

HARRIS®

GAS APPARATUS & FLOW CONTROL EQUIPMENT



INTERNATIONAL
EQUIPMENT CATALOGUE





The Harris Products Group was officially formed in 2005 with the combination of Harris Calorific, located in Georgia, USA and in Pianoro (BO), Italy, and J.W. Harris Company, located in Ohio, USA.

The merger resulted from a series of acquisitions by The Lincoln Electric Company.

Harris Calorific is a manufacturer of gas welding and cutting equipment, industrial and specialty gas regulation equipment and gas distribution systems. J.W. Harris is a major producer of soldering, brazing and welding rings; it manufactures high quality alloys and specializes in phosphorus/ copper and phosphorus/ copper/ silver brazing alloys for the air-conditioning and refrigeration industries.


The result of this merger is a very powerful combination of customer service teams working together to provide best-in-class service to Harris' customers.


The Harris Products Group includes facilities in the United States, Italy, Poland, Spain, Germany, Mexico and Brazil, giving the Company a broad global footprint.

Today Harris is very proud to supply products and equipment of the highest quality to the global cutting, brazing, soldering and welding markets in over 95 different countries.




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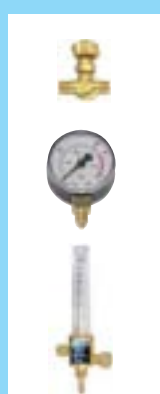
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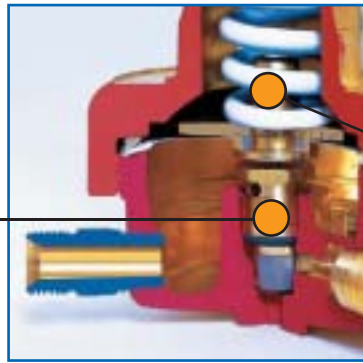
Regulators

General features:

- ▶ Harris regulators are designed and manufactured according to the most recent international standards:
 - EN ISO 2503 FOR CYLINDER PRESSURE REGULATORS
 - EN 13918 FOR CYLINDER FLOW REGULATORS
 - PRESSURE GAUGES CONFORM TO EN 562
- ▶ High pressure capsule seat with PTFE (Teflon) sealing surface
- ▶ Compressed gas regulators D version have tamperproof self reseating internal safety relief valve (IRV)
- ▶ All regulators supplied with inlet and outlet to suit country



One piece encapsulated seat with internal filter



Tamper proof, self reseating internal safety relief valve IRV

Cylinder Pressure Regulators

Model 601 Compact single stage cylinder pressure regulator

Applications:

- ▶ Light duty cutting, welding and brazing

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Forged brass body and bonnet
- ▶ Rear inlet connection (side entry optional)
- ▶ 50 mm safety gauge



601-1.5-AC

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
601-1.5-AC	-	Acetylene	25	0-1.5	7	0-2.5	0-40
601-4-LP	-	Propane	25	0-4	20	0-6	0-40
601P-4-LP	one gauge	Propane	25	0-4	20	0-6	
601D-10-OX	-	Oxygen	230	0-10	42	0-16	0-315
601D-10 *	-	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	42	0-16	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 801 Single stage cylinder regulator

Applications:

- ▶ Medium duty cutting, heating and welding

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut up to 300 mm. steel
- ▶ Smooth adjustment, with high precision
- ▶ Side inlet connection
- ▶ Standard version with chromed bonnet, gold painted gauge case
- ▶ B version fitted with black bonnet and black gauge case



801DB-10-OX

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m³/h)	SUPPLY PRESSURE GAUGE (bar)	DELIVERY PRESSURE GAUGE (bar)
801-1.5-AC 801B-1.5-AC	-	Acetylene	25	0-1.5	30	0-40	0-2.5
801-4-LP 801B-4-LP	-	Propane	25	0-4	16.5	0-40	0-6
801P-4-LP 801BP-4-LP	one gauge	Propane	25	0-4	16.5		0-6
801D-4-OX 801DB-4-OX	-	Oxygen	230	0-4	100	0-315	0-6
801D-4 * 801DB-4 *	-	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-4	100	0-315	0-6
801D-10-OX 801DB-10-OX	-	Oxygen	230	0-10	155	0-315	0-16
801D-10 * 801DB-10 *	-	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155	0-315	0-16

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 821 Single stage with rear entry

Applications:

- ▶ Medium duty cutting, heating and welding

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut up to 300 mm. steel
- ▶ Smooth adjustment, with high precision
- ▶ Rear inlet connection ideal for better visibility on small cylinder
- ▶ B version fitted with black bonnet and black gauge case



821D-10-OX

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m³/h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
821-1.5-AC 821B-1.5-AC	-	Acetylene	25	0-1.5	30	0-2.5	0-40
821-4-LP 821B-4-LP	-	Propane	25	0-4	16.5	0-6	0-40
821P-4-LP 821BP-4-LP	one gauge	Propane	25	0-4	16.5	0-6	
821D-10-OX 821DB-10-OX	-	Oxygen	230	0-10	155	0-16	0-315
821D-10 * 821DB-10 *	-	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155	0-16	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 841

Single stage cylinder regulator

Applications:

- ▶ Medium duty cutting, heating and welding applications.

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut steel up to 300 mm. thickness
- ▶ Smooth adjustment, with high precision
- ▶ Chromed bonnet and gold painted gauge case



841D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m³/h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
841-1.5-AC	Acetylene	25	0-1.5	30	0-2.5	0-40
841-4-LP	Propane	25	0-4	16.5	0-6	0-40
841D-10-OX *	Oxygen	230	0-10	155	0-16	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 842

Single stage cylinder regulator

Applications:

- ▶ Medium duty cutting, heating and welding applications.

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut steel up to 300 mm. thickness
- ▶ Smooth adjustment, with high precision
- ▶ Black bonnet and black gauge case
- ▶ Without regulation outlet valve
- ▶ W version fitted with outlet valve



842D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m³/h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
842-1.5-AC	Acetylene	25	0-1.5	30	0-2.5	0-40
842-4-LP	Propane	25	0-4	16.5	0-6	0-40
842D-10-OX	Oxygen	230	0-10	155	0-16	0-315
842DW-10-OX	Oxygen	230	0-10	155	0-16	0-315
842D-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155	0-16	0-315
842DW-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155	0-16	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 814 Single stage with one gauge

Applications:

- ▶ Medium duty cutting, heating and welding

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut up to 300 mm. steel
- ▶ Smooth adjustment, with high precision
- ▶ Side inlet connection
- ▶ Delivery pressure set by turning the knob on calibrated bonnet
- ▶ Cylinder pressure shown on HP pressure gauge
- ▶ B version fitted with black bonnet and black gauge case



Bonnet calibration



814D-10-OX

MODEL NO	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	SUPPLY PRESSURE GAUGE (bar)
814-1.5-AC 814B-1.5-AC	one gauge	Acetylene	25	0-1.5	30	0-40
814-4-LP 814B-4-LP	one gauge	Propane	25	0-4	16.5	0-40
814D-10-OX 814DB-10-OX	one gauge	Oxygen	230	0-10	155	0-315
814D-10 * 814DB-10 *	one gauge	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 818 Single stage gaugeless

Applications:

- ▶ Medium duty cutting, heating and welding
- ▶ Designed for all industrial applications in the toughest working conditions

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut up steel 300 mm. thickness
- ▶ Smooth adjustment, with high precision
- ▶ Side inlet connection
- ▶ Cylinder pressure shown on indicator with polycarbonate cover
- ▶ Delivery pressure set by turning the knob on calibrated bonnet
- ▶ B version fitted with black bonnet



Bonnet calibration



Indicator



818D-10-OX

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)
818-1.5-AC 818B-1.5-AC	gaugeless	Acetylene	25	0-1.5	30
818-4-LP 818B-4-LP	gaugeless	Propane	25	0-4	16.5
818D-10-OX 818DB-10-OX	gaugeless	Oxygen	230	0-10	155
818D-10 * 818DB-10 *	gaugeless	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 825

Single stage with two gauges

Applications:

- ▶ Heavy duty, large, strong regulator for the professionals

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut up to 400 mm. steel
- ▶ Large Ø 70 mm. diaphragm stabilizes working pressure
- ▶ Durable chromed bonnet
- ▶ Side entry (vertical optional)



825D-10-OX

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m³/h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
825-1.5-AC	-	Acetylene	25	0-1.5	52	0-2.5	0-40
825-4-LP	-	Propane	25	0-4	25	0-6	0-40
825P-4-LP	one gauge	Propane	25	0-4	25	0-6	
825D-4-OX	-	Oxygen	230	0-4	112	0-6	0-315
825D-4 *	-	Argon, CO ₂ , Nitrogen, Air, Methane	230	0-4	112	0-6	0-315
825AD-4 *	-	Helium, Hydrogen	230	0-4	112	0-6	0-315
825D-10-OX	-	Oxygen	230	0-10	170	0-16	0-315
825D-10 *	-	Argon, CO ₂ , Nitrogen, Air, Methane	230	0-10	170	0-16	0-315
825AD-10 *	-	Helium, Hydrogen	230	0-10	170	0-16	0-315
825D-15-OX	-	Oxygen	230	0-15	275	0-25	0-315
825D-15 *	-	Argon, CO ₂ , Nitrogen, Air, Methane	230	0-15	275	0-25	0-315
825AD-15 *	-	Helium, Hydrogen	230	0-15	275	0-25	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 829

Single stage gaugeless

Applications:

- ▶ Heavy duty cutting, designed for the really rough industrial applications in the toughest working conditions

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut up to 400 mm. steel
- ▶ Large Ø 70 mm. diaphragm stabilizes working pressure
- ▶ Durable chromed bonnet
- ▶ Cylinder pressure shown on indicator with polycarbonate cover
- ▶ Delivery pressure set by turning the knob on calibrated bonnet



829-1.5-AC



Indicator



Bonnet calibration

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m³/h)
829-1.5-AC	gaugeless	Acetylene	25	0-1.5	35
829-3,5-LP	gaugeless	Propane	25	0-3.5	25
829-8-OX	gaugeless	Oxygen	230	0-8	160

Model 896 Double stage with two gauges

Applications:

- ▶ Used where stable outlet pressure is required
- ▶ Ideal for quality cutting applications, laboratory systems or precision machine cutting. Also Ideal for heavy machine cutting, hand cutting and gouging

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure of 230 bar
- ▶ First stage reduces full cylinder pressure by approximately 90%
- ▶ Large Ø 70 mm. second stage diaphragm accurately controls delivery pressure
- ▶ Durable chromed bonnet
- ▶ Side entry (vertical optional)
- ▶ B version fitted with black bonnet and black gauge case



896-1.5-AC

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
896-1.5-AC	Acetylene	25	0-1.5	25	0-2.5	0-40
896-4-LP	Propane	25	0-4	19	0-6	0-40
896D-4-OX	Oxygen	230	0-4	95	0-6	0-315
896D-4 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-4	95	0-6	0-315
896D-10-OX	Oxygen	230	0-10	100	0-16	0-315
896D-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	100	0-16	0-315
896D-15-OX	Oxygen	230	0-15	120	0-25	0-315
896D-15 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-15	120	0-25	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 899 Double stage gaugeless

Applications:

- ▶ Used where stable outlet pressure is required
- ▶ Ideal for quality cutting applications, laboratory systems or precision machine cutting. Also Ideal for heavy machine cutting, hand cutting and gouging

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure of 230 bar
- ▶ First stage reduces full cylinder pressure by approximately 90%
- ▶ Large Ø 70 mm. second stage diaphragm accurately controls delivery pressure
- ▶ Durable chromed bonnet
- ▶ Cylinder pressure shown on indicator with polycarbonate cover
- ▶ Delivery pressure set by turning the knob on calibrated bonnet



899-1.5-AC



Indicator



Bonnet calibration

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)
899-1.5-AC	gaugeless	Acetylene	25	0-1.5	35
899-10-OX	gaugeless	Oxygen	230	0-8	90

Model 94

Single stage

Applications:

- ▶ Ideal for heavy duty in industrial and laboratory service

Features:

- ▶ Solid forged brass body and bonnet
- ▶ Maximum inlet pressure of 230 bar
- ▶ Large Ø 90 mm. diaphragm accurately controls delivery pressure
- ▶ Sintered metal inlet filter
- ▶ Tough pressure gauge with easy to read calibration



94-1.5-AC

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
94-1.5-AC	Acetylene	25	0-1.4	35	0-2.5	0-40
94-10-OX	Oxygen	230	0-7	155	0-16	0-315

SERIES 900 - 300 bar Regulators

Model 901

Single stage cylinder regulator

Applications:

- ▶ Medium duty cutting, heating and welding

Features:

- ▶ Maximum inlet pressure of 300 bar
- ▶ Enough flow to cut up to 300 mm. steel
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Smooth adjustment, with high precision
- ▶ B version fitted with black bonnet and black gauge case



901D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
901D-4-OX	Oxygen	300	0-4	105	0-6	0-400
901D-4 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-4	105	0-6	0-400
901D-10-OX	Oxygen	300	0-10	175	0-16	0-400
901D-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-10	175	0-16	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 921 Single stage with rear entry

Applications:

- ▶ Medium duty cutting, heating and welding

Features:

- ▶ Maximum inlet pressure of 300 bar
- ▶ Enough flow to cut up to 300 mm. steel
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Smooth adjustment, with high precision
- ▶ Rear inlet connection ideal for better visibility on small cylinder
- ▶ B version fitted with black bonnet and black gauge case



921D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	DELIVERY PRESS. GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
921D-4-OX	Oxygen	300	0-4	105	0-6	0-400
921D-4 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-4	105	0-6	0-400
921D-10-OX	Oxygen	300	0-10	175	0-16	0-400
921D-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-10	175	0-16	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 941 Single stage cylinder regulator

Applications:

- ▶ Medium duty cutting, heating and welding.

Features:

- ▶ Maximum inlet pressure of 300 bar
- ▶ Enough flow to cut steel up to 300 mm. thickness
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Smooth adjustment, with high precision



941D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
941D-10-OX	Oxygen	230	0-10	155	0-16	0-400

Model 942

Single stage cylinder regulator

Applications:

- ▶ Medium duty cutting, heating and welding.

Features:

- ▶ Maximum inlet pressure of 300 bar
- ▶ Enough flow to cut steel up to 300 mm. thickness
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Smooth adjustment, with high precision
- ▶ Without regulation outlet valve
- ▶ W version fitted with outlet valve



942D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
942D-10-OX	Oxygen	230	0-10	155	0-16	0-400
942D-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155	0-16	0-400
942DW-10-OX	Oxygen	230	0-10	155	0-16	0-400
942DW-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	230	0-10	155	0-16	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 914

Single stage with one gauge

Applications:

- ▶ Medium duty cutting, heating and welding.

Features:

- ▶ Maximum inlet pressure of 300 bar
- ▶ Enough flow to cut up to 300 mm. steel
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Smooth adjustment, with high precision
- ▶ Side inlet connection (rear entry optional)
- ▶ Delivery pressure set by turning the knob on calibrated bonnet
- ▶ Cylinder pressure shown on HP pressure gauge
- ▶ B version fitted with black bonnet and black gauge case



Bonnet calibration



914D-10-OX

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	SUPPLY PRESSURE GAUGE (bar)
914D-4-OX	one gauge	Oxygen	300	0-4	105	0-400
914D-4 *	one gauge	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-4	105	0-400
914D-10-OX	one gauge	Oxygen	300	0-10	175	0-400
914D-10 *	one gauge	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-10	175	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 918 Single stage gaugeless

Applications:

- ▶ Medium duty cutting, heating and welding
- ▶ Designed for all industrial applications in the toughest working conditions

Features:

- ▶ Maximum inlet pressure of 300 bar
- ▶ Enough flow to cut up to 300 mm. steel
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Smooth adjustment, with high precision
- ▶ Side inlet connection
- ▶ Cylinder pressure shown on indicator with polycarbonate cover
- ▶ Delivery pressure set by turning the knob on calibrated bonnet
- ▶ B version fitted with black bonnet



918D-10-OX



Bonnet calibration



Indicator

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)
918D-4-OX	gaugeless	Oxygen	300	0-4	105
918D-4 *	gaugeless	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-4	105
918D-10-OX	gaugeless	Oxygen	300	0-10	175
918D-10 *	gaugeless	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-10	175

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 925 Single stage with two gauges

Applications:

- ▶ Heavy duty cutting, heating and welding
- ▶ Large, strong regulator for the professionals

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure of 300 bar
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Large Ø 70 mm. diaphragm stabilizes working pressure
- ▶ Enough flow to cut up to 400 mm. steel
- ▶ Side entry (vertical optional)



925D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
925D-4-OX	Oxygen	300	0-4	115	0-6	0-400
925D-4 *	Argon, CO ₂ , Nitrogen, Air, Methane	300	0-4	115	0-6	0-400
925AD-4 *	Helium, Hydrogen	300	0-4	115	0-6	0-400
925D-10-OX	Oxygen	300	0-10	185	0-16	0-400
925D-10 *	Argon, CO ₂ , Nitrogen, Air, Methane	300	0-10	185	0-16	0-400
925AD-10 *	Helium, Hydrogen	300	0-10	185	0-16	0-400
925D-15-OX	Oxygen	300	0-15	325	0-25	0-400
925D-15 *	Argon, CO ₂ , Nitrogen, Air, Methane	300	0-15	325	0-25	0-400
925AD-15 *	Helium, Hydrogen	300	0-15	325	0-25	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 996

Double stage with two gauges

Applications:

- ▶ Used where stable outlet pressure is required
- ▶ Ideal for quality cutting applications, laboratory systems or precision machine cutting. Also ideal for heavy machine cutting, hand cutting and gouging

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure of 300 bar
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ First stage reduces full cylinder pressure by approximately 90%
- ▶ Large Ø 70 mm. second stage diaphragm accurately controls delivery pressure
- ▶ Durable chromed bonnet
- ▶ Side entry (vertical optional)



996D-10-OX

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX AIR FLOW (m³/h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
996D-4-OX	Oxygen	300	0-4	85	0-6	0-400
996D-4 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-4	85	0-6	0-400
996D-10-OX	Oxygen	300	0-10	100	0-16	0-400
996D-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-10	100	0-16	0-400
996D-15-OX	Oxygen	300	0-15	120	0-25	0-400
996D-15 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	300	0-15	120	0-25	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Cylinder Flow Regulators

General features:

- ▶ Conform to EN 13918
- ▶ Accurate pressure compensated design flowmeter for precise flow
- ▶ Flowmeter with easy to read polycarbonate outer tube cover for strength and 360° visibility
- ▶ Factory preset outlet pressure at 3,5 bar

Flowmeter Regulators

Model 601D-F

Compact flowmeter regulator

Applications:

- ▶ Light duty MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 230 bar
- ▶ Rear inlet connection (side inlet optional)

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW ((Lpm))	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
601D-15-F-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
601D-30-F-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30



601D-30-F

Model 80ID-F Flowmeter regulator

Applications:

- ▶ Ideal for all MIG/TIG welding applications

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 230 bar
- ▶ B version fitted with black bonnet and black gauge case



801DB-30-F

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
801D-15-F-AR/CD 801DB-15-F-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
801D-30-F-AR/CD 801DB-30-F-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30
801D-20-F-FG 801DB-20-F-FG	Formier Gas	230	0-20	0-315	0-20
801D-50-F-FG 801DB-50-F-FG	Formier Gas	230	0-50	0-315	0-50

Model 82ID-F Precision engineered double flowmeter regulator

Applications:

- ▶ Ideal for light and medium duty multiple MIG / TIG welding

Features:

- ▶ One regulator/cylinder for two gas supply sources with separate flow control
- ▶ Two flowmeters (with knob at 180° to inlet) with soft seat needle valve for smooth and precise control
- ▶ Rear entry
- ▶ B version fitted with black bonnet and black gauge case



821DB-30-F

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
821D-15-F-AR/CD 821DB-15-F-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
821D-30-F-AR/CD 821DB-30-F-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30
821D-20-F-FG 821DB-20-F-FG	Formier Gas	230	0-20	0-315	0-20
821D-50-F-FG 821DB-50-F-FG	Formier Gas	230	0-50	0-315	0-50

Model 825D-F Flowmeter regulator

Applications:

- ▶ Large, strong regulator for the welding professionals, suitable for all welding and laboratory applications

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 230 bar
- ▶ Large Ø 70 mm. diaphragm for accurate flow and pressure regulation



825D-30-F

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
825D-15-F-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
825D-30-F-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30

Model 811DB-F Electrically heated flowmeter regulator

Applications:

- ▶ Ideal for all welding applications where high and continuous flow of CO₂ is required with accurate flow control

Features:

- ▶ Maximum inlet pressure 230 bar
- ▶ CE marked
- ▶ Two independent heating elements controlled by thermostat
- ▶ Stabilized temperature up to 30 Lpm continuous CO₂
- ▶ Overheating protection with resettable thermal fuse
- ▶ Insulation IP 64 (EN 60529)
- ▶ Voltage: 110 and 240 volts versions
- ▶ 3 metres long (9.87 feet) power cable



811DB-30-F

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
811DB-15-F	CO ₂	230	0-15	0-315	0-15
811DB-30-F	CO ₂	230	0-30	0-315	0-30

SERIES 900 - 300 bar Regulators

Model 901D-F Flowmeter regulator

Applications:

- ▶ Ideal for all MIG/TIG welding applications

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 300 bar
- ▶ High pressure capsule seat with Kel-F (CFTE) sealing surface
- ▶ B version fitted with black bonnet and black gauge case



901D-30-F

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
901D-15-F-AR/CD	Argon / CO ₂	300	0-15	0-400	0-15
901D-30-F-AR/CD	Argon / CO ₂	300	0-30	0-400	0-30
901D-20-F-FG	Formier Gas	300	0-20	0-400	0-20
901D-50-F-FG	Formier Gas	300	0-50	0-400	0-50

Model 925D-F Flowmeter regulator

Applications:

- ▶ Large, strong regulator for the welding professionals, suitable for all welding and laboratory applications

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 300 bar
- ▶ Large 70 mm Ø diaphragm for accurate flow and pressure regulation
- ▶ High pressure capsule seat with Kel-F (CFTE) sealing surface



925D-15-F

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
925D-15-F-AR/CD	Argon / CO ₂	300	0-15	0-400	0-15
925D-30-F-AR/CD	Argon / CO ₂	300	0-30	0-400	0-30

Model 911DB-F

Electrically heated flowmeter regulator

Applications:

- ▶ Ideal for all welding applications where high and continuous flow of CO₂ are required with accurate flow control

Features:

- ▶ Maximum inlet pressure 300 bar
- ▶ CE marked
- ▶ Two independent heating elements controlled by thermostat
- ▶ Stabilized temperature up to 30 Lpm continuous CO₂
- ▶ Overheating protection with resettable thermal fuse
- ▶ Insulation IP 64 (EN 60529)
- ▶ Voltage: 110 and 240 volts versions
- ▶ 3 metres long (9.87 feet) power cable



911DB-30-F

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWMETER (Lpm)
911DB-15-F	CO ₂	300	0-15	0-400	0-15
911DB-30-F	CO ₂	300	0-30	0-400	0-30

Flowgauge Regulators

General features:

- ▶ Accurate flows through outlet calibrated orifice
- ▶ Flow set by adjusting knob

Model 601-L

Compact single stage flowgauge regulator

Applications:

- ▶ Ideal for light duty MIG/TIG welding

Features:

- ▶ Maximum inlet pressure 230 bar
- ▶ 50 mm safety gauge
- ▶ Complete with hose connection diameter hose 5 to 6 mm
- ▶ Rear inlet connection



601D-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
601D-15-L-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
601D-30-L-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30

Model 80ID-L Flowgauge regulator

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 230 bar
- ▶ B version fitted with black bonnet and black gauge case



801DB-15-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
801D-15-L-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
801D-30-L-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30
801D-50-L-AR/CD	Argon / CO ₂	230	0-50	0-315	0-50
801D-30-L-FG	Formier Gas	230	0-30	0-315	0-30
801D-50-L-FG	Formier Gas	230	0-50	0-315	0-50
801DB-15-L-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
801DB-30-L-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30
801DB-50-L-AR/CD	Argon / CO ₂	230	0-50	0-315	0-50
801DB-30-L-FG	Formier Gas	230	0-30	0-315	0-30
801DB-50-L-FG	Formier Gas	230	0-50	0-315	0-50

Model 842-WL Single stage flowgauge regulator

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Maximum inlet pressure of 230 bar
- ▶ Enough flow to cut steel up to 300 mm. thickness
- ▶ Smooth adjustment, with high precision
- ▶ Black bonnet and black gauge case



842W-30L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	FLOWGAUGE (bar)
842W-15L-AR/CD	Argon / CO ₂	230	0-15	0-15
842W-30L-AR/CD	Argon / CO ₂	230	0-30	0-30

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 814-L

Flowgauge regulator with one gauge

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 230 bar
- ▶ Delivery flow set by turning the knob on calibrated bonnet
- ▶ B version fitted with black bonnet and black gauge case



814D-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
814D-15-L-AR/CD 814DB-15-L-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
814D-30-L-AR/CD 814DB-30-L-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30
814D-50-L-AR/CD 814DB-50-L-AR/CD	Argon / CO ₂	230	0-50	0-315	0-50

Model 818-L

Flowgauge regulator gaugeless

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 230 bar
- ▶ Delivery flow set by turning the knob on calibrated bonnet
- ▶ Cylinder pressure shown on indicator with polycarbonate cover
- ▶ B version fitted with black bonnet



818D-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	FLOWGAUGE (Lpm)
818D-15-L-AR/CD 818DB-15-L-AR/CD	Argon / CO ₂	230	0-15	0-15
818D-30-L-AR/CD 818DB-30-L-AR/CD	Argon / CO ₂	230	0-30	0-30
818D-50-L-AR/CD 818DB-50-L-AR/CD	Argon / CO ₂	230	0-50	0-50

Model 825D-L Flowgauge regulator

Applications:

- ▶ Large size flowgauge regulator for MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 230 bar
- ▶ Large Ø 70 mm. diaphragm stabilizes working pressure
- ▶ Durable chromed bonnet



825D-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
825D-15-L-AR/CD	Argon / CO ₂	230	0-15	0-315	0-15
825D-30-L-AR/CD	Argon / CO ₂	230	0-30	0-315	0-30
825D-50-L-AR/CD	Argon / CO ₂	230	0-50	0-315	0-50

Model 811DB-L Electrically heated flowgauge regulator

Applications:

- ▶ Ideal for all welding applications where high and continuous flows of CO₂ are required with accurate flow control

Features:

- ▶ Maximum inlet pressure 230 bar
- ▶ The outlet gauge enables direct reading in Low Pressure
- ▶ CE marked
- ▶ Two independent heating elements controlled by thermostat
- ▶ Stabilized temperature up to 30 Lpm continuous CO₂
- ▶ Overheating protection with resettable thermal fuse
- ▶ Insulation IP 64 (EN 60529)
- ▶ Voltage: 110 and 240 volts versions
- ▶ 3 metres long (9.87 feet) power cable



811DB-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
811DB-15-L-CD	CO ₂	230	0-15	0-315	0-15
811DB-30-L-CD	CO ₂	230	0-30	0-315	0-30

SERIES 900 - 300 bar Regulators

Model 901D-L Flowgauge regulator

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 300 bar
- ▶ High pressure capsule seat with Kel-F (CFTE) sealing surface
- ▶ B version fitted with black bonnet and black gauge case



901D-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
901D-30-L-FG	Formier Gas	300	0-30	0-400	0-30
901D-50-L-FG	Formier Gas	300	0-50	0-400	0-50
901D-15-L-AR/CD	Argon / CO ₂	300	0-15	0-400	0-15
901D-30-L-AR/CD	Argon / CO ₂	300	0-30	0-400	0-30
901D-50-L-AR/CD	Argon / CO ₂	300	0-50	0-400	0-50

Model 942-WL Single stage flowgauge regulator

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Maximum inlet pressure of 300 bar
- ▶ Enough flow to cut steel up to 300 mm. thickness
- ▶ High pressure capsule seat with Kel-F (CFTE) sealing surface
- ▶ Smooth adjustment, with high precision



942W-30L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	FLOWGAUGE (bar)
942W-15L-AR/CD	Argon / CO ₂	300	0-15	0-15
942W-30L-AR/CD	Argon / CO ₂	300	0-30	0-30

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 914-L Flowgauge regulator with one gauge

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 300 bar
- ▶ High pressure capsule seat with Kel-F (CFTE) sealing surface
- ▶ Delivery flow set by turning the knob on calibrated bonnet
- ▶ B version fitted with black bonnet



914-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
914-15-L-AR/CD	Argon / CO ₂	300	0-15	0-400	0-15
914-30-L-AR/CD	Argon / CO ₂	300	0-30	0-400	0-30
914-50-L-AR/CD	Argon / CO ₂	300	0-50	0-400	0-50

Model 918-L Flowgauge regulator gaugeless

Applications:

- ▶ Suitable for all light and medium duty MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 300 bar
- ▶ Delivery flow set by turning the knob on calibrated bonnet
- ▶ Cylinder pressure shown on indicator with polycarbonate cover
- ▶ High pressure capsule seat with Kel-F (CFTE) sealing surface
- ▶ B version fitted with black bonnet



918-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	FLOWGAUGE (Lpm)
918-15-L-AR/CD	Argon / CO ₂	300	0-15	0-15
918-30-L-AR/CD	Argon / CO ₂	300	0-30	0-30
918-50-L-AR/CD	Argon / CO ₂	300	0-50	0-50

Model 925D-L Flowgauge regulator

Applications:

- ▶ Large size flowgauge regulator for MIG/TIG welding

Features:

- ▶ Forged brass body for maximum strength
- ▶ Maximum inlet pressure 300 bar
- ▶ Large Ø 70 mm. diaphragm for accurate flow and pressure regulator
- ▶ Durable chromed bonnet
- ▶ High pressure capsule seat with Kel-F (CFTE) sealing surface



925D-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
925D-15-L-AR/CD	Argon / CO ₂	300	0-15	0-400	0-15
925D-30-L-AR/CD	Argon / CO ₂	300	0-30	0-400	0-30
925D-50-L-AR/CD	Argon / CO ₂	300	0-50	0-400	0-50

Model 911DB-L Electrically heated flowgauge regulator

Applications:

- ▶ Ideal for all welding applications where high and continuous flows of CO₂ are required with accurate flow control

Features:

- ▶ Maximum inlet pressure 300 bar
- ▶ The outlet gauge enables direct reading in Low Pressure
- ▶ CE marked
- ▶ Two independent heating elements controlled by thermostat
- ▶ Stabilized temperature up to 30 Lpm continuous CO₂
- ▶ Overheating protection with resettable thermal fuse
- ▶ Insulation IP 64 (EN 60529)
- ▶ Voltage: 110 and 240 volts versions
- ▶ 3 metres long (9.87 feet) power cable



911DB-30-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	FLOW (Lpm)	SUPPLY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
911DB-15-L-CD	CO ₂	300	0-15	0-400	0-15
911DB-30-L-CD	CO ₂	300	0-30	0-400	0-30

Models 603 and 803P Inert gas guard

Applications:

- ▶ Designed to eliminate the pressure surge at the beginning of each weld in MIG/TIG welding, maintains a constant flow and pressure with each weld, permits gas savings over 60%.

