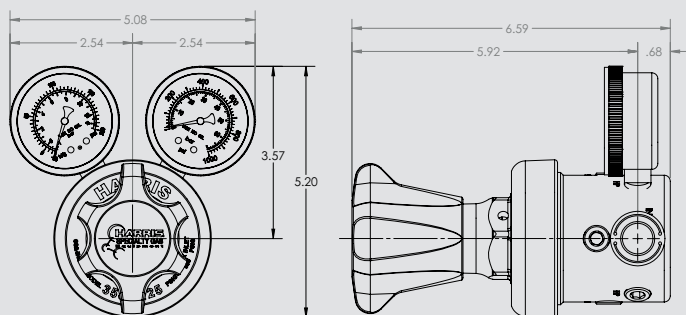


MODEL 3540 & 3560 TWO STAGE REGULATOR

- 15 @ 100 PSIG inlet
- 50 @ 200 PSIG inlet
- 125 @ 300 PSIG inlet
- 250 @ 400 PSIG inlet
- 500 @ 750 PSIG inlet

MODEL 3580 & 3590

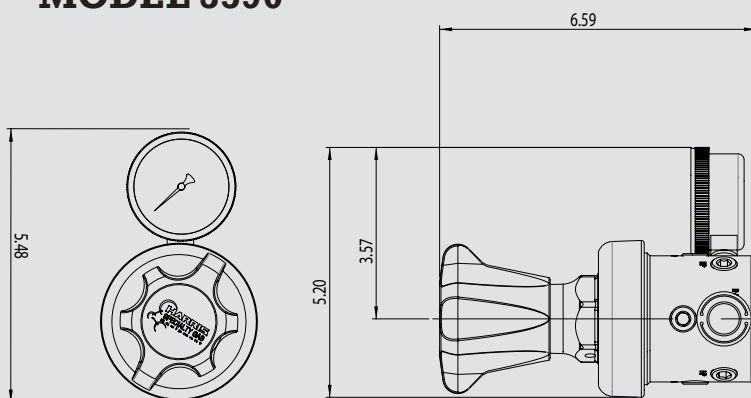
MODEL 3580



DETAILS

Regulator Weight: 6.9 lbs. /3.13 kg.
Pressure Rise: 5.5 PSIG per 100 PSIG
C_v: 1.0

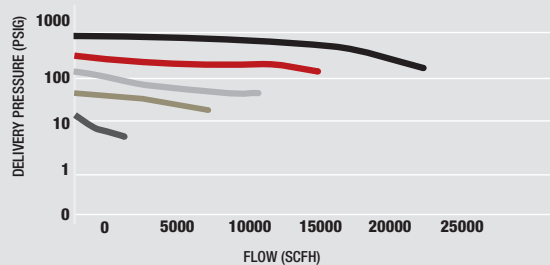
MODEL 3590



DETAILS

Regulator Weight: 6.9 lbs. /3.13 kg.
Pressure Rise: 5.5 PSIG per 100 PSIG
C_v: 1.0

PERFORMANCE CHART
 ALL FLOWS BASED ON AIR @ 70°F

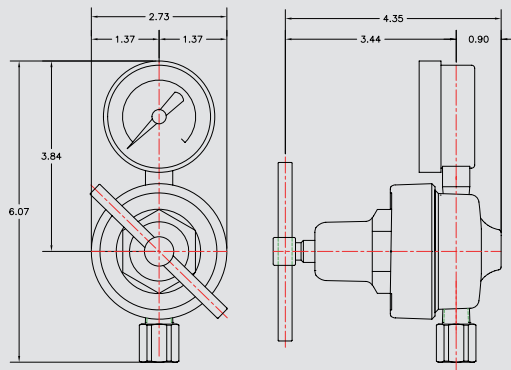


MODEL 3580 & 3590 TWO STAGE REGULATOR

- 15 @ 100 PSIG inlet
- 50 @ 200 PSIG inlet
- 125 @ 300 PSIG inlet
- 250 @ 400 PSIG inlet
- 500 @ 750 PSIG inlet

MODELS 247, 447 & 547

MODEL 247



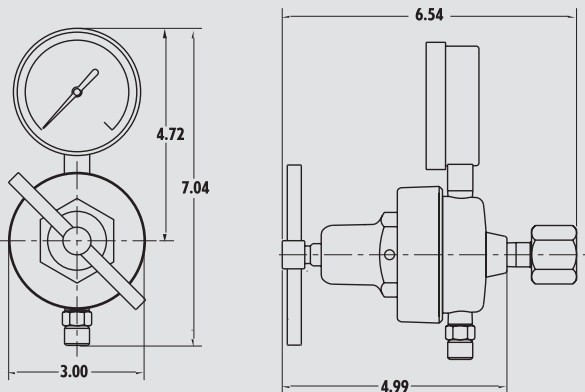
DETAILS

Regulator Weight: 3.6 lbs. /1.63 kg.

Pressure Rise: 1.6 PSIG per 100 PSIG

C_v: 0.53

MODEL 447



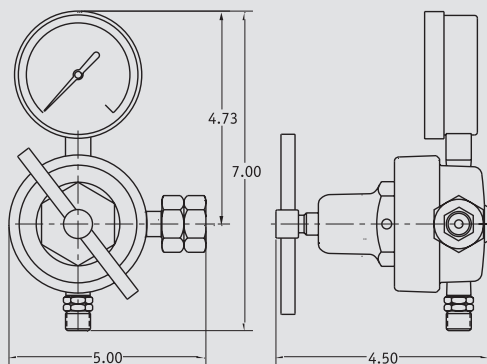
DETAILS

Regulator Weight: 3.6 lbs. /1.63 kg.

Pressure Rise: 1.6 PSIG per 100 PSIG

C_v: 0.53

MODEL 547



DETAILS

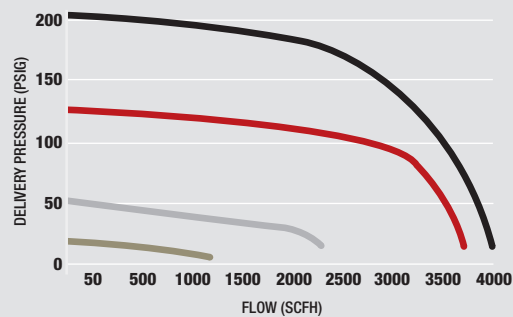
Regulator Weight: 3.6 lbs. /1.63 kg.

Pressure Rise: 1.6 PSIG per 100 PSIG

C_v: 0.53

PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



MODEL 247, 447 & 547 STATION/PIPELINE REGULATOR

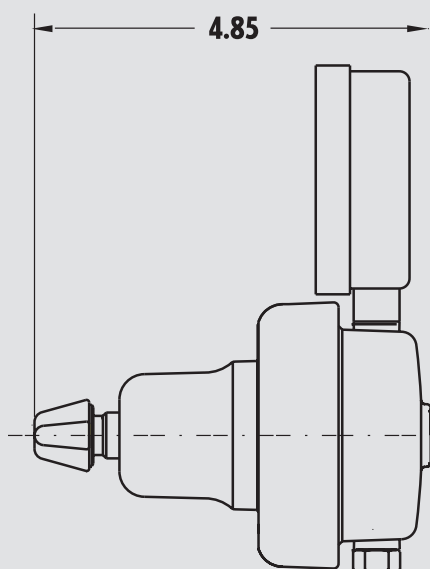
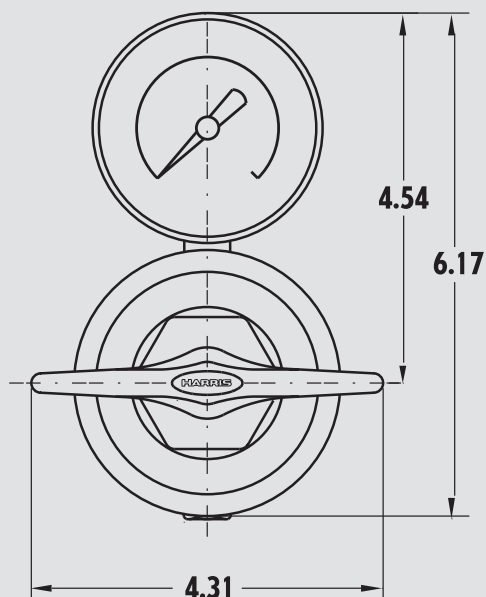
— 447/547-200 @ 200 PSIG inlet

— 447/547-125 @ 200 PSIG inlet

— 447/547-50 @ 200 PSIG inlet

— 447/547-15 @ 200 PSIG inlet

MODEL 2548



DETAILS

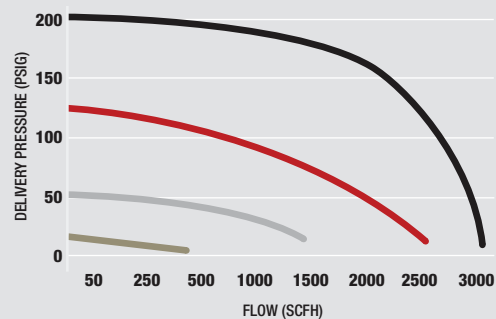
Regulator Weight: 3.8 lbs./1.72 kg.

Pressure Rise: 0.9 PSIG per 100 PSIG

C_v: 0.4

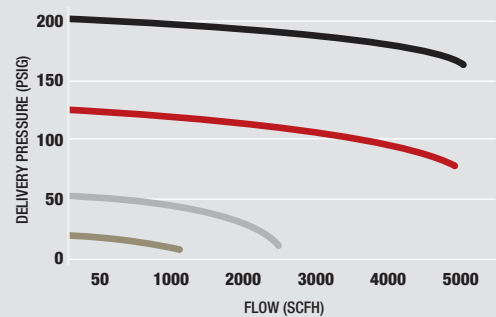
PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



MODEL 2548 PIPELINE REGULATOR - 200 PSIG INLET

- 2548-200 @ 200 PSIG inlet
- 2548-125 @ 200 PSIG inlet
- 2548-50 @ 200 PSIG inlet
- 2548-15 @ 200 PSIG inlet

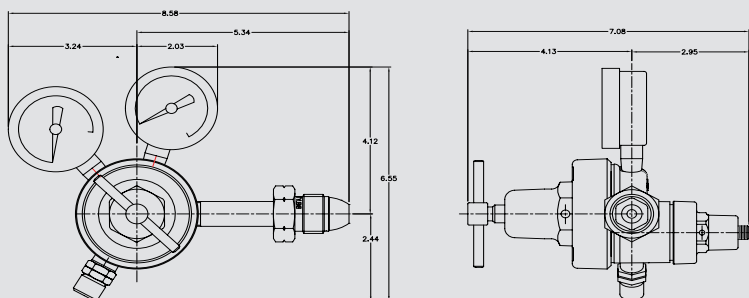


MODEL 2548 PIPELINE REGULATOR - 2000 PSIG INLET

- 2548-200 @ 2000 PSIG inlet
- 2548-125 @ 2000 PSIG inlet
- 2548-50 @ 2000 PSIG inlet
- 2548-15 @ 2000 PSIG inlet

MODEL 2561 & 9296

MODEL 2561



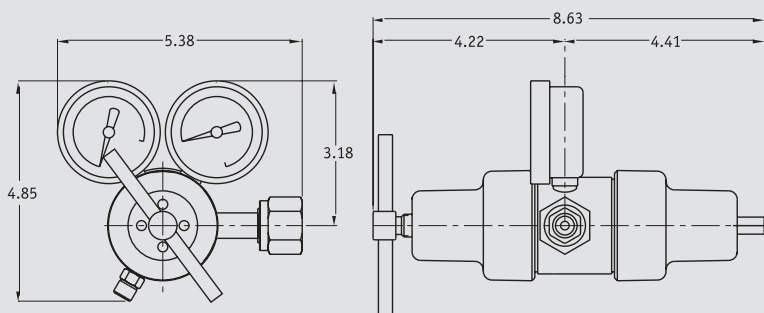
DETAILS

Regulator Weight: 4.8 lbs. /2.18 kg.

Pressure: 0.04 PSIG per 100 PSIG

C_v: 0.15

MODEL 9296



DETAILS

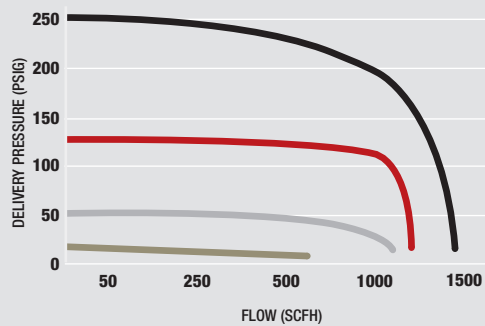
Regulator Weight: 4.8 lbs. /2.18 kg.

Pressure Rise: 0.04 PSIG per 100 PSIG

C_v: 0.15

PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



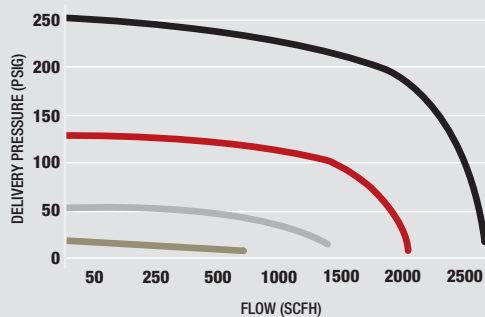
MODEL 9296 & 2561 TWO STAGE REGULATOR

— 9296-250 @ 250 PSIG inlet

— 9296-125 @ 200 PSIG inlet

— 9296-50 @ 200 PSIG inlet

— 9296-15 @ 200 PSIG inlet



MODEL 9296 & 2561 TWO STAGE REGULATOR

— 9296-250 @ 2000 PSIG inlet

— 9296-125 @ 2000 PSIG inlet

— 9296-50 @ 2000 PSIG inlet

— 9296-15 @ 2000 PSIG inlet



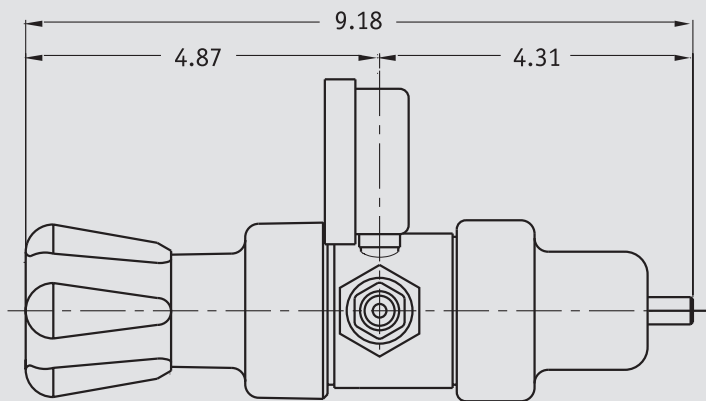
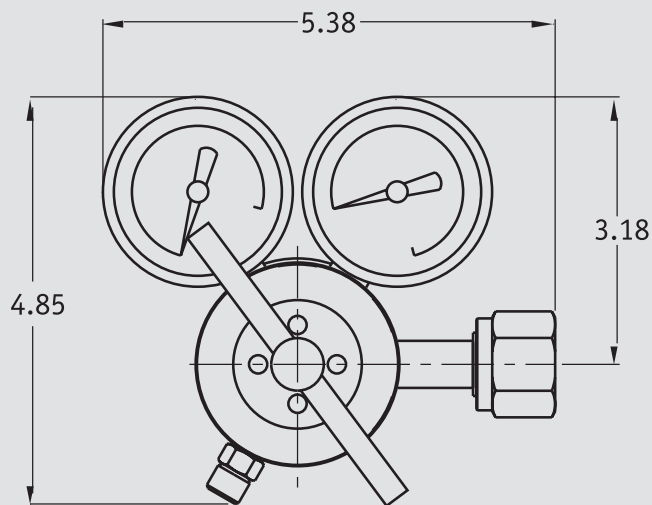
THE HARRIS PRODUCTS GROUP
www.harrisproductsgroup.com

Orders: 1.800.241.0804

TECHNICAL DATA

179

MODEL 9296SS



DETAILS

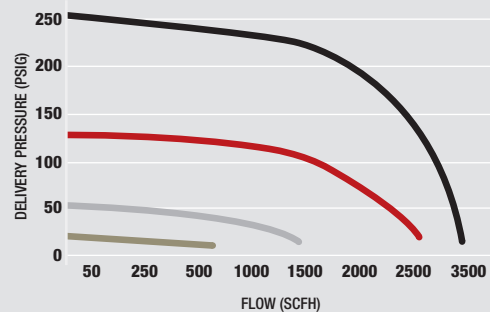
Regulator Weight: 5.4 lbs. /2.45 kg.

Pressure Rise: 0.04 PSIG per 100 PSIG

C_v: 0.15

PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



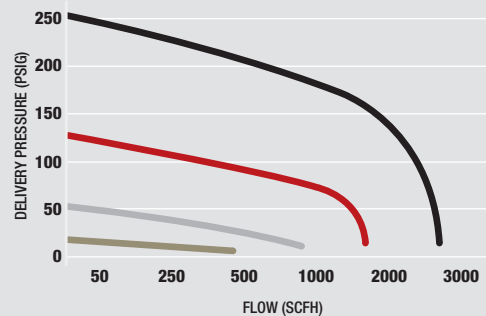
MODEL 9296 SS TWO STAGE REGULATOR

— 9296 SS-250 @ 250 PSIG inlet

— 9296 SS-125 @ 200 PSIG inlet

— 9296 SS-50 @ 200 PSIG inlet

— 9296 SS-15 @ 200 PSIG inlet



MODEL 9296 SS TWO STAGE REGULATOR

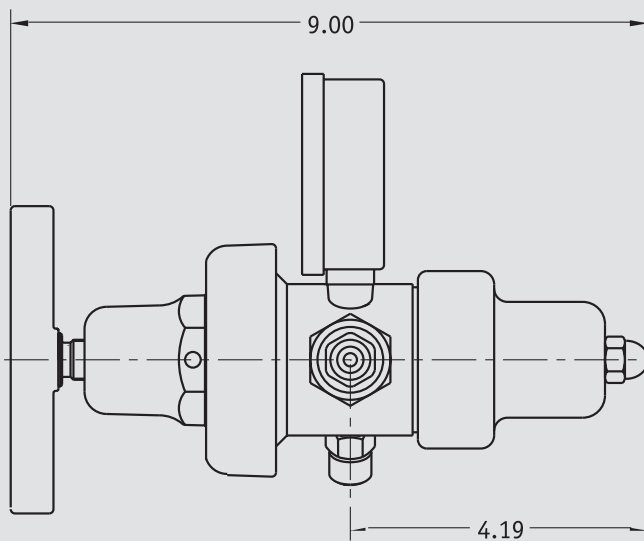
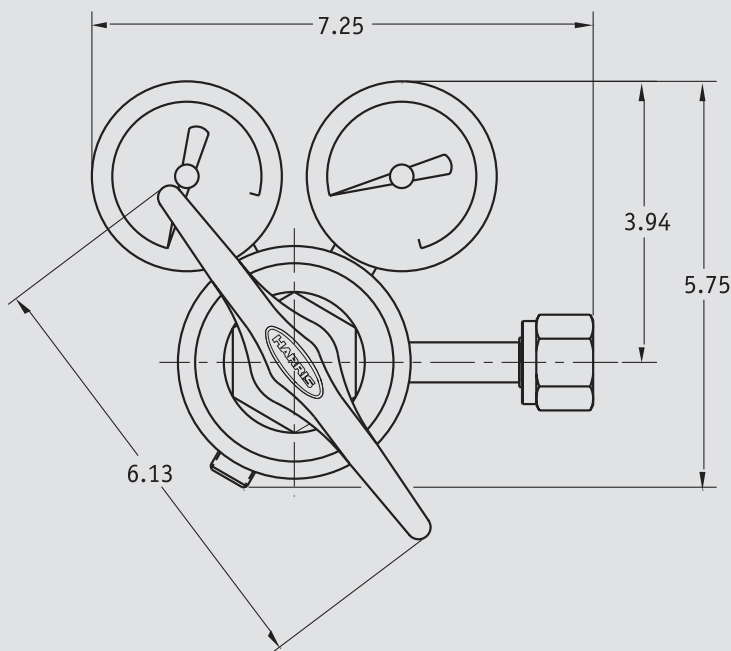
— 9296 SS-250 @ 2000 PSIG inlet

— 9296 SS-125 @ 2000 PSIG inlet

— 9296 SS-50 @ 2000 PSIG inlet

— 9296 SS-15 @ 2000 PSIG inlet

MODEL 9200



DETAILS

Regulator Weight: 6.8 lbs. / 13.08 kg

Pressure Rise: 0.05 PSIG per 100 PSIG

C_v: 0.53

For fuel gas Models (P/N:3302210, 3302211 and 3302212)

FOR OTHER MODELS

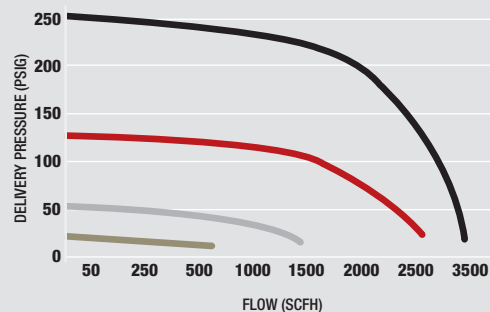
Regulator Weight: 6.8 lbs. / 13.08 kg.

Pressure Rise: 0.03 PSIG per 100 PSIG

C_v: 0.37

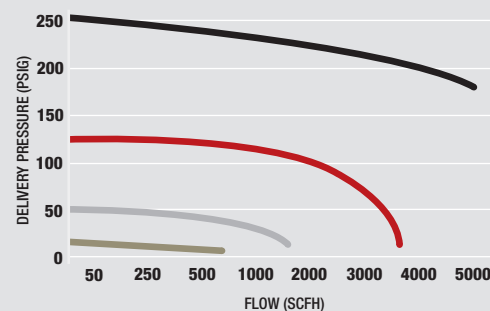
PERFORMANCE CHART

ALL FLOWS BASED ON AIR @ 70°F



MODEL 9200 TWO STAGE REGULATOR - 200 PSIG INLET

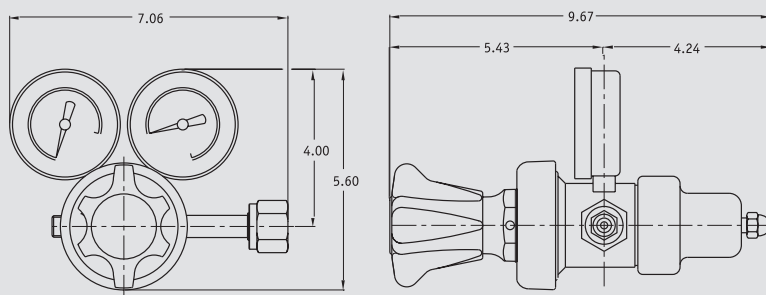
- 9200-250 @ 250 PSIG inlet
- 9200-125 @ 200 PSIG inlet
- 9200-50 @ 200 PSIG inlet
- 9200-15 @ 200 PSIG inlet



MODEL 9200 TWO STAGE REGULATOR - 2000 PSIG INLET

- 2548-200 @ 2000 PSIG inlet
- 2548-125 @ 2000 PSIG inlet
- 2548-50 @ 2000 PSIG inlet
- 2548-15 @ 2000 PSIG inlet

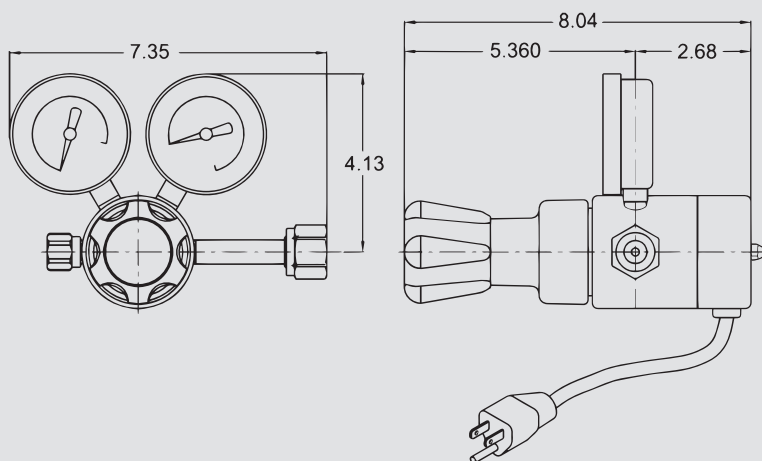
MODEL 9235 & HP 705



DETAILS

Regulator Weight: 6.9 lbs. / 3.13 kg.
Pressure Rise: 0.05 PSIG per 100 PSIG
C_v: 0.4

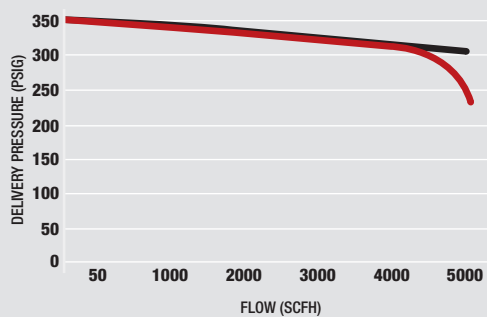
MODEL HP705



DETAILS

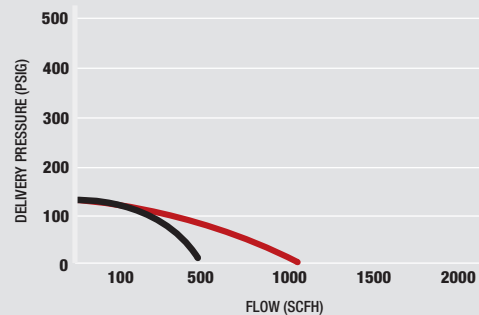
Regulator Weight: 6.8 lbs. / 13.08 kg.
Pressure Rise: 0.09 PSIG per 100 PSIG
C_v: 0.15

PERFORMANCE CHART
 ALL FLOWS BASED ON AIR @ 70°F



MODEL 9235 TWO STAGE REGULATOR

— 9235-350 @ 2000 PSIG inlet
 — 9235-350 @ 500 PSIG inlet



MODEL HP705 TWO STAGE REGULATOR

— HP 705-125 @ 200 PSIG inlet
 — HP 705-125 @ 2000 PSIG inlet

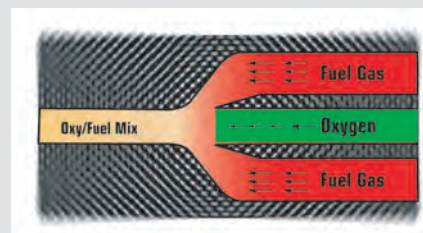
TORCH TECHNICAL DATA

"E" MIXER VS. "F" MIXER

HARRIS OFFERS TWO TYPES OF OXY/FUEL MIXERS. EQUAL PRESSURE OR POSITIVE MIXERS ARE REFERRED TO AS "E" TYPE MIXERS WHILE, LOW PRESSURE INJECTOR MIXERS ARE REFERRED TO AS "F" MIXERS. THE TYPE OF MIXER WHICH BEST SUITS THE NEED DEPENDS ON THE APPLICATION AND THE AVAILABLE FUEL GAS SUPPLY. THE FOLLOWING EXPLAINS SOME OF THE FEATURES AND BENEFITS OF EACH MIXER DESIGN.

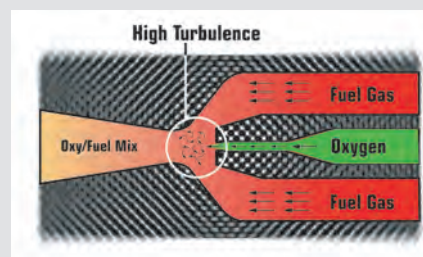
TYPICAL "E" MIXER DESIGN

To thoroughly mix the oxygen and fuel gas, "E" mixer designs rely on the positive pressure control of both oxygen and fuel gas. Both gases enter the mixing chamber at controlled pressures. "E" mixers allow the end-user greater control of the oxy/fuel ratio. This feature has an advantage in applications where a very carburizing or oxidizing flame is required. Also because of their higher potential flow rates, "E" mixers are required for high flow heating applications. This design is primarily used with acetylene but can also be used with alternate fuels when positive pressure control of the fuel gas is available.



TYPICAL "F" MIXER DESIGN

"F" or low pressure injector mixers require that only the oxygen has a positive pressure control. The oxygen exits a specially designed chamber at a very high velocity which causes the fuel gas to be aspirated into the mixing chamber. Because of the aspirating effect on the fuel gas, positive control of the fuel gas is not required. In fact, the mixers in the Harris line are designed to operate at fuel gas pressures as low as 4 ounces. "F" mixers tend to produce a more homogenous oxy/fuel mixture because of the high turbulence in the mixing chamber. This feature is most important when using the more difficult to mix alternate fuels. "F" mixers tend to have a narrower operating range than "E" mixers but because of their superior mixing capabilities they tend to maximize BTU output within that range. "F" mixers are used primarily with low pressure natural gas. However, they are also recommended for use with alternate fuels when maximum BTU output is needed and/or positive pressure control of the fuel gas is not available.



TORCH TECHNICAL DATA

FUEL GAS TECHNICAL DATA

TECHNICAL DATA FOR THE MOST COMMON INDUSTRY FUEL GASES

	ACETYLENE	PROPYLENE	PROPANE	NATURAL GAS
MAX. FLAME TEMPERATURE °F	5720	5240	5130	5040
OXY/FUEL COMBINATION RATIO (MAXIMUM TEMP.)	1.5:1	3.6:1	4.5:1	1.9:1
NEUTRAL FLAME TEMPERATURE °F	5620	5190	5090	5010
OXY/FUEL COMBINATION RATIO (NEUTRAL)	1.1:1	2.6:1	3.7:1	1.5:1
BTU'S PER CUBIC FOOT	1470	2370	2563	1000
% BTU IN OUTER CONE	65	84	89	97
BURNING VELOCITY IN O ₂	22.7/sec.	15.0/sec.	12.2/sec.	15.2/sec.
FLAMMABILITY LIMITS IN O ₂	3-93 %	2.5-60%	2.4-57%	5-59%
FLAMMABILITY LIMITS IN AIR	2.5-80 %	2.0-11.1 %	2.3-9.5 %	5.3-14 %
SPECIFIC GRAVITY (AIR=1@60°F)	0.91	1.45	1.56	0.55
VAPOR PRESSURE (PSIG @ 70°F)	250	135	120	(LINE PRESSURE)
LBS/GAL LIQUID	-	4.8	4.35	4.28
CUBIC FT/LB GAS	14.6	9.0	8.66	23.6
CUBIC FT/GAL LIQUID	-	43.5	43	37

*Data above is from reliable industry sources and is used in Harris Fuel Gas Cost Analysis Programs

Victor® is registered trademark owned by Victor Technologies, Inc.
 Kel-F® is registered trademark owned by 3m Company
 Telfon® is registered trademark owned by E.I. du Pont de Nemours and Company
 Nascar® is registered trademark owned by National Association for Stock Car Auto Racing, Inc.
 IRL® & CART® is registered trademark owned by Bridgeway Trademarks, Inc.
 CGA® is registered trademark owned by Compressed Gas Association
 UL® is registered trademark owned by UL, LLC.



A LINCOLN ELECTRIC COMPANY

The Harris Products Group
2345 Murphy Blvd.
Gainesville, Georgia 30504 USA
1.800.241.0804
www.harrisproductsgroup.com

9505629 REV C
092014



THE HARRIS PRODUCTS GROUP

ALLOY CATALOG

**BRAZING, SOLDERING, WELDING,
FLUXES, & ACCESSORIES**





The Harris Products Group, A Lincoln Electric Company, is a world leader in the design, development and manufacture of cutting, welding, brazing, soldering equipment, consumables and gas distribution systems. Harris Products Group products are sold and used in over 85 countries. For more information about the Harris Products Group and its products and services, please visit our web site at www.harrisproductsgroup.com.

