AUTOMATIC CIRCLE BURNING AND WELDING

ON PIPE AND PRESSURE VESSELS

No Hose or Cable Wrapup Regardless of Direction of Rotation.
Oxy-Fuel Cutting Units. Plasma Cutting Units. Welding Units.

CYPRESS WELDING EQUIPMENT INC.

CE

A DIVISION OF WELD TOOLING CORPORATION

280 Technology Drive • Canonsburg, PA USA 15317-9564
Telephone: 1-412-331-1776 • 1-800-245-3186 • Fax: 1-412-331-0383
www.cypressweld.com

Cypress Makes The ...

Wire reel adaptor for 30 lb. (13.6 kg) spools on CW-5s. 60 lb. (27 kg) wire reels included on Cw-7s and 11s.

Strong permanent magnet motor and gear train insure smooth movement of the welding torch.

For sub-arc applications, a 25 lb. (11 kg) flux hopper is included on the CW-5AX, CW-7s and CW-11s.

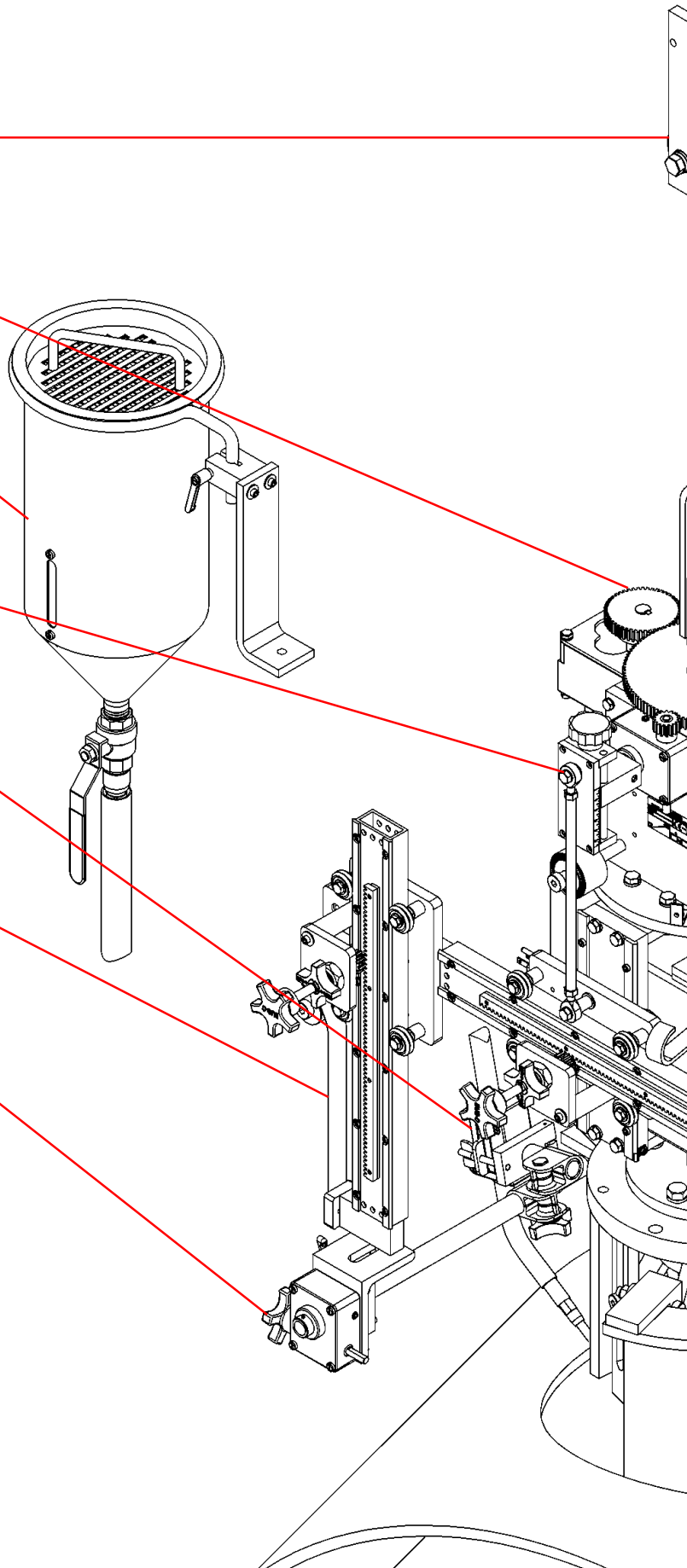
Rise and fall cam, raises and lowers the torch to follow the contour of the pipe or vessel.

Welding gun and cable assembly.

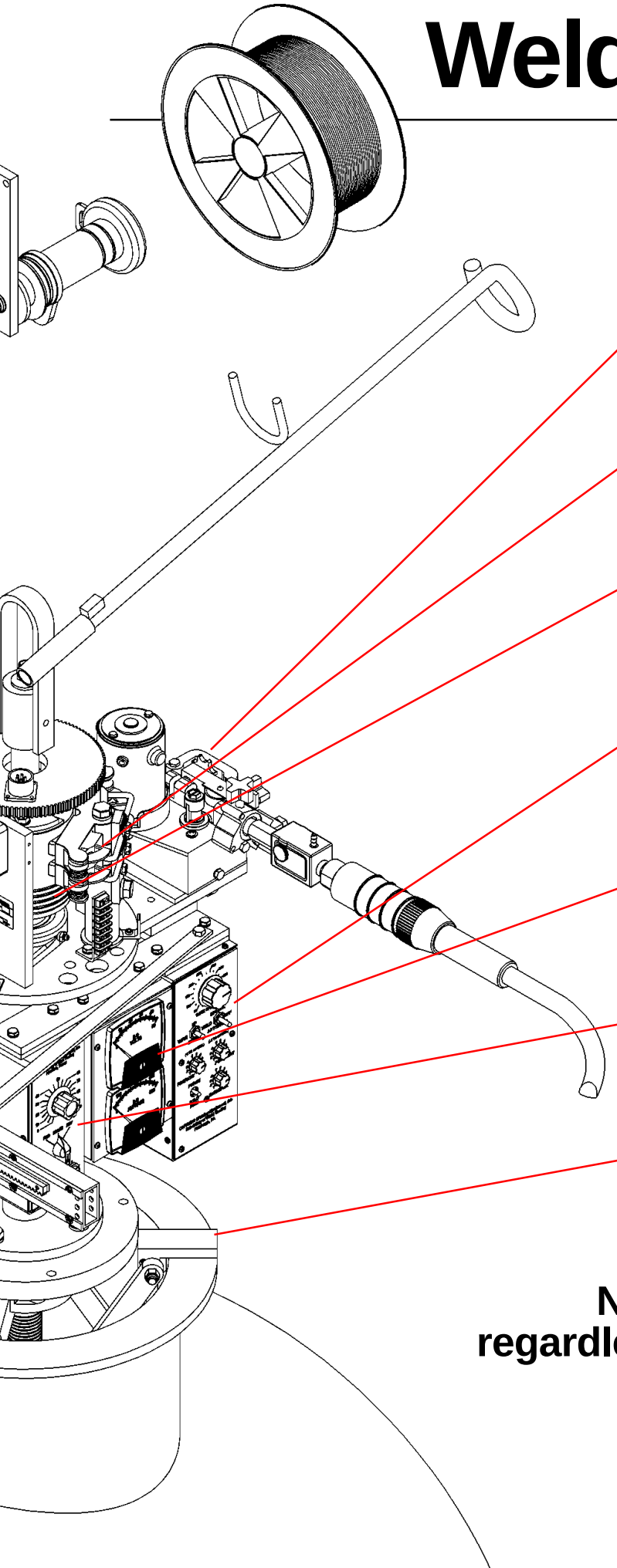
Racking groups for horizontal and vertical adjustment of the welding gun. Motorized racking is available.