Features:

- ▶ Harris Inert Gas Guards are designed to save shielding gases in two ways:
 - by reducing the gas surge when a MIG gun or TIG torch is activated. Because they are designed to reduce the pressure held in supply hose, gas waste is reduced when the gun or torch is triggered
 - by delivering a controlled flow rate
- ▶ Operators will typically set shielding gas flow rates higher than necessary for a welding operation. Once set by a supervisor, the Inert Gas Guard delivers the precise amount of flow for the operation, eliminating the needless waste of gas.



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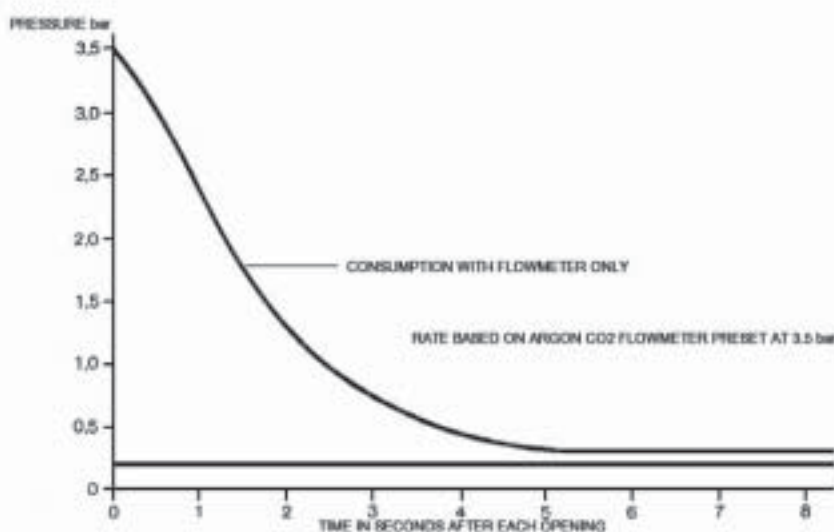


803P

Where to use:

Connect Models 603 and 803-P between your existing flowmeter and hose to torch. Table below shows part numbers to fit each flowmeter outlet thread.

MODEL NO	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	INLET	OUTLET
603Z-001	Argon / CO ₂	15	0.6-0.9	G 3/8"-RH-UNI ISO 228	G 3/8" A-RH-UNI ISO 228
603Z-002				9/16"-18-UNF-2B-RH	9/16"-18-UNF-2A-RH
603Z-003				G 1/4"-RH-UNI ISO 228	G 1/4" A-RH-UNI ISO 228
803P-001	Argon / CO ₂	15	0.6-0.9	G 3/8"-RH-UNI ISO 228	G 3/8" A-RH-UNI ISO 228
803P-002				9/16"-18-UNF-2B-RH	9/16"-18-UNF-2A-RH
803P-003				G 1/4"-RH-UNI ISO 228	G 1/4" A-RH-UNI ISO 228



- ▶ The curve on this chart illustrates the extent of costly shielding gas waste that can occur each time a MIG gun or TIG torch is activated. Conversely, the line illustrates how Harris Inert Gas Guard can significantly reduce gas waste by delivering a set flow of shielding gas.
- ▶ Actual Argon, Carbon Dioxide and other shielding gas savings will vary depending upon the specific requirements of the MIG or TIG welding operation
- ▶ Factory pre-set output pressure of 0.8 bar with maximum flow rate of 15 Lpm

High Performance Regulators

General features:

- ▶ Stainless steel diaphragm - No internal contamination

Model 825DS Single stage cylinder pressure regulator

Applications:

- ▶ All applications where high outlet pressure is required
- ▶ Ideal for high pressure plasma cutting

Features:

- ▶ Forged brass body
- ▶ Maximum inlet pressure 230 bar
- ▶ Stainless steel diaphragm - no internal contamination
- ▶ Enough oxygen flow to cut up to 400 mm steel
- ▶ Large \varnothing 70 mm diaphragm stabilizes working pressure
- ▶ Side entry (vertical optional)



825ARS-40

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
825DS-25 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	230	0-25	350	0-40	0-315
825ARS-40 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	230	0-40	400	0-60	0-315
825ARS-50	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	230	0-50	450	0-100	0-315
825DS-20	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	230	0-20	300	0-40	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 896DS Double stage with stainless steel diaphragm

Applications:

- ▶ Used where outlet pressure must be held within strict limits
- ▶ Ideal for quality cutting applications, laboratory system or precision machine cutting
- ▶ Also ideal for heavy machine cutting, hand cutting, and gouging

Features:

- ▶ Forged brass body
- ▶ Maximum inlet pressure 230 bar
- ▶ Stainless steel diaphragm on first stage - no internal contamination
- ▶ Enough oxygen flow to cut up to 400 mm steel
- ▶ Large \varnothing 70 mm second stage diaphragm accurately controls delivery pressure
- ▶ Stainless steel T screw
- ▶ Side entry (vertical optional)



896DS-25

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
896DS-25 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	230	0-25	150	0-40	0-315

*The regulator is available for all the listed gases. When ordering always specify gas.

SERIES 900 - 300 bar Regulators

Model 925DS

Single stage with stainless steel diaphragm

Applications:

- ▶ All applications where high outlet pressure is required
- ▶ Ideal for high pressure plasma cutting

Features:

- ▶ Forged brass body
- ▶ Maximum inlet pressure 300 bar
- ▶ Stainless steel diaphragm on first stage - no internal contamination
- ▶ Enough oxygen flow to cut up to 400 mm steel
- ▶ Large \varnothing 70 mm second stage diaphragm accurately controls delivery pressure
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Stainless steel T screw
- ▶ Side entry (vertical optional)



925ARS-40

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
925DS-25 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-25	400	0-40	0-400
925ARS-40 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-40	500	0-60	0-400
925ARS-50	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-50	600	0-100	0-400
925DS-20	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-20	380	0-40	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model H25

Single stage with stainless steel diaphragm

Applications:

- ▶ Specially designed for high flow requirements
- ▶ Ideal for feeding plasma and laser cutting systems

Features:

- ▶ Forged brass body
- ▶ Maximum inlet pressure 300 bar
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Stainless steel T screw
- ▶ Air flow up to 700 m³/h
- ▶ External safety relief valve



H25ARS-40

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
H25D-15 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-15	450	0-25	0-400
H25DS-25 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-25	500	0-40	0-400
H25ARS-40 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-40	720	0-60	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 996DS

Double stage regulator with stainless steel diaphragm in both stages

Applications:

- ▶ Used where outlet pressure must be held within strict limits
- ▶ Ideal for quality cutting applications, laboratory systems or precision machine cutting. Also ideal for heavy machine cutting, hand cutting, and gouging

Features:

- ▶ Forged brass body
- ▶ Maximum inlet pressure 300 bar
- ▶ Stainless steel diaphragm in both stages - no internal contamination
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ First stage reduces full cylinder pressure by approximately 90%
- ▶ Large \varnothing 70 mm second stage diaphragm accurately controls delivery pressure
- ▶ Side entry (vertical optional)



996DS-25

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
996DS-25 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-25	150	0-40	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 987

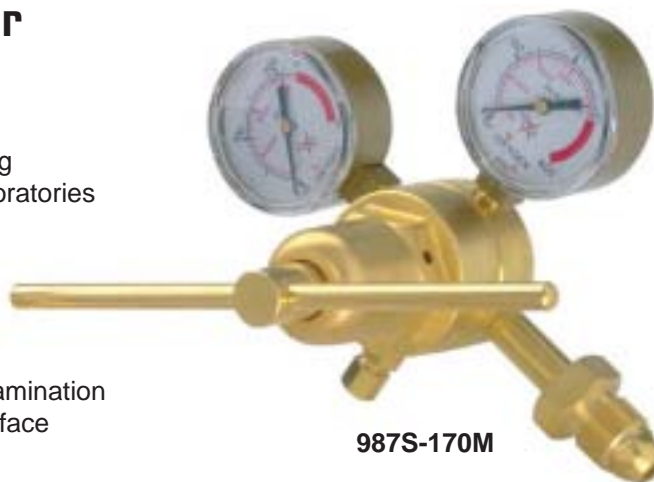
High pressure cylinder regulator

Applications:

- ▶ Designed to operate with high pressure cylinder
- ▶ High pressure testing, charging accumulators, pressurising aircraft struts, oil refineries, chemical plants, research laboratories and general industry
- ▶ Ideal also for high pressure manifold distribution

Features:

- ▶ Maximum inlet pressure 300 bar
- ▶ Stainless steel diaphragm on first stage - no internal contamination
- ▶ High pressure capsule seat with Kel-F (CTFE) sealing surface
- ▶ Corrosion resistant, forged brass, body and bonnet
- ▶ Bronze bonnet bushing and stainless steel T screw
- ▶ Inlet is heavy duty - 15 mm thread with metal to metal seal
- ▶ Outlet is a 1/4" external diameter copper tube compression fitting
- ▶ Models available for all non-corrosive compressed gases
- ▶ Same regulator used for lightweight gases, without vibration



987S-170M

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
987S-100M *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-100	400	0-315	0-400
987AS-170M *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-170	500	0-315	0-400
CLIMATESTER	Nitrogen	300	0-55	120	0-70	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 8700 High pressure cylinder regulator

Applications:

- ▶ Designed to operate in high pressure cylinder. All gas and air models are self-relieving
- ▶ Typical applications include high pressure testing, charging accumulators and pressurizing aircraft struts

Features:

- ▶ Maximum inlet pressure 300 bar
- ▶ One piece encapsulated valve with CTFE seats and internal filter
- ▶ Elastomeric diaphragm for longer life
- ▶ Ergonomic knob for improved grip



8700

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m³/h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
8700 3000psi *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-205	330	0-280	0-400
8700 4500psi *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-300	330	0-400	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Model HP750 Servo dome loaded regulator

Applications:

- ▶ Laser assist gases, pressure transfer, blanketing & high flow manifolds

Features:

- ▶ High pressure, high flow regulator
- ▶ Maximum inlet pressure 380 bar
- ▶ One piece encapsulated seat design with 10 micron filtration
- ▶ Servo dome load technology, the regulator has an internal pressure feedback sensing line which monitors the outlet pressure and constantly opens or closes the regulator valve to maintain the internal pressure balance. The result is a constant delivery pressure regardless of the flow rate or inlet pressure conditions



HP-750

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m³/h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
HP750-17 (3000867) *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	380	0-17	>1000	0-28	0-400
HP750-35 (3000868) *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	380	0-35	>1000	0-42	0-400
HP750-70 (3000869) *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	380	0-70	>1000	0-138	0-400

*The regulator is available for all the listed gases. When ordering always specify gas.

Pipeline Regulators

Model 847

Pipeline regulator with one gauge

Applications:

- ▶ Specially designed to allow high flow rate from industrial and laboratory pipeline points
- ▶ Particularly suited to machine cutting where more than one torch is used. Also for heavy cutting and heating

Features:

- ▶ High flow and outlet pressure (up to 15 bar) line regulator
- ▶ Forged brass body for maximum strength
- ▶ Sintered alloy inlet filter to trap impurities
- ▶ Maximum inlet pressure 25 bar
- ▶ 15 Lpm, 30 Lpm and 50 Lpm versions available for argon and CO₂



847-15-L

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	FLOWGAUGE (Lpm)
847-1.5-AC	Acetylene	25	0-1.5	13	0-2.5	-
847-4-LP	Propane	25	0-4	76	0-6	-
847-10-OX	Oxygen	25	0-10	95	0-16	-
847-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	25	0-10	95	0-16	-
847-15-OX	Oxygen	25	0-15	135	0-25	-
847-15 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	25	0-15	135	0-25	-
847-15-L-AR/CD	Argon / CO ₂	25	-	-	-	0-15
847-30-L-AR/CD	Argon / CO ₂	25	-	-	-	0-30
847-50-L-AR/CD	Argon / CO ₂	25	-	-	-	0-50

*The regulator is available for all the listed gases. When ordering always specify gas.

Model H47

High flow pipeline regulator

Applications:

- ▶ Designed for high flow requirement for feeding industrial gas pipelines for plasma and laser cutting

Features:

- ▶ Maximum inlet pressure 60 bar
- ▶ Rear inlet connection
- ▶ Air flow over 370 m³/h
- ▶ Stainless steel diaphragm
- ▶ T screw provides smooth action and long service life



H47DS-15

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)
H47DS-15 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	60	0-15	330	0-25
H47DS-25 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	60	0-25	350	0-40
H47AS-40 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	60	0-40	390	0-60

*The regulator is available for all the listed gases. When ordering always specify gas.

Model 846 Pipeline regulator with one gauge

Applications:

- ▶ Specially designed to allow high flow rate from industrial and laboratory pipeline points.

Features:

- ▶ High flow and outlet pressure (up to 10 bar) line regulator
- ▶ Forged brass body for maximum strength
- ▶ Sintered alloy inlet filter to trap impurities
- ▶ Maximum inlet pressure 25 bar



846

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	FLOWGAUGE ((Lpm))	MAX LINE PRESSURE (bar)
846-1.5-AC	Acetylene	25	0-1.5	13	0-2.5	-	25
846-4-LP	Propane	25	0-4	76	0-6	-	25
846-10-OX	Oxygen	25	0-10	95	0-16	-	25
846-10 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Methane	25	0-10	95	0-16	-	25
846-15-L-AR/CD	Argon / CO ₂	25	-	-	-	0-15	25
846-30-L-AR/CD	Argon / CO ₂	25	-	-	-	0-30	25
846-50-L-AR/CD	Argon / CO ₂	25	-	-	-	0-50	25

*The regulator is available for all the listed gases. When ordering always specify gas.

Balloon Filling Regulator Model HELIFILLER Compact single stage balloon filler regulator

Application:

- ▶ Balloon filler designed for helium and helium mixtures

Features:

- ▶ Forged brass body and bonnet
- ▶ High pressure capsule seat with PTFE (Teflon) sealing surface
- ▶ Fixed pressure preset at 2 bar (30 psi/ 200 kPa).
- ▶ Complete with rubber coated " Tilt Valve ". When vertical the valve is closed, when pulled to the side it opens.
- ▶ Side inlet connection



HELIFILLER

MODEL NO.	VERSION	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)
HELIFILLER	gaugeless, tilt valve	Helium and Helium mixtures	230	2 (pre-set)

Beverage Regulators

Models 802/822D

Beverage regulator for cylinder

Applications:

- ▶ Ideal for breweries, beverage manufacturers, wholesale distribution for use in bars, pubs and wine bars

Features:

- ▶ High flow beverage regulator for CO₂, nitrogen or mixtures
- ▶ Model 802 side entry model 822 rear entry
- ▶ Compression fitting outlet (7/16"-20-UNF) for 1/4" plastic hose (special reverse flow valve to avoid internal liquid contamination on request)
- ▶ Safety pressure gauge with dual scale bar/kPa



802D

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
802D-4-CD side inlet	CO ₂	100	0-4	0-6	0-100
802D-4-N side inlet	Nitrogen	230	0-4	0-6	0-315
802D-8-CD side inlet	CO ₂	100	0-8	0-10	0-100
802D-8-N side inlet	Nitrogen	230	0-8	0-10	0-315
802R-4-CD side inlet	CO ₂	100	0-4	0-6	0-100
802R-4-N side inlet	Nitrogen	230	0-4	0-6	0-315
802R-8-CD side inlet	CO ₂	100	0-8	0-10	0-100
802R-8-N side inlet	Nitrogen	230	0-8	0-10	0-315
822D-4-CD rear inlet	CO ₂	100	0-4	0-6	0-100
822D-4-N rear inlet	Nitrogen	230	0-4	0-6	0-315
822D-8-N rear inlet	CO ₂	100	0-8	0-10	0-100
822D-8-N rear inlet	Nitrogen	230	0-8	0-10	0-315
822R-4-CD rear inlet	CO ₂	100	0-4	0-6	0-100
822R-4-N rear inlet	Nitrogen	230	0-4	0-6	0-315
822R-8-CD rear inlet	CO ₂	100	0-8	0-10	0-100
822R-8-N rear inlet	Nitrogen	230	0-8	0-10	0-315

High Purity Gas Regulators

Model 904 . Two gauge cylinder regulator

Application:

- ▶ Ideal for quality application where high purity gas is required

Features:

- ▶ External safety relief valve with 1/4" NPT female thread for external release hose connection
- ▶ Forged brass body fully chromed
- ▶ Maximum inlet pressure 300 bar
- ▶ Stainless steel diaphragm - no internal contamination
- ▶ Capsule seat with Kel-F (CTFE) sealing surface



904D-10

MODEL NO.	GAS	MAX INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	MAX (AIR) FLOW (m ³ /h)	DELIVERY PRESSURE GAUGE (bar)	SUPPLY PRESSURE GAUGE (bar)
904D-1.5 *	Argon, CO ₂ , Nitrogen, Air, Helium, Hydrogen, Oxygen, Methane	300	0-1.5	24	0-2.5	0-400
904D-4 *			0-4	48	0-6	
904D-10 *			0-10	100	0-16	
904R-1.5 *			0-1.5	24	0-2.5	
904R-4 *			0-4	48	0-6	
904R-10 *			0-10	100	0-16	

*The regulator is available for all the listed gases. When ordering always specify gas.

Specialty Gas single stage, double stage and line regulators for Corrosive and Non-Corrosive Gases



Series 720C

High Purity Chrome-Plated Brass Barstock



Series 740

High Purity Stainless Barstock



Series 700

High Purity Chrome-Plated Forged Brass

**A COMPLETE LINE OF ACCESSORIES
IS AVAILABLE**



Please call our customer service for more information

Specialty Gas Manifold

Series SG 900 Semi-Automatic Manifold



Series SG 960 Fully Automatic Switchover



Regulation Box



Control Box



Alarm Box



Manifold Depth: 26 cm
Cabinet Weight: 25 Kg.

Please call our customer service for more information

Regulator ordering information

Where more than
one option,
maintain
order indicated

CODE FOR REGULATOR MODEL PART

801 / 901
904
802
814 / 914
818 / 918
821
822
825 / 895 / H25
829
841
842
846
847 / H47
848
987
896 / 996

TYPE CODE (Only if non-standard)

-	Horizontal entry (standard)
V	Placed in Kit
E	Vertical entry
A	Anti vibrator (lightweight gases)
D	IRV Diaphragm safety relief valve
R	External safety relief valve
S	Stainless steel diaphragm
B	Black painted gauges
P	Without HP gauge
N	1/4" NPT gauge (std is 1/4" G)
G	Inlet connection 3/8"
W	Outlet valve (when not standard)
T	With lock "T" screw
X	With inlet stem valve "SNAP SAFE"

NOMINAL PRESSURE OR FLOW

1,5	
4	
8	
10	
15	Only for 825,847,896
25	Only for 896
40	Only for 825
150	
400	
800	
1000	
1500	Only for 825,847,896
2500	Only for 896
4000	Only for 825
15	
30	
50	

CALIBRATION

-	Pressure gauges calibrated bar or kPa
L	Flow gauge or indicator calibrated, (Lpm)
F	Flowmeter, (Lpm)
LK	Flow gauge or indicator in (Lpm), Pressure gauge in kPa
FK	Flowmeter in (Lpm), Pressure gauge in kPa

GAS

OX	Oxygen
AC	Acetylene
AIR	Air
AR	Argon
CD	Carbon Dioxide
N	Nitrogen
N2O	Nitrous oxide
H	Hydrogen
LP	Propane
PG	Practical Gas
ARC	ARCD
HE	Helium
FG	Formier gas

**PROGRESSIVE NUMBER
PERSONALIZES**

1

801	E	10		OX	1
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MANIFOLD SYSTEMS

Highlights

- ▶ Compact design
- ▶ All modular components are fully tested for stability, functionality and gas tightness for 12 hours before delivery.
- ▶ Plug and go!
- ▶ Low mounting costs
- ▶ Easy to extend
- ▶ Equipped with all necessary and approved safety devices



MFS1.5AC2X2

Technical data for gas manifolds

- ▶ **Gas type:** acetylene. Oxygen and technical gases
- ▶ **Inlet pressure:** acetylene 25 bar, all other gases up to 300 bar
- ▶ **Working pressure:** acetylene 1.5 bar, all other gases up to 40 bar
- ▶ **Number of cylinders:** up to 2x6 cylinders as standard
- ▶ **Number of MCP:** up to 2x3 MCP as standard
- ▶ **Nominal capacity of gas flow:** acetylene 5 Nm³/h up to 150 Nm³/h, oxygen and technical gases 30 Nm³/h up to 320 Nm³/h.
- ▶ **Components:** mounting plate made of stainless steel, approved non return valves on all cylinder connections.

All acetylene gas manifolds are equipped with an automatic quick action shut off valve in the high pressure zone.

Technical data gas tapping points

- ▶ **Inlet pressure:** acetylene 1.5 bar, all other gases up to 40 bar
- ▶ **Nominal capacity of gas flow:** inert gas 0-30 l/min gauge, 0-15 l/min or 0-50 l/min flow-metre. Acetylene up to 15 Nm³/h, propane up to 10 Nm³/h, oxygen up to 200 Nm³/h
- ▶ **Components:** connection body, shut off valve; pipeline connections that can be welded or brazed.



MFS25OX2X2

MFS1.5AC1X1



MFS25IG1X1



Accessories

High pressure distribution block with connecting pipe



High pressure flexible hose with on/off valve



High pressure flexible hose with on/off valve



Cylinder bracket



MODEL N.	ITEM	CYLINDERS	GAS	INLET PRESSURE (bar)	DELIVERY PRESSURE (bar)	FLOW (Nm ³ /h)
MFS25OX1X1	4704550	1X1	OXYGEN	300	0-25	60
MFS25OX1X2	4704551	1X2				
MFS25OX2X1	4704552	2X1				
MFS25OX2X2	4704553	2X2				
MFS25IG1X1	4704600	1X1	INERT GAS	300	0-25	60
MFS25IG1X2	4704601	1X2				
MFS25IG2X1	4704602	2X1				
MFS25IG2X2	4704603	2X2				
MFS1,5AC1X1	4704650	1X1	ACETYLENE	25	0-1.5	5
MFS1,5AC1X2	4704651	1X2				
MFS1,5AC2X1	4704652	2X1				
MFS1,5AC2X2	4704653	2X2				
MFS4LP1X1	4704700	1X1	PROPANE	25	0-4	15
MFS4LP1X2	4704701	1X2				
MFS4LP2X1	4704702	2X1				
MFS4LP2X2	4704703	2X2				

Controls and instruments are mounted on a stainless steel plate in modular system.

Depending on the type, the manifold consists of completely assembled components free from oil and grease:

A - Cylinder mounts Typ: FH

B - High pressure non-return valve Typ: RSV (EN15615) [BAM Approval No. BAM ZBA/009/004]

C - High pressure pig tails: (EN 14113)

D - High pressure collection block: HD-VB 1/4NPT

E - High pressure isolation valve: DV [Approval No. EN 961]

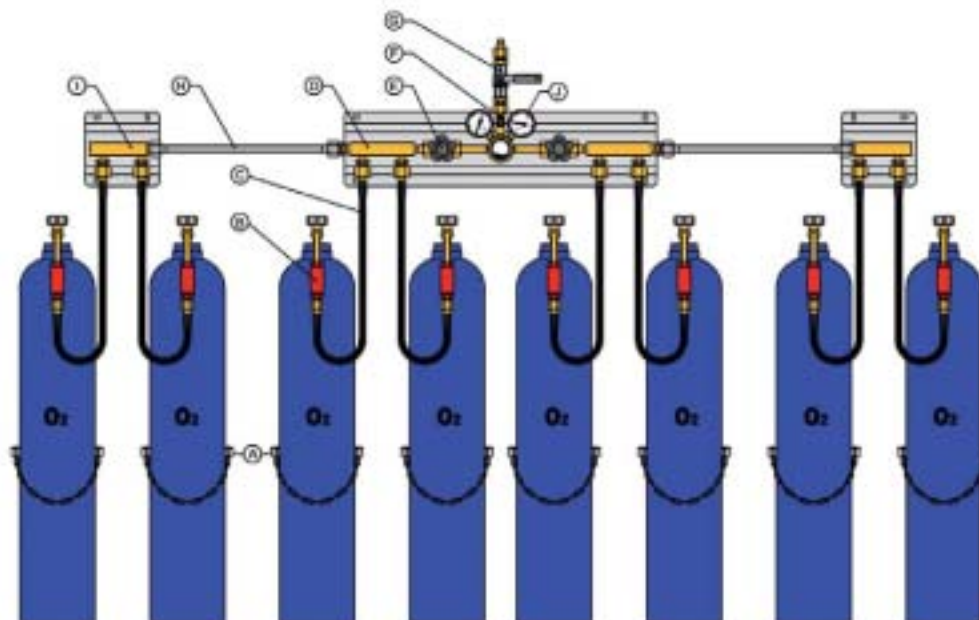
F - Regulator: e.g. H25

G - Isolation Valve Typ: LAV - KH 15-63

H - High pressure connection tube Typ: HDVR-415

I - High pressure collection block: HD-VB 1/4NPT

J - Gauge



Designed and manufactured according to EN ISO 5172.

Harris offers torches specifically designed for the best performance possible with each fuel gas:

Equal pressure system with acetylene and alternative fuel:

- ▶ Head mixing
- ▶ Equal pressure mixing of oxygen and fuel gas is extremely resistant to backfire
- ▶ Torch can be used with all fuel gases - just change the tips
- ▶ All torches are supplied as standard with threads 9/16"-18-UNF-3A-RH

Low pressure system with propane, LPG and MAPP®:

- ▶ Injector style
- ▶ Low pressure head mixing - fuel gas can be used at pressures as low as 0.015 bar
- ▶ Steady preheat flame during cutting
- ▶ Less fuel gas intake during cutting
- ▶ Pays for itself by drawing all fuel gas out of cylinder

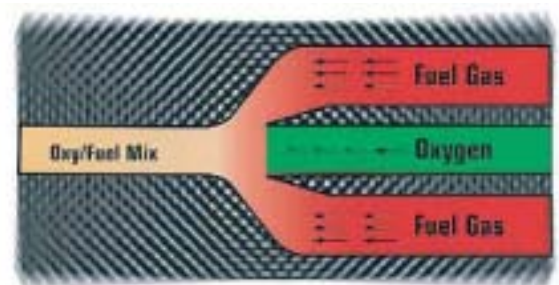
Standard torches are not supplied with inlet hose connections or cutting tips

Fuel Mixer

Harris Calorific offers two types of oxy/fuel mixers. Equal pressure or positive pressure 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

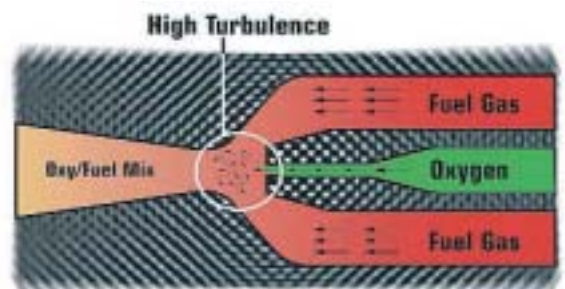
To thoroughly mix the oxygen and fuel gas, "E" mixer designs rely on equal pressure control of both oxygen and fuel gas. Both gases enter the mixing chamber at controlled pressures. "E" mixers allow the end-user greater control of the oxy/fuel ratio. This feature has an advantage in applications where 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 alternative 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 Calorific line are designed to operate at fuel gas pressures as low as 0.015 bar. "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 alternative fuels. "F" mixers tend to have a narrower operating range than "E" mixers but because of their superior mixing capabilities they tend to maximize calories output within that range.

"F" mixers are used primarily with low pressure natural gas. However, they are also recommended for use with alternative fuels when maximum calories output is needed and / or positive pressure control of the fuel gas is not available.



Model 62



90° Head

...for Acetylene and low-cost fuel gases such as Propane, Natural Gas, MAPP® Gas, and Propylene

The industry standard by which all other designs are compared. The 62-5 is less expensive to own, operate and safer to use.