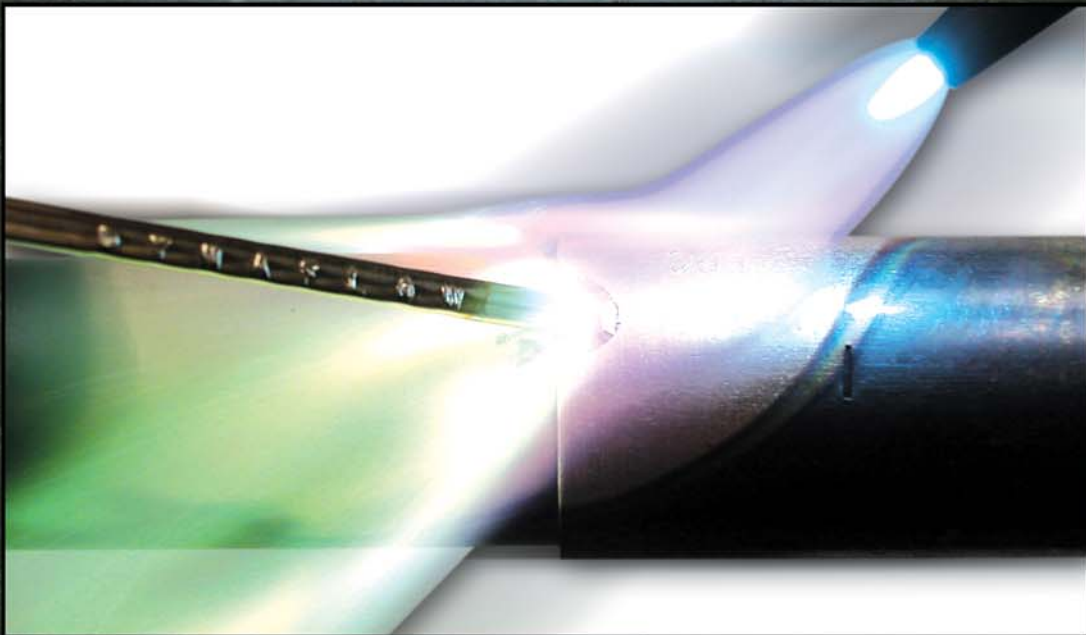


TABLE OF CONTENTS



BRAZING:

Phos Copper

Dynaflow, Blockade, Harris 0 (phos copper)	5
Stay-Silv 2, Stay-Silv 5, Stay-Silv 6, Stay-Silv 6HP	6
Stay-Silv 15, Brazing Rings	7

High Silver

Safety-Silv 25	7
Safety-Silv 30, Safety-Silv 35, Safety-Silv 38T, Safety-Silv 40	8
Safety-Silv 40T, Safety-Silv 40NI2, Safety-Silv 45, Safety-Silv 45	9
Mini Pak	9
Safety-Silv 45 Brazing Kit, Safety-Silv 45T, Safety-Silv 50, Safety-Silv 50N	10

Aluminum Brazing

Safety-Silv 56, Safety-Silv 56 Mini Pak, Safety-Silv 56 Brazing Kit, 11	11
Al-Braze 1070, ALCOR, CORAL	12

SOLDERING:

Stay-Brite Silver Solder (lead free), Stay-Brite Kit (lead free), Bridgit, Nick	14
Speedy, 95/5, Galviz, Alsolder 500 (lead free)	15
40/60, 60/40, 50/50	16

BRAZING, SOLDERING & WELDING FLUXES:

Stay-Silv (white flux), Dynaflow (white flux), Stay-Silv (black flux),	18
Al-Braze, Speed Flux	18
600 "Power" Flux, Stay-Clean Aluminum Flux, Stay-Clean Paste,	19
Stay-Clean Liquid Flux, Bridgit Paste, Water Soluble Flux, Solar	19
Welding Flux	19

WELDING:

Aluminum Alloy

4043 (MIG), 5356 (MIG), 4043 (TIG)	21
5356 (TIG), Aluminum Welding Parameters & Settings	22
Recommended Filler Metals For Welding Aluminum	23

Copper Alloy

Harris American Low Fuming Bronze	23
Low Fuming Bronze (Flux Coated), Low Fuming Bronze (Bare), Copper	24
Based Welding Filler Metal Selection Chart	24
Silicon Bronze (GMAW), 3SIB (GTAW), Aluminum Bronze (GMAW/GTAW)	25
Aluminum Bronze A1 (GMAW), 3ALB (GTAW)	25
Phos Bronze (GMAW) / (GTAW), Deox Copper (GMAW) / (GTAW)	26
Alloy 170	27

Mild Steel & Low Alloy (MIG / FLUX CORED)

ER70S-3 (GMAW), ER70S-6 (GMAW)	27
ER80S-D2 (GMAW)	28
E71T-1 Flux Cored Gas Shielded, Ten Gauge Shielded	31
Twenty Gauge Metal Core	32
Welding Parameters For Cored Wire	34

Mild Steel & Low Alloy (TIG)

ER70S-2 (GTAW), ER70S-3 (GTAW), ER70S-6 (GTAW)	28
Mild Steel Welding Parameters, ER80S-D2 (GTAW), ER80S-B2 (GTAW)	29
ER90S-B3, 4130 Chrome Molly, W1060 (RG45) (GTAW), W1200	30
(RG60) (GTAW)	30

Mild Steel Stick Electrodes

6011 Mild Steel, 6013 Mild Steel	32
7014 Mild Steel, 7018 Mild Steel	33

Stainless Steel (MIG / FLUX CORED)

MIG 308	34
MIG 308L, MIG 308LSI, MIG 309, MIG 309L	35
MIG 309LSI, MIG 310, MIG 312, MIG 316, MIG 316L	36
MIG 316LSI, MIG 317L, MIG 347, MIG 410	37
Stainless Steel Flux Core	38

Stainless Steel (TIG)

TIG 308, TIG 308L, TIG 308LSI, TIG 309, TIG 309L	39
TIG 310, TIG 312, TIG 316, TIG 316L, TIG 316LSI, TIG 317L	40
TIG 347, TIG 410, ER630, Shielding Gas Considerations For Solid SS	41

Stainless Steel Electrodes

308L, 309, 309L, 310, 312, 316L	42
347, 410	43
Stainless Steel Filler Metal Selector Guide	43
Welding Parameters For Stainless	44

Cast Iron Electrodes

59/55 Nickel, 99 Nickel (TIG), 99 Nickel Electrodes (AC-DC)	45
---	----

Maintenance & Repair

Super Missle weld, SMW, 17, 17FC	46
65 Nickel Iron Electrode, 111 Kastweld, Alloy 26	47
90 Tuf Kut, 3AH, Cut Rod	48
Magnesium	49

ACCESSORIES:

Cable, Tip Cleaners, Round Soapstone Holder, Round Soapstone Refill,	51
Flat Soapstone Holder, Flat Soapstone Refill, Silver Streak Refills,	51
Silver Streak Pen Holder, Silver Streak Refill Tube, Tempil Stick	51

Gauges, Weld Fillet Gauge, Gloves, Welding Helmets, Wire Brushes	52
Flints & Lighters, Hoses, Gouging Carbons, Cylinder Caps	52

Tip Drill Kit, 4in1 Cutting Attachment, MIG Nozzle Reamer, 10 Way	53
Tank Wrench, Matador Welders Pliers, Matador 12 Function Tool,	53
Welper YS-50 Pliers, BM-C Wrench, Hammers, Welders Pin, Wire Feed	53
Pads, Chem Sharp Tungsten Holder, VP Carring Handle, Electrode	53
Holders	53

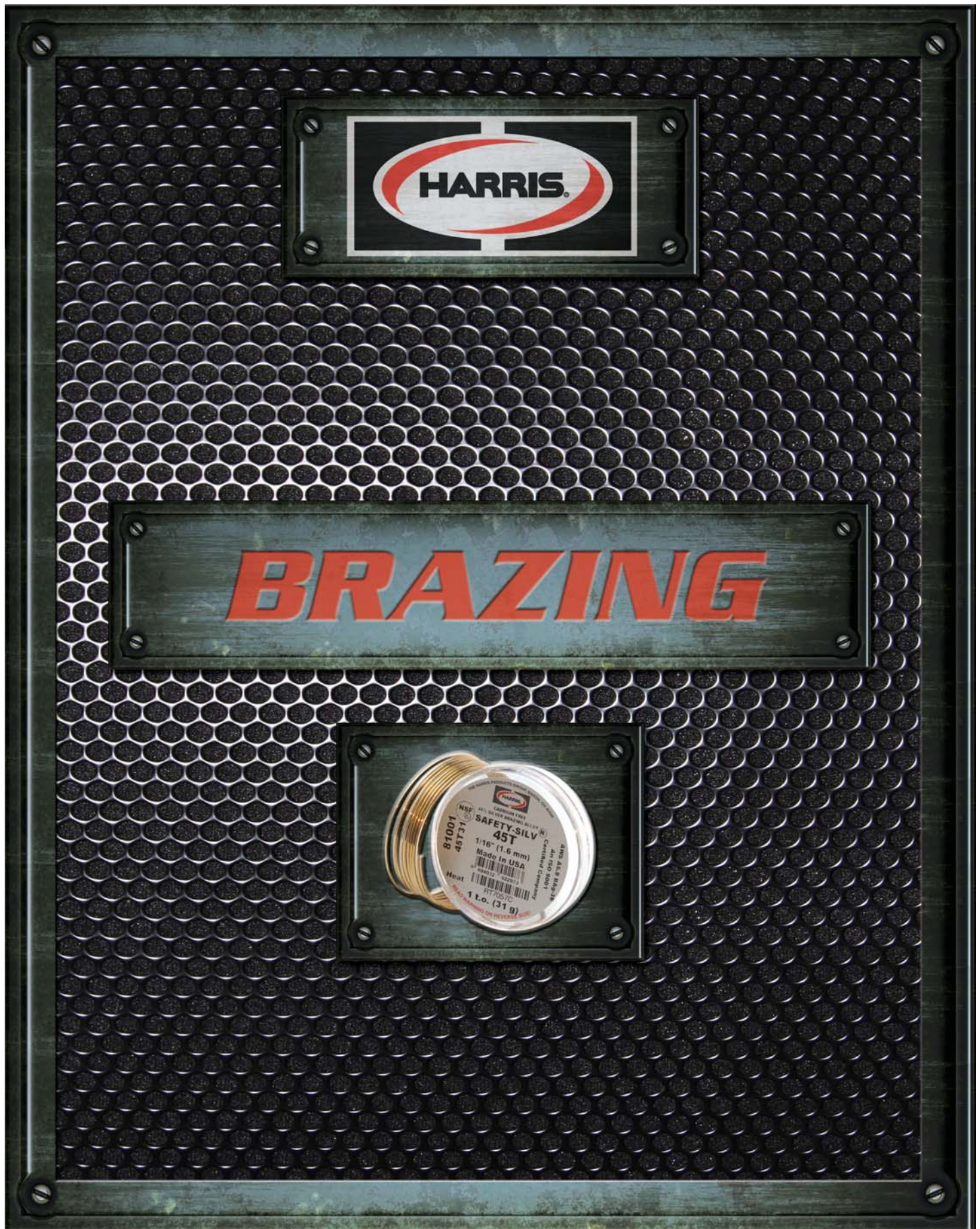
Multi-Purpose Magnet, E102-M Cable Connectors, Teflon Conduit,	54
Clear Dome,	54
Sta Kleer Plastic Lens, Safety-Plus, Filter Plates, Omni View Gold	54
Lenses	54

Omni Plastic Mag Lenses, Mag Glass Lenses, Gold Mirror Lenses,	55
Optrel Lenses, Face Shields, Tuff-Shield, Plain Glass, Goggles, Hornell	55
Lens, Cover Lens & Plates	55

Tungsten, Compound 302, Weld-O Preweld Cleaner, Supweld 12 pak,	56
Chem Sharp, Super Cold-Galv, 1620 Nozzle Shield & Anti Spatter,	56
1630 Safe T Spat, Kleen Green	56

Harris Production Pak	57
-----------------------------	----

POINT-OF-PURCHASE:	58- 67
---------------------------------	--------



These brazing filler metals are primarily used to join copper to copper, copper to brass, and brass to brass. The phosphorus content serves as a "self-fluxing" agent in joining copper to copper. When brazing brass to copper or brass to brass, use Stay-Silv® White Brazing Flux. The phos/copper and silver/phos/copper filler metals are not recommended for brazing steel or nickel alloys. The amount of phosphorus in the phos/copper filler metals (AWS-BCuP series) is critical in determining precise melting range and performance. Proprietary computer based technology is used to accurately control the phosphorus content to exacting standards.

Each heat of metal is precisely checked before pouring to assure users a phosphorus content to within + or - 1/10 of a percent. Even more significant, a liquidus variation of no more than +or- 6°F. The advantages of this precise control is apparent in automated brazing operations, where even modest variations in flow temperatures can significantly increase the incidence of rejects. Equally important, manual operators no longer need to make adjustments in heating practice from one batch of filler metal to the next to achieve uniform results.

PART NO.	SIZE
D520R	3/32" DIA x 20" - 25# PKG
D536R	3/32" DIA x 36" - 25# PKG
D620F	.050" x 1/8" x 20" - 25# PKG
D620F1	.050" x 1/8" - 28 STICK TUBE
D636S	1/8" SQ x 36" - 25# PKG
D620FMPOP	.050" x 1/8" MINI PAK - 8 STICKS

DYNAFLOW®

**HARRIS
EXCLUSIVE**

Dynaflo melts and flows at temperatures very close to Stay Silv 15, and provides comparable brazed mechanical properties. This makes Dynaflo an excellent cost effective alternative to the 15% silver alloys. This premium, medium range silver alloy has been meticulously formulated to even tighter specifications than our standard copper-to-copper alloys.



**USA
MADE IN**

**RoHS
COMPLIANT**

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance
Silver-6% Phosphorus-6.1% Copper-87.9	1190° F 643° C	1465° F 796° C	3	.003" / .006"

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
BK220R	2MM DIA x 20" - 25# PKG
BK220R1	2MM DIA - 20 STICK TUBE
BK520R	3/32" DIA x 20" - 25# PKG
BK536R	3/32" DIA x 36" - 25# PKG
BK636R	1/8" DIA x 36" - 25# PKG
BKFC2500R1	2MM DIA x 500MM - 20 STICK TUBE

BLOCKADE®

**HARRIS
EXCLUSIVE**

Blockade is a proprietary phosphorus-tin-silicon alloy engineered to provide a low cost alternative to silver bearing filler metals. It is self fluxing on copper and its lower melting temperature makes it an excellent choice for brass. Blockade flows rapidly but can be used to "cap" brazed joints.



**USA
MADE IN**

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance	AWS A5.8 Class
Silver-0% Phosphorus-6% Copper-94%	1178° F 637° C	1247° F 674° C	***	.002" / .005"	BCuP-9

*The higher the fluidity rating, the faster the alloy flows within the melting range.

***Blockade has good fluidity, yet it has the unique ability to form a cap at the joint.

PART NO.	SIZE
0320R	1/16" DIA x 20" - 25# PKG
0320R1	1/16" DIA - 51 STICK TUBE
0336R	1/16" DIA x 36" - 25# PKG
0520R	3/32" DIA x 20" - 25# PKG
0520R1	3/32" DIA - 24 STICK TUBE
0536R	3/32" DIA x 36" - 25# PKG
0536S	3/32" SQ x 36" - 25# PKG
0620F	.050" x 1/8" x 20" - 25# PKG
0620F1	.050" x 1/8" - 28 STICK TUBE
0620FMPOP	.050" x 1/8" MINI PAK - 8 STICKS
0620R	1/8" DIA x 20" - 25# PKG
0620R1	1/8" DIA - 14 STICK TUBE
0620S	1/8" SQ x 20" - 25# PKG
0620S1	1/8" SQ - 11 STICK TUBE
0636F	.050" x 1/8" x 36" - 25# PKG
0636R	1/8" DIA x 36" - 25# PKG
0636S	1/8" SQ x 36" - 25# PKG
0936RK	1/4" DIA x 36" - 25# PKG BLANK



HARRIS 0

This low cost alloy is suitable for most copper-to-copper or brass joints where good fit-up exists, and the assemblies are not subject to excessive vibration nor movement.

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance	AWS A5.8 Class
Silver-0% Copper- 92.9 Phosphorus-7.1%	1310° F 710° C	1475° F 802° C	5	.002" / .007"	BCuP-2

*The higher the fluidity rating, the faster the alloy flows within the melting range.

**USA
MADE IN**

**RoHS
COMPLIANT**



PHOS COPPER

STAY-SILV® 2

This economical, low silver alloy, is designed to broaden the melting range of Harris O, and has proven useful in some specific applications where mechanical properties are less critical.



PN: 2620F1
.050 x 1/8" - 28 STICKS

USA
MADE IN

RoHS
COMPLIANT

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance	AWS A5.8 Class
Silver-2% Phosphorus-7% Copper-91%	1190° F 643° C	1450° F 788° C	4	.003" / .005"	BCuP-6

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
2520R	3/32" DIA x 20" - 25# PKG
2536R	3/32" DIA x 36" - 25# PKG
2620F	.050" x 1/8" x 20" - 25# PKG
2620F1	.050" x 1/8" - 28 STICK TUBE
2620R	1/8" DIA x 20" - 25# PKG
2636F	.050" x 1/8" x 36" - 25# PKG
2636R	1/8" DIA x 36" - 25# PKG

STAY-SILV® 5

This medium-range alloy is well suited where close fit-up cannot be maintained. This filler metal is somewhat more ductile than Harris O or Stay-Silv 2.

USA
MADE IN

RoHS
COMPLIANT



PN: 5620FMPOP
Stay-Silv 5
.050 x 1/8" MINI PAK - 8 STICKS

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance	AWS A5.8 Class
Silver-5% Phosphorus-6% Copper-89%	1190° F 643° C	1500° F 816° C	3	.003" / .006"	BCuP-3

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
5320R	1/16" DIA x 20" - 25# PKG
5320R1	1/16" DIA - 51 STICK TUBE
5336R	1/16" DIA x 36" - 25# PKG
5520R	3/32" DIA x 20" - 25# PKG
5520R1	3/32" DIA - 24 STICK TUBE
5536R	3/32" DIA x 36" - 25# PKG
5536S	3/32" SQ x 36" - 25# PKG
5620F	.050" x 1/8" x 20" - 25# PKG
5620F1	.050" x 1/8" - 28 STICK TUBE
5620F5	.050" x 1/8" x 20" - 5# TUBE
5620R	1/8" DIA x 20" - 25# PKG
5620R1	1/8" DIA - 14 STICK TUBE
5636F	.050" x 1/8" x 36" - 25# PKG
5636R	1/8" DIA x 36" - 25# PKG
5636S	1/8" SQ x 36" - 25# PKG
5620FMPOP	.050" x 1/8" - 8 STICKS

STAY-SILV® 6

This medium-range alloy is well suited where close fit-up cannot necessarily be maintained. This filler metal is somewhat more ductile than Phos Copper or Stay-Silv 2.



PN: 6620F1
.050 x 1/8" - 28 STICKS

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance
Silver-6% Phosphorus-6.5% Copper-87.5%	1190° F 643° C	1425° F 774° C	5	.002" / .005"

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
6536R	3/32" DIA x 36" - 25# PKG
6620F	.050" x 1/8 x 20" - 25# PKG
6620F1	.050" x 1/8 - 28 STICK TUBE
6636R	1/8" DIA x 36" - 25# PKG
6636S	1/8" SQ x 36" - 25# PKG
6836R	3/16" DIA x 36" - 25# PKG SPECIAL ORDER

USA
MADE IN

RoHS
COMPLIANT

STAY-SILV® 6HP

This is a higher phosphorus version of Stay-Silv 6. The increased phosphorus content lowers the liquidus temperature approximately 90° F. This provides a smooth flowing filler metal that is self fluxing on copper. The lower liquidus makes it an excellent choice for brass where lower temperatures are preferable.



PN: 6H336R
1/16" Dia. x 36" - 25# PKG

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance	AWS A5.8 Class
Silver-6% Phosphorus-7.2% Copper-86.8%	1190° F 643° C	1335° F 724° C	7	.001" / .004"	BCuP-4

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
6H336R	1/16" DIA x 36" - 25# PKG
6H536R	3/32" DIA x 36" - 25# PKG
6H636R	1/8" DIA x 36" - 25# PKG

USA
MADE IN

RoHS
COMPLIANT



STAY-SILV® 15

For many years the standard of the industry, the 15% silver alloy has proven its value. This filler metal is excellent for situations in which close fit-up does not exist, and where thermal expansion and service vibration are involved.



**USA
MADE IN**

**RoHS
COMPLIANT**

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	Recommended Joint Clearance	AWS A5.8 Class**
Silver-15% Phosphorus-5% Copper-80%	1190° F 643° C	1480° F 804° C	3	.002" / .006"	BCuP-5
*The higher the fluidity rating, the faster the alloy flows within the melting range.					
** Stay-Silv 15 also meets Fed. Spec. QQ-B-654A, Grade III.					

PART NO.	SIZE
15320F	.050" x 1/16" x 20" - 25# PKG
15320F1	.050" x 1/16" x 20" - 51 STICK TUBE
15320R	1/16" DIA x 20" - 25# PKG
15320R1	1/16" DIA - 51 STICK TUBE
15336R	1/16" DIA x 36" - 25# PKG
15520R	3/32" DIA x 20" - 25# PKG
15520R1	3/32" DIA - 24 STICK TUBE
15520S	3/32" SQ x 20" - 25# PKG
15536R	3/32" DIA x 36" - 25# PKG
15536S	3/32" SQ x 36" - 25# PKG
15620F	.050" x 1/8" x 20" - 25# PKG
15620F1	.050" x 1/8" - 28 STICK TUBE
15620F5	.050" x 1/8" x 20" - 5# TUBE
15620R1	1/8" DIA - 14 STICK TUBE
15620S	1/8" SQ x 20" - 25# PKG
15620S1	1/8" SQ - 11 STICK TUBE
15636F	.050" x 1/8" x 36" - 25# PKG
15636R	1/8" DIA x 36" - 25# PKG
15636S	1/8" SQ x 36" - 25# PKG
15636S10	1/8" SQ x 36" - 10# TUBE
1520FMPOP	.050" x 1/8" - 8 STICKS

RINGS & RETURN BENDS

A popular method of filler metal placement is by using brazing rings. Braze rings can be made in a variety of alloy compositions and are sized to fit your specific part. When heated, the brazing ring melts and flows into the capillary space to make a complete bond. Braze rings are often used with automated brazing equipment to ensure braze filler metal placement at the exact location. Since each size ring is designed for a specific part, there is no waste from excess filler metal applications. Rings can be located on the external surface, or "buried" inside and drawn out during heating. Our engineers can assist with ring size and application details. Our Autobraise ring division combines its unique control of chemistry with highly advanced manufacturing capabilities to fabricate precision brazing rings. This means brazing rings with exact dimensional tolerances and reliable flow characteristics.



**USA
MADE IN**

**RoHS
COMPLIANT**



HIGH SILVER

Harris silver brazing alloys are produced with precise wire size and chemical composition. Safety-Silv® brazing alloys are offered in coil, straight lengths, and bare or flux coated rods. To protect the health of operators the use of cadmium-bearing filler metals should be discontinued. Cadmium oxide fumes produced during brazing operations are highly toxic and a listed carcinogen. Harris offers no silver brazing alloys containing cadmium.

SAFETY-SILV® 25

A low cost, general purpose silver brazing alloy. Exhibits moderate ductility and slightly higher melting temperature than alloys containing higher percentages of silver and / or tin.

**USA
MADE IN**

**RoHS
COMPLIANT**

Chemical Composition	Solidus	Liquidus	Fluidity Rating*
Silver-25% Copper-43% Zinc-30% Tin-2%	1270° F 688° C	1435° F 779° C	5
*The higher the fluidity rating, the faster the alloy flows within the melting range.			

PART NO.	SIZE
25350	1/16" - 50 t.o. COIL
25550	3/32" - 50 t.o. COIL





HIGH SILVER

SAFETY-SILV® 30

A moderate temperature filler metal with flow characteristics useful for wider gaps.

PART NO.	SIZE
30250	3/64" - 50 t.o. COIL
3031	1/16" - 1 t.o. PKG SPECIAL ORDER
30318L	1/16" x 18" - 15 t.o. TUBE
30350	1/16" - 50 t.o. COIL
30650	1/8" - 50 t.o. COIL

PN: 3031
1/16" - 1 t.o. PKG

USA
MADE IN

RoHS
COMPLIANT



Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-30% Copper-38% Zinc-32%	1250° F 677° C	1410° F 766° C	6	BAg-20

*The higher the fluidity rating, the faster the alloy flows within the melting range.

SAFETY-SILV® 35

A good selection for replacing the cadmium alloys. Safety-Silv 35 joints are strong, ductile with brazing temperatures only slightly higher than cadmium-bearing 30 and 35 silver alloys.

PART NO.	SIZE
3531	1/16" - 1 t.o. PKG
35318L	1/16" x 18" - 15 t.o. TUBE
35325	1/16" - 25 t.o. COIL
3533	1/16" - 3 t.o. PKG
3535	1/16" - 5 t.o. PKG
35350	1/16" - 50 t.o. COIL
3551	3/32" - 1 t.o. PKG
35518L	3/32" x 18" - 15 t.o. TUBE
35550	3/32" - 50 t.o. COIL
35618L	1/8" x 18" - 15 t.o. TUBE
35650	1/8" - 50 t.o. COIL

PN: 3533
1/16" - 3 t.o. PKG

USA
MADE IN

RoHS
COMPLIANT



Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-35% Copper-32% Zinc-33%	1250° F 677° C	1350° F 732° C	5	BAg-35

*The higher the fluidity rating, the faster the alloy flows within the melting range.

SAFETY-SILV® 38T

This tin-bearing alloy combines excellent fillet-forming characteristics with good flow properties. The addition of a small amount of tin provides qualities normally associated with alloys containing greater quantities of silver.

PART NO.	SIZE
38T336L	1/16" x 36 - 50 t.o. TUBE
38T350	1/16" - 50 t.o. COIL
38T550	3/32" - 50 t.o. COIL

PN: 38T350
1/16" - 50 t.o. COIL

USA
MADE IN

RoHS
COMPLIANT



Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-38% Copper-32% Zinc-28% Tin-2%	1220° F 660° C	1325° F 718° C	7	BAg-34

*The higher the fluidity rating, the faster the alloy flows within the melting range.

SAFETY-SILV® 40

Ductile, free-flowing alloy that offers economy, good penetration into tight connections and medium temperature. Silver to light yellow color as in polished brass.

PART NO.	SIZE
4031	1/16" - 1 t.o. PKG
4033	1/16" - 3 t.o. PKG
4035	1/16" - 5 t.o. PKG
40350H	1/16" - 50 t.o. COIL
40550H	3/32" - 50 t.o. COIL
40F3184	FC - 1/16" x 18" - 4 OZ TUBE

PN: 4033
1/16" - 3 TO PKG

USA
MADE IN

RoHS
COMPLIANT



Chemical Composition	Solidus	Liquidus	Fluidity Rating*
Silver-40% Copper-30.5% Zinc-29.5%	1250° F 677° C	1350° F 732° C	5

*The higher the fluidity rating, the faster the alloy flows within the melting range.

SAFETY-SILV® 40T

Similar to 38T in its ability to form excellent fillets and maintain good mechanical properties.

PART NO.	SIZE
40T318L	1/16" x 18" - 15 t.o. TUBE
40T350	1/16" - 50 t.o. COIL
40T518L	3/32" x 18" - 15 t.o. TUBE
40T550	3/32" - 50 t.o. COIL

USA
MADE IN

RoHS
COMPLIANT

PN: 40T350
1/16" - 50 t.o. COIL



SAFETY-SILV® 40NI2

For stainless steel, nickel alloy for corrosion resistance and strength, and a good choice for tungsten carbide tool tipping.

PART NO.	SIZE
40N250	3/64" - 50 t.o. COIL
40N318L	1/16" x 18" - 15 t.o. TUBE
40N325	1/16" - 25 t.o. COIL
40N350	1/16" - 50 t.o. COIL
40N518L	3/32" x 18" - 15 t.o. TUBE

USA
MADE IN

RoHS
COMPLIANT

PN: 40N325
1/16" - 25 t.o. COIL



Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-40% Copper-30% Zinc-28% Nickel%-2	1220° F 660° C	1310° F 710° C	6.5	BAG-28

*The higher the fluidity rating, the faster the alloy flows within the melting range.

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-40% Copper-30% Zinc-28% Nickel%-2	1220° F 660° C	1435° F 779° C	4.5	BAG-4

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
4511	1/32" - 1 t.o. PKG
4513	1/32" - 3 t.o. PKG
4515	1/32" - 5 t.o. PKG
45150H	1/32" - 50 t.o. COIL
4521	3/64" - 1 t.o. PKG
4525	3/64" - 5 t.o. PKG
45250H	3/64" - 50 t.o. COIL
4531	1/16" - 1 t.o. PKG
45318L	1/16" x 18" - 15 t.o. TUBE
45318LMPOP	1/16" x 18" MINI PAK - 5 STICKS
45F318MPPOP	1/16" x 18" FLUX CTD. MINI PAK - 3 STICKS
45325H	1/16" - 25 t.o. COIL
4533	1/16" - 3 t.o. PKG
45336L	1/16" x 36" - 50 t.o. TUBE
4535	1/16" - 5 t.o. PKG
45350H	1/16" - 50 t.o. COIL
4551	3/32" - 1 t.o. PKG
45518L	3/32" x 18" - 15 t.o. TUBE
45518LMPOP	3/32" x 18" MINI PAK - 3 STICKS
4553	3/32" - 3 t.o. PKG
45536L	3/32" x 36" - 50 t.o. TUBE
4555	3/32" - 5 t.o. PKG
45550H	3/32" - 50 t.o. COIL
45618L	1/8" x 18" - 15 t.o. TUBE
45650H	1/8" - 50 t.o. COIL
45F3184	1/16" x 18" - 40Z 9 STICKS
45F318L	1/16" x 18" - (2) 1# BAG IN TUBE
45F5184	3/32" x 18" - 4 OZ TUBE
45F518L	3/32" x 18" - (2) 1# BAG IN TUBE
45F6184	1/8" x 18" - 4 OZ TUBE
45F618L	1/8" x 18" - (2) 1# BAG IN TUBE

SAFETY-SILV® 45

Excellent general purpose brazing alloy. Good ductility and capillary flow. Color is silver to light yellow.

USA
MADE IN

RoHS
COMPLIANT

AVAILABLE IN KIT WITH FLUX



PN: 45F3184
Safety-Silv® 45 1/16" x 18"
FLUX COATED - 9 STICKS



SAFETY-SILV® 45 MINI PAK

General purpose filler for steel and copper alloys. Melting range useful for wide clearances.

USA
MADE IN

RoHS
COMPLIANT



PN: 45318LMPOP
Safety-Silv® 45
1/16" x 18"
MINI PAK



PN: 45F318MPPOP
Safety-Silv® 45 1/16" x 18"
FLUX COATED

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-45% Copper-30% Zinc-25%	1225° F 663° C	1370° F 743° C	6.5	BAG-5

*The higher the fluidity rating, the faster the alloy flows within the melting range.



HIGH SILVER

SAFETY-SILV® 45 BRAZING KIT

General purpose filler for steel and copper alloys. Melting range useful for wide clearances. Kit contains 1 oz. of braze wire and 1.75 oz. of Stay-Silv White Flux.

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-45% Copper-30% Zinc-25%	1225° F 663° C	1370° F 743° C	6.5	BAG-5

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
45KPOP	1/16" BRAZING KIT

USA
MADE IN

RoHS
COMPLIANT



SAFETY-SILV® 45T

NSF

Performs like a 45% silver cadmium-bearing alloy but is cadmium-free. Lower melting temperature than Safety-Silv 45. Excellent fillet-forming qualities produces high-strength, ductile joints. NSF Certified to NSF 51.

USA
MADE IN

RoHS
COMPLIANT

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-45% Copper-27% Zinc-25% Tin-3%	1195° F 646° C	1265° F 685° C	7	BAG-36

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
45T225SP	3/64" - 25# SPOOL
45T31	1/16" - 1 t.o. PKG
45T318L	1/16" x 18" - 15 t.o. TUBE
45T33	1/16" - 3 t.o. PKG
45T35	1/16" - 5 t.o. PKG
45T350	1/16" - 50 t.o. COIL
45TF3184	1/16" x 18" - 4 OZ TUBE
45TF318L	1/16" x 18" - (2) 1# BAG IN TUBE

PN: 45T31
Safety-Silv® 45T
1/16" - 1 t.o. PKG



SAFETY-SILV® 50

Useful in brazing electrical connections and as a cadmium-free replacement for 50% silver alloys. It has a wide melting range suitable for bridging gaps where poor fit-ups are encountered.

USA
MADE IN

RoHS
COMPLIANT

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-50% Copper-34% Zinc-16%	1270° F 688° C	1425° F 774° C	5.5	BAG-6

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
5031	1/16" - 1 t.o. PKG
50318L	1/16" x 18" - 15 t.o. TUBE
5035	1/16" - 5 t.o. PKG
50350H	1/16" - 50 t.o. COIL
50550H	3/32" - 50 t.o. COIL
50650H	1/8" - 50 t.o. COIL

PN: 5031
Safety-Silv® 50
1/16" - 1 t.o. PKG



SAFETY-SILV® 50N

This 50% silver alloy is a good replacement for the 3% nickel, cadmium alloy (AWS BAg3). It is especially helpful where low brazing temperature must be maintained. It can be used to braze tungsten carbide, stainless steel, as well as other steel, copper, and nickel alloys.



PN: 50N250
3/64" - 50 t.o. COIL

USA
MADE IN

RoHS
COMPLIANT

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class
Silver-50% Copper-20% Zinc-28% Nickel-2%	1220° F 660° C	1305° F 707° C	7	BAG 24

*The higher the fluidity rating, the faster the alloy flows within the melting range.

PART NO.	SIZE
50N150	1/32" - 50 t.o. COIL
50N250	3/64" - 50 t.o. COIL
50N318L	1/16" x 18" - 15 t.o. TUBE
50N325	1/16" - 25 t.o. COIL
50N325SP	1/16" - 25# SPOOL SPECIAL ORDER
50N336L	1/16" x 36" - 50 t.o. TUBE
50N35	1/16" - 5 t.o. PKG
50N350	1/16" - 50 t.o. COIL
50N518L	3/32" x 18" - 15 t.o. TUBE
50N536L	3/32" x 36" - 50 t.o. TUBE
50N550	3/32" - 50 t.o. COIL

SAFETY-SILV® 56



High silver content alloy; makes premium-quality brazes. Free-flowing with unsurpassed capillary attraction and deep penetration with high ductility. Suitable for use in the food processing industry. Silver color is excellent match for stainless steel and silverware applications. NSF Listed.



PN: 5631
1/6" DIA. - 1 TO PKG

USA
MADE IN

RoHS
COMPLIANT

SAFETY-SILV® 56 MINI PAK

For ferrous and nonferrous alloys. Often used to braze stainless steel for food service.



PN: 56318LMPPOP
1/16" x 18" MINI PAK

USA
MADE IN

RoHS
COMPLIANT



PN: 56F318MPOP
1/16" x 18" MINI PAK
FLUX COATED

PART NO.	SIZE
5611	1/32" - 1 t.o. PKG
5615	1/32" - 5 t.o. PKG
56150	1/32" - 50 t.o. COIL
56225SP	3/64" - 25# SPOOL
5625	3/64" - 5 t.o. PKG
56250	3/64" - 50 t.o. COIL
5631	1/16" - 1 t.o. PKG
56318L	1/16" x 18" - 15 TO TUBE
56318LMPPOP	1/16" x 18" MINI PAK - 5 STICKS
56F318MPOP	1/16" x 18" FLUX COATED MINI PAK - 3 STICKS
56325	1/16" - 25 t.o. COIL
5633	1/16" - 3 t.o. PKG
56336L	1/16" x 36" - 50 t.o. TUBE
5635	1/16" - 5 t.o. PKG
56350	1/16" - 50 t.o. COIL
56518L	3/32" x 18" - 15 t.o. TUBE
5653	3/32" - 3 t.o. PKG
5655	3/32" - 5 t.o. PKG
56550	3/32" - 50 t.o. COIL
56618L	1/8" x 18" - 15 t.o. TUBE
56650	1/8" - 50 t.o. COIL
56F3184	1/16" x 18" - 4 OZ TUBE
56F318L	1/16" x 18" - (2) 1# BAG IN TUBE
56F5184	3/32" x 18" - 4 OZ TUBE
56F518L	3/32" x 18" - (2) 1# BAG IN TUBE

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class	NSF
Silver-56% Copper-22% Zinc-17% Sn-5%	1145° F 618° C	1205° F 652° C	8	BAG-7	51

*The higher the fluidity rating, the faster the alloy flows within the melting range.

SAFETY-SILV® 56 BRAZING KIT



Safety-Silv 56 in a convenient kit containing 1 oz. of braze wire and 1.75 oz. of Stay-Silv white flux.

PART NO.	SIZE
56KPOP	BRAZING KIT WITH FLUX

USA
MADE IN

RoHS
COMPLIANT

Chemical Composition	Solidus	Liquidus	Fluidity Rating*	AWS A5.8 Class	NSF
Silver-56% Copper-22% Zinc-17% Sn-5%	1145° F 618° C	1205° F 652° C	8	BAG-7	51

*The higher the fluidity rating, the faster the alloy flows within the melting range.





ALUMINUM BRAZING

AL-BRAZE 1070

A superior brazing alloy for the joining of aluminum to aluminum. Al-Braze is free-flowing with unequaled capillary attraction, ductility and penetration. Not recommended for brazing Aluminum directly to non-Aluminum alloys as the joint may be brittle.

Procedure:

- Clean the braze area
- Remove all plating or anodized finish
- Heat the wire and dip into dry flux for extra coverage
- Mix powdered flux with water to form a paste
- Use a reducing flame
- Keep torch in constant motion
- Melt the alloy with the heat from the work piece not with the torch

Features:

- Tensile strength - Up to 35,000 PSI
- Solidus - 1070°F / 577°C
- Liquidus - 1080°F / 582°C
- Excellent corrosion resistance
- Specific gravity - 2.66

**USA
MADE IN**



Description	Chemical Composition	Solidus	Liquidus	Typical Application
Al-Braze 1070 Aluminum Brazing Kit	88% Al 12% Si	1070° F 577° C	1080° F 582° C	Superior brazing alloy for joining aluminum to aluminum. Excellent capillary attraction.

PART NO.	SIZE
1070K	ALBRAZE 1070 KIT

ALCOR

A very easy to use aluminum alloy with non-corrosive flux inside the wire; no external flux is required with this product. Designed for the repair of heat exchangers, air conditioners, aluminum alloy condensers and other applications. Very good fluidity with good capillary attraction. Post-braze cleaning unnecessary. Better than tin-zinc and aluminum silicon alloys for aluminum coil repair.

Procedure:

- Clean the surface of the aluminum to be joined
- Use a stainless steel brush
- Heat the surface evenly, apply ALCOR

Features:

- Tensile strength - Up to 35,000 psi
- Melts at 824°F / 440°C

**USA
MADE IN**



Description	Chemical Composition	Solidus	Liquidus	Typical Application
Alcor Flux-Cored Aluminum Alloy	Zn Al	824° F 440° C	824° F 440° C	A new approach to joining aluminum. A low temperature, free flowing, flux-cored solder for aluminum joining or repair.

PART NO.	SIZE
AL200RC	ALCOR-2MM DIA. - COIL

CORAL

Flux cored aluminum torch alloy which is able to produce either thin flowing of bead forming characteristics. Aluminum to aluminum; Not recommended for brazing aluminum directly to non-aluminum alloys.

CORAL is a tubular aluminum rod with an extremely active flux formulation inside the tube. The ratio of the flux to the filler material is precisely calibrated, assuring versatile performance. By adjustment of the temperature of the torch flame, It can be applied out-of-position with absolute control.

