

EDUCATION SOLUTIONS

HARRIS GAS CONTROL AND OXYFUEL CUTTING PRODUCTS



2020 EDUCATION & UNION
PRODUCT CATALOG





JLG 3246ES
4 070341

THE HARRIS PRODUCTS GROUP



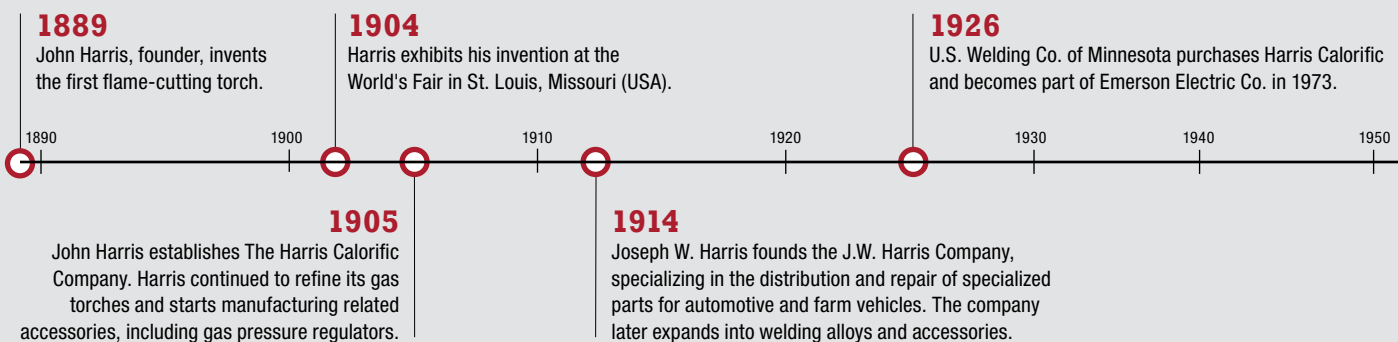
The Harris Products Group was formed by combining two strong names in the welding business—Harris Calorific and J.W. Harris. The Harris Products Group is a world leader in metalworking products used in the brazing, soldering, welding, cutting and gas distribution industries. The combined company offers 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 48 manufacturing locations, including operations and joint ventures in 19 countries and a worldwide network of distributors and sales offices covering more than 160 countries.

THE HARRIS PRODUCTS GROUP HISTORY



MANUFACTURING AND DISTRIBUTION FACILITIES

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



1960-1980

Both Harris companies expand around the world.

1960

1980

2000

2010

2011

1990

Lincoln Electric purchases Harris Calorific from Emerson Electric.

2006

Harris Calorific and J.W. Harris combine, creating The Harris Products Group.

2005

Lincoln Electric purchases the privately-held J.W. Harris Company.

2008

The Harris Products Group purchases Brastak in Brazil.

2012

Harris introduces the 7-Year Warranty Plan and debuts the Model 25GX Regulator.

2018

Harris launches Aluxcor Aluminum Brazing Alloy.

2019

Harris purchases the brazing and soldering business of Worthington Industries.

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 specialist 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.

Many Harris industrial gas regulators and torches are certified to the UL® listed standard. Choosing to work with UL® standards demonstrates our commitment to the highest levels of safety and quality.

Harris regulators and torches are all manufactured to the applicable Compressed Gas Association (CGA) standard.

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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. 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

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801

MODEL



COMPACT GENERAL PURPOSE

MODEL SHOWN:
801-145-540

DESCRIPTION

The model 801 is designed to be a medium duty regulator, perfect for most industrial cutting and welding applications. It features 2" gauges that are easy to read and an ergonomic adjusting knob for precise operation and a longer service life. ***Now available in clamshell packaging

DETAILS

Capacity: Medium duty

C_v: 0.17

Gauges: 2" Steel dual scale

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

Body: Brass

Featured In: Ironworker HMD & VMD series outfits

Certifications: CGA E-4

Where Used: Industrial cutting and welding applications

Weight: 2.32 lbs. / 1.05 kg.



PART NO.	MODEL NO.	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3002195	801-15-300	ACETYLENE	500	0 - 15	30 RZ	400	CGA 300	1/16" - 18 LH
3002193	801-15-510	ACETYLENE	500	0 - 15	30 RZ	400	CGA 510	1/16" - 18 LH
3002194	801-145-540	OXYGEN	3000	0 - 145	150	4000	CGA 540	1/16" - 18 RH

25GX

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. ***Some models are available in clamshell packaging (CS).

DETAILS

Capacity: Medium to heavy duty

C_v: 0.17

Gauges: 2.5" Steel dual scale

Pressure Regulation: 0.2 PSIG/100 PSIG

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

Certification: UL® listed/CGA E-4

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

Weight: 2.9 lbs./1.32 kg.

Related Equipment:

Steel gauge guards

Green (Oxygen) P/N: 4300239

Red (Fuel) P/N: 4300238



Additional Technical Information: PG. 186

PART NO.	MODEL NO.	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3000350	25GX-15-300	ACETYLENE	500	0 - 15	30 RZ	400	CGA 300	1/16" - 18 LH
3000380	25GX-15-510	ACETYLENE	500	0 - 15	30 RZ	400	CGA 510	1/16" - 18 LH
3000450	25GX-50-510P	LPG*	500	0 - 50	60	400	CGA 510P	1/16" - 18 LH
3000510	25GX-145-540	OXYGEN	3000	0 - 145	200	4000	CGA 540	1/16" - 18 RH
3000540	25GX-145-580	Ar, He, N ₂	3000	0 - 145	200	4000	CGA 580	1/16" - 18 RH **
3000806	25GX-200-580	Ar, He, N ₂	3000	0 - 200	400	4000	CGA 580	1/16" - 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

3000485 has 30 PSIG plain face gauge



2020 EDUCATION & UNION
PRODUCT CATALOG

REGULATORS

425

MODEL



BEST FEATURES

MODEL SHOWN:
425-125-540

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-reseating internal HP safety valve and a neoprene diaphragm. The 425 is also available in a multitude of pressure ranges and for all standard industry gases.*Some models are available in clamshell packaging (CS).

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:

Steel gauge guards

Green (Oxygen) P/N: 4300239

Red (Fuel) P/N: 4300238

Adaptor: 9/16 - 18(F) X 5/8" - 18(F)

P/N: 9000002



Additional Technical Information: PG. 186

PART NO.	MODEL NO.	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
3000714	425-125-540	OXYGEN	3000	0 - 125	200	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
3000837	425-15-580	Ar, He, N ₂	3000	0 - 15	30	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
3000775	425-125-320	CO ₂	3000	0 - 125	200	4000	CGA 320	1/16" - 18 RH

* Models with "CS" suffix are clamshell packaged.

**Regulators designed specifically for propane 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.

PRO INFO

CHOOSE THE RIGHT HARRIS FLOW CONTROL DEVICES

One of the most common uses 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.

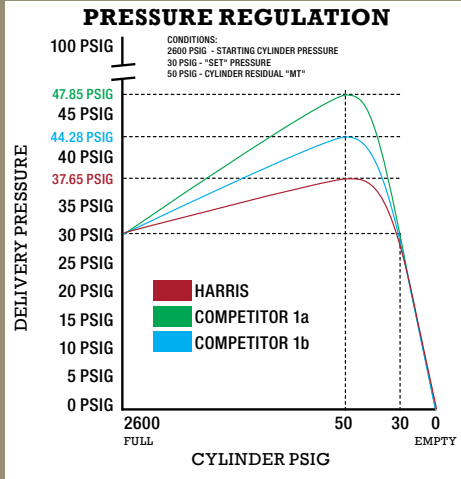
CONTACT YOUR LINCOLN ELECTRIC OR HARRIS REPRESENTATIVE FOR THE FEATURES AND BENEFITS THAT BEST FIT YOUR APPLICATION(S).

PRO INFO: THE TRUE MEASURE OF A REGULATOR

HARRIS MODEL 450

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.

PRESSURE RISE

HARRIS 450 "RISE" = 0.30 PSIG FOR EVERY 100 PSIG DECAY IN CYLINDER

$$\frac{0.30 \times (2600-50)}{100} = \frac{.3 \times 2550}{100} = 7.65 \text{ PSIG}$$

COMPETITIVE MODEL 1a "RISE" = 0.56 PSIG FOR EVERY 100 PSIG DECAY IN CYLINDER

$$\frac{0.56 \times (2600-50)}{100} = \frac{.56 \times 2550}{100} = 14.28 \text{ PSIG}$$

COMPETITIVE MODEL 1b "RISE" = 0.70 PSIG FOR EVERY 100 PSIG DECAY IN CYLINDER

$$\frac{0.70 \times (2600-50)}{100} = \frac{.7 \times 2550}{100} = 17.85 \text{ PSIG}$$

Model Number	Pressure Rise PSI / 100 PSI	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%

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 industry. It defines product safety and production test requirements and it defines performance characteristics required to meet field applications.

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 internal tamper-proof self-reseating safety. *Some models are available in clamshell packaging (CS*).

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. 187

PART NO.	MODEL NO.	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	1/8" - 18 LH
3002494	450-15-510	ACETYLENE	500	0 - 15	30RZ	400	CGA 510	1/8" - 18 LH
3002495	450-50-510P	LPG**	500	0 - 50	100	400	CGA 510P	1/8" - 18 LH
3002496	450-50-540	OXYGEN	3000	0 - 50	100	4000	CGA 540	1/8" - 18 RH
3002497	450-125-540	OXYGEN	3000	0 - 125	200	4000	CGA 540	1/8" - 18 RH
3002499	450-200-540	OXYGEN	3000	0 - 200	400	4000	CGA 540	1/8" - 18 RH
3002498	450-125-580	AR, HE, N ₂	3000	0 - 125	200	4000	CGA 580	5/8" - 18 RH

* Models with "CS" suffix are clamshell packaged.

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



2020 EDUCATION & UNION
PRODUCT CATALOG

REGULATORS

11

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. The model 330 has an auxiliary plugged low pressure port.