Our special 62 "F" injector mixer can produce the hottest flame possible at the lowest gas pressure making it the safest, most efficient design in the industry.

- ▶ Cuts up to 300 mm steel
- ▶ Solid forged head and lever
- ▶ Triangular tube design
- ▶ Brazed connections
- ▶ Head mixing
- ▶ Use with 6290 tips (see page 59-60)

62-5E EQUAL PRESSURE "E" TORCHES (FOR ACETYLENE AND ALTERNATIVE FUELS)				
90° Head		70° Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	
62-5E	1.27	62-5AE	1.25	460
62-5EL	1.32	62-5AEL	1.31	530
62-5EL-1000	1.73	62-5AEL-1000	1.58	900

62-5F LOW PRESSURE "F" INJECTOR TORCHES (FOR MAXIMUM PERFORMANCE WITH ALTERNATIVE FUELS)						
90° Head		70° Head		180° Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	Part no.	Weight (Kg)	
62-5F	1.27	62-5AF	1.25	62-5BF	1.14	460
62-5FL	1.32	62-5AFL	1.31	62-5BFL	1.18	530
62-5FL-835	1.59	62-5AFL-835	1.58	62-5BFL-835	1.42	835
62-5FL-1000	1.70	62-5AFL-1000	1.69	62-5BFL-1000	1.52	900
62-5FL-1250	1.82	62-5AFL-1250	1.80	62-5BFL-1250	1.63	1210
62-5FL-1500	2.00	62-5AFL-1500	1.98	62-5BFL-1500	1.79	1500
62-5FL-2000	2.50	62-5AFL-2000	2.50	62-5BFL-2000	2.30	2000



70° Head



180° Head

62-5 LOW PRESSURE TORCHES (FOR ACETYLENE)						
90° Head		70° Head		180° Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	Part no.	Weight (Kg)	
62-5	1.27	62-5A	1.25	62-5B	1.14	460
62-5L	1.32	62-5AL	1.31	62-5BL	1.18	530
62-5L-835	1.59	62-5AL-835	1.58	62-5BL-835	1.42	835
62-5L-1000	1.70	62-5AL-1000	1.69	62-5BL-1000	1.52	900
62-5L-1250	1.82	62-5AL-1250	1.80	62-5BL-1250	1.63	1210
62-5L-1500	2.00	62-5AL-1500	1.98	62-5BL-1500	1.79	1500

Available with G 3/8" A-UNI ISO 228 inlet threads,
add "GB" to product code when ordering

Model 242



- ▶ Cutting capacity 200 mm
- ▶ One torch suitable for use with all fuel gases: simply change tip for cutting, heating, gauging.
- ▶ Toughest design-triangular stainless steel tubes, solid forged brass head
- ▶ Available to suit all tip styles in the world
- ▶ Ease-on cutting oxygen control smoother starts
- ▶ Head mixing and equal pressure design for maximum operator safety
- ▶ Harris design quality control and reputation makes this the "safest" long life torch
- ▶ Fast heating and cutting
- ▶ Spare parts and accessories readily available
- ▶ Total versatility
- ▶ Extended lengths available on request
- ▶ Use with 6290 tips (see page 59-60)

242 EQUAL PRESSURE TORCHES (FOR MAXIMUM PERFOR (FOR ACETYLENE AND ALTERNATIVE FUELS))				
90°Head		70°Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	
242	1.30	242-A	1.30	460
242-L	1.35	242A-L	1.35	530

Model 42



- ▶ Cuts up to 200 mm
- ▶ Lightweight
- ▶ Solid forged head
- ▶ Triangular tube design
- ▶ Brazed tube connections
- ▶ Use with 6290 tips (see page 59-60)



Handwheel valve

Model 42-3 available with handwheel valve. Add "V" to product code when ordering.

42-4F LOW PRESSURE "F" INJECTOR TORCHES (FOR MAXIMUM PERFORMANCE WITH ALTERNATIVE FUELS)				
90°Head		70°Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	
42-4F	1.02	42-4AF	1.02	420
42-4FL	1.06	42-4AFL	1.06	500
42-3FL-835	1.21	42-3AFL-835	1.21	835
42-3FL-1000	1.35	42-3AFL-1000	1.35	1000

42-4E EQUAL PRESSURE "E" TORCHES (FOR ACETYLENE AND ALTERNATIVE FUELS)		
90°Head		Length (mm)
Part no.	Weight (Kg)	
42-4E	0.99	420
42-4EL	1.04	500

42-4 LOW PRESSURE TORCHES (FOR ACETYLENE)				
90°Head		70°Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	
42-4	1.03	42-4A	1.04	420
42-4L	1.07	42-4AL	1.07	500
42-3L-835	1.28	42-3AL-835	1.25	835
42-3L-1000	1.35	42-3AL-1000	1.35	1000

Available with G 3/8" A-UNI ISO 228 inlet threads, add "GB" to product code when ordering

Model 242-NM



- ▶ Cutting capacity 200 mm
- ▶ One torch suitable for use with all fuel gases
- ▶ Toughest design- triangular stainless steel tubes, solid forged brass head
- ▶ Stainless steel cutting oxygen lever
- ▶ Use with 8290 tips (see page 61)

242-NM EQUAL PRESSURE TIP MIX TORCHES (FOR ACETYLENE OR ALTERNATIVE FUELS)				
90°Head		70°Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	
242-NM	1.25	242-NM-A	1.25	460
242-NML	1.32	242-NM-AL	1.31	530

Available with G 3/8" A-UNI ISO 228 inlet threads, add "GB" to product code when ordering

Model 28



- ▶ Cuts up to 400 mm with acetylene
- ▶ Cuts up to 500 mm with propane
- ▶ Operates with acetylene or alternative fuel
- ▶ Stainless steel gas tube
- ▶ Tip mix principle
- ▶ Use with 2890 tip mix tips (see page 61)

28-L EQUAL PRESSURE TIP MIX TORCHES (FOR ACETYLENE OR ALTERNATIVE FUELS)		
90°Head		Length (mm)
Part no.	Weight (Kg)	
28	1.42	510
28-L	1.60	675

Cutting Attachments

- ▶ Solid forged head resists abuse and distortion
- ▶ Triangular tube design is compact and lightweight with exceptional strength and rigidity
- ▶ Brazed connections prevent leaks
- ▶ Protected torch union nut protects seats and o-rings from abuse
- ▶ Solid forged lever for exceptional strength
- ▶ Ease-on cutting oxygen control for smoother starts

Handwheel valve



73-3 Cuts up to 150 mm

Heavy duty equipment

73 Equal Pressure "E" Cutting Attachments (for Acetylene and Alternative Fuels)

PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
73-3	90°	6290	43-2	0.638	227
73-3B	180°	6290	263	0.630	253
73-3V*	90°	6290	543	0.650	227

* "V" handwheel valve instead of lever.



49-3 Cuts up to 150 mm

Heavy duty equipment

49 Low Pressure Cutting Attachments (for Acetylene)

PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
49-3	90°	6290		0.678	248
49-3A	70°	6290	43-2	0.686	258
49-3L360	90°	6290	263	0.728	348
49-3L500	90°	6290	543	0.750	490
49-3V*	90°	6290		0.692	248

* "V" handwheel valve instead of lever.

49-F Low Pressure "F" Cutting Attachments (for Alternative Fuels)

PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
49-3AF	70°	6290		0.674	258
49-3AFV*	70°	6290		0.700	258
49-3F	90°	6290	43-2	0.678	248
49-3FL360	90°	6290	263	0.736	348
49-3FL500	90°	6290	543	0.804	490
49-3FV*	90°	6290		0.688	248

* "V" handwheel valve instead of lever.



273 Cuts up to 150 mm

Medium- Heavy
duty equipment
Brazed in mixer

273 Equal Pressure Cutting Attachments (for Acetylene and Alternative Fuels)

PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
273	90°	6290	43-2, 263, 543	0.840	230

273-NM Equal Pressure Cutting Attachments (for Acetylene and Alternative Fuels)

PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
273-NM	90°	8290	43-2, 263, 543	0.800	230



72-3 Cuts up to 100 mm

Medium duty
equipment

72 Equal Pressure "E" Cutting Attachments (for Acetylene and Alternative Fuels)

PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
72-3	90°	6290	85	0.636	227
72-3V*	90°	6290	85	0.642	227

* "V" handwheel valve instead of lever.



36-2 Cuts up to 75 mm

Light duty
equipment

36 Equal Pressure "E" Cutting Attachments (for Acetylene and Alternative Fuels)

PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
36-2	90°	6290	19-6	0.326	189

Model 43

Welds up to 50 mm
Cuts up to 150 mm

This model is a high capacity combination handle.

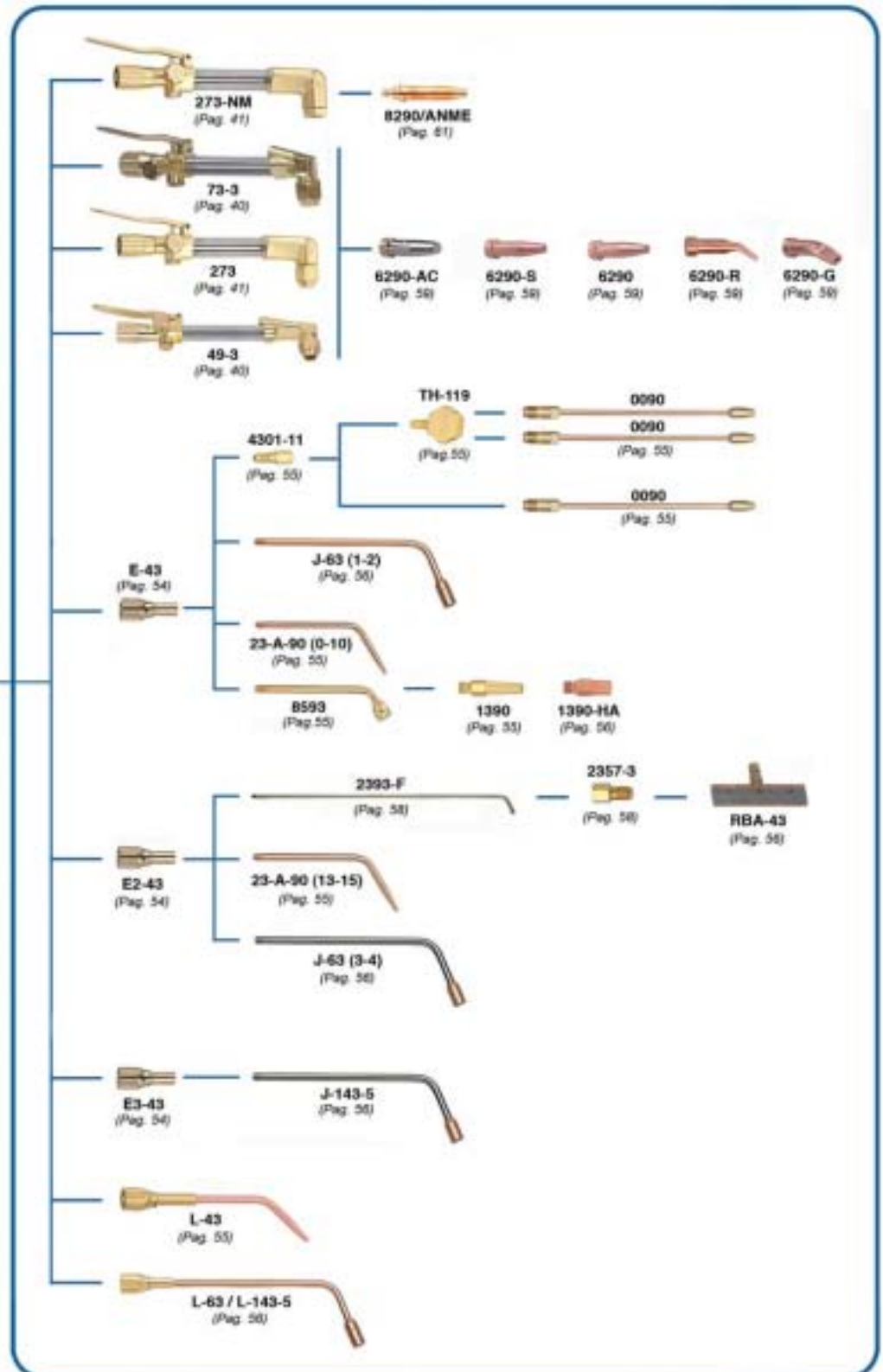
With proper accessories, it can be used for either acetylene or other fuel gases.



ACETYLENE



43-2

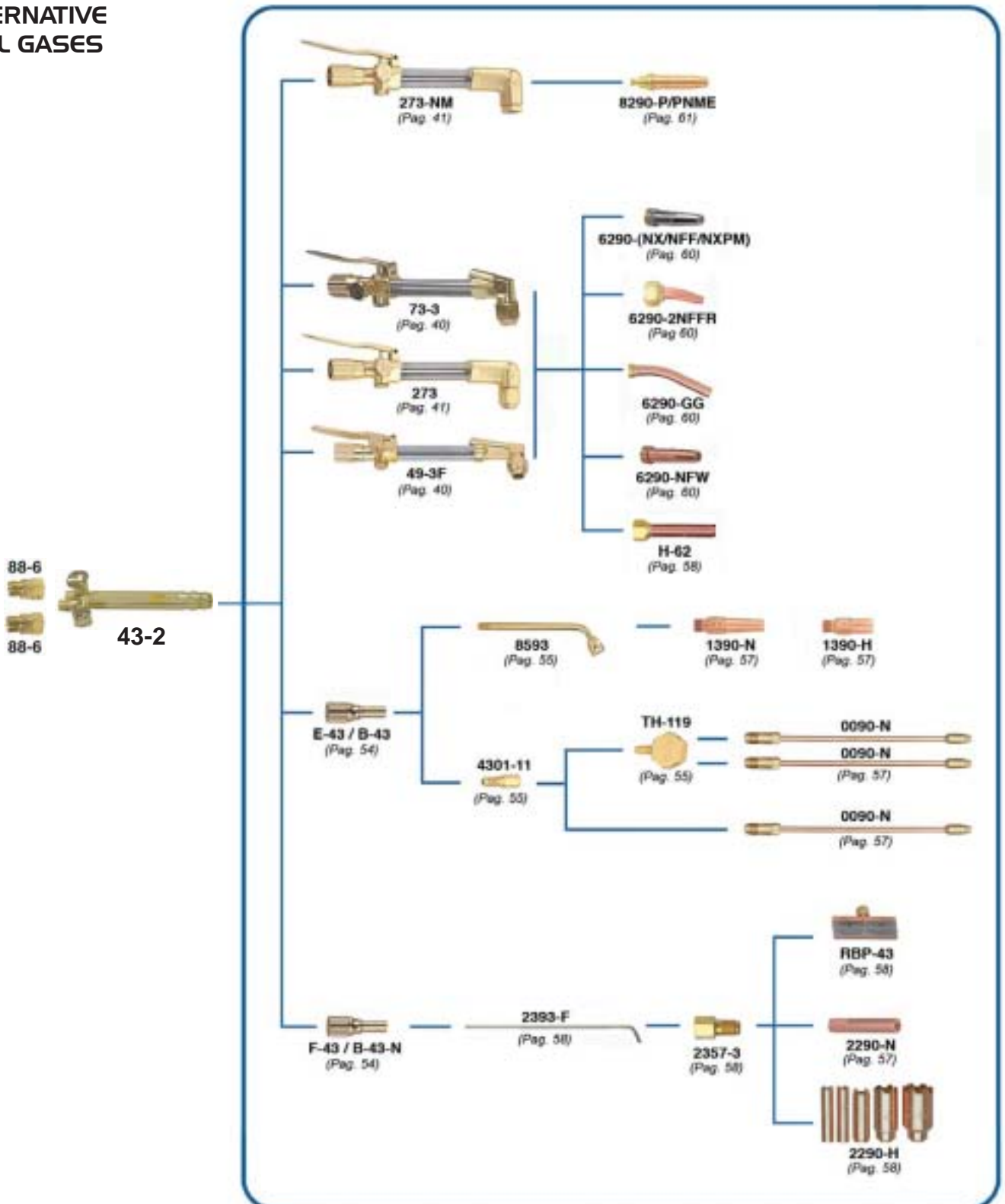


Features:

- ▶ Stainless steel head
- ▶ Tough extruded brass handle
- ▶ Stainless steel ball valves
- ▶ No screws or soldered parts for easier maintenance

PART NO.	COMPATIBLE CUTTING ATTACHMENT	THREAD OXYGEN	THREAD FUEL GAS	WEIGHT (Kg)	LENGTH (mm)
43-2	49-3, 59-3,	9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.550	208
43-2GB	73-3, 273	G 3/8" A-RH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228	0.558	208

ALTERNATIVE FUEL GASES



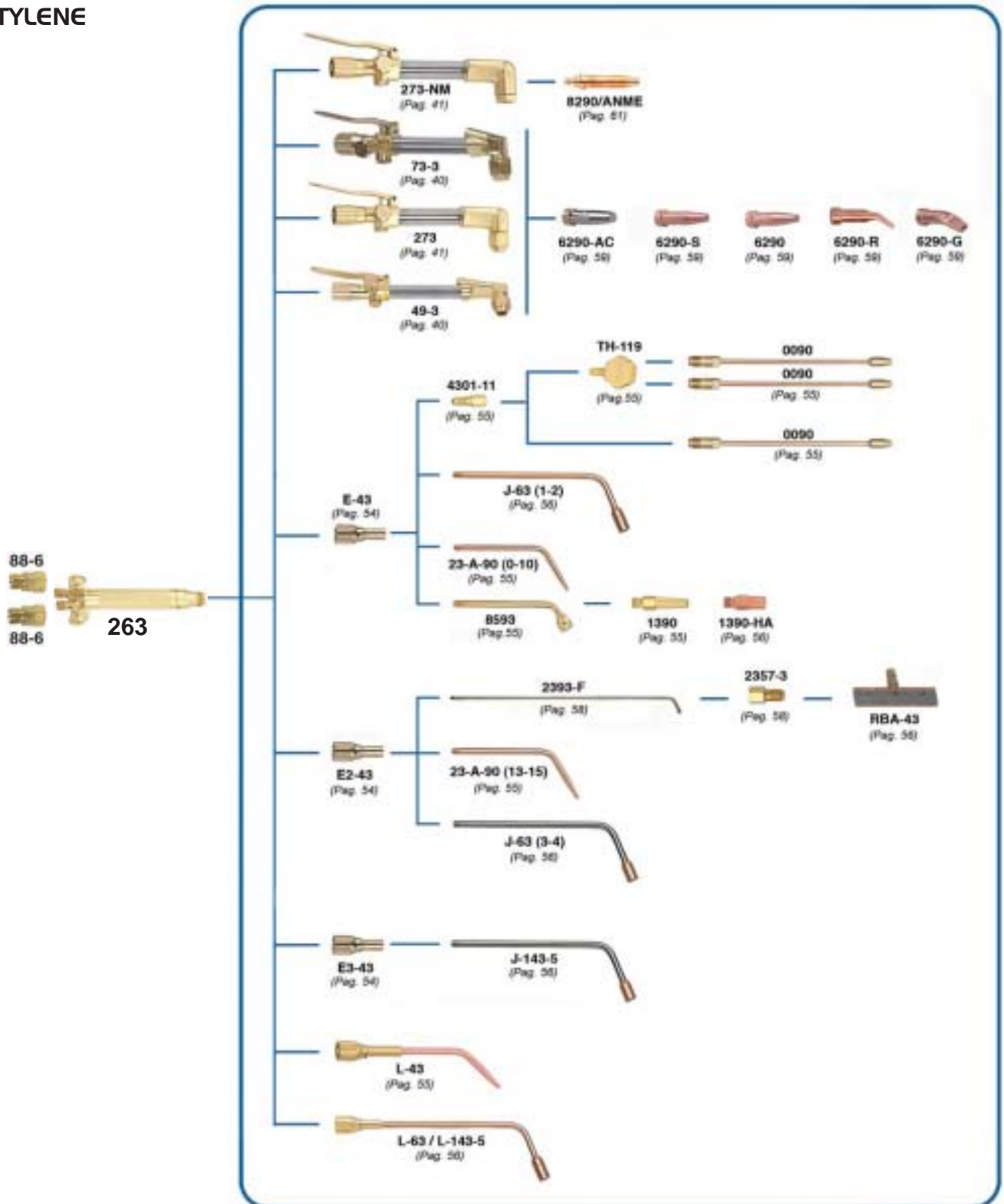
Model 263

Welds up to 50 mm
Cuts up to 150 mm

This model is a high capacity combination handle. With proper accessories, it can be used for either acetylene or other fuel gases.



ACETYLENE

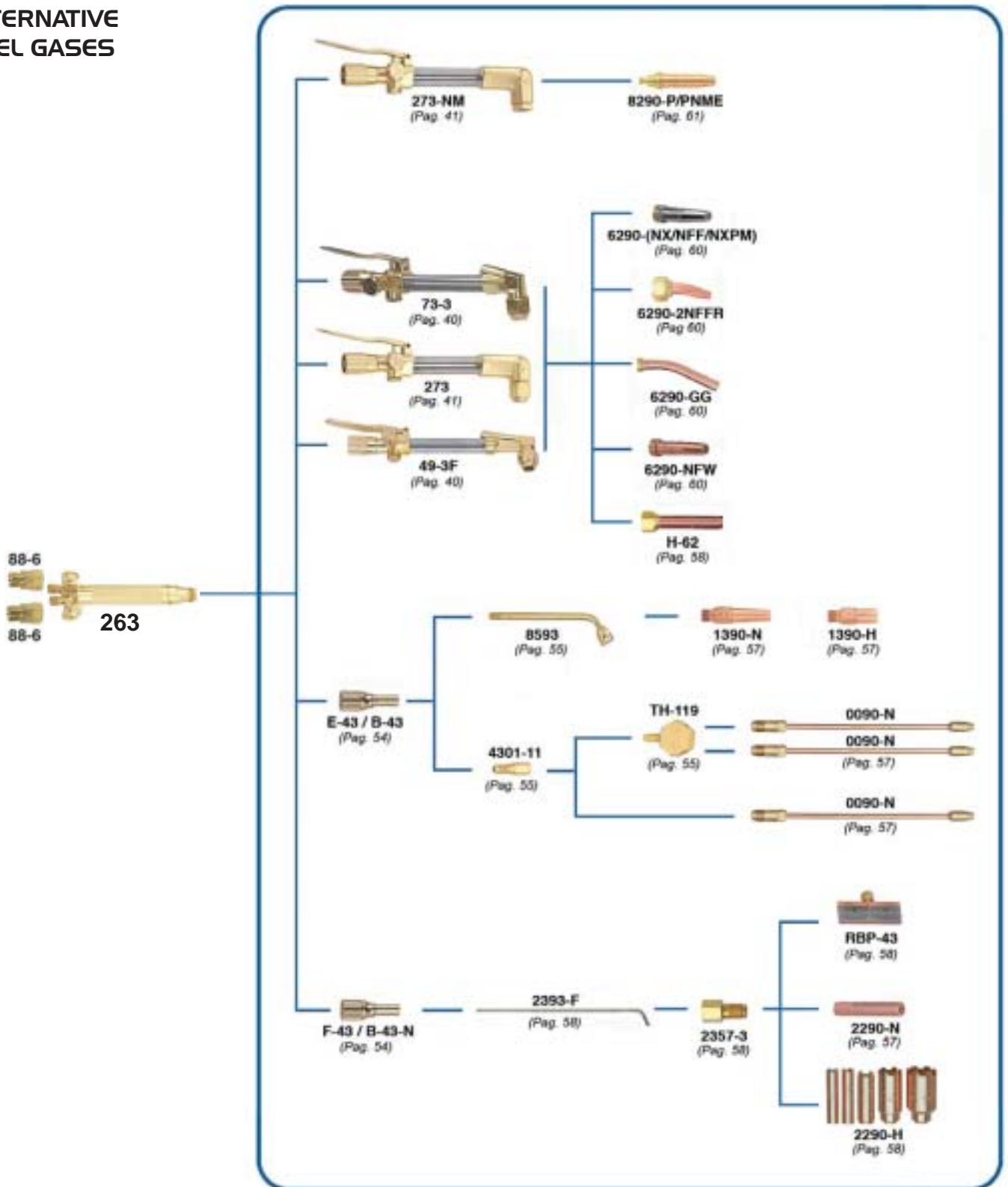


Features:

- ▶ High precision ball valves
- ▶ Two separate gas tubes
- ▶ Brass handle

PART NO.	COMPATIBLE CUTTING ATTACHMENT	THREAD OXYGEN	THREAD FUEL GAS	WEIGHT (Kg)	LENGTH (mm)
63-2	49-3, 59-3,	9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.550	208
63-2GB	73-3, 273	G 3/8" A-RH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228	0.558	208

ALTERNATIVE FUEL GASES



Model 543

Welds up to 50 mm
Cuts up to 150 mm



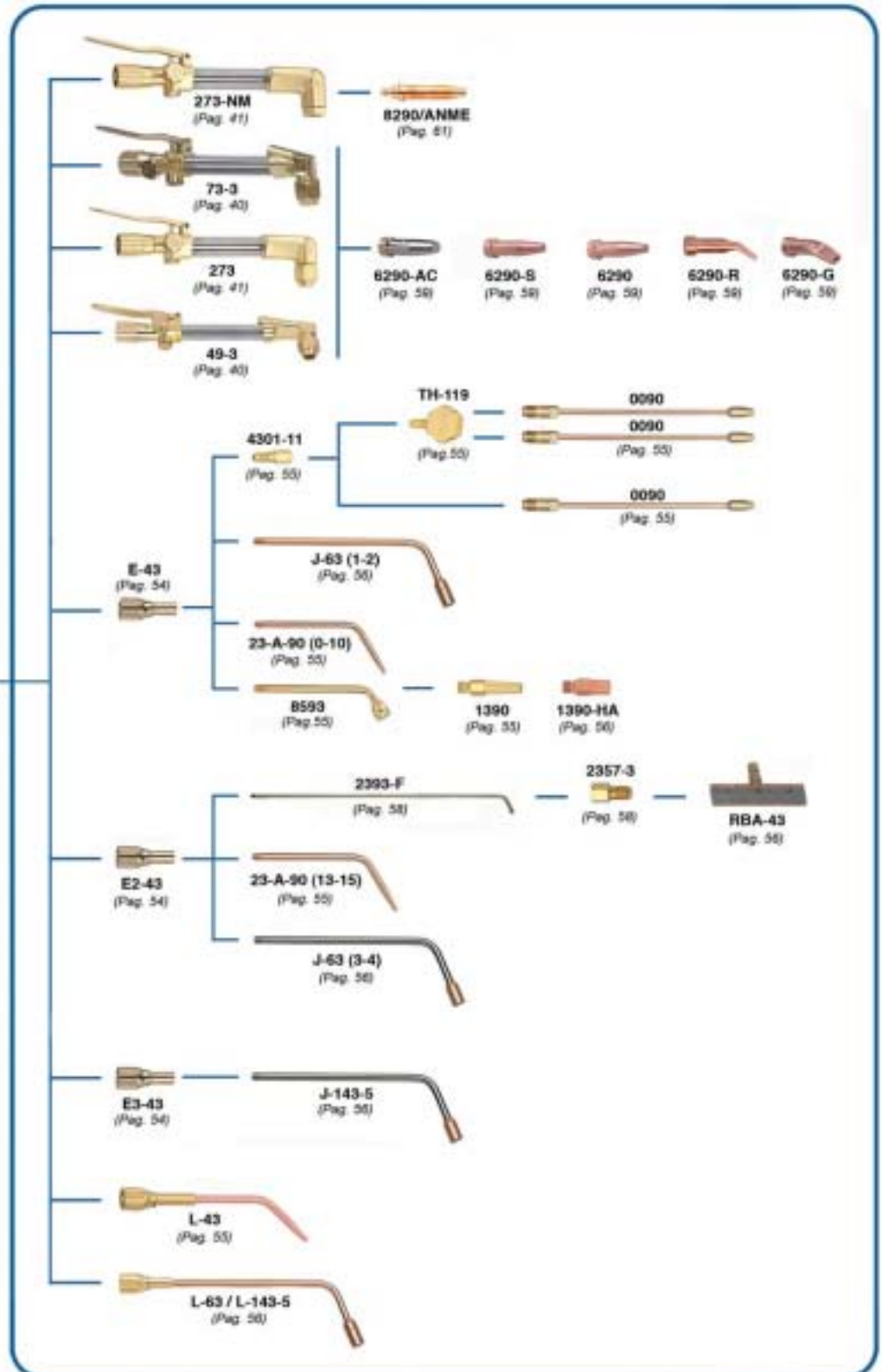
Features:

- ▶ Conforms to EN ISO 5172
- ▶ Ergonomic design with front valves
- ▶ Forged aluminium alloy body