Procedure:

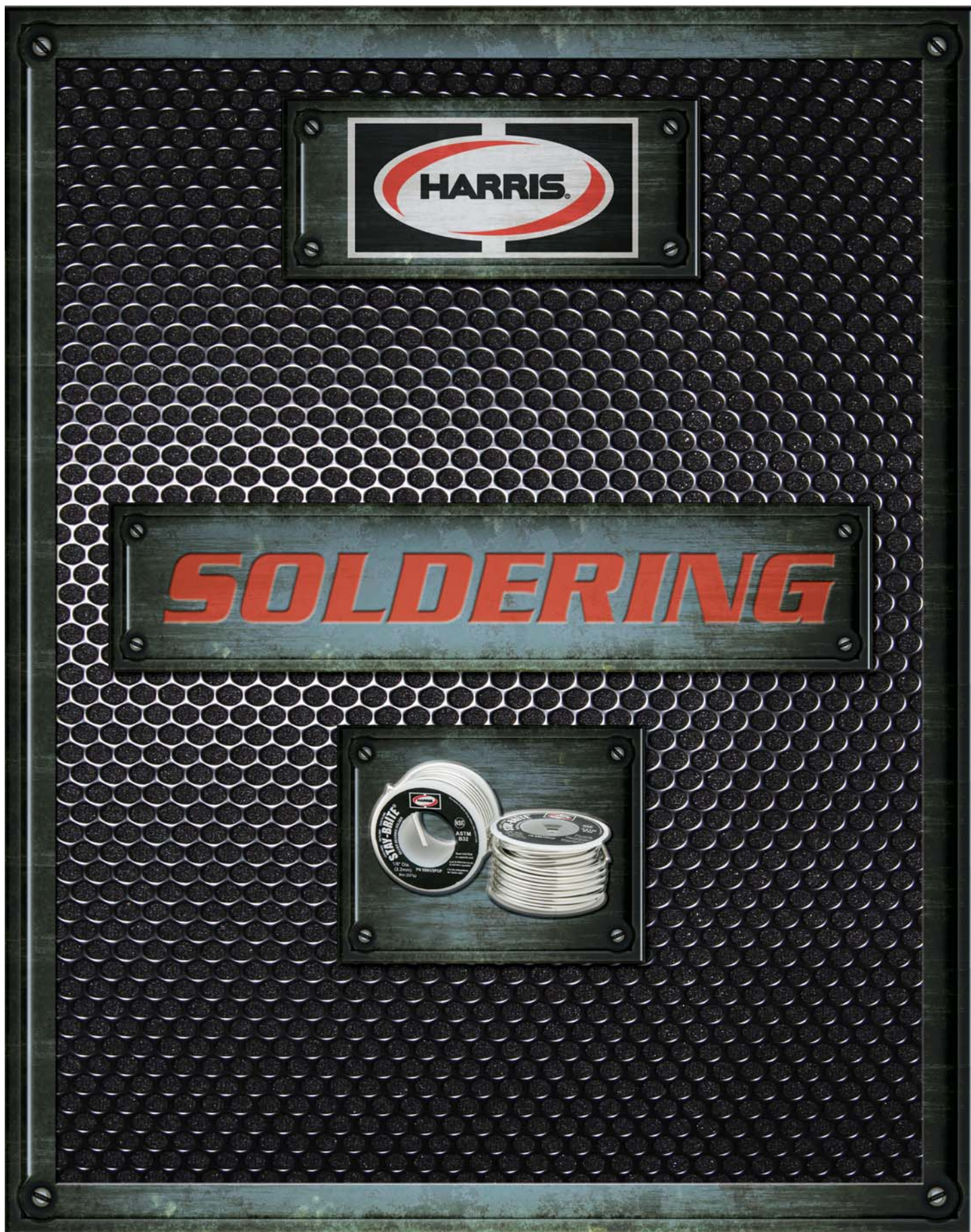
- Clean the braze area
- Remove all plating or anodized finish
- Leave a gap of 1/16" to 1/8"
- Bevel 60° to 70° for butt joints or cracks
- It is not necessary to melt the base metal
- Use a carburizing flame
- Keep the flame 1" to 3" from the surface
- Touch to the braze area under the flame until the filler metal flows
- Deposit small amounts of alloy & allow it to flow out on the braze area
- For build up work, reduce the heat play the flame on the filler rod above the workpiece
- Melt drops of the CORAL onto the workpiece and a stiff brush
- For greater flowability, use Al-Braze flux
- Remove the flux residue with warm water
- Crimp the end of the rod after use to seal in flux

Features:

- Tensile strength - Up to 30,000 PSI
- Solidus - 1055°F / 568°C
- Liquidus - 1155°F / 623°C
- Good color match (will darken if anodized)
- Good corrosion resistance
- Can be applied out-of-position



PART NO.	SIZE
CORAL60	CORAL 1/8" - 3# PKG





LEAD FREE SOLDERS

STAY-BRITE® SILVER SOLDER - LEAD FREE



Silver-bearing solders are often used throughout the refrigeration/air conditioning industry instead of brazing alloys. Both Stay-Brite and Stay-Brite 8 produce an overall component with greater strength than a brazed component whose base metals are weakened by annealment from high brazing heat. Stay-Brite solders bond with all of the ferrous and nonferrous alloys. Joints soldered with Stay-Brite solders exhibit considerably higher than necessary elongation for sound, dissimilar metal joints and vibration applications. Stay-Brite 8 is especially effective in filling loosely fitted couplings. Use for all metals with the exception of aluminum. This is a low temperature solder excellent for many HVAC connections.

Product	Chemical Composition	Specifications	Solidus	Liquidus
Stay-Brite 8	6% Ag 94% Sn	NSF 51	430°F 535°C	430°F 535°F

Product	Chemical Composition	Specifications	Solidus	Liquidus
Stay-Brite	4% Ag 96% Sn	ASTM B32 Sn96 NSF 51 • J-STD-006 Sn96Ag 04A	430°F 221°C	430°F 221°F

STAY-BRITE® KIT - LEAD FREE SOLDER

Use for all metals with the exception of aluminum. Low temperature solder excellent for many HVAC connections.

Chemical Composition	Specifications	Solidus	Liquidus
4% Ag 96% Sn	ASTM B32 Sn 96 NSF 51 • J-STD-006 Sn96 Ag 04A	430°F 221°C	430°F 221°C

PART NO. SB8	SIZE
SB811	1/32" DIA - 1# SPOOL SPECIAL ORDER
SB831	1/16" DIA - 1# SPOOL
SB855	3/32" DIA - 5# SPOOL
SB861	1/8" - 1# SPOOL
SBRC65	SBRC-1/8" DIA - 5# SPOOL
SB61/2POP	1/8" - 8 oz SPOOL

PART NO. STAY-BRITE	SIZE
SB11	1/32" - 1# SPOOL
SB31	1/16" - 1# SP
SB51	3/32" - 1# SPOOL
SB61	1/8" - 1# SPOOL
SB625	1/8" - 25# SPOOL
SB65	1/8" - 5# SPOOL



PN: SB861
Stay-Brite 8
1/8" - 1# SPOOL

USA
MADE IN

RoHS
COMPLIANT

PART NO.	SIZE
SBSKPOP	KIT WITH FLUX



USA
MADE IN

RoHS
COMPLIANT

BRIDGIT®



Lead-free solder widely used in plumbing applications where lead-bearing solders are prohibited. Contains nickel, making joints tremendously strong. Wide range makes Bridgit an excellent alloy for large diameter fittings and ill-fitted or non-concentric pipes. Fills gaps and caps off easily and effectively.

Specifications	Solidus	Liquidus	ASTM B32
ASTM B32 HB • NSF to ANSI NSF61 Conforms to 1986 Safe Drinking Act	460°F 238°C	630°F 332°F	Alloy Grade HB

PART NO.	SIZE
BRGT31	1/16" - 1# SPOOL SPECIAL ORDER
BRGT51	3/32" - 1# SPOOL
BRGT61	1/8" - 1# SPOOL
BRGT65	1/8" - 5# SPOOL
BRGT625	1/8" - 25# SPOOL
BRGT61/2POP	1/8" - 8 oz. SPOOL



PN: BRGT61
BRIDGIT SOLDER
1/8" - 1# SPOOL

USA
MADE IN

RoHS
COMPLIANT

NICK®



Nick is a lead-free plumbing solder having been specifically formulated as a replacement for the tin/lead solders. It has a wide melting range (291° F - 144° C) that allows operators to fill small tight fitting pipe connections and also to bridge gaps in large, loose fitting or non-concentric pipe. Its ease of application in all types of copper joints, makes it the preferred solder of experienced operators and is the most forgiving in the hands of the less experienced. Nick is a patented alloy which meets all Federal requirements for lead-free solders mandated by the Federal Safe Drinking Water Act Amendments of 1986. (Public Law 99-339)

Solidus	Liquidus	ASTM B32-89
438°F 225°C	729°F 387°C	Alloy Grade HN

PART NO.	SIZE
NICK61	1/8" - 1# SPOOL



PN: NICK61
1/8" - 1# SPOOL

USA
MADE IN

RoHS
COMPLIANT

LEAD FREE SOLDERS



SPEEDY®

Speedy has a faster melting range, which allows operators to fill small, tight-fitting pipe connections quickly. Speedy's low temperature, free flowing nature decreases cycle time while reducing setup time. Speedy can be used with Stay-Clean paste or liquid flux, as well as Bridgit paste flux. Speedy is a lead-free, low temperature alloy formulated for joining copper pipe in potable water systems. This tin-based alloy conforms to the 1986 Federal Safe Drinking Water Act Amendment.

Solidus	Liquidus
450°F 232°C	555°F 290°C

USA
MADE IN

RoHS
COMPLIANT

PART NO.	SIZE
SPDY61	1/8" - 1# SPOOL
SPDY625	1/8" - 25# SPOOL SPECIAL ORDER

PN: SPDY61
1/8" - 1# SPOOL



95/5

Tin-antimony solder well suited for applications where moderately elevated temperature is a factor. With higher electrical conductivity and high fluidity, 95/5 is recommended for lead free installation of small diameter, tight fitting connections. Not recommended for use on brass or HVAC connections.

USA
MADE IN

RoHS
COMPLIANT

PN: 95561/2POP
95/5
1/8" - 8 oz SPOOL



PART NO.	SIZE
95531	1/16" DIA - 1# SPOOL
95551	3/32" DIA - 1# SPOOL
95561	1/8" DIA - 1# SPOOL
95565	1/8" DIA - 5# SPOOL
95561/2POP	1/8" - 8 oz SPOOL

Chemical Composition	Solidus	Liquidus	ASTM B32
Sn-95% Sb-5%	452°F 233°C	464°F 240°C	Sb5, J-STD-006 Sn95, Sb05A

ALSOLDER 500 - ALUMINUM SOLDER

Solder alloy for torch or iron. Used to join all solderable aluminum alloys to each other and to dissimilar metals. Also for zinc die-cast. Forms excellent, corrosion resistant joints on the tough to solder aluminum alloys. Also beneficial as a high temperature solder on most other metals. Not recommended for magnesium.

Procedure:

- Clean the area to be soldered
- Apply Stay Clean aluminum flux
- If using an open flame, heat indirectly with the torch in motion (do not direct the torch on the flux)
- Heat until the flux becomes a nut brown color
- Apply the alloy
- Discontinue heat as soon as flow
- Allow to cool. Remove flux residue with wire brush and hot water

Features:

- Tensile strength - Up to 20,000 PSI
- Solidus - 391°F
- Liquidus - 482°F
- Good color match on aluminum and zinc die cast

USA
MADE IN

RoHS
COMPLIANT

PN: 500K
KIT



Description	Chemical Composition	Solidus	Liquidus	Typical Application
Alsolder 500 Aluminum Solder Kit	15% Zn 85% Sn	391° F 199° C	482° F 250° C	Forms excellent corrosion-resistant joints on the tough-to-solder aluminum alloys. Use for copper to aluminum connections.

GAL VIZ

A special self-fluxing solder alloy for repairing damaged galvanized coatings. Gal Viz provides excellent corrosion resistance. It has a working temperature of about 600° F. Apply while base metal is hot. A clean wire brush will aid in tinning the surface with Gal Viz. It can also be tinned with a paddle or cloth. Do not direct flame on the alloy. Heat the base metal and rub the rod on the metal. When it melts, the temperature is correct.

PART NO.	SIZE
GLVIZ90	1/4" x 14" - 5# PKG





COMMON SOLDERS

40/60

With some exceptions, these tin-lead solders can be used to join copper and most copper alloys, lead, nickel alloys and steel. Tin-lead solders are not recommended for joints subject to high stress or vibration in the cooling industry due to lack of sufficient elongation properties. These solders are also available with rosin or acid core. **It is illegal to use lead solders in both public and private potable water systems.**

Chemical Composition	Solidus	Liquidus	ASTM B32
Sn-40% PB-60%	360° F 182° C	460° F 238° C	Sn40A

**USA
MADE IN**

PART NO.	SIZE
406061	1/8" - 1# SPOOL
40A61	ACID CORE 1/8" - 1# SPOOL
40A65	ACID CORE 1/8" - 5# SPOOL
40R61	ROSIN CORE 1/8" - 1# SPOOL



CAUTION:

Lead-bearing solders are not to be used in potable water systems.

60/40

With some exceptions, these tin-lead solders can be used to join copper and most copper alloys, lead, nickel alloys and steel. Tin-lead solders are not recommended for joints subject to high stress or vibration in the cooling industry due to lack of sufficient elongation properties. These solders are also available with rosin or acid core. Similar to 50/50 but flows faster due to narrow melting range. **It is illegal to use lead solders in both public and private potable water systems.**

Chemical Composition	Solidus	Liquidus	ASTM B32
Sn-60% Pb-40%	360° F 182° C	375° F 191° C	Sn60

**USA
MADE IN**

PART NO.	SIZE
60401B	1# BAR
604031	1/16" - 1# SPOOL
604061	1/8" - 1# SPOOL
60R11	ROSIN CORE-1/32" - 1# SPOOL
60R31	ROSIN CORE-1/16" - 1# SPOOL
60R51	ROSIN CORE 3/32" - 1# SPOOL
60R61	ROSIN CORE-1/8" - 1# SPOOL
60R61/2POP	1/8" - 8 oz ROSIN CORE
60R31/2POP	1/16" - 8 oz. SPOOL ROSIN CORE

PN: 60R61/2POP
60/40
1/8" - 8 oz. SPOOL



CAUTION:

Lead-bearing solders are not to be used in potable water systems.

50/50

With some exceptions, these tin-lead solders can be used to join copper and most copper alloys, lead, nickel alloys and steel. Tin-lead solders are not recommended for joints subject to high stress or vibration in the cooling industry due to lack of sufficient elongation properties. These solders are also available with rosin or acid core. Note: It is illegal to use lead solders in both public and private potable water systems. **It is illegal to use lead solders in both public and private potable water systems.**

Chemical Composition	Solidus	Liquidus	ASTM B32
Sn-50% PB-50%	360°F 182°C	420°F 216°C	Sn50, J-STD-006 Sn50,Pb50a

**USA
MADE IN**

PART NO.	SIZE
5050TB	TRI BAR - 1#
50501B	1# BAR
505061	1/8" DIA - 1# SPOOL
505065	1/8" DIA - 5# SPOOL
5050620	1/8" - 20# SPOOL
50R31	ROSIN CORE 1/16" - 1# SPOOL
50R51	ROSIN CORE 3/32" - 1# SPOOL
50R61	ROSIN CORE 1/8" - 1# SPOOL
505061/2POP	1/8" - 8 oz SPOOL POP
50A61	ACID CORE 1/8" - 1# SPOOL

PN: 505061/2POP
50/50
1/8" - 8 oz. SPOOL



CAUTION:

Lead-bearing solders are not to be used in potable water systems.





BRAZING FLUX

STAY-SILV® (WHITE FLUX)

An all purpose, low temperature flux for use in silver brazing. Use with most ferrous and non ferrous metals, not recommended on aluminum, magnesium, and titanium. The active temperature range is 1050°F/566°C - 1600°F /871°C

PART NO.	SIZE
SSWF1/4	1/4# JAR
SSWF1/2	1/2# JAR
SSWF7	6.5OZ BTL
SSWF1	1# JAR
SSWF5	5# JAR
SSWF25	25# PAIL
SSWF60	60# PAIL
SSWF7POP	6.5OZ BTL

**USA
MADE IN**

PN: SSWF60
60# PAIL



Specification	Active Temperature	Typical Application
Meets Federal Spec. OF499, Type B AWS A5.31 Class FB3A AMS 3410	Below 1600°F	For use with silver brazing alloys on all metals other than aluminum, magnesium, or titanium.

DYNAFLOW® (WHITE FLUX)

A fluid-paste silver brazing flux for automated and manual brazing. The active temperature range is 1050°F/566°C - 1600°F /871°C. Good fluidity provides excellent joint penetration, it is nonflammable, has a long shelf life, good dispensing performance and is cosmetically superior. Use with copper, brass, and steel.

PART NO.	SIZE
DYNAW50	50# PAIL

**USA
MADE IN**



STAY-SILV® (BLACK FLUX)

An all purpose, high temperature flux for use in silver brazing. Formulated for applications where the work is subjected to rapid, localized heating. Particularly useful in applications where large amounts of refractory oxides may form, such as with stainless steel alloys. Use with stainless steel, carbide, heavy parts, prolonged heating cycles. The active temperature range is 1050°F/566°C - 1800°F /982°C

Use Stay-Silv White Brazing Flux on applications requiring normal heat. Use Stay-Silv Black Flux on heavy parts, where localized overheating may occur, and where parts are heated over a prolonged period. Stay-Silv Black Flux is also suggested when brazing stainless steel.



PN: SSBF1/2
1/2# JAR

PART NO.	SIZE
SSBF1/2	1/2# JAR
SSBF1	1# JAR
SSBF5	5# JAR
SSBF30	30#
SSBF60	60#

Conforms to J.C.
AWS Type FB3C and
AMS 3411 Specifications

**USA
MADE IN**

AL-BRAZE FLUX

A powdered flux for use with aluminum brazing alloys. Use with Al-Braze 1070, 4047 (718) aluminum may be mixed with water or alcohol to form a paste.

PART NO.	SIZE
10701/2	1/2# - JAR

**USA
MADE IN**



SPEED FLUX

Speed flux is a liquid brazing flux conducted to the braze joint via the fuel gas/oxygen flame. It is used with appropriate liquid flux dispensing applicators for use with silver, copper-phosphorus-silver, and bronze brazing. It is primarily used to braze copper, brass, and steel and protects the metal surface from oxidation and discoloration. Small assemblies can sometimes be brazed without a separate paste flux application. For larger parts, where there is a long overlap, or where full penetration is necessary, a separate paste flux application is often recommended.

PART NO.	SIZE
SPDFX0H	1GL (HAZMAT) NO AIR
SPDFX0J	5GL (HAZMAT) TRUCK

NOTE:
Hazardous material SPDFX0H can not be shipped via air.

PN: SPDFX0H
1 GAL.





600 POWDER FLUX

The 600 Flux is a general purpose brazing flux. It is used with oxy-fuel braze welding using low fuming bronze and nickel silver rods on steel, copper and cast iron. It is applied to the rod by preheating the rod end and dipping the rod into the flux. The flux will adhere to the heated rod.

600 Powder flux has an active temperature range of 1400° F to 2200° F.

**USA
MADE IN**

700 POWDER FLUX

STAY-CLEAN® ALUMINUM FLUX

A liquid flux for use with aluminum soldering. Use with Al-Solder 500. Works to join aluminum to dissimilar metals.

STAY-CLEAN® PASTE FLUX

**USA
MADE IN**

An active soldering flux formulated for use with tin-lead, tin-antimony, and tin-silver solders. Superior flux for most metals, copper, brass, bronze, steel, stainless steel, galvanized, Monel®, Not recommended for aluminum, magnesium, or titanium. Not recommended for electrical or electronic applications.

STAY-CLEAN® LIQUID FLUX

**USA
MADE IN**

A general purpose zinc chloride flux for soldering with all soft solders use with tin-lead solder, tin-antimony solder, Stay-Brite solder, for soldering virtually all metals, except aluminum, magnesium or titanium. Not recommended for use in electrical or electronic applications.

Specification	Active Temperature	Typical Application
Meets Commercial Spec. A-A-51145C	Below 700°F	Excellent flux for joining copper to copper and copper to brass. Not recommended for electrical or electronic applications.

PART NO.	SIZE
600FX01	1# CAN
600FX50	50# PAIL

PN: 600FX01
1# CAN



PART NO.	SIZE
700FX01	14# CAN

PART NO.	SIZE	
SCLF4	40Z BTL	LIQUID
SCLF16	160Z BTL	LIQUID
SCLF32	320Z BTL	LIQUID
SCLF1G	1GL	LIQUID
SCLF55	55GL	LIQUID
SCPF4	40Z JAR	PASTE
SCPF1	1# JAR	PASTE
SCPF4POP	40Z BTL	PASTE



PN: SCLF16
160z



PN: SCPF4POP
40z

BRIDGIT® FLUXES

PASTE FLUX: Designed for use with lead-free solders. Works extremely well with Bridgit lead-free solder in potable water systems and equally well with other solders. Meets all requirements of the Safe Drinking Water Act. Stays active to 800°F and will not burn at soldering temperature. This reduces black carbon formations that can result in voids and leaks.

WATER SOLUBLE FLUX: A water flushable paste that holds its shape and will not slump. Use with plumbing applications, copper and copper-alloy tubes, heating, air-conditioning, mechanical piping, and fire sprinklers. Water-soluble alternative to petroleum-based plumbing fluxes, begins cleaning metals at room temperature, excellent solderability with lead-free solders.

Specification	Active Temperature	Typical Application
Conforms to ASTM B813	Below 800°F	Designed for lead-free solders and well suited for use in larger connections where prolonged heating will cause other fluxes to burn.

PART NO.	SIZE	
BRPF4	40Z BTL	
BRPF1	1# BTL	
BRPF4WS	40Z BTL	WATER SOLUBLE
BRPF4POP	40Z BTL	WATER SOLUBLE



PN: BRPF4POP
40z
BOTTLE



PN: BRPF4
40z
BOTTLE

**USA
MADE IN**

WELDING FLUX

SOLAR WELDING FLUX

Solar Flux is a complex chemical compound in the form of a very fine powder. Solar Flux is mixed with alcohol (methanol/methyl alcohol preferred) and brushed on the weld joint. It is formulated to shield the back of the weld joint from oxygen, dissipate heat and unwanted oxides, and to clean the surface of the metal. It will aid in the flow of filler metal over base metal and form a protective barrier to prevent re-oxidation and heat scale.

Type B for stainless steel, (except 309, 310), precipitation hardening steels, chrome-moly steels, other alloy steels with nickel content below 25%.

PART NO.	SIZE
S0FB01	1# CAN

PN: S0FB01
1# CAN





Aluminum Cut Lengths and Spooled Wires are manufactured to meet the rigid requirements of AWS A5.10. Cleanliness, and wire temper are precisely controlled.

ALLOY 4043 (MIG)

Qualified to AWS A5.10 ER4043, ABS, ISO Designation AISi5. 4043 is an all position 5% silicon alloy used to weld heat treatable base alloys. It is most often used to weld the 6XXX series of alloys. The silicon addition improves puddle fluidity, producing an appealing bead profile. It is less crack sensitive on the 6XXX series than other welding alloys. Common applications are automotive parts, truck trailers, bicycles.



PN: 0404329
3/64" - 20# SPOOL

**USA
MADE IN**



PN: 04043E1POP
.030 - 1# SPOOL

Chemical Composition			AWS
Mn-0.05%	Si-4.5-6.0%	Cr-	A5.10
Cu-0.30%	Fe-0.8%	Ti-0.20%	
Zn-0.10%	Al-Rem	Mg-0.05%	
Others-0.15%			

Single values shown are maximum percentages

**PRODUCTION
PAKS
AVAILABLE**

PART NO.	SIZE
04043D1	.025" - 1# SPOOL
04043E1	.030" - 1# SPOOL
04043E5	.030" - 5# SPOOL
04043E13	.030" - 13# SPOOL
04043F1	.035" - 1# SPOOL
04043F5	.035" - 5# SPOOL
04043F6	.035" - 16# SPOOL
04043F1D	.035" - 150# PROD PAK
0404321	3/64" - 1# SPOOL
0404327	3/64" - 16# SPOOL
0404329	3/64" - 20# SPOOL
0404321D	.045" - 150# PROD PAK
0404337	1/16" - 16# SPOOL
0404339	1/16" - 20# SPOOL
0404357	3/32" - 16# SPOOL
04043E1POP	.030" - 1# SPOOL
04043F1POP	.035" - 1# SPOOL
0404321POP	3/64" - 1# SPOOL
0404331POP	1/16" - 1# SPOOL

ALLOY 5356 (MIG)

Alloy 5356 is an all position non - heat treatable MIG wire used to weld the 5XXX series alloys when 40,000 psi tensile strength is not a requirement. 5356 is a very good all purpose wire. It is the most widely used of all aluminum fillers metals. Common applications are welding of boats / ships, bicycles, trucks, pressure vessels and automotive parts. Qualified to AWS A5.10 ER5356.



PN: 0535629
3/64" - 20# SPOOL

**USA
MADE IN**



PN: 05356E1POP
.030 - 1# SPOOL

Chemical Composition			AWS
Mn-0.05-0.20%	Si-0.25%	Cr-0.05-0.20%	A5.10
Cu-.10%	Fe-0.40%	Ti-0.06-0.20%	
Zn-0.10%	Al-Rem	Mg-4.5-5.5%	
Others-0.15%			

Single values shown are maximum percentages

**PRODUCTION
PAKS
AVAILABLE**

PART NO.	SIZE
05356E1	.030" - 1# SPOOL
05356E5	.030" - 5# SPOOL
05356E6	.030" - 12# SPOOL
05356F1	.035" - 1# SPOOL
05356F5	.035" - 5# SPOOL
05356F6	.035" - 16# SPOOL
0535621	3/64" - 1# SPOOL
0535625	3/64" - 5# SPOOL
0535627	3/64" - 16# SPOOL
0535629	3/64" - 20# SPOOL
0535621D	3/64" - 150# PROD PAK
0535637	1/16" - 16# SPOOL
0535639	1/16" - 20# SPOOL
05356E1POP	.030" - 1# SPOOL
05356F1POP	.035" - 1# SPOOL
0535621POP	3/64" - 1# SPOOL
0535631POP	1/16" - 1# SPOOL

ALLOY 4043 (GTAW) (TIG)

Qualified to AWS A5.10 R4043, ABS, ISO Designation AISi5. 4043 is a 5% silicon alloy used to weld heat treatable base alloys. It is most often used to weld the 6XXX series of alloys. The silicon addition improves puddle fluidity, producing an appealing bead profile. It is less crack sensitive on the 6XXX series than other welding alloys. Common applications are automotive parts, truck trailers, bicycles. Also ideally suited for brazing thin aluminum sheet and tubing.

PN: 0404320
3/64" x 36"
10# PKG



**USA
MADE IN**

Chemical Composition			AWS
Mn-0.05%	Si-4.5-6.0%	Cr-	A5.10
Cu-0.30%	Fe-0.8%	Ti-0.20%	
Zn-0.10%	Al-Rem	Mg-0.05%	
Others-0.15%			

Single values shown are maximum percentages

PART NO.	SIZE
0404320	3/64" x 36" - 10# PKG
0404330	1/16" x 36" - 10# PKG
0404350	3/32" x 36" - 10# PKG
A404350	3/32" x 36" - 50# PKG
0404360	1/8" x 36" - 10# PKG
A404360	1/8" x 36" - 50# PKG
0404370	5/32" x 36" - 10# PKG
0404380	3/16" x 36" - 10# PKG
40433011POP	1/16" x 36" - 1#PKG
40435011POP	3/32" x 36" - 1#PKG
40436011POP	1/8" x 36" - 1# PKG
40433033POP	1/16" x 36" - 3#PKG
40435033POP	3/32" x 36" - 3#PKG
40436033POP	1/8" x 36" - 3# PKG



ALUMINUM ALLOY

ALLOY 5356 (GTAW) (TIG)

Alloy 5356 is an all position non-heat treatable TIG wire used to weld the 5XXX series alloys when 40,000 psi tensile strength is not a requirement. 5356 is a very good all purpose wire so it is the most widely used of all aluminum fillers metals. Common applications are welding of boats / ships, bicycles, tanks pressure vessels and automotive parts. Qualified to AWS A5.10 R5356.

PN: 0535630
1/16" x 36" - 10# BOX



**USA
MADE IN**

Chemical Composition			AWS
Mn-0.05-0.20%	Si-0.25%	Cr-0.05-0.20%	A5.10
Cu-.10%	Fe-0.40%	Ti-0.06-0.20%	
Zn-0.10%	Al-Rem	Mg-4.5-5.5%	
Others-0.15%			
Single values shown are maximum percentages			

PART NO.	SIZE
0535620	3/64" x 36" - 10# PKG
0535630	1/16" x 36" - 10# BOX
0535650	3/32" x 36" - 10# BOX
0535670	5/32" x 36" - 10# BOX
A535650	3/32" x 36" - 50# PKG
0535660	1/8" x 36" - 10# BOX
53563011POP	1/16" x 36" - 1#PKG
53565011POP	3/32" x 36" - 1# PKG
53566011POP	1/8" x 36" - 1# PKG
53563033POP	1/16" x 36" - 3#PKG
53565033POP	3/32" x 36" - 3#PKG
53566033POP	1/8" x 36" - 3# PKG

RECOMMENDED WELDING PARAMETERS FOR ALUMINUM SPOOLED WIRES GMAW (MIG)

Spray Transfer: Shielding gas Argon is suggested for thicknesses up to 1". For thicknesses over 1", Argon / Helium mixtures should be considered.

Wire Diameter	Welding Current, Amperage	Arc Voltage	Wire Feed Speed, ipm
.025"	85 -180	20 -26	520 -750
.030"	95 -200	22 -28	470 -680
.035"	110 -220	22 - 28	350 -475
3/64"	130 -290	22 -28	235 -375
1/16"	160 -360	24 -30	180 -300

Settings based on Ar shielding gas

All aluminum containers have an identification label showing grade, size, weight and heat number. Conformance certifications can be furnished on request.

RECOMMENDED WELDING PARAMETERS FOR ALUMINUM CUT LENGTHS GTAW (TIG)

RECOMMENDED WELDING PARAMETERS FOR ALUMINUM CUT LENGTHS GTAW (TIG)

For manual AC welding, argon is generally preferred because the arc has good stability. On heavier sections, the addition of helium may be considered. Arc penetration will increase significantly, however, gas flow rates must be increased when helium is added.

Material Thickness	Tungsten, Pure or Zirconiated	Filler Diameter	Welding Current, Amperage	Arc Voltage, ACHF	Gas Cup	Argon
1/16"	1/16" - 3/32"	1/16" - 3/32"	70 - 100	15	3/8	20
1/8"	1/8" - 5/32"	1/18" - 5/32"	125 - 175	15	7/16	20
3/16"	5/32" - 3/16"	5/32" - 3/16"	170 - 225	15	7/16 - 1/2	25
1/4"	3/16" - 1/4"	3/16"	220 - 275	15	1/2	30
3/8"	1/4"	3/16" - 1/4"	330 - 380	15	5/8	35
1/2"	1/4"	1/4"	400 - 450	25	5/8	35

WELDING PARAMETERS COPPER WELDING ALLOY



GTAW (TIG) SUGGESTED WELD SETTINGS

Alloy	Material Thickness	Filler Diameter	Welding Current, (Amps DC)	Welding Current, (Amps AC)	Gas Cup	Argon, cfh	Tungsten
Aluminum Bronze A2	1/16"	1/16"	80-120	80-120	3/8" - 1/2"	15	1/16"
	3/32" - 1/8"	3/32"	145 - 205	145 - 195	7/16" - 1/2"	15	3/32"
	3/16"	3/32" - 1/8"	300 - 350	255 - 300	7/16" - 1/2"	20	1/8"
	1/2"	1/8"	515 - 640	340 - 485	1/2"	25	3/16"
Deoxidized Copper	1/16"	1/16"	70 - 150	70 - 150	3/8" - 1/2"	15	1/16"
	3/32" - 1/8"	3/32"	150 - 200	140 - 230	7/16" - 1/2"	15	3/32"
	3/16" - 1/2"	3/32" - 1/8"	230 - 400	255 - 320	7/16" - 1/2"	20	1/8"
	1/16"	1/16"	100 - 120	100 - 120	3/8" - 1/2"	15	1/16"
Phos Bronze	3/32" - 1/8"	3/32"	185 - 205	165 - 195	7/16" - 1/2"	15	3/32"
	3/16"	3/32" - 1/8"	300 - 350	255 - 300	7/16" - 1/2"	20	1/8"
	1/2"	1/8"	615 - 640	440 - 485	1/2"	25	3/16"
	1/16"	1/16"	70 - 150	70 - 150	3/8" - 1/2"	15	1/16"
Silicon Bronze	3/32" - 1/8"	3/32"	150 - 200	140 - 230	7/16" - 1/2"	15	3/32"
	3/16" - 1/2"	3/32" - 1/8"	230 - 400	225 - 320	7/16" - 1/2"	20	1/8"

GMAW (MIG) SUGGESTED WELD SETTINGS

Alloy	Wire Size	Welding Current, (Amps)	Arc Voltage	Wire Feed Speed
Aluminum Bronze A2	.035"	130 - 200	30	280 - 400
	.045"	185 - 245	30	200 - 300
	1/16"	250 - 400	40	150 - 210
	.035"	145 - 185	30	400 - 440
Deoxidized Copper	.045"	195 - 215	30	280 - 310
	1/16"	260 - 280	40	150 - 210
	.030"	130 - 140	25	340 - 450
	.035"	140 - 160	30	280 - 400
Phos Bronze	.045"	165 - 185	30	200 - 300
	1/16"	285 - 335	40	150 - 210
	.030"	130 - 150	25	460 - 500
	.035"	145 - 185	30	400 - 440
Silicon Bronze	.045"	195 - 215	30	280 - 310
	1/16"	260 - 280	40	150 - 210

COPPER WELDING ALLOY

HARRIS AMERICAN LOW FUMING BRONZE

Available Bare

Harris American Low Fuming Bronze is a copper/zinc alloy developed for braze welding steel, cast iron, and copper. Harris American LFB flows faster with less build up compared to #15 bronze. It can also be used for build up and overlay. Harris American Bronze flows easily with minimal fuming. Deposits can be machined and have excellent ductility. Harris bronze can be deposited using standard oxy-fuel torches, or with Harris Power Torch acetylene or Mapp® swirl tip equipment.

Flux - Use Harris 600 flux. Flux coated rods are pre-coated with a flexible, flux coating for convenience and deposition ease, (rods do not have to be continually dipped into the flux).

Procedure:

- Clean braze area. Heavy sections should be beveled
- Use a neutral flame, slightly preheat bare rod and dip it into the powder flux. Flux will adhere to the rod
- Use the flame to preheat the joint
- Harris American Bronze is applied with a "braze welding" technique. The process is similar to brazing as the base metal is not melted. Unlike brazing, the rod must be continually applied as you move down the joint
- Focus the flame on the part and heat until a dull red appears, then apply the rod, melting the rod with the flame to deposit a uniform bronze layer
- Remove flux residue with hot water and a wire brush

Features:

- Melting temperature: 1590° F - 1630° F

PART NO.	SIZE
HA01550	3/32" x 36" - 50# PKG
HA01560	1/8" x 36" - 50# PKG
HA01570	5/32" x 36" - 50# PKG SPECIAL ORDER
HA01580	3/16" x 36" - 50# PKG SPECIAL ORDER
HA01590	1/4" x 36" - 50# PKG SPECIAL ORDER
-	PRODUCTION PAKS SPECIAL ORDER



PN: HA01550
3/32" x 36" - 50# PKG

**PRODUCTION
PAKS
AVAILABLE**

**USA
MADE IN**



COPPER WELDING ALLOY

LOW FUMING BRONZE (FLUX COATED)

A low fuming bronze alloy for torch brazing.

Procedure:

- Clean braze area
- Remove all rust, oil and grease
- Heavy sections should be beveled
- The alloy should be applied by a brazing technique with a neutral flame
- When applying the bare rod, use a neutral flame with Harris 600 flux
- Flux residue should be removed by wire brushing with hot water



PN: 015FC30
1/16" x 18" - 5# PKG

USA
MADE IN

Features:

- Tensile strength - Up to 65,000 psi
- Brazing temperature range - 1670° F to 1750° F
- Flux coating provides excellent wetting action with no objectable fuming
- Porosity - free deposits
- Good machinability
- Color matches yellow brass

FC PART NO.	SIZE
015FC30	1/16" x 18" WHITE - 5# PKG
015FC50	3/32" x 36" - 10# PKG
015FC50B	3/32" x 36" - BLUE- 10# PKG
015FC60	1/8" x 36" - 10# PKG
015FC60B	1/8" x 36" - BLUE
015FC70	5/32" x 36" - 10# PKG SPECIAL ORDER
015FC80	3/16" x 36" - 10# PKG
015FC90	1/4" x 36" - 10# PKG
POP PART NO.	SIZE
015FC500POP	3/32" x 36" - 1# PKG
015FC600POP	1/8" x 36" - 1# PKG
015FC503POP	3/32" x 36" - 3# PKG
015FC603POP	1/8" x 36" - 3# PKG
015FC505POP	3/32" x 36" - 5# PKG
015FC605POP	1/8" x 36" - 5# PKG

LOW FUMING BRONZE (BARE)

Procedure:

- Clean braze area
- Remove all rust, oil and grease
- Heavy sections should be beveled
- When applying the bare rod, use a neutral flame with Harris 600 flux
- The alloy should be applied by a brazing technique with a neutral flame
- Flux residue should be removed by wire brushing with hot water

Features:

- Tensile strength - Up to 65,000 psi
- Flux coating provides excellent wetting action with no objectable fuming
- Brazing temperature range - 1670° F to 1750° F
- Good machinability
- Porosity - free deposits
- Color matches yellow brass

Specifications: AWS A5.8 RBCuZn-C



PN: 00015310
1/16" x 36" - 10# PKG

USA
MADE IN

BARE PART NO.	SIZE
00015310	1/16" x 36" - 10# PKG
0001530	1/16" x 36" - 50# PKG
00015510	3/32" x 36" - 10# PKG
0001550	3/32" x 36" - 50# PKG
00015610	1/8" x 36" - 10# PKG
0001560	1/8" x 36" - 50# PKG
0001570	5/32" x 36" - 50# PKG
00015810	3/16" x 36" - 10# PKG
0001580	3/16" x 36" - 50# PKG
00015910	1/4" x 36" - 10# PKG
0001590	1/4" x 36" - 50# PKG
0001595	5/16" x 36" - 50# PKG
00015A0	3/8" x 36" - 50# PKG
POP PART NO.	SIZE
00015300POP	1/16" x 36" - 1#PKG
00015500POP	3/32" x 36" - 1#PKG
00015600POP	1/8" x 36" - 1#PKG
00015303POP	1/16" x 36" - 3#PKG
00015503POP	3/32" x 36" - 3#PKG
00015603POP	1/8" x 36" - 3#PKG
00015305POP	1/16" x 36" - 5#PKG
00015505POP	3/32" x 36" - 5#PKG
00015605POP	1/8" x 36" - 5#PKG
00015805POP	3/16" x 36" - 5#PKG
00015905POP	1/4" x 36" - 5#PKG

SILICON BRONZE (GMAW) (MIG)

This copper-silicon alloy is used to weld similar composition base metals, brass, and to weld these copper alloys to steel. Silicon bronze is also frequently used in GMAW "brazing welding" of coated sheet steels.