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. 188

PART NO.	MODEL NO.	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
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

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

Certifications: CGA E-4
Weight: 3.6 lbs./1.63 kg.
Related Equipment: Station Drops p.XX
Station Valves p.XX

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



Additional Technical Information: PG. 195

PIPELINE 1/4" NPT Inlet

PART NO.	MODEL NO.	GAS	MAX. INLET PSIG	DELIVERY PRESSURE RANGE PSIG	DELIVERY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
4000569	447NC-15-1/4" L	FUEL	500	0 - 15	30	1/4" NPT (F)	1/16" - 18 LH
4000571	447-50-1/4" L	FUEL	500	0 - 50	100	1/4" NPT (F)	1/16" - 18 LH
4000575	447-125-1/4" R	OXYGEN	500	0 - 125	200	1/4" NPT (F)	1/16" - 18 RH

PRO INFO

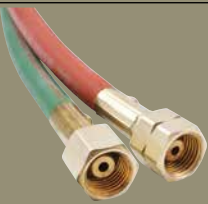
WHAT IS THE DIFFERENCE BETWEEN A STATION AND A PIPELINE REGULATOR?

"A" Nut



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.

"B" Nut



Visually, a "C" nut and stem is a little larger ($\frac{7}{8}$ "-14"), than the more popular "B" size ($\frac{3}{4}$ "-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.

"C" Nut and Stem



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.

PRO INFO

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 - 10	14"	8 lbs.
B	33 - 40	23"	26 lbs.
2AWQ	55 - 60	31"	61 lbs.
NO.4	90 - 150	36"	113 lbs.
NO.4	151 - 230	37.5"	150 lbs.
NO.5WK	250 - 380	43.5"	200 lbs.

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

FLOWMETERS

FLOW
CONTROL
EQUIPMENT

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.



MODEL SHOWN:
2555-Ar70-680



MODEL SHOWN:
425-Ar100-580

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



QUICK SELECTION GUIDE ▼

ECONOMICAL

351 MODEL ZERO COMPENSATED PIPELINE p.16	351 MODEL ZERO COMPENSATED CYLINDER p.18
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GENERAL PURPOSE

55-2 MODEL COMPENSATED p.17	355-2 MODEL COMPENSATED p.17
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SHIELDING GAS KITS

**355-2
MODEL**
COMPACT COMPLETE
WITH HOSE
p.18

351

MODEL



"ZERO" COMPENSATED PIPELINE

MODEL SHOWN:
351-70Ar/CD-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: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 2 lbs./ 0.91 kg.



PART NO.	MODEL NO.	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	INLET CONNECTION	OUTLET CONNECTION
3100332	351-70Ar/CD-1/4M	Ar/CO ₂	10-70	0	200	1/4" NPT (M)	3/8" - 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: 3/16" x 10' Inert Hose P/N: 4300138

Weight: 2.3 lbs./ 1.04 kg.



PART NO.	MODEL NO.	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100331	351-60Ar-580	Ar, CO ₂	10-70	0	3000	4000	CGA 580	3/8" - 18 (F)
3100330	351-60CD-320	Ar, CO ₂	10-70	0	3000	4000	CGA 320	3/8" - 18 (F)

55-2

MODEL



FLOWMETER

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

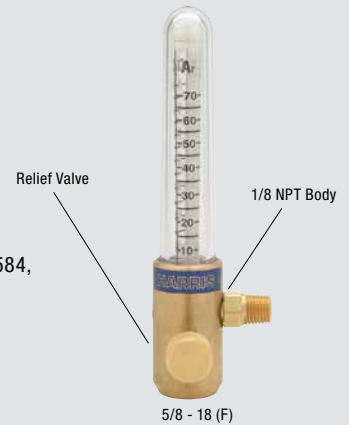
DESCRIPTION

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 pressure relief valve. RH versions have left hand inlets*

DETAILS

Capacity: Heavy duty
Gauges: N/A
Seat: N/A
Body: Brass
Certifications: CGA E-8
Where Used: Gas shielded welding and other pipeline applications

Related Items:
 447-20 Pipeline Reg-1/4 RH P/N: 4000584,
 3/16" x 10' Inert Hose P/N: 4300138,
 Adaptor: 5/8"-18(M) x 1/4"- NPT (M)
 P/N: 8800527
Weight: 1.5 lbs./ 0.68 kg.



PART NO.	MODEL NO.	GAS	SCALE RANGE SCFH	COMPENSATED PSIG	MAX. RECOMMENDED INLET PSIG	INLET CONNECTION	OUTLET CONNECTION
5400613	55-2 N ₂ /AIR	N ₂ , (AIR)	10 - 100 (10 - 100)	20	75	3/8" - 18 (F)	3/8" - 18 (F)
5400609	55-2 Ar/CD	Ar, (CO ₂)	10 - 70 (10 - 70)	20	75	3/8" - 18 (F)	3/8" - 18 (F)

355-2

MODEL



COMPACT PRESSURE COMPENSATED FLOWMETER REGULATOR

MODEL SHOWN:
355-2-Ar-580

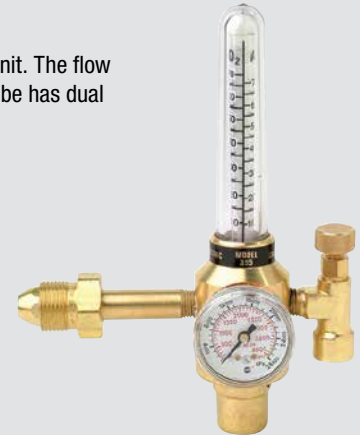
DESCRIPTION

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 NO.	MODEL NO.	GAS	SCALE RANGE SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100200	355-2-Ar-580	Ar, (CO ₂)	10 - 70 (10 - 70)	20	3000	0 - 4000	CGA 580	3/8" - 18 (F)

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

351

MODEL



351 ECONOMICAL SHIELDING 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" ABS

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.

Packaging: Clamshell



PART NO.	MODEL NO.	GAS	FLOW CAPACITY SCFH	COMPENSATED PSIG	MAX. INLET PSIG	SUPPLY PRESSURE GAUGE PSIG	INLET CONNECTION	OUTLET CONNECTION
3100353	351-60Ar-58010	Ar	70	0	3000	4000	CGA 580	3/8"-18 (F)
3100401	351-60CD-32010	CO ₂	70	0	3000	4000	CGA 320	3/8"-18 (F)

355-2

MODEL



355-2 COMPENSATED SHIELDING 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

Replacement Hose:
3/16" x 10' inert hose P/N: 4300138

Weight: 4.1 lbs./ 1.86 kg.

Packaging: Clamshell



PART NO.	MODEL NO.	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	Ar/CO ₂	70	20	3000	4000	CGA 320	5/8" - 18 (F)



HARRIS
REGULATOR 859L
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INCREASE
DECREASE

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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.

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QUICK SELECTION GUIDE

HEAVY DUTY



43-2
MODEL

HIGH FLOW
p.23

VH31
MODEL

VICTOR® COMPATIBLE
p.25



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

MEDIUM DUTY



85
MODEL

CLASSIC
p.25

VH10
MODEL

VICTOR® COMPATIBLE
p.27



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

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LINCOLN
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2020 EDUCATION & UNION
PRODUCT CATALOG

TORCH HANDLES

21

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** is a joining process in which the base metal(s) 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.

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 NO.	MODEL NO.	COMPATIBLE MIXER(S) (PG. 82)	COMPATIBLE TIP TUBE(S) (PG. 124)	ACET/H ₂ (SIZE) (PG. 122)	ALT. FUEL (SIZE) (PG. 126)	ACET/H ₂ (PG. 132)	ALT. FUEL (PG. 129)
		 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)
		E3-43	-	23A90 (13+15)	-	J-43-5	-
		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 NO.	MODEL NO.	COMPATIBLE CUTTING ATTACHMENT (PG. 74)	CUTTING TIP STYLE (PG. 109)
		 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.



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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

Featured in Ironworker® and Ironworker® 2 kits



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

WELDING/BRAZING/HEATING		MIXERS	TIP TUBE	WELDING/BRAZING TIP STYLE		HEATING TIP STYLE	
PART NO.	Model NO.	COMPATIBLE MIXER(S) (PG. 82)	COMPATIBLE TIP TUBE(S) (PG. 124)	ACET/H ₂ (SIZE) (PG. 122)	ALT. FUEL (SIZE) (PG. 126)	ACET/H ₂ (PG. 132)	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 NO.	Model NO.	COMPATIBLE CUTTING ATTACHMENT (PG. 77)	CUTTING TIP STYLE (PG. 111)
		 VH24	 V1-101
1400422	VH31	VH24	V-101, V-101AC
Example of Cutting Combination: VH31+VH24+ V1-101			

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 1/2"/12.7mm; cuts to 5"/127.0mm

Length: 8 1/2"/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 NO.	MODEL NO.	COMPATIBLE MIXER(S) (PG. 85)	COMPATIBLE TIP TUBE(S) (PG. 124)	ACET/H ₂ (SIZE) (PG. 122)	ALT. FUEL (SIZE) (PG. 126)	ACET/H ₂ (PG. 132)	ALT. FUEL (PG. 124)
		 D-85	 8593	 23A90	 1390-N	 J-63	 1390-B
1401340	85	D-85 D-85	— 8593	23A90 (0-10) 1390 (0-10)	— 1390-N (4-10)	J-63 (1&2) 1390 (HA)	— 1390 (B&H)

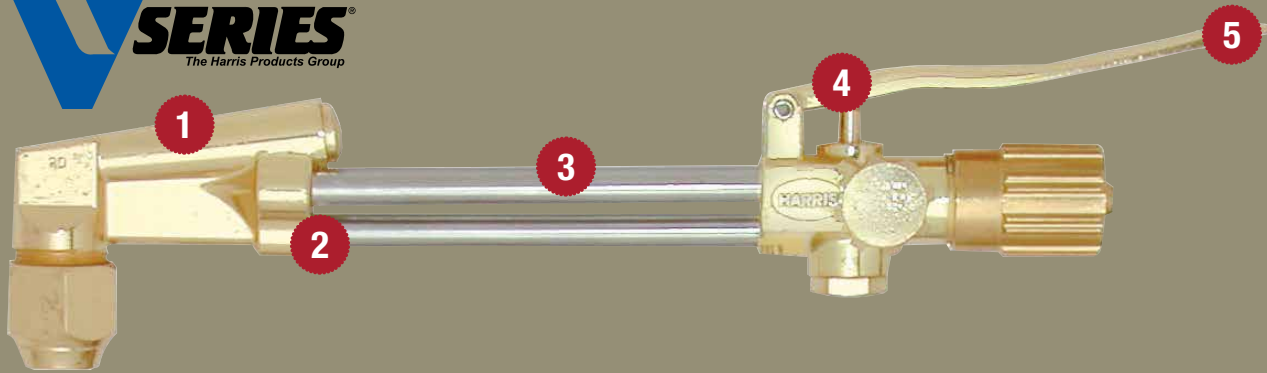
Example of Welding Combination: 85 + D-85 + 23A90

CUTTING			
PART NO.	MODEL NO.	COMPATIBLE CUTTING ATTACHMENT (PG. 76)	CUTTING TIP STYLE (PG. 109)
		 72-3	 6290
1401340	85	72-3 39-3F*	6290, 6290S, 6290AC, 6290NX, NXP, NXM, & NFF 6290 NX, NXP, NXM & NFF

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

*For alternate fuels only.