ACETYLENE



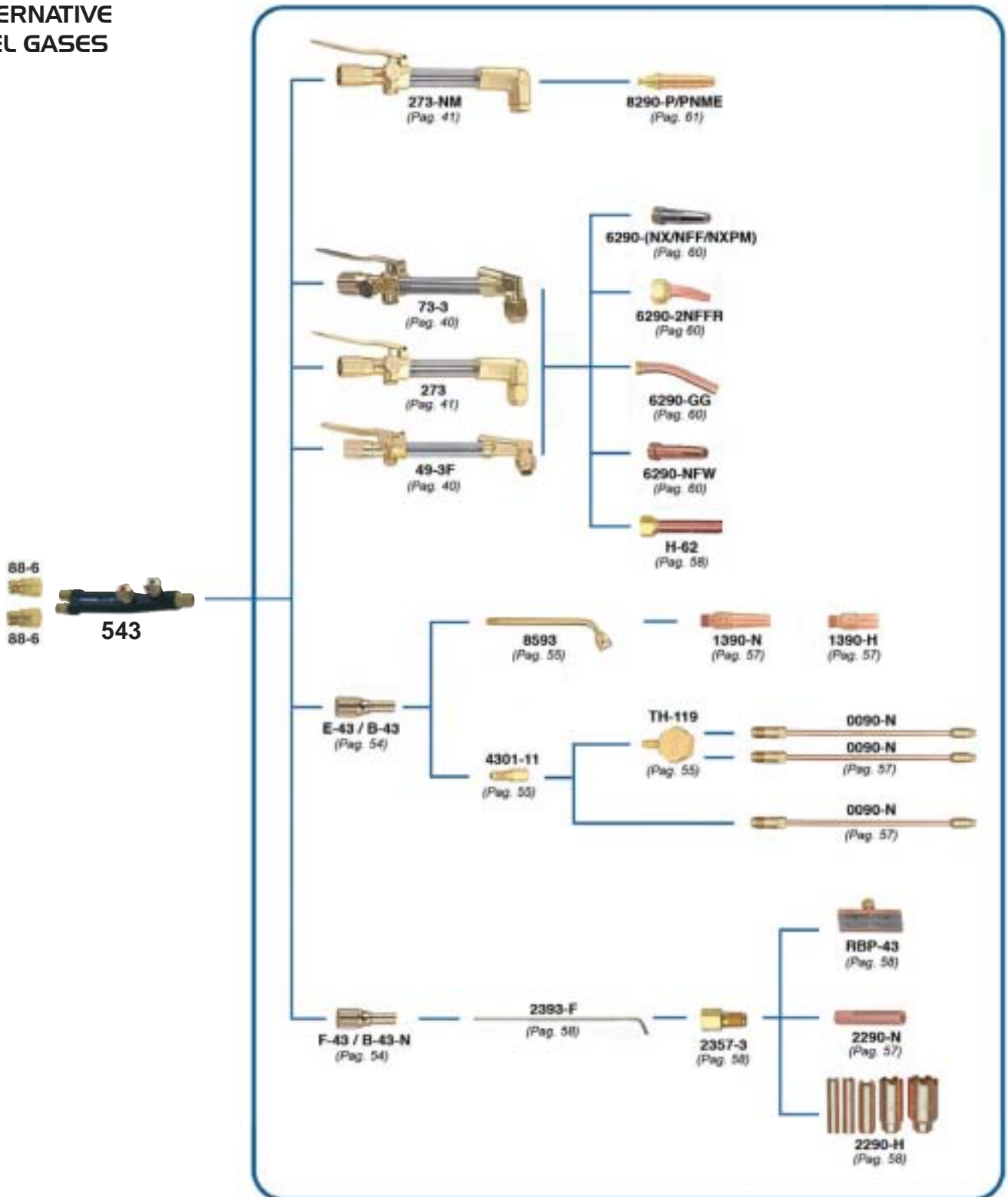
543



- ▶ High precision ball valves
- ▶ Coated with tough black polyurethane for longer life

PART NO.	COMPATIBLE CUTTING ATTACHMENT	THREAD OXYGEN	THREAD FUEL GAS	WEIGHT (Kg)	LENGTH (mm)
543		9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.502	211
543D	49-3, 59-3, 73-3, 273	G 1/4" A-RH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228	0.503	211
543GB		G 3/8" A-RH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228	0.507	211

ALTERNATIVE FUEL GASES



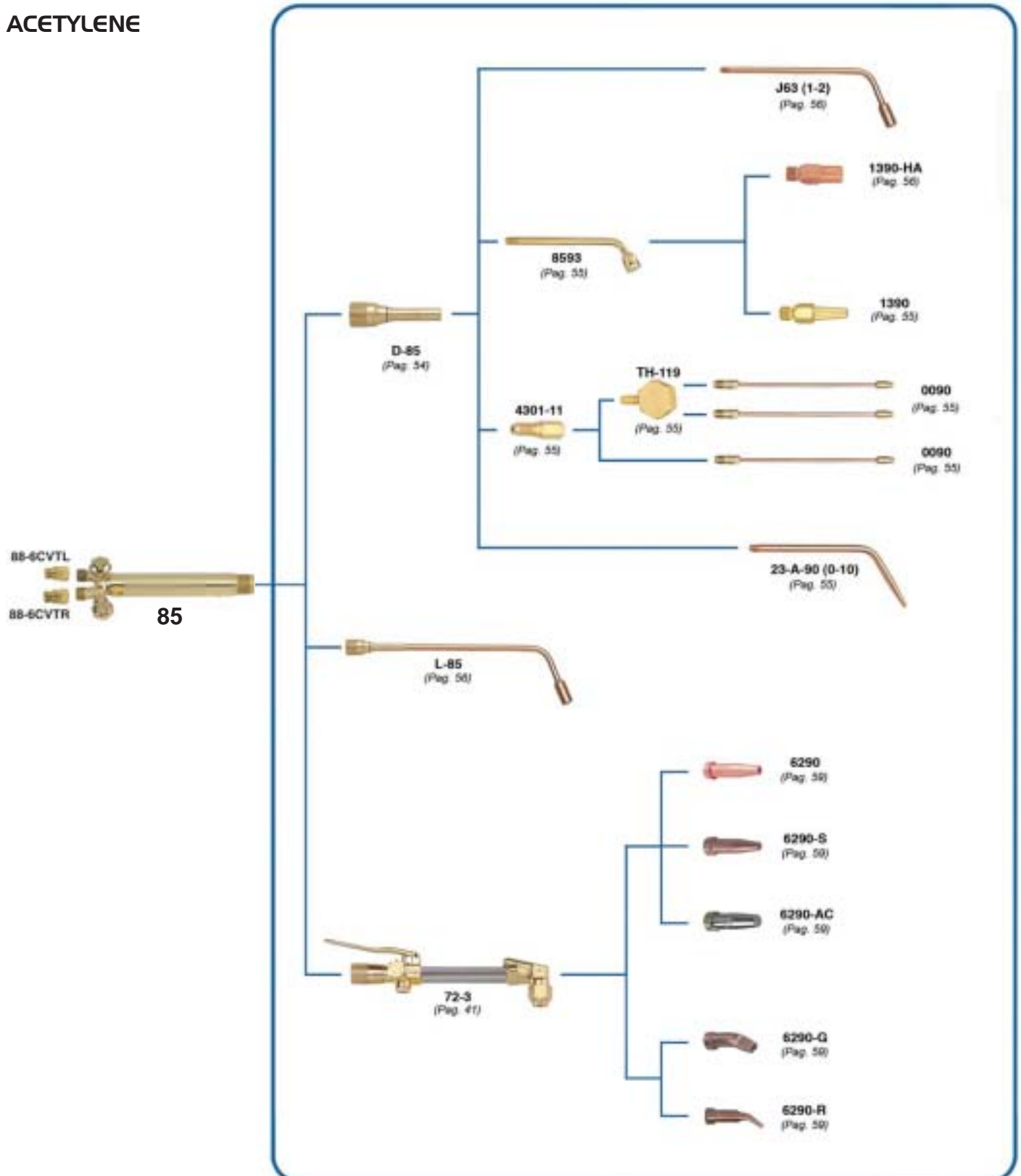
Model 85

Welds up to 20 mm
Cuts up to 100 mm

This model 85 is designed for welding, heating and cutting with oxy-acetylene.



ACETYLENE

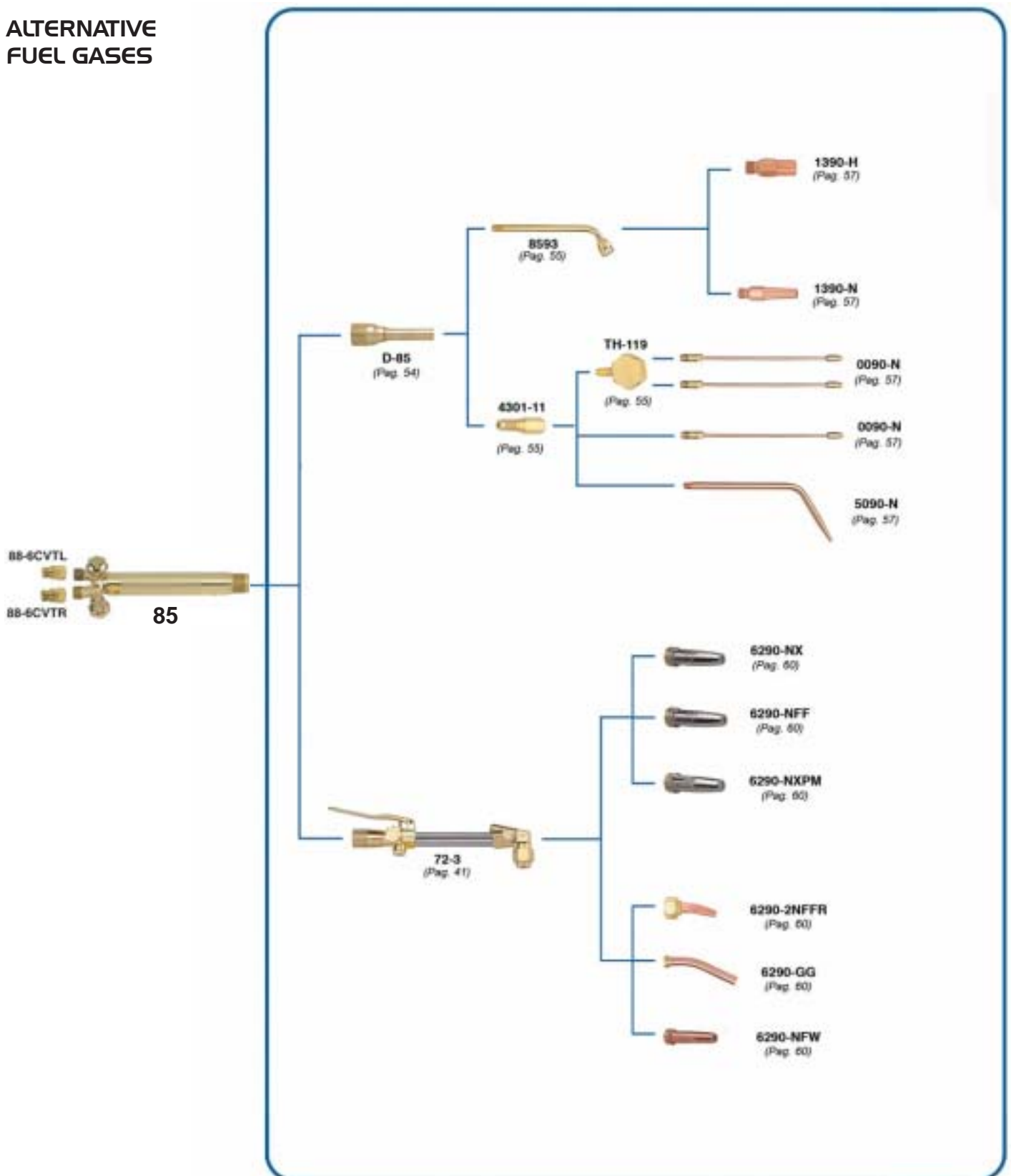


Features:

- ▶ Brass torch handle
- ▶ Silver brazed twin tube construction for safety and durability
- ▶ Ball valve for fast and accurate flame adjustment

PART NO.	COMPATIBLE CUTTING ATTACHMENT	THREAD OXYGEN	THREAD FUEL GAS	WEIGHT (Kg)	LENGTH (mm)
85	72-3	9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.362	183

ALTERNATIVE FUEL GASES



Model 50

Welds up to 14 mm



Automatic Torch Handle. The Harris 50-9 and 50-10 automatic torch handles feature a unique gas control system to reduce operating and improve safety and convenience.

The thumb operated on/off gas control and adjustable pilot light eliminate relighting and flame readjustment each time the torch is used. The on/off feature can be used for cutting, brazing, and welding with all oxy fuel gases.

The pilot flame light feature is not recommended when using cutting attachments or heating tips.

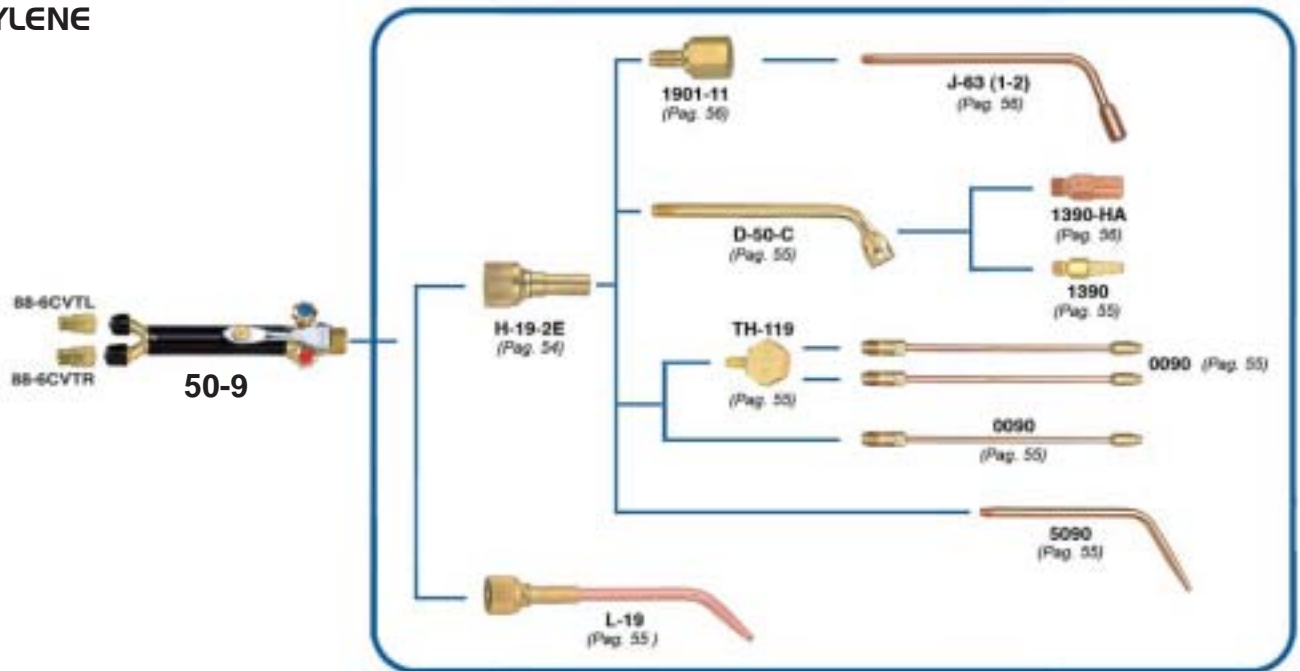
Select model 50-9 for acetylene and 50-10 for other fuel gases.

Features:

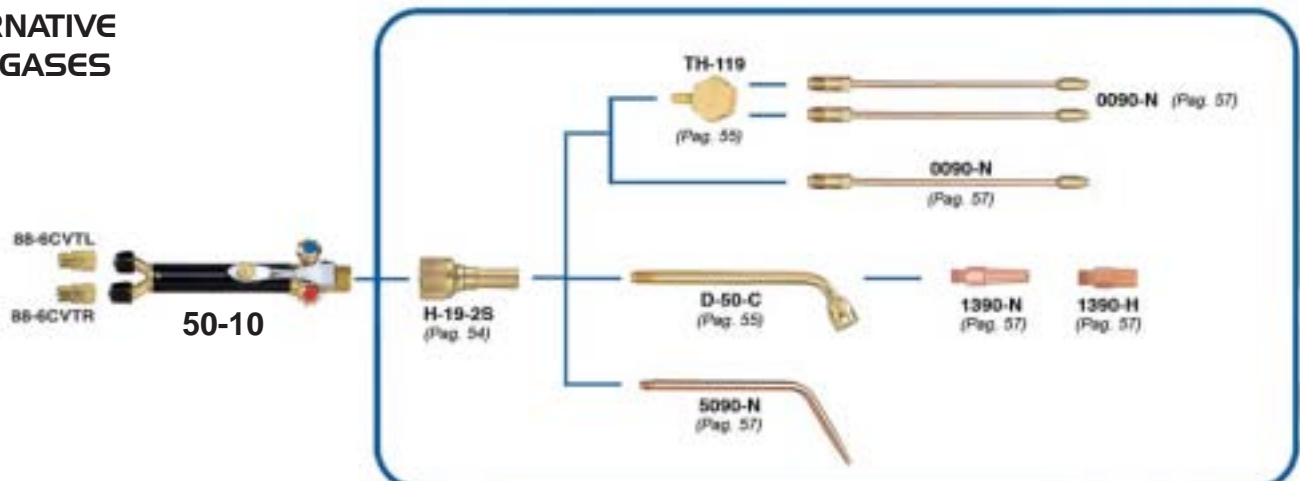
- ▶ Automatic on/off gas control
- ▶ Adjustable pilot light

PART NO.	COMPATIBLE CUTTING ATTACHMENT	THREAD OXYGEN	THREAD FUEL GAS	WEIGHT (Kg)	LENGTH (mm)
50-9	36-2	9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.310	169
50-9-GB		G 1/4" A-RH-UNI ISO 228	G 1/4" A-LH-UNI ISO 228	0.308	169
50-10		9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.310	169
50-10-GB		G 1/4" A-RH-UNI ISO 228	G 1/4" A-LH-UNI ISO 228	0.308	169

ACETYLENE



ALTERNATIVE FUEL GASES



Model 19

Welds up to 14 mm
Cuts up to 75 mm

The model 19-6 combination torch handle for cutting, welding, brazing and heating. It can be used with oxy-acetylene or other fuel gases. The model 19-6 features silver brazed twin tube construction. Valves are located at the front of torch handle for more precise control while brazing.

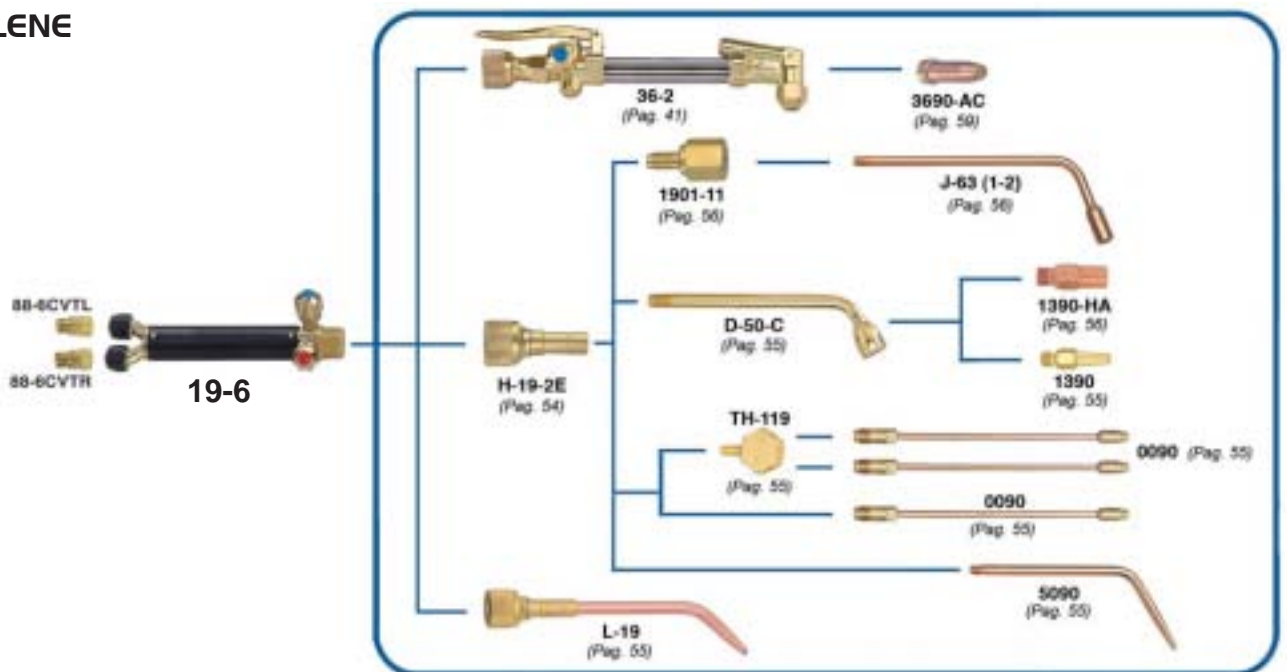


Features:

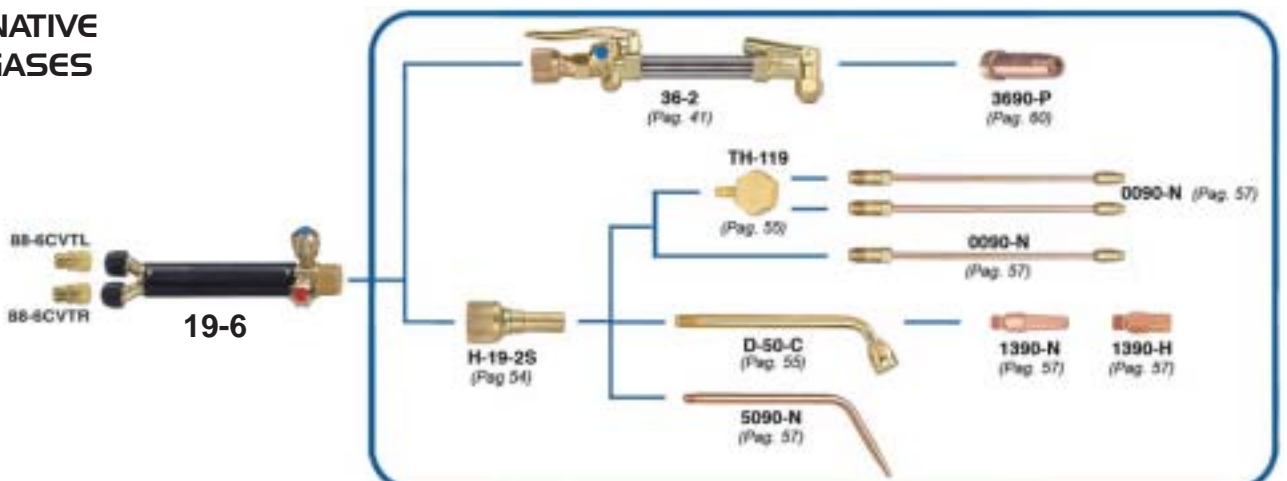
- ▶ Light weight handle
- ▶ Silver brazed twin tube construction for safety and durability
- ▶ Ball valve for fast and accurate flame adjustment

PART NO.	COMPATIBLE CUTTING ATTACHMENT	THREAD OXYGEN	THREAD FUEL GAS	WEIGHT (Kg)	LENGTH (mm)
19-6	36-2	9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.240	154
19-6-GB		G 1/4" A-RH-UNI ISO 228	G 1/4" A-LH-UNI ISO 228	0.238	154

ACETYLENE



ALTERNATIVE FUEL GASES



189-2 Automatic Soldering And Heating Assembly Propane, Natural Gas

The Harris 189-2 heating and soldering torch is designed to operate with natural gas (0,015 bar or more) or propane in combination with 3 to 7 bar of compressed air only. The 189-2 is completely automatic. Once adjusted to the proper flame, the pilot light can be retained during down time and full flame returned instantly by pressing the hand lever. The pilot light can be enlarged to a full "smoothing on" secondary flame when used for soldering. The tip can be positioned in any direction.



- ▶ Large area soft soldering
- ▶ Preheating castings for welding
- ▶ Heating pipes in chemical plants
- ▶ Mould drying
- ▶ Metal cleaning (Brewery, Vats, Rubber Mould, etc.)
- ▶ Burning paint
- ▶ Heating forming dies prior to hard facing
- ▶ Stress relieving die shoes
- ▶ For use with compressed air only
- ▶ Max. Kcal. output
33.000 Kcal. with propane
21.000 Kcal. with natural gas



81-12 TIP

81-12 Heating Tip

PART NO.	HEAT OUTPUT (Kcal/h)	COMPRESSED AIR		PROPANE	
		PRESSURE (bar)	FLOW (l/h)	PRESSURE (bar)	FLOW (l/h)
PROPANE					
81-12	66000	7	45000	0,3	3000
NATURAL GAS					
81-12	83000	7	40000	0,015	9000

I87 Metal Powder Spraying Assembly Oxy-Acetylene



- ▶ Metal spraying with cobalt, nickel, and Iron bases; tungsten carbide and tribaloy
- ▶ Operates with acetylene
- ▶ Lightweight design
- ▶ Safety system to avoid power blowback and mixed gases into the powder container
- ▶ Uses standard 85 handle (see page 48)

I8790 Tips

- ▶ Tips assembly can rotate 360° to allow for spray operations in any desired direction



PART NO.	OXYGEN PRESSURE (bar)		ACETYLENE PRESSURE (bar)		OXYGEN FLOW (l/h)		ACETYLENE FLOW (l/h)		HEATING POWER (Kcal/h)	
	1	2	1	2	1	2	1	2	1	2
18790-45H	3.0	5.0	0.5	0.8	1125	1875	600	1000	13550	183600
18790-48H	2.0	3.5	0.3	0.5	750	1300	400	600	8130	110160
18790-53H	1.5	2.5	0.2	0.4	600	1000	300	500	6780	91870

I878ILT Powder Container

- ▶ Powder container capacity of 0.45 kg. (1 lb) ideal for small jobs
- ▶ Powder recoveries of up to 95%



Equal Pressure "E" Type Mixer



E-43



E-243



E3-43/F-43



D-85



H-19-2E

PART NO.	FITS HANDLE	GAS	WELDING TIPS	HEATING TIPS	BRAZING TIPS	FLAME CLEANING TIPS
E-43	43-2, 263, 543	Oxy-Acetylene	23A90 tips 0,1,3,5,6,8,9,10 0090 tips 1,3,5,6,8 (+adapter 4301-11+TH-119) 1390 tips 00,0,1,3,5,6,8,9,10 (+tube 8593)	J-63 tips 1,2 1390-HA (+tube 8593)	-	-
		Oxy-Propane	-	-	1390-N tips 2,3,4,5,6,7,8,9,10 (+ tube 8593) 0090-N tips 2,4,6,8 (+adapter 4301-11 +TH-119)	-
E2-43	43-2, 263, 543	Oxy-Acetylene	23A90 tips 13,15	J-63 tips 3,4	-	RBA-43 tips 2,4,6 (+tube 2393+2357-3)
E3-43	43-2, 263, 543	Oxy-Acetylene	-	J-143-5	-	-
D-85	85	Oxy-Acetylene	23A90 tips 0,1,3,5,6,8,9,10 0090 tips 1,3,5,6,8, (+adapter 4301-11+TH-119) 1390 tips 00,0,1,3,5,6,8,9,10 (+tube 8593)	J-63-tips 1,2 1390-HA (+tube 8593)	-	-
			5090 tips 0,1,3,5,6,8,9,10 0090 tips 1,3,5,6,8 (+tip holder TH-119) 1390 tips 00,0,1,3,5,6,8,9,10 (+tube D-50-C) 0090 tips 1,3,5,6,8	J-63-tips 1,2 (+adapter 1901-11) 1390-HA (+tube 8593)	-	-
H-19-2E	19-6, 50-9	Oxy-Acetylene	-	2290-H tips 1,2,3,4,5 (+ tube 2393+2357-3)	2290-N tips 13,15,20,30,80 (+tube 2393+2357-3)	RBP-43 tips 2,4,5 (+tube 2393+2357-3)
F-43	43-2, 263, 543	Oxy-Propane	-	-	-	-

Low Pressure "F" Type Mixer



B-43-N



H-19-2S

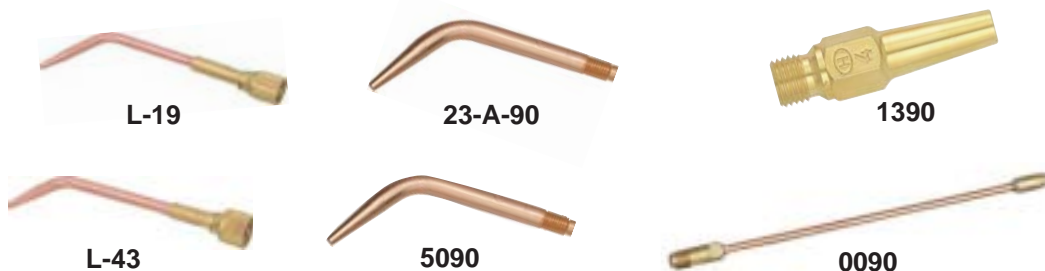


B-43-1/2/3/5/6/8/9/10

PART NO.	FITS HANDLE	GAS	HEATING TIPS	BRAZING TIPS	FLAME CLEANING TIPS	
B-43-N	43-2 263 543	Oxy-Propane	2290-H tips 1,2,3,4,5 (+ tube 2393)	2290-N tips 13,15,20,30,80 (+tube 2393+2357-3)	RBP-43 tips 2,4,5 (+tube 2393+2357-3)	
B-43-1		Oxy-Propane	-	1390-2N (+tube 8593) 0090-2N (+adapter 4301-11+tip holder TH-119)	-	
B-43-3		Oxy-Propane	-	1390-3N/4N (+tube 8593) 0090-4N (+adapter 4301-11+tip holder TH-119)	-	
B-43-5		Oxy-Propane	-	1390-5N (+tube 8593)	-	
B-43-6		Oxy-Propane	-	1390-6N/7N (+tube 8593) 0090-6N (+adapter 4301-11+tip holder TH-119))	-	
B-43-8		Oxy-Propane	-	1390-8N/H (+tube 8593) 0090-8N (+adapter 4301-11+tip holder TH-119)	-	
B-43-9		Oxy-Propane	-	1390-9N (+tube 8593)	-	
B-43-10		Oxy-Propane	-	1390-10N (+tube 8593)	-	
H-19-2S		Oxy-Propane	1390-H (+tube D-50-C)	1390-N tips 2,3,4,5,6,7,8,9,10 (+tube D-50-C)	-	-
		Oxy-Propane	-	0090-N tips 2,4,6,8	-	-

