

TURNING ROLLS (Rotators) Product Overview



Conventional Tilting Positioners

AMET is pleased to provide the following product overview on our standard models of high performance turning rolls. AMET's turning rolls are designed to operate as stand-alone units, or be included to complex welding systems. Our turning rolls are produced in a full range of weight capacities in order to meet your application requirements. AMET will also consider your special requests for turning rolls, including special models, special features, and special speed ranges.

Purpose:

Turning Rolls are used to accurately rotate a part about a weld head to produce high quality welds in a variety of different applications. They can also be used to rotate parts for fit-up applications and pre/post heating processes. You can locate the weld head in various positions in order to perform various types of welds. Welding is performed using GTAW, PAW, GMAW, FCAW, or SAW.

LTRS-20

20 Ton set
of Turning
Rolls

Benefits:

AMET's turning rolls have several benefits over welding the part manually, using an orbital welder or by using just a motorized carriage or "buggy" approach, including:

- Able to rotate the part continuously without having to worry about entangling cables and hoses
- Able to rotate the part consistently
- Ability to weld internally and externally
- Gas back purge capability
- Add tooling to support part and/or weld joint
- Increased weld (arc-on) time
- Reduced operator fatigue and involvement
- Reduced consumable costs
- Simple loading and unloading of the part

These benefits greatly reduce the time to prepare a part for welding and the time to finish a part after welding. Also, rework time will be reduced and part scrap will be cut.

AMET can include optional features, such as digital speed read-out, anti-creep devices, foot switches for

manual operation, rotary grounds, and roller beds (standard and tilting) to increase the productivity of the standard turning rolls.



2.5 ton turning rolls on roller bed

Capacities:

Lincoln currently offers three standard models of turning rolls:

- Piper
- Conventional
- Self-Aligning

The Piper have two weight capacities, 1 and 3 ton. The conventional and self-aligning have weight capacities from 5 ton to 90 ton.

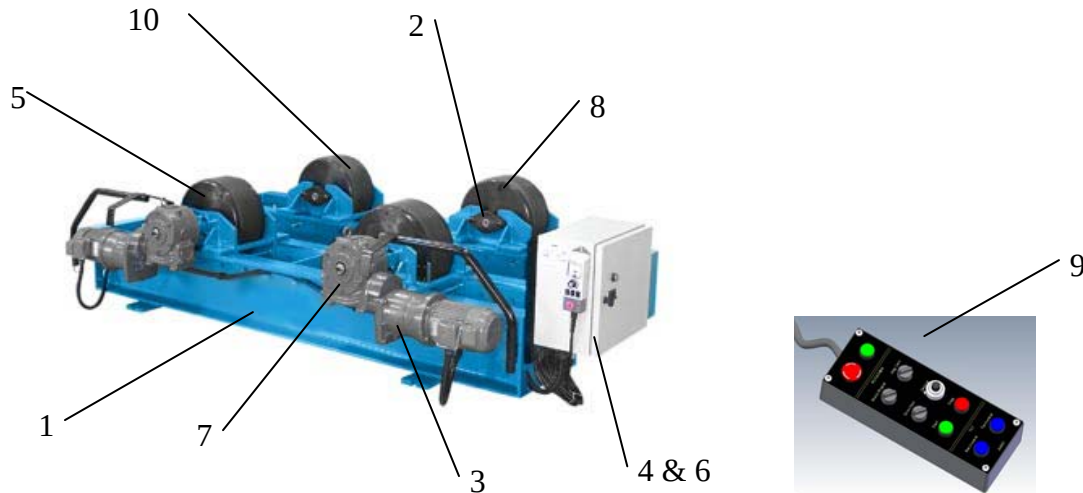
All standard driven and idler turning rolls have the following general capacities and specifications:

- On driven rollers, both wheels are driven to help avoid part slipping
- Rotational Speed Accuracy: +/- 2% of base speed
- Overload protection on the wheels
- Rotational Backlash less than 20 arc minutes
- On conventional and self-aligning, dual AC Motors with synchronized AC Vector Drive control, to provide constant drive to each wheel.
- Individual worm gear driven wheels
- Dual drive allows simple change of diameter ranges, avoiding mechanical linkages
- Speed Range Ratio of about 30 to 1
- Pillow Blocks built to handle shock loads from loading
- Based are machined and stress relieved to insure accurate rotation over the life of the turning rolls
- Dynamic braking in the control circuit to insure quick, yet smooth stops to the load.