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.

n Harris V-Series® handles feature Harris flashguard replaceable check valves

n 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

n Harris V-Series® welding and brazing mixers are compatible with high-performance Harris welding, brazing and heating tips

VH10

MODEL

1YR
WARRANTY

VICTOR® COMPATIBLE COMBINATION HANDLE

MODEL SHOWN:
VH10

DESCRIPTION

The Model VH10 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 a tube within a tube construction. With threaded connections and o-ring seals. The VH10 is equipped with easy to replace Harris Flash-Guard® high capacity check valves.

DETAILS

Capacity:

Welds to 1/2"/12.7mm; cuts to 5"/127.0mm

Length: 8 3/4"/222.2 mm







Weight: 1 lb./0.45 kg.

Equipped with: FlashGuard® check valves



Featured in Ironworker®

V SERIES® VMD kits



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. 124)	ACET/H ₂ (SIZE) (PG. 122)	ALT. FUEL (SIZE) (PG. 126)	ACET/H ₂ (PG. 132)	ALT. FUEL (PG. 124)
		 V-W-1	 8593	 23A90	 1390-N	 J-63-1	 1390-B
1400424	VH10	V-W-1 V-W-1	— 8593	23A90 (0-10) 1390 (0-10)	— 1390-N (4-10)	J-63 (1 & 2) 1390 (HA)	— 1390 (B&H)

Example of Heating Combination: VH10 + V-W-1 + J-63

CUTTING			
PART #	MODEL #	COMPATIBLE CUTTING ATTACHMENT (PG. 76)	CUTTING TIP STYLE (PG. 114)
		 VH13	 V3-101
1400424	VH10	VH13	V3-101, 3-GPN, 3-GPP

Example of Cutting Combination: VH10 + VH13 + V3-101



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.



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QUICK SELECTION GUIDE

HEAVY DUTY



73-3 MODEL
ALL FUELS
p.31



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

MEDIUM DUTY



<p>39-3F MODEL ALTERNATE FUEL INJECTOR p.31</p>	<p>72-3 MODEL ALL FUELS p.32</p>	<p>VH24 MODEL VICTOR COMPATIBLE ALL FUEL p.32</p>	<p>VH13 MODEL VICTOR COMPATIBLE ALL FUEL p.33</p>
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2020 EDUCATION & UNION PRODUCT CATALOG



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**

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: 9½"/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 NO.	MODEL NO.	HEAD ANGLE	COMPATIBLE HANDLES	ACET/H ₂	ALTERNATE* FUEL
1300340	73-3	90°	43-2, 18-5	6290, 6290AC, 6290S	6290-NX, NXP, & NFF

*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: 4"/152.4mm

Duty: Medium

Length: 10¼"/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 NO.	MODEL NO.	HEAD ANGLE	COMPATIBLE HANDLE	ALTERNATE* FUEL
1300405	39-3F	90°	85	6290NX, 6290NXP, 6290NFF

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



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PRODUCT CATALOG

CUTTING ATTACHMENTS

31

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: Cuts to 5"/127.0mm

Duty: Medium

Length: 9½"/241.3mm

Weight: 1.5 lbs./0.68 kg.

Mixer Type: Equal pressure

Certification: UL® listed

Where Used: Construction, maintenance, agriculture

Related Equipment:

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

Featured in Classic Steelworker® and Expert® kits



PART NO.	MODEL NO.	HEAD ANGLE	COMPATIBLE HANDLES	TIP STYLES	
				ACETYLENE / H ₂	ALTERNATE* FUEL
1300380	72-3	90°	85	6290, 6290AC, 6290S	6290-NX, NXP, NFF

*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



PART NO.	Model NO.	HEAD ANGLE	COMPATIBLE HANDLES	TIP STYLES	
				ACETYLENE / H ₂	ALTERNATE* FUEL
1300452	VH24	90°	VH31	V-101, V-101AC	1-GPN, GPP

*Propylene or propane-based fuels and natural gas.

VH13

MODEL

1YR
WARRANTY

VICTOR® COMPATIBLE CUTTING ATTACHMENT

MODEL SHOWN:
VH13

DESCRIPTION

The Model VH13 is a Victor® compatible medium duty cutting attachment. It is equipped with a durable stainless steel lever, an in-tube mixer, and threaded connections for easy repair.

DETAILS

Capacity: Cuts to 4" / 101.6 mm

Duty: Medium

Length: 8" / 203.2mm

Weight: .896 lbs./0.41 kg.

Mixer Type: Equal pressure

Where Used: Construction,
maintenance, agriculture

Featured in Ironworker® V SERIES® kits



				TIP STYLES	
PART NO.	MODEL NO.	HEAD ANGLE	COMPATIBLE HANDLES	ACETYLENE / H ₂	ALTERNATE* FUEL
1300048	VH13	90°	VH10	V3-101	3-GPN, 3-GPP

*Propylene or propane-based fuels and natural gas.





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



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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.



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QUICK SELECTION GUIDE

HEAVY DUTY

		
E-43 MODEL EQUAL PRESSURE p.38	V-W MODEL HEAVY DUTY V-SERIES® p.38	E2-43 MODEL HIGH FLOW EQUAL PRESSURE p.39

MEDIUM DUTY

	
D-85 MODEL EQUAL PRESSURE p.39	V-W-1 MODEL MEDIUM DUTY V-SERIES® p.40



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.



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MIXERS

37

E-43

MODEL

1YR
WARRANTY

HEAVY DUTY EQUAL PRESSURE MIXER

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:

Welds to 1/2"/12.7mm;
Heats to 100,000 BTU

Duty: Heavy

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

Certification: UL® listed

Where Used: Metal fabrication,
maintenance

Featured in Pipeliner® Classic kits



PART NO.	MODEL NO.	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIPS (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 MIXER

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:

Welds to 1/2"/12.7mm;
Heats to 100,000 BTU

Duty: Heavy

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 NO.	MODEL NO.	COMPATIBLE HANDLE(S)*	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIPS (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 MIXER

MODEL SHOWN:
E2-43

DESCRIPTION

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

DETAILS

Capacity:

Welds to 1 1/2" 25.4mm;
Heats to 590,000 BTU

Duty: Light to medium

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

Certification: UL® listed

Where Used: Metal fabrication,
shipbuilding, etc.



PART NO.	MODEL NO.	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIPS (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)

D-85

MODEL
1YR
WARRANTY

MEDIUM DUTY EQUAL PRESSURE MIXER

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:

Welds to 1/2" 12.7mm;
Heats to 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 NO.	MODEL NO.	COMPATIBLE HANDLE(S)	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIPS (SIZES)
9100614	D-85	85	-	23A90 (0-10)	-	J-16 (1 & 2)	-
		85	8593	1390 (0-10)	1390-N (2-10)	-	1390 (B&H)

V-W-1

MODEL

1YR
WARRANTY

MEDIUM DUTY EQUAL PRESSURE MIXER

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:

Welds to 1/2" / 12.7mm
Heats to 100,000 BTU

Duty: Medium

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

Where Used: Metal fabrication,
maintenance, etc.

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



PART NO.	MODEL NO.	COMPATIBLE HANDLE(S)*	TIP TUBE MODEL NO.	ACETYLENE BRAZING/WELDING TIPS (SIZES)	ALTERNATE FUEL BRAZING TIPS (SIZES)	ACETYLENE HEATING TIPS (SIZES)	ALTERNATE FUEL HEATING TIPS (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.

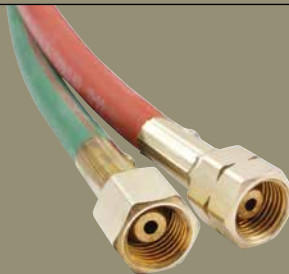
WHAT ARE THE THREAD SIZES FOR THE MOST COMMON HOSE CONNECTIONS?

"A" HOSE CONNECTION



HVAC/R or Plumbing Applications
3/8" - 24

"B" HOSE CONNECTION



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

"C" HOSE CONNECTION



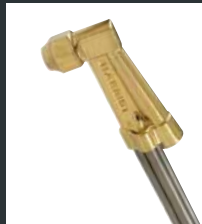
Station Regulators
High-Flow Torch Applications
7/8" - 14



CHANGING TO ALTERNATE FUELS

GET THE RIGHT TORCH

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

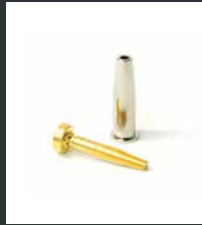


1

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".