Torch angle adjuster (optional on CW-5) standard on all other machines.

Electric oscillators are available.



Weld Go Round.



Wire feed motor.
(See chart for wire sizes page 5.)

Collector rings and brushes, for welding current.

Collector rings and brushes for rotation and controls.

Welding controls: manual/automatic weld/ rotation switch, cold wire inch, purge switch, wire up-down switch, wire feed speed, burnback control and preflow-postflow times.

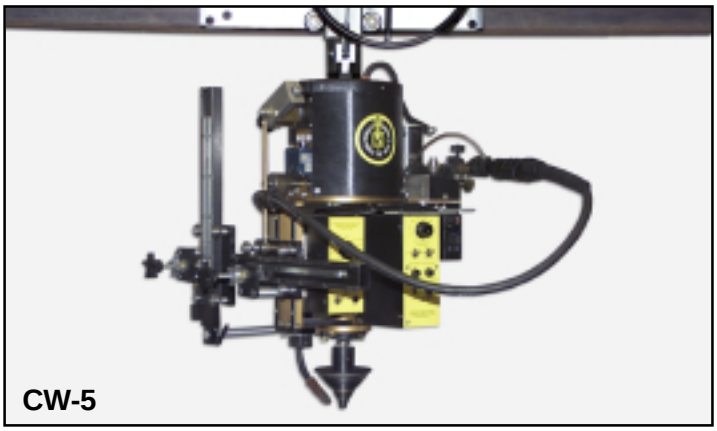
Volt meter and amp meter, allow the welder to control the weld parameters at the machine. (optional on the CW-5, included on all other models).

Rotation Speed Control.
Direction and On-Off Switch.

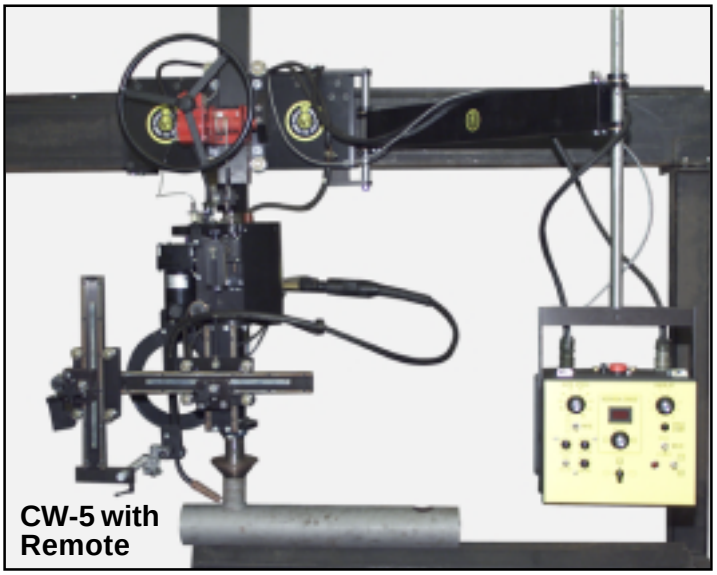
3 jaw expandable chuck, 3 sizes available.
Positions the machine on the nozzle.

No hose or cable wrap-up regardless of the direction of rotation!

Circle Welders

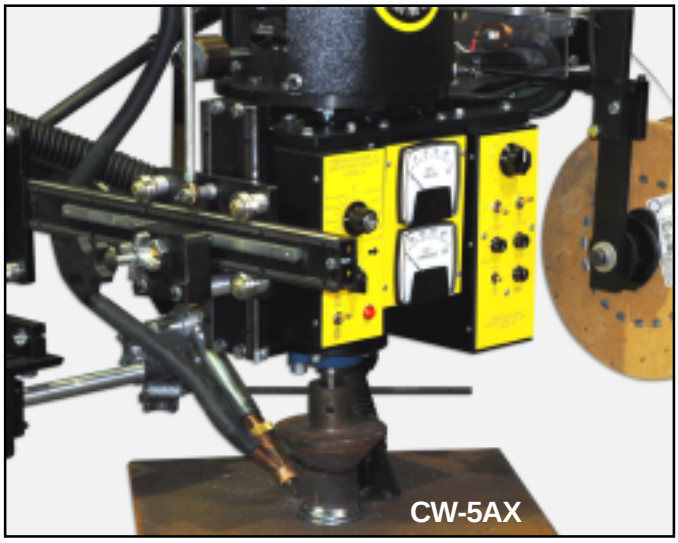


The **CW-5 (CWO-1500) Circle Welder** has the same features as the **CW-5 with Remote (CWE-1500).** All controls for this model are located on the machine.



CW-5 (CWE-1500) Circle Welder with Remote Control. The CWE-1500 is designed for single or multipass welding of couplings or nozzles on pipe and vessels utilizing MIG or Flux Core process, with gas shield. The machine is equipped with its own wire feeder, rotation drive motor, rise and fall cam assembly and welding gun. Horizontal and vertical racking to position the torch and a 30 lb (14 kg) spool holder.

The remote control box has a digital readout for rotation speed. It also has controls for: wire feed speed, cold inch/purge, pre-flow and post-flow, burn back and wire feeder forward and reverse. Overlap is also adjustable. This control has both manual and automatic settings. In the manual setting, you can check all your controls and travel speed to make sure the machine is functioning properly. In the automatic setting, with one push of a button, the unit will start the weld process, weld completely around the workpiece, overlap the end of the weld, turn the weld off and return to the start position. It is ready for the next weld. The CW-5 is supplied with the following cables: 50" (15.2 m) of gas hose, 50" (15.2 m) hot lead, 50" (15.2 m) control cable and all cables from the remote box to the circle welder.