Preheat: Silicon bronze base metals generally do not require preheat. Brass or copper base metals may require some preheat depending on copper content and thickness.

Shielding Gas: Argon

Specifications: AWS A5.7 ERCuSi-A

PN: 00SIB15
.025 - 10# SPOOL



Chemical Composition			AWS Class
Cu-Rem	Zn-1.0%	Sn-1.0%	ERCuSi-A
Mn-1.5%	Fe-0.5%	Si-2.8-4.0%	
P-	Al-0.01%	Pb-0.02%	
Others-0.05%			

*Single values shown are maximum percentages.

PRODUCTION PAKS
AVAILABLE

PART NO.	SIZE
00SIB15	.025" - 10# SPOOL
00SIB2	.030" - 2# SPOOL
00SIB5	.030" - 10# SPOOL
00SIB8	.030" - 30# SPOOL
00SIBF2	.035" - 2# SPOOL
00SIBF5	.035" - 10# SPOOL
00SIBF8	.035" - 30# SPOOL
00SIBF2D	.035" - 250# PROD PAK
00SIBF5D	.035" - 500# PROD PAK
00SIBH5	.045" - 500# PROD PAK
00SIBH8	.045" - 30# SPOOL
00SIBH2D	.045" - 250# PROD PAK
0SIBH5DP	.045" - 500# PROD PAK SPECIAL ORDER
00SIB38	1/16" - 30# SPOOL
00SIB35D	.062" - 500# PROD PAK SPECIAL ORDER

COPPER-BASED WELDING FILLER METAL SELECTION CHART

Base Metal	Copper	Phosphor Bronze	Red Brass	Yellow Brass	Nickel Silver	Aluminum Bronze	Silicon Bronze	Copper / Nickel
Carbon & Low Alloy Steels	ALB-A2 (1000)	PHB ALB-A2 (400)	ALB-A2 PHB (500-600)	ALB-A2 (500-600)	ALB-A2 (500-600)	ALB-A2 (300)	ALB-A2 SIB (150)	ALB-A2 (150)
Cast Iron	ALB-A2 (1000)	PHB (400)	ALB-A2 PHB (500-600)	ALB-A2 (500-600)	ALB-A2 (500-600)	ALB-A2 (300)	ALB-A2 SIB (300)	ALB-A2 (150)
Copper / Nickel	ALB-A2 (1000)	PHB SIB (150)	ALB-A2 (150)	ALB-A2 SIB (150)	ALB-A2 SIB (150)	ALB-A2 (150)	ALB-A2 (150)	* (150)
Silicon Bronze	PHB (1000)	PHB SIB (150)	ALB-A2 SIB (150)	ALB-A2 SIB (150)	ALB-A2 SIB (150)	ALB-A2 (150)	SIB (150)	
Aluminum Bronze	ALB-A2 (1000)	ALB-A2 PHB (300-400)	ALB-A2 (500-600)	ALB-A2 (500)	ALB-A2 (500)	ALB-A2 (500)		
Nickel / Silver	SIB PHB (1000)	PHB (500-600)	PHB (500-600)	ALB-A2 (500-600)	ALB-A2 (500-600)			
Yellow Brass	SIB PHB (1000)	PHB (500-600)	PHB (500-600)	ALB-A2 (500-600)				
Red Brass	PHB (1000)	PHB (500)	PHB (400)					
Phosphor Bronze	PHB (1000)	PHB (400)						
Copper	DOC (1000)							

*Copper/Nickel filler wire is available upon request.

Where more than one filler metal is shown, the preferential selection appears first, a possible alternative second.

3SIB (GTAW) (TIG)

This copper-silicon alloy is used to weld similar composition base metals, brass, and to weld these copper alloys to steel. Silicon bronze is also frequently used in GTAW "brass welding" of coated sheet steels.

Preheat: Silicon bronze base metals generally do not require preheat. Brass or copper base metals may require some preheat depending on copper content and thickness.

Shielding Gas: Argon

Specifications: AWS A5.7 ERCuSi-A

GTAW: Use DC+ or AC current and a 2% thoriated tungsten



PN: 03SIB603POP
1/8" x 36" - 3# PKG

CUT LENGTHS PART NO.	SIZE
03SIBF0	.035" x 36" - 10# PKG
03SIBH0	.045" x 36" - 10# PKG
03SIB30	1/16" x 36" - 10# PKG
A3SIB30	1/16" x 36" - 50#PKG
03SIB50	3/32" x 36" - 10# PKG
A3SIB50	3/32" x 36" - 50#PKG
03SIB60	1/8" x 36" - 10# PKG
A3SIB60	1/8" x 36" - 50#PKG
03SIB70	5/32" x 36" - 10# PKG
03SIB80	3/16" x 36" - 10# PKGS
03SIB90	1/4" x 36" - 10# PKG
POP PART NO.	SIZE
03SIB301POP	1/16" x 36" - 1# PKG
03SIB303POP	1/16" x 36" - 3# PKG
03SIB501POP	3/32" x 36" - 1# PKG
03SIB503POP	3/32" x 36" - 3# PKG
03SIB601POP	1/8" x 36" - 1# PKG
03SIB603POP	1/8" x 36" - 3# PKG

ALUMINUM BRONZE A2 (GMAW/GTAW)

This versatile filler metal is used for joining aluminum bronze base metals, welding brass, steel and a variety of dissimilar metal applications.

Preheat: Generally not required unless welding high copper content base metals.

Shielding Gas: Argon

Specification: AWS A5.7 ERCuAl-A2

GTAW: Use DC+ or AC current and a 2% thoriated tungsten

Brinell Hardness (3000 kg. load) 130-150

ALUMINUM BRONZE A1 (GMAW) (3 ALB GTAW)

This wire is designed for weld overlays for bearing and wear resistant surfaces. It is iron-free and is often used to protect parts exposed to salt water and certain acidic conditions. A1 aluminum bronze is not recommended for joining.

Preheat: Generally not required.

Shielding Gas: Argon

Specification: AWS A5.7 ERCuAl-A1

GTAW: Use DC+ or AC current and a 2% thoriated tungsten

Brinell Hardness (500 kg. load) 80-110



PART NO.	SIZE
0ALB1F8	.035" - 30# SPOOL
0ALB1H8	.045" - 30# SPOOL
0ALB138	1/16" - 30# SPOOL
0ALB2F8	.035" - 30# SPOOL
0ALB2H8	.045" - 30# SPOOL
0ALB238	1/16" - 30# SPOOL
0ALB258	3/32" - 30# SPOOL SPECIAL ORDER
3ALB230	1/16" x 36" -10# PKG
3ALB250	3/32" x 36" -10# PKG
3ALB260	1/8" x 36 -10# PKG

Product	Chemical Composition			AWS Class
Aluminum Bronze A1	Cu-Rem	Zn-0.20%	Sn-	ERCuAl-A1
	Mn-0.50%	Fe-	Si-0.10%	
	P-	Al-6.0-8.5%	Pb-0.02%	
	Others-0.50%			
Aluminum Bronze A2	Cu-Rem	Zn-0.20%	Sn-	ERCuAl-A1
	Mn-	Fe-1.5%	Si-0.10%	
	P-	Al-8.5-11.0%	Pb-0.02%	
	Others-0.50%			



COPPER WELDING ALLOY

PART NO.	SIZE
OPHBCF8	.035" - 30# SPOOL
OPHBC8	.045" - 30# SPOOL



PHOS BRONZE (GMAW) (MIG)

This copper-tin alloy is used to weld copper-tin composition base metals, and to weld copper alloys, including brass to steel.

Preheat: Generally not required unless welding high copper content base metals.

Shielding Gas: Argon

Specification: AWS A5.7 ERCuSn-C

PHOS BRONZE (GTAW) (TIG)

For GTAW Welding

Preheat: Generally not required unless welding high copper content base metals.

Shielding Gas: Argon

Specification: AWS A5.7 ERCuSn-C

GTAW: Use DC+ or AC current and a 2% thoriated tungsten.



PART NO.	SIZE
03PHB30	1/16" x 36" - 10# PKG
03PHB50	3/32" x 36" - 10# PKG
03PHB60	1/8" x 36" - 10# PKG SPECIAL ORDER

Chemical Composition

Mn- Sn-7.0-9.0%	Si- Fe-	P-0.10-0.35% Al-0.01%	Cu- Pb-0.02%	Rem Others-0.05%	Zn-0.20%
--------------------	------------	--------------------------	-----------------	---------------------	----------

*Single values shown are maximum percentages.

PART NO.	SIZE
00D0CF8	.035" - 30# SPOOL
00D0CH8	.045" - 30# SPOOL
00D0C38	1/16" - 30# SPOOL
00D0C58	3/32" - 30# SPOOL



DEOX COPPER (GMAW) (MIG)

Designed for welding applications on high copper content base metals. This alloy produces trouble free welds that are a good color match to copper and have high electrical conductivity. Deox copper welding wire can also be used to weld copper to steel.

Preheat: Copper base metals have high thermal conductivity so current and shielding gas must be selected to provide the highest heat input. Preheat temperature range from 700° to 1000° F, depending on the base metal thickness.

Shielding Gas: Argon shielding gas is frequently used, with argon/helium and pure helium sometimes selected for increased heat input.

Specification: AWS A5.7 ERCu

DEOX COPPER (GTAW) (TIG)

Preheat: Copper base metals have high thermal conductivity so current and shielding gas must be selected to provide the highest heat input. Preheat temperature range from 700° to 1000° F, depending on the base metal thickness.

Shielding Gas: Argon shielding gas is frequently used, with argon/helium and pure helium sometimes selected for increased heat input.

Specification: AWS A5.7 ERCu

GTAW: Use DC+ or AC current and a 2% thoriated tungsten.

PART NO.	SIZE
03D0C30	1/16" x 36" - 10# PKG
03D0C50	3/32" x 36" - 10# PKG
03D0C60	1/8" x 36" - 10# PKG
03D0C70	5/32" x 36" - 10# PKG
03D0C80	3/16" x 36" - 10# PKG

Chemical Composition

Mn-0.50%	Si-0.50%	P-0.15%	Cu-98.0 min	Sn-1.0%	AWS Class
Fe-	Al-0.01%	Pb-0.02%	Others-0.05%		ERCu

*Single values shown are maximum percentages.



COPPER WELDING ALLOY MILD STEEL



ALLOY 170

Available bare or flux coated. Harris Alloy 170 is a copper/zinc/nickel alloy developed for braze welding steel, and cast iron. It can also be used for brazing tungsten carbide to steel where higher joining temperature is not objectionable. The nickel addition provides hardness and strength compared to the standard bronze alloys. This characteristic makes it ideal for build up and overlay. Harris 170 flows easily and deposits can be machined. Harris 170 can be deposited using oxy-fuel torches. Flux coated rods are pre-coated with a flexible, flux coating for convenience and deposition ease.

Procedure:

- The process is similar to brazing as the base metal is not melted
- Unlike brazing the rod must be continually applied as you move down the joint
- Focus the flame on the part and heat until a dull red appears, then apply the rod, melting the rod with the flame to deposit a uniform braze layer along joint
- Clean the area to be brazed
- Apply with a "braze welding" technique
- Bevel heavier sections approximately 15°
- Flux with bare No. 170 use Harris 17 paste flux
- Use a neutral flame preheat and preheat joint
- Remove flux residue by wire brushing with hot water

PART NO.	SIZE
0017030	1/16" x 36" - 50# PKG
0017050	3/32" x 36" - 50# PKG
0017060	1/8" x 36" - 50# PKG
0017090	1/4" x 36" - 50# PKG SPECIAL ORDER
0017095	5/16" x 36" - 50# PKG
170F618B	1/8" x 18" - BLUE FLUX - 5#
170FC60	1/8" x 36" - Yellow FLUX - 10#
170FC80	3/16" x 36" - Yellow FLUX - 10#

Features:

- Melting temperature - 1720° F to 1800° F

Application:

- Maintenance, repair and fabrication applications, steel, copper and copper alloys, nickel and nickel alloys. Well suited for close-fit, strong "sweat" joints, bicycle frames and tubular furniture.

Specifications: AWS A5.8 RBCuZn-D

PN: 0017030
1/16" x 36" - 50# PKG



Chemical Composition

Cu-46%-50%	Ni-9%-11%	Mn-1.5% Max	Fe-1.5% Max
Si-3.5% Max	Ag-5.8%-6.0	Sn-3% Max	Zn Rem

MILD STEEL

ER70S-3 (GMAW) MIG

A general purpose welding wire for fabrication of mild steel. Contains silicon and manganese as deoxidizers. Usually used with 75/25 (argon/CO2) shielding gas or with higher contents of argon, such as 90/10. Can also be used with 100% CO2. Qualified to AWS A5.18 ER70S-3

Chemical Composition

C-0.06-0.15%	Mn-0.90-1.40%	Si-0.45-0.75%	S-0.035%	P-0.025%
--------------	---------------	---------------	----------	----------



PN: E70S3E8
.030" - 33# SPOOL

ER70S-6 (GMAW) MIG

A general purpose welding wire for fabrication of mild steel. Contains more deoxidizers than ER70S-3. The additional deoxidizers also provide better wetting, giving a flatter bead shape and the capability of faster travel speeds. Usually used with 75/25 (argon/CO2) shielding gas or with higher contents of argon, such as 90/10. Can also be used with 100% CO2. Conforms to AWS A5.18 ER70S-6.

Chemical Composition

C-0.06-0.15%	Mn-1.40-1.85%	Si-0.80-1.15%	S-0.035%	P-0.025%
--------------	---------------	---------------	----------	----------

*Single values shown are maximum percentages.



PN: E70S612POP
.023" - 2# SPOOL

**PRODUCTION
PAKS
AVAILABLE**

PART NO.	SIZE
E70S3E8	.030" - 33# SPOOL
E70S3F9	.035" - 44# SPOOL
E70S3H8	.045" - 33# SPOOL
E70S612	.023" - 2# SPOOL
E70S615	.023" - 11# SPOOL
E70S618	.023" - 33# SPOOL
E70S6E2	.030" - 2# SPOOL
E70S6E5	.030" - 11# SPOOL
E70S6E8	.030" - 33# SPOOL
E70S6E9	.030" - 44# SPOOL
E70S6E5D	.030"-500# PROD PAK SPECIAL ORDER
E70S6F2	.035" - 2# SPOOL
E70S6F5	.035" - 11# SPOOL
E70S6F8	.035" - 33# SPOOL
E70S6F9	.035" - 44# SPOOL
E70S6F5D	.035" - 550# PROD PAK
E70S6H5	.045" - 11# SPOOL
E70S6H8	.045" - 33# SPOOL
E70S6H9	.045" - 44# SPOOL
E70S6H6	.045" - 60# COIL
E70S6H5D	.045" - 550# PROD PAK
POP PART NO.	SIZE
E70S612POP	.023" - 2# MS SPOOL
E70S615POP	.023" - 11# MS SPOOL
E70S6E2POP	.030" - 2# MS SPOOL
E70S6E5POP	.030" - 11# MS SPOOL
E70S6F2POP	.035" - 2# MS SPOOL
E70S6F5POP	.035" - 11# MS SPOOL
E70S6H2POP	.045" - 2# MS SPOOL
E70S6H5POP	.045" - 11# MS SPOOL



MILD STEEL / LOW ALLOY

ER70S-2 (GTAW) TIG

A premium, multiple deoxidized, wire. Produces high quality welds in most grades of carbon steels. E70S-2 is a triple deoxidized wire which provides defect free weld deposits when properly used on most carbon steels. It is used especially for pipe welding. ER70S-2 Conforms to AWS A5.18 ER70S-2



PN: E70S2605POP
1/8" x 36" - 5# PKG

Chemical Composition

C-.15%	Mn-0.90-1.40%	Si-0.45-0.70%
S-0.035%	P-0.025%	Ti-0.05-0.15%
Zr-0.02-0.12%	Al-0.05-0.15%	

PART NO.	SIZE
E70S2F0	.035" x 36" - 10# PKG
E70S2H0	.045" x 36" - 10# PKG
E70S230	1/16" x 36" - 10# PKG
E70S250	3/32" x 36" - 10# PKG
E70S260	1/8" x 36" - 10# PKG
E70S270	5/32" x 36" - 10# PKG
E70S2300POP	1/16" x 36" - 1# PKG
E70S2303POP	1/16" x 36" - 3# PKG
E70S2305POP	1/16" x 36" - 5# PKG
E70S2500POP	3/32" x 36" - 1# PKG
E70S2503POP	3/32" x 36" - 3# PKG
E70S2505POP	3/32" x 36" - 5# PKG
E70S2600POP	1/8" x 36" - 1# PKG
E70S2603POP	1/8" x 36" - 3# PKG
E70S2605POP	1/8" x 36" - 5# PKG

ER70S-3 (GTAW) TIG

A general purpose welding wire for fabrication of mild steel. Contains silicon and manganese as deoxidizers. Conforms to AWS A5.18 ER70S-3



PN: E70S330
1/16" x 36" - 10# PKG

Chemical Composition

C-0.06-0.15%	Mn-0.90-1.40%	Si-0.45-0.75%
S-0.035%	P-0.025%	

PART NO.	SIZE
E70S330	1/16" x 36" - 10# PKGS
E70S350	3/32" x 36" - 10# PKGS
E70S360	1/8" x 36" - 10# PKGS

ER70S-6 (GTAW) TIG

A general purpose welding wire for fabrication of mild steel. Contains more deoxidizers than ER70S-3. The additional deoxidizers also provide better wetting, giving a flatter bead shape and the capability of faster travel speeds. Conforms to AWS A5.18 ER70S-6



PN: E70S6F0
.035" x 36" - 10# PKG

Chemical Composition

C-0.06-0.15%	Mn-1.40-1.85%	Si-0.80-1.15%	S-0.035%
P-0.025%			

*Single values shown are maximum percentages.

PART NO.	SIZE
E70S6F0	.035" x 36" - 10# PKG
E70S6H0	.045" x 36" - 10# PKG
E70S630	1/16" x 36" - 10# PKG
E70S650	3/32" x 36" - 10# PKG
E70S660	1/8" x 36" - 10# PKG
E70S670	5/32" x 36" - 10# PKG
E70S6303POP	1/16" x 36" - 3# PKG
E70S6503POP	3/32" x 36" - 3# PKG
E70S6603POP	1/8" x 36" - 3# PKG
E70S6E8LW	.030" - 33# MS LEVEL WOUND
E70S6F8LW	.035" - 33# MS LEVEL WOUND
E70S6H8LW	.045" - 33# MS LEVEL WOUND

ER80S-D2 (GMAW) MIG

LOW ALLOY CR-MO WIRES FOR GMAW (MIG). Contains a high level of deoxidizers (Mn and Si), also Molybdenum for increased strength. Suitable for single and multi-pass welding of a variety of carbon and low alloy steels.

Procedure:

- DC+ reverse polarity
- Shielding gas - Argon
- Tungsten - 2% Thoriated

Specifications: AWS 5.28, ER80S-D2



PN: 80SD2H8
.045" - 33# SPOOL

Chemical Composition

C-0.07-0.12%	Mn-1.60-2.10%	Si-0.50-0.80%	S-0.025%
P-0.025%	Ni-0.15%	Mo-0.40-0.60%	

PART NO.	SIZE
80SD2F8	.035" - 30# SPOOL
80SD2H8	.045" - 33# SPOOL

MILD STEEL / LOW ALLOY WELDING PARAMETERS



GTAW (TIG)

Welding is normally done with DC Straight Polarity (AC is sometimes used). Argon shielding is most commonly used but for deeper penetration, especially on thick plate, argon/helium mixes can be used.

MATERIAL THICKNESS	FILLER DIA.	WELDING CURRENT (AMPS)	GAS CUP	ARGON, cfh	TUNGSTEN DIAMETER
1/16"	1/16"	100 - 140	3/8"	20	1/16"
3/32"	1/6"	100 - 160	3/8"	20	1/16"
1/8"	1/6"	125 - 200	7/16"	20	3/32"
3/16"	3/32"	150 - 250	7/16"	25	3/32"
1/4"	1/8"	150 - 250	1/2"	25	1/8"
3/8"	1/8"	150 - 275	1/2"	25	1/8"
1/2"	1/8"	150 - 300	1/2"	25	1/8"

GMAW (MIG)

CO₂ shielding yields a short-circuiting transfer, 90/10 (Argon/CO₂) can give a short circuit transfer but is usually used in spray transfer

Short Circuit Transfer: SOLID GMAW - Using CO₂

WIRE SIZE	WELDING CURRENT (AMPS)	ARC VOLTAGE	WIRE FEED SPEED, IP
.023"	30 - 90	14 - 19	200 - 400
.030"	40 - 145	15 - 21	160 - 380
.035"	50 - 180	16 - 22	150 - 340
.045"	75 - 250	17 - 22	100 - 220

Spray Transfer: Using 90/10 (Ar/CO₂)

WIRE SIZE	WELDING CURRENT (AMPS)	ARC VOLTAGE	WIRE FEED SPEED, IP
.030"	135 - 230	24 - 28	390 - 670
.035"	165 - 300	24 - 28	360 - 520
.045"	200 - 375	24 - 30	210 - 390
1/16"	275 - 500	24 - 32	150 - 360
3/32"	300 - 600	24 - 33	75 - 125

ER80S-D2 (GTAW) LOW ALLOY

Contains a high level of deoxidizers (Mn and Si), also Molybdenum for increased strength. Suitable for single and multi-pass welding of a variety of carbon and low alloy steels.

Procedure:

- DC- straight polarity
- Shielding gas - Argon
- Tungsten - 2% Thoriated

Specifications: AWS 5.28, ER80S-D2

Chemical Composition						
C-0.07-0.12%	Mn-1.60-2.10%	Si-0.50-0.80%	S-0.025%	P-0.025%	Ni-0.15%	Mo-0.40-0.60%

PART NO.	SIZE
80SD230	1/16" x 36" - 10# PKG
80SD250	3/32" x 36" - 10# PKG
80SD260	1/8" x 36" - 10# PKG



PN: 80SD230
1/16" x 36" - 10# PKG

ER80S-B2 (GTAW)

For welding 1/2 Cr-1/2 Mo, 1 Cr-1/2 Mo and 1 1/4 Cr-1/2 Mo steels for elevated temperatures and corrosive service; also used for joining dissimilar combinations of Cr-Mo and carbon steels.

Specifications: AWS 5.28, ER80S-B2

Chemical Composition						
C-0.07-0.12%	Mn-0.40-0.70%	Si-0.40-0.70%	S-0.025%	P-0.025%	Ni-0.20%	Cr-1.20-1.50%

PART NO.	SIZE
80SB230	1/16" x 36" - 10# PKG
80SB250	3/32" x 36" - 10# PKG
80SB260	1/8" x 36" - 10# PKG
80SB270	5/32" x 36" - 10# PKG
80SB630	1/16" x 36" - 10# PKG
80SB650	3/32" x 36" - 10# PKG



PN: 80SB230
1/16" x 36" - 10# PKG



MILD STEEL / LOW ALLOY

ER90S-B3 (GTAW)

For welding 2-1/4" Cr - 1 Mo Steels used for high pressure piping and pressure vessels; also used for joining dissimilar combinations of Cr-Mo and carbon steels.

Procedure:

- DC- straight polarity
- Shielding gas - Argon
- Tungsten - 2% Thoriated

Specifications: AWS 5.28, ER90S-B3

Chemical Composition				
C-0.07-0.12%	Mn-0.40-0.70%	Si-0.40-0.70%	S-0.025%	P-0.025%
Cr-0.20%	Ni-2.30-2.70%	Mo-0.90-1.20%		

PART NO.	SIZE
90SB350	3/32" x 36" - 10# PKG
90SB360	1/8" x 36" - 10# PKG
90SB3F8	.035" - 33# SPOOL
90SB3H8	.045" - 33# SPOOL



PN: 90SB350
3/32" x 36" - 10# PKG

4130 CHROME MOLY

Formulated to reduce weld metal hot cracking with good ductility. Particularly suited to thin, highly stressed joints. Use S.A.E. 4130 procedure in heat treatment.



PN: 0413030
1/16" x 36" - 10# PKG

PART NO.	SIZE
0413030	1/16" x 36" - 10# PKG
0413050	3/32" x 36" - 10# PKG
0413060	1/8" x 36" - 10# PKG SPECIAL ORDER

W1060 (RG45) SOLID WIRE (GTAW) OXY FUEL

A copper coated, low carbon steel rod which is widely used on mild steel. It offers good ductility and machinability.

Procedure:

- Use a neutral flame; however a very slight excess of acetylene assures the absence of an oxidizing flame which adversely influences weld quality
- Flux is not needed but "puddling" of the molten weld metal will bring any scale or impurities to the surface

Specifications: AWS A5.2, R45



PN: W1060510
3/32" x 36" - 10# PKG

Chemical Composition				
C-0.08%	Mn-0.05%	Si-0.10%	S-0.040%	P-0.035%
Cr-0.20%	Ni-0.30%	Mo-0.20%	Cu-0.30%	Al-0.02%

PART NO.	SIZE
W106030	1/16" x 36" - 50# PKG
W1060310	1/16" x 36" - 10# PKG
W106050	3/32" x 36" - 50# PKG
W1060510	3/32" x 36" - 10# PKG
W106060	1/8" x 36" - 50# PKG
W1060610	1/8" x 36" - 10# PKG
W106070	5/32" x 36" - 50# PKG
W1060710	5/32" x 36" - 10# PKG
W106080	3/16" x 36" - 50# PKG SPECIAL ORDER
W106090	1/4" x 36" - 50# PKG SPECIAL ORDER
W1060300POP	1/16" x 36" - 1# PKG
W1060303POP	1/16" x 36" - 3# PKG
W1060305POP	1/16" x 36" - 5# PKG
W1060500POP	3/32" x 36" - 1# PKG
W1060503POP	3/32" x 36" - 3# PKG
W1060505POP	3/32" x 36" - 5# PKG
W1060600POP	1/8" x 36" - 1# PKG
W1060603POP	1/8" x 36" - 3# PKG
W1060605POP	1/8" x 36" - 5# PKG

W1200 (RG60) SOLID WIRE (GTAW) OXY FUEL

A high strength, bright finish, steel welding rod. Use where minimum tensile strength of the steel does not exceed 60psi

Procedure:

- Use a neutral flame; however a very slight excess of acetylene assures the absence of an oxidizing flame which adversely influences weld quality
- Flux is not needed but "puddling" of the molten weld metal will bring any scale or impurities to the surface

Specifications: AWS A5.2, R60



PN: W1200310
1/16" x 36" - 10# PKG

Chemical Composition			
C-0.15%	Mn-0.90-1.40%	Si-0.10-0.35%	S-0.035%
P-0.035%	Cr-0.20%	Ni-0.30%	Mo-0.20%
Cu-0.30%	Al-0.02%		

PART NO.	SIZE
W120030	1/16" x 36" - 50# PKG
W1200310	1/16" x 36" - 10# PKG
W120050	3/32" x 36" - 50# PKG
W1200510	3/32" x 36" - 10# PKG
W120060	1/8" x 36" - 50# PKG
W120070	5/32" x 36" - 50# PKG
W1200710	5/32" x 36" - 10# PKG
W120080	3/16" x 36" - 50# PKG
W1200810	3/16" x 36" - 10# PKG
W120090	1/4" x 36" - 50# PKG
W1200300POP	1/16" x 36" - 1# PKG
W1200303POP	1/16" x 36" - 3# PKG
W1200305POP	1/16" x 36" - 5# PKG
W1200500POP	3/32" x 36" - 1# PKG
W1200503POP	3/32" x 36" - 3# PKG
W1200505POP	3/32" x 36" - 5# PKG
W1200600POP	1/8" x 36" - 1# PKG
W1200603POP	1/8" x 36" - 3# PKG
W1200605POP	1/8" x 36" - 5# PKG

E71T-1 FLUX CORED

E71T-1 is formulated to deposit x-ray quality welds in flat, vertical up, horizontal, or overhead positions. E71T-1 is designed for welding low carbon and mild steel, structural and pressure vessel grades.

E71T-1 flux core ingredients produce a fast freezing slag that facilitates out of position welds. Bead contour is flat to slightly convex. Slag is easy to remove and low spatter provides easy post weld cleaning. Conforms to AWS A5.20 E71T-1/E71-T-1M

Shielding Gas:

100% CO₂ or 75% Argon / 25% CO₂ mixture. Argon / CO₂ produces a spray type transfer that helps control the weld puddle in out of position applications.

PART NO.	SIZE
P71T1H3SP	.045" - 33# SPPOOL
P71T1H50SP	.045" - 50# SPPOOL
P71T1H6	.045" - 60# COIL
P71T1H9	.045" - 500# PROD PAK
P71T1K3SP	.052" - 33# SPPOOL
P71T133SP	1/16" - 33# SPPOOL
P71T136	1/16" - 60# COIL
P71T139	1/16" - 500# PROD PAK
P71T1KS	.052" - 60# COIL

**PRODUCTION
PAKS
AVAILABLE**

PN: P71T133SP
1/16" - 33# SPPOOL



Product	Typical Chemical Composition			Shielding Gas
E71T-1M	C-0.09% S-0.009%	Mn-1.41% P-0.013%	Si-0.55% Fe-Rem	75% Ar / 25% CO ₂
E71T-1	C-0.08% S-0.009%	Mn-1.22% P-0.013%	Si-0.55% Fe-Rem	100% CO ₂

TEN GAUGE™ SELF-SHIELDING

Ten Gauge is a self shielding (no shielding gas needed) welding wire with exceptional arc stability, low spatter and excellent operator appeal. It can be used in most carbon steel applications and welds especially well on galvanized sheet. Ten Gauge can be used in all positions. It is especially popular for home workshops. Conforms to AWS A5.20 E-71T-GS

**USA
MADE IN**

PN: E71TGSE2
.030" - 2# SPPOOL



PART NO.	SIZE
E71TGSE2	.030" - 2# SPPOOL
E71TGSE2	.035" - 2# SPPOOL
E71TGSE5	.035" - 10# SPPOOL
E71TGSE5	.030" - 10# SPPOOL
E71TGSE8	.030" - 25# SPPOOL
E71TGSE8	.035" - 25# SPPOOL
E71TGSH5	.045" - 10# SPPOOL
E71TGSH8	.045" - 25# SPPOOL
E71TGSE2POP	.030" - 2# SPPOOL
E71TGSE5POP	.030" - 10# SPPOOL
E71TGSE2POP	.035" - 2# SPPOOL
E71TGSE5POP	.035" - 10# SPPOOL
E71TGSH5POP	.045" - 10# SPPOOL

DC straight polarity (DC-), No shielding gas required

WIRE SIZE	WELDING CURRENT (AMPS)	ARC VOLTAGE
.030"	40 - 100	14 - 16
.035"	100 - 130	16 - 18
.045"	140 - 160	18 - 20



MILD STEEL

TWENTY GAUGE™ METAL CORE

Twenty gauge is a metal cored welding wire with added ingredients to make it especially suited for welding very thin carbon steel sheet. Twenty Gauge is a small diameter cored wire that is perfect for the home workshop or auto body repair. Twenty Gauge was designed with the users of 120V welders in mind. It will weld on galvanized and lightly rusted steel in a wide range of thicknesses. Twenty Gauge will not burn-through on thin sheet metal. Use 75/25 (Argon/CO₂) Shielding Gas.

Features:

- No burn-through on thin sheet metal
- No slag
- No splatter
- Wide weld range of steel thickness 28 gauge to 3/16"
- Better weld appearance
- Excellent wetting
- Good tie-in
- Welds vertical down
- No cold lap

**USA
MADE IN**

PART NO.	SIZE	
TGE2	.030" - 2# SPOOL	SPECIAL ORDER
TGE3SP	.030" - 33# SPOOL	SPECIAL ORDER
TGE5	.030" - 10# SPOOL	



PN: TGE2
.030" - 2# SPOOL

DC reverse polarity (DC+), 75/25 shielding gas required

WIRE SIZE	WELDING CURRENT (AMPS)	ARC VOLTAGE
.030"	60 - 100	15 - 18

STICK ELECTRODES

6011 MILD STEEL ELECTRODES

A versatile, deep penetrating steel electrode with smooth, stable arc characteristics. It's used for the welding of mild steels, galvanized and some low alloy steels. The coating produces a forceful, spray-type arc, resulting in deep penetrating welds. The slag is thin and easily removable.

Applications:

Structural, ship building and repair, rail cars, piping, pressure vessel fittings, boilers, galvanized steel, general fabrication.

Features:

- Tensile strength - 72,900 psi
- Yield strength - up to 66,100
- Elongation in 2" - 29.6%
- All position
- Conforms to ANSI/AWS A5.1 & ASME SFA 5.1 E6011

DC reverse polarity (DC+), 75/25 shielding gas required

ELECTRODE DIAMETER	WELDING CURRENT (AMPS)	WELD POSITION
3/32"	50 - 80	FLAT
3/32"	40 - 70	VERTICAL UP & OVER HEAD
1/8"	70 - 110	FLAT
1/8"	60 - 100	VERTICAL UP & OVER HEAD
5/32"	110 - 160	FLAT
5/32"	90 - 140	VERTICAL UP & OVER HEAD

PART NO.	SIZE
60115010	3/32" x 12" - 10# PKG
6011505	3/32" x 12" - 5# PKG
60116010	1/8" x 14" - 10# PKG
6011605	1/8" x 14" - 5# PKG
60117010	5/32" - 10# PKG
6011705	5/32" - 5# PKG

Chemical Composition

C-.08%	Mn-.45%	Si-.18%	S-0.015%
P-.014%	Fe-REM		

Single values are maximum

PN: 6011705
5/32" - 5# PKG



6013 MILD STEEL ELECTRODES

A general purpose electrode for mild steel which produces a smooth, quiet, medium penetrating arc that is readily maintained with minimal spatter loss. The slag lifts easily, revealing a finely rippled bead contour. This quick freezing slag gives optimum performance in vertical-down welding. Ideally suited for general purpose welding, even with small AC power sources having low open-circuit voltage.

Applications:

Vehicles, ship building and repair, sheet metal, build-up of over machined and worn mild steel surfaces, general light fabrication.

Features:

- Tensile strength - up to 59,700 psi
- Yield strength - 67,700 psi
- Elongation in 2" - 25.6%
- All position
- Conforms to ANSI/AWS A5.1 & ASME SFA 5.1 E6013

ELECTRODE DIAMETER	WELDING CURRENT (AMPS)	WELD POSITION
3/32"	60 - 90	FLAT
3/32"	50 - 80	VERTICAL UP & OVER HEAD
1/8"	100 - 120	FLAT
1/8"	80 - 100	VERTICAL UP & OVER HEAD
5/32"	110 - 160	FLAT
5/32"	100 - 150	VERTICAL UP & OVER HEAD

PART NO.	SIZE
60135010	3/32" - 10# PKG
6013505	3/32" - 5# PKG
60136010	1/8" - 10# PKG
6013605	1/8" - 5# PKG
60137010	5/32" - 10# PKG
6013705	5/32" - 5# PKG

Chemical Composition

C-.08%	Mn-.45%	Si-.18%	S-0.012%
P-.014%	Fe-REM		

Single values are maximum

PN: 6013705
5/32" - 5# PKG



7014 MILD STEEL ELECTRODES

An all position electrode for mild and low alloy steels with an iron powder covering. The iron powder yields a high deposition rate. The welds reflect smooth beads with fine ripples. It is particularly advantageous when poor fit-up exists. The slag is easily removed, often self-lifting.

Applications:

Heavy sheet metal, frames, shelving, general maintenance and fabrication.

