

# HELIX<sup>®</sup> C663 Orbital Weld Head

## Processes

TIG

## Product Number

K52092-1 (w/ Onboard Wire Feeder)

K52092-2 (w/o Onboard Wire Feeder)

## Input Power

25V DC

## Operated with APEX™ 2100 Orbital Control System

## Clearance (specifications shown are for the K52092-1 model)

Radial: 2.19 in. (55.6 mm)\*

Axial: 7.55 in. (191.8 mm)

## Pipe Diameter Range (OD)

1.9-6.625 in (48.3-168.3 mm)

## Net Weight

28 lb. (12.7 kg)

## Electrode to Rear

5.8 in. (147.3 mm) min.

6.8 in. (172.7 mm) max.

## Electrode to Front

0.75 in (19.1 mm)

## Oscillation Stroke

1 in. (25.4 mm)

See back for complete specs

\*on a 6 in. pipe.

## HELIX C663 Weld Head

As a one of four HELIX C series Orbital TIG clamp-on weld heads, the C663 model is specifically designed for pipes and tubes with an outside diameter of 1.9-6.63 in. (48.3-168.4 mm). These clamp-on heads are rugged, compact and easy to install and position on tubes and pipes. The C series weld on 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

- Disengage and reposition the clamping system with one easy motion.
- Custom clamp shoes can be built for any non-standard pipe and fitting configurations.
- Clamping mechanism disengages the clamp jaw with one easy motion allowing the user to re-position the clamp along the pipe.



Shown:  
K52092-1 HELIX C663 Orbital Weld Head

### ▶ Multiple Wire Feed Options

- An optional low profile on-board feeder for 2lb (0.91 kg) spools
- 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.
- Each wire feed option delivers easy wire loading and smooth, stable wire feeding that eliminates birdnesting.

## APPLICATIONS

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

THE LINCOLN ELECTRIC COMPANY

22801 St. Clair Avenue • Cleveland, OH 44117-1199 • U.S.A.

PH: +1.216-481-8100 • www.lincolnelectric.com

## HELIX C663 WELD HEAD

Part Number	Description	Part Number	Description
K52092-1	HELIX C663 Weld Head with onboard feeder	KP52080-035	Suitcase Feeder Inlet/Outlet Guide Set .030-.035 in. (0.8-0.9 mm)
K52072-25	HELIX T55 Cable Hose Extension, 25 ft. (7.6 m)	KP52080-045	Suitcase Feeder Inlet/Outlet Guide Set .040-.045 in. (1.0-1.1 mm)
K52072-50	HELIX T55 Cable Hose Extension, 50 ft. (15.2 m)	K52118-1	HELIX C663 Onboard Wire Feed Removal Kit
K52072-75	HELIX T55 Cable Hose Extension, 75 ft. (22.7 m)	K52117-1	HELIX C663 Onboard Wire Feed Upgrade Kit
K52097-1	WF20S Suitcase Feeder 2-10 lb. (0.9-4.5 kg) Capacity	KP2115-035	Bench Feeder Inlet/Outlet Guide Set .030-.035 (0.8-0.9 mm)
K52097-2	WF20B Bench Feeder 10-44 lb (4.5-20.0 kg)	KP2115-045	Bench Feeder Inlet/Outlet Guide Set .040-.045 (1.0-1.1 mm)
KP52094-030	Onboard Feeder Drive Roll Kit .030 in. (0.8 mm)	K52120-1	Helix C663 Cable/Hose Assy
KP52094-035	Onboard Feeder Drive Roll Kit .035 in. (0.9 mm)	K52121-1	Helix C663 Control Cable
KP52094-040	Onboard Feeder Drive Roll Kit .040 in. (1.0 mm)	KP52110-1	Helix C Series Low Profile Back Cap
KP52094-045	Onboard Feeder Drive Roll Kit .045 in. (1.1 mm)	KP52109-1	HELIX C Series Wire Liner
KP52099-035	Onboard Feeder Inlet/Outlet Guide Set .030-.035 in. (0.8-0.9 mm)	K52124-1	HELIX C Series External Wire Feed Cable Extension
KP52099-045	Onboard Feeder Inlet/Outlet Guide Set .040-.045 in. (1.0-1.1 mm)	KP52125-1	HELIX C Series Power Water Hose
KP52109-035	Onboard Feeder Wire Liner .023-.035 in. (0.6-0.9 mm)	KP52126-1	HELIX C Series Water Hose
KP52109-045	Onboard Feeder Wire Liner .035-.045 in. (0.8-1.1 mm)	KP52127-1	HELIX C Series Gas Hose
KP52100-035	Wire Guide Tip .030-.035 in. (0.8-0.9 mm)	KP52128-1	HELIX C Series Cable/Hose Main Cover
KP52100-045	Wire Guide Tip .040-.045 in. (1.0-1.1 mm)	KP52129-1	HELIX C Series Cable/Hose Hi Temp Cover
KP42-3035-15	Liner .030-.035 in. (0.8-0.9 mm)	KP2029-5B1	1/8 Collet
KP42-4045-15	Liner .040-.045 in. (1.0-1.1 mm)	KP2029-4B1	3/32 Collet
KP52079-030	External Feeder Drive Roll Kit .030 in. (0.8 mm)	KP2029-3B1	1/16 Collet
KP52079-035	External Feeder Drive Roll Kit .035 in. (0.9 mm)	KP2035-1B1	Back Cap Short
KP52079-040	External Feeder Drive Roll Kit .040 in. (1.0 mm)	KP2035-2B1	Back Cap Medium
KP52079-045	External Feeder Drive Roll Kit .045 in. (1.1 mm)	KP2035-4B1	Back Cap Long

## HELIX C663 CLAMP SHOES

Part Number	Description
K52093-663	C663 Clamp Shoe 6.625 in (168.3 mm)
K52093-556	C663 Clamp Shoe 5.563 in (141.3 mm)
K52093-450	C663 Clamp Shoe 4.5 in (114.3 mm)
K52093-400	C663 Clamp Shoe 4.0 in (101.6 mm)
K52093-350	C663 Clamp Shoe 3.5 in (88.9 mm)
K52093-288	C663 Clamp Shoe 2.875 in (73.0 mm)
K52093-238	C663 Clamp Shoe 2.375 in (60.3 mm)
K52093-190	C663 Clamp Shoe 1.9 in (48.3 mm)
K52093-000	C663 Clamp Shoe Special Size

## HELIX C663 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 <sup>(1)</sup>	Axial					In	Out
HELIX C663 Weld Head w/ Onboard Feeder	K52092-1	28V DC	0.05-1.02	15-80 (38.1-203.2)	0.030-0.045 (0.8-1.1)	3.00 (76.2)	8.6 (218.4)	1.0 (25.4)	0.75 (19.1)	16.58 (421.1)	Optional ±15°	Optional 18°	Optional 30°
HELIX C663 Weld Head w/o Onboard Feeder	K52092-2			1.0-130 (2.5 - 330.2)		2.19 (55.6)	7.55 (191.8)						

<sup>(1)</sup> on a 6 in. pipe.

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