The **CW-5AX (CWO-1560) Circle Welder** is designed for single pass or multi pass welding of couplings and nozzles on pipe and vessels. The unit is available for Sub Arc, MIG or Flux Cored process.

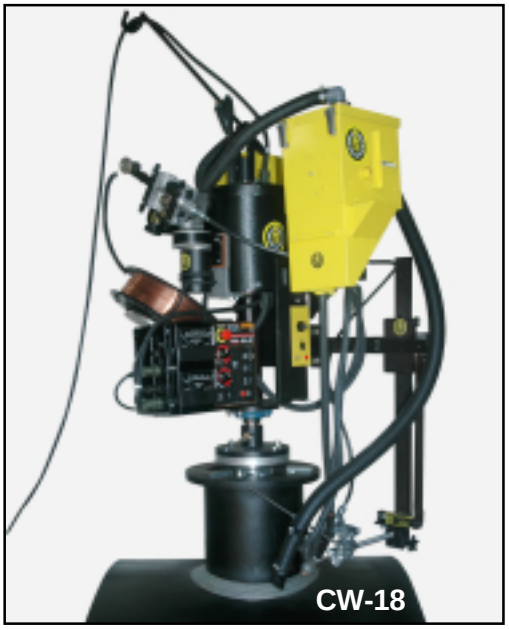
The CW-5AX offers all the same features as the CW-5 but in addition incorporates a meter kit, torch angle adjuster and flux hopper.

CW-7 Circle Welder (CWO-1700) is equipped for MIG, Flux Core and Sub Arc welding on vessels and domed heads. The CW-7 has a working range of 6"-24" (152-610 mm) O.D. nozzles with no cable wrap up for multi-pass welding. This unit is capable of using welding wire sizes from .035"-3/32" (.8-2.4 mm).

The machine is equipped as shown and will carry 60 lbs. (27 kg) spools of wire. The unit is complete with wire feeder, gun and cable assembly, flux hopper, wire reel and meter kit. Mounts on 3-jaw chuck. (See chart below for welding capacities).

Circle Welders

CW-11 Circle Welder (CWO-1100) is equipped for MIG, Flux Core and Sub Arc welding on large vessels, domed heads and flat surfaces. The CW-11 has a working range of 10"-50" (254-1270 mm) O.D. nozzles with no cable wrap up for multi-pass welding. Remote control of amps and volts. The unit is capable of using welding wire diameters from .035''-1/8'' (.8-3.2mm).



CW-18 Circle Welder (CWO-1800) is designed for welding of nozzles into vessels or domed heads utilizing SUB-ARC. The CW-18 mounts on a 3-Jaw Chuck welding diameter 6" to 50" (152-1270 mm) O.D. It is capable of using welding wire diameters 3/32-7/32" (2.4-5.6 mm).

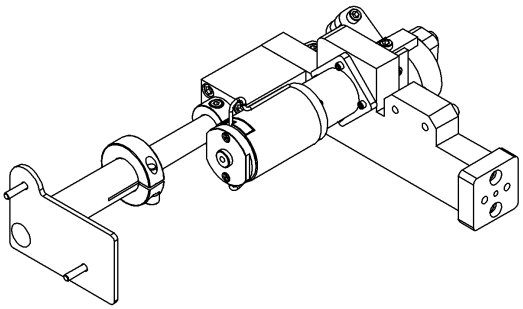
Circle Welder Capacities

Model	Process Capabilities	Welding Diameter	Welding Wire Size	Rotation Speeds	Rise and Fall Cam	Rating amps	Standard Equipment
CW-5 CWO-1500 **CW-5 W/Remote CWE-1500**	MIG/MAG, FCAW	1-12" (25-300 mm)	.035-1/16" (.8-1.6 mm)	3-130 ipm (75-3300 mm/min)	0-5" (0-125 mm)	300 amps 100% duty cycle	Burn back control, horizontal and vertical adjustment gun and cable
CW-5AX CWO-1560	MIG/MAG, FCAW, SAW	1-12" (25-300 mm)	.035-3/32" (.8-2.4 mm)	3-130 ipm (75-3300 mm/min)	0-5" (0-125 mm)	500 amps 100% duty cycle	Same as CW-5 plus: meter kit, torch angle adjuster, flux hopper, nozzle and cone.
CW-7 CWO-1700	MIG/MAG, FCAW, SAW	6-24" (150-600 mm)	.035-3/32" (.8-2.4 mm)	4-137 ipm (100-3500 mm/min)	0-7" (0-175 mm)	500 amps 100% duty cycle	Burn back control, horizontal and vertical adjustment gun and cable.
CW-11 CWO-1100	MIG/MAG,. FCAW, SAW	10-50" (254-1270 mm)	Solid Wire .035-1/8" (.8-3.2 mm) Flux Cored Wire .068-.120" (1.7-3.0 mm)	.06-72 ipm (0.8-3.2 mm)	0-7" (0-175 mm)	500 amp CO_2 400 amp mixed gases 60% duty cycle	Burn back control, horizontal and vertical adjustment gun and cable.
CW-18 CWO-1800	SAW	10-50" (254-1270 mm)	Solid Wire 3/32-7/32" (2.4-5.6 mm)	.06-72 ipm (0.8-3.2 mm)	0-7" (0-175 mm)	60% duty cycle	Burn back control, horizontal and vertical adjustment gun and cable.

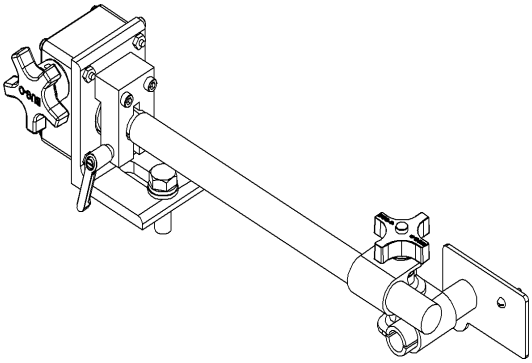
NOTE: Welding diameter capacities cannot exceed two thirds diameter of the workpiece.

Circle Welders

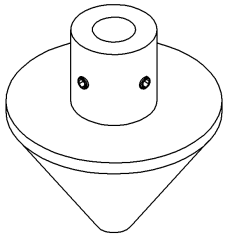
Accessories



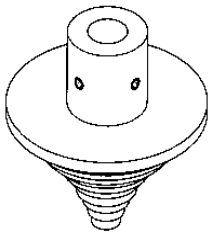
CWO-1645 Torch Weaver
Provides a pendulum-type motion to the gun for weave welding. The speed and stroke of oscillation are adjustable.



CWO-3023-1 Torch Angle Adjuster
Allows the operator to adjust the angle of the gun precisely, without unclamping the holding devise.



CWO-5790 Cone Adaptor
A tapered centering devise used to center the machine on nozzles. The range of the Cone Adaptor is 1-1/4" to 4" (32-102 mm) diameter.