Acetylene Welding and Brazing Tips/Assemblies

WELDING / BRAZING								EQUAL PRESSURE		LOW PRESSURE	
ASSEMBLY L-19	ASSEMBLY L-43	TIPS 23-A-90	TIPS 5090	TIPS 1390	FLEXIBLE TIPS 0090	FLOW (l/h)	THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)	OXYGEN (bar)	ACETYLENE (bar)
-	-	-	-	1390-00	-	25	-	0.3 - 0.8	0.3 - 0.8	2.5	0.015 - 0.2
L-19-0	L-43-0	23-A-90-0	5090-0	1390-0	-	45	0.2 - 0.5				
L-19-1	L-43-1	23-A-90-1	5090-1	1390-1	0090-1	65	0.5 - 1.0				
-	-	-	5090-2	1390-2	-	100	-				
L-19-3	L-43-3	23-A-90-3	5090-3	1390-3	0090-3	160	1.0 - 2.0				
-	-	-	5090-4	1390-4	-	250	-				
L-19-5	L-43-5	23-A-90-5	5090-5	1390-5	0090-5	350	2.0 - 4.0				
L-19-6	L-43-6	23-A-90-6	5090-6	1390-6	0090-6	500	4.0 - 6.0				
-	-	-	5090-7	1390-7	-	700	-				
L-19-8	L-43-8	23-A-90-8	5090-8	1390-8	0090-8	1000	6.0 - 9.0				
L-19-9	L-43-9	23-A-90-9	5090-9	1390-9	-	1500	9.0 - 14.0				
L-19-10	L-43-10	23-A-90-10	5090-10	1390-10	-	2000	14.0 - 20.0				
-	L-43-13	23-A-90-13	-	-	-	3000	20.0 - 30.0				
-	L-43-15	23-A-90-15	-	-	-	4000	30.0 - 50.0				



Tip Tubes for Separate Welding and Brazing Tips

HANDLE	MIXER	TIP TUBE/ ADAPTER	TIP	WELDING ASSEMBLY
43-2 263 543	E-43	-	23-A-90 (13-15)	L-43
	E-43	8593	1390	
	E-43	4301-11+TH-119	0090	
	E-43	-	23-A-90 (0-10)	
85	D-85	8593	1390	-
		4301-11+TH-119	0090	
		-	23A-90 (0-10)	
19-6 50-9	H-19-2E	D-50-C	1390	L-19
		TH-119	0090	
		-	5090	



Acetylene Heating Tips and Assemblies



L - 63



J - 63



1901-11
ADAPTER

HANDLE	MIXER	ADAPTER	HEATING TIPS PART NO.	HEATING ASSEMBLY PART NO.
43-2 263 543	E-43	-	J-63-1	L-63-1
	E-43		J-63-2	L-63-2
	E2-43		J-63-3	L-63-3
	E2-43		J-63-4	L-63-4
	E3-43/F-43		J-143-5	L-143-5
85	D-85		J-63-1	L-85-1
19-6 50-9	H-19-2E	1901-11	J-63-2	L-85-2
			J-63-1	-
			J-63-2	-

HANDLE	MIXER	TIP TUBE	TIP
43-2 263 543	E-43	8593	1390-HA
85	D-85	8593	1390-HA
19-6/50-9	H-19-2E	D-50-C	1390-HA

Heating Tips and Assemblies Data Chart



1390-HA

PART NO.			OXYGEN & ACETYLENE "EQUAL PRESSURE"		FLOW (l/h)		APPROX. HEATING OUTPUT
			MAX. (bar)	MIN. (bar)	OXYGEN	ACETYLENE	(Kcal/h)
L-63-1	L-85-1	J-63-1	0.15 - 0.4	0.15 - 0.4	600 - 1100	600 - 1000	7450 - 13000
L-63-2	L-85-2	J-63-2	0.2 - 0.5	0.2 - 0.5	900 - 1550	850 - 1400	11100 - 18700
L-63-3	-	J-63-3	0.3 - 0.6	0.3 - 0.6	1550 - 2500	1400 - 2250	18500 - 29800
L-63-4	-	J-63-4	0.6 - 1.0	0.6 - 1.05	2500 - 4300	2250 - 3950	29800 - 52000
L-63-5	-	J-143-5	0.8 - 1.4	0.6 - 1.05	5000 - 9350	4500 - 8500	59500 - 111500
-	-	1390-HA	0.35	0.35	1100	1000	-

Acetylene Flame Cleaning Tips

HANDLE	MIXER	TIP TUBE/ADAPTER	TIP
43-2 263 543	B-43-N F-43	2393+2357-3	RBA-43

Select Model 2393 tip tube and adapter from page 58.

Oxy-Acetylene RBA Flame Cleaning Heads Data Chart

PART NO.	LENGTH (mm)	PRESSURE		FLOW	
		OXYGEN (bar)	ACETYLENE (bar)	OXYGEN (l/h)	ACETYLENE (l/h)
RBA-43-2	50	0.4 - 0.7	0.4 - 0.7	800 - 1130	700 - 900
RBA-43-4	100	0.7 - 0.9	0.7 - 0.9	1550 - 1650	1400 - 1500
RBA-43-6	150	0.8 - 1.0	0.8 - 1.0	1780 - 1820	1400 - 1650



RBA-43

Alternative Fuel Tips 1390-N, 5090-N & 0090-N Brazing Tips 2290-N & 1390-H Heating Tips



1390-H



2290-N

HANDLE	MIXER	TIP TUBE	1390-N TIPS
43-2 263 543	E-43	B-43-1	1390-2N
		B-43-3	1390-3N
		B-43-3	1390-4N
		B-43-5	1390-5N
		B-43-6	1390-6N
		B-43-6	1390-7N
		B-43-8	1390-8N/1390-H
		B-43-9	1390-9N
		B-43-10	1390-10N
19-6/50-10	-	H-19-2S	D 50-C 1390-N/1390-H/ 5090-N

HEAVY DUTY HANDLE	MIXER	TIP TUBE/ ADAPTER	2290-N TIPS
43-2 263 543	F-43 B-43-N	2393+2357-3	2290-13N
			2290-15N
			2290-20N
			2290-30N
			2290-80N

Select Model 2393 and adapter tip tube from page 58

HANDLE	MIXER	ADAPTER	TIP
43-2 263 543	B-43-1	4301-11	0090-2N
	B-43-3		0090-4N
	B-43-6		0090-6N
	B-43-8		0090-8N
19-6 50-10	H-19-2S	-	0090-2N-4N-6N-8N



0090-N

1390-N/2290-N/0090-N/5090-N/1390-H Tip Performance Data Chart

PART NO.			LOW PRESSURE		EQUAL PRESSURE			FLOW (l/h)	
			OXYGEN (bar)	FUEL GAS (bar)	OXYGEN (bar)	FUEL GAS (bar)	OXYGEN	FUEL GAS	
1390-2N	0090-2N	-	1,0				300	75	
1390-3N	-	5090-3N	1,0				550	140	
1390-4N	0090-4N	-	1,4				700	175	
1390-5N	-	5090-5N	1,8				900	225	
1390-6N	0090-6N	-	1,8				1100	275	
1390-7N	-	-	2,1				1350	345	
1390-8N	0090-8N	5090-8N	2,1	0.015-0.2	0.3-1	0.3-1	1500	375	
1390-9N	-	-	2,5				1650	415	
1390-10N	-	-	2,8				2000	500	
	2290-13N		1,2				3400	850	
	2290-15N		1,2				4200	1050	
	2290-20N		1,2				6000	1500	
	2290-30N		2,3	8000	2000				
	2290-80N		2,3	9600	2400				
	1390-H		3,5	0.5	3.5	1.0-0.5	4200	1050	



1390-N2 to 4



1390-N5 to 10



5090-N

2290-H Heating Tips, 2393 Tip Tubes, RBP-43 Flame Cleaning Heads - Alternative Fuels Tips



2290-H



H-62-P

2290-H/H-62-P Performance Data Chart

PART NO.	PRESSURE (bar)		FLOW (l/h)		APPROX. HEATING OUTPUT (Kcal/h)
	OXYGEN	FUEL GAS	OXYGEN	PROPANE	
2290-1H	1-2	0.5	4000-7000	1000-2000	22300 - 44600
2290-2H	2-3	0.5	5900-12800	1500-3200	33500 - 71400
2290-3H	2-5	1.0	8500-22900	2200-5700	49000 - 127100
2290-4H	3-6	1.0	14000-28400	3600-7100	80300 - 158000
2290-5H	4-8	1.0-2.0	17000-39700	4300-10000	96000 - 223000
H-62-1P	3.0	0.5	4000-7000	1000-2000	22300 - 44600
H-62-2P	3.5	0.5	5900-12800	1500-2200	38500 - 71400
H-62-3P	4.0	1.0	8500-22900	2200-5700	49000 - 127100

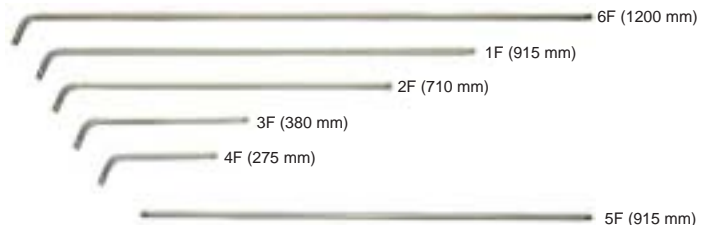
H-62-P to be used with cutting attachment and cutting torches.

2393-F Tip Tube Chart

PART NO.	LENGTH (mm)	DESIGN
2393-1F	915	curved
2393-2F	710	curved
2393-3F	380	curved
2393-4F	275	curved
2393-5F	915	straight
2393-6F	1200	curved

NOTE: For extended tip life, use Tip Adapter 2357-3.

2393-F Tip Tube



2357-3
TIP ADAPTER

HANDLE	MIXER	TIP TUBE/ADAPTER	TIP
43-2 263 543	B-43-N F-43	2393+2357-3	2290-H RBP-43



RBP-43 Tips

RBP-43 Oxy-Propane, Propylene Based & Natural Gas Flame Cleaning Heads Data Chart

PART NO.	LENGTH (mm)	OXYGEN PRESSURE (bar)	PROPANE PRESSURE (bar)	OXYGEN FLOW (l/h)	PROPANE FLOW (l/h)
RBP-43-2	50	0.5 - 1.0	0.5	2550 - 3400	700 - 1050
RBP-43-4	100	1.0 - 1.5	0.5 - 1.5	6350 - 8500	1850 - 2500
RBP-43-6	150	2 - 3	1.0 - 1.5	13900 - 18100	3000 - 4150

Acetylene Cutting Tips

General Preheat 6290 One Piece Oxy-Acetylene Tip Chart



PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE Equal Pressure (bar)	ACETYLENE Low Pressure (bar)
6290-000	0 - 5	1.0 - 2.0	0.3 - 0.8	0.015 - 0.2
6290-00	5 - 10	1.0 - 2.0		
6290-0	10 - 15	1.5 - 2.5		
6290-1	15 - 25	2.0 - 3.5		
6290-2	25 - 50	3.0 - 4.5		
6290-3	50 - 100	3.0 - 4.5		
6290-4	100 - 175	3.5 - 5.5		

Heavy Preheat 6290-5 One Piece Oxy-Acetylene Tip Chart



PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE Equal Pressure (bar)	ACETYLENE Low Pressure (bar)
6290-1S	15 - 25	2.0 - 3.5	0.3 - 0.8	0.015 - 0.2
6290-2S	25 - 50	3.0 - 4.5		
6290-3S	50 - 100	3.0 - 4.5		
6290-4S	100 - 175	3.5 - 5.5		
6290-5S	175 - 250	4.5 - 5.5		
6290-6S	250 - 300	5.0 - 6.5		

Heavy Preheat 6290-AC Two Piece Oxy-Acetylene Tip Chart



Plated Shell

PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE Equal Pressure (bar)	ACETYLENE Low Pressure (bar)
6290-00AC	5 - 10	1.0 - 2.0	0.3 - 0.8	0.015 - 0.2
6290-0AC	10 - 15	1.5 - 2.5		
6290-1AC	15 - 25	2.0 - 3.5		
6290-2AC	25 - 50	3.0 - 4.5		
6290-3AC	50 - 100	3.0 - 4.5		
6290-4AC	100 - 175	3.5 - 5.5		
6290-5AC	175 - 250	4.5 - 5.5		
6290-6AC	250 - 300	5.0 - 6.5		

3690-AC Oxy-Acetylene Tip Chart



Unplated Shell

PART NO.	METAL THICKNESS (mm)	OXYGEN (bar)	ACETYLENE Equal Pressure (bar)	WHERE USED
3690-00AC	0 - 6	1.0 - 2.0	0.3 - 0.8	36-2 Cutting Attachment
3690-0AC	6 - 13	1.5 - 2.5		
3690-1AC	13 - 25	2.0 - 3.5		
3690-2AC	25 - 75	3.0 - 4.5		

6290 Oxy-Acetylene Specialty Tip Chart



6290-G 6290-R

PART NO.	APPLICATION	OXYGEN (bar)	ACETYLENE Equal Pressure (bar)	ACETYLENE Low Pressure (bar)	WHERE USED
6290-1G	Gouging Wide 3x6 mm	2.5	0.3 - 0.8	0.015 - 0.2	Recommended for Straight Cutting Torches
6290-2G	Gouging Wide 5x10 mm	3.5			
6290-3G	Gouging Wide 6x13 mm	3.5			
6290-R	Rivet Cutting	3.0			

Cleaning Instructions: Use Tip Cleaner C-9

Alternative Fuel Cutting Tips

General Preheat 6290-N & NX Oxy-Propane, Natural Gas Tip Chart



Plated Shell

PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS Equal Pressure (bar)	FUEL GAS Low Pressure (bar)
6290-00NX	0 - 5	1.0 - 2.0	0.3 - 08	0.015 - 0.2
6290-00NX	5 - 10	1.5 - 2.0		
6290-0NX	10 - 15	2.0 - 3.0		
6290-1NX	15 - 25	2.5 - 3.5		
6290-2NX	25 - 50	3.0 - 4.0		
6290-3NX	50 - 75	3.0 - 4.5		
6290-4NX	75 - 150	3.5 - 5.5		
6290-5NX	150 - 200	4.5 - 5.5		
6290-6NX	200 - 300	5.0 - 6.5		

Heavy Preheat 6290-NFF Oxy-Propane, Natural Gas Tip Chart



Plated Shell

PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS Equal Pressure (bar)	FUEL GAS Low Pressure (bar)
6290-1NFF	15 - 25	2.5 - 3.5	0.3 - 08	0.015 - 0.2
6290-2NFF	25 - 50	3.0 - 4.0		
6290-3NFF	50 - 75	3.0 - 4.5		
6290-4NFF	75 - 150	3.5 - 5.5		
6290-5NFF	150 - 200	4.5 - 5.5		
6290-6NFF	200 - 300	5.0 - 6.5		

6290-NXPM Oxy-MAPP® and Oxy-Propylene Tip Chart



Plated Shell

PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS Equal Pressure (bar)	FUEL GAS Low Pressure (bar)
6290-00NXPM	0 - 5	1.0 - 2.0	0.3 - 08	0.015 - 0.2
6290-00NXPM	5 - 10	1.5 - 2.0		
6290-0NXPM	10 - 15	2.0 - 3.0		
6290-1NXPM	15 - 25	2.5 - 3.5		
6290-2NXPM	25 - 50	3.0 - 4.0		
6290-3NXPM	50 - 75	3.0 - 4.5		
6290-4NXPM	75 - 150	3.5 - 5.5		
6290-5NXPM	150 - 200	4.5 - 5.5		
6290-6NXPM	200 - 300	5.0 - 6.5		

3690-P Oxy-Propane, Natural Gas and 3690-M Oxy-MAPP® Tip Chart



Unplated Shell

PART NO.	METAL THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)	WHERE USED
3690-00P/00M	0-6	1.0 - 2.0	0.3 - 08	36-2 Cutting Attachment
3690-0P/0M	6-13	1.5 - 2.5		
3690-1P/1M	13-25	2.0 - 3.5		
3690-2P/2M	25-75	3.0 - 4.5		

6290 Oxy-Propane, Propylene, Natural Gas & MAPP® Gas Specialty Tip Chart

6290-GG



6290-NFW

6290-2NFFR

PART NO.	APPLICATION	OXYGEN (bar)	FUEL GAS Equal Pressure (bar)	FUEL GAS Low Pressure (bar)	WHERE USED
6290-1GG	Gouging 3x6 mm wide	2.5	0.3 - 08	0.015 - 0.2	Recommended for Straight Cutting Torches
6290-2GG	Gouging 5x10 mm wide	3.5			
6290-3GG	Gouging 6x13 mm wide	3.5			
6290-4GG	Gouging 10x19 mm wide	4.0			
6290-2NFFR	Rivet cutting	3.0			
6290-NFW	Rivet washing	3.5			

Cleaning Instructions: Use Tip Cleaner C-9

Acetylene Cutting Tips Tip Mix Tips

Tip Mix Tips 8290 & 8290-ANME Oxy-Acetylene



PART NO. 8290	PART NO. 8290-ANME	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)	WHERE USED
8290-1	8290-ANME1	0 - 6	1.5	0.5	242NM NM-250 880-NM Cutting Torches
8290-2	8290-ANME2	6 - 12	2.0	0.5	
8290-3	8290-ANME3	12 - 75	3.0	0.5	
8290-4	8290-ANME4	75 - 150	3.0	1.0	
8290-5	8290-ANME5	150 - 200	4.0	1.0	273 NM Cutting Attachment
8290-6	8290-ANME6	200 - 250	4.5	1.0	
8290-7	8290-ANME7	250 - 300	5.5	1.0	

Tip Mix Tips 2890-F Oxy-Acetylene



PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)	WHERE USED
2890-1F	0 - 10	1.0-1.5	0.2	28 28-L Cutting Torches
2890-2F	10 - 50	1.5-2.5	0.3	
2890-3F	50 - 100	3.0-4.5	0.5	
2890-4F	100 - 125	5.0-5.5	0.7	
2890-5F	125 - 150	5.5-6.0	0.7	
2890-6F	150 - 200	6.0-6.5	0.7	
2890-7F	200 - 300	7.0-9.0	1.0	

Alternative Fuels Cutting Tips Tip Mix Tips

Two Piece Tip Mix Tips 8290-P & 8290-PNME Oxy-Propane, LPG & MAPP®

PART NO. 8290-P	PART NO. 8290-PNME	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)	WHERE USED
8290-P1	8290 - PNME1	0 - 6	1.5	0.5	242-NM NM-250 880-NM Cutting Torches
8290-P2	8290 - PNME2	6 - 12	2.0	0.5	
8290-P3	8290 - PNME3	12 - 75	3.0	0.5	
8290-P4	8290 - PNME4	75 - 150	3.0	1.0	
8290-P5	8290 - PNME5	150 - 200	4.0	1.0	273-NM Cutting Attachment
8290-P6	8290 - PNME6	200 - 250	4.5	1.0	
8290-P7	8290 - PNME7	250 - 300	5.5	1.0	



Two Piece Tip Mix Tips 2890-P Oxy-Propane, LPG & MAPP®

PART NO.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)	WHERE USED
2890-0P	0 - 10	1.5-2.0	0.2	28 28-L Cutting Torches
2890-1P	10 - 25	2.0-2.5	0.4	
2890-2P	25 - 50	2.0-3.0	0.4	
2890-3P	50 - 75	2.5-3.0	0.4	
2890-4P	75 - 100	3.0-4.0	0.5	
2890-5P	100 - 200	3.0-5.0	0.5	
2890-6P	200 - 300	5.0-7.0	0.6	
2890-7P	300 - 400	6.0-7.0	0.7	
2890-8P	400 - 500	7.0-8.0	0.8	



VICTOR® Style



Hand Cutting Torch

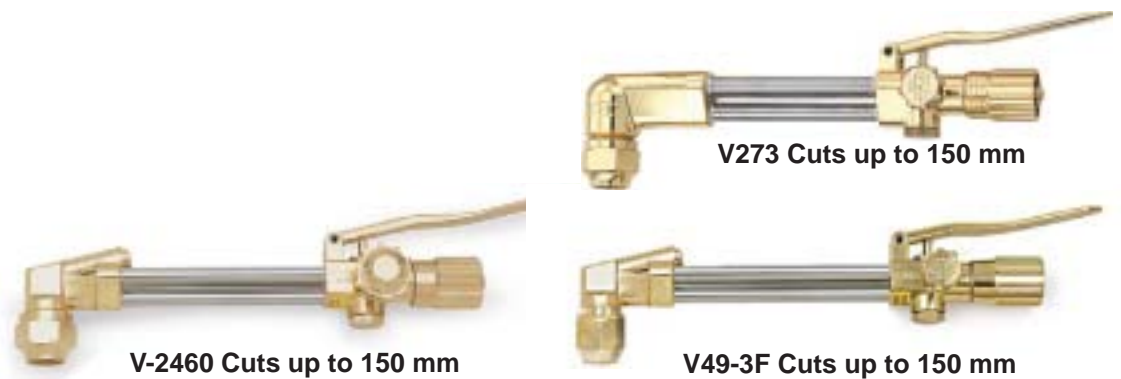
Model V242



- ▶ Cuts up to 200 mm
- ▶ Head mixing and equal pressure design for maximum operator safety
- ▶ Triangular tube design
- ▶ Brazed tube connections
- ▶ Use with 1-101-HV and GPN tips (see page 64)

V242 EQUAL PRESSURE TORCHES (FOR ACETYLENE AND ALTERNATIVE FUELS)				
90° Head		70° Head		Length (mm)
Part no.	Weight (Kg)	Part no.	Weight (Kg)	
V242	1.30	V242A	1.30	1.30
V242-L	1.35	V242A-L	1.35	1.35
V242-L-36	1.70	V242A-L-36	1.70	1.70

Cutting Attachments



PART NO.	HEAD ANGLE	COMPATIBLE CUTTING TIPS	COMPATIBLE HANDLE	WEIGHT (Kg)	LENGTH (mm)
Equal Pressure "E" Cutting Attachment (for Acetylene and Alternative Fuels)					
V273	90°	GPN, 1101- HV	V-315-CH, V263	0.500	220
V2460	90°	GPN, 1101- HV	V-315-CH, V263	0.658	225
Low Pressure "F" Cutting Attachment (for Alternative Fuels)					
V49-3F	90°	6290	V-315-CH, V263	0.678	248
V2460F	90°	GPN	V-315-CH, V263	0.638	227
V2460AF	70°	GPN	V-315-CH, V263	0.638	227

Handles



Model V-315-CH

Welds up to 50 mm
Cuts up to 150 mm

Features:

- ▶ Tough extruded brass handle
- ▶ Stainless steel ball valves



Model V-315-CH

Model V263

Welds up to 50 mm
Cuts up to 150 mm

Features:

- ▶ High precision ball valves
- ▶ Brass handle



Model V263

PART NO.	COMPATIBLE CUTTING ATTACHMENT	THREAD OXYGEN	THREAD FUEL GAS	WEIGHT (Kg)	LENGTH (mm)
V-315-CH	V273, V-2460, V2460 F, V2460 AF, V493 F	9/16"-18-UNF-3A-RH	9/16"-18-UNF-3A-LH	0.552	205
V263				0.506	219

ACETYLENE

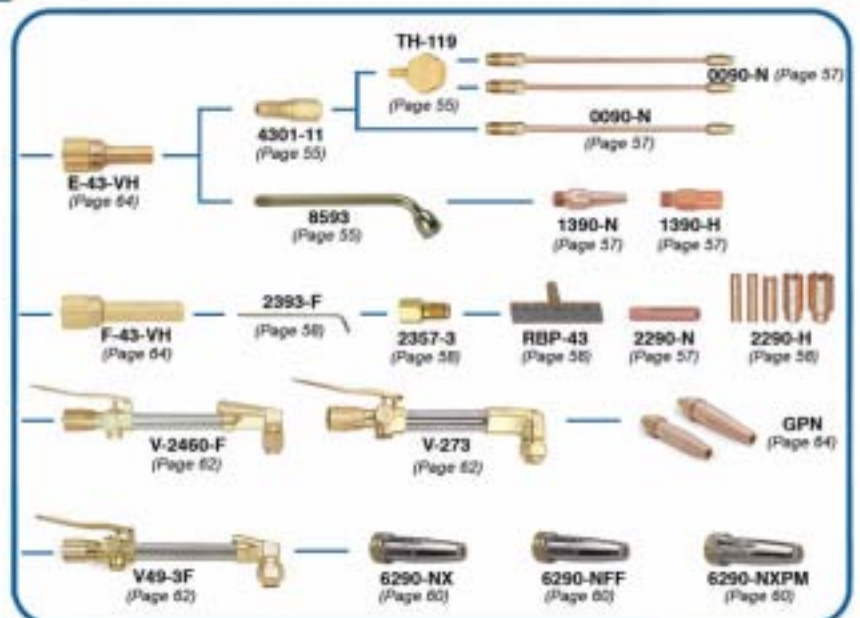
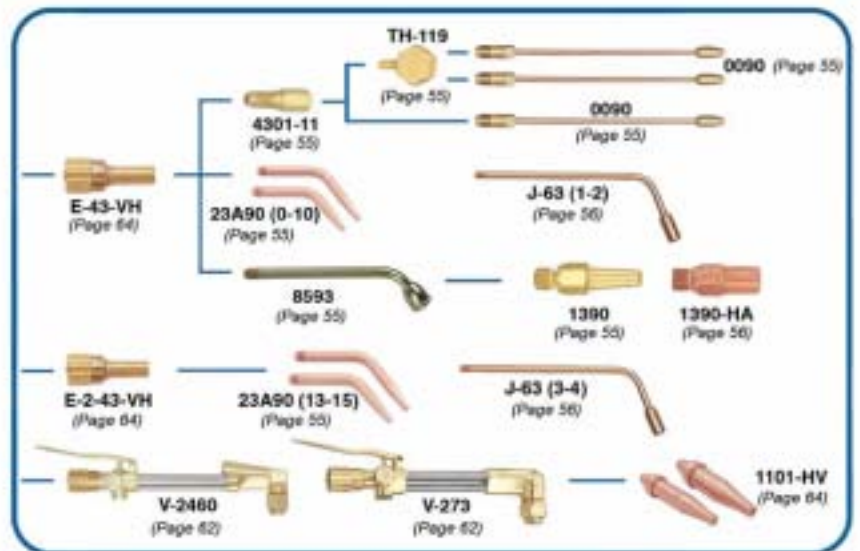


V-315-CH



V-263

ALTERNATIVE FUEL GASES



Equal Pressure "E" Type Mixer



E2-43-VH



F3-43-VH



PART NO.	FITS HANDLE	GAS	WELDING TIPS	HEATING TIPS	BRAZING TIPS	FLAME CLEANING TIPS
E-43-VH	V-315-CH, V-263	Oxy-Acetylene	23A90 tips 0,1,3,5,6,8,9,10 0090 tips 1,3,5,6,8 (+adapter 4301-11+TH-119) 1390 tips 00,0,1,3,5,6,8,9,10 (+tube 8593)	J-63 tips 1,2 1390-HA (+tube 8593)	-	-
		Oxy-Propane	-	-	1390-N tips 2,3,4,5,6,7,8,9,10 (+ tube 8593) 0090-N tips 2,4,6,8 (+adapter 4301-11 +TH-119)	-
E2-43-VH	V-315-CH, V-263	Oxy-Acetylene	23A90 tips 13,15	J-63 tips 3,4	-	RBA-43 tips 2,4,6 (+tube 2393+2357-3)
F-43-VH	V-315-CH, V-263	Oxy-Propane	-	2290-H tips 1,2,3,4,5 (+ tube 2393+2357-3)	2290-N tips 13,15,20,30,80 (+tube 2393+2357-3)	RBP-43 tips 2,4,6 (+tube 2393+2357-3)



GPN Oxy-Propane/Natural Gas Tip Chart - Two Piece

PART NO.	PLATE THICKNESS (mm)	TIP SIZE	OXYGEN (bar)	FUEL GAS (bar)
GPN-000	0 - 3	000	1.4 - 1.7	0.15 - 0.35
GPN-00	3 - 8	00	1.4 - 1.7	0.15 - 0.35
GPN-0	8 - 15	0	1.7 - 2.4	0.20 - 0.35
GPN-1	15 - 25	1	2.1 - 2.4	0.20 - 0.40
GPN-2	25 - 50	2	2.4 - 3.1	0.20 - 0.55
GPN-3	50 - 75	3	2.8 - 3.4	0.30 - 0.60
GPN-4	75 - 100	4	2.8 - 3.4	0.40 - 0.60
GPN-5	100 - 150	5	3.1 - 3.8	0.40 - 0.70
GPN-6	150 - 200	6	3.1 - 3.8	0.40 - 0.80