Features:

- Tensile strength - up to 79,900 psi
- Yield strength - 67,700 psi
- Elongation in 2" - 29.4% minimum
- All position
- ANSI/AWS A5.1 & ASME SFA 5.1 E7014

Physical Properties

Density lbs/cu in .283

Chemical Composition			
C-.12%	Mn-.68%	Si-.33%	S-0.012%
P-0.21%	Cr-.041%	Ni-0.053%	Mo-.002%
Cu-.012%	V-.023%	Fe-REM	
Single values are maximum			

PART NO.	SIZE
70145010	3/32" - 10# PKG
7014505	3/32" - 5# PKG
70146010	1/8" - 10# PKG
7014605	1/8" - 5# PKG
7014705	5/32" - 5# PKG

PN: 7014505
3/32" - 5# PKG



ELECTRODE DIAMETER	WELDING CURRENT (AMPS)	WELD POSITION
3/32"	100 - 110	FLAT
3/32"	80 - 90	VERTICAL UP & OVER HEAD
1/8"	130 - 140	FLAT
1/8"	120 - 130	VERTICAL UP & OVER HEAD
5/32"	190 - 200	FLAT
5/32"	150 - 160	VERTICAL UP & OVER HEAD

7018 MILD STEEL ELECTRODES

A high deposition electrode for low and medium carbon steels. It is an efficient, iron powder, low hydrogen electrode with excellent mechanical properties; crack resistance; and X-ray quality welds. This electrode offers a quiet, stable, low penetration, spatter-free arc. The moderately heavy slag is easy to remove, revealing a bead with distinct ripples. Operator appeal is a plus factor.

Applications:

Ship hull construction, pressure vessels, boilers, piping, heavy duty equipment, general maintenance or production fabrication.

Features:

- Tensile strength - up to 79,900 psi
- Yield strength - 67,700 psi
- Elongation in 2" - 29.4% minimum
- All position
- Conforms to ANSI/AWS A5.1 & ASME SFA 5.1 E7018

Chemical Composition			
C-0.08%	Mn-1.00%	Si-.60%	S-.011%
P-.021%	Fe-REM		
Single values are maximum			

PART NO.	SIZE
70185010	3/32" x 12" - 10# PKG
7018505	3/32" x 12" - 5# PKG
70186010	1/8" x 12" - 10# PKG
7018605	1/8" x 14" - 5# PKG
70187010	5/32" - 10# PKG
7018705	5/32" - 5# PKG

PN: 7018505
3/32" x 12" - 5# PKG



ELECTRODE DIAMETER	WELDING CURRENT (AMPS)	WELD POSITION
3/32"	65 - 85	FLAT
3/32"	50 - 80	VERTICAL UP & OVER HEAD
1/8"	90 - 130	FLAT
1/8"	85 - 120	VERTICAL UP & OVER HEAD
5/32"	130 - 180	FLAT
5/32"	110 - 160	VERTICAL UP & OVER HEAD



WELDING PARAMETERS FOR CORED WIRE

ALLOY	WIRE SIZE	WELDING CURRENT (AMPS)	ARC VOLTAGE	WIRE FEED SPEED, ipm	WELD POSITION	SHIELDING GAS	WIRE STICKOUT
Flux Cored E71T-1 (C02) E71T-1M (75/25)	.035"	160	27	425	Vertical Up	C02	1/2"
	.035"	190	28	600	Horizontal	C02	1/2"
	.035"	150	26	320	Overhead	C02	1/2"
	.035"	150	25	320	Vertical Up	75 Ar / 25 C02	1/2"
	.035"	200	27	600	Horizontal	75 Ar / 25 C02	1/2"
	.035"	150	25	320	Overhead	75 Ar / 25 C02	1/2"
	.045"	210	26	300	Vertical Up	C02	5/8"
	.045"	240	29	380	Horizontal	C02	5/8"
	.045"	210	26	300	Overhead	C02	5/8"
	.045"	210	25	300	Vertical Up	75 Ar / 25 C02	5/8"
	.045"	275	27	430	Horizontal	75 Ar / 25 C02	5/8"
	.045"	210	25	300	Overhead	75 Ar / 25 C02	5/8"
	.052"	220	25	240	Vertical Up	C02	5/8"
	.052"	280	27	380	Horizontal	C02	5/8"
	.052"	215	26	240	Overhead	C02	5/8"
	.052"	210	24	240	Vertical Up	75 Ar / 25 C02	5/8"
	.052"	300	28	380	Horizontal	75 Ar / 25 C02	5/8"
	.052"	215	25	240	Overhead	75 Ar / 25 C02	5/8"
	1/16"	210	26	150	Vertical Up	C02	1/2"
	1/16"	350	29	300	Horizontal	C02	1/2"
Metal Cored E70C-6C E70C-6M	1/16"	235	26	170	Overhead	C02	1/2"
	1/16"	240	25	170	Vertical Up	75 Ar / 25 C02	1/2"
	1/16"	350	28	300	Horizontal	75 Ar / 25 C02	1/2"
	1/16"	235	25	170	Overhead	75 Ar / 25 C02	1/2"
	.035"	110	15.5 - 17	200	Vertical Up & Overhead	75 Ar / 25 C02	5/8"
	.035"	250	28	660	Horizontal	75 Ar / 25 C02	5/8"
	.045"	130	20	160	Vertical Up & Overhead	75 Ar / 25 C02	5/8"
	.045"	300	29	430	Horizontal	75 Ar / 25 C02	5/8"
	1/16"	150	17	100	Vertical Up & Overhead	75 Ar / 25 C02	3/4"
	1/16"	350	27	250	Horizontal	75 Ar / 25 C02	3/4"

STAINLESS STEEL GMAW (MIG)

Stainless Steel cut lengths and spooled wire are precisely produced to conform to the requirement of AWS A5.9. These products are subjected to rigid quality control throughout the manufacturing process with particular attention given to cleanliness, cast and helix of the finished product.

MIG 308

Most frequently used for base metals of similar composition. Used for welding metals of similar composition, especially 304.

Chemical Composition		
C-0.08%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-19.5-22.0%
Ni-9.0-11.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		
Single values are maximum		



PN: 0030815
.025" - 10# SPOOL

PART NO.	SIZE
0030812	.025" - 2# SPOOL
0030815	.025" - 10# SPOOL
00308E2	.030" - 2# SPOOL
00308E5	.030" - 10# SPOOL
00308E8	.030" - 25# SPOOL
00308F2	.035" - 2# SPOOL
00308F5	.035" - 10# SPOOL
00308F8	.035" - 25# SPOOL
00308H8	.045" - 25# SPOOL

MIG 308L

Similar usage as 308, but the 0.03% maximum carbon content increases resistance to intergranular corrosion.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-19.5-22.0%
Ni-9.0-11.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		
Single values are maximum		



PN: 308L15
.025" - 10# SPOOL

PART NO.	SIZE
0308L12	.025" - 2# SPOOL
0308L15	.025" - 10# SPOOL
0308L18	.025" - 25# SPOOL
0308LE2	.030" - 2# SPOOL
0308LE5	.030" - 10# SPOOL
0308LE8	.030" - 25# SPOOL
0308LF2	.035" - 2# SPOOL
0308LF5	.035" - 10# SPOOL
0308LF8	.035" - 25# SPOOL
0308LH8	.045" - 25# SPOOL
POP PART NO.	SIZE
0308L12POP	.025" - 2# S/S SPOOL
0308L2POP	.030" - 2# S/S SPOOL
0308LF2POP	.035" - 2# S/S SPOOL
0308L15POP	.025" - 10# S/S SPOOL
0308LE5POP	.030" - 10# S/S SPOOL
0308LF5POP	.035" - 10# S/S SPOOL

MIG 308LSi

Similar usage as 308L, but the 0.65-1.00% silicon content improves wash and wetting behavior in the gas shielded welding processes.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.65-1.00%
S-0.03%	P-0.03%	Cr-19.5-22.0%
Ni-9.0-11.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		
Single values are maximum		



PN: 308LSE8
.030" - 25# SPOOL

PART NO.	SIZE
308LS12	.025" - 2# SPOOL
308LS15	.025" - 10# SPOOL
308LS18	.025" - 25# SPOOL
308LSE2	.030" - 2# SPOOL
308LSE5	.030" - 10# SPOOL
308LSE8	.030" - 25# SPOOL
308LSF2	.035" - 2# SPOOL
308LSF5	.035" - 10# SPOOL
308LSF8	.035" - 25# SPOOL
308LSH8	.045" - 25# SPOOL
308LS38	1/16" - 25# SPOOL

MIG 309

Used for welding similar alloys in wrought or cast form; occasionally used for welding 18-8 base metals when severe corrosion conditions exist, and, at times welding dissimilar steels.

Chemical Composition		
C-0.12%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-23.0-25.0%
Ni-12.0-14.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 00309F8
.035" - 25# SPOOL

PART NO.	SIZE
00309F8	.035" - 25# SPOOL
00309H8	.045" - 25# SPOOL

MIG 309L

Similar usage as 309, but the 0.03% maximum carbon content increases resistance to intergranular corrosion.

Used for welding similar alloys in wrought or cast form. Occasionally used for welding 18-8 base metals when severe corrosion conditions exist, and, at times, welding dissimilar steels. Packaged for portable welding machines.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-23.0-25.0%
Ni-12.0-14.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 0309LE5
.030" - 10# SPOOL

PART NO.	SIZE
0309LE2	.030" - 2# SPOOL
0309LE5	.030" - 10# SPOOL
0309LF2	.035" - 2# SPOOL
0309LF5	.035" - 10# SPOOL
0309LF8	.035" - 25# SPOOL
0309LH8	.045" - 25# SPOOL
POP PART NO.	SIZE
0309LE2POP	.030" - 2# S/S SPOOL
0309LF2POP	.035" - 2# S/S SPOOL
0309LE5POP	.030" - 10# S/S SPOOL
0309LF5POP	.035" - 10# S/S SPOOL



PN: 0309LE2POP
.030" - 2# SPOOL



STAINLESS STEEL GMAW (MIG)

MIG 309LSi

Similar usage as 309L, but the 0.65-1.00% silicon content improves wash and wetting behavior in the gas shielded welding processes.

Chemical Composition

C-0.03%	Mn-1.0-2.5%	Si-0.65-1.00%
S-0.03%	P-0.03%	Cr-23.0-25.0%
Ni-12.0-14.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 309LSF8
.035" - 25# SPOOL

PART NO.	SIZE
309LSE8	.030" - 25# SPOOL
309LSF5	.035" - 10# SPOOL
309LSF8	.035" - 25# SPOOL
309LSH8	.045" - 25# SPOOL

MIG 310

For welding of base metals of similar composition.

Chemical Composition

C-0.08-0.15%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-25.0-28.0%
Ni-20.2-22.5%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 00310F8
.035" - 25# SPOOL

PART NO.	SIZE
00310F8	.035" - 25# SPOOL
00310H8	.045" - 25# SPOOL

MIG 312

For welding of base metals of similar composition. Also used for welding dissimilar steel base metals.

Chemical Composition

C-0.15%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-28.0-32.0%
Ni-8.0-10.5%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 00312H8
.045" - 25# SPOOL

PART NO.	SIZE
00312F8	.035" - 25# SPOOL
00312H8	.045" - 25# SPOOL

MIG 316

Usually used for welding similar alloys (containing about 2% molybdenum); also for high temperature service applications.

Chemical Composition

C-0.08%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-18.0-20.0%
Ni-11.0-14.0%	Mo-2.0-3.0%	Cu-0.75%
Fe-Rem		



PN: 00316E5
.030" - 10# SPOOL

PART NO.	SIZE
00316E5	.030" - 10# SPOOL
00316F5	.035" - 10# SPOOL
00316F8	.035" - 25# SPOOL

MIG 316L

Similar usage as MIG 316 but the 0.03% maximum carbon increases resistance to intergranular corrosion. Used for welding steels alloyed with molybdenum. Packaged for portable welding machines.

Chemical Composition

C-0.03%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-18.0-20.0%
Ni-11.0-14.0%	Mo-2.0-3.0%	Cu-0.75%
Fe-Rem		



PN: 0316L15
.025" - 10# SPOOL



PN: 0316L12POP
.025" - 2# SPOOL

PART NO.	SIZE
0316L12	.025" - 2# SPOOL
0316L15	.025" - 10# SPOOL
0316LE2	.030" - 2# SPOOL
0316LE5	.030" - 10# SPOOL
0316LE8	.030" - 25# SPOOL
0316LF2	.035" - 2# SPOOL
0316LF5	.035" - 10# SPOOL
0316LF8	.035" - 25# SPOOL
0316LH8	.045" - 25# SPOOL
0316L38	1/16" - 25# SPOOL
POP PART NO.	SIZE
0316L12POP	.025" - 2# S/S SPOOL
0316LE2POP	.030" - 2# S/S SPOOL
0316LF2POP	.035" - 2# S/S SPOOL
0316L15POP	.025" - 10# S/S SPOOL
0316LE5POP	.030" - 10# S/S SPOOL
0316LF5POP	.035" - 10# S/S SPOOL

MIG 316LSi

Similar usage as 316L, but the 0.65-1.00% silicon content improves wash and wetting behavior in the gas shielded welding processes.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.65-1.00%
S-0.03%	P-0.03%	Cr-18.0-20.0%
Ni-11.0-14.0%	Mo-2.0-3.0%	Cu-0.75%
Fe-Rem		



PN: 316LS15
.025" - 10# SPOOL

PART NO.	SIZE
316LS15	.025" - 10# SPOOL
316LS18	.025" - 25# SPOOL
316LSE2	.030" - 2# SPOOL
316LSE5	.030" - 10# SPOOL
316LSE8	.030" - 25# SPOOL
316LSF2	.035" - 2# SPOOL
316LSF5	.035" - 10# SPOOL
316LSF8	.035" - 25# SPOOL
316LSH8	.045" - 25# SPOOL
316LS38	1/16" - 25# SPOOL

MIG 317L

Similar to 316L but with increased molybdenum which increases creep resistance.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-18.5-20.5%
Ni-13.0-15.0%	Mo-3.0-4.0%	Cu-0.75%
Fe-Rem		



PN: 0317LF8
.035" - 25# SPOOL

PART NO.	SIZE
0317LF8	.035" - 25# SPOOL

MIG 347

A columbium (niobium) stabilized alloy. The columbium increases resistance to intergranular corrosion.

Chemical Composition		
C-0.08%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-19.0-21.5%
Ni-9.0-11.0%	Mo-0.75%	Nb&Ta-10xCmin-1.0max
Cu-0.75%	Fe-Rem	



PN: 00347E8
.030" - 25# SPOOL

PART NO.	SIZE
00347E8	.030" - 25# SPOOL
00347F8	.035" - 25# SPOOL
00347H8	.045" - 25# SPOOL

MIG 410

Used for welding alloys of similar compositions; also for overlays on carbon steels to resist corrosion, erosion or abrasion. Usually requires preheat and postheat treatments.

Chemical Composition		
C-0.12%	Mn-0.6%	Si-0.5%
S-0.03%	P-0.03%	Cr-11.5-13.5%
Ni-0.6%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 00410F8
.035" - 25# SPOOL

PART NO.	SIZE
00410F8	.035" - 25# SPOOL
00410H8	.045" - 25# SPOOL



STAINLESS STEEL FLUX CORED

STAINLESS FLUXCORE

Harris Products Group's flux cored stainless wires are precisely formulated for all position versatility with a smooth arc, good wetting and overall operator appeal. Products conform to AWS Specification A5.22

E308LT1-1

Is most frequently used for base metals of similar composition such as AISI Types 301, 302, 304, 305 and 308.



PN: 308LFCH8
.045" - 25# SPOOL

PART NO.	SIZE
308LFCF5	.035" - 10# SPOOL
308LFCF8	.035" - 25# SPOOL
308LFCH8	.045" - 25# SPOOL
308LFC38	1/16" - 25# SPOOL

Product	Chemical Composition					
E308LT1-1	C-0.04%	Mn-0.5-2.5%	Si-1%	S-0.03%	P-0.04%	Cr-18.0-21.0%
	Ni-9.0-11.0%	Mo-0.5%	Cu-0.5%	Fe-Rem		

E309LT1-1

Is most frequently used for welding similar alloys in wrought or cast form; occasionally, to weld Type 304 base metals when severe corrosion conditions exist; and, at times, welding dissimilar steels.



PN: 309LFCF8
.035" - 25# SPOOL

PART NO.	SIZE
309LFCF8	.035" - 25# SPOOL
309LFCH8	.045" - 25# SPOOL
309LFC38	1/16" - 25# SPOOL

Product	Chemical Composition					
E309LT1-1	C-0.04%	Mn-0.5-2.5%	Si-1%	S-0.03%	P-0.04%	Cr-22.0-25.0%
	Ni-12.0-14.0%	Mo-0.5%	Cu-0.5%	Fe-Rem		

E316LT1-1

Is most frequently used for welding similar alloys (containing about 2% molybdenum); also for high temperature service applications (the presence of molybdenum provides increased creep resistance at elevated temperatures).



PN: 316LFCH8
.045" - 25# SPOOL

PART NO.	SIZE
316LFCF8	.035" - 25# SPOOL
316LFCH8	.045" - 25# SPOOL

Product	Chemical Composition					
E316LT1-1	C-0.04%	Mn-0.5-2.5%	Si-1%	S-0.03%	P-0.04%	Cr-17.0-20.0%
	Ni-11.0-14.0%	Mo-2.0-3.0%	Cu-0.5%	Fe-Rem		

TIG 308

Most frequently used for base metals of similar composition.

Chemical Composition		
C-0.08%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-19.5-22.0%
Ni-9.0-11.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 0308T30
1/16" x 36" - 10# PKG

PART NO.	SIZE
0308TE0	.030" x 36" - 10# PKG
0308TF0	.035" x 36" - 10# PKG
0308TH0	.045" x 36" - 10# PKG
0308T30	1/16" x 36" - 10# PKG
0308T50	3/32" x 36" - 10# PKG
0308T60	1/8" x 36" - 10# PKG
0308T70	5/32" x 36" - 10# PKG
0308T80	3/16" x 36" - 10# PKG
POP PART NO.	SIZE
0308T305POP	1/16" x 36" - 5# PKG

TIG 308L

Similar usage as 308, but the 0.03% maximum carbon content increases resistance to intergranular corrosion.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-19.5-22.0%
Ni-9.0-11.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 308LT30
.045" x 36" - 10# PKG

PART NO.	SIZE
308LTE0	.030" x 36" - 10# PKG
308LTF0	.035" x 36" - 10# PKG
308LTH0	.045" x 36" - 10# PKG
308LT30	1/16" x 36" - 10# PKG
308LT50	3/32" x 36" - 10# PKG
308LT60	1/8" x 36" - 10# PKG
308LT70	5/32" x 36" - 10# PKG
308LT80	3/16" x 36" - 10# PKG
POP PART NO.	SIZE
308LT300POP	1/16" x 36" - 1# PKG
308LT500POP	3/32" x 36" - 1# PKG
308LT600POP	1/8" x 36" - 1# PKG
308LT303POP	1/16" x 36" - 3# PKG
308LT503POP	3/32" x 36" - 3# PKG
308LT603POP	1/8" x 36" - 3# PKG
308LT505POP	3/32" x 36" - 5# PKG

TIG 308LSi

Similar usage as the above, but the 0.65-1.00% silicon content improves wash and wetting behavior in the GTAW welding process.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.65-1.0%
S-0.03%	P-0.03%	Cr-19.5-22.0%
Ni-9.0-11.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 308ST50
3/32" x 36" - 10# PKG

PART NO.	SIZE
308ST30	1/16" x 36" - 10# PKG
308ST50	3/32" x 36" - 10# PKG
308ST60	1/8" x 36" - 10# PKG
POP PART NO.	SIZE
308ST3011POP	1/16" x 36" S/S - 1# PKG
308ST5011POP	3/32" x 36" S/S - 1# PKG
308ST6011POP	1/8" x 36" S/S - 1# PKG

TIG 309

Used for welding similar alloys in wrought or cast form; occasionally used for welding 18-8 base metals when severe corrosion conditions exist; and, at times, welding dissimilar steels.

Chemical Composition		
C-0.12%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-23.0-25%
Ni-12.0-14.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 0309T50
3/32" x 36" - 10# PKG

PART NO.	SIZE
0309T30	1/16" x 36" - 10# PKG
0309T50	3/32" x 36" - 10# PKG
0309T60	1/8" x 36" - 10# PKG

TIG 309L

The 309L grade is similar to 309 except for the lower carbon content, (.03% maximum) which reduces the possibility of carbide precipitation which can cause weld corrosion.

Chemical Composition		
C-0.03%	Mn-1.0-2.5%	Si-0.30-0.65%
S-0.03%	P-0.03%	Cr-23.0-25.0%
Ni-12.0-14.0%	Mo-0.75%	Cu-0.75%
Fe-Rem		



PN: 309LT30
.045" x 36" - 10# PKG

PART NO.	SIZE
309LTH0	.045" x 36" - 10# PKG
309LT30	1/16" x 36" - 10# PKG
309LT50	3/32" x 36" - 10# PKG
309LT60	1/8" x 36" - 10# PKG
309LT70	5/32" x 36" - 10# PKG
POP PART NO.	SIZE
309LT303POP	1/16" x 36" - 3# PKG
309LT503POP	3/32" x 36" - 3# PKG
309LT603POP	1/8" x 36" - 3# PKG



STAINLESS STEEL GTAW (TIG)

TIG 310

Most frequently used to weld base metals of similar composition.

Chemical Composition

C-.08-.15%	Mn-1.0-2.5%	Si-.30-.65%
S-.03%	P-.03%	Cr-25.0-28%
Ni-20.0-22.5%	Mo-.75%	Cu-.75%
Fe-Rem		



PN: 0310T30
1/16" x 36"

PART NO.	SIZE
0310T30	1/16" x 36" - 10# PKG
0310T50	3/32" x 36" - 10# PKG

TIG 312

Most frequently used to weld base metals of similar composition. Also good for welding dissimilar steels.

Chemical Composition

C-.15%	Mn-1.0-2.5%	Si-.30-.65%
S-.03%	P-.03%	Cr-28.0-32%
Ni-8.0-10.5%	Mo-.75%	Cu-.75%
Fe-Rem		



PN: 0312T30
1/16" x 36" - 10# PKG

PART NO.	SIZE
0312T30	1/16" x 36" - 10# PKG
0312T50	3/32" x 36" - 10# PKG
0312T60	1/8" x 36" - 10# PKG
0312TH0	.045" x 36" - 10# PKG

TIG 316

Usually used for welding similar alloys (containing about 2% molybdenum); also for high temperature service applications.

Chemical Composition

C-.08%	Mn-1.0-2.5%	Si-.30-.65%
S-.03%	P-.03%	Cr-18.0-20.0%
Ni-11.0-14.0%	Mo-.75%	Cu-.75%
Fe-Rem		



PN: 0316T30
1/16" x 36" - 10# PKG

PART NO.	SIZE
0316TH0	.045" x 36" - 10# PKG
0316T30	1/16" x 36" - 10# PKG
0316T50	3/32" x 36" - 10# PKG
0316T60	1/8" x 36" - 10# PKG

TIG 316L

Used principally for welding molybdenum-bearing austenitic alloys containing 0.03% maximum carbon.

Chemical Composition

C-.03%	Mn-1.0-2.5%	Si-.30-.65%
S-.03%	P-.03%	Cr-18.0-20.0%
Ni-11.0-14.0%	Mo-2.0-3.0%	Cu-.75%
Fe-Rem		



PN: 316LTE0
.030" x 36"



PN: 316LT303POP
1/16" x 36" - 3# PKG

PART NO.	SIZE
316LTE0	.030" x 36" - 10# PKG
316LTF0	.035" x 36" - 10# PKG
316LTH0	.045" x 36" - 10# PKG
316LT30	1/16" x 36" - 10# PKG
316LT50	3/32" x 36" - 10# PKG
316LT60	1/8" x 36" - 10# PKG
316LT70	5/32" x 36" - 10# PKG
316LT80	3/16" x 36" - 10# PKG
POP PART NO.	SIZE
316LT303POP	1/16" x 36" - 3# PKG
316LT503POP	3/32" x 36" - 3# PKG
316LT603POP	1/8" x 36" - 3# PKG

TIG 316LSI

Similar usage as 316L, but the 0.65-1.00% silicon content improves wash and wetting behavior in the gas shielded welding processes.

Chemical Composition

C-.03%	Mn-1.0-2.5%	Si-.65-1.0%
S-.03%	P-.03%	Cr-18.0-20.0%
Ni-11.0-14.0%	Mo-2.0-3.0%	Cu-.75%
Fe-Rem		



PN: 316ST50
3/32" x 36"

PART NO.	SIZE
316ST30	1/16" x 36" - 10# PKG
316ST50	3/32" x 36" - 10# PKG
316ST60	1/8" x 36" - 10# PKG
POP PART NO.	SIZE
316ST3011POP	1/16" x 36" S/S - 1# PKG
316ST5011POP	3/32" x 36" S/S - 1# PKG
316ST6011POP	1/8" x 36" S/S - 1# PKG

TIG 317L

The alloy content is somewhat higher than for ER316, particularly in molybdenum. The 0.03% maximum carbon content increases resistance to intergranular corrosion due to carbide precipitation. Severe corrosion resistance to sulfuric and sulfurous acids and their salts.

Chemical Composition

C-.03%	Mn-1.0-2.5%	Si-.30-.65%
S-.03%	P-.03%	Cr-18.5-20.5%
Ni-13.0-15.0%	Mo-3.0-4.0%	Cu-.75%
Fe-Rem		



PN: 317LT70
5/32" x 36" - 10# PKG

PART NO.	SIZE
317LT30	1/16" x 36" - 10# PKG
317LT50	3/32" x 36" - 10# PKG
317LT60	1/8" x 36" - 10# PKG
317LT70	5/32" x 36" - 10# PKG

TIG 347

A niobium (columbium) stabilized alloy. The niobium increases resistance to intergranular corrosion.

Chemical Composition		
C-.08%	Mn-1.0-2.5%	Si-.30-.65%
S-.03%	P-.03%	Cr-19.0-21.5%
Ni-9.0-11.0%	Mo-.75%	Nb&Ta-10xCmin-1.0max
Cu-.75%	Fe-Rem	



PN: 0347TH0
.045" x 36" - 10# PKG

PART NO.	SIZE
0347TF0	.035" x 36" - 10# PKG
0347TH0	.045" x 36" - 10# PKG
0347T30	1/16" x 36" - 10# PKG
0347T50	3/32" x 36" - 10# PKG
0347T60	1/8" x 36" - 10# PKG

TIG 410

Used for welding alloys of similar compositions; also for overlays on carbon steels to resist corrosion, erosion or abrasion. Usually requires preheat and postheat treatments.

Chemical Composition		
C-.12%	Mn-.6%	Si-.5%
S-.03%	P-.03%	Cr-11.5-13.5%
Ni-.6%	Mo-.75%	Cu-.75%
Fe-Rem		



PN: 0410T50
3/32" x 36" - 10# PKG

PART NO.	SIZE
0410T30	1/16" x 36" - 10# PKG
0410T50	3/32" x 36" - 10# PKG

ER630 (17-4PH)

The composition of this filler metal is designed primarily for welding ASTM A 564 Type 630 and some other precipitation - hardening stainless steels.

Chemical Composition		
C-.05%	Mn-.25-.75%	Si-.75%
S-.03%	P-.03%	Cr-16.0-16.75%
Ni-4.5-5.0%	Mo-.75%	Nb&Ta-.15-0.30
Cu-3.25-4.00%	Fe-Rem	



PN: 174PH30
1/16" x 36"

PART NO.	SIZE
174PH30	1/16" x 36" - 10# PKG
174PH50	3/32" x 36" - 10# PKG

STAINLESS STEEL ELECTRODES

308L STAINLESS ELECTRODES

Applications:

Similar usage as 308, but the 0.04% maximum carbon content increases resistance to intergranular corrosion. Conforms to AWS A5.4.

Chemical Composition		
C-.04%	Mn-.5-2.5%	Si-.9%
S-.03%	P-.04%	Cr-18.0-21.0%
Ni-9.0-11.0%	Mo-.75%	Cu-.75%
Fe-Rem		



PN: 308L630
1/16" x 10 - 5# PKG

PART NO.	SIZE
308L630	1/16" x 10" - 5# PKG
308L650	3/32" x 12" - 10# PKG
308L660	1/8" x 14" - 10# PKG
308L670	5/32" x 14" - 10# PKG
308L680	3/16" x 14" - 10# PKG

309 STAINLESS ELECTRODES

Applications:

Used for welding similar alloys in wrought or cast form; occasionally used for welding Type 304 and similar base metals when severe corrosion conditions exist; and, at times, welding dissimilar steels. Conforms to AWS A5.4.

Chemical Composition		
C-.15%	Mn-.5-2.5%	Si-.9%
S-.03%	P-.04%	Cr-22.0-25.0%
Ni-12.0-14.0%	Mo-.75%	Cu-.75%
Fe-Rem		



PN: 3091650
3/32" x 12" - 10# PKG

PART NO.	SIZE
3091650	3/32" x 12" - 10# PKG
3091660	1/8" x 14" - 10# PKG
3091670	5/32" x 14" - 10# PKG



STAINLESS STEEL ELECTRODES

309L STAINLESS ELECTRODES

Applications:

Similar usage as 309, but the 0.04% maximum carbon content increases resistance to intergranular corrosion. Conforms to AWS A5.4.

Chemical Composition		
C-.04%	Mn-.5-2.5%	Si-.9%
S-.03%	P-.04%	Cr-22.0-25.0%
Ni-12.0-14.0%	Mo-.75%	Cu-.75%
Fe-Rem		



PART NO.	SIZE
309L650	3/32" x 12" - 10# PKG
309L660	1/8" x 14" - 10# PKG
309L670	5/32" x 14" - 10# PKG

PN: 309L650
3/32" x 12" - 10# PKG

310 STAINLESS ELECTRODES

Applications:

Most frequently used to weld base metals of similar composition. Conforms to AWS A5.4.

Chemical Composition		
C-.08%	Mn-1.0-2.5%	Si-.75%
S-.03%	P-.04%	Cr-25.0-28.0%
Ni-20.0-22.5%	Mo-.75%	Cu-.75%
Fe-Rem		



PART NO.	SIZE
3101650	3/32" x 12" - 10# PKG
3101660	1/8" x 14" - 10# PKG
3101670	5/32" x 14" - 10# PKG
3101680	3/16" x 14" - 10# PKG

PN: 3101660
1/8" x 14" - 10# PKG

312 STAINLESS ELECTRODES

Applications:

Most frequently used to weld cast alloys of similar composition and to weld dissimilar steels. Conforms to AWS A5.4.

Chemical Composition		
C-.15%	Mn-.5-2.5%	Si-.9%
S-.03%	P-.04%	Cr-28.0-32.0%
Ni-8.0-10.5%	Mo-.75%	Cu-.75%
Fe-Rem		



PART NO.	SIZE
3121650	3/32" x 12" - 10# PKG
3121660	1/8" x 14" - 10# PKG
3121670	5/32" x 14" - 10# PKG

PN: 3121650
3/32" x 12" - 10# PKG

316L STAINLESS ELECTRODES

Applications:

Used principally for welding molybdenum - bearing austenitic alloys containing 0.03% maximum carbon. Conforms to AWS A5.4.

Chemical Composition		
C-.04%	Mn-.5-2.5%	Si-.9%
S-.03%	P-.04%	Cr-17.0-20.0%
Ni-11.0-14.0%	Mo-2.0-3.0%	Cu-.75%
Fe-Rem		



PART NO.	SIZE
316L630	1/16" x 10" - 5# PKG
316L650	3/32" x 12" - 10# PKG
316L660	1/8" x 14" - 10# PKG
316L670	5/32" x 14" - 10# PKG
316L680	3/16" x 14" - 10# PKG

PN: 316L630
1/16" x 10" - 5# PKG

347 STAINLESS ELECTRODES

Applications:

A stabilized 18-8, 19-9 alloy that is not subject to intergranular corrosion due to carbide precipitation. Conforms to AWS A5.4.

Chemical Composition		
C-.08%	Mn-.5-2.5%	Si-.90%
S-.03%	P-.04%	Cr-18.0-21.0%
Ni-9.0-11.0%	Mo-.75%	Cb&Ta-8xCmin-1.00max
Cu-.75%	Fe-Rem	



PART NO.	SIZE
3471650	3/32" x 12" - 10# PKG

410 STAINLESS ELECTRODES

Applications:

Used for welding alloys of similar compositions; also for surfacing of carbon steels to resist corrosion, erosion or abrasion. Usually requires preheat and postheat treatments. Conforms to AWS A5.4.

Chemical Composition		
C-.12%	Mn-1%	Si-.9%
S-.03%	P-.04%	Cr-11.0-13.5%
Ni-.7%	Mo-.75%	Cu-.75%
Fe-Rem		



PART NO.	SIZE
4101660	1/8" x 14" - 10# PKG

STAINLESS STEEL FILLER METAL SELECTOR GUIDE



BASE METAL GRADE	442 446	430F 430 FSE	430 431	501 502	416 418 SE	403 405 410 420 414	321 348 347	317	316L	316	314	310 310S	309 309S	304L	303 303 SE	201 202 301 302 302B 304 305 308	MILD STEEL
201-202-301 302-302B-304 305-308	310 312 309	310 312 309	310 312 309	310 312 309	309 310 312	309 310 312	308	308	308	308	308	308	308	308	308	308	312 310 309
303 303SE	310 309 312	310 309 312	310 309 312	310 309 312	309 310 312	309 310 312	308	308	308	308	308	308	308	308	312 308-15	308	312 310 309
304L	310 309 312	310 309 312	310 309 312	310 309 312	309 310 312	309 310 312	308	308	308L	308	308	308	308	308L	308	308	312 310 309
309 309S	310 309 312	310 309 312	310 309 312	310 309 312	309 310 312	309 310 312	308	317 316 309	316	316	309	309	308	308	308	308	309 310 312
310 310S	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	309	317 316 309	316	316	310	310	309 310	309	309	309	310 309 312
314	310 312 309	310 312 309	310 312 309	310 312 309	310 312 309	310 309 312	309 310 308	309 310	309 310	309 310	310- 15	310	309 310	309 310	309 310	309 310	310 309 312
316	310 309 312	310 309 312	310 309 312	310 309 312	309 310 312	309 310 312	308	316	316	316	309 310 316	310 309 316	309 310 316	309 316	309 316	309 316	309 310 312
316L	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	308	316 317 308	316L	316	309 310 316	310 309 316	316 309	308 316	308 316	308 316	308 310 312
317	310 309 312	310 309 312	310 309 312	310 309 312	309 310 312	309 310 312	308	317	316 308	316 308	309 310 317	317 316 309	317 316 309	308 316 317	308 316 317	308 316 317	309 310 312
321 348 347	310 309 312	310 309 312	310 309 312	310 309 312	309 310 312	309 310 312	347 308	308 347	347 308	347 308	309 310 347	347 308	347 308	347 308L	347 308	347 308	309 310 312
403-405 410-420 414	310 309 312	310 309 312	310 309 312	310 309 312	309 310 312	410* 309**	309 310	309 310	309 310	309 310	310 309	310 309	309 310	309 310	309 310	309 310	309 310 312
416 416SE	310 309	310 309	310 309	310	410* 309** 310**	410* 309** 310**	309 310	309 310 312	309 310 312	309 310 312	309 310 312	310 309 312	309 310 312	309 310 312	309 310 312	309 310 312	309 310 312
501 502	310	310	310	502* 310**	310	310	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 312 309
430 431	310 309	310 309	430 310** 309**	310	310	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309	310 309 312
430F 430FSE	310 309	410*	310 309	310 309	310 309 312	310 309 312	309 310 312	309 310 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312
442 446	309 310	309 310 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312	310 309 312

*Preheat

** No Preheat Necessary

The first numbers indicated first choice, subsequent numbers indicate second and third choice. This choice can vary with specific applications and individual job requirements.



WELDING PARAMETERS FOR STAINLESS STEEL

GTAW (TIG)

Argon is suggested for most GTAW (TIG) welding applications.

For Oxy-Acetylene welding, employ a neutral flame and use Stainflux

MATERIAL THICKNESS	WIRE SIZE	WELDING CURRENT (AMPS)	GAS CUP	ARGON, cfh	TUNGSTEN, THORIATED
1/16"	1/16"	80 - 120	3/8"	20	1/16"
3/32"	1/16"	100 - 130	3/8"	20	1/16"
1/8"	1/16"	120 - 150	7/16"	20	3/32"
3/16"	3/32"	150 - 250	7/16"	25	3/32"
1/4"	1/8"	200 - 350	1/2"	25	1/8"
1/2"	1/8"	235 - 375	1/2"	25	1/8"

GMAW (MIG), Short Circuit Transfer: 90% Helium + 7.5% Argon + 2.5% CO₂ has no effect on corrosion resistance; provides small heat-affected zone; no undercutting; and minimum distortion.

WIRE SIZE	WELDING CURRENT (AMPS)	ARC VOLTAGE	WIRE FEED SPEED, IPM
.030"	60-125	17-22	150-430
.035"	75-160	17-22	120-400
.045"	100-200	17-22	100-240

GMAW (MIG), Spray Transfer: 99% Argon - 1% Oxygen is predominantly used. This mixture improves arc stability; produces more fluid and controllable weld puddle with good bead contour. Undercutting is minimized on heavier sections. 98% Argon - 2% Oxygen provides better arc stability and welding speed than the 1% Oxygen mixture for thinner stainless steel materials.