CWO-3670 Step Adaptor for Threaded Outlets
A stepped centering device used to center the machine on threaded I.D. weld-o-lets. The range of the Step Adaptor is 1/2" to 4" (13-102 mm) diameter.

CWO-3675 Step Adaptor for Grooved Outlets
1 1/4" - 1 1/2" - 2" - 2 1/2" - 3", 4"

Chucks

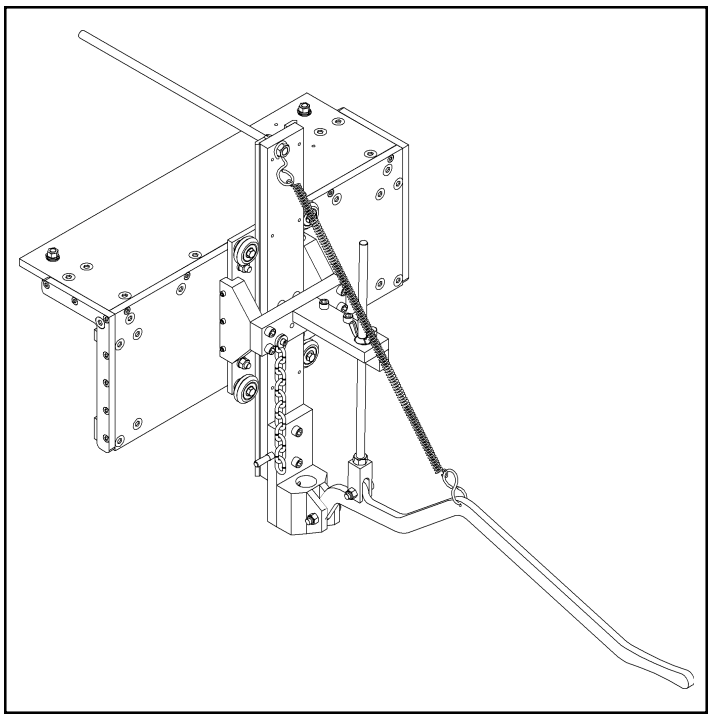
CWO-3660 Lathe Chuck
2"-10" (50-254mm) lathe chuck for small fittings and nozzles.

3-Jaw Expandable Chuck
Mounts and automatically centers the Circle Welder on nozzles with or without flanges. For use with all circle welders.

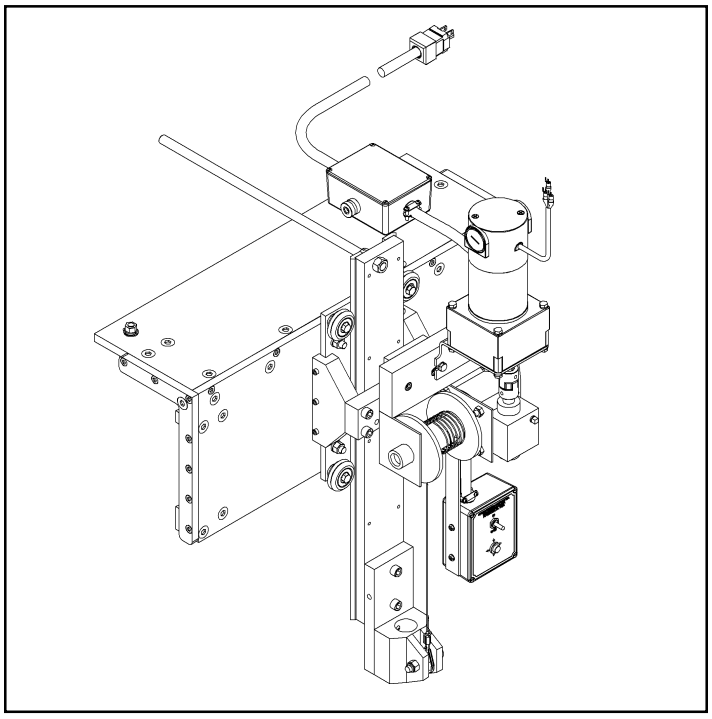
PART NO.	FOR NOZZLE I.D.'s	WEIGHT
CWO-3660	2"-10" (50-254 mm)	69 lbs. (31.3 kgs)
CWO-3661	8"-16" (204-405 mm)	36 lbs. (16 kgs)
CWO-3662	10"-24" (255-610 mm)	51 lbs. (23 kgs)
CWO-3663	24"-42" (610-1065 mm)	64 lbs. (29 kgs)

Circle Welders

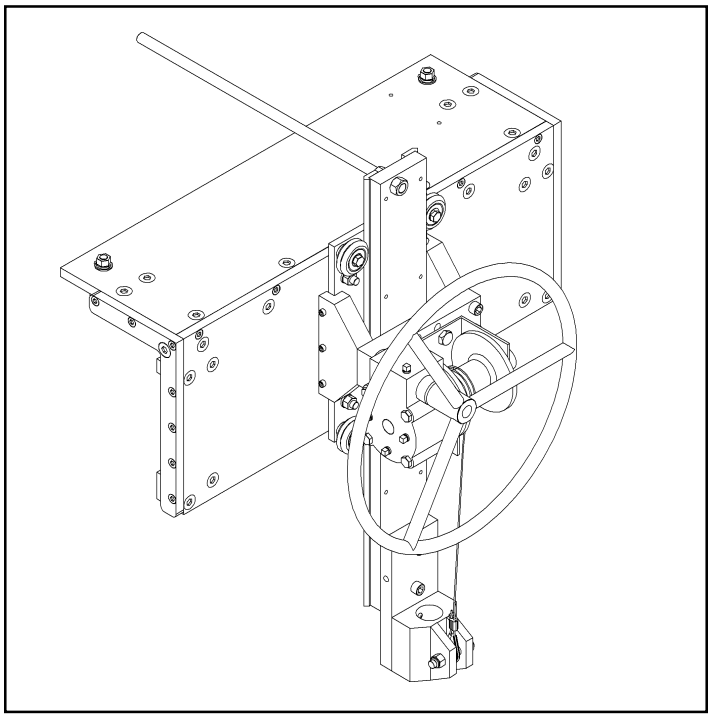
Carriages



CWO-4530 Carriage
May be used only with CW-5 CIRCLE WELDERS. The carriage, which is mounted on a standard monorail, is used to move the welder along a length of pipe.

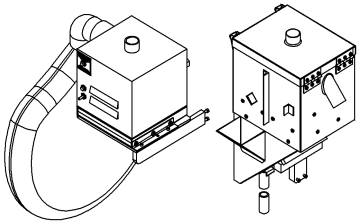


CWO-4550 Motorized Carriage
May be used with either the CW-5 CIRCLE WELDER or the CB-1P AIR PLASMA MACHINE. Provides motorized vertical travel of the machine.