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QUICK SELECTION GUIDE

MEDIUM DUTY



42-4E
MODEL

MEDIUM DUTY
ALL FUELS
p.45



42-4F
MODEL

MEDIUM DUTY
ALTERNATE FUEL
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V42-4E
MODEL

VICTOR COMPATIBLE
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HEAVY DUTY



62-5E
MODEL

HEAVY DUTY
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62-5F
MODEL

HEAVY DUTY
ALTERNATE FUEL
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V-62-5F
MODEL

VICTOR COMPATIBLE
ALTERNATE FUEL
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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.



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GRADE EQUIPMENT**

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

WWW.HARRISPRODUCTSGROUP.COM

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

Duty: Medium

Mixer Type: Equal or positive pressure

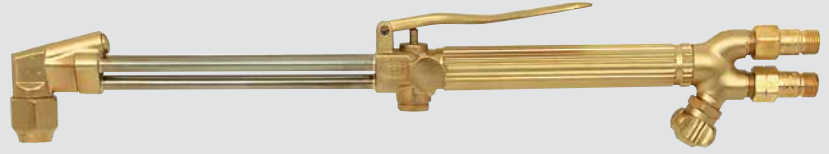
Lengths: 17" and 20"

Certifications: UL® listed

Where Used: Fabrication, maintenance

Related Items: Flashback arrestors
P/N: 4302202

Equipped with: FlashGuard® check valves



PART NO.	MODEL NO.	HEAD ANGLE	LENGTH	WEIGHT	TIP STYLES
1001204	42-4E	90°	17" / 431.8 mm	2.4 lbs. / 1.1 kg.	6290, 6290AC, 6290S, 6290NX, 6290NXP, 6290NFF
1001218	42-4EL-20	90°	20" / 508.0 mm	2.5 lbs. / 1.2 kg.	

42-4F

MODEL

1YR
WARRANTY

MEDIUM DUTY CUTTING TORCH FOR USE 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

Duty: Medium

Mixer Type: Injector

Lengths: 17" and 20"

Certifications: UL® listed

Where Used: Fabrication, maintenance

Related Items: Flashback Arrestors
P/N: 4302202

Equipped with: FlashGuard® check valves



PART NO.	MODEL NO.	HEAD ANGLE	LENGTH	WEIGHT	TIP STYLES
1001210	42-4F	90°	17" / 431.8 mm	2.4 lbs. / 1.1 kg.	6290 NX
1001212	42-4AF	70°	17" / 431.8 mm	2.4 lbs. / 1.1 kg.	6290 NXP
1001214	42-4FL	90°	20" / 508 mm	2.5 lbs. / 1.2 kg.	6290 NFF

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

V42-4E

MODEL

1YR
WARRANTY

VICTOR® COMPATIBLE CUTTING TORCH FOR USE WITH ALL FUEL GASES

MODEL SHOWN:
V42-4EL

DESCRIPTION

The Model V42-4E is a medium duty, Victor® compatible straight cutting torch designed to use all fuel gases. The 42-4E has a solid forged head, brazed triangular tubes and a flip up solid forged brass cutting lever. Also features visible, easily replaceable, external FlashGuard® flashback arrestors.



DETAILS

Capacity: 6"/152.4mm

Duty: Medium

Mixer Type: Equal or positive pressure

Lengths: 20"

Where Used: Fabrication, maintenance, etc.

Related Items: FlashGuard® check valves

Cutting Tip Style: Victor®

Equipped with:

Flashback arrestors P/N: 4302202

PART NO.	MODEL NO.	HEAD ANGLE	LENGTH	WEIGHT	TIP STYLES	
					ACETYLENE	ALT. FUELS
1001263	V42-4 EL	90°	20" / 508.0 mm	2.5 lbs. / 1.13 kg.	V-101 V-101AC	1-GPN GPP

Victor® Is a registered trademark of ESAB.

62-5E

MODEL

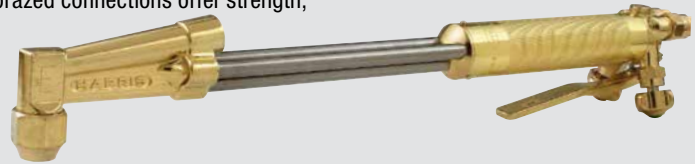
1YR
WARRANTY

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

Duty: Heavy

Mixer Type: Equal pressure

Lengths: 18", 21", 36"*

Certifications: UL® listed

Where Used: Fabrication, demolition, etc.

Cutting Tip Style: Harris 6290

Related Items: Flashback arrestors

P/N: 4302202, 9302202

Equipped with:

FlashGuard® check valves

Featured in Harris Classic and HardHat™ Cutter Pac®

PART NO.	MODEL NO.	HEAD ANGLE	LENGTH*	WEIGHT	**TIP STYLES
1003350	62-5AE	70°	18" / 457.2 mm	3 lbs. / 1.3 kg.	6290
1003430	62-5E	90°	18" / 457.2 mm	3 lbs. / 1.3 kg.	6290 AC 6290 NX
1003351	62-5AEL	70°	36" / 914.4 mm	4.5 lbs. / 2.1 kg.	6290 NXP
1003441	62-5EL	90°	36" / 914.4 mm	4.5 lbs. / 2.1 kg.	6290 NFF
1003440	62-5EL	90°	21" / 533.4 mm	3.1 lbs. / 1.4 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

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

Duty: Heavy

Mixer Type: Injector

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

Certifications: UL® listed

Where Used: Fabrication,
shipbuilding, maintenance

Related Items:

Flashback arrestor

P/N: 4302202

Slitting skid P/N: QC1HZSTK5

70°/90° Skid P/N: QC1HZSTK2

Equipped with:

FlashGuard® check valves

Featured in Classic and HardHat™

Cutter Pac®

PART NO.	MODEL NO.	HEAD ANGLE	LENGTH**	WEIGHT	TIP STYLES
1003360	62-5AF	70°	18" / 457.2 mm	3 lbs. / 1.3 kg.	6290 NX 6290 NXP 6290 NFF Alternate Fuel Specialty Tips
1003450	62-5F	90°	18" / 457.2 mm	3 lbs. / 1.3 kg.	
1003370	62-5AFL	70°	21" / 533.4 mm	3.1 lbs. / 1.4 kg.	
1003470	62-5FL	90°	21" / 533.4 mm	3.1 lbs. / 1.4 kg.	
1003400	62-5AFL	70°	36" / 914.4 mm	3.8 lbs. / 1.7 kg.	
1003480	62-5FL	90°	36" / 914.4 mm	3.8 lbs. / 1.7 kg.	
1003426	62-5BFL	180°	36" / 914.4 mm	3.8 lbs. / 1.7 kg.	
1003411	62-5AFL	70°	48" / 1219.2 mm	4.4 lbs. / 1.9 kg.	
1003481	62-5FL	90°	48" / 1219.2 mm	4.4 lbs. / 1.9 kg.	
1003421	62-5BFL	180°	48" / 1219.2 mm	4.4 lbs. / 1.9 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



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ELECTRIC

2020 EDUCATION & UNION
PRODUCT CATALOG

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

Duty: Heavy

Mixer Type: Injector

Lengths: 21" & 36" **

Certifications: UL® listed

Where Used: Fabrication, shipbuilding, maintenance

Related Items:

Flashback arrestor

P/N: 4302202

Slitting skid P/N: QC1HZSTK5

70°/90° Skid P/N: QC1HZSTK2

Equipped with:

FlashGuard® check valves



PART NO.	MODEL NO.	HEAD ANGLE	LENGTH*	WEIGHT	TIP STYLES
1003261	V-62-5FL	90°/VICTOR® STYLE	21" / 533.4 mm	3.7 lbs. / 1.7 kg.	1-GPP, 1-GPN (000 THRU 6)

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

NEED HELP SETTING UP A PROPER FLAME

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MACHINE CUTTING TORCHES




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QUICK SELECTION GUIDE

MACHINE CUTTING TORCHES			
	98-6F MODEL	98-6E MODEL	622 MODEL
	HEAVY DUTY, ALTERNATE FUEL p.51	HEAVY DUTY, ACETYLENE p.51	TRAKMAX™ PORTABLE CUTTING AND WELDING TRACTOR



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98-6F

MODEL



ALTERNATE FUEL MACHINE CUTTING TORCH

MODEL SHOWN:
98-6TAFR-32

DESCRIPTION

The Model 98-6F machine cutting torch features a "F" or low pressure type injector mixer 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 13/8" with a 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 three-hose valveless design for pipe beveling and multiple torch beveling.

DETAILS

Capacity: 2 hose - 8", 3 hose - 15"

Mixer Type: "F" or low pressure injector

Duty: Heavy

Length: 10", 18" and 5 1/2"

Certifications: UL® listed

Where used: Straight and contour machine cutting

Related items:

BV-98-2 P/N: 1200124

S-98-C P/N: 1200080

TH-98 P/N: 1200090



PART NO.	MODEL NO.	STYLE	CUTTING VALVE TYPE	BARREL LENGTH	WEIGHT (LBS.)	RECOMMENDED TIP STYLES	
						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

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

98-6E

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"

Mixer Type: "E" or positive pressure

Duty: Heavy

Length: 10"-18"

Certifications: UL® listed

Where used: Straight and contour cutting

Related items:

S-98-C - P/N: 1200080

TH-98 - P/N: 1200090



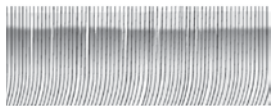










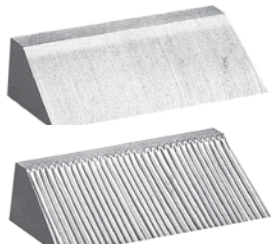
PART NO.	MODEL NO.	STYLE	CUTTING VALVE TYPE	BARREL LENGTH	WEIGHT (LBS.)	RECOMMENDED TIP STYLES	
						ACETYLENE-H ₂	ALTERNATE FUELS*
1101425	98-6ER-32	2 Hose	Lever	10"	3.3	6290	6290 VVC
1101435	98-6TER-32	3 Hose	Knob	10"	3.3	6290AC	6290 VVCM
1101445	98-6TAER-32	3 Hose	Knob	18"	4.2	6290S	6290 VVCP 6290 VVCU

*Recommended for Acetylene.



