

**Key features:**

- Multi-welding heads
- Fully automatic welding
- No copper contamination
- Internal root pass
- High production rates
- Quick and accurate alignment
- No root gap
- More tolerance to high/low

Application

- High accuracy pipeline welding

Internal Welding Machine (IWM)

Fully automatic pipeline root pass welding system

CRC Evans' (CRCE) Internal Welding Machine (IWM) is a combination internal clamp and automatic multi-head internal root pass welding system.

Available in two variations: one for barge or offshore applications and one for land or standard pipeline right of way. A self-contained low voltage electrical source provides power for the shielding gas, air control valves, ring drive and wire feed motors. The self-contained pneumatic system operates the travel motors, brakes, drive wheels, aligners, and front and rear clamping shoes.

Manipulation of the internal welder is controlled by an operator using a 40'/80' reach rod control box, or master control box located on the nose cone. The lightweight tubular reach rod contains the control cable, all welding leads, airline, gas charge hose, and battery charge cable. The welding heads are located symmetrically around the rotating ring and perform root pass welding from the inside.

The IWM has four to eight welding heads depending on machine size. This is a highly efficient system for pipeline root pass welding. On a 36" pipeline the root pass welding arc time is >1m. The internal root pass technique is more tolerable to pipe mismatch (high/low) than any other external root pass technique.

Internal Welding Machine (IWM)

General operational specifications	
Ring drive travel speed	0-50 IPM
Wire travel speed	100-500 IPM
Shield gas flow	50-100 CFM
Shield gas pressure	500-2000psi
Air system pressure	170-210psi

Size dependent specifications					
Welder size	24in	2 6 - 28in	3 0 - 34in	3 6 - 48in	5 6 - 60in
No. Weld heads	4	4	4, 6	4,6,8	6
Travel speed (ft/sec)	4	4	4	3	2
Travel speed (cm/sec)	122	122	122	91	61

Weight and dimensions										
Welder size		24"	26-28"	30-32"	34-36"	38-48"	42-44"	46-48"	48-50"	56-60"
Length	inch	156	165	172	204	197	189	207	207	209
	cm	396	419	437	518	500	480	526	526	531
Weight w/o batteries	lbs	1700	1700	1700	3050	3050	4600	5400	5800	7400
	kg	771	771	771	1383	1383	2087	2449	2631	3357