

HELIX[®] C450 Orbital Weld Head

Processes

TIG

Product Number

K52095-1 HELIX C450 Orbital Weld Head

See back for complete specs

Input Power

25V DC

Operated with APEX[®] 2100 Orbital Control System

Clearance

Radial: 2.5 in. (63.5 mm)*
Axial: 7.55 in. (191.77 mm)

Pipe Diameter Range (OD)

1.315-4.5 in. (33.4-114.3 mm)

Net Weight

19.85 lb. (9.0kg)

Electrode to Rear

5.8 in. (147.3 mm) min.
6.8 in. (172.7 mm) max.

Electrode to Front

0.75 in. (19.05 mm)

Oscillation Stroke

1.0 in. (25.4 mm)

**on a 4 in. pipe.*

Clamp-on Style Orbital TIG Weld Head

As a one of four HELIX C series Orbital TIG clamp-on weld heads, the C450 model is specifically designed for pipes and tubes with an outside diameter of 1.315-4.5 in. (33.4-114.3 mm). These clamp-on heads are rugged, compact and easy to install and position on tubes and pipes. The C series weld heads are engineered to perform consistent and repeatable welds.

FEATURES

▶ **Industrial Construction**

- Comes standard with programmable Arc Voltage Control (AVC) and oscillation.
- Control precise wire placement in the joint with the three axis wire feed mechanism.
- Water cooled motor housing, and torch keeps the weld head from overheating.
- Travel clutch is easily engaged and disengaged for rapid relocation of the torch.
- Torch tilt and lead/lag adjustment is optional.

▶ **Versatile Clamping Mechanism**

- Quick release clamp shoe system makes set up for different pipe diameters fast and simple.
- Custom clamp shoes can be built for any non-standard pipe and fitting configurations.
- Disengage and reposition the clamping system with one easy motion.



*Shown:
K52095-1 HELIX C450 Orbital Weld Head*

▶ **Multiple Wire Feed Options**

- Compact and lightweight suitcase feeder for 2-10 lb. (0.91-4.5 kg) spools.
- Bench feeder for 10-44 lb. (4.5-20.0 kg) spools.
- Each delivers easy wire loading and smooth, stable wire feeding that eliminates birdnesting.

APPLICATIONS

- ▶ Nuclear Energy
- ▶ Thermal Energy
- ▶ Petroleum Processing
- ▶ Pressure Vessel

HELIX C450 WELD HEAD

Part Number	Description	Part Number	Description
K52095-1	HELIX C450 Weld Head	KP52115-045	Bench Feeder Inlet/Outlet Guide Set .040-.045 in. (1.0-1.1 mm)
K52072-25	HELIX T55 Cable Hose Extension, 25 ft. (7.6 m)	KP52110-1	HELIX C Series Low Profile Back Cap
K52072-50	HELIX T55 Cable Hose Extension, 50 ft. (15.2 m)	KP52100-035	HELIX C Series Wire Guide Tip .030-.035 in. (0.8-0.9 mm)
K52072-75	HELIX T55 Cable Hose Extension, 75 ft. (22.7 m)	KP52100-045	HELIX C Series Wire Guide Tip .040-.045 in. (1.0-1.1 mm)
K52097-1	WF20S Suitcase Feeder 2-10 lb. (0.9-4.5 kg) Capacity	KP52109-1	HELIX C Series Wire Liner
K52097-2	WF20B Bench Feeder 10.0-44.0 lb. (4.5-20.0 kg)	K52124-1	HELIX C Series External Wire Feed Cable Extension
KP52122-1	HELIX C450 Cable/Hose Assy	KP52125-1	HELIX C Series Power Water Hose
KP52123-1	HELIX C450 Control Cable	KP52126-1	HELIX C Series Water Hose
KP42-3035-15	Liner .030-.035 in. (0.8-0.9 mm)	KP52127-1	HELIX C Series Gas Hose
KP42-4045-15	Liner .040-.045 in. (1.0-1.1 mm)	KP52128-1	HELIX C Series Cable/Hose Main Cover
KP52079-030	External Feeder Drive Roll Kit .030 in. (0.8 mm)	KP52129-1	HELIX C Series Cable/Hose Hi Temp Cover
KP52079-035	External Feeder Drive Roll Kit .035 in. (0.9 mm)	KP2029-5B1	1/8 in. (3.2 mm) Collet
KP52079-040	External Feeder Drive Roll Kit .040 in. (1.0 mm)	KP2029-4B1	3/32 in. (2.4 mm) Collet
KP52079-045	External Feeder Drive Roll Kit .045 in. (1.1 mm)	KP2029-3B1	1/16 in. (1.6 mm) Collet
KP52080-035	Suitcase Feeder Inlet/Outlet Guide Set .030-.035 in. (0.8-0.9 mm)	KP2035-1B1	Back Cap Short
KP52080-045	Suitcase Feeder Inlet/Outlet Guide Set .040-.045 in. (1.0-1.1 mm)	KP2035-2B1	Back Cap Medium
KP52115-035	Bench Feeder Inlet/Outlet Guide Set .030-.035 in. (0.8-0.9 mm)	KP2035-4B1	Back Cap Long

HELIX C450 CLAMP SHOES

Part Number	Description
K52096-450	C450 Clamp Shoe 4.5 in. (114.3 mm)
K52096-400	C450 Clamp Shoe 4.0 in. (101.6 mm)
K52096-350	C450 Clamp Shoe 3.5 in. (88.9 mm)
K52096-288	C450 Clamp Shoe 2.875 in. (73.0 mm)
K52096-238	C450 Clamp Shoe 2.375 in. (60.3 mm)
K52096-190	C450 Clamp Shoe 1.9 in. (48.3 mm)
K52096-166	C450 Clamp Shoe 1.66 in. (42.2 mm)
K52096-132	C450 Clamp Shoe 1.315 in. (33.4 mm)
K52096-000	C450 Clamp Shoe Special Size

HELIX C450 WELD HEAD SPECIFICATIONS

Product Name	Product Number	Input Power	Travel Speed rpm	Wire Feed Speed ipm (cmpm)	Wire Size Range in. (mm)	Clearance in. (mm)		Oscillation Stroke in. (mm)	Electrode to Front in. (mm)	Total Length in. (mm)	Lead/Lag	Torch Tilt	
						Radial ⁽¹⁾	Axial					In	Out
HELIX C450 Weld Head	K52095-1	28 DC	0.07-1.27	1.0-130 (2.5-330.2)	0.030-0.045 (0.8-1.1)	2.5 (63.5)	7.55 (191.77)	1 (25.4)	.75 (19.05)	14.69 (373.1)	Optional ±15°	Optional 18°	Optional 30°

⁽¹⁾ on a 4 in. pipe.

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