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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>

622

MODEL



TRAKMAX™ TRACTOR

MODEL SHOWN:
QC2SCM2504

DESCRIPTION

The Trakmax™ features all metal construction including steel, aluminum, brass, and stainless steel. It has a welded steel, uni-body construction and a frame that is integral to the design of the machine. Its stainless steel drive wheels and casters are corrosion and abrasion resistant resulting in longer lasting wheels. The large diameter drive wheels are knurled for positive traction. The caster wheels can be locked into position in-line with the drive wheels for track free straight line cutting or left free wheeling for circles.

DETAILS

Cutting Capacity: 30" / 762 mm*
(with appropriate torch equipment)
Weight: 32 lbs/ 14.5 kg. (Tractor Only)
Length: 15" / 381 mm
Height: 6 3/8" / 161.92 mm
Width: 7 1/4" / 184.15 mm
Circle Cutting Range: 2 - 96" / 50.8 - 1371.6 mm with optional radius rod kit
P/N QC25CM2710

Where used:

Straight, square, bevel & circle cutting
plasma cutting, and welding

Related items:

BV-98-2 P/N: 1200124
S-98-C P/N: 1200080
TH-98 P/N: 1200090
See more accessories P.XX



Shown with Model 98 Torch
S-98-C and tip - (not included)

PART#	WEIGHT LBS. (KG)	CARRYING LOAD MAXIMUM LBS.	SPEED RANGE IPM	POWER REQUIREMENTS	STANDARD PACKAGE
QC2SCM1000	32lbs. (14.5 kg) (Without Rigging or torch)	500	*0-40/0-110	120 VAC, 1 AMP (Maximum) 50/60 HZ, 1PH	Portable track machine
QC2SCM2500	32lbs. (14.5 kg) (Without Rigging or torch)	500	*0-40/0-110	120 VAC, 1 AMP (Maximum) 50/60 HZ, 1PH	Includes portable track machine and standard rigging kit (cross slide & 24" gear rack, torch holder, connecting block, 3' hose set, flip style hose block)
QC2SCM2502	32lbs. (14.5 kg) (Without Rigging or torch)	500	*0-40/0-110	120 VAC, 1 AMP (Maximum) 50/60 HZ, 1PH	Includes portable track machine and standard rigging kit (cross slide & 24" gear rack, torch holder, connecting block, 3' hose set, flip style hose block) and 6' track
QC2SCM2503	32lbs. (14.5 kg) (Without Rigging or torch)	500	*0-40/0-110	120 VAC, 1 AMP (Maximum) 50/60 HZ, 1PH	Includes portable track machine and standard rigging kit (cross slide & 24" gear rack, torch holder, connecting block, 3' hose set, flip style hose block), 6' track and 98-6ER-32 machine torch
QC2SCM2504	32lbs. (14.5 kg) (Without Rigging or torch)	500	*0-40/0-110	120 VAC, 1 AMP (Maximum) 50/60 HZ, 1PH	Includes portable track machine and standard rigging kit (cross slide & 24" gear rack, torch holder, connecting block, 3' hose set, flip style hose block), 6' track and 98-6FR-32 machine torch
QC2SCM2505	32lbs. (14.5 kg) (Without Rigging or torch)	500	*0-40/0-110	120 VAC, 1 AMP (Maximum) 50/60 HZ, 1PH	Includes portable track machine, welding/plasma rigging kit (cross slide & 24" gear rack, welding/plasma holder, connecting block (staggered), extension block (4" - 3/4" F x 3/4" M) and 6ft track, cable guide clamp and torch holder

* High/low range

(Torch packages do not include tips.)



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TIPS




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QUICK SELECTION GUIDE

ACETYLENE HAND CUTTING TIPS




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ONE-PIECE GENERAL PREHEAT
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ALTERNATE FUEL HAND CUTTING TIPS



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V-SERIES® CUTTING TIPS



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ALTERNATE FUEL HAND CUTTING TIPS



6290-NXP MODEL
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ALTERNATE FUEL MACHINE CUTTING TIPS



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PREMIUM NAT. GAS/PROPANE HIGH SPEED TIP
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WELDING AND BRAZING TIPS



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ALTERNATE FUEL MACHINE CUTTING TIPS




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8090 MODEL
NATURAL GAS/PROPANE HEAVY MACHING CUTTING
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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 NO.	SIZE	DEPTH OF CUT	O ₂ PSIG	TOTAL O ₂ SCFH	ACETYLENE FUEL PSIG	FUEL SCFH	CUTTING DRILL SIZE
1500810	000	Light gauge to 3/16"	15 - 20	35 - 40	5 - 15	10 - 15	NO. 68
1500820	00	3/16" - 3/8"	20 - 25	45 - 50	5 - 15	10 - 15	NO. 64
1500830	0	3/8" - 5/8"	35 - 40	45 - 50	5 - 15	10 - 15	NO. 60
1500840	1	5/8" - 1"	35 - 40	100 - 110	5 - 15	15 - 25	NO. 56
1500850	2	1" - 2"	40 - 45	180 - 195	10 - 15	20 - 30	NO. 52
1500860	3	2" - 3"	45 - 50	270 - 290	10 - 15	20 - 35	NO. 48

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

6290 NX

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 NO.	MODEL NO.	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG		FUEL SCFH	CUTTING DRILL SIZE
					EQUAL	INJECTOR OR LOW		
1501200	000NX	LIGHT GAUGE 3/16"	10 - 30	50 - 60	5 - 15	4 oz. - 2 lbs.	7.5	NO. 68
1501210	00NX	3/16" - 3/8"	20 - 30	65 - 75	5 - 15	4 oz. - 2 lbs.	7.5	NO. 64
1501220	0NX	3/8" - 5/8"	20 - 30	85 - 100	5 - 15	4 oz. - 2 lbs.	7.5	NO. 60
1501230	1NX	5/8" - 1"	35 - 50	100 - 135	5 - 15	4 oz. - 2 lbs.	8.7	NO. 56
1501240	2NX	1" - 2"	40 - 55	200 - 250	5 - 15	4 oz. - 2 lbs.	10	NO. 52
1501250	3NX	2" - 3"	45 - 60	290 - 365	5 - 15	4 oz. - 2 lbs.	10	NO. 48

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 NO.	MODEL NO.	DEPTH OF CUT	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG*		FUEL SCFH	CUTTING DRILL SIZE
					EQUAL	INJECTOR		
1502150	00NXP	LIGHT GAUGE - 3/16"	15 - 30	20 - 30	5 - 15	4 oz. - 2 lbs.	11.5	NO. 68
1502152	00NXP	3/16" - 3/8"	20 - 30	30 - 40	5 - 15	4 oz. - 2 lbs.	11.5	NO. 64
1502154	ONXP	3/8" - 5/8"	30 - 40	50 - 65	5 - 15	4 oz. - 2 lbs.	11.5	NO. 60
1502156	1NXP	5/8" - 1"	35 - 50	75 - 100	5 - 15	4 oz. - 2 lbs.	11.5	NO. 56
1502158	2NXP	1" - 2"	40 - 55	160 - 210	5 - 15	4 oz. - 2 lbs.	11.5	NO. 52
1502160	3NXP	2" - 3"	45 - 60	250 - 325	5 - 15	4 oz. - 2 lbs.	11.5	NO. 48

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

V1-101

MODEL

**V-SERIES® GENERAL PREHEAT ACETYLENE SINGLE PIECE 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



PART NO.	TIP SIZE	DEPTH OF CUT	OPERATING PRESSURES		CUTTING DRILL SIZE
			OXYGEN PSIG	ACETYLENE PSIG	
1502088	000	LIGHT GAUGE to 1/8"	20-30	5	NO.70
1502089	00	1/8" - 5/16"	20-30	5	NO.69
1502090	0	5/16" - 5/8"	30-40	7	NO.61
1502091	1	5/8" - 1"	40-50	7	NO.56
1502092	2	1" - 2"	45-55	8	NO.53
1502093	3	2" - 3"	50-60	9	NO.50

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

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PRODUCT CATALOG

TIPS

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V3-101

MODEL



V-SERIES® 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



PART NO.	TIP SIZE NO.	DEPTH OF CUT	OPERATING PRESSURES		CUTTING DRILL SIZE
			OXYGEN PSIG	ACETYLENE PSIG	
1502080	000	LIGHT GAUGE to 1/8"	20-30	5	NO.70
1502081	00	1/8" - 5/16"	20-30	5	NO.69
1502082	0	5/16" - 3/8"	30-40	7	NO.61
1502083	1	3/8" - 1"	40-50	7	NO.56
1502084	2	1" - 2"	45-55	8	NO.53
1502085	3	2" - 3"	50-60	9	NO.50

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

VVC 6290

MODEL



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 NO.	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						
1501330	3/0	3/8	18	75	35	10	4 oz. - 2	80	20 - 35	7	18	.07
1501340	2/0	1/2	18	75	35	10	4 oz. - 2	90	25 - 35	7	18	.07
1501350	0	3/4	15	90	35	10	4 oz. - 2	125	25 - 35	7	18	.08
1501360	0 1/2	1 1/4	14	100	35	12	4 oz. - 2	170	25 - 40	8	20	.09
1501370	1	2	13	100	35	12	4 oz. - 2	200	25 - 40	8	20	.11
1501380	1 1/2	3	9	100	35	12	4 oz. - 2	250	25 - 40	8	20	.12

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.

* NH Tips are not plated

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 NO.	TIP SIZE NO.	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.
1502204	3/0	3/8	18	75	25	8	4 oz - 2	80	32	13	.08
1502206	2/0	1/2	18	90	25	8	4 oz - 2	90	32	13	.07
1502208	0	3/4	15	100	25	8	4 oz - 2	125	32	13	.08
1502210	0 - 1/2	1 1/4	14	100	25	8	4 oz - 2	170	32	13	.08
1502212	1	2	13	100	25	10	4 oz - 2	200	40	16	.09
1502214	1 1/2	3	9	100	25	10	4 oz - 2	250	40	16	.11

NOTES:

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

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



23/64" - 26

PART NO.	TIP SIZE NO.	METAL THICKNESS INCHES	EQUAL PRESSURE		ACETYLENE SCFH *	RECOMMENDED HOSE ID **	TIP THREAD
			OXYGEN PSIG	ACETYLENE PSIG			
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

* 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 1/8th acetylene rule when determining gas supply.