I-101-HV Oxy-Acetylene Tip Chart - One Piece

PART NO.	PLATE THICKNESS (mm)	TIP SIZE	OXYGEN (bar)	ACETYLENE (bar)
1-101-HV000	0 - 3	000	1.4 - 1.7	0.20 - 0.35
1-101-HV00	3 - 8	00	1.4 - 1.7	0.20 - 0.35
1-101-HV0	8 - 15	0	1.7 - 2.4	0.20 - 0.35
1-101-HV1	15 - 25	1	2.1 - 2.4	0.20 - 0.35
1-101-HV2	25 - 50	2	2.4 - 3.1	0.20 - 0.50
1-101-HV3	50 - 75	3	2.8 - 3.4	0.30 - 0.70
1-101-HV4	75 - 100	4	2.8 - 3.4	0.35 - 0.70
1-101-HV5	100 - 150	5	3.1 - 3.8	0.50 - 0.90
1-101-HV6	150 - 200	6	3.1 - 3.8	0.50 - 1.00



Model 1-101-1-HV



Model V-315-CH



Cuts up to 25 mm. Equal Pressure Welds up to 4 mm. Equal Pressure (Acetylene)

PART NO.	HANDLE	MIXER	CUTTING ATTACHMENT	CHECK VALVES	CUTTING TIP	WELDING TIPS	HEATING TIP	SINGLE STAGE OXYGEN REGULATOR	SINGLE STAGE FUEL GAS REGULATOR	ACCESSORIES
Master 1HV1	V-315-CH	E-43-VH	V-2460	-	1101-1-HV	23A90-5	-	94-10-OX	94-1,5-AC	6 MT Hose (4300500), Goggles (APS010), Lighter (26S), Flints (26L)
Master 2HV	V-315-CH	E-43-VH		886-CVTL 886-CVTR	1101-1-HV	23A90-0/3/5	J-63-1	825-10-OX	825-1,5-AC	
Master Gold HV	V-315-CH	E-43-VH		-	1101-1-HV	23A90-5	-	94-10-OX	94-1,5-AC	
Master Silver HV	V-315-CH	E-43-VH		-	1101-1-HV	23A90-5	-	825-10-OX	825-1,5-AC	

AIRCO® Style

MODEL N.	DESCRIPTION	WEIGHT (kg)	LENGTH (mm)
242NM *	Cutting torch, head angle 90°	1,250	460
242NMA *	Cutting torch, head angle 70°	1,250	470
263	Handle	0,500	220
273NM	Cutting Attachment	0,800	230

* 530 mm length available (add "L" to model number)



8290ANME



MODEL N.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)
8290-1	0 - 6	1.5	0.5
8290-2	6 - 12	2.0	0.5
8290-3	12 - 75	3.0	0.5
8290-4	75 - 150	3.0	1.0
8290-5	150 - 200	4.0	1.0

8290PNME



MODEL N.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)
8290-P1	0 - 6	1.5	0.5
8290-P2	6 - 12	2.0	0.5
8290-P3	12 - 75	3.0	0.5
8290-P4	75 - 150	3.0	1.0
8290-P5	150 - 200	4.0	1.0

OXWELD® Style

MODEL N.	DESCRIPTION	WEIGHT (kg)	LENGTH (mm)
242P *	Cutting torch, head angle 90°	1,250	460
242PA *	Cutting torch, head angle 70°	1,250	470
263P	Handle	0,500	220
273P	Cutting Attachment	0,800	230

* 530 mm length available (add "L" to model number)



CT1502

PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)
CT1502-2	0-5	2.5	0.4
CT1502-3	5-10	2.5	0.4
CT1502-4	10-20	3	0.4
CT1502-6	20-50	3	0.4
CT1502-8	50-130	4	0.6
CT1502-10	130-200	5	0.7

CT1503

PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)
CT1502-4	10-20	2.5	0.45
CT1502-6	20-50	3	0.45
CT1502-8	50-130	3.5	0.45
CT1502-10	130-200	4.5	0.8

SMITH® Style



242S



263S



273S

MODEL N.	DESCRIPTION	WEIGHT (kg)	LENGTH (mm)
242S *	Cutting torch, head angle 90°	1,200	460
242SA *	Cutting torch, head angle 70°	1,200	470
263S	Handle	0,600	220
273S	Cutting Attachment	0,800	250

* 530 mm length available (add "L" to model number)



CTSC12

PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)
CTSC12-0	0-10	2.5	0.3
CTSC12-1	10-20	3	0.3
CTSC12-2	20-35	3.5	0.3
CTSC12-3	35-60	3.5	0.35
CTSC12-4	60-120	4	0.35
CTSC12-5	120-200	5	0.4



CTSC50A

PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)
CTSC50A-0	0-10	2.5	0.35
CTSC50A-1	10-20	3	0.4
CTSC50A-2	20-35	3.5	0.4
CTSC50A-3	35-60	3.5	0.45
CTSC50A-4	60-120	4	0.45
CTSC50A-5	120-200	5	0.5

CIGWELD® Style



242HC



263HC



273HC

MODEL N.	DESCRIPTION	WEIGHT (kg)	LENGTH (mm)
242HC *	Cutting torch, head angle 90°	1,350	470
242HCA *	Cutting torch, head angle 70°	1,350	480
263HC	Handle	0,500	230
273HC	Cutting Attachment	0,850	250

* 530 mm length available (add "L" to model number)



CT41

PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)
CT41-6	0-6	2	1
CT41-8	6-12	2	1
CT41-12	12-20	2.5	1
CT41-15	25-75	3.5	1
CT41-20	100-125	4.5	1
CT41-24	150-200	5	1



CT44

PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)
CT44-6	0-6	2	1
CT44-8	6-12	2	1
CT44-12	12-20	2.5	1
CT44-15	25-75	3.5	1
CT44-20	100-125	4.5	1
CT44-24	150-200	5	1

MESSER® Style



MODEL N.	DESCRIPTION	WEIGHT (kg)	LENGTH (mm)
242D *	Cutting torch, head angle 90°	1,300	1,300
242DA *	Cutting torch, head angle 70°	1,300	1,300
543HCD17	Handle	0,500	0,500
273D	Cutting Attachment	0,800	0,800

* 530 mm length available (add "L" to model number)



PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)
AB1	3-10	3	0.5
AB2	10-25	3.5	0.5
AB3	25-40	4	0.5
AB4	40-60	4.5	0.5
AB5	60-100	5	0.5
AB6	100-200	6	0.5

SAF® Style



MODEL N.	DESCRIPTION	WEIGHT (kg)	LENGTH (mm)
242G1 *	Cutting torch, head angle 90°	1,300	470
242G1A *	Cutting torch, head angle 70°	1,300	480
543 G1	Handle	0,500	220
273G1	Cutting Attachment	0,800	230

* 530 mm length available (add "L" to model number)



PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	ACETYLENE (bar)
G1A-7	3-10	2-3	0.5
G1A-10	10-25	2-3	0.5
G1A-12	25-50	2-3	0.5
G1A-16	50-80	3-5	0.5
G1A-20	80-120	3-5	0.5
G1A-25	120-200	5-8	0.5



PART N.	PLATE THICKNESS (mm)	OXYGEN (bar)	FUEL GAS (bar)
G1P-7	3-10	3-10	2-3
G1P-10	10-25	10-25	2-3
G1P-12	25-50	25-50	2-3
G1P-16	50-80	50-80	3-5
G1P-20	80-120	80-120	3-5
G1P-25	120-200	120-200	5-8



Model 133/198/98 Machine Torches

Harris machine cutting torches are designed to handle all types of machine cutting applications. Rugged and dependable, these torches provide up to 380 mm cutting capacity. Harris machine cutting torches are available in two tube and three tube design for all fuel gases at pressures as low as 0.015 bar.

General Features:

- ▶ Solid head for maximum strength
- ▶ Standard 32 mm or 35 mm diameter barrel
- ▶ All torches have inlet threads 9/16x18 UNF
- ▶ Use with 6290 machine cutting tips (see page 70-71)

Model 133-2/133-2F

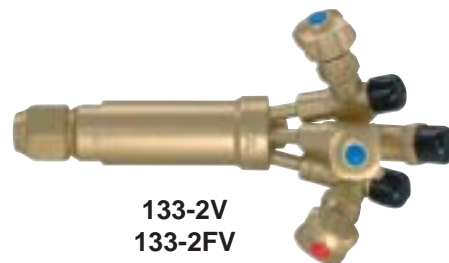
Features:

- ▶ Three tube valveless design for pipe bevelling, multiple bevelling and similar applications
- ▶ Cutting capacity up to 200 mm

133-2
133-2F



133-2V
133-2FV



Model 133-2V/133-2FV

Features:

- ▶ Three tube with 3 valves.
- ▶ Cutting capacity up to 200 mm

LOW PRESSURE "F" INJECTOR TYPE TORCHES
(FOR MAXIMUM PERFORMANCE WITH ALTERNATIVE FUEL)

Part no.	Style	Weight (Kg)	Length (mm)	Barrel Ø (mm)
133-2F	3 tube	0.68	65	30
133-2F-28	3 tube	0.63	65	28
133-2FV	3 tube	1.07	65	30
133-2FV-28	3 tube	1.02	65	28

LOW PRESSURE TORCHES
(FOR ACETYLENE)

Part no.	Style	Weight (Kg)	Length (mm)	Barrel Ø (mm)
133-2	3 tube	0.68	65	30
133-2-28	3 tube	0.62	65	28
133-2V	3 tube	1.05	65	30
133-2V-28	3 tube	1.02	65	28

Model 198-2T/198-2TF

Features:

- ▶ Quick opening cutting oxygen valve for immediate full flow
- ▶ Separate preheat and cutting oxygen valves for high and low preheat control
- ▶ Cutting capacity up to 380 mm
- ▶ Use with 6290 cutting tips (see page 70-71)

Model 198-2/198-2F

Features:

- ▶ Cutting capacity up to 200 mm
- ▶ One inlet connection for oxygen and cutting oxygen

Model 198-4/98-4

Features:

- ▶ Same characteristics as 198-2T but valveless



198-2T
198-2TF



198-2
198-2F



198-2TR (with rack)



198-4
98-4

EQUAL PRESSURE "E" INJECTOR TYPE TORCHES (FOR ACETYLENE AND ALTERNATIVE FUELS)

Part no.	Style	Weight (Kg)	Length (mm)	Barrel Ø (mm)
198-2E	2 tube	1.30	250	32
198-2E-35	2 tube	1.41	250	35
198-2E-35R	2 tube & rack	1.47	250	35
198-2ER	2 tube	1.34	250	32
198-2TAE	3 tube	1.67	450	32
198-2TAE-30	3 tube	1.55	450	30
198-2TAE-35	3 tube	1.68	450	35
198-2TAE	3 tube	1.68	450	35
198-2TE	3 tube	1.33	250	32
198-2TE-30	3 tube	1.20	250	30
198-2TE-30R	2 tube & rack	1.26	250	30
198-2TE-35	3 tube	1.43	250	35
98-4BE	2 tube	0.73	200	35

LOW PRESSURE TORCHES (FOR ACETYLENE)

Part no.	Style	Weight (Kg)	Length (mm)	Barrel Ø (mm)
198-2	2 tube	1.30	250	32
198-2-30	2 tube	1.18	250	30
198-2-35	2 tube	1.39	250	35
198-2-35R	2 tube & rack	1.44	250	35
198-2A	2 tube	1.62	460	32
198-2T	3 tube	1.32	250	32
198-2T-30	3 tube	1.20	250	30
198-2T-30R	3 tube & rack	1.29	250	35
198-2TA	3 tube	1.67	460	32
198-2TA-30	3 tube	1.55	460	30
198-2TA-35	3 tube	1.78	460	35
198-2TA-35R	3 tube & rack	1.90	460	35
198-2TAR	3 tube & rack	1.75	460	32
198-2TR	3 tube & rack	1.38	250	32
198-4	3 tube	0.65	110	32
198-4B	3 tube G 1/4"	0.65	110	32
98-4	3 tube	0.73	110	35
98-4B	3 tube G 1/4"	0.73	110	35

LOW PRESSURE "F" INJECTOR TYPE TORCHES (FOR MAXIMUM PERFORMANCE WITH ALTERNATIVE FUELS)

Part no.	Style	Weight (Kg)	Length (mm)	Barrel Ø (mm)
198-2F	2 tube	1.28	250	32
198-2F-35	2 tube	1.38	250	35
198-2F-35R	2 tube & rack	1.44	250	35
198-2FR	2 tube & rack	1.34	250	32
198-2TAF	3 tube	1.64	460	32
198-2TAF-30	3 tube	1.55	460	30
198-2TAF-35	3 tube	1.78	460	35
198-2TAF-35R	3 tube & rack	1.90	460	35
198-2TAFR	3 tube & rack	1.76	460	32
198-2TF	3 tube	1.33	250	32
198-2TF-30	3 tube	1.20	250	30
198-2TF-30R	3 tube & rack	1.25	250	30
198-2TF-35	3 tube	1.43	250	35
198-2TF-35R	3 tube & rack	1.49	250	32
198-2TFR	3 tube & rack	1.39	250	32
198-4BF	3 tube	0.65	110	32
198-4F	3 tube	0.65	110	32
98-4BF	3 tube G 1/4"	0.73	110	35
98-4F	3 tube	0.73	110	35

Machine Cutting Tips

**6290-VVC
Plated Shell**



6290-NH



- ▶ Minimizes kerf
- ▶ Increased cutting speeds, reduces heat input
- ▶ High quality machine cuts, reduces afterwork
- ▶ Used with low cost fuel gases

6290-VVC High Speed Oxy-Propane Cutting Tip Chart - Plated Shell

PART NO.	PLATE THICKNESS (mm)	CUTTING SPEED (mm/min)	CUTTING OX PRESSURE (bar)	PREHEAT OX PRESSURE (High ¹ - Low) (bar)	CUTTING OX FLOW (l/h)	PREHEAT OX FLOW (High - Low) (l/h)	PREHEAT FUEL FLOW (High - Low) (l/h)	HEATING POWER (High - Low) (Kcal/h)	KERF WIDTH (mm)
6290-5/0VVC	1 - 4	750 - 550	4.0	0.7 - 0.4	650	1410 - 900	350 - 230	7800 - 5100	1.3
6290-4/0VVC	4 - 6	700 - 520	2.5	1.0 - 0.5	1130	1410 - 900	350 - 230	7800 - 5100	1.5
6290-3/0VVC	6 - 9	650 - 480	5.0	2.5 - 0.7	2260	2800 - 1200	700 - 300	15600 - 6700	1.8
6290-00VVC	9 - 12,5	630 - 450	5.0	2.5 - 0.7	2540	2800 - 1200	700 - 300	15600 - 6700	1.8
6290-0VVC	12,5 - 20	600 - 400	6.0	2.5 - 0.7	3530	2800 - 1200	700 - 300	15600 - 6700	2.0
6290-0½VVC	20 - 35	550 - 360	7.0	2.5 - 0.7	4000	2800 - 1200	700 - 300	15600 - 6700	2.0
6290-1VVC	35 - 60	480 - 220	7.0	2.5 - 0.7	5560	2800 - 1200	700 - 300	15600 - 6700	2.3
6290-1½VVC	60 - 75	310 - 200	6.5	2.5 - 0.7	7070	2800 - 1200	700 - 300	15600 - 6700	2.8
6290-2VVC	75 - 100	280 - 190	6.5	2.5 - 0.7	8000	2800 - 1300	700 - 330	15600 - 7400	3.0
6290-2½VVC	100 - 125	240 - 180	7.0	2.5 - 0.7	9000	2800 - 1300	700 - 330	15600 - 7400	3.0
6290-2½VVC	125 - 150	200 - 160	6.5	2.5 - 0.7	11170	2800 - 1300	700 - 330	15600 - 7400	3.3
6290-3VVC	150 - 175	180 - 150	7.0	2.5 - 0.7	12000	2800 - 1300	700 - 330	15600 - 7400	3.5
6290-4VVC	175 - 200	180 - 150	6.5	2.5 - 0.7	14850	3000 - 1300	750 - 330	16700 - 7400	4.0
6290-5VVC	200 - 225	150 - 130	6.0	2.8 - 0.7	16410	3000 - 1510	750 - 380	16700 - 8500	5.0
6290-5½VVC	225 - 250	130 - 110	6.0	2.8 - 0.7	16980	3000 - 1630	750 - 410	16700 - 9100	6.4
6290-5NH	225 - 250	130 - 110	4.0	2.8 - 0.7	16980	3000 - 1880	750 - 470	16700 - 10500	6.4
6290-6NH	250 - 275	130 - 110	4.0	2.8 - 0.7	19520	3000 - 1880	750 - 470	16700 - 10500	6.4
6290-7NH	275 - 300	120 - 100	4.5	3.5 - 0.7	23340	3580 - 2510	900 - 630	20100 - 14000	6.4
6290-8NH	300 - 380	110 - 90	4.5	3.5 - 0.7	26170	3580 - 2510	900 - 630	20100 - 14000	7.6

(1) For a fast start, necessary when performing piercing and/or cutting thickness over 200 mm., use "high preheat".
For thickness up to 200 mm., switch from high to low preheat - just cut, it has started. - All pressures are measured at torch inlet. - Use minimum 0.3 (bar) fuel gas pressure for equal pressure torches. - Use maximum 0.2 (bar) fuel gas pressure for injector equipment.

6290-VVC High Speed Oxy-Methane and Natural Gas Cutting Tip Chart - Plated Shell

PART NO.	PLATE THICKNESS (mm)	CUTTING SPEED (mm/min)	CUTTING OX PRESSURE (bar)	PREHEAT OX PRESSURE (High ¹ - Low) (bar)	CUTTING OX FLOW (l/h)	PREHEAT OX FLOW (High - Low) (l/h)	PREHEAT FUEL FLOW (High - Low) (l/h)	HEATING POWER (High - Low) (Kcal/h)	KERF WIDTH (mm)
6290-5/0VVC	1 - 4	610 - 510	3.0	1.0 - 0.6	420	1410 - 850	710 - 430	6200 - 3700	1.3
6290-4/0VVC	4 - 6	560 - 510	3.5	1.0 - 0.7	1130	1410 - 1000	710 - 500	6200 - 4400	1.5
6290-3/0VVC	6 - 9	560 - 450	5.0	2.5 - 0.7	2260	2540 - 1000	1270 - 500	11000 - 4400	1.8
6290-00VVC	9 - 12,5	510 - 460	5.0	2.5 - 0.7	2540	2540 - 1000	1270 - 500	11000 - 4400	1.8
6290-0VVC	12,5 - 20	460 - 330	6.5	2.5 - 0.7	3530	2540 - 1000	1270 - 500	11000 - 4400	2.0
6290-0½VVC	20 - 35	410 - 350	7.0	2.5 - 0.9	4000	2540 - 1130	1270 - 570	11000 - 5000	2.0
6290-1VVC	35 - 60	380 - 330	7.0	2.5 - 0.9	5560	2540 - 1130	1270 - 570	11000 - 5000	2.3
6290-1½VVC	60 - 75	300 - 230	7.0	2.5 - 0.9	7070	2540 - 1130	1270 - 570	11000 - 5000	2.8
6290-2VVC	75 - 100	300 - 180	7.0	2.5 - 0.9	9000	2540 - 1130	1270 - 570	11000 - 5000	3.0
6290-2½VVC	125 - 150	200 - 150	7.0	2.5 - 0.9	11170	2540 - 1130	1270 - 570	11000 - 5000	3.3
6290-3VVC	150 - 175	180 - 125	7.0	2.5 - 0.9	12000	2830 - 1130	1420 - 570	12400 - 5000	3.5
6290-4VVC	175 - 200	180 - 125	7.0	2.5 - 0.9	14850	2830 - 1130	1420 - 570	12400 - 5000	4.0
6290-5VVC	200 - 225	150 - 100	6.5	2.8 - 1.2	16410	2830 - 1510	1420 - 760	12400 - 6600	5.0
6290-5½VVC	225 - 250	125 - 100	6.5	2.8 - 1.3	16980	2830 - 1630	1420 - 820	12400 - 7100	6.4
6290-5NH	225 - 250	125 - 100	4.0	2.8 - 1.5	16980	2830 - 1880	1420 - 940	12400 - 8200	6.4
6290-6NH	250 - 275	120 - 100	4.0	2.8 - 1.5	19520	2830 - 1880	1420 - 940	12400 - 8200	6.4
6290-7NH	275 - 300	110 - 100	4.5	3.5 - 2.0	23340	2830 - 2510	1420 - 1260	12400 - 11000	6.4
6290-8NH	300 - 380	100 - 75	4.5	3.5 - 2.0	26170	2830 - 2510	1420 - 1260	12400 - 11000	7.6

(1) For a fast start, necessary when performing piercing and/or cutting thickness over 200 mm., use "high preheat".
For thickness up to 200 mm., switch from high to low preheat - just cut, it has started. - All pressures are measured at torch inlet. - Use minimum 0.3 (bar) fuel gas pressure for equal pressure torches. - Use maximum 0.2 (bar) fuel gas pressure for injector equipment.

Machine Cutting Tips

**6290-VAX
Plated Shell**



**6290-VPM
Plated Shell**



- ▶ Minimizes kerf
- ▶ Increased cutting speeds, reduces heat input
- ▶ High quality machine cuts, reduces afterwork
- ▶ Used with low cost fuel gases

6290-NHM



6290-VAX High Speed Oxy-Acetylene Cutting Tip Chart - Plated Shell

PART NO.	PLATE THICKNESS (mm)	CUTTING SPEED (mm/min)	CUTTING OX PRESSURE (bar)	CUTTING OX FLOW (l/h)	PREHEAT OX FLOW (l/h)	ACETYLENE FLOW (l/h)	HEATING POWER (Kcal/h)
6290-1VAX	0 - 8	650	2.5 - 4.0	850 -1250	400	350	4740
6290-2VAX	8 - 15	600	5.0	2400	450	420	5690
6290-3VAX	15 - 35	550	7.0	4000	500	440	5960
6290-4VAX	35 - 75	450	7.0	5000	580	500	6780
6290-5VAX	75 - 150	300	5.0	9000	660	600	8130
6290-6VAX	150 - 200	150	6.5	13500	600	800	10840

Use maximum 0.2 (bar) fuel gas pressure for injector equipment
Use minimum 0.3 (bar) fuel gas pressure for equilibrated pressure torches

6290-VPM High Speed Oxy-MAPP[®], Tetrene and Propylene Cutting Tip Chart - Plated Shell

PART NO.	PLATE THICKNESS (mm)	CUTTING SPEED (mm/min)	CUTTING OX PRESSURE ¹ (bar)	PREHEAT OX PRESSURE (High - Low) (bar)	PREHEAT OX FLOW (Low Pressure) (l/h)	CUTTING OX FLOW (l/h)	PREHEAT FUEL FLOW ² (l/h)	HEATING POWER (Low) (Kcal/h)	KERF WIDTH (mm)
6290-0VPM	1 - 4	750	3.0	0.8 - 0.5	600	810	300	6300	1.3
6290-1VPM	4 - 8	700	3.5	0.8 - 0.5	1200	810	300	6300	1.5
6290-2VPM	8 - 15	620	5.0	1.7 - 0.5	2400	840	330	6930	1.8
6290-3VPM	15 - 35	550	7.0	1.7 - 0.5	4200	900	360	7560	2.0
6290-4VPM	35 - 75	450	7.0	1.7 - 0.7	5100	1020	400	8390	2.5
6290-5VPM	75 - 150	300	7.0	1.7 - 0.7	8400	1080	420	8820	3.0
6290-6VPM	150 - 200	150	7.0	2.0 - 0.7	14400	1140	450	9450	4.0
6290-7NHM	200 - 300	125	4.0	0.7 - 2.5	22300	1140	450	9450	6.9

(¹) Cutting oxygen pressure are measured at torch inlet

(²) Preheat flows are calculated for propylene/oxygen at 2.6/1 ratio

Use minimum 0.3 (bar) fuel gas pressure for equal pressure torches

Use maximum 0.2 (bar) fuel gas pressure for injector equipment

CLEANING INSTRUCTIONS: The wire brush included with tip cleaner E-9 should be used for cleaning preheat slots and for removing spatter from the tip face. When cleaning the preheat slots, do not brush across the slots as this motion can damage the slots. Always brush along the length of the slot to remove dirt or spatter.



**E-9 TIP
Two Piece Cleaners**

Machine Cutting Accessories



TH-98 Twin Tip Adapter

Adjustable twin adapter for 2 cuts simultaneously using one torch. Adjust from 30 mm to 305 mm wide (special widths available on request) "O" ring sealed. Large capacity (up to 200 mm to each tip).



BV-98-2 Beveling Head

Use with natural gas or propane only. Increase speed and quality of bevel cuts. 6290 cutting tips can be used. Use specially designed 1390-3H replacement heating tip for optimum results.



96-DC Oxygen Saver

Dual control oxygen saver for 3 hose torches. Fits to oxygen line. Moving the lever adjusts the flame from an extreme flame for piercing and quick starts to a soft small flame for economy and quality. Advantages are reduced oxygen and gas consumption, very high cut quality, square edges, slag-free cuts with fast starts. Not recommended for acetylene.



C-98-V2 Flash Check Valve for Cutting Oxygen Inlet On Three Hose Torches

Stops reverse flow of gases. Recommended when cutting oxygen valve is remote from torches. Cutting capacity up to 200 mm.



S-98-C Adjustable Tip Adapter

Allows adjustment of tip to any angle without moving the torch "O" ring sealed. Large capacity, (up to 200 mm) calibrated 90°.



88-6 Check Valves

Reverse flow check valves for preheat only. Help prevent dangerous reverse flow mixing of gas in hose and regulators (see page 81 for complete check valve information).

Machine Cutting Guide

CORRECT CUTTING



PERFECT CUT - Regular surface with slightly sloping drag lines marks 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.

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.

DIRTY TIP



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.

CUTTING SPEED



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.

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.

SLIGHTLY TOO FAST - Drag lines incline backwards, but a "drop out" is still attained. Top edge is good, cut face is smooth and slag free. Quality is satisfactory for much production work.

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, but faster speeds are more desirable.

TIP DISTANCE



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.

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.

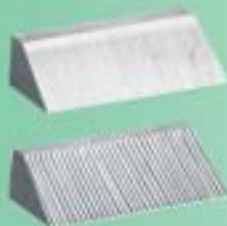
GAS ADJUSTMENT



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.

TOO HOT PREHEAT - Rounded top edge caused by too much preheat. Excess preheat does not increase cutting speed. It only wastes gases.

WHAT TO LOOK FOR IN BEVEL CUTTING



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.

POOR QUALITY - Gouging is the most common fault, and is caused by either speed too fast or preheat flame too mild. Another fault is a rounded top edge, caused by too much preheat indicating excessive gas consumption.

HARRIS PORTABLE CUTTING SYSTEMS

HARRIS SUPER

Harris Super is an innovative machine with a body structure systematized for different types of oxy-fuel cutting and automatic welding work

Features

- ▶ Straight line and circle cutting or welding
- ▶ Double Cone Stepless Drive System, maintaining constant travel speed even with high temperatures and allowing greater speed control
- ▶ Plate Rider Torch Option, automatically maintains torch distance during cutting
- ▶ Modular straight 1800 mm rail sections (to be ordered separately)
- ▶ Circle rail Ø 40-360 mm and Ø 1150-2400 mm (to be ordered separately).
- ▶ Speed meter dial indication with conversion scale.
- ▶ Cutting torch unit for square or V-bevel cutting, equipped with the Harris cutting torch model 198-4.
- ▶ Double or triple cutting torch unit available on request.



The Package includes:

- ▶ Cutting machine with connecting lead and rubber connection hose from machine to cutting torch
- ▶ Harris cutting torch model 198 with 3 tips
- ▶ Tool set
- ▶ Operation manual

MODEL N.	DESCRIPTION	NOTE
PCS-SUPER-42F	HARRIS Super 42 V	Propane
PCS-SUPER-110F	HARRIS Super 110 V	
PCS-SUPER-220F	HARRIS Super 220 V	
PCS-SUPER-42	HARRIS Super 42 V	Acetylene
PCS-SUPER-110	HARRIS Super 110 V	
PCS-SUPER-220	HARRIS Super 220 V	
PCS RAIL	Straight rail 1800 mm	To be ordered separately
PCS CIRRAIL	Circle rail	

Specifications

Cutting Thickness	Up to 300 mm
Cutting Speed	80–800 mm/min
Speed Control	Single cone speed system, mechanical regulation
Power Source	42V, 110V, 220V AC
Weight	11 kg
Overall Measurement	430 mm (L) x 170 mm (W) x 215 mm (H)
Cutting Torch	Propane: 198-4F Acetylene: 198-4
Cutting Tips (*)	Propane: 6290-VVC (size 5/0 to 5½) - 6290-NH (size 6-7) Acetylene: 6290-VAX (size 1 to 6)

(*) See page 70-71

HARRIS PLUS

The Harris Plus is a more portable version of the Harris Super, designed with the same precision and capabilities.

