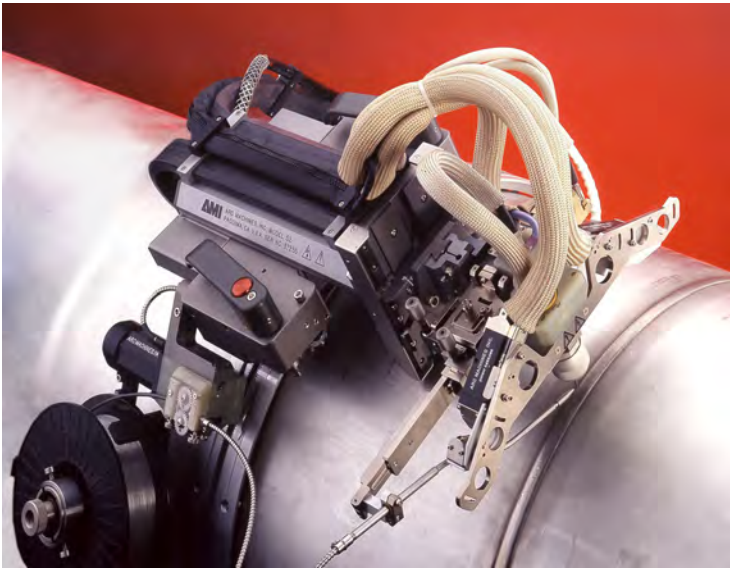


**MODEL 52****HEAVY-DUTY PRECISION  
AUTOMATED ORBITAL WELD HEAD****AMI**  
**ARC MACHINES, INC.®***The widest range of orbital welding equipment in the world*

The Model 52 is engineered and designed for high-deposition circumferential and flat welding in heavy industrial and harsh field applications where quality requirements are stringent and the use of the GTAW process is beneficial. It is intended for all-position, automated welding of pipe, plate or fittings using the Cold or Hot Wire Feed GTAW (TIG) process.

The Model 52 weld head provides all functions necessary for high-quality orbital pipe welding and other elements required for an automated pipe welding system, such as precision guide rings, and one of several AMI Power Supplies.

**QUICK SPECS****AVC Stroke**

4" standard  
(102 mm)  
(position encoder)

**Torch Oscillation Stroke**

4" (102 mm) standard  
up to 16" (408 mm) optional

**Wire Feed Speed**

5 - 200 IPM

**Tungsten Size**

3/32", 1/8" or 5/32"  
(2,3 mm, 3,2 mm, or 4 mm Ø)

**Filler Wire Size**

0.020" - 0.045"  
(0,5 mm or 1,1 mm Ø)

**Wire Spool**

10 lbs. 8" Ø standard spool  
(4,5 kg, 203 mm Ø spool)

**Torch Cross-Seam Steering Range**

4.00" (102 mm) position encoder

**Max. Wall Thickness**

Depends on torch type, options  
and accessories

**Travel Speed**

0.2—20 RPM  
(position encoder)

**Radial Clearance Range**

Depends on pipe diameter,  
torch type and configuration  
6.56" (167 mm) minimum

**Axial Clearance Range**

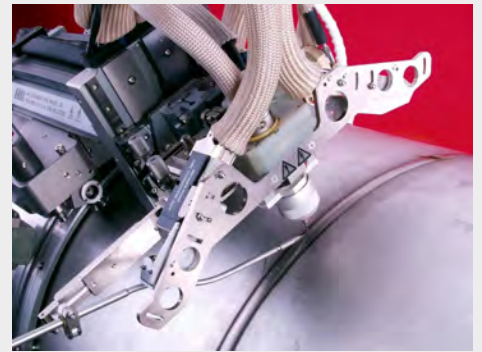
Depends on torch type and options  
15.75" (400 mm) minimum

- A variety of water-cooled torches are available.
- Compatible Power Supply: **Model 415**
- Compatible with many AMI torch assemblies, including video-equipped torches.



## STANDARD FEATURES

- Synchronized torch oscillation.
- 4" (102 mm) arc and oscillator slides.
- Cross-seam steering.
- Exclusive, zero-backlash dual gear drive.
- Digital encoder feedback on all functions.
- Water-cooled main housing.
- Tool-less mounting mechanism.
- On-board wire feed mechanics, single or dual wire feed system.