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.



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

FUEL PSIG

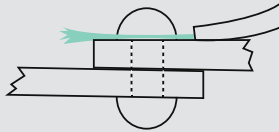
PART NO.	MODEL NO.	APPLICATION	O ₂ PSIG	O ₂ FLOW SCFH	FUEL PSIG	
					EQUAL PRESSURE	INJECTOR
PROPANE GOUGING TIPS		GOUGE SIZE				
1500940	6290-1GG	1/8" - 1/4" WIDE	35	-	5 - 15	4 oz. 2 lbs. PRESSURE
1500950	6290-2GG	3/8" - 3/8" WIDE	50	-	5 - 15	4 oz. 2 lbs. PRESSURE
1500960	6290-3GG	1/4" - 1/2" WIDE	50	-	5 - 15	4 oz. 2 lbs. PRESSURE

For maximum performance use straight torch
NOT FOR USE WITH ACETYLENE

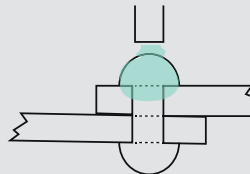
* Fuel SCFH - Oxy: Fuel ratio at neutral should be - Natural Gas 1.5:1, Propane 3.7:1, Propylene: 2.6:1

CUTTING WASHING GOUGING

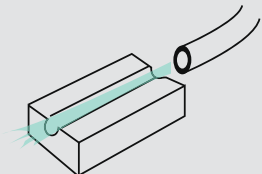
RIVET CUTTING



RIVET WASHING



GOUGING



KITS

WHAT'S YOUR STYLE?

HARRIS OFFERS THREE STYLES OF KITS.

Harris Combination Kits are equipped with a handle, cutting attachment, welding/brazing mixer and cylinder regulators. These kits contain all the basic equipment necessary to cut, weld/braze and heat. Choose kits with or without accessories such as hose, striker, goggles/glasses, tool bag, etc. Deluxe kits include a selection of welding/brazing tips and "Plus" kits include a multi-flame heating tip. Combination kits are available for use with acetylene specific, all gases or alternate fuels (LPG). Alternate fuel combination kits generally do not include a welding/brazing mixer or tips. These kits are available in both Harris® "Classic" and "V"-Series® designs.

Cutter Pac® Kits are equipped with a straight cutting torch and cylinder regulators. The Cutter Pac® kits are specifically for cutting and specialty cutting/heating applications. Order the Cutter Pac® Kits by specific gas type (acetylene, propane, propylene, LPG, or all fuel gases). These kits are available in both Harris® "Classic" and "V"-Series® designs.

Port-A-Torch® Kits are generally combination-style kits including a cylinder tote putting an emphasis on portability and convenience. All Port-A-Torch® Kits come equipped with torch handle, cutting attachment, mixer, regulators, hose and other accessories including cutting and welding tips. They can be ordered with or without cylinders.



CLASSIC

COMBINATION PIPELINER®
ALL FUELS/ACETYLENE

MODEL



COMBINATION KITS-ALL FUEL GASES

MODEL SHOWN:
43425-510 DXL

DESCRIPTION

This combination Pipeliner® Classic standard kit contains all the major components needed for cutting, welding, brazing and heating using all fuel gases. As supplied, the outfit is capable of cutting up to a 1" plate and welding up to a 1/8" plate. The outfit can also cut up to a 5" plate and weld up to a 1" plate with optional larger tips.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 5" (127.0mm) plate with larger tips.

Welds to 1/8" (3.2mm) plate with supplied tips. Welds to 1" (25.4mm) plate with larger tips.

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

Mixer Type: Equal pressure

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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.

COMBINATION KITS-ALL FUEL GASES

MODEL SHOWN:
8525GX-300 DXL

CLASSIC

COMBINATION STEELWORKER®
ALL FUELS/ACETYLENE

MODEL



DESCRIPTION

This combination Steelworker® Classic deluxe kit contains all the major components needed for cutting, welding, brazing and heating using all fuel gases. As supplied, the outfit is capable of cutting up to a 1" plate and welding up to a 1/8" plate. The outfit can also cut up to a 5" plate and weld up to a 1/2" plate with optional larger tips.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 5" (127.0mm) plate with larger tips.

Welds to 1/8" (3.2mm) plate with supplied tips. Welds to 1" (25.4mm) plate with larger tips.

Duty: Medium

Gauges: 2.5" Steel

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

Mixer Type: Injector

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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		
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.

CLASSIC

COMBINATION PIPELINER®
ALTERNATE FUELS/PROPANE

MODEL

1YR
WARRANTY



COMBINATION KITS-ALTERNATE FUEL GASES

MODEL SHOWN:
43425F-510P DXL

DESCRIPTION

This combination Pipeliner® Classic deluxe kit contains all the major components needed for cutting, welding, brazing and heating using alternate fuels/propane. With supplied propane tip, this outfit is capable of cutting up to a 1" plate. The outfit can also cut up to a 5" plate with optional larger tips.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 5" (127.0mm) plate with larger tips.

Duty: Heavy

Gauges: 2.5" Brass

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

Mixer Type: Equal pressure

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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 	<ul style="list-style-type: none"> Striker Tool Bag Tip 	15.8s. / 7.08 kg.

CLASSIC

COMBINATION STEELWORKER®
ALTERNATE FUELS/PROPANE

MODEL

1YR
WARRANTY



COMBINATION KITS-ALTERNATE FUEL GASES

MODEL SHOWN:
8525FGX-510P DLX

DESCRIPTION

This combination Pipeliner® Classic deluxe kit contains all the major components needed for cutting using alternate fuels/propane. With supplied propane tip, this outfit is capable of cutting up to a 1" plate. The outfit can also cut up to a 4" plate with optional larger tips.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 4" (101.6mm) plate with larger tips.

Duty: Medium

Gauges: 2.5" Steel

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

Mixer Type: Equal pressure

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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 	<ul style="list-style-type: none"> Striker Tool Bag 	14.7 lbs. / 2.13 kg.

*Supplied with Propane/Natural Gas or Propylene tips.

CLASSIC

COMBINATION PIPELINER®
ALTERNATE FUELS/PROPYLENE

MODEL



COMBINATION KITS-ALTERNATE FUEL GASES

MODEL SHOWN:
43425F-510P DLX

DESCRIPTION

This combination Pipeliner® Classic deluxe kit contains all the major components needed for cutting using alternate fuels/ propane. With supplied propylene tip, this outfit is capable of cutting up to a 1" plate. The outfit can also cut up to a 5" plate with optional larger tips.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 5" (127.0mm) plate with larger tips.

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

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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 	<ul style="list-style-type: none"> Striker Tool Bag 	20 lbs./ 9.07 kg.

*Supplied with Propane/Natural Gas or Propylene tips.

CLASSIC

COMBINATION STEELWORKER®
ALL FUELS/PROPYLENE

MODEL



COMBINATION KITS-ALTERNATE FUEL GASES

MODEL SHOWN:
8525FGX-510P DLX

DESCRIPTION

This combination Pipeliner® Classic deluxe kit contains all the major components needed for cutting using alternate fuels/ propane. With supplied propylene tip, this outfit is capable of cutting up to a 1" plate. The outfit can also cut up to a 4" plate with optional larger tips.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 4" (101.6mm) plate with larger tips..

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

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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 	<ul style="list-style-type: none"> Striker Tool Bag 	19 lbs./ 8.62 kg.

*Supplied with Propane/Natural Gas or Propylene tips.

PORT-A-TORCH®

**CLASSIC
PORT-A-TORCH®
WITH CYLINDERS**

MODEL



CLASSIC PORT-A-TORCH®

**MODEL SHOWN:
85601-200**

DESCRIPTION

This Classic Port-A-Torch® deluxe kit with cylinders 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 also cut up to a 4" plate and weld up to a 1/2" plate with optional larger tips and an acetylene cylinder.

DETAILS

Capacity: Cuts to 1" (25.4mm) with supplied tip(s). Cuts to 4" (101.6mm) with optional larger tip(s) and acetylene cylinder.

Welds to 1/16" (1.6mm) with supplied tip(s). Welds to 1/2" (12.7mm) with optional larger tip(s) and acetylene cylinder.

Duty: Light to Medium

Gauges: 50mm ABS plastic

Mixer Type: Equal pressure

Typical Application: HVAC, maintenance, hobby arts & crafts

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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 Acet. Cylinder Wrench 20 CU. Ft. O₂ Cylinder * 10 CU. FT. Acet. Cylinder * Tool Bag *Cylinders shipped empty 	38.0 lbs. / 17.24 kg.

**CLASSIC
PORT-A-TORCH®
WITHOUT CYLINDERS**

MODEL



CLASSIC PORT-A-TORCH®

**MODEL SHOWN:
85601-200**

DESCRIPTION

This Classic Port-A-Torch® deluxe kit without cylinders 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 also cut up to a 4" plate and weld up to a 1/2" plate with optional larger tips and an acetylene cylinder.

DETAILS

Capacity: Cuts to 1" (25.4mm) with supplied tip(s). Cuts to 4" (101.6mm) with optional larger tip(s) and acetylene cylinder.

Welds to 1/16" (1.6mm) with supplied tip(s). Welds to 1/2" (12.7mm) with optional larger tip(s) and acetylene cylinder.

Mixer Type: Equal pressure

Typical Application: HVAC, maintenance, hobby arts & crafts

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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 12' x 3/16" Hose Striker Acet. Cylinder Wrench 	16.0 lbs. / 7.26 kg.

**CLASSIC V SERIES
COMBINATION PIPELINER®
ALL FUELS/ACETYLENE**

MODEL



V-SERIES® COMBINATION KIT - ALL FUEL GASES

**MODEL SHOWN:
V-3152500-510 DLX**

DESCRIPTION

This Combination V-Series® Pipeliner® Deluxe All Gas/Acetylene Kit contains all the major components needed for cutting, welding and brazing.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 6" (152.4mm) plate with larger tips.