WIRE SIZE	WELDING CURRENT (AMPS)	ARC VOLTAGE	WIRE FEED SPEED, IPM
.030"	160-225	24-28	440-650
.035"	180-300	24-29	430-500
.045"	200-450	24-30	220-400
1/16"	220-500	24-32	110-210
3/32"	250-600	24-32	50-80

FCAW

WIRE DIA.	WELD POSITION	TYPE OF JOINT	PLATE THICKNESS	AMPERAGE	VOLTAGE
.035"	Flat	Butt	1/8"	70-90	25-27
.035"	Flat	Butt	1/4"	120-130	26-29
.035"	Flat	Fillet	1/4"	110-130	26-29
.035"	Vertical Up	Butt & Fillet	3/8"	70-90	22-25
.035"	Horizontal	Butt	3/32"	100-120	24-27
.035"	Overhead	Fillet	3/8"	150-200	26-28
.045"	Flat	Butt	1/4"	180-200	29-32
.045"	Flat	Fillet	3/8"	170-200	28-32
.045"	Vertical Up	Butt & Fillet	3/8"	110-140	21-24
.045"	Horizontal	Butt	1/4"	150-180	26-30
.045"	Overhead	Fillet	3/8"	150-180	26-30
1/16"	Flat	Butt	1/4"	210-220	27-30
1/16"	Flat	Fillet	3/8"	220-250	27-31
1/16"	Vertical Up	Butt & Fillet	3/8"	130-160	21-24
1/16"	Horizontal	Butt	1/4"	150-200	27-30
1/16"	Overhead	Fillet	3/8"	150-200	27-30

Shielding gases for stainless steel flux cored welding wires:

HPG's flux cored stainless wires can be used with 100% CO₂ or a mixture of 75% Argon and 25% CO₂. Higher concentrations of Argon are sometimes used, but the wire has been qualified in 100% CO₂ and 75/25 only. If higher percentages of Argon are used, qualification would be required by the user. Argon mixtures offer a smoother arc and greater operator appeal.

NIC-L-WELD 59 ELECTRODES

Nickel-Iron alloy electrode (AC-DC). A general purpose, nickel-iron electrode for production, salvage and repair of all cast irons.

Procedure:

- Use AC or DC reverse polarity
- Vee out cracks
- Preheat heavy castings to approximately 400°F for best results
- Direct the arc upon deposited metal with the electrode at a slight angle in the direction of travel
- Lightly peen between passes and use a skip or back-step welding technique. Allow casting to cool slowly

Features:

- Conforms to AWS A5.15, ENiFeCl
- Close color match
- Good machinability

Classification	Chemical Composition							
ENi-CI	C-2.0%	Mn-2.5%	Si-4.0%	S-0.03%	Ni-85min	Cu-2.5%	Al-1.0%	Fe-8.0%
ENi-CI-A	C-2.0%	Mn-2.5%	Si-4.0%	S-0.03%	Ni-85min	Cu-2.5%	Al-1.0-3.0%	Fe-8.0%
ENiFe-CI	C-2.0%	Mn-2.5%	Si-4.0%	S-0.03%	Ni-45-60%	Cu-2.5%	Al-1.0%	Fe-Rem

Application:

NIC-L-WELD 59 is suited to joining, filling and buildup of gray and alloyed cast irons. It can be used for fabrication and repair of pump housings, valves, castings, cast and malleable fittings, and for general repair of all cast irons. Deposits are machinable and have high strength.



PN: NLW5960
1/8" - 10# PKG

PART NO.	SIZE
NLW5950	3/32" - 10# PKG
NLW5960	1/8" - 10# PKG
NLW5970	5/32" - 10# PKG
NLW5980	3/16" - 10# PKG

WIRE SIZE	WELDING CURRENT (AMPS)
3/32"	50 - 80
1/8"	80 - 120
5/32"	110 - 140
3/16"	130 - 170

99 NICKEL (TIG)

GTAW alloy for cast iron. General purpose, high nickel alloy electrode for production and repair of cast iron.

Procedure:

- AC or DC reverse or straight polarity
- Hold a short arc
- Clean the weld area
- Run stringer beads
- Bevel breaks and cracks
- Skip or back-step weld
- Bevel deep enough so the first pass ties
- Peen to relieve stresses in the bottom of the crack
- Slow cool
- Preheating is typically not necessary
- Preheat heavy sections to approximately 400°F

Features:

- Excellent machinability
- All position
- Close color match

Chemical Composition				
C-3.00-3.50%	Mn-0.60-0.75%	Si-2.75-3.00%	S-0.10max%	
P-0.50-0.75	Ni-85min	Cu-2.5	Al-1.0	Other-1.0

Application:

Has excellent compatibility for cast iron. It yields clean, strong, ductile, easy machined deposits. The arc has the quiet stability provided by the inert gas process. 99 offers a smooth, even bead contour for joining, buildup and cladding. It can also be used for joining cast iron to steel.



PN: NI99T60
1/8" X 36" - 5# PKG

PART NO.	SIZE
NI99T30	1/16" x 36" - 5# PKG
NI99T50	3/32" x 36" - 5# PKG
NI99T60	1/8" x 36" - 5# PKG

WIRE SIZE	WELDING CURRENT (AMPS)
3/32"	30 - 70
1/8"	70 - 110

NIC-L-WELD 99 ELECTRODES (AC-DC)

A general purpose, high nickel electrode for production and repair of cast iron.

Procedure:

- Use AC or DC reverse or straight polarity. Clean the weld area
- Bevel breaks and cracks deep enough so the first pass ties in the bottom of the crack
- In most cases, preheating is not necessary, but heavy sections should be preheated to approximately 400°F
- Use a short arc. Stringer beads are recommended
- Skip or back-step weld and peen to relieve stresses. Allow the casting to cool slowly

Features:

- Conforms to AWS A5.15, ENiCl
- Close color match
- Excellent machinability

Chemical Composition			
C-2.0%	Mn-2.5%	Si-4.0%	S-0.03% Fe-8.0

Application:

NIC-L-WELD 99 is for building up, joining, filling holes, breaks and cracks in all types of cast iron. It has very good out-of-position welding characteristics. Parts are frequently repaired without dismantling.



PN: NLW9960
1/8" - 10# PKG

PART NO.	SIZE
NLW9950	3/32" - 10# PKG
NLW9960	1/8" - 10# PKG
NLW9970	5/32" - 10# PKG
NLW9980	3/16" - 10# PKG

WIRE SIZE	WELDING CURRENT (AMPS)
3/32"	30 - 70
1/8"	70 - 110
5/32"	90 - 130
3/16"	110 - 160



SUPER MISSILEWELD

The ultimate electrode for welding steels with highest strength and maximum ductility (AC/DC) Assures non-cracking welds on "problem" steels such as high carbon steels; tool steels; stainless steels; spring steels; manganese steels; and dissimilar steels. Super Missileweld is particularly advantageous when the alloy content of the steel to be welded is known. This unique electrode is so versatile that its applications are virtually too multiple in number to specify. For years, it has been a maintenance and repair "stand-by" in every industry throughout the world.

Procedure:

- Use either AC or DC reverse polarity
- Clean weld area
- Bevel heavy sections
- For high carbon steels, a preheat of 400°F is recommended
- Hold a short arc
- Run stringer beads
- Peening will help relieve stresses
- Let each pass cool and slag will peel off easily

Features:

- Tensile strength - 108,000 psi
- Yield strength - 76,000 psi
- Reduction of area - 30%
- Charpy V notch - 75 ft/# @ room temperature
- Rockwell B hardness - 93 - 102 HRB
- Brinell hardness - 200 - 300 HB
- Elongation - 24%
- Frictional resistance - Excellent
- Abrasive resistance - Mild
- Will not respond to heat treatment

3SMW

A gas tungsten arc (TIG) form of Super Missileweld used for joining or overlay on a variety of ferrous metals.

PART NO.	SIZE
03SMW30	1/16" x 36" - 10# PKG
03SMW50	3/32" x 36" - 10# PKG
03SMW60	1/8" x 36" - 10# PKG
ULSMW60	1/8" x 14" - 10 PKG

WIRE SIZE	WELDING CURRENT (AMPS)
1/16"	800 - 120
3/32"	100 - 130
1/8"	120 - 150



PN: 03SMW30
1/16" x 36" - 10# PKG

PART NO.	SIZE
00SMW50	3/32" - 5# PKG
00SMW60	1/8" - 10# PKG
00SMW70	5/32" - 10# PKG



PN: 00SMW50
3/32" - 5# PKG

17 , 17FC

A high strength, thin flowing, Nickel silver brazing steel. Used in some cast iron, maintenance, and repair applications where close fitting joints are used. Used on drill bits and drill bit extensions, tubular steel, furniture repairs, milling cutters, and broaches. A substitute for silver braze alloys in high temperature applications.

Procedure:

- Clean braze area
- HARRIS 17 is usually used for a butt joint with little preparation except cleaning and grinding the surface
- Bevel heavier sections
- Use a neutral flame
- Hold the flame cone close to the joining area
- Use HARRIS 17 FLUX
- Remove flux residue with a wire brush and hot water

Features:

- Tensile strength - Up to 95,000 psi
- Solidus - 1690°F
- Liquidus - 1715°F
- Color - silvery

PART NO.	SIZE
0001730	1/16" x 18" - 5# PKG
017FC60	1/8" x 18" - 5# PKG



PN: 017FC60
1/8" x 18" - 5# PKG
17FC N/S Green

65 NICKEL IRON ELECTRODES

Premium nickel-iron alloy electrode (AC-DC). For gray and alloyed cast iron. 65 Nickel is for the repair of all types of cast iron. It yields dense, strong, yet totally machinable deposits. It is ideal for the repair of "Meehanite", "Ni-Resist", ductile iron and for the joining of cast iron to steel. Typical applications embody the repair of castings, housings, gear teeth, motor, machine bases, etc.

Procedure:

- Use AC or DC reverse polarity with a short arc. Prepare the weld joint by cleaning and beveling as required
- Use HARRIS CHAMFER ARC for grooving. Tack weld cracks and drill small holes at each end of cracks to stop further cracking
- Generally, preheating is not necessary, particularly on thin sections; however, preheat of 400°F - 500°F is suggested in the welding of heavier castings
- Stringer beads are preferred; however, slight weaving may be used
- Skip or back-step weld. Short deposits no longer than 1 1/2" are recommended
- Peen each bead while still hot to stress relieve. Allow casting to cool slowly

Features:

- Tensile strength - Up to 72,000 psi
- Spatter free, high-density, ductile deposits
- Good machinability - BHN 190-220
- Thin sections - Alternate choice
- Multiple passes - First choice
- Welding under restraint - First choice
- Close color match
- Ductility - First choice
- Thick sections - First choice
- Cast iron to steel - First choice

PART NO.	SIZE
0006550	3/32" - 5# PKG
0006560	1/8" - 5# PKG
0006570	5/32" - 5# PKG

WIRE SIZE	WELDING CURRENT (AMPS)
3/32"	30 - 70
1/8"	50 - 100
5/32"	75 - 125



PN: 0006550
3/32" - 5# PKG

Chemical Composition			
C-3.00-3.50%	Mn-0.60-0.75%	Si-2.75-3.00%	S-0.10max%
P-0.50-0.75	Ni-85min	Cu-2.5	Al-1.0
Other-1.0			

111 KASTWELD

A square oxy-fuel, high quality, low cost, cast iron welding rod. A precisely balanced ratio of silicon and carbon assures a fluid weld metal deposit with similar physical properties to gray cast iron. Kastweld deposits are easily machined and closely match the color of the base metal. It is excellent for cast iron fabrication; repairing foundry defects; and for filling in or building up new or worn castings. Conforms to AWS A5.15 grade RCI

Procedure:

- Adjust torch to a neutral flame
- Puddle the molten metal with flame to eliminate porosity
- Play the torch back over the welded area when finished to relieve strain
- Slow cool

Features:

- Fluid weld metal deposit
- Physical properties similar to gray cast iron
- Excellent machinability
- Color match

PART NO.	SIZE
0011180	3/16" - 50# SPECIAL ORDER
0011190	1/4" - 50#



PN: 0011190
1/4" RCI SPEC

Chemical Composition			
C-3.00-3.50%	Mn-0.60-0.75%	Si-2.75-3.00%	S-0.10max%
P-0.50-0.75	Ni-85min	Cu-2.5	Al-1.0
Other-1.0			

ALLOY 26

Alloy 26 features a precise combination of core wire and coating, providing high speed deposition of dense, machinable welds. Fabrication and repair of cast and wrought aluminum. Foundry defects, machining errors, and salvage work. It is widely used on sheets, tubes and extrusions. Also suited for torch applications.

Procedure:

- Clean weld area
- Bevel sections greater than 1/4"
- Preheat - 500° F is recommended on sections greater than 1/8"
- DC - reverse polarity
- Hold electrode in a vertical position
- Remove flux between passes
- Clean with hot water; add 10% sulfuric acid to water if additional cleaning is required

Features:

- Tensile strength - Up to 34,000 psi
- Good color match
- Good corrosion resistance
- Good electrical conductivity
- Machinable
- All position

PART NO.	SIZE
0002650	3/32" - 5# PKG
0002660	1/8" - 5# PKG
0002670	5/32" - 5# PKG

WIRE SIZE	WELDING CURRENT (AMPS)
3/32"	50 - 85
1/8"	85 - 135
5/32"	110 - 165



PN: 0002660
1/8" - 5# PKG



MAINTENANCE & REPAIR

TUF KUT

A composite rod which deposits hard carbide particles, providing the utmost resistance to abrasive wear.

Features:

- Maxtrix hardness - 220 BHN
- Carbide hardness - RA 88 to 91
- For best results, deposit on a thin layer of 17FC

PART NO.	SIZE
TFKUT90	3/16" x 14"



3AH

Harris 3AH tool steel is used to weld AISI A2 - A6 air hardening tool steels. Preheat the part to as high a temperature as is consistent with the final hardness requirements, preferably in the range of 300⁰-1000⁰F (250⁰-538⁰C). Post heat or temper the deposit as per the chart.

RC Hardness As Deposited	Preheat	Anneal	Harden	Post-Heat	Quench
48-52	300°F to 1000°F	1500°F to 1600°F	1750°F to 1850°F	300°F to 1000°F	Air

PART NO.	SIZE
003AH30	1/16" x 36" T/S TIG - 5# PKG



CUT ROD

Metal working electrode (AC-DC). For cutting and piercing any metal. Use with regular arc welding equipment. No air or oxygen required. Cut Rod cuts all metals and alloys including stainless steel, cast iron, aluminum, copper, brass & bronze. It is used for piercing holes, enlarging openings, trimming metals, removing frozen bolts, removing gates and risers, etc.

Procedure:

- Use AC or DC reverse polarity on regular welding machines
- For cutting, strike an arc at the point where cutting is to begin
- Once the arc is struck, maintain the electrode in contact with the work
- Use a continuous up and down "saw like" motion. Do not maintain an arc gap
- To pierce holes, hold the electrode vertical to the work. Once the arc is struck, push the electrode through the metal
- Rapidly remove the electrode once the hole is pierced. To enlarge the hole, move the electrode in a circular motion

Features:

- The special core wire in Cut Rod has a heat resistant coating which is nonconductive
- This enables you to operate the electrode at higher amps
- It creates a greater blasting action with faster cutting
- Economy is achieved by saving time, fuel and labor

PART NO.	SIZE
CTROD60	1/8" - 25# PKG
CTROD70	5/32" - 25# PKG
CTROD80	3/16" - 25# PKG

WIRE SIZE	WELDING CURRENT (AMPS)
3/32"	80 - 150
1/8"	170 - 300
5/32"	225 - 400
3/16"	250 - 450



PN: CTROD60
1/8" - 25# PKG

MAGNESIUM

Magnesium is welded using GTAW (TIG), welding processes. Harris offers TIG welding consumables in a variety of sizes. Since magnesium rapidly oxidizes when melted proper shielding gas coverage is important. Surfaces and edges adjacent to the weld should be cleaned prior to welding. Available in two grades, A261A and A292A. Conforms to AWS Specification A5.19.

PART NO.	SIZE
AZ61T30	1/16" x 36" - 3# PKG
AZ61T50	3/32" x 36" - 3# PKG
AZ61T60	1/8" x 36" - 3# PKG
AZ61T80	3/16" x 36" - 3# PKG
AZ92T30	1/16" x 36" - 3# PKG
AZ92T50	3/32" x 36" - 3# PKG
AZ92T60	1/8" x 36" - 3# PKG

PN: AZ61T30
1/16" X 36" - 3# PKG



Product	Chemical Composition									
AZ61A	Mn-0.15-.50%	Si-0.05%	Ni-0.005%	Cu-0.05%	Fe-0.005%	Mg-Rem	Zn-0.40-1.5%	Al-5.8-7.2%	Be-0.0002-0.0008%	Other-0.3%
AZ92A	Mn-0.15-.50%	Si-0.05%	Ni-0.005%	Cu-0.05%	Fe-0.005%	Mg-Rem	Zn-1.7-2.3%	Al-8.3-9.7%	Be-0.0002-0.0008%	Other-0.3%

GTAW (TIG) - For manual AC TIG welding, Argon is generally preferred because the arc has good stability. On welding heavier aluminum sections, the addition of Helium may be considered, and arc penetration will increase significantly; however, gas flow rates must be increased when Helium is added.

Filler Diameter	Direct Current (Amps, Straight Polarity, DCEN)	Direct Current (Amps, Reverse Polarity, DCEP)	Alternating Current (Amps, Unbalanced Wave)	Alternating Current (Amps, Balanced Wave)	Gas Cup
.010"	up to 15	-	up to 15	up to 15	1/4"
.020"	5 - 20	-	5 - 15	10 - 20	1/4"
.040"	15 - 80	-	10 - 60	20 - 30	3/8"
1/16"	70 - 150	10 - 20	50 - 100	30 - 80	3/8"
3/32"	150 - 250	15 - 30	100 - 160	60 - 130	1/2"
1/8"	250 - 400	25 - 40	150 - 210	100 - 180	1/2"
5/32"	400 - 500	40 - 55	200 - 275	160 - 240	1/2"
3/16"	500 - 750	55 - 80	250 - 350	190 - 300	5/8"





WELDING CABLE



PART NO.	SIZE
ESSEX CABLE	
5010030	#2 x 500 FT
5010040	#1 x 500 FT
5010050	1/0 x 500 FT
5010060	2/0 x 500 FT
FLEX CABLE	
5040010	#4 HW x 300 FT
5040030	#2 HW x 300 FT
5040040	#1 HW x 300 FT
5040050	1/0 HW x 300 FT
5040060	2/0 HW x 300 FT
5040080	4/0 HW x 300 FT

CUTTING/WELDING TIP CLEANERS

Made of aluminum construction for lightweight use. Fits all tip sizes



PART NO.	SIZE
2010640	STD DELUXE TIP CLEANER
2010690	KING TIP CLEANER
201064PP	STD DELUXE TIP CLEANER
20106961	MET CAL KING TIP CLEANER
201072PP	HW TIP NIP SKPK

ROUND SOAPSTONE HOLDER

Round aluminum holder with a pocket clip. Adjustable tip



PART NO.	SIZE
3011011	ROUND SOAPSTONE HOLDER

ROUND SOAPSTONE



PART NO.	SIZE
3011001	ROUND SOAPSTONE

FLAT SOAPSTONE HOLDER

Flat aluminum holder with adjustable knob



PART NO.	SIZE
3011002	FLAT SOAPSTONE HOLDER

FLAT SOAPSTONE



PART NO.	SIZE
3011000	FLAT SOAPSTONE

SILVER STREAK



PART NO.	SIZE
3021025	SILVER STREAK 25PAK
3021100	SILVER STREAK 100PAK

SILVER STREAK HOLDER



PART NO.	SIZE
3011010	SILVER STREAK HOLDER

SILVER STREAK PEN HOLDER



PART NO.	SIZE
3021120	SILVER STREAK PEN HOLDER

SILVER STREAK REFILL TUBE



PART NO.	SIZE
3021130	SILVER STREAK REFILL TUBE

TEMPILSTIK



PART NO.	SIZE
TPS0200	TEMPIL STIK 200F-93C
TPS0250	TEMPIL STIK 250F-121C
TPS0300	TEMPIL STIK 300F-149C
TPS0350	TEMPIL STIK 350F-177C
TPS0400	TEMPIL STIK 400F-204C



ACCESSORIES

GAUGES



PART NO.	SIZE
BG15100	1 1/2" - 100 PSI
BG1530R	1 1/2" - 30 PSI, RED ZONE
BG15400	1 1/2" - 400 PSI
BG154000	1 1/2" - 4000 PSI U.L.
BG2100	2" - 100 PSI
BG2200	2" - 200 PSI
BG230	2" - 30 PSI
BG230R	2" - 30 PSI, RED ZONE
BG2400	2" - 400 PSI
BG24000	2" - 4000 PSI U.L.
BG25200	2 1/2" - 200 PSI
BG2530R	2 1/2" - 30 PSI, RED ZONE
BG25400	2 1/2" - 400 PSI
BG254000	2 1/2" - 4000 PSI U.L.

WELD FILLET GAUGE



PART NO.	SIZE
MWFG	WELD FILLET GAUGE

GLOVES

Heat resistant, with gauntlet for added protection against sparks and grindings.



PART NO.	SIZE
3040015	COMFOFLEX WELDING GLOVE
3040040	ECONOMY WORK GLOVE SPECIAL ORDER

WELDING HELMETS

Lightweight, with extended lip to deflect spatter. Ratchet type headgear. Black in color.



PART NO.	SIZE
JWH600	PASSIVE BLK HELMET2X4 SH10
JWH602	PASSIVE BLK HELMET4X5 SH10
JWH605	ADF BLK HELMET2X4 FIX SH11
JWH90110	ADF BLK HELMET90X110 SH9-13
JWH90110G	ADF GRAPHIC HELMET 90X110

BRUSHES

An extremely heavy duty brush with hundreds of bristles imbedded in a wood handle in three rows.



PART NO.	SIZE
3041000	SHOE HANDLE BRUSH SS
3042000	LONG HANDLE BRUSH SS
3043000	TOOTH BRUSH STAINLESS ST

FLINTS & LIGHTERS

Economical and dependable. Most popular striker in the welding industry.



PART NO.	SIZE
3090011	3001x UNIV/SGL FLT RNWL 5/HLD
3090000	LIGHTNIN BUG TORCH LIGHT
3090010	3001 UNIV/RND FILE LTR 10/BOX

OXY-ACETYLENE HOSES

Kink proof, double hoses for safety and service. Rugged, flexible hose with neoprene cover. 100 PSI rating. Diameter 1/4", various lengths.



PART NO.	SIZE
6030105	1/4" x 25 BB PREMHOSE GRD R
6030106	1/4" x 50 BB PREMHOSE GRD R
6030122	1/4" BK PREM TWIN HOSE-R
6030134	1/4" BK GRN 2SP PREM HS-R 700FT

GOUGING CARBONS

Type D.C. Copper coated carbon electrodes.



PART NO.	SIZE
CARBON70	GOUGING CARBONS 5/32" x 12"
CARBON80	GOUGING CARBONS 3/16" x 12"
CARBON90	GOUGING CARBONS 1/4" x 12"
CARBON95	GOUGING CARBONS 5/16" x 12"
CARBONAO	GOUGING CARBONS 3/8" x 12"

CYLINDER CAPS

Cylinder caps for high pressure and acetylene. All cylinder caps have been sprayed with a primer to prevent rusting.



PART NO.	SIZE
8050010	ACET COARSE 31/2" - 8 CAP
8050020	ACET FINE 31/2" - 11 CAP
8050030	HP OXY COARSE 31/8" - 7 CAP
8050040	HP OXY FINE 31/8" - 11 CAP

TIP DRILL KIT



PART NO.	SIZE
2010800	TIP DRILL KIT

4-IN-ONE CUTTING ATTACHMENT



PART NO.	SIZE
3050010	4-IN-1 CUTTING ATTACHMENT

MIG NOZZLE REAMER

Retracting three-legged scraper for cleaning spatter from welding nozzles.



PART NO.	SIZE
3060030	MIG NOZZLE REAMER

10 WAY TANK WRENCH



PART NO.	SIZE
4705000	D-1013 10 WAY TANK WRENCH

MATADOR WELDERS PLIERS

Drop forged steel construction. Six function tool includes nozzle and tip installation grips, wire cutters, nozzle cleaner, slag hammer and long nose pliers. Fitted with spring loaded, fully insulated handles.



PART NO.	SIZE
4705008	MATADOR WELDERS PLIERS

MATADOR 12 FUNCTION TOOL



PART NO.	SIZE
4705012	MATADOR 12 FUNCTION TOOL

BM-C WRENCH



PART NO.	SIZE
4705020	BM-C WRENCH (5)

WELPER YS-50 PLIERS

Drop forged steel construction. Six function tool includes nozzle and tip installation grips, wire cutters, nozzle cleaner, slag hammer and long nose pliers. Fitted with spring loaded, fully insulated handles.



PART NO.	SIZE
WELPER	WELPER YS-50 PLIERS

HAMMERS

Steel construction



PART NO.	SIZE
4706000	CONE & CHISEL HAMMER
4706020	CROSS CHISEL HAMMER

WELDERS PIN

Striker holder, key holder, tool holder, holder for miscellaneous items, hooks through belts, straps, etc.



PART NO.	SIZE
3010060	WELDERS PIN W/RING HW

WIRE FEED PADS



PART NO.	SIZE
4707000	TREATED WIRE FEED PADS 6 PAK

CHEM SHARP TUNGSTEN HOLDER



PART NO.	SIZE
4707061	CHEM SHARP TUNG HOLDER

VP CARRING HANDLE



PART NO.	SIZE
8032010	VP CARRING HNDL 3.125/11
8032014	VP CARRY HDL ACET 3.500/11

ELECTRODE HOLDERS

Features and Benefits:

Selection or amperage ratings to cover a wide variety of applications from light to heavy duty applications. Light weight for convenient, efficient, fatigue free welding. Holders designed to fit the welders hand and tight spaces. fully insulated, glass tip insulators and upper level, fibre handle and spring protector. Copper alloy jaws and body for maximum conductivity and strength. Heavy duty spring for positive bite on electrode. Easy cable installation with large oval point screw. Component parts replaceable.



PART NO.	SIZE
9020050	TW 200 ELECTRODE HOLDER
9020052	TW 300 ELECTRODE HOLDER
9020063	40B SHORT STUB ELC. HDR.



ACCESSORIES

MULTI-PURPOSE MAGNET

Metal pieces can be held at angles of 45 degrees, 90 and 135. The strong magnetism that this magnet exhibits allows it to adhere to any ferrous metal object for a variety of purposes.



PART NO.	SIZE
MAGFXLG	MAGNETIC HOLDER LG
MAGFXMD	MAGNETIC HOLDER MED

CABLE CONNECTORS

Heavy wall precision machined brass alloy provides a rugged and dependable connection. Cable is Easily fitted to the body and a large dome screw holds the cable securely. brass body slides easily into insulator and its unique design requires no external screws, avoiding shock. Indento-end is a uniquely designed connector that permits coupling of each end to another length of cable, a machine adaptor, an electrode whip, or a ground connector lead. Indento-end slides together creating a positive connection for maximum conductivity, while the locking action prevents accidental connection separation.



PART NO.	SIZE
9010030	E102-M CONNECTOR

CONDUIT



PART NO.	SIZE
9050325	25' CONDUIT/TEFLON

CLEAR DOME / FEEDER FOR PRODUCTION PAKS



PART NO.	SIZE
9029000	20" CLEAR DOME - BULK
9030100	FEEDER/CONDUIT ADAPT DRUM PAK

STA KLEER (PLASTIC LENS)



PART NO.	SIZE
1010010	STA KLEER 2" x 4 1/4" HW
1010020	STA KLEER 2" x 4 1/4" GB
1010140	STA KLEER 4 1/2" x 5 1/4" HW
1010150	STA KLEER 4 1/2" x 5 1/4" GB
1010240	STA KLEER 3" x 5" 1/4 HW
1010280	STA KLEER 50MM HW

SAFETY PLUS

Safety Plus passes ANSI and Federal impact and penetration tests. Meets ANSI Z87.1-1989 Safety Plus which is used in the fixed portion of the flip-front helmet is designed to (protect) The Welders' eyes when the flip-front is lifted. Cover plate only protects the filter plate from damage during the welding operation. However, we do not recommend to use Safety Plus as a cover lens. Safety Plus is made of polycarbonate. This is not suitable as a cover lens, Sta Kleer and CR39 are more durable as a cover lens and last up to 4 or 5 times longer then polycarbonate.



PART NO.	SIZE
1020010	2" x 4 1/4"
1020010P	2" x 4 1/4" 10 EA POP
1020020	4 1/2" x 5 1/4"
1020020P	4 1/2" x 5 1/4" 5PK POP

FILTER PLATES



PART NO.	SIZE
1024030	#3 FP 2" x 4 1/4" HT HW
1024040	#4 FP 2" x 4 1/4" HT HW
1024050	#5 FP 2" x 4 1/4" HT HW
1024080	#8 FP 2" x 4 1/4" HT HW
1024090	#9 FP 2" x 4 1/4" HT HW
1024100	#10 FP 2" x 4 1/4" HT HW
1024110	#11 FP 2" x 4 1/4" HT HW
1024120	#12 FP 2" x 4 1/4" HT HW
1024130	#13 FP 2" x 4 1/4" HT HW
1024140	#14 FP 2" x 4 1/4" HT HW
1045080	#8 FP 4 1/2" x 5 1/4" HT HW
1045090	#9 FP 4 1/2" x 5 1/4" HT HW
1045100	#10 FP 4 1/2" x 5 1/4" HT HW
1045110	#11 FP 4 1/2" x 5 1/4" HT HW
1045120	#12 FP 4 1/2" x 5 1/4" HT HW
1045130	#13 FP 4 1/2" x 5 1/4" HT HW
1045140	#14 FP 4 1/2" x 5 1/4" HT HW
1050040	#4 FL 50MM HT HW
1050050	#5 FL 50MM HT HW
1024060	#6 FP 2" x 4 1/4" HT HW
1024070	#7 FP 2" x 4 1/4" HT HW
1045050	#5 FP 4 1/2" x 5 1/4" HT HW
1045060	#6 FP 4 1/2" x 5 1/4" HT HW
1045070	#7 FP 4 1/2" x 5 1/4" HT HW

OMNI VIEW GOLD LENSES



PART NO.	SIZE
1032408	#8 GOLD PLAS 2" x 4 1/4"
1032409	#9 GOLD PLAS 2" x 4 1/4"
1032410	#10 GOLD PLAS 2" x 4 1/4"
1032411	#11 GOLD PLAS 2" x 4 1/4"
1032412	#12 GOLD PLAS 2" x 4 1/4"
1034508	#8 GOLD PLAS 4 1/2" x 5 1/4"
1034509	#9 GOLD PLAS 4 1/2" x 5 1/4"
1034510	#10 GOLD PLAS 4 1/2" x 5 1/4"
1034511	#11 GOLD PLAS 4 1/2" x 5 1/4"
1034512	#12 GOLD PLAS 4 1/2" x 5 1/4"

OMNI PLASTIC MAG LENSES



PART NO.	SIZE
1080701	1.00 PLASTIC MAG 2" x 4 1/4"
1080702	1.25 PLASTIC MAG 2" x 4 1/4"
1080703	1.50 PLASTIC MAG 2" x 4 1/4"
1080704	1.75 PLASTIC MAG 2" x 4 1/4"
1080705	2.00 PLASTIC MAG 2" x 4 1/4"
1080706	2.25 PLASTIC MAG 2" x 4 1/4"
1080707	2.50 PLASTIC MAG 2" x 4 1/4"

FACE SHIELDS



PART NO.	SIZE
J3440RC	3440R CLR WINDOW
J4199C	4199 CLR WINDOW
J4199DG	4199 DK GRN WINDOW SPECIAL ORDER
J8040RC	8040R CLR WINDOW

GOLD MIRROR LENSES



PART NO.	SIZE
1093090	SH 9 GOLD MIR 2" x 4 1/4" HW
1093100	SH 10 GOLD MIR 2" x 4 1/4" HW
1093110	SH 11 GOLD MIR 2" x 4 1/4" HW
1093120	SH 12 GOLD MIR 2" x 4 1/4" HW
1094100	SH 10 GOLD MIR 4 1/2" x 5 1/4" HW
1094110	SH 11 GOLD MIR 4 1/2" x 5 1/4" HW
1094090	SH 9 GOLD MIR 4 1/2" x 5 1/4" HW
1094120	SH 12 GOLD MIR 4 1/2" x 5 1/4" HW

HORNELL LENS



PART NO.	SIZE
JH0L9	OUTSIDE LENS HORNELL 9000
JH1L1	INSIDE LENS HORNELL 9000F,V
JH1L2	INSIDE LENS HORNELL 9000X,XF

TUFF-SHIELD



PART NO.	SIZE
1020025	TUFF-SHIELD 4 1/2" x 5 1/4"

GOGGLES

Good general purpose goggles for industry, workshop, farming, sports, etc. Fits over regular eyeglasses. Perforated for good ventilation.



PART NO.	SIZE
3901100	202C PERF CL FR- CL LENS
3901110	206C CAPV4 CL FR-CL LENS

PLAIN GLASS



PART NO.	SIZE
1060010	PLAIN GLASS 2" x 4 1/4"
1060030	PLAIN GLASS 4 1/2" x 5 1/4"

OPTREL LENSES

JOSCOL

PC formed cover lens, with optrel stamping, heat resistance up to 279 F/ 137 C, applicable for both optrel solarmatic comfort and optrel twisty comfort welding helmets.

JOSCIL

Inside Cover lens, applicable for both optrel solarmatic comfort and optrel twisty comfort.



PART NO.	SIZE
JOSCOL	OSC OUTSIDE COVER LENS 10/PK
JOSC100	OS COMFORT 1.00 MAG LENS
JOSC125	OS COMFORT 1.25 MAG LENS
JOSC150	OS COMFORT 1.50 MAG LENS
JOSC175	OS COMFORT 1.75 MAG LENS
JOSC200	OS COMFORT 2.00 MAG LENS
JOSC225	OS COMFORT 2.25 MAG LENS
JOSC250	OS COMFORT 2.50 MAG LENS
JOSCIL	OS COMFORT INSIDE CVR LEN 5/PK

MAG GLASS LENSES



PART NO.	SIZE
1080020	1.00 GLASS MAG 2" x 4 1/4"
1080030	1.25 GLASS MAG 2" x 4 1/4"
1080040	1.50 GLASS MAG 2" x 4 1/4"
1080050	1.75 GLASS MAG 2" x 4 1/4"
1080060	2.00 GLASS MAG 2" x 4 1/4"
1080070	2.25 GLASS MAG 2" x 4 1/4"
1080080	2.50 GLASS MAG 2" x 4 1/4"
1080090	3.00 GLASS MAG 2" x 4 1/4"

COVER LENS & PLATES



PART NO.	SIZE
WID392X4	WID CR 39 2" x 4"
PLWHITE2X4	PLAIN WHITE COVER LENS 2" x 4"
PLWHITE4X5	PLAIN WHITE COVER LENS 4" x 5"



ACCESSORIES

TUNGSTEN



PART NO.	SIZE
2600703	3/32" x 7" - 1.5% LAN TGS
2600803	3/32" x 7" - 2% CERATED TGS
2600912	1/16" x 7" - 2% THOR TUNGSTEN GRD
2600913	3/32" x 7" - 2% THOR TUNGSTEN GRD
2600914	1/8" x 7" - 2% THOR TUNGSTEN GRD
2600930	1/16" x 7" GRND PURE TUNGSTEN 10PK
2600931	3/32" x 7" PURE GRND TUNGSTEN 10PK
2600932	1/8" x 7" PURE GRND TUNGSTEN 10PK
2600985	3/32" x 3" - 2% THOR TGS GR
2600986	1/8" x 3" - 2% THOR TGS GR

COMPOUND 302 (POSTWELD STAINLESS STEEL CLEANER)

Effectively removes heat-tint, weld-burn and discoloration and rust from all grades of stainless steel. It is a unique chemical formulation of paste-like consistency, with mineral acids, deoxidizers and penetrants. The active ingredients dissolve the hard-to-remove blue oxidation color and weld-burn. It clings to vertical, horizontal and intricate surfaces and can be applied by a cloth. Compound 302 can also be used as a general acid cleaner for copper, brass and bronze.



PART NO.	SIZE
ARCP302	CPD302SS CLEAN 28AV oz ORMD

WELD-O (PREWELD ALUMINUM CLEANER)

A ready to use X-ray quality welding prep for aluminum. It is an innovative chemical formulation, a blend of mineral acids, solvents, water conditioning agents and sequestering agents. It deoxidizes the base metal instantly and conditions surface for X-ray quality welding. Water rinsing is seldom required.