CWO-4540 Carriage
This carriage, which is mounted on a standard monorail, is used with the CB-1P AIR PLASMA MACHINE. A winch holds the machine and prevents the machine from falling into the hole when the slug drops. This carriage may also be used with CW-5 CIRCLE WELDERS.

CWO-2020 Submerged Arc Flux Recovery System
Continuously removes and recycles all unused flux. Available on any CW-5AX, CW-7, CW-11 and CW-18.

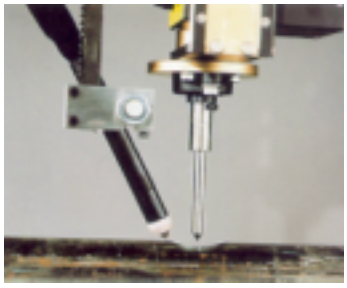


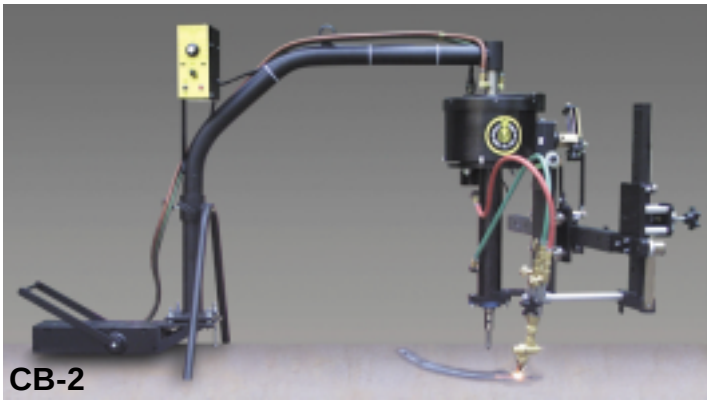
Flux Recovery System installed on a CW-11.

Circle Burners

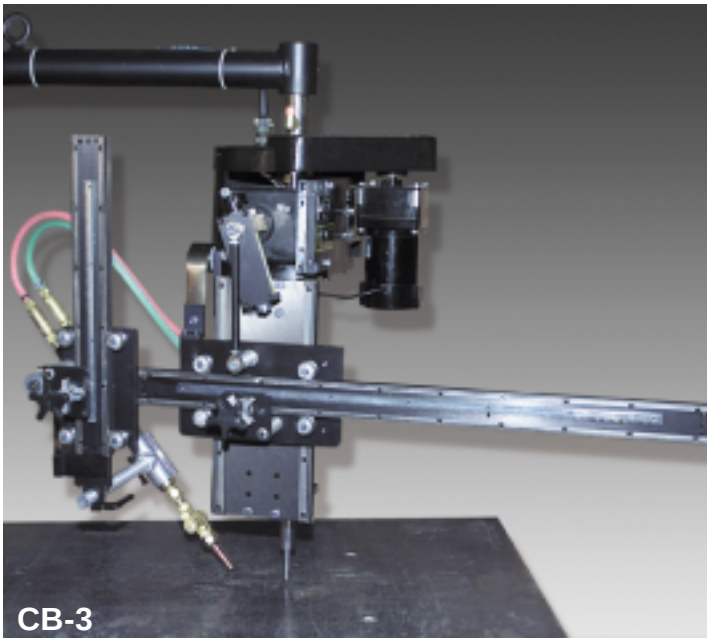
CB-1P (CBO-1020) Plasma Circle Burner

CB-1P Plasma Circle Burner, for cutting beveled holes in lightwall pipe or vessels with wall thicknesses up to 3/8" (7 mm). This machine is supplied with a Thermal Dynamics air plasma power source, torch and 50' (15 m) leads. The unit operates on 220/50-60/1 power (3 phase also available). The CB-1P must be mounted on a carriage or fixture.





CB-2 Circle Burner (CBO-2000)
Uses oxyfuel for square or beveled hole cuts (see chart for capacities). The CB-2 is mounted on a special frame with a releasable permanent magnet base. Machine includes variable speed rotation, 2-hose oxy-fuel machine torch, adjustable tip adaptor, vertical and horizontal torch adjustment and rise and fall cam.



CB-3 Circle Burner (CBO-3000)
Uses oxyfuel for square or beveled hole cuts (see chart for capacities). Unit includes 2-hose oxy-fuel machine torch, adjustable tip adaptor, variable speed rotation, vertical and horizontal torch adjustment and rise and fall cam. The CB-3 must be mounted on a column and boom, manipulator or fixture.

Circle Burner Capacities

Model	Burning Diameter	Mounting	Process	Rise and Fall Cam	Net Weight	Use
CB-2	1.5"-42" beveled holes (40-1066 mm) 4"-48" square cut (100-1220 mm)	manually operated magnet	oxyfuel	0-7" (0-175 mm)	225 lbs. (102 kg)	vessels, large diameter pipe
CB-3	1.5"-42" beveled holes (40-1066 mm) 4"-48" square cut (100-1220 mm)	carriage or manipulator	oxyfuel	0-7" (0-175 mm)	170 lbs. (77 kg)	domed heads, vessels, large diameter pipe, flat plate
CB1P	.5"-12" beveled holes (11-300 mm)	manually operated magnet	plasma	5" (127 mm)	170 lbs. (77 kg)	vessels, large diameter pipe

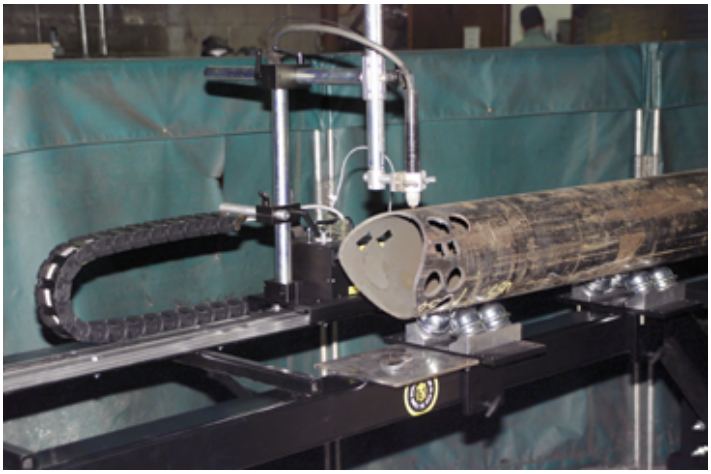
NOTE: Burning diameter cannot exceed two thirds diameter of the workpiece.

