



# TUBESHEET WELD HEADS 424 425 430

## MAGNATECH

### Model 425

**FILLER WIRE NOZZLE** Three axis adjustment.

**CENTERING CARTRIDGE** Spring-loaded, stainless steel balls accommodate tube ID tolerance.

**FRONT RING**  
Stainless steel.

**COUNTERBALANCE** (recommended).

**WATER-COOLED BODY** Allows use on preheated tubesheets.

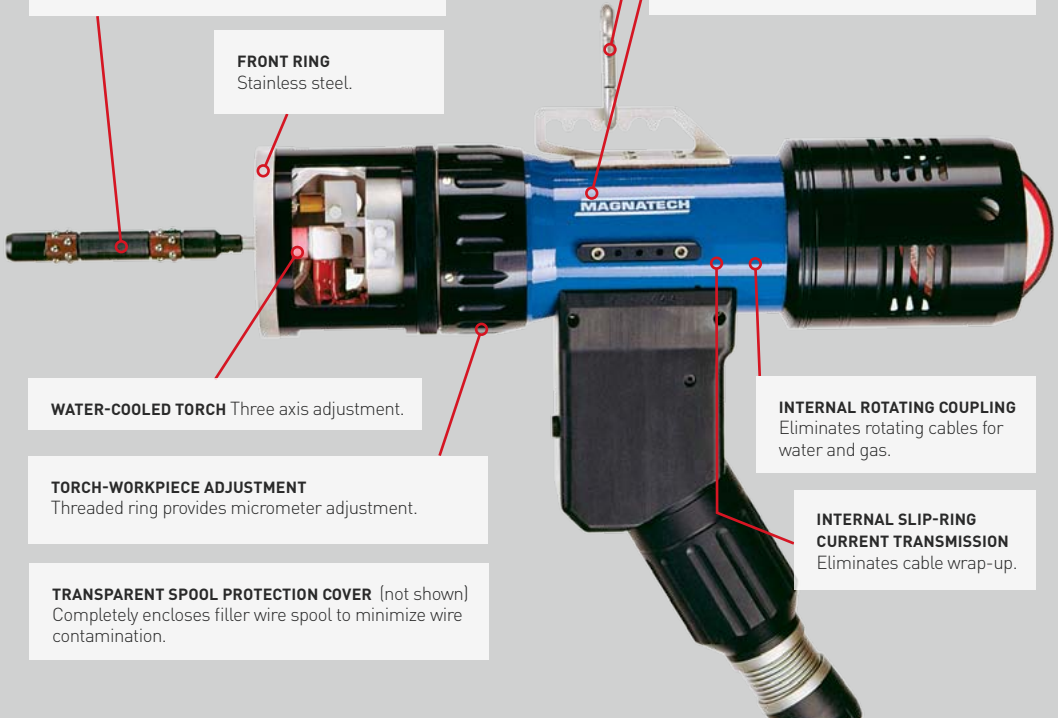
**WATER-COOLED TORCH** Three axis adjustment.

**TORCH-WORKPIECE ADJUSTMENT**  
Threaded ring provides micrometer adjustment.

**TRANSPARENT SPOOL PROTECTION COVER** (not shown)  
Completely encloses filler wire spool to minimize wire contamination.

**INTERNAL ROTATING COUPLING**  
Eliminates rotating cables for water and gas.

**INTERNAL SLIP-RING CURRENT TRANSMISSION**  
Eliminates cable wrap-up.



# 424 424 430 TUBESHEET WELD HEADS

## ORBITAL WELD HEAD FOR FUSION AND WIRE FEED GTAW PIPE WELDING

Magnatech Tubesheet Heads are designed to make tube-to-tubesheet welds with precision and repeatability. All models can be used for fusion welding. The models 424 and 425 provide for filler wire addition. An integral head-mounted feeder is standard.

Three models cover the size range of 10 to 140 mm (0.4 to 5.52") OD. These weld heads improve productivity by increasing duty cycle, reducing repair rates and producing welds of consistent quality.