Welds to 1/8" (3.2mm) plate with supplied tips. Welds to 1" (25.4mm) plate with larger tips.

Duty: Heavy

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

Mixer Type: Equal pressure

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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	• Goggles • 20' x 1/4" Hose	• Striker • Tool Bag	13.36 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	• Goggles • Striker • 20' x 1/4" Hose	• Tool Bag • J-63-2 Heating Tip	19.86 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	• Goggles • Striker • 20' x 1/4" Hose	• Tool Bag • J-63-2 Heating Tip	19.86 lbs. / 6.17 kg.

**CLASSIC V SERIES
COMBINATION STEELWORKER®
ALL FUELS/ACETYLENE**

MODEL



V-SERIES® COMBINATION KIT - ALL FUEL GASES

**MODEL SHOWN:
V-100C25GX-300 DLX**

DESCRIPTION

This Combination V-Series® Steelworker® Deluxe All Gas/Acetylene Kit contains all the major components needed for cutting, welding and brazing.

DETAILS

Capacity: Cuts to 1" (25.4mm) plate with supplied tips. Cuts to 4" (101.6mm) plate with optional larger tips.

Welds to 1/8" (3.2mm) plate with supplied tips. Welds to 1/2" (12.7mm) plate with optional larger tips.

Duty: Medium

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

Mixer Type: Equal pressure

Handle equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator; 1 year - All other components



PART NO.	MODEL NO.	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-15-510	• Goggles • 20' x 1/4" 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 1/4" 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 1/4" Hose	• Striker • Tool Bag • J-63-2 Heating Tip	14.92 lbs. / 6.77 kg.

IRONWORKER® OUTFIT SERIES

All Harris® Ironworker® Kits feature a thermally insulated fabric tool bag that protects valuable equipment during storage and transportation. These kits are available in both Harris® “Classic” and “V”-Series® designs. Both designs are for use with acetylene for medium, heavy or extra-heavy duty applications. Harris’ “V”-Series equipment is compatible with original Victor® cutting attachments, combination handles and welding/brazing acetylene mixers. Harris “V”-Series® cutting attachments use Victor®-style seats and the “V”-Series® welding/brazing mixers use Harris®-style tips and tip tubes. All Harris® Ironworker® Combination Kits include a striker, goggles and 20’ R-Grade ¼” ID hose.

**IRONWORKER® CLASSIC
COMBINATION
ALL FUELS/ ACETYLENE
MODEL**

MEDIUM DUTY ACETYLENE OUTFITS

**MODEL SHOWN:
85801-510**

DESCRIPTION

The Harris HMD medium duty welding and cutting outfit features the new Model 801 regulators and Harris’ most popular combination torch handle and cutting attachment. The Model 801 regulators include one-piece encapsulated seats for longer service life, and a 7 year warranty. The Model 85 torch handle features twin-tube, silver-brazed connections for safety and durability when welding, brazing, cutting or heating with acetylene. It is equipped with FlashGuard® check valves. The Model 72-3 cutting attachment with brazed triangular stainless steel tubes makes it light in weight while providing exceptional strength and rigidity. 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: Cuts up to 5” plate with optional tips, welds to ½” plate with optional tips

Duty: Medium

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

Mixer Type: Equal pressure

Torch equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator
1 year - All other components



PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4400366	85801-510-DLX HMD	85	D-85	6290-1AC	72-3	23A90-5	801-145-540	801-15-510	<ul style="list-style-type: none"> • Goggles • Striker • 20' x ¼" Hose • Insulated tool bag 	12.3 lbs. / 5.6 kg.
4400369	85801-300 DLX HMD	85	D-85	6290-1AC	72-3	23A90-5	801-145-540	801-15-300	<ul style="list-style-type: none"> • Goggles • Striker • 20' x ¼" Hose • Insulated tool bag 	12.3 lbs. / 5.6 kg.

**IRONWORKER® CLASSIC
COMBINATION
ALL FUELS/ ACETYLENE
MODEL**

HEAVY DUTY ACETYLENE OUTFITS

**MODEL SHOWN:
8525GX-510**

DESCRIPTION

The Harris HHD heavy duty welding and cutting outfit features Harris' most popular regulators, combination torch handle and cutting attachment. The Model 25GX regulators include large, easy-to-read, 2 1/2" dual gauges, an ergonomic adjusting knob for precise pressure adjustments, one-piece encapsulated seats for longer service life, and a 7 year warranty. The Model 85 torch handle features twin-tube, silver-brazed connections for safety and durability when welding, brazing, cutting or heating with acetylene. It is equipped with FlashGuard® check valves. The Model 72-3 cutting attachment with brazed triangular stainless steel tubes makes it light in weight while providing exceptional strength and rigidity. 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: Cuts up to 5" plate with optional tips, welds to 1/2" plate with optional tips

Duty: Heavy

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

Mixer Type: Equal pressure

Torch equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator
1 year - All other components



PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4400367	8525GX-510-DLX HHD	85	D-85	6290-1AC	72-3	23A90-5	25GX-145-540	25GX-15-510	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	13.0 lbs. / 5.9 kg.
4400370	8525GX-300 DLX HHD	85	D-85	6290-1AC	72-3	23A90-5	25GX-145-540	25GX-15-300	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	13.0 lbs. / 5.9 kg.

EXTRA HEAVY DUTY ACETYLENE OUTFITS

**MODEL SHOWN:
43450-510**

**IRONWORKER® CLASSIC
COMBINATION
ALL FUELS/ ACETYLENE
MODEL**

DESCRIPTION

The Harris HXT is an extra-heavy duty welding and cutting outfit that includes Model 450 regulators, Model 43-2 combination torch handle and 73-3 cutting attachment. The industrial duty Model 450 regulator has many of the premium features found only in high priced regulators. Its stainless steel diaphragm and Harris' exclusive tamper-proof, self-seating safety relief device, makes it stand out for heavy duty welding applications. Model 43-2 features a stainless steel connection on the head to reduce galling and features tube-within-a-tube construction for use in the most severe applications. The Model 73-3 cutting attachment with brazed triangular stainless steel tubes makes it light in weight while providing exceptional strength and rigidity. 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: Cuts up to 6" plate with optional tips, welds to 1" plate with optional tips

Duty: Extra-heavy

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

Mixer Type: Equal pressure

Torch equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator
1 year - All other components



PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4400368	43450-510-DLX HXT	43-2	E-43	6290-1AC	73-3	23A90-5	450-125-540	450-15-510	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	17.6 lbs. / 8.0 kg.
4400371	43450-300 DLX HXT	43-2	E-43	6290-1AC	73-3	23A90-5	450-125-540	450-15-300	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	17.6 lbs. / 8.0 kg.



IRONWORKER® OUTFIT SERIES

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

**IRONWORKER® V SERIES
COMBINATION
ALL FUELS/ ACETYLENE
MODEL**

MEDIUM DUTY ACETYLENE OUTFITS

MODEL SHOWN:
VH10C-801-510 DLX

DESCRIPTION

The Harris VMD medium duty welding and cutting outfit features the new Model 801 regulators, VH10 combination torch handle and VH31 cutting attachment. The Model 801 regulators include one-piece encapsulated seats for longer service life, and a 7 year warranty. The Model VH10 torch handle features a tube within a tube construction. It is equipped with FlashGuard® check valves. The Model VH13 cutting attachment features an all gas in-tube mixer which allows for easy maintenance.

DETAILS

Capacity: Cuts up to 4”/ 101.6 mm plate with optional tips, welds to ½”/ 12.7 mm plate with optional tips

Duty: Medium

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

Mixer Type: Equal pressure

Torch equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator Warranty

1 year - all other components

1 year - All other components



PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4400372	VH10C801-510 DLX	VH31	V-W-1	1-V3-101	VH13	23A90-5	801-145-540	801-15-510	<ul style="list-style-type: none"> Goggles Striker 20' x ¼" Hose Insulated tool bag 	12.9 lbs. / 5.7 kg.
4400375	VH10C801-300 DLX	VH31	V-W-1	1-V3-101	VH13	23A90-5	801-145-540	801-15-300	<ul style="list-style-type: none"> Goggles Striker 20' x ¼" Hose Insulated tool bag 	12.9 lbs. / 5.7 kg.



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**IRONWORKER® V SERIES
COMBINATION
ALL FUELS/ ACETYLENE
MODEL**

HEAVY DUTY ACETYLENE OUTFITS

MODEL SHOWN:
VH31-25GX-510 DLX

DESCRIPTION

The Harris VHD heavy duty welding and cutting outfit features Harris' most popular V-Series regulators, combination torch handle and cutting attachment. The Model 25GX regulators include large, easy-to-read, 2 1/2" dual gauges, an ergonomic adjusting knob for precise pressure adjustments, one-piece encapsulated seats for longer service life, and a 7 year warranty. The Model VH31 handle features a tube within a tube construction for high gas volume applications. It is equipped with FlashGuard® check valves. The Model VH24 cutting attachment features an all gas in-tube mixer for easy maintenance.

DETAILS

Capacity: Cuts up to 8" / 203.2 mm plate with optional tips, welds to 1/2" / 12.7 mm plate with optional tips

Duty: Heavy

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

Mixer Type: Equal pressure

Torch equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator
1 year - All other components



PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4400373	VH31-25GX-510 DLX	VH31	V-W	V1-101-1	VH24	23A90-5	25GX-145-540	25GX-15-510	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	16.6 lbs. / 7.4 kg.
4400376	VH31-25GX-300 DLX	VH31	V-W	V1-101-1	VH24	23A90-5	25GX-145-540	25GX-15-300	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	16.6 lbs. / 7.4 kg.