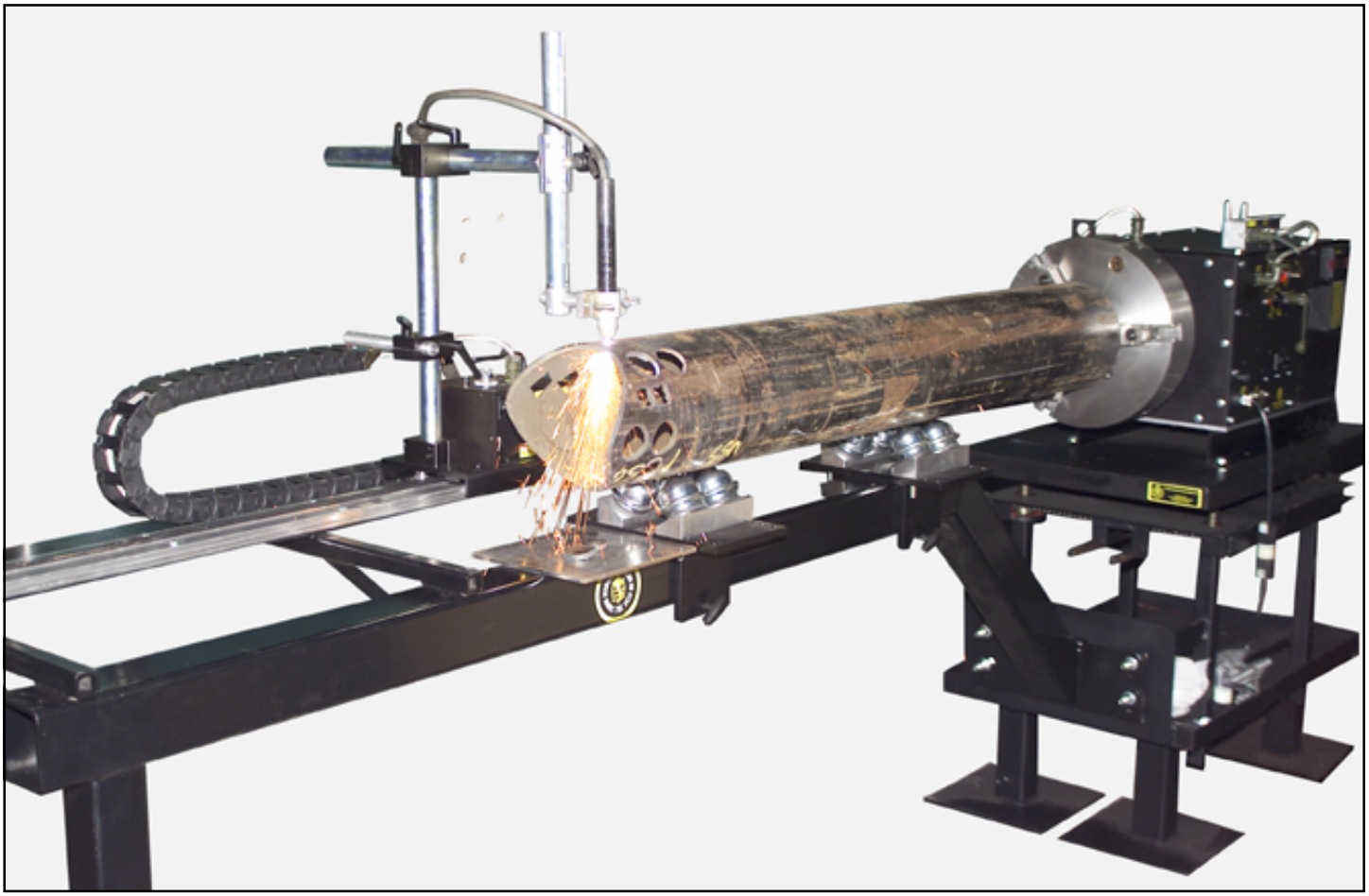
Saddle and Elbow Cutters

MM1 Programmable Pipe Cutter (SEO-3500)

The **MM1** is a computer controlled machine that automates the cutting of profiles, holes and shapes on pipe with diameters from 4"-16" (100-400 mm). It rotates the pipe on it's roller bed with a three jaw chuck while simultaneously moving a cutting torch back and forth along the pipe's axis. Pre-programmed shapes such as saddle, hillside, lateral and miter cuts can be made by simply selecting the type of cut from the menu, then entering the diameters of the pipe being processed and pressing the run button to cut your pipe.

*Oxy-fuel versions are available.
*Optional: Machine cutting capacity can be increased to 24" (610 mm) diameter at factory.

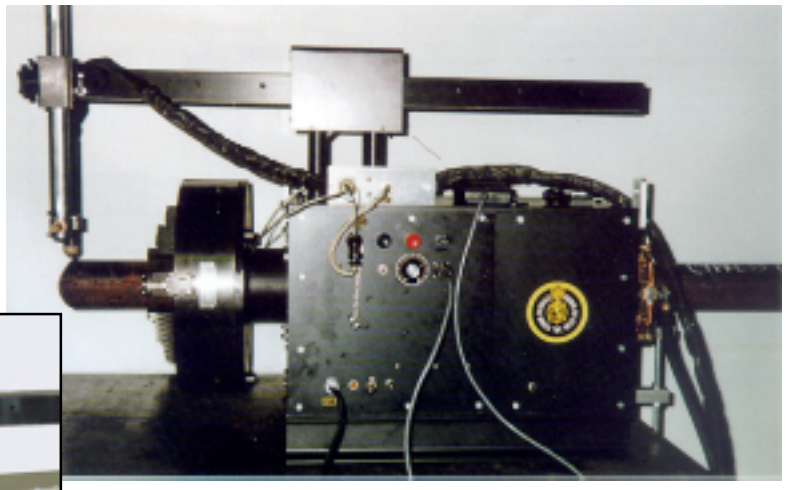




Saddle and Elbow Cutters

Programmable SE-2PTD and SE-4PTD Pass Through Machines

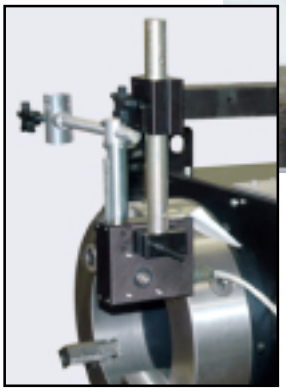
The **SE-2PTD and SE-4PTD** provide dual programming capabilities. A "Pipe" program for making Saddle Cuts, Offset Cuts, Laterals and Miters. A second (selectable) program is used for cutting customized shapes in pipe. Both are suitable for plasma and oxy-fuel cutting and eliminates the need to make templates or layout complex cuts.



SE-2PTD
SEO-4250-OX Oxy-Fuel Version
SEO-4250-PL Plasma Version

SE-4PTD
SEO-4400-OX Oxy-Fuel Version
SEO-4400-PL Plasma Version

NOTE: SEO series machines do not include torch or plasma machine.



SEO-4400-3 AXIS
SE-4PTD with third axis option as shown on left.