## Features

### MODELS 424 AND 425

- Use standard 1 kg (2 lb.) wire spools
- Torch adjustments accommodate all geometries
- Water-cooled body for preheated tubesheets
- Filler wire feeder rotates with torch – prevents wire flip
- Arc Voltage Control (425 only) allows multipass welding

### MODEL 430

- Lightweight Head for fusion welding
- Simple expanding mandrel clamps head in tubes
- Integral Purge Gas Chamber ideal for welding Titanium

## Options

- Extension cables
- Purge Gas Chamber for Titanium welding
- Internal bore torches allow ID fusion welds



**MODEL 424** without feeder/spool mount for fusion welding



**OPTIONAL PURGE GAS CHAMBER** for Titanium with separate gas input (Model 424)



**MODEL 424** with internal bore welding torch

# TUBESHEET WELD HEADS 424 425 430

## Options



**SIMPLE TOGGLE LEVER**  
clamps Head - Model 430



**EXPANDING MANDREL**  
Model 430



**OVERHEAD APPLICATION**  
Model 430



**GLASS CHAMBER** provides superior gas coverage for titanium - Model 430

## Applications

- Heat exchanger seal and strength welds
- Power generation
- Petrochemical
- Sanitary
- Food and beverage



## Model 425

**AVC MOTION** on Model 425 adjustable to be parallel to electrode or off-axis

**THREE-POINT STANDOFF** for extended weld geometries (standard on Model 425, optional on Model 424)



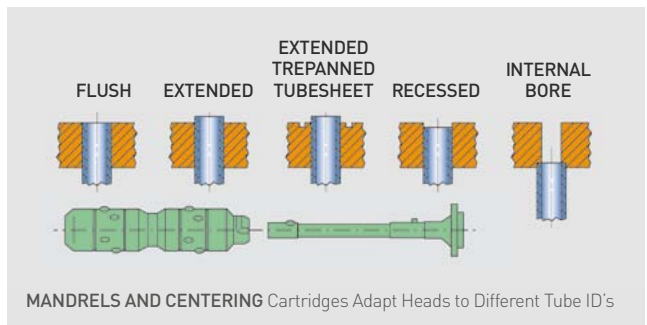
# 424 425 430 TUBESHEET WELD HEADS

## Specifications

APPLICATIONS	MODEL 424	MODEL 425	MODEL 430
<b>Joint design</b>	Extended, flush, recessed and internal bore	Extended, flush, recessed and internal bore	Flush, slightly extended
<b>Pitch pattern</b>	Triangular or square	Triangular or square	Triangular or square
<b>Tube O.D. Size Range</b>	10 – 78 mm (.4 – 3.07")	10 – 140 mm (.4 – 5.52")	10 – 26 mm (.4 – 1.02")
<b>BASIC HEAD</b>			
<b>Rotation speed</b>	0.33 – 6 rpm	0.33 – 6 rpm	0.33 – 6 rpm
<b>Filler wire module</b>	Rotates coaxially with torch	Rotates coaxially with torch	N/A
<b>Wire size</b>	0.8/0.9/1.0/1.2 mm (.030"/.035"/.040"/.045")	0.8/0.9/1.0/1.2 mm (.030"/.035"/.040"/.045")	N/A
<b>Speed capability</b>	0 – 1500 mm/min. (0 – 60 ipm)	0 – 1500 mm/min. (0 – 60 ipm)	N/A
<b>Spool size</b>	1 kg (2 lbs)	1 kg (2 lbs)	N/A
<b>WATER-COOLED TORCH</b>			
<b>Amperage capability</b>	200 A continuous	200 A continuous	100 A @ 60%
<b>Cable length</b>	8 m (25') Extension cables available	Standard 8 m (25') Extension cables available	Standard 8 m (25') Extension cables available
<b>HEAD WEIGHTS</b>			
<b>Weight</b>	8 kg (18 lbs)	9 kg (20 lbs)	1.2 kg (2.65 lbs)
<b>Weight with filler wire</b>	10 kg (22 lbs)	11 kg (24 lbs)	N/A
<b>Arc voltage control</b>	No	Yes	No
<b>Power supply compatibility</b>	Tubemaster and Pipemaster models	Pipemaster models only	Tubemaster and Pipemaster models

## TUBE GEOMETRIES

- Model 424 ideal for all tube-sheet geometries
- Model 425 with AVC for multi-pass welding
- Model 430 ideal for fusion welding of flush or slightly extended tubes where where preheat is not required <sup>1</sup>



<sup>1</sup> The model 430 uses an expanding mandrel design