PART NO.	SIZE
ARWELDO	WELD-O ALUM. CLN. 32FL oz HAZMAT

SUPERWELD



PART NO.	SIZE
5350020	SUPERWELD 12 PAK 2 oz KT ORMD NO AIR

CHEMICAL SHARPENER FOR TUNGSTEN ELECTRODE

A 5 ounce jar of Chem Sharp provides as many as 500 sharpenings without having to leave the work area. Grinding is eliminated completely, a plus factor since grinding can cause scratching, chipping or splintering of the tungsten. Chem Sharp will not contaminate the electrode nor the weld area.



PART NO.	SIZE
4707060	5 oz REPL JAR

SUPER COLD-GALV

A cold zinc galvanizing system (NOT PAINT) A scientifically compound formula of 93% zinc dust, organic resin and other additives. Conforms to ASTM A780-80.

Super cold-galv may be used on any metal surface which is subjected to rust and/or corrosion. Applications include air-conditioning systems, fans, sumps, water tank exteriors, piping, autos, buses, trailers and trucks, livestock equipment, farm machinery, metal buildings, bridges, towers, tanks and weld areas. It is widely used to repair voids in new hot dipped galvanized tanks and sheets



PART NO.	SIZE
SUPCG0D	16OZ (ORM-D) NOAIR

1620 NOZZLE SHIELD AND ANTI - SPATTER COMPOUND

A premium quality formula, Developed for protection against weld spatter. Use 1620 on MIG nozzles, cups, contact tips, cutting torches, fixtures and jigs, and on any part or surface where spatter form welding is objectionable. It does not contaminate paint systems. It is compatible with lacquer and enamel paints. It is noncombustible and nonmigratory and can be used on any metal.



PART NO.	SIZE
016200D	16OZ (ORM-D) NOAIR
016200E	24OZ (ORM-D) NOAIR

1630 SAFE T SPAT (biodegradable)

A non-solvent, nontoxic, nonflammable anti-spatter and nozzle shield. 1630 - Safe T Spat prevents weld spatter from adhering to nozzles, contact tips and related accessories. Also, it prevents the buildup of weld spatter when sprayed or painted on the welding area.



PART NO.	SIZE
016300D	1630 SAFE T SPA 16 oz ORMD NO AIR

KLEEN GREEN

Nozzle and cutting tip spatter replacement in paste form. Kleen Green can be applied to semi-automatic and automatic MIG gun nozzles and tips for protection against spatter buildup. It can be applied to weld fixtures and jigs for longer life and ease of cleaning.



PART NO.	SIZE
OKLGROD	KLEEN GREEN 16 oz

HARRIS PRODUCTION PAK

Aluminum / Stainless Steel / Copper Base / Brazing Alloys

A wire pay-off system especially designed for automated welding systems or applications where wire flips are not acceptable, and accurate wire placement is an important factor. Now available: 150lb to 500lb capacity drums of the wire you need for fast, efficient, profitable automated welding and/or brazing. No more downtime changing spool after spool, just continuous wire feed for nonstop welding and brazing.

PRODUCTION PAK BENEFITS:

- The dispensing dome helps protect the wire from dirt and foreign debris from the welding environment.
- There are no expensive pay-off systems required for start up.
- The PRODUCTION PAK requires less floor space for storage.
- Reduces the recycling of plastic spools.
- INCREASES PRODUCTIVITY due to the bulk wire packaging. Decreases the number of down time due to wire spool changes.
- The PRODUCTION PAK provides a higher degree of accuracy in wire placement at arc starts.
- Due to a straighter wire, there will be less wear on the conduit, less resistance on the feed rolls and less drag on the feed motor.

PRODUCTION PAK = PROFITS:

Package Specifications

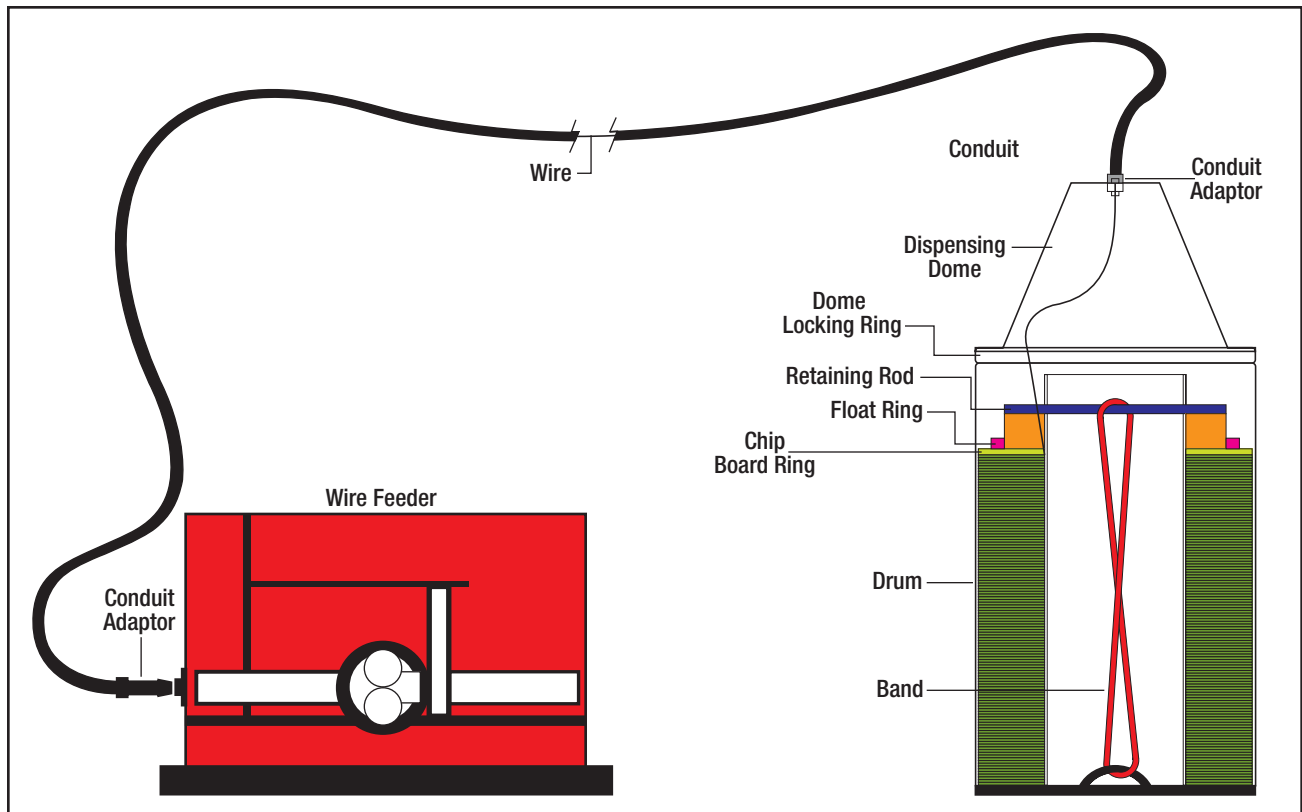
Wire diameters available are .035" through .062".

Stainless Steel, Copper-Base and Brazing Alloys are packed 150lb and 500lb per drum.

Aluminum is packed 150lb per drum.

Drum dimensions are 20- $\frac{1}{3}$ " diameter, 32- $\frac{1}{2}$ " drum height and 45- $\frac{3}{4}$ " total height.

PRODUCTION PAKS
AVAILABLE FOR MOST
ALLOYS
CALL CUSTOMER
SERVICE



The image shows a dark, rectangular metal plate with a circular perforated pattern, resembling a speaker grille. The plate is framed by a thick, dark border. In the center, there are three rectangular inset areas, each secured with four screws. The top inset contains the Harris logo, which consists of a red oval with a white swoosh and the word "HARRIS" in black. The middle inset contains the text "POP PROGRAM" in a bold, red, italicized font. The bottom inset contains an image of a Harris brazing and soldering unit, which is a multi-chambered device with various controls and a digital display. The unit is labeled "BRAZING & SOLDERING" and "HARRIS".

BRAZING AND SOLDERING CONSUMABLES

POINT-OF-PURCHASE MERCHANDISING PROGRAM

Program includes:

Part No.	Description
9700013	Brazing and soldering rack
9700014	Brazing and soldering header cards
-	Peg hooks with price tabs

Rack can be used on peg board, slat wall or as a counter top display.
Contact your Harris Products Group District Manager for details.



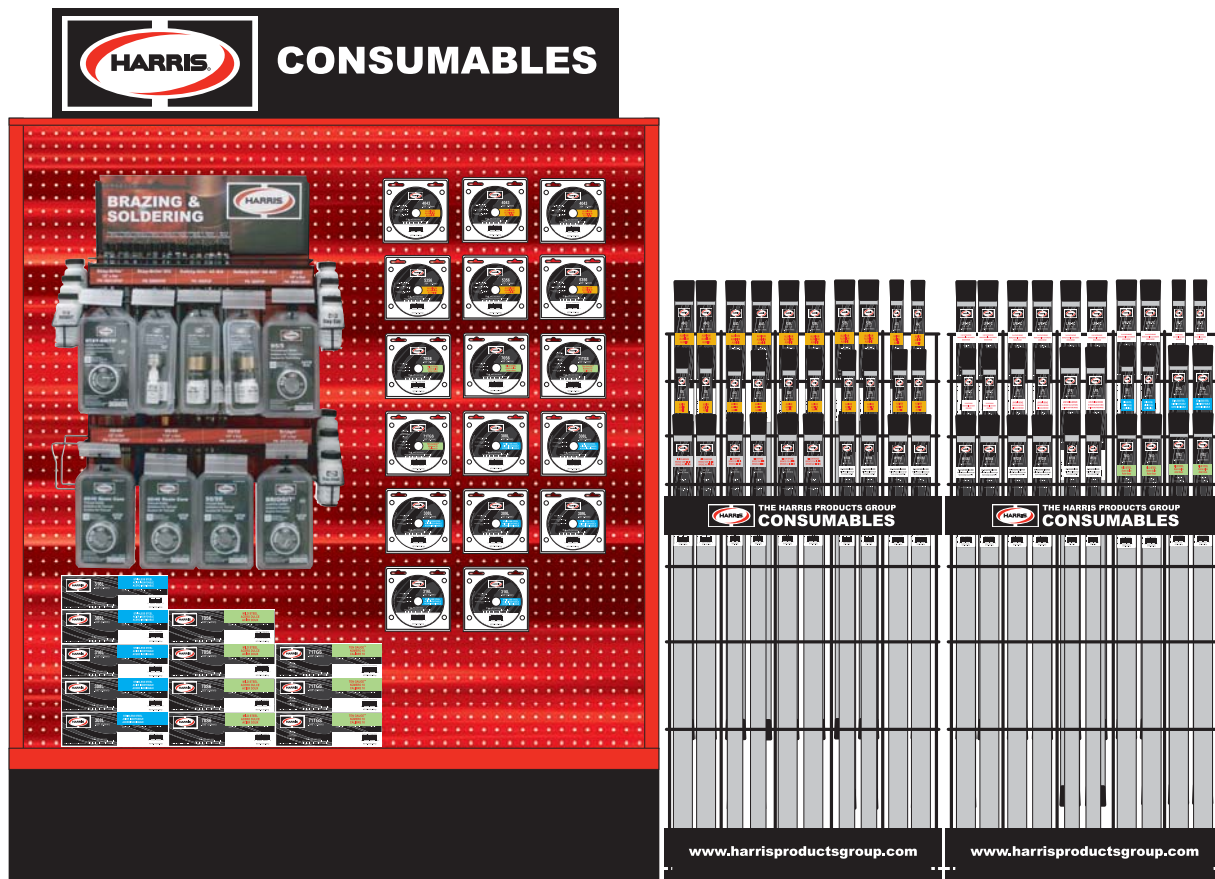
- Product sold in buy pack quantities only
- Brazing and Soldering Rack is for Harris Products Group product only

PART NO.	DESCRIPTION	SIZE
45318LMPOP	Safety-Silv® 45	1/16" x 18" Mini pak 5 sticks
45518LMPOP	Safety-Silv® 45	3/32" x 18" Mini pak 3 sticks
45F318MPPOP	Safety-Silv® 45	1/16" x 18" Flux coated Mini pak 3 sticks
45KPOP	Safety-Silv® 45	Brazing Kit with Flux
56318LMPOP	Safety-Silv® 56	1/16" x 18" Mini pak 5 sticks
56F318MPPOP	Safety-Silv® 56	1/16" x 18" Flux coated Mini pak 3 sticks
56KPOP	Safety-Silv® 56	Brazing Kit with Flux
1520FMPPOP	Stay-Silv® 15	.050" x 1/8" Mini pak 8 sticks
5620FMPPOP	Stay-Silv® 5	.050" x 1/8" Mini pak 8 sticks
D620FMPPOP	Dynaflow®	.050" x 1/8" Mini pak 8 sticks
0620FMPPOP	Phos Copper	.050" x 1/8" Mini pak 8 sticks
SB61/2POP	Solder Stay-Brite®	1/8" x 8 oz. Spool
BRGT61/2POP	Solder Bridgit®	1/8" x 8 oz. Spool
95561/2POP	Solder 95/5	1/8" x 8 oz. Spool
505061/2POP	Solder 50/50	1/8" x 8 oz. Spool
SBSKPOP	Solder Stay-Brite®	Kit with Flux
60R61/2POP	Solder 60/40	1/8" x 8 oz. Rosin Core
60R31/2POP	Solder 60/40	1/16" x 8 oz. Spool Rosin Core
SSWF7POP	Stay-Silv® White Brazing Flux	6.5 oz.
SCPF4POP	Stay Clean® Paste	4 oz.
BRPF4POP	Bridgit® Paste Flux	4 oz.



COMPLETE CONSUMABLES

POINT-OF-PURCHASE MERCHANDISING PROGRAM



- Product sold in buy pack quantities only
- Gondolas and racking are for Harris Products Group product only

Program includes:

Part No.	Description
9700004	Gondola
9700011	Red Gondola Template
9700012	Consumable Gondola Header
9700013	Brazing and Soldering Rack
9700014	Brazing and soldering Header Cards
9700010	Consumables Cut Length Rack (2)

Flexible layout design

Contact your Harris Products Group District Manager for details



FILLER METALS

PART NO.	DESCRIPTION	SIZE
00015300POP	15 BARE	1/16" x 36" - 1# PKG
00015600POP	15 BARE	1/8" x 36" - 1# PKG
00015500POP	15 BARE	3/32" x 36" - 1# PKG
00015503POP	15 BARE	3/32" x 36" - 3# PKG
00015603POP	15 BARE	1/8" x 36" - 3# PKG
00015303POP	15 BARE	1/16" x 36" - 3# PKG
00015505POP	15 BARE	3/32" x 36" - 5# PKG
00015605POP	15 BARE	1/8" x 36" - 5# PKG
00015805POP	15 BARE	3/16" x 36" - 5# PKG
015FC500POP	15FC	3/32" x 36" - 1# PKG
015FC600POP	15FC	1/8" x 36" - 1# PKG
015FC503POP	15FC	3/32" x 36" - 3# PKG
015FC603POP	15FC	1/8" x 36" - 3# PKG
015FC505POP	15FC	3/32" x 36" - 5# PKG
015FC605POP	15FC	1/8" x 36" - 5# PKG
03SIB301POP	3SIB	1/16" x 36" - 1# PKG
03SIB503POP	3SIB	3/32" x 36" - 3# PKG
03SIB603POP	3SIB	1/8" x 36" - 3# PKG
W1060300POP	RG-45 W1060	1/16" x 36" - 1# PKG
W1060503POP	RG-45 W1060	3/32" x 36" - 3# PKG
W1060603POP	RG-45 W1060	1/8" x 36" - 3# PKG
W1200300POP	RG-60W1200	1/16" x 36" - 1# PKG
W1200503POP	RG-60W1200	3/32" x 36" - 3# PKG
W1200603POP	RG-60 W1200	1/8" x 36" - 3# PKG
E70S2300POP	ER70S-2	1/16" x 36" - 1# PKG
E70S2503POP	ER70S-2	3/32" x 36" - 3# PKG
E70S2603POP	ER70S-2	1/8" x 36" - 3# PKG
E70S2505POP	ER70S-2	3/32" x 36" - 5# PKG
E70S2605POP	ER70S-2	1/8" x 36" - 5# PKG
308LT300POP	E308L	1/16" x 36" - 1# PKG
308LT503POP	E308L	3/32" x 36" - 3# PKG
308LT603POP	E308L	1/8" x 36" - 3# PKG
316LT303POP	ER316L	1/16" x 36" - 3# PKG
316LT503POP	ER316L	3/32" x 36" - 3# PKG
316LT603POP	ER316L	1/8" x 36" - 3# PKG
40435011POP	R4043	3/32" x 36" - 1# PKG
40436011POP	R4043	1/8" x 36" - 1# PKG
0404321POP	4043	3/64" - 1# SPOOL
40433011POP	R4043	1/16" x 36" - 1# PKG
40435033POP	R4043	3/32" x 36" - 3# PKG
40436033POP	R4043	1/8" x 36" - 3# PKG
04043E1POP	ER4043	.030" - 1# SPOOL
04043F1POP	ER4043	.035" - 1# SPOOL
53565011POP	R5356	3/32" x 36" - 1# PKG
53566011POP	R5356	1/8" x 36" - 1# PKG
05356E1POP	ER5356	.030" - 1# SPOOL
05356F1POP	ER5356	.035" - 1# SPOOL
0535621POP	ER5356	3/64" - 1# SPOOL
53563011POP	R5356	1/16" x 36" - 1# PKG
53565033POP	R5356	3/32" x 36" - 3# PKG
53566033POP	R5356	1/8" x 36" - 3# PKG

MIG WIRE

PART NO.	DESCRIPTION	SIZE
0308LF2POP	ER308L	.035" - 2# S/S SPOOL
0308L15POP	ER308L	.025" - 10# S/S SPOOL
0308LE5POP	ER308L	.030" - 10# S/S SPOOL
0309LE2POP	ER309L	.030" - 2# S/S SPOOL
0309LF2POP	ER309L	.035" - 2# S/S SPOOL
0316LE5POP	ER316L	.030" - 10# S/S SPOOL
0308L12POP	ER308L	.025" - 2# S/S SPOOL
0308LE2POP	ER308L	.030" - 2# S/S SPOOL
0308LF5POP	ER308L	.035" - 10# S/S SPOOL
0316L12POP	ER316L	.025" - 2# S/S SPOOL
0316LE2POP	ER316L	.030" - 2# S/S SPOOL
0316LF5POP	ER316L	.035" - 10# S/S SPOOL
E70S612POP	ER70S-6	.023" - 2# MS SPOOL
E70S6E2POP	ER70S-6	.030" - 2# MS SPOOL
E70S615POP	ER70S-6	.023" - 11# MS SPOOL
E70S6E5POP	ER70S-6	.030" - 11# MS SPOOL
E70S6F5POP	ER70S-6	.035" - 11 # MS SPOOL
E70S6H5POP	ER70S-6	.045" - 11# MS SPOOL
E71TGSE2POP	TEN GAUGE™	.030" - 2# SPOOL
E71TGSF2POP	TEN GAUGE™	.035" - 2# SPOOL
E71TGSE5POP	TEN GAUGE™	.030" - 10# SPOOL
E71TGSF5POP	TEN GAUGE™	.035" - 10# SPOOL
E71TGSF5POP	TEN GAUGE™	.045" - 10# SPOOL

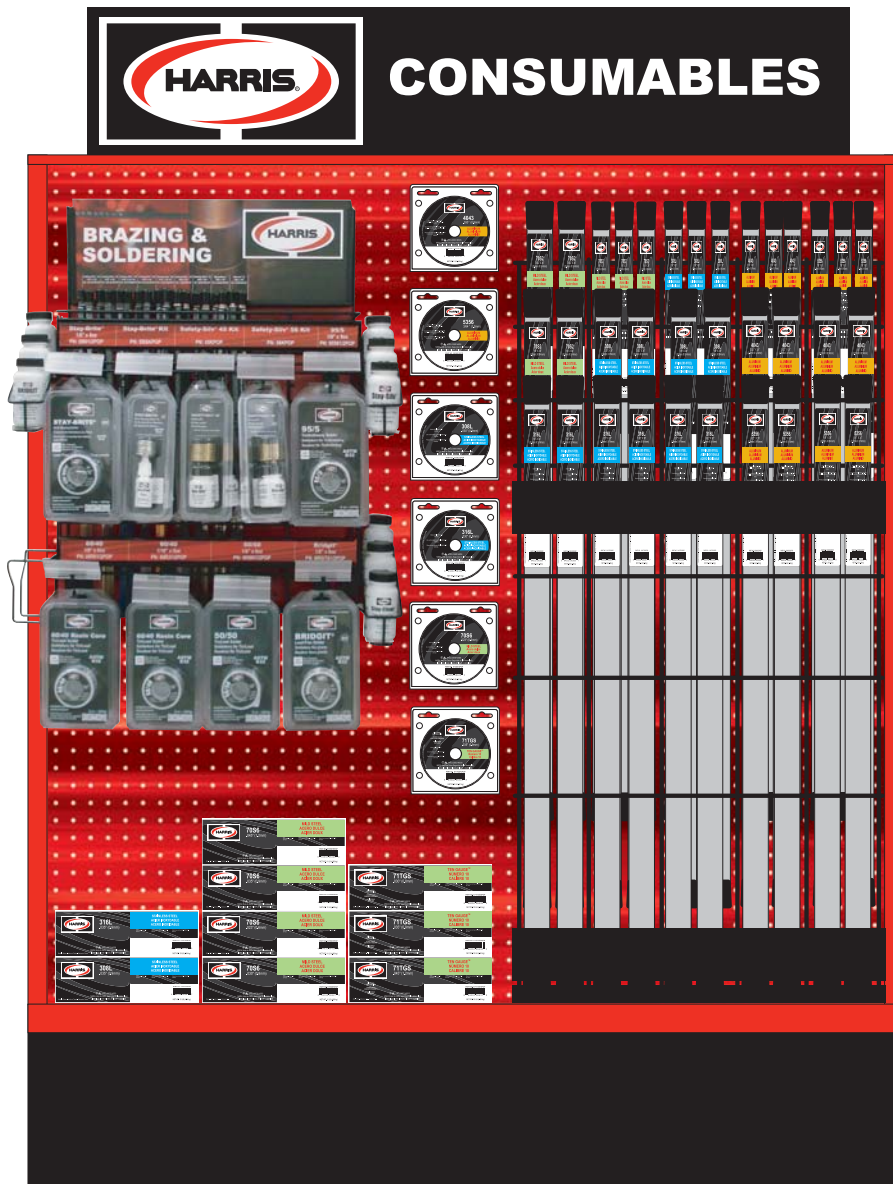
BRAZING & SOLDERING

PART NO.	DESCRIPTION	SIZE
45318LMPOP	Safety-Silv® 45	1/16" x 18" Mini pak 5 sticks
45518LMPOP	Safety-Silv® 45	3/32" x 18" Mini pak 3 sticks
45F318MPOP	Safety-Silv® 45	1/16" x 18" FC Mini 3 sticks
45KPOP	Safety-Silv® 45	Brazing Kit with Flux
56318LMPOP	Safety-Silv® 56	1/16" x 18" Mini pak 5 sticks
56F318MPOP	Safety-Silv® 56	1/16" x 18" FC Mini 3 sticks
56KPOP	Safety-Silv® 56	Brazing Kit with Flux
1520FMPOP	Stay-Silv® 15	.050" x 1/8" Mini pak 8 sticks
5620FMPOP	Stay-Silv® 5	.050" x 1/8" Mini pak 8 sticks
D620FMPOP	Dynaflow®	.050" x 1/8" Mini pak 8 sticks
0620FMPOP	Phos Copper	.050" x 1/8" Mini pak 8 sticks
SB61/2POP	Solder Stay-Brite®	1/8" x 8 oz. spool
BRGT61/2POP	Solder Bridgit®	1/8" x 8 oz. spool
95561/2POP	Solder 95/5	1/8" x 8 oz. spool
505061/2POP	Solder 50/50	1/8" x 8 oz. spool
SBSKPOP	Solder Stay-Brite®	Kit with Flux
60R61/2POP	Solder 60/40	1/8" x 8 oz. Rosin Core
60R31/2POP	Solder 60/40	1/16" x 8 oz. Spool Rosin Core
SSWF7POP	Stay-Silv®	White Brazing Flux 6.5 oz
SCPF4POP	Stay Clean® Paste	4 oz
BRPF4POP	Bridgit® Paste Flux	4 oz.



CONSUMABLES

POINT-OF-PURCHASE MERCHANDISING PROGRAM



Program includes:

Part No.	Description
9700004	Gondola
9700011	Red gondola template
9700012	Consumable gondola header card
9700013	Brazing and soldering rack
9700014	Brazing and soldering header cards
9700010	Consumable cut length rack

Flexible layout design

Contact your Harris Products Group District Manager for details

■ Product sold in buy pack quantities only

■ Gondolas and racking are for Harris Products Group product only

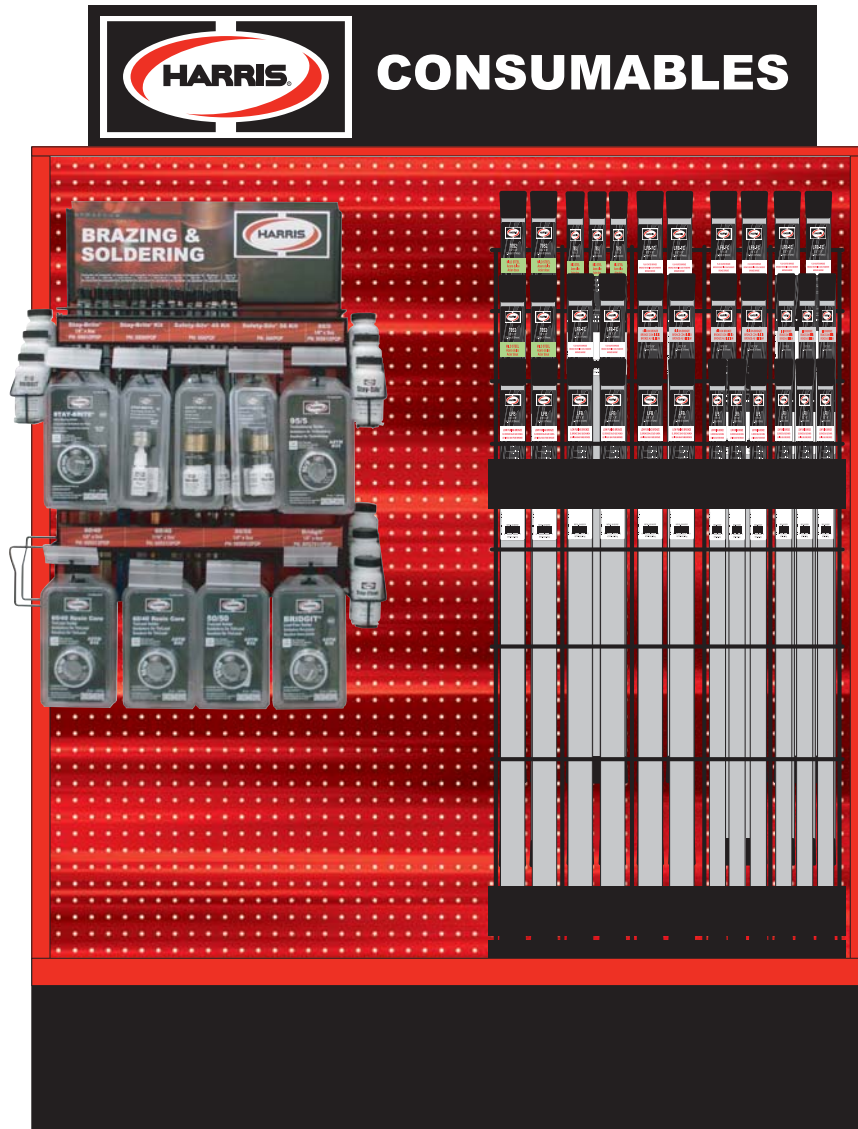


PART NO.	DESCRIPTION	SIZE
FILLER METALS		
53563011POP	R5356	1/16" x 36" - 1# PKG
53565033POP	R5356	3/32" x 36" - 3# PKG
53566033POP	R5356	1/8" x 36" - 3# PKG
40433011POP	R4043	1/16" x 36" - 1# PKG
40435033POP	R4043	3/32" x 36" - 3# PKG
40436033POP	R4043	1/8" x 36" - 3# PKG
308LT300POP	E308L	1/16" x 36" - 1# PKG
308LT503POP	E308L	3/32" x 36" - 3# PKG
308LT603POP	E308L	1/8" x 36" - 3# PKG
316LT303POP	ER316L	1/16" x 36" - 3# PKG
316LT503POP	ER316L	3/32" x 36" - 3# PKG
316LT603POP	ER316L	1/8" x 36" - 3# PKG
E70S2300POP	ER70S-2	1/16" x 36" - 1# PKG
E70S2503POP	ER70S-2	3/32" x 36" - 3# PKG
E70S2603POP	ER70S-2	1/8" x 36" - 3# PKG
MIG WIRE		
05356E1POP	ER5356	.030" - 1# SPOOL
05356F1POP	ER5356	.035" - 1# SPOOL
0535621POP	ER5356	3/64" - 1# SPOOL
0316L12POP	ER316L	.025" - 2# S/S SPOOL
0316LE2POP	ER316L	.030" - 2# S/S SPOOL
04043E1POP	ER4043	.030" - 1# SPOOL
04043F1POP	ER4043	.035" - 1# SPOOL
0404321POP	4043	3/64" - 1# SPOOL
0316LF5POP	ER316L	.035" - 10# S/S SPOOL
0308L12POP	ER308L	.025" - 2# S/S SPOOL
0308LE2POP	ER308L	.030" - 2# S/S SP POP
0308LF5POP	ER308L	.035" - 10# S/S SPOOL
E70S612POP	ER70S-6	.023" - 2# MS SPOOL
E70S6E2POP	ER70S-6	.030" - 2# MS SPOOL
E70S615POP	ER70S-6	.023" - 11# MS SPOOL
E70S6E5POP	ER70S-6	.030" - 11# MS SPOOL
E70S6F5POP	ER70S-6	.035" - 11 # MS SPOOL
E70S6H5POP	ER70S-6	.045" - 11# MS SPOOL
E71TGSE2POP	TEN GAUGE™	.030" - 2# SPOOL
E71TGSF2POP	TEN GAUGE™	.035" - 2# SPOOL
E71TGSE5POP	TEN GAUGE™	.030" - 10# SPOOL
E71TGSF5POP	TEN GAUGE™	.035" - 10# SPOOL
E71TGSF5POP	TEN GAUGE™	.045" - 10# SPOOL
BRAZING & SOLDERING		
45318LMPPOP	Safety-Silv® 45	1/16" x 18" Mini pak 5 sticks
45518LMPPOP	Safety-Silv® 45	3/32" x 18" Mini pak 3 sticks
45F318MPOP	Safety-Silv® 45	1/16" x 18" Flux coated Mini pak 3 sticks
45KPOP	Safety-Silv® 45	Brazing Kit with Flux
56318LMPPOP	Safety-Silv® 56	1/16" x 18" Mini pak 5 sticks
56F318MPOP	Safety-Silv® 56	1/16" x 18" Flux coated Mini pak 3 sticks
56KPOP	Safety-Silv® 56	Brazing Kit with Flux
1520FMPPOP	Stay-Silv® 15	.050" x 1/8" Mini pak 8 sticks
5620FMPPOP	Stay-Silv® 5	.050" x 1/8" Mini pak 8 sticks
D620FMPPOP	Dynaflow®	.050" x 1/8" Mini pak 8 sticks
0620FMPPOP	Phos Copper	.050" x 1/8" Mini pak 8 sticks
SB61/2POP	Solder Stay-Brite®	1/8" x 8 oz. spool
BRGT61/2POP	Solder Bridgit®	1/8" x 8 oz. spool
95561/2POP	Solder 95/5	1/8" x 8 oz. spool
505061/2POP	Solder 50/50	1/8" x 8 oz. spool
SBSKPOP	Solder Stay-Brite®	Kit with Flux
60R61/2POP	Solder 60/40	1/8" x 8 oz. Rosin Core
60R31/2POP	Solder 60/40	1/16" x 8 oz. Spool Rosin Core
SSWF7POP	Stay-Silv® White Brazing Flux	6.5 oz
SCPF4POP	Stay Clean® Paste	4 oz
BRPF4POP	Bridgit® Paste Flux	4 oz.



GAS WELDING CONSUMABLES

POINT-OF-PURCHASE MERCHANDISING PROGRAM



Program includes:

Part No.	Description
9700013	Brazing and soldering rack
9700014	Brazing and soldering header cards
9700010	Consumables Cut Length Rack
9700011	Red gondola template
9700012	Consumable gondola header card

- Product sold in buy pack quantities only
- Gondolas and racking are for Harris Products Group product only

Flexible design layout.

Contact your Harris Products Group District Manager for details.



PART NO.	DESCRIPTION	SIZE
FILLER METALS		
00015300POP	15 BARE	1/16" x 36" - 1# PKG
00015500POP	15 BARE	3/32" x 36" - 1# PKG
00015503POP	15 BARE	3/32" x 36" - 3# PKG
00015603POP	15 BARE	1/8" x 36" - 3# PKG
00015805POP	15 BARE	3/16" x 36" - 5# PKG
015FC503POP	15FC	3/32" x 36" - 3# PKG
015FC603POP	15FC	1/8" x 36" - 3# PKG
015FC505POP	15FC	3/32" x 36" - 5# PKG
015FC605POP	15FC	1/8" x 36" - 5# PKG
03SIB301POP	3SIB	1/16" x 36" - 1# PKG
03SIB503POP	3SIB	3/32" x 36" - 3# PKG
03SIB603POP	3SIB	1/8" x 36" - 3# PKG
W1060300POP	RG-45 W1060	1/16" x 36" - 1# PKG
W1060503POP	RG-45 W1060	3/32" x 36" - 3# PKG
W1060603POP	RG-45 W1060	1/8" x 36" - 3# PKG
E70S2300POP	ER70S-2	1/16" x 36" - 1# PKG
E70S2503POP	ER70S-2	3/32" x 36" - 3# PKG
E70S2603POP	ER70S-2	1/8" x 36" - 3# PKG
BRAZING & SOLDERING		
45318LMPPOP	Safety-Silv [®] 45	1/16" x 18" Mini pak 5 sticks
45518LMPPOP	Safety-Silv [®] 45	3/32" x 18" Mini pak 3 sticks
45F318MPPOP	Safety-Silv [®] 45	1/16" x 18" Flux coated Mini pak 3 sticks
45KPOP	Safety-Silv [®] 45	Brazing Kit with Flux
56318LMPPOP	Safety-Silv [®] 56	1/16" x 18" Mini pak 5 sticks
56F318MPPOP	Safety-Silv [®] 56	1/16" x 18" Flux coated Mini pak 3 sticks
56KPOP	Safety-Silv [®] 56	Brazing Kit with Flux
1520FMPPOP	Stay-Silv [®] 15	.050" x 1/8" Mini pak 8 sticks
5620FMPPOP	Stay-Silv [®] 5	.050" x 1/8" Mini pak 8 sticks
D620FMPPOP	Dynaflow [®]	.050" x 1/8" Mini pak 8 sticks
0620FMPPOP	Phos Copper	.050" x 1/8" Mini pak 8 sticks
SB61/2POP	Solder Stay-Brite [®]	1/8" x 8 oz. Spool
BRGT61/2POP	Solder Bridgit [®]	1/8" x 8 oz. Spool
95561/2POP	Solder 95/5	1/8" x 8 oz. Spool
505061/2POP	Solder 50/50	1/8" x 8 oz. Spool
SBSKPOP	Solder Stay-Brite [®]	Kit with Flux
60R61/2POP	Solder 60/40	1/8" x 8 oz. Rosin Core
60R31/2POP	Solder 60/40	1/16" x 8 oz. Spool Rosin Core
SSWF7POP	Stay-Silv [®] White Brazing Flux	6.5 oz.
SCPF4POP	Stay Clean [®] Paste	4 oz.
BRPF4POP	Bridgit [®] Paste Flux	4 oz.



POWERTORCH®

POINT-OF-PURCHASE MERCHANDISING PROGRAM



Program includes:

Part No.	Description
9700004	Gondola
9700011	Red Gondola Template
9504100	Powertorch Header Card

Flexible layout design.
Contact your Harris Products Group District Manager for details.