EXTRA HEAVY DUTY ACETYLENE OUTFITS

MODEL SHOWN:
VH31-450-510 DLX

DESCRIPTION

The Harris VXT is an extra-heavy duty V-Series welding and cutting outfit that includes Model 450 regulators, Model VH31 combination torch handle and VH24 cutting attachment. The industrial duty Model 450 regulator has many of the premium features found only in high priced regulators. Its stainless steel diaphragm and Harris' exclusive tamper-proof, self-seating safety relief device, makes it stand out for heavy duty welding applications. The Model VH31 handle features a tube within a tube construction for high gas volume applications. It is equipped with FlashGuard® check valves. The Model VH24 cutting attachment features an all gas in-tube mixer for easy maintenance.

DETAILS

Capacity: Cuts up to 8" / 203.2 mm plate with optional tips, welds to 1/2" / 12.7 mm plate with optional tips

Duty: Extra-heavy

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

Mixer Type: Equal pressure

Torch equipped with: FlashGuard® Check Valves

Warranty: 7 years - Regulator
1 year - All other components



PART #	MODEL #	TORCH HANDLE	MIXER	CUTTING TIP	CUTTING ATTACHMENT	WELDING/ BRAZING TIPS	REGULATORS		ACCESSORIES	WEIGHT
							OXYGEN	FUEL		
4400374	VH31-450-510 DLX	VH31	V-W	V1-101-1	VH24	23A90-5	450-125-540	450-15-510	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	18.9 lbs. / 8.4 kg.
4400377	VH31-450-300 DLX	VH31	V-W	V1-101-1	VH24	23A90-5	450-125-540	450-15-300	<ul style="list-style-type: none"> Goggles Striker 20' x 1/4" Hose Insulated tool bag 	18.9 lbs. / 8.4 kg.

REGULATOR AND TORCH ACCESSORIES

HOSES

PART NO.	DESCRIPTION
4300533	1/4" x 20' twin hose, "T" grade*
4300530	1/4" x 50' twin hose

*Recommended for Alternate Fuels



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
- 3/16" - 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 NO.	MODEL NO.	PACK	FUEL/OXYGEN
4301653	26-QCR (R&L)	Pairs only	Fuel and Oxygen

TORCH INLET TYPE

PART NO.	MODEL NO.	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 NO.	MODEL NO.	CONNECTIONS	GAS TYPE
4301613	IQC M-F	3/8" - 18	Inert

HOSE TO MACHINE TYPE

PART NO.	MODEL NO.	CONNECTIONS	GAS TYPE
4301614	IQC F-M	3/8" - 18	Inert

REGULATOR AND TORCH FLASHBACK ARRESTORS

FEATURES

- Prevents reverse flow of gases with built-in check valves
- Extinguishes flashback fire with stainless steel sintered element
- 3/16"-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: NO.5 (except for NFF Tips -NO.4)
 - Machine Cutting Tips: NO.5 1/2
 - Acetylene Heating Tips: NO.4
 - Alternate Fuel Heating Tips: NO.2
 - Cleaning Heads: NO.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)



PIPELINE AND MANIFOLD ACCESSORIES

PIPELINE FLASHBACK ARRESTORS

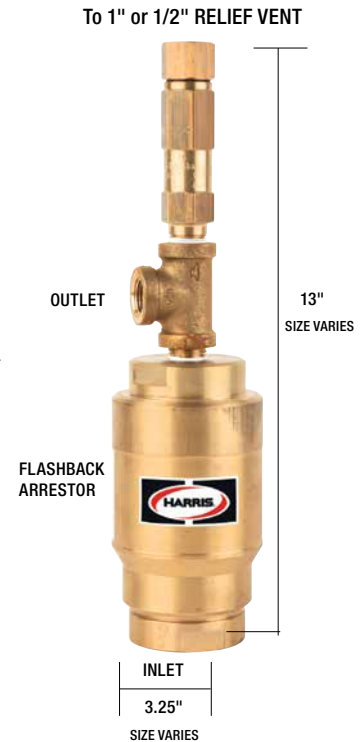
8530 AND 147 MODELS DRY TYPE FLASHBACK ARRESTOR SYSTEMS

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 NO.	MODEL NO.	GAS	FLOW SCFH	INLET/OUTLET	RELIEF VALVE
4300222	8530-A-1/2"	Acetylene	750	1/2" NPT	20 PSIG
4300224	8530-FG-1/2"	LPG, Natural Gas, H ₂	1000	1/2" NPT	40 PSIG



REGULATOR TECHNICAL DATA

REGULATOR PERFORMANCE DEFINITIONS

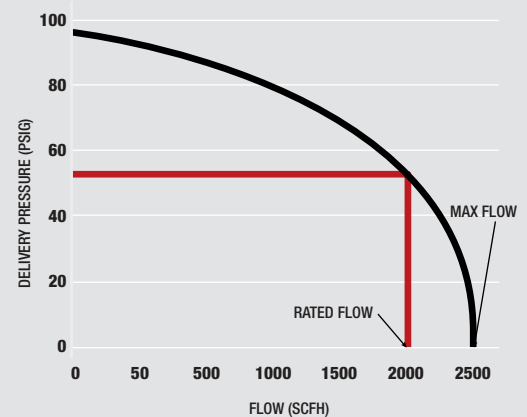
WHAT INFORMATION CAN BE DETERMINED FROM A FLOW CURVE?

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.

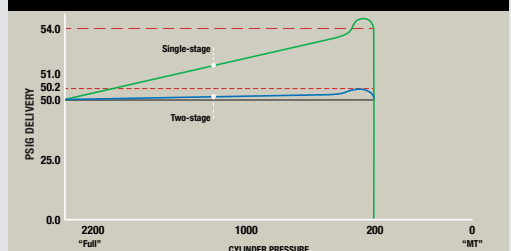
WHAT ARE GAS FLOW CORRECTION FACTORS?

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



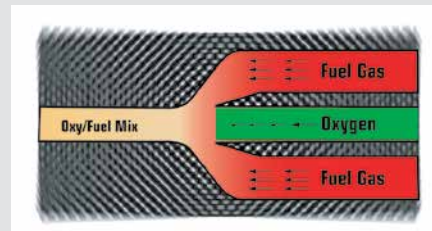
TORCH TECHNICAL DATA

"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.

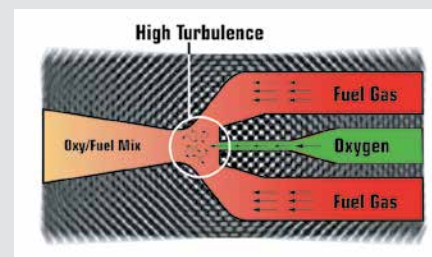
TYPICAL "E" MIXER DESIGN

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.



FUEL GAS TECHNICAL DATA

TECHNICAL DATA FOR THE MOST COMMON INDUSTRY FUEL GASES

	ACETYLENE	BUTANE	PROPYLENE	PROPANE	NATURAL GAS
MAX. FLAME TEMPERATURE °F	5720	4980	5240	5130	5040
OXY/FUEL COMBINATION RATIO (MAXIMUM TEMP.)	1.5:1	4.5:1	3.6:1	4.5:1	1.9:1
NEUTRAL FLAME TEMPERATURE °F	5620	4925	5190	5090	5010
OXY/FUEL COMBINATION RATIO (NEUTRAL)	1.1:1	3.8:1	2.6:1	3.7:1	1.5:1
BTU'S PER CUBIC FOOT	1470	3394	2370	2563	1000
% BTU IN OUTER CONE	65	92	84	89	97
BURNING VELOCITY IN O ₂	22.7/sec.	11.2/sec.	15.0/sec.	12.2/sec.	15.2/sec.
FLAMMABILITY LIMITS IN O ₂	3-93 %	1.9:8.5%	2.5-60%	2.4-57%	5-59%
FLAMMABILITY LIMITS IN AIR	2.5-80 %	N/A	2.0-11.1 %	2.3-9.5 %	5.3-14 %
SPECIFIC GRAVITY (AIR=1@60°F)	0.91	2.08	1.45	1.56	0.55
VAPOR PRESSURE (PSIG @ 70°F)	250	16.3	135	120	(LINE PRESSURE)
LBS/GAL LIQUID	-	4.7	4.8	4.35	4.28
CUBIC FT/LB GAS	14.6	6.4	9.0	8.66	23.6
CUBIC FT/GAL LIQUID	-	30	43.5	43	37

*Data above is from reliable industry sources and is used in Harris Fuel Gas Cost Analysis Programs

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GAS FLOW TECHNICAL DATA

HOW TO ACCURATELY USE OTHER GASES THROUGH FLOW DEVICES CALIBRATED FOR SPECIFIC GASES.

Flow control devices like the Harris Model 32 can be used for gases other than those for which it is calibrated for. Accurate flow rates for virtually any other gas can be determined by using the proper scale on the flowmeter and the proper gas correction factor (C.F.). Harris recommends using only gases that are not flammable and are compatible with the materials use in the constructions of the flow device being used.

INDICATED GAS FLOW X CORRECTION FACTOR (C.F.) = ACTUAL GAS FLOW

Example: Determine actual argon flow through a flow device calibrated for Nitrogen

NITROGEN TUBE READING X C.F. (FROM CHART) = ACTUAL ARGON FLOW

20 SCFH x 0.84 = 16.8 SCFH

CORRECTION FACTORS FOR GASES AND GAS MIXTURES USED TO CALCULATE ACTUAL FLOW WHEN USING A FLOW DEVICE CALIBRATED FOR NITROGEN.

GAS	CORRECTION FACTOR	GAS MIXES	MIX SPECIFIC GRAVITY	CORRECTION FACTOR
OXYGEN	0.94	Ar 75% / CO ₂ 25%	1.41	.89
ARGON	0.84	Ar 90% / CO ₂ 10%	1.39	.70
HE	2.64	Ar 98% / O ₂ 2%	1.37	.85
CO ₂	3.74	Ar 90% / He 8% / CO ₂ 2%	1.28	.88
AIR	0.98	-	-	-
N ₂	1.00	-	-	-

FORMULA TO CALCULATE CORRECTION FACTORS

CF=

$\frac{\text{SPECIFIC GRAVITY OF TUBE OR GAUGE GAS}}{\text{SPECIFIC GRAVITY OF GAS BEING USED}}$



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