## TORCH OPTIONS

The M52 weld head provides a durable, extremely versatile, heavy-duty platform for using a variety of torch options:

- Single or dual wire entry torches.
- Narrow-Gap Torches up to 12" (305 mm) deep groove.
- Torches for remote welding with Vision.
- Hot or Cold Wire options.
- Custom-designs are available to meet application-specific needs.



Narrow-Gap Welding with Vision

## MODEL 52 "P" TORCH

The "P" torch is only one of numerous torches designed for use with AMI's Remote Welding Video Systems. It incorporates direct-view optics and color video cameras to show both the leading and trailing sides of the weld puddle. These optic assemblies are combined with remote-controlled dual wire manipulators to allow welding in both directions and to remotely observe the weld puddle. AMI's arc light filtration, along with miniature video cameras allows for a very small and compact package with a minimum amount of cabling. It is recommended for any application requiring remote vision, such as high-radiation areas or where direct observation of the weld process by operators is limited. The "P" torch can be ordered with single or dual wire feed options.

### Features:

- A Video System for remote operation and observation of the weld zone from leading and trailing directions.
- Excellent display of filler wire position and entry point.
- Addition of filler wire while welding in either direction.
- Remote-controlled motorized wire guide manipulators.
- Wire size range: 0.020"-0.045" (0,5 mm-1,2 mm).
- Industry standard gas lenses and gas cups are available.
- Water-cooled, 300 A @ 100% Duty Cycle.



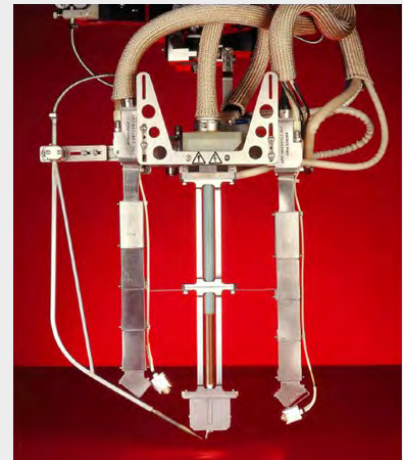
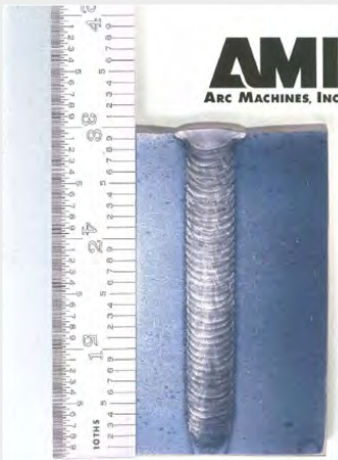


## NARROW-GAP TORCH

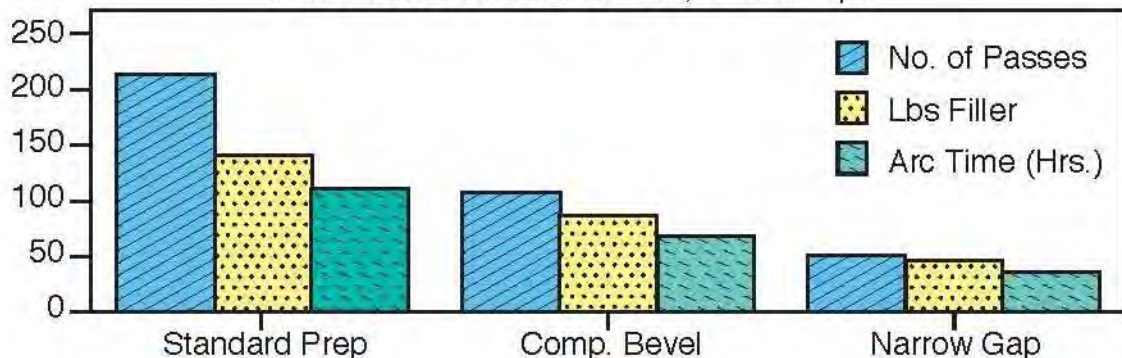
The AMI NGT (Narrow-Gap Torches) were designed to perform narrow groove heavy-wall pipe and vessel welds, with less heat input and shorter weld times than conventional narrow gap equipment. These torches use a rotating tungsten, which provides mechanical manipulation of the arc and wire feed within the groove. The integral gas cup provides direct gas shielding of the tungsten and the weld metal. The rotating electrode assures excellent side wall fusion and minimizes weld defects. The rotating electrode in conjunction with the narrow preps, allows deposition rates that are significantly higher than conventional Cold Wire GTAW. Typical weld preps used are approximately 1/2" (18 mm) wide, in the root area, with a 3 to 9 degree included angle for welds up to 12" (305 mm) thick. The compact torch design simplifies operation so that no special training is required for operators familiar with AMI orbital pipe welding equipment.