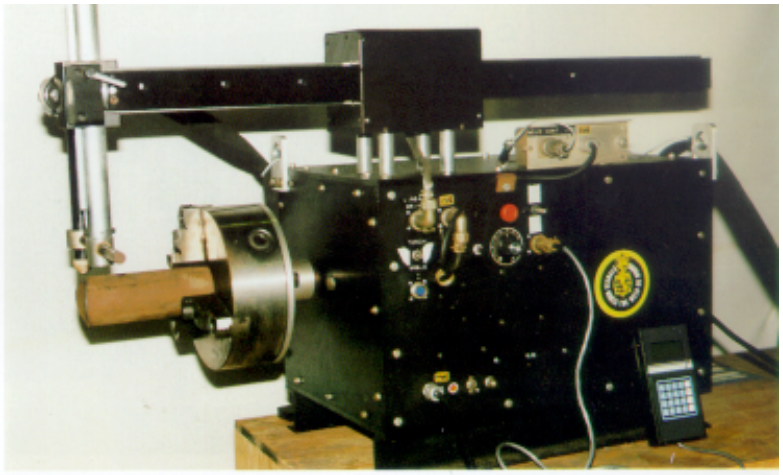
An additional third axis-torch rotation is available. The programmed torch rotation only works with cuts:1, 2, 4 and 5 (see page 11).

SE-4PD Programmable Saddle and Elbow Cutter.

The **SE-4PD** is a programmable machine. It will cut saddles, laterals, miters, offsets (hillsides) and elbows using a micro-processor and handheld terminal. Oxyfuel or Plasma may be used. Cutting diameter 1"-12" (25-300 mm). (Maximum length of pipe to be cut, 18" [450 mm]).

The maximum rotation speed is 3.7 rpm, which is 47 ipm (1160 mm/min) on 4" (102 mm) O.D.'s.

SEO-4520-OX Oxy-Fuel Version
SEO-4520-PL Plasma Version

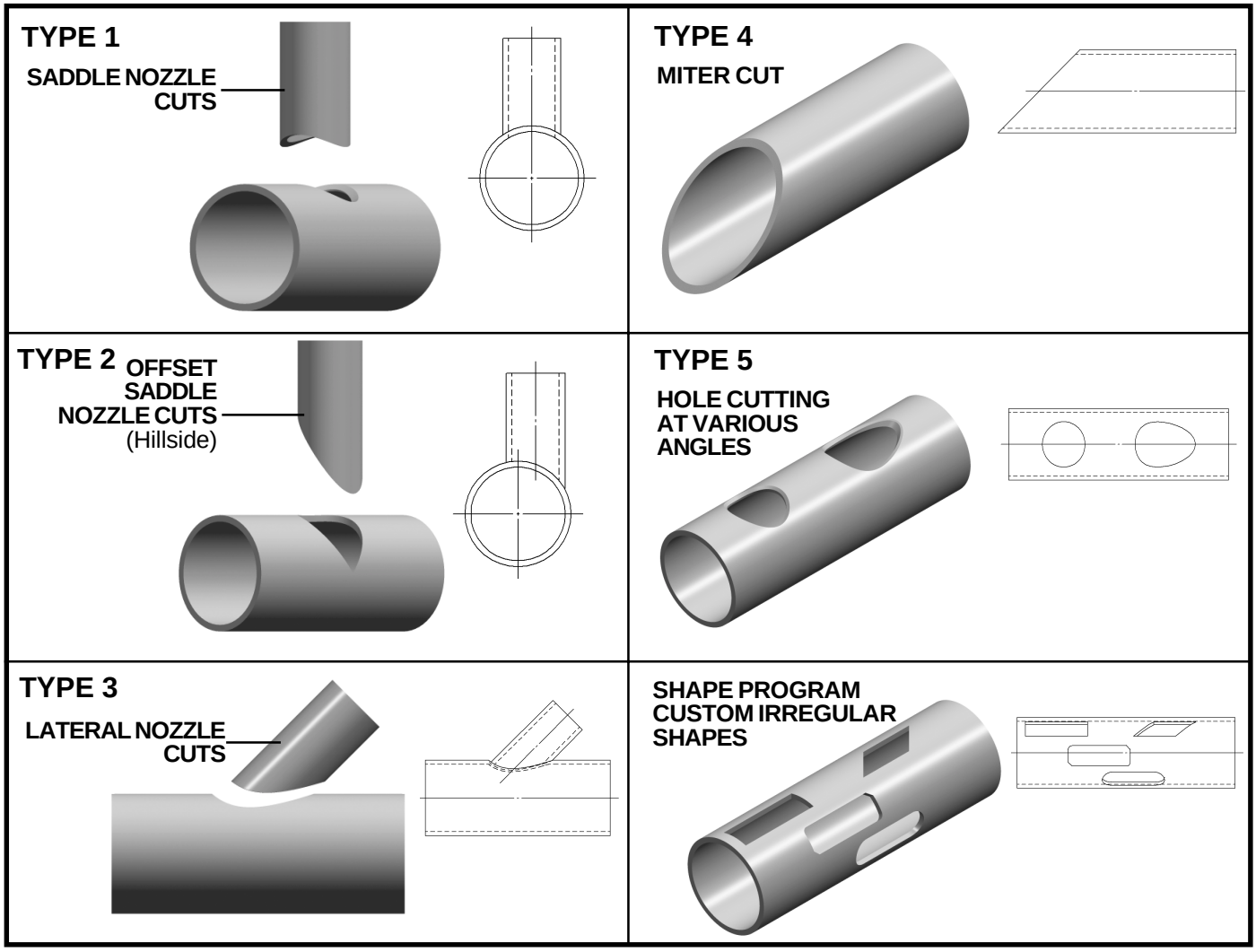


Saddle and Elbow Cutter Capacities:

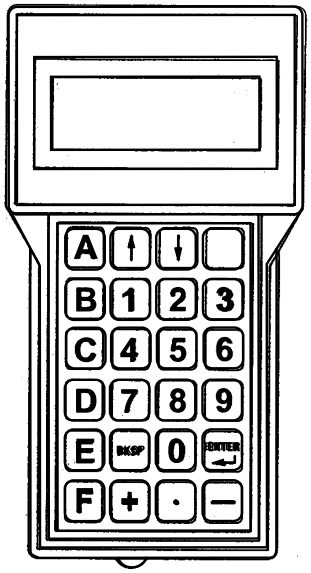
Model	Process	Pass Through	Pipe Diameter Range	Speed Rotation	Range of Pipe Lengths that can be Cut
SE-2PTD	Plasma or Oxyfuel	1" - 4" (25 - 102 mm)	1" - 14" (25 - 356 mm)	.3 3.7 rpm	3"-18" (76 - 457 mm)
SE-4PD	Plasma or Oxyfuel	N/A	1" - 12" (25 - 305 mm)	.3 3.7 rpm	3"-18" (76 - 457 mm)
SE-4PTD	Plasma or Oxyfuel	4" - 12 3/4" (102 - 324 mm)	4" - 20" (102 - 508 mm)	.2 3 rpm	3"-20" (76 - 508 mm)
MM1	Plasma or Oxyfuel	N/A	Standard Machine 4"-16" (102 - 406 mm) Optional 4"-24" (102 - 610 mm)	.2 3 rpm	3"-38 ft. (76 mm - 11.6 m)

