



## About Orbital Automation Ltd

Orbital Automation Ltd offer Friction Welding Machine designed for precision control using a closed loop model with an ergonomically designed layout. Friction welders' capacity ranges from 15kN to 2000kN across industries. Machines are available in horizontal, vertical, or inclined configurations with or without tie rods. Orbital Automation Ltd's Friction Welding Machine is energy efficient with industry leading accuracy of weld length, alignment and a fully automated operation. Friction Welders can effectively join a wide range of different material combinations with minimum burn-off while being economical and having consistent output quality and at the same time.

Orbital Automation Ltd is the leading manufacturer of Friction Welding Machines in the UK. Orbital Automation Ltd is an Orbital Group company which has 35 years of extensive experience in manufacturing and supplying special purpose machines. Our innovative Friction Welding Machines are developed and optimized for a wide-ranging applications in numerous industries like hydropower, cement, oil & gas / petrochemical, power, pulp & paper, recycling & waste, railways, steel making, agriculture & food, sugar, mining, quarries & earthmoving and many more.

## Friction Welding Machine

**World class manufacturers and suppliers of Friction Welding Machines**

Rotary Friction Welding Technology Cost-effective and Safe Joining of Diverse Materials and Material Combinations



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## Friction Welding Machine

### 3T

#### Specifications

Model	OFWM3T
Max Forge Welding Force in kN	30
Weld Cross Sectional area in mm <sup>2</sup>	25
<b>Forge Head to Pin welding</b>	
Stem dia.- Min-Max	4.5 to 9mm
Forge Head dia. Min-Max	20 to 45mm
Forge Head Length- Min -Max	40 to 70mm
Stem pin length – Min-Max	45 to 100mm
<b>Pin to Pin Welding</b>	
Stem dia.- Min-Max.	4.5 to 9mm
Head pin length – Min-Max.	70 to 200mm
Stem pin length – Min-Max.	45 to 150mm
Max. Length after welding	350mm
Industry Sectors	Automotive
Applications	Designed for welding Engine Valves - Pin to Pin and Head to Pin



## 6T

### Specifications

Model	OFWM6T
Max Forge Welding Force in kN	60
Weld Cross Sectional area in mm <sup>2</sup>	500
Max. forge force	60kN
Max. dia. at weld	14mm
Max. length of rod held in spindle	150mm
Max. length of rod clamped in vice	200mm
Industry Sectors	Automotive
Applications	Designed for welding Engine Valves - Forged Head to Pin

## 15T

### Specifications

Model	OFWM15T
Max Forge Welding Force in kN	150
Weld Cross Sectional area in mm <sup>2</sup>	1250
Max. forge force	150kN
Max. dia. of tube	102mm
Max. wall thickness	3mm
Max. length of tube	1500mm
Industry Sectors	Automotive
Applications	Enables welding at both ends of propeller shafts simultaneously to join end pieces to tube with precise orientation.

## 20T

### Specifications

Model	OFWM20T
Max Forge Welding Force in kN	200
Weld Cross Sectional area in mm <sup>2</sup>	1665
Max. forge force	200 kN
Spindle speed	0-1500 rpm-Ininitely variable
Spindle torque	210 Nm
<b>Tubular shaft (non-rotating part)</b>	
Dia. at weld - OD	60mm max
Wall thickness	5mm max
Length	450mm max
<b>Stub Shaft (rotating part)</b>	
Dia. at weld	60mm max
Max. Wall thickness	5mm
Max. Length	250mm
<b>Tripod</b>	
Dia. at Weld	50mm max
Industry Sectors	Automotive
Applications	Designed for welding Stub Shaft / Tripod to Tubular Shaft

## 100T

### Specifications

Model	OFWM100T
Max Forge Welding Force in kN	1000
Weld Cross Sectional area in mm <sup>2</sup>	8330
Max. forge force	1000kN
Max. OD of spindle	150mm
Max. length of spindle	380mm
Max. length of axle	2300mm
Industry Sectors	Automotive
Applications	Designed for welding live and dummy Axle housings (Spindle to Axle Housing)

## 125T

### Specifications

Model	OFWM125T
Max Forge Welding Force in kN	1250
Weld Cross Sectional area in mm <sup>2</sup>	10415
Max. forge force	1250kN
Max. OD of spindle	160mm
Max. length of spindle	380mm
Max. length of axle	2500mm
Industry Sectors	Automotive
Applications	Designed for welding live and dummy Axles (Spindle to Axle Housing)

## 150T

### Specifications

Model	OFWM15T
Max Forge Welding Force in kN	1500
Weld Cross Sectional area in mm <sup>2</sup>	12500
Max. forge force	1500kN
Max. OD of rotating piece	150mm
Max. length of rotating piece	450mm
Industry Sectors	Automotive
Applications	Designed for welding unlimited length of Pipe / Rod with heavy duty hydraulic clamping system

# 200T

## Specifications

Model	OFWM200T
Max Forge Welding Force in kN	2000
Weld Cross Sectional area in mm <sup>2</sup>	16660
Spindle speed	0-450 rpm- Infinitely variable
Spindle motor	250kW, 800 rpm, 2986 Nm
Chuck	2 jaw chuck- dia. 600mm -hydraulically operated
Rod-Eye	
Max. height of Rod-eye	280mm
Bore dia. :	140mm
Max. dia. of Rod-eye	280mm
Rod	
Rod dia.	Min. 50mm / Max.130mm at weld
Rod length	750mm to 3500mm
Industry Sectors	Automotive
Applications	Designed for welding live and dummy Axle housings (Spindle to Axle Housing)



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