Features

- ▶ Straight line and circle oxy fuel cutting
- ▶ Stepless Drive System, maintaining constant travel speed even with high temperatures and ensuring stable, trouble-free cutting
- ▶ Light Weight -9.5 kg- easy to carry and use
- ▶ Modular straight 1800 mm rail sections (to be ordered separately)

MODEL N.	DESCRIPTION	NOTE
PCS-PLUS-42F	HARRIS Plus 42 V	Propane
PCS-PLUS-110F	HARRIS Plus 110 V	
PCS-PLUS-220F	HARRIS Plus 220 V	
PCS-PLUS-42	HARRIS Plus 42 V	Acetylene
PCS-PLUS-110	HARRIS Plus 110 V	
PCS-PLUS-220	HARRIS Plus 220 V	
PCS RAIL	Straight rail 1800 mm	To be ordered separately

Specifications

Cutting Thickness	3 ~ 150 mm
Cutting Speed	150 ~ 800 mm/min
Speed control	Single cone speed system, mechanical regulation
Power Source	42V, 110V, 220V AC
Weight	9.5 kg
Overall Measurement	360 mm (L) x 140 mm (W) x 175 mm (H)
Cutting Torch	Propane: 198-4F Acetylene: 198-4
Cutting Tips (*)	Propane: 6290-VVC (size 5/0 to 2½) Acetylene: 6290-VAX (size 1 to 5)

(*) See page 70-71



The Package includes:

- ▶ Cutting machine with connecting lead and rubber connection hose from machine to cutting torch
- ▶ Harris cutting torch model 198 with 3 tips
- ▶ Tool set
- ▶ Operation manual

HARRIS HA

Harris HA is a portable, hand cutting machine with integrated drive system, suitable as a hand-held cutter as well as an automated cutting machine. It allows the operator to cut all kinds of profiles in a simple and accurate manner. Due to low weight, Harris HA can be used as simple as an ordinary hand cutting torch.

MODEL N.	DESCRIPTION
PCS-HA110	HARRIS HA 110 V
PCS-HA	HARRIS HA 220 V

Specifications

Cutting thickness	3 ~ 30 mm
Running speed	200 ~ 700 mm/min
Input voltage	110V, 220V AC
Speed control	Transistor control
Overall length	500 mm
Weight	2.7 kg
Standard wheel	Attaches to machine body
Cutting Tips	Propane: 8290-PNME (size 1 to 3) Acetylene: 8290-ANME (size 1 to 3)

(*) See page 61

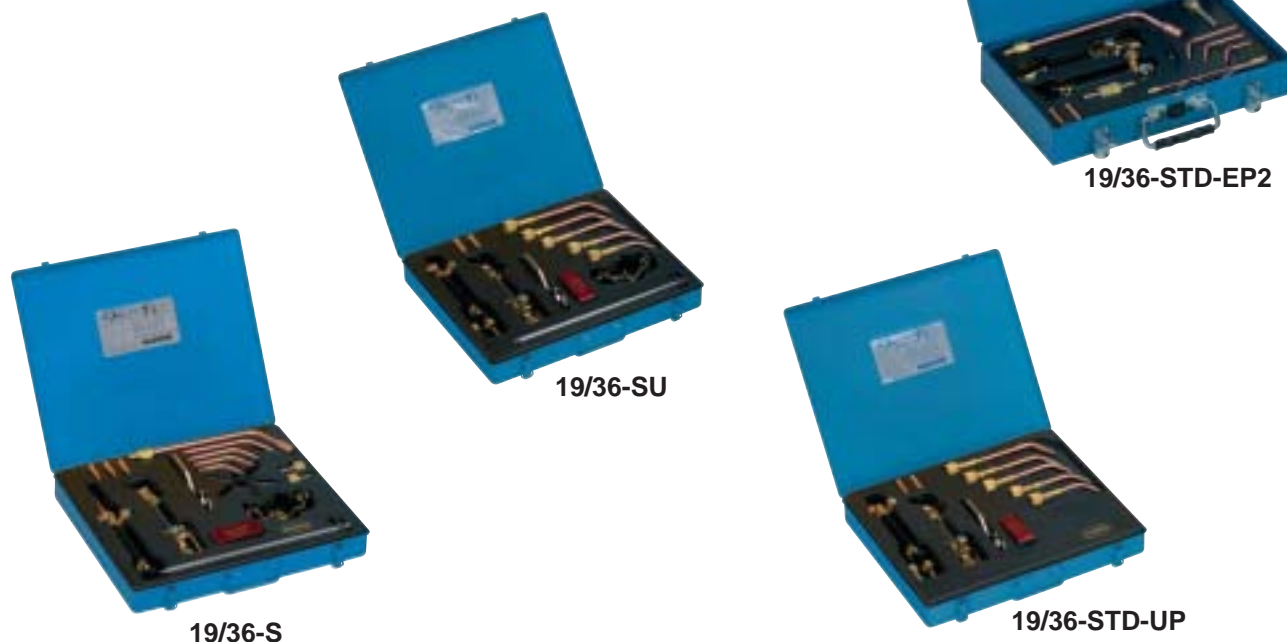


LIGHT DUTY OXY-ACETYLENE KITS

Compact lightweight ideal for plumbers, do-it-yourself and small work-shops.

Features:

- ▶ 19-6 handle with front valves for easy regulation
- ▶ 36-2 cutting attachment with triangular stainless steel tube construction for maximum strength
- ▶ Protected "O" ring on cutting attachment, mixer and welding assembly



Cuts up to 75 mm. Equal Pressure - Welds up to 14 mm. Equal Pressure (Acetylene)

PART NO.	HANDLE	MIXER	HOSE CONNECTIONS	CUTTING ATTACHMENT	CUTTING TIPS	WELDING TIPS	HEATING TIP	ACCESSORIES	PACKAGING
19/36-S	19-6	H-19-2E	38-L3/R3	36-2	3690-0AC/1AC/2AC	5090-0/3/5/9	J-63-1	Wrench (I-62-X), Circle Cutting Attachment (I-69-7), Tip cleaner (C-9), Connector (1901-11)	Steel case (1943-K) Plastic Internal (4349-P)

Cuts up to 75 mm. Equal Pressure - Welds up to 14 mm. Low Pressure (Acetylene)

PART NO.	HANDLE	HOSE CONNECTIONS	CUTTING ATTACHMENT	CUTTING TIPS	WELDING ASSEMBLIES	ACCESSORIES	PACKAGING
19/36-SU	19-6	38-L3/R3	36-2	3690-0AC/2AC	L-19-1/3/5/6/9	Wrench (I-62-X), Circle Cutting Attachment (I-69-7), Tip cleaner (C-9)	Steel case (1943-K) Plastic Internal (4349-PUA)
19/36-STD-UP	19-6	38-L3/R3	36-2	3690-0AC/2AC	L-19-1/3/5/6/9	Wrench (I-62-X), Tip cleaner (C-9)	Steel case (1943-K) Plastic Internal (4349-PL)

Cuts up to 75 mm. Equal Pressure - Welds up to 4 mm. Equal Pressure (Acetylene)

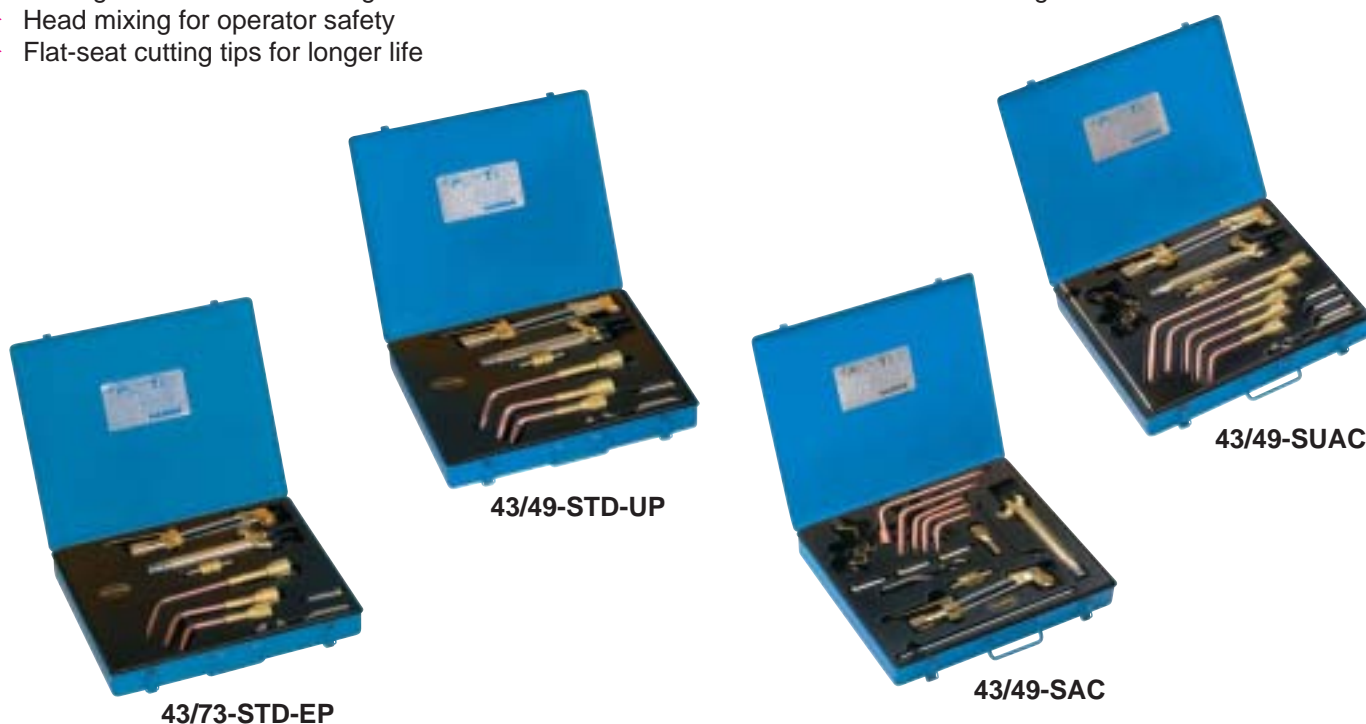
PART NO.	HANDLE	MIXER	HOSE CONNECTIONS	CUTTING ATTACHMENT	CUTTING TIPS	WELDING TIPS	HEATING TIP	ACCESSORIES	PACKAGING
19/36-STD-EP2	19-6	H-19-2E	38-L3/R3	36-2	3690-0AC/2AC	5090-0/3/5 0090-3	J-63-1	Wrench (I-62-X), Connector (1901-11)	Steel case (1943-KSR) Plastic Internal (4349-PSA)

HEAVY DUTY OXY-ACETYLENE KITS

Professional equipment designed for maximum safety and long life. Ideal for industry, workshops, shipyards, construction sites and oil industry.

Features:

- ▶ 43-2 handle in forged brass with connection piece in stainless steel
- ▶ Cutting attachment with triangular stainless steel tube construction for maximum strength
- ▶ Head mixing for operator safety
- ▶ Flat-seat cutting tips for longer life



Cuts up to 50 mm. Equal Pressure - Welds up to 9 mm. Equal Pressure (Acetylene)

PART NO.	HANDLE	MIXER	HOSE CONNECTIONS	CUTTING ATTACHMENT	CUTTING TIP	WELDING TIPS	ACCESSORIES	PACKAGING
43/73-STD-EP	43-2	E-43	38-L2/R2	73-3	6290-2AC	23-A-90-3/5/8	Wrench I-62-X	Steel case (1943-K) Plastic Internal (4349-P)

Cuts up to 50 mm. Low Pressure - Welds up to 9 mm. Low Pressure (Acetylene)

PART NO.	HANDLE	HOSE CONNECTIONS	CUTTING ATTACHMENT	CUTTING TIP	WELDING ASSEMBLIES	ACCESSORIES	PACKAGING
43/49-STD-UP	43-2	38-L2/R2	49-3	6290-2AC	L-43/3/5/8	Wrench I-62-X	Steel case (1943-K) Plastic Internal (4349-PS)

Cuts up to 150 mm. Low Pressure - Welds up to 20 mm. Equal Pressure (Acetylene)

PART NO.	HANDLE	MIXER	HOSE CONNECTIONS	CUTTING ATTACHMENT	CUTTING TIPS	WELDING TIPS	HEATING TIP	ACCESSORIES	PACKAGING
43/49-SAC	43-2	E-43	38-L2/R2	49-3	6290-0AC/2AC/4AC	23-A-90-3/5/6/10	J-63-2	Wrench I-62-X. Twin wheel circle cutting attachment (I-69-6)	Steel case (1943-K) Plastic Internal (4349-P)

Cuts up to 150 mm. Low Pressure - Welds up to 50 mm. Low Pressure (Acetylene)

PART NO.	HANDLE	HOSE CONNECTIONS	CUTTING ATTACHMENT	CUTTING TIPS	WELDING ASSEMBLIES	ACCESSORIES	PACKAGING
43/49-SUAC	43-2	38-L2/R2	49-3	6290-0AC/2AC/4AC	L-43-3/5/6/9/15	Wrench I-62-X. Twin wheel circle cutting attachment (I-69-6)	Steel case (1943-K) Plastic Internal (4349-PI)



Welding And Cutting Outfits

- ▶ Brass handle with large flow capacity for heavy duty applications
- ▶ Cutting attachment with triangular stainless steel tube design
- ▶ Equal pressure mixer for maximum safety - no backfire
- ▶ Regulator with improved quality, performance and durability
- ▶ Kits complete with goggles, lighter with flints and 6 mt. long twin hose with fittings
- ▶ Attractive completely recyclable packaging

Cuts up to 50 mm. Equal Pressure Welds up to 9 mm. Equal Pressure (Acetylene)

PART NO.	HANDLE	MIXER	CUTTING ATTACHMENT	CUTTING TIP	WELDING TIPS	HEATING TIP	SINGLE STAGE OXYGEN REGULATOR	SINGLE STAGE FUEL GAS REGULATOR	ACCESSORIES
Master 1	I43-2	E-43	73-3	6290-2	23A90-3/5/8	J-63-2	94-10-OX	94-1,5-AC	6 MT Hose (4300500), Goggles (APS010), Lighter (26S), Flints (26L)
Master 2							825-10-OX	825-1,5-AC	

Cuts up to 25 mm. Equal Pressure Welds up to 4 mm. Equal Pressure (Acetylene)

PART NO.	HANDLE	MIXER	CUTTING ATTACHMENT	CHECK VALVES	CUTTING TIPS	WELDING TIP	SINGLE STAGE OXYGEN REGULATOR	SINGLE STAGE FUEL GAS REGULATOR	ACCESSORIES
Master Gold	I43-2	E-43	73-3				94-10-OX	94-1,5-AC	6 MT Hose (4300500), Goggles (APS010), Lighter (26S), Flints (26L)
Master Silver	263	E-43	73-3	886-CVTR 886-CVTL	6290-1	23A90-5	825-10-OX	825-1,5-AC	
Master Bronze	85	D-85	72-3				801-10-OX	801-1,5-AC	

Cuts up to 25 mm. Equal Pressure Welds up to 9 mm. Equal Pressure (Acetylene)

PART NO.	HANDLE	MIXER	CUTTING ATTACHMENT	CHECK VALVES	CUTTING TIP	WELDING TIPS	HEATING TIP	SINGLE STAGE OXYGEN REGULATOR	SINGLE STAGE FUEL GAS REGULATOR	ACCESSORIES
Master 3	85	D-85	72-3	886-CVTR 886--CVTL	6290-1	23A90-3/5/8	J-63-1	801-10-OX	801-1,5-AC	6 MT Hose (4300500), Goggles (APS010), Lighter (26S), Flints (26L)



Cuts up to 25 mm. Equal Pressure Welds up to 4 mm. Equal Pressure (Acetylene)

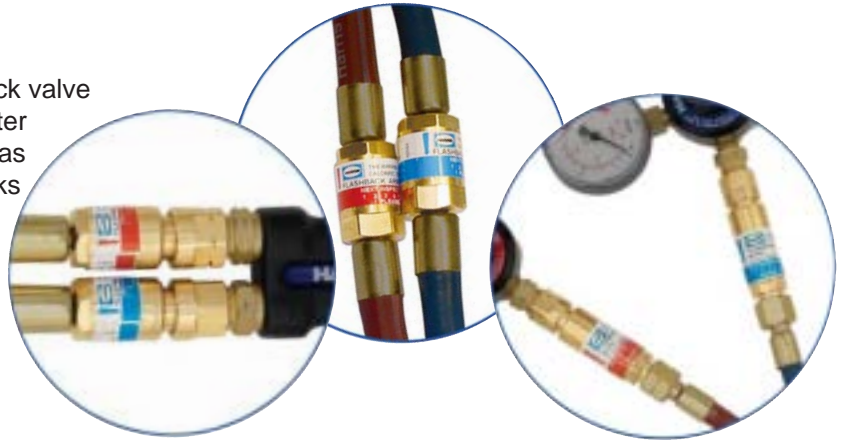
PART NO.	HANDLE	MIXER	CUTTING ATTACHMENT	CUTTING TIP	WELDING TIP	SINGLE STAGE OXYGEN REGULATOR	SINGLE STAGE FUEL GAS REGULATOR	ACCESSORIES
Flamepower	85	D-85	72-3	6290-1AC	23A90-5	601-10-OX	601-1,5-AC	6 MT Hose (4300500), Goggles (APS010), Lighter (26S), Flints (26L)

Cuts up to 50 mm. Low Pressure (Propane)

PART NO.	CUTTING TORCH	CHECK VALVE	HOSE CONNECTIONS	CUTTING TIPS	SINGLE STAGE OXYGEN REGULATOR	SINGLE STAGE FUEL GAS REGULATOR	ACCESSORIES
Master Cutter	62-5F	886-CVTR/CVTL	38-R2/L2	6290-1NX/2NX	825-10-OX	825-1,5-AC	6 MT Hose (4300500), Goggles (APS010), Lighter (26S), Flints (26L)

Flashback Arrestors

- ▶ Prevent reverse flow of gases with built-in check valve
- ▶ Extinguish flashback fire with sintered metal filter
- ▶ Thermal cut-off which positively shuts off the gas in case of hose fire, burn or repeated flashbacks (only T version)
- ▶ Pressure operated cut-off which positively shuts off the gas when pressure exceeds (only 3T version)



Regulator type



188- (L & R)



188-2 (L & R)

PART NO.	FUEL GAS	MAX FLOW l/h	MAX PRESSURE (bar) *				INLET THREAD	OUTLET THREAD
			OX	AC	LPG	H ₂		
188-L	Fuel gas	30.000	-	1.5	5	3.5	9/16"-18-UNF-2B-LH	9/16"-18-UNF-2A-LH
188-R	Ox	100.000	15	-	-	-	9/16"-18-UNF-2B-RH	9/16"-18-UNF-2A-RH
188-LGB	Fuel gas	30.000	-	1.5	5	3.5	G 3/8"-LH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228
188-RGB	Ox	100.000	15	-	-	-	G 3/8"-RH-UNI ISO 228	G 3/8" A-RH-UNI ISO 228
188-2L	Fuel gas	60.000	-	1.5	5	3.5	9/16"-18-UNF-2B-LH	9/16"-18-UNF-2A-LH
188-2R	Ox	180.000	15	-	-	-	9/16"-18-UNF-2B-RH	9/16"-18-UNF-2A-RH
188-2AL	Fuel gas	60.000	-	1.5	5	3.5	5/8"-18-UNF-LH	5/8"-18-UNF-LH
188-2AR	Ox	180.000	15	-	-	-	5/8"-18-UNF-RH	5/8"-18-UNF-RH
188-2LGB	Fuel gas	60.000	-	1.5	5	3.5	G 3/8"-LH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228
188-2RGB	Ox	180.000	15	-	-	-	G 3/8"-RH-UNI ISO 228	G 3/8" A-RH-UNI ISO 228
188-GL	Fuel gas	30.000	-	1.5	5	3.5	G 1/4"-LH-UNI ISO 228	G 1/4" A-LH-UNI ISO 228
188-GR	Ox	100.000	15	-	-	-	G 1/4"-RH-UNI ISO 228	G 1/4" A-RH-UNI ISO 228
188-FFL	Fuel gas	30.000	-	1.5	5	3.5	M16x1.5-6H-LH	M16x1.5-6g-LH
188-FFR	Ox	100.000	15	-	-	-	M16x1.5-6H-RH	M16x1.5-6g-RH

*1 bar=100 kPa



188-T (L & R)

PART NO.	FUEL GAS	MAX FLOW l/h	MAX PRESSURE (bar) *				INLET THREAD	OUTLET THREAD
			OX	AC	LPG	H ₂		
188-TL	Fuel gas	30.000	-	1.5	5	3.5	9/16"-18-UNF-2B-LH	9/16"-18-UNF-2A-LH
188-TR	Ox	100.000	15	-	-	-	9/16"-18-UNF-2B-RH	9/16"-18-UNF-2A-RH
188-TAL	Fuel gas	30.000	-	1.5	5	3.5	5/8"-18-UNF-LH	5/8"-18-UNF-LH
188-TAR	Ox	100.000	15	-	-	-	5/8"-18-UNF-RH	5/8"-18-UNF-RH
188-TLGB	Fuel gas	30.000	-	1.5	5	3.5	G 3/8"-LH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228
188-TRGB	Ox	100.000	15	-	-	-	G 3/8"-RH-UNI ISO 228	G 3/8" A-RH-UNI ISO 228
188-2TAL	Fuel gas	60.000	-	1.5	5	3.5	5/8"-18-UNF-LH	5/8"-18-UNF-LH
188-2TAR	Ox	180.000	15	-	-	-	5/8"-18-UNF-RH	5/8"-18-UNF-RH
188-2TL	Fuel gas	60.000	-	1.5	5	3.5	9/16"-18-UNF-2B-LH	9/16"-18-UNF-2A-LH
188-2TR	Ox	180.000	15	-	-	-	9/16"-18-UNF-2B-RH	9/16"-18-UNF-2A-RH
188-2TLGB	Fuel gas	60.000	-	1.5	5	3.5	G 3/8"-LH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228
188-2TRGB	Ox	180.000	15	-	-	-	G 3/8"-RH-UNI ISO 228	G 3/8" A-RH-UNI ISO 228

*1 bar=100 kPa



188-3T (LGB & RGB)

PART NO.	FUEL GAS	MAX FLOW l/h	MAX PRESSURE (bar) *				INLET THREAD	OUTLET THREAD
			OX	AC	LPG	H ₂		
188-3TLGB	Fuel gas	60.000	-	1.5	5	3.5	G 3/8"-LH-UNI ISO 228	G 3/8" A-LH-UNI ISO 228
188-3TRGB	Ox	180.000	15	-	-	-	G 3/8"-RH-UNI ISO 228	G 3/8" A-RH-UNI ISO 228

*1 bar=100 kPa

Hose to Hose type



188- TT (L6 & R6)

PART NO.	FUEL GAS	MAX FLOW l/h	MAX PRESSURE (bar) *				INLET THREAD	OUTLET THREAD
			OX	AC	LPG	H ₂		
188-TTL6	Fuel gas	20.000	-	1.5	5	3.5	Ø hose 1/4"(6 mm)	Ø hose 1/4"(6 mm)
188-TTR6	Ox	65.000	15	-	-	-	Ø hose 1/4"(6 mm)	Ø hose 1/4"(6 mm)
188-TTL8	Fuel gas	20.000	-	1.5	5	3.5	Ø hose 5/16"(8 mm)	Ø hose 5/16"(8 mm)
188-TTR8	Ox	65.000	15	-	-	-	Ø hose 5/16"(8 mm)	Ø hose 5/16"(8 mm)

*1 bar=100 kPa

Torch Type



188-1G (L6 & R6)



188-GG (L & R)

PART NO.	FUEL GAS	MAX FLOW l/h	MAX PRESSURE (bar) *				INLET THREAD	OUTLET THREAD
			OX	AC	LPG	H ₂		
188-1GBL6	Fuel gas	20.000	-	1.5	5	3.5	Ø hose 1/4"(6 mm)	G 3/8"-LH-UNI ISO 228
188-1GBR6	Ox	65.000	15	-	-	-	Ø hose 1/4"(6 mm)	G 3/8"-RH-UNI ISO 228
188-1GBL8	Fuel gas	20.000	-	1.5	5	3.5	Ø hose 5/16"(8 mm)	G 3/8"-LH-UNI ISO 228
188-1GBR8	Ox	65.000	15	-	-	-	Ø hose 5/16"(8 mm)	G 3/8"-RH-UNI ISO 228
188-1GL6	Fuel gas	20.000	-	1.5	5	3.5	Ø hose 1/4"(6 mm)	G 1/4"-LH-UNI ISO 228
188-1GR6	Ox	65.000	15	-	-	-	Ø hose 1/4"(6 mm)	G 1/4"-RH-UNI ISO 228
188-1L6	Fuel gas	20.000	-	1.5	5	3.5	Ø hose 1/4"(6 mm)	9/16"-18-UNF-2A-LH
188-1R6	Ox	65.000	15	-	-	-	Ø hose 1/4"(6 mm)	9/16"-18-UNF-2A-RH
188-1L8	Fuel gas	20.000	-	1.5	5	3.5	Ø hose 5/16"(8 mm)	9/16"-18-UNF-2A-LH
188-1R8	Ox	65.000	15	-	-	-	Ø hose 5/16"(8 mm)	9/16"-18-UNF-2A-RH
188-GGAL	Fuel gas	20.000	-	1.5	5	3.5	5/8"-18-UNF-LH	5/8"-18-UNF-LH
188-GGAR	Ox	65.000	15	-	-	-	5/8"-18-UNF-RH	5/8"-18-UNF-RH
188-GGGBL	Fuel gas	20.000	-	1.5	5	3.5	G 3/8" A-LH-UNI ISO 228	G 3/8"-LH-UNI ISO 228
188-GGGBR	Ox	65.000	15	-	-	-	G 3/8" A-RH-UNI ISO 228	G 3/8"-RH-UNI ISO 228
188-GGGL	Fuel gas	20.000	-	1.5	5	3.5	G 1/4" A-LH-UNI ISO 228	G 1/4"-LH-UNI ISO 228
188-GGGR	Ox	65.000	15	-	-	-	G 1/4" A-RH-UNI ISO 228	G 1/4"-RH-UNI ISO 228
188-GGL	Fuel gas	20.000	-	1.5	5	3.5	9/16"-18-UNF-2A-LH	9/16"-18-UNF-2B-LH
188-GGR	Ox	65.000	15	-	-	-	9/16"-18-UNF-2A-RH	9/16"-18-UNF-2B-RH

*1 bar=100 kPa

Check Valves

- ▶ Torch type
- ▶ Help prevent dangerous reverse flow mixing of gas in the hose
- ▶ Compact light weight design add extra operator safety



88-6CVT (L&R)

PART NO.	FUEL GAS	MAX PRESSURE (bar) *				INLET THREAD	OUTLET THREAD
		OX	AC	LPG	H ₂		
88-3SVL	Fuel gas	-	1.5	5	3.5	G 1/4" A-LH-UNI ISO 228	G 1/4"-LH-UNI ISO 228
88-3SVR	Ox	15	-	-	-	G 1/4" A-RH-UNI ISO 228	G 1/4"-RH-UNI ISO 228
88-4CVL**	Fuel gas	-	1.5	5	3.5	9/16"-18-UNF-2A-LH	9/16"-18-UNF-3B-LH
88-4CVR**	Ox	15	-	-	-	9/16"-18-UNF-2A-RH	9/16"-18-UNF-3B-RH
88-6AL	Fuel gas	-	1.5	5	3.5	.622"-18-UN-2A-LH	9/16"-18-UNF-3B-LH
88-6AL1	Fuel gas	-	1.5	5	3.5	.622"-18-UN-2A-LH	.622"-18-UN-LH
88-6AR	Ox	15	-	-	-	.622"-18-UN-2A-RH	9/16"-18-UNF-3B-RH
88-6AR1	Ox	15	-	-	-	.622"-18-UN-2A-RH	.622"-18-UN-RH
88-6CTL	Fuel gas	-	1.5	5	3.5	M16x1.5-6g-LH	M16x1.5-6G-LH
88-6CTR	Ox	15	-	-	-	M16x1.5-6g-RH	M16x1.5-6G-RH
88-6CVTL	Fuel gas	-	1.5	5	3.5	9/16"-18-UNF-2A-LH	9/16"-18-UNF-2B-LH
88-6CVTR	Ox	15	-	-	-	9/16"-18-UNF-2A-RH	9/16"-18-UNF-2B-RH
88-6FL	Fuel gas	-	1.5	5	3.5	M16x1.5-6g-LH	9/16"-18-UNF-3B-LH
88-6FR	Ox	15	-	-	-	M16x1.5-6g-RH	9/16"-18-UNF-3B-RH
88-6GBL	Fuel gas	-	1.5	5	3.5	G 3/8" A-LH-UNI ISO 228	G 3/8"-LH-UNI ISO 228
88-6GBR	Ox	15	-	-	-	G 3/8" A-RH-UNI ISO 228	G 3/8"-RH-UNI ISO 228
88-6GBR1	Ox	15	-	-	-	G 3/8" A-RH-UNI ISO 228	9/16"-18-UNF-3B-RH
88-6GL	Fuel gas	-	1.5	5	3.5	G 3/8" A-LH-UNI ISO 228	9/16"-18-UNF-3B-LH
88-6GR	Ox	15	-	-	-	G 1/4" A-RH-UNI ISO 228	9/16"-18-UNF-3B-RH

*1 bar=100 kPa **Regulator type

Quick Action Coupling

- ▶ Long lasting stainless steel pin connection
- ▶ Automatic gas cut-off to positively shut off the gas supply when disconnected
- ▶ Durable brass and stainless steel construction



CPL8

CPLGB



QACLGB



QACL8

PART NO.	DESCRIPTION	CONNECTION TYPE	TYPE
CPL6	Male	Hose connection Ø 1/4" (6 mm)	Hose
CPR6			
CPL8		Threads G 3/8"-LH-UNI ISO 228 Threads G 3/8"-RH-UNI ISO 228 Threads 9/16"-18-UNF-2B-LH Threads 9/16"-18-UNF-2B-LH	Torch
CPR8			
CPLGB			
CPRGB			
CPL	Female	Hose connection Ø 1/4" (6 mm)	Hose
CPR			
QACL6		Threads G 3/8"-LH-UNI ISO 228 Threads G 3/8"-RH-UNI ISO 228	Regulator
QACR6			
QACL8			
QACR8			
QACLGB	Threads G 3/8"-LH-UNI ISO 228 Threads G 3/8"-RH-UNI ISO 228	Regulator	
QACRGB			