### Features & Benefits:

- Wire size range: 0.030" - 0.045" (0.8 mm - 1,2 mm)
- Water-cooled, 350 A torch.
- 2 video cameras, providing excellent remote visibility.
- Torch set-up in 2" (51 mm) increments to minimize radial clearance.
- Standard accessories to weld up to 6" (152 mm) thicknesses or optional configurations up to 12" (305 mm) wall thicknesses.
- Optional 0.375" (9,5 mm) wide gas cups for special applications.
- Increased productivity.
- Reduced heat input.
- Reduced work-piece distortion.



Narrow Groove Data: 30" OD, 4" Wall Pipe

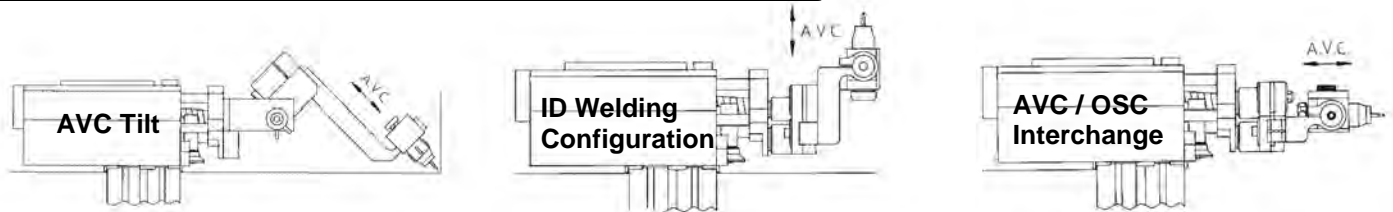


## ● OPTIONS ●

The Model 52 weld head and torch are just two of the elements required for an automated pipe welding system. Precision guide rings providing positive, gear-driven traction, AMI's Model 415 Power Supply, and many other options offer a complete system suitable for high-quality orbital pipe welding of a wide range of applications with excellent productivity.

- **10 or 40 IPM Travel (rotation) Motors:** for applications requiring more torque or faster travel.
- **300 IPM Wire Feed Motor:** for use with special-application torches.
- **Oscillator Cross-Seam Stroke:** 4" (102 mm) standard, range increases available in 2" (51 mm) increments up to 16" (408 mm) total.
- **AVC Travel:** 4" (102 mm) standard, range increase or decrease in 2" (51 mm) increments available.
- **Right-Angle Drive:** Allows the weld head to be mounted perpendicular to the pipe instead of parallel to it. Used for short radius elbows or tight axial clearance in conjunction with AVC/OSC interchange.
- **Guide Rings:** Standard, flat, ID and special guide rings are available.
- **52-CW Wire Feeder and Spool Holder:** Additional (second) wire feeder that allows welding in both directions of head travel. The Power Supply automatically selects proper wire feeder as a function of rotation direction.
- **Wire Spool Holders:** 10 lbs. (4,5 kg) (8"; 203 mm) wire spool holders are standard. Optional holders available for 4" (102 mm), 2 lbs. or 12" (306 mm), 30 lbs. wire spools.
- **Gas Cup/Gas Lens/Wire Manipulator Extender:** Various options available.

## ● SPECIAL-FUNCTION CONFIGURATIONS ●



*Leaders & Innovators in  
Automated Orbital Welding*



For further information please visit our website



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