Saddle and Elbow Cutters

Capabilities



Hand Held Terminal:

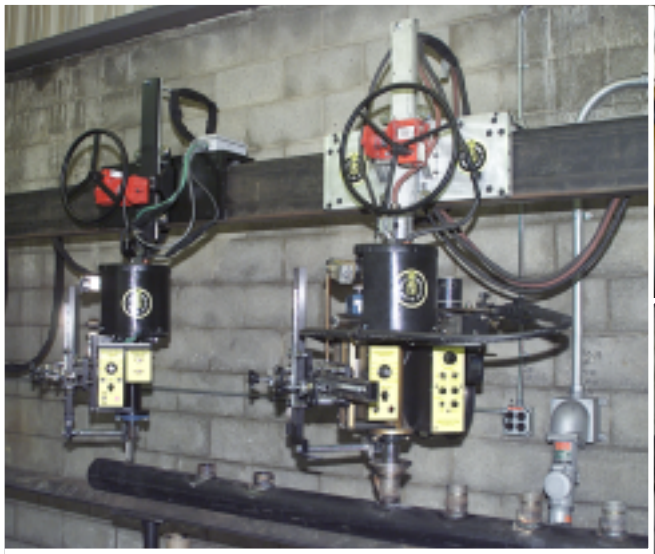
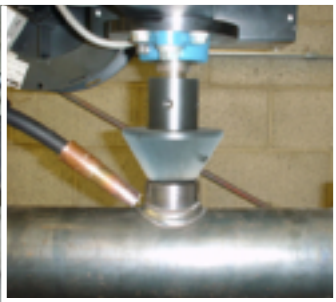


Example: Programming Sequence for Type 3 Cut.

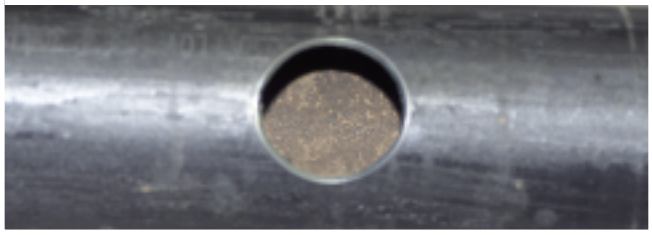
1. Press the reset button on the machine. The hand held terminal will display **"READY".**
2. Press **"A"** on the terminal. The terminal will ask you what type of cut you want. (See Types 1-5).
3. Press the number desired and then press **"ENTER"**.
4. The terminal will ask for the diameter of the small pipe. Press the appropriate dimensions and press **"ENTER"**.
5. The terminal will ask for the diameter of the large pipe. Press the appropriate dimensions and press **"ENTER"**.
6. Enter the offset dimension.
7. Enter the **"ANGLE"** in degrees.
8. Press **"START"** on the machine to begin the cut. It couldn't be easier!

When using Plasma, press **"B"** and enter the time delay required (which is stored until changed again).

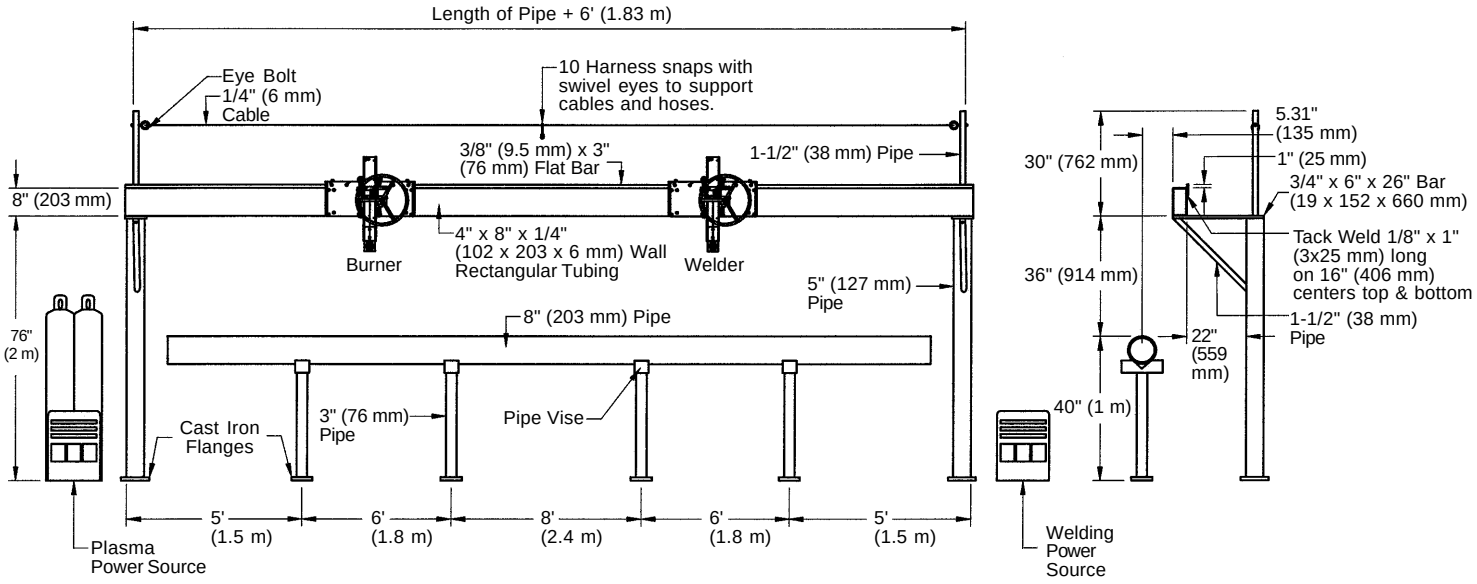
Sprinkler Fabrication Equipment





TYPICAL SET UP FOR SPRINKLER FABRICATION



Sequence of Operation

Position your pipe and move the CB-1P along the pipe to cut smooth, accurate holes. Position the CW-5 with a step adapter on the fitting and make the contour weld.

The approximate time for a cut is 6-10 seconds, depending upon diameter and thickness. The approximate time for a weld is 15-20 seconds. For detailed information please ask for our special sprinkler brochure.

CYPRESS WELDING EQUIPMENT, INC.

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LIT-CGB-BRO-0308