Flowmeters Models 861 & 866

- ▶ Measure flow from 0 to 15/30 Lpm for Ar/CO₂
- ▶ Measure flow from 0 to 20/50 Lpm for Formier gas
- ▶ Calibrated at 3.5 bar inlet pressure (optional 4 bar)
- ▶ Easy to read flowtube has virtually unbreakable transparent polycarbonate outer cover for maximum strength and 360° visibility
- ▶ Brass body and knob
- ▶ Needle valve for accurate adjustment of flow
- ▶ Simplified choice of outlet connections on the body
- ▶ Calibration (bar/PSI)
- ▶ Inlet threads 1/4" NPT male (for other inlets refer to the table below)



mod. 861
90° Inlet & Knob



mod. 866
180° Inlet & Knob

PART NO. 861	PART NO. 866	FLOW (l/m)	GAS	OUTLET THREAD
861-15L-ARC	866-15L-ARC	15	Argon/CO ₂	9/16"-18-UNF-2A-RH
861-30L-ARC	866-30L-ARC	30		9/16"-18-UNF-2A-RH
861-15L-ARC-1	866-15L-ARC-1	15		G 3/8" A-RH-UNI ISO 228
861-30L-ARC-1	866-30L-ARC-1	30		G 3/8" A-RH-UNI ISO 228
861-15L-ARC-2	866-15L-ARC-2	15		G 1/4" A-RH-UNI ISO 228
861-30L-ARC-2	866-30L-ARC-2	30		G 1/4" A-RH-UNI ISO 228
861-15L-ARC-3	866-15L-ARC-3	15		.622"-18-UN-RH
861-30L-ARC-3	866-30L-ARC-3	30		.622"-18-UN-RH
861-15L-ARC-5	866-15L-ARC-5	15		Hose connection 1/4" (6 mm)
861-30L-ARC-5	866-30L-ARC-5	30		Hose connection 1/4" (6 mm)
861-15L-ARC-6	866-15L-ARC-6	15		Hose connection 3/8" (10 mm)
861-30L-ARC-6	866-30L-ARC-6	30	Hose connection 3/8" (10 mm)	
861-15L-ARC-7	866-15L-ARC-7	15	Hose connection 5/16" (8 mm)	
861-30L-ARC-7	866-30L-ARC-7	30	Hose connection 5/16" (8 mm)	
861-15L-ARC-11	866-15L-ARC-11	15	M16x1,5-6g-RH	
861-30L-ARC-11	866-30L-ARC-11	30	M16x1,5-6g-RH	
861-20L-FG-8	866-20L-FG-8	20	Formier gas	9/16"-18-UNF-2A-LH
861-50L-FG-8	866-50L-FG-8	50		9/16"-18-UNF-2A-LH
861-20L-FG-4	866-20L-FG-4	20		G 3/8" A-LH-UNI ISO 228
861-50L-FG-4	866-50L-FG-4	50		G 3/8" A-LH-UNI ISO 228
861-20L-FG-9	866-20L-FG-9	20		G 1/4" A-LH-UNI ISO 228
861-50L-FG-9	866-50L-FG-9	50		G 1/4" A-LH-UNI ISO 228
861-20L-FG-5	866-20L-FG-5	20		Hose connection 1/4" (6 mm)
861-50L-FG-5	866-50L-FG-5	50		Hose connection 1/4" (6 mm)
861-20L-FG-6	866-20L-FG-6	20		Hose connection 3/8" (10 mm)
861-50L-FG-6	866-50L-FG-6	50		Hose connection 3/8" (10 mm)
861-20L-FG-7	866-20L-FG-7	20		Hose connection 5/16" (8 mm)
861-50L-FG-7	866-50L-FG-7	50	Hose connection 5/16" (8 mm)	
861-15L-OX	866-15L-OX	15	Oxygen	9/16"-18-UNF-2A-RH
861-15L-OX-1	866-15L-OX-1	15		G 3/8" A-RH-UNI ISO 228
861-15L-OX-2	866-15L-OX-2	15		G 1/4" A-RH-UNI ISO 228
861-15L-OX-3	866-15L-OX-3	15		.622"-18-UN-RH
861-15L-OX-5	866-15L-OX-5	15		Hose connection 1/4" (6 mm)
861-15L-OX-6	866-15L-OX-6	15		Hose connection 3/8" (10 mm)
861-15L-OX-7	866-15L-OX-7	15		Hose connection 5/16" (8 mm)
861-15L-OX-11	866-15L-OX-11	15	M16x1,5-6g-RH	

ALL PART NUMBERS CAN BE SUPPLIED ALSO WITH THE FOLLOWING INLET / FEATURE

MODEL	MODEL	INLET THREAD / FEATURE
861A	866A	G 3/8"-RH-UNI ISO 228 (female)
861B	866B	G 1/4"-RH-UNI ISO 228 (female)
861C	866C	.622"-18-UN-RH (female)
	866D	Right hand (nameplate and scale at 270° from inlet)
861E	866E	Measuring scale 180° from inlet (standard is 90°)
861F	866F	9/16"-18-UNF-3B-RH (female)
861G	866G	G 1/8"-RH-UNI ISO 228 (male), only for model 601
861P	866P	dia-index knob
861X	866X	Pressure 4 bar (60 psi)

For inlet connection refer to this table.

Please add the corresponding letter to the part no.
(Eg. 861A-15L-ARC for inlet G 3/8"-RH-UNI ISO 228 female)



Flowmeter regulators (see pages 12-16)

Gauges

- ▶ Safety gauge conforms to EN 562
- ▶ Easy to read dual scale gauges with polycarbonate lens for durability
- ▶ Steel case protected by oven baked corrosion resistant paint

Rubber Cover



CPR6333



8E-615



8A-802-1



8E-601-1

PART NO.	GAUGE SCALE	GAS	Ø & THREAD	
8A-6001	0-15 l/min		Ø 63 - 1/4" NPT	
8A-6002	0-50 l/min			
8A-615	0-315 bar / 0-4568 psi			
8A-615-OX	0-315 bar / 0-4568 psi	Oxygen		
8A-617-AC	0-40 bar / 0-580 psi	Acetylene		
8A-619-OX	0-16 bar / 0-232 psi	Oxygen		
8A-6411-OX	0-25 bar / 0-362 psi	Oxygen		
8A-686-AC	0-2.5 bar / 0-36 psi	Acetylene		
8E-6001	0-15 l/min			Ø 63 - G 1/4"
8E-6002	0-50 l/min			
8E-6003	0-30 l/min			
8E-615	0-315 bar / 0-4568 psi			
8E-615-OX	0-315 bar / 0-4568 psi	Oxygen		
8E-615K	0-30000 kPa			
8E-615K-OX	0-30000 kPa	Oxygen		
8E-617	0-40 bar / 0-580 psi			
8E-617-AC	0-40 bar / 0-580 psi	Acetylene		
8E-617K	0-4000 kPa			
8E-617K-AC	0-4000 kPa	Acetylene		
8E-619	0-16 bar / 0-232 psi			
8E-619-OX	0-16 bar / 0-232 psi	Oxygen		
8E-619K	0-1600 kPa			
8E-619K-OX	0-1600 kPa	Oxygen		
8E-621	0-400 bar / 0-5800 psi			
8E-621-OX	0-400 bar / 0-5800 psi	Oxygen		
8E-621K	0-40000 kPa			
8E-623	0-100 bar / 0-1450 psi			
8E-6411	0-25 bar / 0-362 psi			
8E-6411-OX	0-25 bar / 0-362 psi	Oxygen		
8E-6411K	0-2500 kPa			
8E-6411K-OX	0-2500 kPa	Oxygen		
8E-661	0-6 bar / 0-87 psi			
8E-661-OX	0-6 bar / 0-87 psi	Oxygen		
8E-661K	0-600 kPa			
8E-661K-OX	0-600 kPa	Oxygen		
8E-6620	0-60 bar / 870 psi			
8E-6620-OX	0-60 bar / 870 psi	Oxygen		
8E-6620-K	0-6000 kPa			
8E-686	0-2.5 bar / 0-36 psi			
8E-686-AC	0-2.5 bar / 0-36 psi	Acetylene		
8E-686K	0-250 kPa			
8E-686K-AC	0-250 kPa	Acetylene		

FOR REGULATORS MODEL 802/822

PART NO.	GAUGE SCALE	Ø & THREAD
8A-802-1	0-100 bar	Ø 50 - G 1/8"
8A-802-2	0-10 bar	
8A-802-3	0-6 bar	
8A-802-4	0-315 bar	

FOR REGULATORS MODEL 601

PART NO.	GAUGE SCALE	GAS	Ø & THREAD
8E-601-1	0-315 bar / 0-4568 psi		Ø 50 - G 1/8"
8E-601-1-OX	0-315 bar / 0-4568 psi	Oxygen	
8E-601-2	0-30 l/min		
8E-601-3	0-25 bar / 0-362 psi		
8E-601-3-AC	0-25 bar / 0-362 psi	Acetylene	
8E-601-4	0-40 bar / 0-580 psi		
8E-601-4-AC	0-40 bar / 0-580 psi	Acetylene	
8E-601-5	0-6 bar / 0-87 psi		
8E-601-6	0-16 bar / 0-232 psi		
8E-601-6-OX	0-16 bar / 0-232 psi	Oxygen	
8E-601-7	0-15 l/min		

Rubber Cover



CPR63332

for
8A-802... & 8E-601...
gauges

Outlet Nipples for regulators



PART NO.	INLET THREAD	OUTLET THREAD	NOTES
957-L	1/4" NPT	9/16"-18-UNF-2A-LH	
957-R		9/16"-18-UNF-2A-RH	
957-SL		G 3/8" A-LH-UNI ISO 228	
957-SR		G 3/8" A-RH-UNI ISO 228	
957-AA		.622"-18-UN-LH	
957-AO		.622"-18-UN-RH	
F-957-L		M16x1,5-6g-LH	
F-957-R		M16x1,5-6g-RH	
G-957-1L		G 1/4" A-LH-UNI ISO 228	
G-957-1R		G 1/4" A-RH-UNI ISO 228	
60157-L	M11x1-6g-RH	9/16"-18-UNF-2A-LH	Only for model 601
60157-R		9/16"-18-UNF-2A-RH	
60157-SL		G 3/8" A-LH-UNI ISO 228	
60157-SR		G 3/8" A-RH-UNI ISO 228	
60157-AA		.622"-18-UN-LH	
60157-AO		.622"-18-UN-RH	
60157-FL		M16x1,5-6g-LH	
60157-FR		M16x1,5-6g-RH	
60157-AL		G 1/4" A-LH-UNI ISO 228	
60157-AR		G 1/4" A-RH-UNI ISO 228	
60157-L-2	G 1/8" A-RH-UNI ISO 228	9/16"-18-UNF-2A-LH	Only for model 601 L & flowmeters
60157-R-2		9/16"-18-UNF-2A-RH	
60157-SL-2		G 3/8" A-LH-UNI ISO 228	
60157-SR-2		G 3/8" A-RH-UNI ISO 228	
60157-AA-2		.622"-18-UN-LH	
60157-AO-2		.622"-18-UN-RH	
60157-FL-2		M16x1,5-6g-LH	
60157-FR-2		M16x1,5-6g-RH	
60157-AL-2		G 1/4" A-LH-UNI ISO 228	
60157-AR-2		G 1/4" A-RH-UNI ISO 228	

PART NO.	GAS	MAX FLOW (l/m)	INLET THREAD	OUTLET THREAD	NOTES
957-AO15-ARCD	Argon/CO ₂	15	1/4" NPT	.622"-18-UN-RH	
957-AO30-ARCD	Argon/CO ₂	30		.622"-18-UN-RH	
957-AO50-ARCD	Argon/CO ₂	50		.622"-18-UN-RH	
957-AR15-ARCD	Argon/CO ₂	15		G 1/4" A-RH-UNI ISO 228	
957-AR15-N2O-M	Nitrous oxide	15		G 1/4" A-RH-UNI ISO 228	Chrome plated
957-AR15-OX-M	Oxygen	15		G 1/4" A-RH-UNI ISO 228	Chrome plated
957-AR30-ARCD	Argon/CO ₂	30		G 1/4" A-RH-UNI ISO 228	
957-AR50-ARCD	Argon/CO ₂	50		G 1/4" A-RH-UNI ISO 228	
957-FR15-ARCD	Argon/CO ₂	15		M16x1,5-6g-RH	
957-FR30-ARCD	Argon/CO ₂	30		M16x1,5-6g-RH	
957-FR50-ARCD	Argon/CO ₂	50		M16x1,5-6g-RH	
957-R15-AIR-M	Oxygen	15		9/16"-18-UNF-2A-RH	Chrome plated
957-R15-N2O-M	Nitrous oxide	15		9/16"-18-UNF-2A-RH	Chrome plated
957-R15-ARCD	Argon/CO ₂	15		9/16"-18-UNF-2A-RH	
957-R15-OX	Oxygen	15		9/16"-18-UNF-2A-RH	
957-R15-OX-M	Oxygen	15		9/16"-18-UNF-2A-RH	Chrome plated
957-R30-ARCD	Argon/CO ₂	30		9/16"-18-UNF-2A-RH	
957-R50-ARCD	Argon/CO ₂	50		9/16"-18-UNF-2A-RH	
957-SL-30-FG	Formiargas	30		G 3/8" A-LH-UNI ISO 228	
957-SL-50-FG	Formiargas	50		G 3/8" A-LH-UNI ISO 228	
957-SL-50-H2	Hydrogen	50		G 3/8" A-LH-UNI ISO 228	
957-SR-15-ARCD	Argon/CO ₂	15		G 3/8" A-RH-UNI ISO 228	
957-SR-15-N2O	Nitrous oxide	15		G 3/8" A-RH-UNI ISO 228	
957-SR-15-N2O-M	Nitrous oxide	15		G 3/8" A-RH-UNI ISO 228	Chrome plated
957-SR-15-OX-M	Oxygen	15		G 3/8" A-RH-UNI ISO 228	Chrome plated
957-SR-30-ARCD	Argon/CO ₂	30		G 3/8" A-RH-UNI ISO 228	
957-SR-50-ARCD	Argon/CO ₂	50		G 3/8" A-RH-UNI ISO 228	

Calibrated Outlet Nipples for regulators



957 - AO15-ARCD

Tip Nuts



PART NO.	CUTTING TORCHES / CUTTING ATTACHMENTS	TIPS
6259B	133, 142, 198, 42-4, 49-3, 62-5, 72-3, 73-3, 242, 273	6290
2859	28, 28-L	2890
9008437	36-2	3690
4559	59-3, 880-NM, NM-250, 242-NM, 273-NM	8290
9002537	573, 880	6290
9005236	V-Series	1-101-HV

Roller Guides & Circle Cutting Attachments



PART NO.	ANGLE	CONNECTION FOR TIPS	CUTTING ATTACHMENTS / CUTTING TORCHES	NOTES
I-69-4	90°	6290	142, 62-5, 42-3, 42-4, 49-3, 572, 72-3, 73-3, 242, 273	Single wheel guide
I-69-5		3690	36-2	
I-69-6	45°-135°	6290	142, 62-5, 42-3, 42-4, 49-3, 572, 72-3, 73-3, 242, 273	
I-69-6-HV		1-101-HV	V-Series	
I-69-7		3690	36-2	
R-69-3B	90°	6290	142, 62-5, 42-3, 42-4, 49-3, 572, 72-3, 73-3, 242, 273	
R-69-4C		8290	NM-250, 880-NM, 59-3, 242-NM, 273-NM	
R-69-880		6290	880, 573	
R-69-A		2890	28, 28-L	

Converters



38-2GBL 38-2GBR

PART NO.	FROM (FEMALE)	TO (MALE)
38-2AL	9/16"-18-UNF-3B-LH	.622"-18-UN-LH
38-2AR	9/16"-18-UNF-3B-RH	.622"-18-UN-RH
38-2FL	9/16"-18-UNF-3B-LH	M16x1,5-6g-LH
38-2FR	9/16"-18-UNF-3B-RH	M16x1,5-6g-RH
38-2GBL	9/16"-18-UNF-3B-LH	G 3/8" A-LH-UNI ISO 228
38-2GBR	9/16"-18-UNF-3B-RH	G 3/8" A-RH-UNI ISO 228
38-2GR	9/16"-18-UNF-3B-RH	G 1/4" A-RH-UNI ISO 228
38-4GL	9/16"-18-UNF-3B-LH	G 1/4" A-LH-UNI ISO 228
38-3FL	M16x1,5-4H-LH	9/16"-18-UNF-2A-LH
38-3FR	M16x1,5-4H-RH	9/16"-18-UNF-2A-RH
38-5GL	G 1/4"-LH-UNI ISO 228	9/16"-18-UNF-2A-LH
38-5GR	G 1/4"-RH-UNI ISO 228	9/16"-18-UNF-2A-RH
38-6GL	G 3/8"-LH-UNI ISO 228	9/16"-18-UNF-2A-LH
38-6GR	G 3/8"-RH-UNI ISO 228	9/16"-18-UNF-2A-RH

Needle Valves

Needle valve for precise flow control can replace outlet nipples on regulators. Particularly recommended for laboratory installations.



52-L

PART NO.	GAS	INLET	OUTLET
52-L	Fuel gas	1/4" NPT	9/16"-18-UNF-LH
52-R	Oxygen	1/4" NPT	9/16"-18-UNF-RH
52-DR	Oxygen	1/4" NPT	1/4" NPT

"Y" Pieces

"Y" piece for attaching two hose lines to same regulator Assembly on regulator outlet.



37-L

PART NO.	GAS	THREADS	NOTES
37-L	Fuel gas	9/16"-18-UNF-LH	WITH VALVES
37-R	Oxygen	9/16"-18-UNF-RH	
37-FL	Fuel gas	M16x1,5-4H-LH	
37-FR	Oxygen	M16x1,5-4H-RH	
37-GBL	Fuel gas	G 3/8"-LH-UNI ISO 228	WITHOUT VALVES
37-GBR	Oxygen	G 3/8"-RH-UNI ISO 228	
37-L2	Fuel gas	9/16"-18-UNF-LH	
37-R2	Oxygen	9/16"-18-UNF-RH	
37-SL2	Fuel gas	G 3/8"-LH-UNI ISO 228	
37-SR2	Oxygen	G 3/8"-RH-UNI ISO 228	

Stems & Nuts

Inlet stems & Nuts are supplied according with country specification.



Goggles



APS010

Wrench

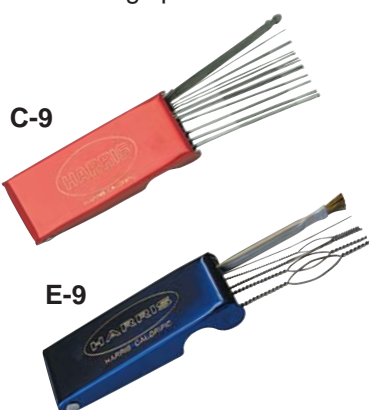


I-62-X

Tip Cleaners

C-9 Calibrated tip cleaner for hand cutting tips

E-9 Calibrated tip cleaner for machine cutting tips



Lighter with flint



26-SL

Flints 26-L

Twin Hoses

Hose highly resistant to abrasion and flame

4300500

1/4" x 1/4" twin hose 6 mt.
with 9/16" fittings (red & green).



TA8X8 (100MT)
section mm. 8x8 (red & blue).

TA6X6 (100MT)
section mm. 6x6 (red & blue).



TA8X8LP (100 MT)
section mm. 8x8
for Propane and LPG



STAND 2 Empty stand

Is used to show Harris products.
Can be fitted with products as
per your requirements
In stainless steel
Length: 90 cm
Depth: 45 cm
Height: 200 cm





HARRIS FILLER METAL SELECTION CHART

METAL TO BE JOINED	FILLER METALS		MELTING RANGE		FLUIDITY RATING *	FLUXES	TORCHES & FLAMES **
	SOLDERS	BRAZING FILLER METALS	SOLIDUS °F/°C	LIQUIDUS °F/°C			
Copper or Brass to Copper or Brass	Stay-Brite®	Blockade® Harris® 0 Stay-Silv® 5 Dynaflow® Stay-Silv® 6 Stay-Silv® 15	430/221	430/221	10	Stay-Clean® Soldering Flux	Harris Powertorch® Air - Fuel Equipment
	Stay-Brite® 8		430/221	535/279	8	Bridgit® Water Soluble Paste Flux	Harris Powertorch® Air - Fuel Equipment
	Bridgit®		460/238	630/332	6		No flux required for copper to copper joints with the phosphorus-bearing filler metals For brass and other alloys of copper, use Stay-Silv® White Brazing Flux
			1178/637	1247/674	7		
			1310/410	1475/802	5		
			1190/643	1500/816	3		
	1190/643	1465/796	3				
	1190/643	1425/774	5				
	1190/643	1480/804	3				
Copper or Brass to Steel or Stainless	Stay-Brite®	Stay-Silv® 56 Stay-Silv® 40 Stay-Silv® 45 Stay-Silv® 45T	430/221	430/221	10	Stay-Clean® Soldering Flux	Harris Powertorch® Air - Fuel Equipment
	Stay-Brite® 8		430/221	535/279	8		
Steels or Stainless to Steels or Stainless		Safety-Silv® 56	1145/618	1205/652	8	Stay-Silv® White Brazing Flux Stay-Silv® Black Flux for Stainless	Harris Powertorch® or Classic Oxy-Acetylene Equipment (slightly reducing flame)
		Safety-Silv® 40	1250/677	1350/732	5		
		Safety-Silv® 45	1225/663	1370/743	6,5		
		Safety-Silv® 45T	1195/646	1265/685	7		
			430/221	430/221	10		
Steels or Stainless to Carbides		Safety-Silv® 56	1145/618	1205/652	8	Stay-Clean® Soldering Flux	Harris Powertorch® Air - Fuel Equipment
		Safety-Silv® 40	1250/677	1350/732	5		
		Safety-Silv® 40Ni2	1220/660	1435/779	4,5		
		Safety-Silv® 45	1225/663	1370/743	6,5		
		Safety-Silv® 45 T	1195/646	1265/685	7		
Aluminum to Aluminum (1) Aluminum to Copper or Brass (2)* Aluminum to Steel or Stainless (2)*	Alco® 500	Safety-Silv® 40Ni2 Safety-Silv® 50N	1220/660 1220/660	1435/779 1305/707	4,5 7	Stay-Silv® White Brazing Flux	Harris Powertorch® - or Classic Oxy-Acetylene Equipment (reducing flame)
	Alco®	Albraze® 1070	391/119 1070/577	482/250 1080/581	NOT RATED NOT RATED	Stay-Clean® Aluminium Soldering Flux No Flux Required Albraze® 1070 Flux	Harris Powertorch® Air - Fuel Equipment Harris Powertorch® Air - Fuel Equipment Harris Powertorch® - Fuel Equipment or Classic Oxy-Acetylene Equipment (reducing flame)

* The higher the fluidity rating, the faster the alloy flows within the melting range.
** For best results and strong leakproof bonds, filler metals should be applied to the joint area only after the parts are heated to the proper brazing temperature. Oxy acetylene torches may be substituted for air-fuel but will require care to prevent melting of the base metals with this higher temperature flame.

Safety Information: WARNING: PROTECT yourself and others. Read and understand this information. FUMES AND GASES can be hazardous to your health. HEAT RAYS (INFRARED RADIATION) from flame or hot metal can injure eyes. Before use, read and understand the manufacturer's instructions, Material Safety Data Sheet (MSDS) and your employer's safety practices. Keep your head out of fumes. Use enough ventilation, exhaust at the flame, or both, to keep fumes and gases from your breathing zone and the general area. Wear correct eye, ear and body protection. See American National Standard Z49.1, Safety in Welding, Cutting, and Allied Processes, published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126. OSHA Safety Standards, available from the U.S. Government Office, Washington, DC 20402. STATEMENT OF LIABILITY - DISCLAIMER Any suggestion of product applications or results is given without representation or warranty, either expressed or implied. Without exception or limitation, there are no warranties of merchantability or of fitness for particular purpose or application. The user must fully evaluate every process and application in all aspects, including suitability, compliance with applicable law and non-infringement of the rights of others. The Harris Products Group and its affiliates shall have no liability in respect thereof.



THE HARRIS PRODUCTS GROUP

ALLOY CATALOG

**BRAZING, SOLDERING, WELDING,
FLUXES, & ACCESSORIES**



CERTIFICATE **TUV NORD**

Management system as per
EN ISO 9001 : 2008

In accordance with TÜV NORD CERT procedures, it is hereby certified that

Harris Calorific International Sp. z o.o.
ul. Strefowa 8
PL / 58-200 Dzierżonów

applies a management system in line with the above standard for the following scope:

Production and sale of pressure and flow regulators for industrial gasses as well as torches and accessories for gas cutting, welding and brazing

Certificate Registration No. **44 100 093102**
Audit Report No.: **PL2862/2009**

Valid until: **2012-12-21**

Certification Body
at TÜV NORD CERT GmbH

Katowice, 2009-12-22

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH

Langemarkstrasse 20

45141 Essen

www.tuev-nord-cert.com



TGA-234-07-06-00

Useful data – Conversion table

VOLUME

	cu in	cu ft	cu yd	cu cm	cu meter	liter	US gal
1 cu in	1	-	16,387			0,02	
1 cu ft	1.728,00	1	0,037	28.317	0,028	28,32	7,481
1 cu yd	46.656	27	1	-	0,764	764,5	202
1 cu cm	0,06	-	-	1	-	0,001	-
1 cu meter	61.024	35,31	1,308	1.000.000	1	1.000	264,2
1 liter	61.024	0,035	1		0,001	1	0,264
1 gallon (US)	231	0,133	0,004	3.785,40	0,003	3,785	1

PRESSURE

	psi	bar	atm	mm Hg	inch Hg	inch water	kPa
1 psi	1	0,068	0,068	51,713	2,035	27,68	6,895
1 bar	14,504	1	0,986	750,06	29,53	401-48,00	100
1 atm	14,696	1,013	1	760	29,921	406,8	101,325
1 mm Hg (torr)	0,019	0,001	0,001	1	0,039	0,535	0,133
1 in Hg	0,491	0,033	0,033	25,4	1	13,596	3
1 in water	5,202	0,358	0,002	269,02	10,591	1	35,808
1 kPa	0,145	0,01	0,009	7,519	0	4,015	1

WEIGHT

	grain	oz	lb	ton	gram	kg	metric ton
1 grain	1	0,002	-	-	0,064	-	-
1 ounce	437,5	1	0,062	-	28,35	0,028	-
1 pound	7.000	16	1	0,000	453,6	0,453	-
1 ton		32.000	2.000	1		907,2	0,907
1 gram	15,43	0,04	-	-	1	0,001	-
1 kilogram		35,274	2,205	-	1.000	1	0,001
1 metric ton	-	35,274	2,205	1,102	-	1.000	1

FLOW

	scc/min	Lpm	SCFM	l/h	Nm ³ /h	SCFH
1 scc/min	1	0,001	0,06			0,002
1 Lpm	1.000	1	0,035	60	0,06	2,119
1 SCFM	28.317	26	1	1.699	1,699	60
1 l/h	16,667	0,016	1		0,001	0,035
1 Nm ³ /h	16.667	16,667	0,589	1.000	1	35,314
1 SCFH	471,95	0,472	0,016	28.317	0,028	1

SCFM = Standard Cubic Feet per Minute

scc/min = Standard Cubic Centimeters per Minute

SCFH = Standard Cubic Feet per Hour

Lpm = Liter per Minutes

Nm³/h = Normal Cubic Meter per Hour

ENERGY

	BTU	cal	watts-hour
1 BTU	1	251,98	0,293
1 cal	3,968x10-3	1	-
1 watts-hour	3,414	-	1

GAS CONVERSION FACTORS

	FACTOR	INVERSE
ACETYLENE (C ₂ H ₂)	1,050	0,952
ARGON (Ar)	0,851	1,175
ARGON/CO ₂ (75% Ar – 25% CO ₂)	0,833	1,200
NITROGEN (N ₂)	1,020	0,980
CARBON DIOXIDE (CO ₂)	0,808	1,238
SULFUR DIOXIDE (SO ₂)	0,660	1,515
BUTANE (C ₄ H ₁₀)	0,700	1,429
HELIUM (He)	2,695	0,371
ETHANE (C ₂ H ₆)	0,980	1,020
ETHYLENE (C ₂ H ₄)	1,010	0,990
FORMIER GAS (90% N ₂ – 10% H ₂)	1,300	0,769
HYDROGEN (H ₂)	3,810	0,262
METHANE (CH ₄)	1,350	0,741
METHYLACETYLENE PROPADIENE (MPS – C ₃ H ₄)	1,238	0,808
CARBON OXIDE (CO)	1,020	0,980
NEON (Ne)	1,200	0,833
OXYGEN (O ₂)	0,950	1,053
PROPANE (C ₃ H ₈)	0,800	1,250
PROPYLENE (C ₃ H ₆)	1,237	0,808
NITROGEN PROTOXIDE (N ₂ O)	0,810	1,235

AIR ► to

WARRANTY

The Company warrants each new product or part thereof to be free from defects in workmanship and material.

If any part thereof shall prove to be defective in workmanship or material within one year from the date of purchase by the user, as a result of normal use and service for purposes for which it was intended, as determined by the Company, the Company will replace the part or parts so determined by it to be defective with new parts, at Company's cost and expense.

This warranty is exclusive, and there are no other warranties or representations, expressed or implied.

NOTE:

We are constantly improving our products.

Harris Calorific therefore reserves the right to make changes in specifications without notice.

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