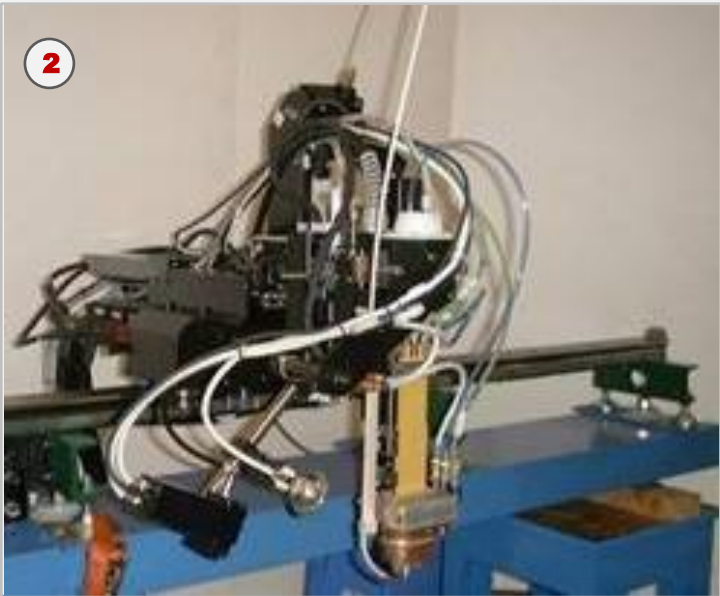
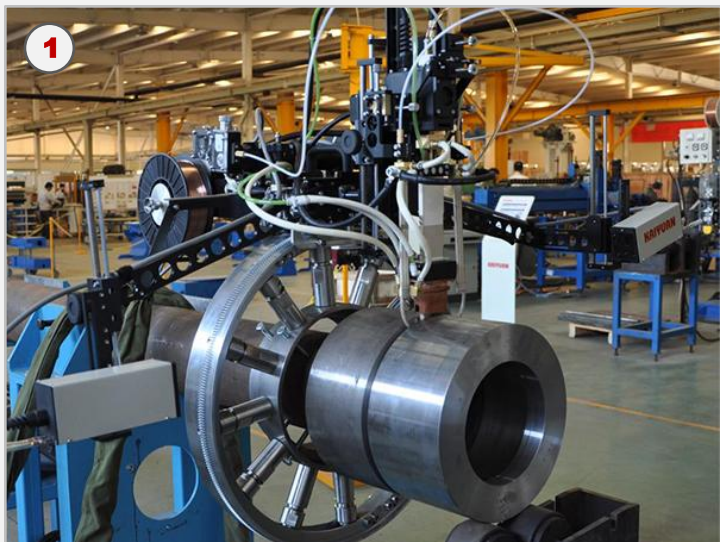


# Narrow Gap TIG

## Narrow Gap Hot Wire TIG Welding System

Narrow Gap is an advanced welding technology used in Hot Wire TIG for thick plate welding applications, which require most stringent welding quality standards. The complete system consists of two TIG welding power sources (one for TIG and the other for Hot Wire), Narrow Gap Welding Head (includes specially designed TIG torch), Water Cooling Unit for TIG Torch, Weld Controller, Remote Pendant, Connection Cable Sets and the necessary custom-built fixture for the welding fit up.

Narrow Gap as the name suggests is used for welding inside ultra narrow gap e.g. 9mm in TIG and offers several advantages compared to conventional welding, some of the major advantages are reduced groove preparation cost, lesser number of passes, reduced consumables cost and faster welding speed, which deliver significant quality and productivity improvements over the conventional welding process. One of the important **Applications of Narrow Gap Hot Wire TIG is the Orbital Welding** used for steel pipes with very high wall thickness (schematic set up is shown below for reference, NAG – Narrow Gap).



1	NAG Hot Wire TIG 5G Set Up
2	NAG Hot Wire TIG 1G Set Up
3	NAG Hot Wire TIG Welding in Progress
4	NAG Hot Wire TIG Weld Bead

2018-10-27 – KWA reserves the right to alter / modify the specifications without prior notice

## Narrow Gap Hot Wire Orbital TIG Welding System

The KAIYUAN Narrow Gap Hot Wire Orbital TIG System comes with a patented technology and a wide range of features listed below, which not only drives quality and productivity enhancement but also positions KAIYUAN as distinguished global player ahead of its counterparts.

### Salient Features

- Automatic Voltage Control (AVC) – maintains constant stick-out ensures proper penetration throughout and eliminates the issue of tungsten inclusion, consistent weld quality
- Torch Oscillation and Electrode Swing – higher deposition and perfect side-wall fusion, enhanced quality and productivity
- Oscillation + Swing – special feature for delivering optimum weld quality
- Single Torch for Multiple Passes – same torch is used for Root Pass, Hot Pass and Cover Pass, saves time, improves productivity
- Bi-directional Wire Feeding – wire feeding is done from either directions with respect to the electrode, welds faster, higher productivity
- 16-Zone Parameter Control – In orbital welding the user can set zone-wise parameters on the job (16 zones), it gives finer parameter control for delivering high weld quality
- Job Memory – for 100 sets of weld parameters, saves time and consistent quality

Technical Details	Value
<b>Job Details</b>	
Groove thickness (max)	150 mm (1G), 600 mm (5G)
Groove width	9 – 10 mm
Deposition rate	35 – 60 gm/min
Welding speed	50 – 300 mm/min
Wire feed speed	0.2 – 6.8 m/min
Filler wire size	1.2 mm
Pass per layer	One

### Application Segments

- Nuclear Energy e. g. Reactor Components, Containment Chambers
- Power Plant Equipment e. g. Turbines, Super Critical Boiler
- Defence / Space Applications



**KAIYUAN Narrow Gap Hot Wire Orbital TIG System**

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