- Product sold in buy pack quantities only
- Gondolas and racking are for Harris Products Group product only



PART NO. DESCRIPTION

COMPLETE OUTFITS

AIR FUEL KITS

4400051	HQB4,H601LP,HT-4,HLP12
4400052	HQA4,HA3,HA11,H601-B,H12
4400053	HQA4,HA3,HA11,H601-MC,H12
4400054	HQA4,HA5,H601-B,H12
4400055	HQA4,HA5,H601-MC,H12
4400056	HQA4,HA5,HA14,H601-B,H12
4400057	HQA4,HA8,H601-B,H12
4400058	HAS-400,HS23,H601-B,H12
4400059	HAS-400,HS23,H601-MC,H12

OXY/ACETYLENE KITS

4400060	16601-200 P.A.T. L/CA POWERTORCH®
4400061	16601-200 L/CA POWER TORCH®
4400062	16601-520 POWERTORCH®
4400063	16601-520 L/CA POWERTORCH®
4400064	19601-200 POWERTORCH®
4400065	19601-200 POWERTORCH® L/CA
4400066	19601-520 POWERTORCH®
4400067	19601-520 POWERTORCH® L/CA
4401137	16601-200 P.A.T. POWERTORCH®
4401138	16601-200 POWERTORCH®
4401140	19601-200 POWERTORCH® P.A.T.
4401141	19601-200 POWERTORCH® P.A.T. L/CA
4401142	19601-200 POWERTORCH® P.A.T.W/ADAPT
4401668	16601-200 P.A.T.W/ADAPT POWER TORC

CUTTING ATTACHMENTS AND TORCH HANDLES

AIR FUEL TORCH HANDLES

1400080	AIR FUEL-HDL,HSLT-604 AIR FUEL
1400081	AIR FUEL-HDL,HTR-HT5 AIR FUEL
1400082	AIR FUEL-HDLE,HTR-HT6 AIR FUEL
1400083	AIR FUEL-HDL,HTR-HT2 AIR FUEL
1400084	AIR FUEL-HDL,HQA-4 AIR FUEL
1400085	AIR FUEL-HDL,HQB-4 AIR FUEL
1400086	AIR FUEL-HDL,HAS-400 AIR FUEL

OXY/ACETYLENE HANDLES AND CUTTING ATTACHMENTS

1401016	WELD-HDL,16
1401143	WELD-HDL,19-6 W/CV & ADAPT
1401585	WELD-HDL,50-9 ACETYLENE
1401590	WELD-HDL,50-10 PROPANE/PROPYLENE
1300400	CUT-ATT,71-3

REPLACEMENT TIPS

OXY/ACETYLENE CUTTING

1500820	6290-2/0
1500830	6290-0
1500840	6290-1
1500850	6290-2

OXY/ACETYLENE BRAZING & WELDING TIPS

1600020	1390-0
1600030	1390-1
1600040	1390-2
1600050	1390-3
1600060	1390-4
1600070	1390-5
1600080	1390-6
1600090	1390-7

OXY/ACETYLENE BRAZING & WELDING TIPS

1600840	23A90-0
1600850	23A90-1
1600860	23A90-2
1600870	23A90-3
1600880	23A90-4
1600890	23A90-5
1600900	23A90-6
1600910	23A90-7

PART NO. DESCRIPTION

OXY/ACETYLENE HEATING TIPS

1800025	1390-HA
4300416	J-63-1
4300417	J-63-2

AIR FUEL - ACETYLENE QUICK CONNECT TIPS

1601010	HA-3
1601011	HA-5
1601012	HA-8
1601013	HA-11
1601014	HA-14
1601015	HA-32

AIR FUEL - ACETYLENE SCREW CONNECT TIPS

1601020	HS-1
1601021	HS-2
1601022	HS-3
1601023	HS-4
1601024	HS-5
1601025	HS-6

AIR FUEL - PROPANE/MAPP® QUICK CONNECT TIPS

1601030	HT-2
1601031	HT-3
1601032	HT-4
1601033	HT-5

ACCESSORIES & SAFETY EQUIPMENT

SINGLE HOSE - 3/16" DIA.

4300775	12' ACETYLENE HOSE (A & A FITTINGS)
4300777	24' ACETYLENE HOSE (A & A FITTINGS)
4300774	12' PROPANE HOSE (B & B FITTINGS)
4300779	24' PROPANE HOSE (B & B FITTINGS)

TWIN HOSE - 3/16" DIA.

4300005	12' (A & B FITTINGS)
4300155	12' ACETYLENE (A & A FITTINGS)
4300556	12' L/BND
4300557	20' L/BN

ACCESSORIES

4300414	ARRESTOR,88-5SFBRR/L POWERTORCH®
4300415	ARRESTOR,88-5SFBTR/L POWERTORCH®
4300674	CYLINDERS,CASE OF 12 16 oz MAPP
4300675	CYLINDERS,CASE OF 12 14.1oz PROPANE
4300676	ADAPTOR,HTA QUICK CONNECT
4300677	CARRYING STAND,B ACET TANK
4300678	CARRYING STAND,MC ACET TANK
4300679	FLAME BARRIER,12 X 12
4300833	TIP CLEANER,POWERTORCH®
4300834	STRIKER,SINGLE FLINT POWERTORCH®
9003678	8593 TIP TUBE
4301600	ADAPTOR,16GA GAS/AIR
9004418	ADAPTOR,M/A TO F/B RH OXY
9004419	ADAPTOR,M/A TO F/B LH ACET/F.GAS
9004426	ADAPTOR,M/B TO F/A RH OXY
9004427	ADAPTOR,M/B TO F/A LH ACET/F.GAS
9100787	MIXER-ASY,H-16-2E
9100096	MIXER-ASY,H-16-E
9100379	D-50-C, TIP TUBE
9100872	D-50-CXL, TIP TUBE

PRESSURE REGULATORS

3000295	601-15-200 (B OUTLET)
3000296	601-80-540 (B OUTLET)
3000407	601-15-200 (A OUTLET)
3000408	601-15-520 (B OUTLET)
3000409	601-50-510P (B OUTLET)
3000411	601-15-520 (B OUTLET)
3000412	601-80-540 (A OUTLET)
3000615	25-500C-580 NITROGEN PURGING

THE HARRIS PRODUCTS GROUP FAMILY



**NORTH
AMERICA**

MASON, OHIO
Headquarters

The Harris Products Group is an American manufacturer. Our global footprint and cooperation with Lincoln Electric's manufacturing facilities in 19 different countries enables world wide technical support.

EUROPE

ASIA

**SOUTH
AMERICA**

The Harris Products Group formed out of a merger of J.W. Harris Company, Harris Calorific, and Autobraze, is a world leader in design, distribution and manufacture of cutting, welding, brazing, soldering consumables and equipment, gas distribution systems, and brazing rings. The Harris Products Group is wholly-owned subsidiary of the Lincoln Electric Company, a global leader in joining, equipment, consumables, accessories, fume extraction.

THE HARRIS DIFFERENCE:

- American Based Company
- Technical Expertise
- Strong Brands
- Superior Products
- Financial Strength

NORTH AMERICA

The Harris Products Group
World Headquarters
4501 Quality Place
Mason, OH 45040
USA
Telephone: 513-754-2000

The Harris Products Group
2345 Murphy Boulevard
Gainesville, GA 30504
USA
Telephone: 770-536-8801

Autobraze Inc
20 Avery Rd
Cranston, RI 02910

INTERNATIONAL

The Harris Products Group
International Headquarters
Via Nazionale, 79
40065 Pianoro
Bologna, Italy

The Harris Calorific GmbH
Bergstrasse 7
87751 Heimertingen
Germany

Harris Euro, SL
Aptdo. de Correos, 395
E-17600 Figueras (Girona)
Spain

Harris Calorific Int'l Sp. z o. o.
WSSE Invest-Park
ul. Strefowa
58-200 Dzierzoniow
Poland

The Harris Products Group
Eliseo Castaneda 410
Fracc El Rubi
Tijuana, BC Mexico 22180



THE HARRIS PRODUCTS GROUP
A Lincoln Electric Company
4501 Quality Place, Mason, OH 45040
Customer Service: 1.800.733.4043
Fax: 513.754.8778
www.harrisproductsgroup.com

**PN 9000012
092007**

WE'VE GOT YOUR BACK™

**GAS APPARATUS EQUIPMENT
FOR FABRICATORS, DEMOLITION,
FOUNDRIES, SCRAP & RECYCLING
INDUSTRIES**



A LINCOLN ELECTRIC COMPANY

62-5 CUTTING TORCHES

CUTS 12" LISTED

FEATURES

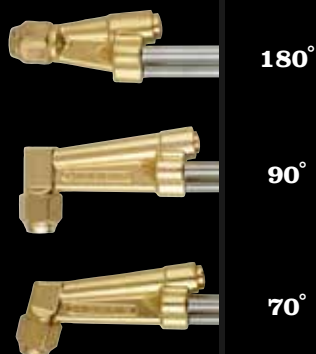
- ▶ Triangular tube design
- ▶ Brazed connections
- ▶ Solid forged head, tail and lever
- ▶ Equipped with FlashGuard® check valves

PART NUMBER	MODEL NUMBER	HEAD ANGLE	TORCH LENGTH	RECOMMENDED TIP SERIES
1003480	62-5FL-36	90°	36"	 6290-NX 6290-NXP 6290-NFF 6290-5NH 6290-6NH 6290-7NH See page 9 for tip charts
1003400	62-5AFL-36	70°	36"	
1003426	62-5BFL-36	180°	36"	
1003481	62-5FL-48	90°	48"	
1003411	62-5AFL-48	70°	48"	
1003421	62-5BFL-48	180°	48"	

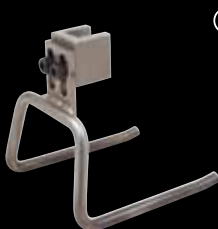
Additional lengths / head configurations available through customer service.
 Tips sold separately.

MODEL 62-5AFL-48" SHOWN

HEAD ANGLE



ACCESSORIES



70°/90° SKID
 PN: QC1HZSTK2



180° SLITTING SKID
 PN: QC1HZSTK5

48"


1 YR WARRANTY**PROFESSIONAL TOOLS... SUPERIOR RESULTS**

62-5SS CUTTING TORCHES

CUTS 14"

FEATURES

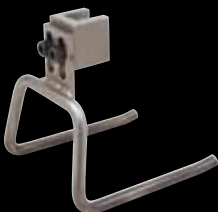
- ▶ Triangular tube design
- ▶ Brazed connections
- ▶ Solid forged head, tail and lever
- ▶ Equipped with FlashGuard® check valves
- ▶ Unique full-length aircraft aluminum handle casing for comfort and added rigidity

[®] PART NUMBER	MODEL NUMBER	HEAD ANGLE	TORCH LENGTH	RECOMMENDED TIP SERIES
QC1003550	625-SSAFLBLK-36	70°	36"	6290-NX 6290-NXP 6290-NFF 6290-NH  See page 9 for tip charts
QC1003551	625-SSAFLBLK-48	70°	48"	
QC1003552	625-SSBFLBLK-48	180°	48"	
QC1003554	625-SSFLBLK-36	90°	36"	
QC1003555	625-SSFLBLK-48	90°	48"	
QC1003553	625-SSBFLBLK-36	180°	36"	

Additional lengths / head configurations available through special order.

Tips sold separately.

ACCESSORIES



70°/90° SKID
PN: QC1HZSTK2

[®] [®]



180° SLITTING SKID
PN: QC1HZSTK5

[®]



70°/90°/180° TUBE GUARD
PN: QC1WHP625031P

48"

MODEL 62-5SSAFL-48" SHOWN

136 CUTTING TORCHES

CUTS 36"

FEATURES

- ▶ Stainless steel head and tubes
- ▶ Triangular tube design
- ▶ Tip mix torch for propane, natural gas and propylene
- ▶ Requires 3/8" hose on oxygen and fuel gas
- ▶ Internal tip nut

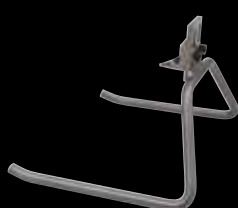
Fits 136, 136TK & 136HDTK

PART NUMBER	MODEL NUMBER	HEAD ANGLE	TORCH LENGTH	RECOMMENDED TIPS	
				PN	136 SERIES
QC136236	136-2-36	90°	36"	QC13611	136-11
QC136248	136-2-48	90°	48"	QC13613	136-13
QC136260	136-2-60	90°	60"	QC13615	136-15
QC1362A36	136-2A-36	75°	36"	QC14009	140-09
QC1362A48	136-2A-48	75°	48"	QC14011	140-11
QC1362A60	136-2A-60	75°	60"	QC14012	140-12
QC1362B36	136-2B-36	180°	36"	QC14013	140-13
QC1362B48	136-2B-48	180°	48"		
QC1362B60	136-2B-60	180°	60"		

Additional lengths and head configurations available through special order.
Tips sold separately.

Available only for Model 136 torches with welded head bracket option. Call customer service for details.

ACCESSORIES



75°/90° SKID
PN: QC1HZSTK1



180° SLITTING SKID
PN: QC1HZSTK6



Series 136 Heavy Hand Cutting Tips

- ▶ Captive nut
- ▶ Heavy shell with shroud
- ▶ "U" spline standard preheat



Series 140 Heavy Hand Cutting Tips

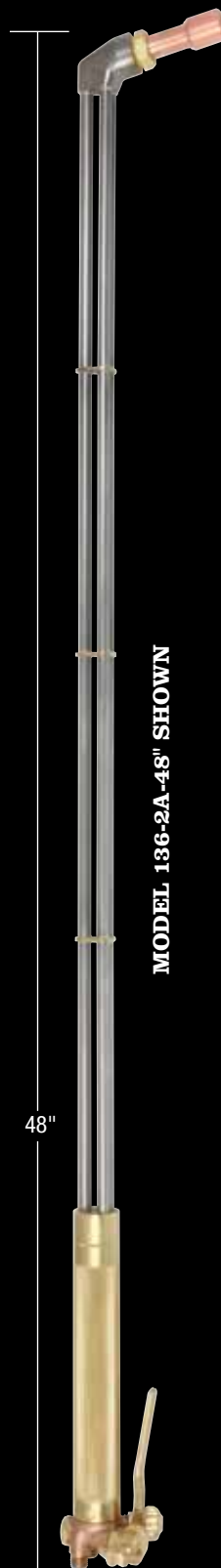
- ▶ Non-captive nut (P/N 1WHP136-01P)
- ▶ Non-shrouded
- ▶ "V" spline heavy preheat



Series 140HS Heavy High Speed Hand Cutting Tips

- ▶ Non-captive nut (P/N 1WHP136-01P)
- ▶ Non-shrouded
- ▶ "U" spline heavy preheat

See page 10 - 11 for tip charts



MODEL 136-2A-48" SHOWN

48"

1 YR WARRANTY

PROFESSIONAL TOOLS... SUPERIOR RESULTS

136TK & 136HDTK CUTTING TORCHES

CUTS 36"

FEATURES

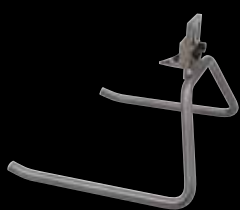
- ▶ Stainless steel head and tubes
- ▶ Triangular tube design
- ▶ Tip mix torch for propane or natural gas
- ▶ Requires 3/8" I.D. hose
- ▶ Internal tip nut
- ▶ Unique full-length aircraft aluminum handle casing for comfort and added rigidity
- ▶ 136HDTK is available in 2 & 3 hose configurations

[®] PART NUMBER	MODEL NUMBER	HEAD ANGLE	TORCH LENGTH
QC1362AHDTK48	136-2AHDTK-48	75°	48"
QC1362AHDTK60	136-2AHDTK-60	75°	60"
QC1362ATK36	136-2ATK-36	75°	36"
QC1362ATK48	136-2ATK-48	75°	48"
QC1362ATK60	136-2ATK-60	75°	60"
QC1362BHDTK48	136-2BHDTK-48	180°	48"
QC1362BHDTK60	136-2BHDTK-60	180°	60"
QC1362BTK36	136-2BTK-36	180°	36"
QC1362BTK48	136-2BTK-48	180°	48"
QC1362BTK60	136-2BTK-60	180°	60"
QC1362HDTK48	136-2HDTK-48	90°	48"
QC1362HDTK60	136-2HDTK-60	90°	60"
QC1362TK36	136-2TK-36	90°	36"
QC1362TK48	136-2TK-48	90°	48"
QC1362TK60	136-2TK-60	90°	60"

Additional lengths and head configurations available through special order.
136HDTK requires a 1/2" I.D. oxygen hose.
Tips sold separately.

See page 10 - 11 for tip charts

ACCESSORIES



75°/90° SKID
PN: QC1HZSTK1



180° SLITTING SKID
PN: QC1HZSTK6



TUBE GUARD
70°/90° PN: QC1WHP13629P
180° PN: QC1HP13628P



MODEL 136-2AHD-48" SHOWN

6000 CUTTING TORCHES

CUTS 50"

FEATURES

- ▶ Triangular tube design
- ▶ Brazed connections
- ▶ Solid forged head, tail and lever
- ▶ Stainless steel head and tubes
- ▶ Tip mix design
- ▶ Available in 2 or 3 hose configuration
- ▶ Top rear lever standard

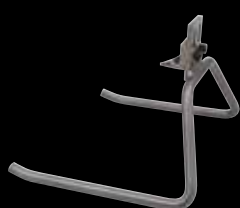


[®] PART NUMBER	MODEL NUMBER	HEAD ANGLE	TORCH LENGTH	RECOMMENDED TIPS		
QC2SCF6000036	2SCF6000-036	180°	36"	213 SERIES QC2SCT213-10 QC2SCT213-15S QC2SCT213-20S		
QC2SCF6000048	2SCF6000-048	180°	48"			
QC2SCF6000060	2SCF6000-060	180°	60"			
QC2SCF6075036	2SCF6075-036	75°	36"			
QC2SCF6075048	2SCF6075-048	75°	48"	RECOMMENDED HOSE		
QC2SCF6075060	2SCF6075-060	75°	60"	Gas Type	Hose Size	Connection
QC2SCF6090036	2SCF6090-036	90°	36"	OXYGEN	1/2" I.D.	"C" RH
QC2SCF6090048	2SCF6090-048	90°	48"	FUEL GAS	3/8" I.D.	"B" LH
QC2SCF6090060	2SCF6090-060	90°	60"	*OXYGEN	3/8" I.D.	"B" RH
				*Pre heat for three hose torches.		

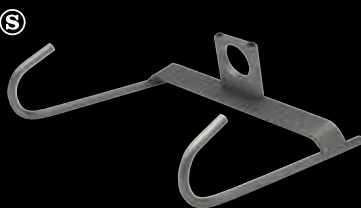
Additional lengths / head configurations available through special order.
Tips sold separately.

See page 11 for tip charts

ACCESSORIES



75°/90° SKID
PN: QC2SCA2



180° SLITTING SKID
PN: QC2SCA7

MODEL 25CF-6000-48" SHOWN

48"

1 YR WARRANTY**PROFESSIONAL TOOLS... SUPERIOR RESULTS**

6000TK CUTTING TORCHES

CUTS 50"

FEATURES

- ▶ Triangular tube design
- ▶ Brazed connections
- ▶ Solid forged head, tail and lever
- ▶ Stainless Steel head and tubes
- ▶ Tip mix design
- ▶ Available in 2 or 3 hose configuration
- ▶ Unique full-length aircraft aluminum handle casing for comfort and added rigidity
- ▶ Bottom rear lever standard

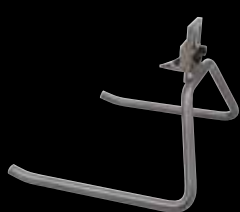
[®] PART NUMBER	MODEL NUMBER	HEAD ANGLE	TORCH LENGTH	RECOMMENDED TIPS		
QC2SCF6000TK036	2SCF6000TK-036	180°	36"	213 SERIES QC2SCT213-10 QC2SCT213-15S QC2SCT213-20S		
QC2SCF6000TK048	2SCF6000TK-048	180°	48"			
QC2SCF6000TK060	2SCF6000TK-060	180°	60"			
QC2SCF6075TK036	2SCF6075TK-036	75°	36"			
QC2SCF6075TK048	2SCF6075TK-048	75°	48"	RECOMMENDED HOSE		
QC2SCF6075TK060	2SCF6075TK-060	75°	60"	Gas Type	Hose Size	Connection
QC2SCF6090TK036	2SCF6090TK-036	90°	36"	OXYGEN	1/2" I.D.	"C" RH
QC2SCF6090TK048	2SCF6090TK-048	90°	48"	FUEL GAS	3/8" I.D.	"B" LH
QC2SCF6090TK060	2SCF6090TK-060	90°	60"	*OXYGEN	3/8" I.D.	"B" RH
				*Pre heat for three hose torches.		

Additional lengths / head configurations available through special order.

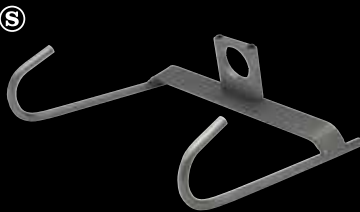
Tips sold separately.

See page 11 for tip charts

ACCESSORIES



75°/90° SKID
PN: QC2SCA2



180° SLITTING SKID
PN: QC2SCA7



70°/90°/180° TUBE GUARD
PN: QC2SCA3

MODEL 25CF-6000TK-48" SHOWN

48"



IRON POWDER CUTTING TORCH

**CUTS STAINLESS
STEEL & OTHER
NON-FERROUS
MATERIAL**

TORCH FEATURES

- ▶ Multi jet powder head
 - Better performance and durability
 - Easy to clean and maintain
 - Cuts in all directions
- ▶ For propane and other alternate fuel gases
- ▶ Iron Powder facilitates cutting of metals which are difficult or impossible to cut with oxy-fuel alone

HOPPER FEATURES

- ▶ Premium, industrial grade product
- ▶ Innovative design for maximum portability and safety
- ▶ Regulator with encapsulated seat to control pressure
- ▶ Brass, stainless and painted steel construction
- ▶ Relief valve to protect from over pressurization
- ▶ Up to 30% greater efficiency than other brands



Ironator

Regulator

Relief Valve

Bleeder Valve

[®] **STARTER KIT PN: QC4404900** (INCLUDES THE FOLLOWING)

DESCRIPTION	REPLACEMENT PART NO.
POWDER-TORCH, 4900-A LENGTH 48" - HEAD 75°	QC1004904
DISPENSER W/CART, 100LB PORTABLE IRON	QC4304900
HOSE- ASY, 50' NITROGEN SUPPLY	QC4304906
HOSE- ASY, 1/4" - 3/8" X 50' TRI-HOSE	QC4304905
CUT-TIP, 229-8 (8" capacity)	QC1502581
CUT-TIP, 229-10 (10" capacity)	QC1502582
CUT-TIP, 229-12 (12" capacity)	QC1502583
REG, 450-200-540	3002499
REG, 450-50-510P	3002495
REG, 450-125-580	3002498
BUSHING, BRS REDUCING 1/2" NPTM X 1/4" N	9005806
NIPPLE-OUTLET, 957-R	9000194
KIT, CGA 540 TO 1/4" NPTF X 1/2" NPTM ADAP	9103615
MANUAL, IRON FIERNO	9504102
MANUAL, TRILINGUAL KIT	9505643

Additional lengths and head configurations available. Tips and iron powder sold separately.
See page 11 for tip charts



PART NO.	DESCRIPTION
QC4304903	50lb IRON POWDER
Sold separately.	

6290 CUTTING TIPS

FOR MODELS 62-5 & 62-5SS



6290N & NX - PROPANE / NATURAL GAS GENERAL PREHEAT 2-PIECE CUTTING TIPS

PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW	DRILL SIZE
1501230	1NX	5/8"-1"	35-50	100-135	4oz - 2lb	8.7	56
1501240	2NX	1"-2"	40-55	200-250	4oz - 2lb	10	52
1501250	3NX	2"-3"	45-60	290-365	4oz - 2lb	10	48
1501260	4NX	3"-6"	50-70	475-625	4oz - 2lb	12.5	42
1501270	5NX	6"-8"	65-80	710-860	4oz - 2lb	15	35
1501280	6NX	8"-12"	70-90	970-1100	4oz - 2lb	17.5	30



6290NFF - PROPANE / NATURAL GAS HEAVY PREHEAT 2-PIECE CUTTING TIPS

PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW	DRILL SIZE
1501020	1NFF	T0 5/8"	20-35	115-140	4oz - 2lb	17.5	56
1501030	2NFF	5/8"-2"	30-55	170-230	4oz - 2lb	17.5	53
1501040	3NFF	2"-4"	45-65	355-420	4oz - 2lb	17.5	47
1501050	4NFF	4"-7"	55-75	520-645	4oz - 2lb	17.5	42
1501060	5NFF	7"-10"	60-80	660-870	4oz - 2lb	17.5	35
1501070	6NFF	10"-11"	80-90	870-1020	4oz - 2lb	17.5	31
1501080	7NFF	12"-13"	80-90	1050-1205	4oz - 2lb	17.5	30



6290NXP - PROPYLENE GENERAL PREHEAT 2-PIECE CUTTING TIPS

PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW	DRILL SIZE
1502156	1NXP	5/8"-1"	35-50	75-100	4oz - 2lb	11.5	56
1502158	2NXP	1"-2"	40-55	160-210	4oz - 2lb	11.5	52
1502160	3NXP	2"-3"	45-60	250-325	4oz - 2lb	11.5	48
1502162	4NXP	3"-6"	50-75	425-575	4oz - 2lb	11.5	42
1502164	5NXP	6"-8"	65-80	650-800	4oz - 2lb	11.5	35
1502166	6NXP	8"-12"	70-90	900-1100	4oz - 2lb	11.5	30

6290 CUTTING TIPS

FOR MODELS 62-5 & 62-5SS



6290NH - PROPANE / NATURAL GAS 2-PIECE CUTTING TIPS

PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	PRE HEAT FUEL PSIG	OXYGEN CONSUMPTION SCFH	PROPANE CONSUMPTION SCFH
1501120	5NH	10"	60	4oz - 2lb	700	20
1501130	6NH	11"	60	4oz - 2lb	790	20
1501140	7NH	12"	60	4oz - 2lb	925	20
1501190	8NH	15"	60	4oz - 2lb	1025	20

NOTE: Not for use with acetylene. NH tips are not plated, have a coarse pre-heat, and a heavy shell

136 CUTTING TIPS

FOR MODELS 136, 136TK & 136HDTK



136 - PROPANE / NATURAL GAS HEAVY HAND CUTTING TIPS

③ PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW	DRILL SIZE
QC13611	136-11	12"-19"	60-80	950-2900	8-15	130-350	3/16"
QC13613	136-13	19"-28"	60-80	2100-4000	10-15	150-400	1/4"
QC13615	136-15	28"-36"	80-100	2500-4500	15-20	180-450	11/32"

NOTE: Not for use with acetylene. Features a heavy shell with shroud, captive nut and standard preheat.

140 CUTTING TIPS

FOR MODELS 136, 136TK & 136HDTK



140 - PROPANE / NATURAL GAS HEAVY HAND CUTTING TIPS

③ PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW	DRILL SIZE
QC14009	140-09	15"	65-85	1300-1500	12-15	100-120	5/32"
QC14011	140-11	19"	65-85	1700-1950	12-15	130-160	3/16"
QC14012	140-12	20"	65-85	1800-2250	12-15	165-180	7/32"
QC14013	140-13	25"	65-85	2100-2500	15-18	175-210	1/4"

NOTE: Not for use with acetylene. A low cost, straight bore tip with heavy preheat.

140HS CUTTING TIPS

FOR MODELS 136, 136TK & 136HDTK



140HS - PROPANE / NATURAL GAS HEAVY, HIGH SPEED HAND CUTTING TIPS

S

PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW
QC140160	140-160	15"	90-130	2100-2300	12-15	100-120
QC140200	140-200	19"	90-130	3100-3500	12-15	130-160
QC140240	140-240	25"	90-130	4600-5100	12-15	165-180

NOTE: Not for use with acetylene.

Features a divergent bore, "U" spline with standard preheat for high speed heavy cutting.

213 CUTTING TIPS

FOR MODEL 6000



213 - PROPANE / NATURAL GAS / PROPYLENE HEAVY HAND CUTTING TIPS

S

PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW
QC2SCT21310	2SCT21310	20"-40"	80-120	4000-5500	15-20	130-350
QC2SCT21315S	2SCT21315S	40"-50"	80-120	5000-6500	15-20	150-400
QC2SCT21320S	2SCT21320S	* OVER 50"	80-120	6000-8000	15-20	180-450

NOTE: Not for use with acetylene.

* 3 hose torch option recommended for cutting over 50"

229 CUTTING TIPS

IRON POWDER



229 - PROPANE / NATURAL GAS / PROPYLENE HEAVY HAND CUTTING TIPS

S

PART NUMBER	MODEL NUMBER	DEPTH OF CUT	OXYGEN PSIG	OXYGEN FLOW SCFH	FUEL PSIG	FUEL FLOW
QC1502580	229-6	6"	55-65	600	8-10	35
QC1502581	229-8	8"	60-70	900	9-11	42
QC1502582	229-10	10"	65-75	1350	10-13	47
QC1502583	229-12	12"	70-85	1950	12-15	52

NOTE: Not for use with acetylene.



450 HEAVY DUTY REGULATOR

With stainless steel diaphragm



The Harris Model 450 is an economically priced heavy duty regulator specifically designed for use in the most abusive working conditions in both shop and field.

- ▶ One-piece encapsulated seat design with an internal filter and a PTFE teflon seat
- ▶ Brass bonnet and bronze adjusting screw
- ▶ 2-1/2" dual scale gauges
- ▶ Conforms to CGA E-4
- ▶ Can be used for gaseous withdrawal from liquid cylinders
- ▶ Tamper proof, self reseating, internal HP safety valve

PART NO.	MODEL NO.	GAS	MAXIMUM INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3002495	450-50-510P	LPG	500	0-50	100	400	CGA 510P	9/16"-18LH
3002498	450-125-580	Ar, He, N2	3000	0-125	200	4000	CGA 580	5/8"-18RH
3002496	450-50-540	OXYGEN	3000	0-50	100	4000	CGA 540	9/16"-18RH
3002497	450-125-540	OXYGEN	3000	0-125	200	4000	CGA 540	9/16"-18RH
3002499	450-200-540	OXYGEN	3000	0-200	400	4000	CGA 540	9/16"-18RH

NOTE: Available for other gases and additional pressure ranges - Call customer service



425 SINGLE STAGE REGULATOR

The Model 425 is an ideal choice for most heavy duty industrial applications. The Model 425 is a long lasting rugged performer.

- ▶ Tamper proof, self reseating internal HP safety valve
- ▶ One-piece encapsulated seat design with an internal filter and a PTFE teflon seat
- ▶ Bronze adjusting screw for smooth adjusting
- ▶ 2-1/2" dual scale gauges
- ▶ Brass bonnet and body
- ▶ UL Listed and conforms to CGA E-4



PART NO.	MODEL NO.	GAS	MAXIMUM INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000767	425-125-580	NITROGEN	3000	0-125	200	4000	CGA 580	9/16"-18RH
3000714	425-125-540	OXYGEN	3000	0-125	200	4000	CGA 540	9/16"-18RH
3000796	425-200-540	OXYGEN	3000	0-200	400	4000	CGA 540	9/16"-18RH
3000713	425-50-510P	LPG	3000	0-50	60	400	CGA 510P	9/16"-18LH

NOTE: Available for other gases and additional pressure ranges - Call customer service



3YR WARRANTY

PROFESSIONAL TOOLS... SUPERIOR RESULTS



330 LIQUID CYLINDER REGULATOR

With stainless steel diaphragm

The Model 330 regulator allows for gaseous withdrawal from oxygen, carbon dioxide, argon and nitrogen liquid cylinders.

- ▶ 2-3/4" stainless steel diaphragm
- ▶ PTFE teflon seals and seats
- ▶ One-piece encapsulated seat design with an internal filter
- ▶ Tamper proof, self seating internal H.P. safety valve
- ▶ Designed specifically to operate on liquid cylinders but can be used on high pressure cylinders without damage
- ▶ UL Listed and certified to CGA E4



PART NO.	MODEL NO.	GAS	MAXIMUM INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3001090	330-125-540	OXYGEN	3000	0-125	200	CGA 540	9/16"-18RH
3001093	330-350-540	OXYGEN	3000	0-350	500	CGA 540	9/16"-18RH
3001091	330-125-580	Ar, He, N ₂	3000	0-125	200	CGA 580	9/16"-18LH
3001094	330-350-580	Ar, He, N ₂	3000	0-350	500	CGA 580	9/16"-18LH

NOTE: Available for other gases and additional pressure ranges - Call customer service

88-5 FBHR FLASH-GUARD®



Flashback Arrestors For High Flow Applications



FEATURES

- ▶ Prevents reverse flow of gases with built-in check valves
- ▶ Extinguishes flashback fire with stainless steel sintered element
- ▶ 100 micron inlet filter helps keep dust and dirt out
- ▶ Thermal shut-off which positively shuts off the gas in case of hose fire, burn back or repeated flashbacks

For use with Harris models 62-5 and 62-5SS up to a maximum cutting capacity of 12". For cutting capacities in excess of 12" please contact customer service.

PN: 4301652 - OXYGEN
PN: 4301655 - FUEL GAS
SOLD SEPARATELY

1 YR WARRANTY

88-5 FBR FLASH-GUARD®



Regulator Mounted Flashback Arrestors



FEATURES

- ▶ Prevents reverse flow of gases with built-in check valves
- ▶ Extinguishes flashback fire with stainless steel sintered element
- ▶ 100 micron inlet filter helps keep dust and dirt out

For use with Harris models 62-5 and 62-5SS up to a maximum cutting capacity of 8". For cutting capacities in excess of 8" please contact customer service.

PN: 4302203
SOLD IN PAIRS

1 YR WARRANTY

88-5 FBT FLASH-GUARD®



Torch Mounted Flashback Arrestors



FEATURES

- ▶ Prevents reverse flow of gases with built-in check valves
- ▶ Extinguishes flashback fire with stainless steel sintered element
- ▶ 100 micron inlet filter helps keep dust and dirt out

For use with Harris models 62-5 and 62-5SS up to a maximum cutting capacity of 8". For cutting capacities in excess of 8" please contact customer service.

PN: 4302202
SOLD IN PAIRS

1 YR WARRANTY**PROFESSIONAL TOOLS... SUPERIOR RESULTS**

8530 & 147 DRY FLASHBACK ARRESTOR

Pipeline Protection Device

BAM/ZBA/003/04 APPROVED



Harris Pipeline Protection Devices incorporate dry type flashback arrestors, ASME relief valves and check valves in their design. They are designed to meet requirements of NFPA 51 in fuel gas piping systems. Unlike hydraulic flash arrestors, dry arrestors are maintenance free, do not require fluid and provide continuous safe operation in fuel gas distribution systems.

- ▶ High surface area stainless steel flash arrestor material extinguishes flashback
- ▶ Temperature sensitive shut-off valve extinguishes sustained flashbacks
- ▶ Spring loaded check valve prevents reverse flow from forming explosive mixtures in the gas supply
- ▶ Can be mounted in any position

PART NO.	MODEL NO.	GAS	FLOW CAPACITY (AIR)	INLET/OUTLET	RELIEF VALVE
4300223	8530-FG-1"	LPG, NATURAL GAS, H ₂	1000 SCFH	1" NPT	40 PSI
4300224	8530-FG-1/2"	LPG, NATURAL GAS, H ₂	1000 SCFH	1/2" NPT	40 PSI
4300228	147-OX-1"	OXYGEN	5000 SCFH	1" NPT	225 PSI
4300229	147-OX-1/2"	OXYGEN	5000 SCFH	1/2" NPT	225 PSI

1 YR WARRANTY

LOW PRESSURE / HIGH FLOW PIPELINE PARTICLE FILTERS FOR OXYGEN, FUEL AND INERT GASES

Removes dirt, scale and other particulate matter that can damage critical downstream components such as flash arrestors, regulators, solenoid valves and torches etc.. Features an easily replaceable 60 micron sintered bronze filter element.

- ▶ T style design allows filter replacement without removal from piping
- ▶ Low initial pressure drop with a capacity of up to 25,000 SCFH air
- ▶ Pressure rating of up to 350psi
- ▶ Can be mounted in a vertical or horizontal position

③ PART NO.	GAS	INLET/VALVE	CAPACITY
QC2HLF2560	FUEL	1" NPT(F)	25,000 SCFH (Air)
QC2HLF2580	OXYGEN / INERT	1" NPT(F)	25,000 SCFH (Air)
QC9HLF2600	REPLACEMENT FILTER CARTRIDGE		



Denotes a HARRIS "SPECIAL ORDER" product. For more details see Harris Terms and Conditions of Sale or contact Harris Customer Service.



A LINCOLN ELECTRIC COMPANY

THE HARRIS PRODUCTS GROUP
A LINCOLN ELECTRIC COMPANY
2345 MURPHY BLVD.
GAINESVILLE, GA 30504
1.800.241.0804
www.harrisproductsgroup.com

PN: 9502736
052012