TURNING ROLLS (Rotators) Product Overview



STANDARD FEATURES on Conventional and Self-Aligning Turning Rolls



1. Robust machined frame assembly, which is stress relieved and fitted with cross supports to handle loads.
2. Pillow Blocks designed and rate to handle shock loads.
3. Dual drive motors and gear boxes on driven turning rolls to avoid cumbersome mechanical linkages. Results in faster change-over times when changing part diameters.
4. Synchronized AC Vector drive to insure consistent rotation to both driven wheels
5. Overload protection on each wheel to provide the wheel surface from damage due to overloading of the wheel.
6. Motorized Rotation using AC vector drive provides approximately 30 to 1 speed range.
7. Worn gear driven rotation for a backlash rating of less than 20 arc minutes on drive rollers.
8. Weight capacity is increased 50% when an extra idler roller is used and properly located to support load.
9. All units include operator control hand pendant, when used in stand-alone configuration. Main control box is seal and mounted to drive turning roll base frame.
10. Wheels are Poly-Urethane on weight capacities of 10 ton and less, rubber on weight capacities above 10 ton, unless ordered specifically otherwise.
11. Proper protection added for High Frequency arc starting

TURNING ROLLS (Rotators) Product Overview



Standard Turning Roll Capacity Information												
Model No.	Model No.	Model No.	Weight Capacity - each unit		Rotating Weight Capacity *	Diameter Capacity		Wheel Size **		Speed Range		Wheel Type ***
Piper	Conventional	Self-Aligning	(kg)	(lbs)	kg/lbs	(mm)	(inch)	(mm)	(inch)	(mm/min)	(IPM)	
LTRP-D-1			500	1100	1000/2200	50 - 900	2 - 36	50 x 200	2 x 8	50 - 1500	2 - 60	Urethane
LTRP-I-1			500	1100	-	50 - 900	2 - 36	50 x 200	2 x 8			Urethane
LTRP-D-3			1500	3300	3000/6600	50 - 1000	2 - 40	50 x 200	2 x 8	50 - 1500	2 - 60	Urethane
LTRP-I-3			1500	3300	-	50 - 1000	2 - 40	50 x 200	2 x 8			Urethane
	LTRS-D-5	LTRA-D-5	2500	5500	7500/16,500	150 - 3000	6 - 120	120 x 300	5 x 12	40 - 1200	1.7 - 50	Urethane
	LTRS-I-5	LTRA-I-5	2500	5500	-	150 - 3000	6 - 120	120 x 300	5 x 12			Urethane
	LTRS-D-10	LTRA-D-10	5000	11,000	15,000/33,000	150 - 3600	6 - 144	120 x 300	5 x 12	40 - 1200	1.7 - 50	Urethane
	LTRS-I-10	LTRA-I-10	5000	11,000	-	150 - 3600	6 - 144	120 x 300	5 x 12			Urethane
	LTRS-D-15	LTRA-D-15	7500	16,500	22,500/49,500	150 - 3600	6 - 144	120 x 350	5 x 14	40 - 1200	1.7 - 50	Rubber
	LTRS-I-15	LTRA-I-15	7500	16,500	-	150 - 3600	6 - 144	120 x 350	5 x 14			Rubber
	LTRS-D-30	LTRA-D-30	15,000	33,000	45,000/99,000	200 - 4000	8 - 156	120 x 400	5 x 16	30 - 1000	1.2 - 40	Rubber
	LTRS-I-30	LTRA-I-30	15,000	33,000	-	200 - 4000	8 - 156	120 x 400	5 x 16			Rubber
	LTRS-D-60	LTRA-D-60	30,000	66,000	90,000/198,000	600 - 5500	24 - 216	150 x 500	6 x 20	30 - 1000	1.2 - 40	Rubber
	LTRS-I-60	LTRA-I-60	30,000	66,000	-	600 - 5500	24 - 216	150 x 500	6 x 20			Rubber
	LTRS-D-90	LTRA-D-90	45,000	99,000	135,000/297,000	600 - 5500	24 - 216	150 x 500	6 x 20	30 - 1000	1.2 - 40	Rubber
	LTRS-I-90	LTRA-I-90	45,000	99,000	-	600 - 5500	24 - 216	150 x 500	6 x 20			Rubber
For more weight capacity, contact Factory for Details												

* Rotation capacity with 1 Driver plus 2 Idlers

** Width x Diameter

*** Rubber and Steel wheels available upon request.

Please contact AMET for detailed specification on each model of turning rolls. More details and specifications are available on these technical data sheets.

In addition to the standard model of turning rolls specified above, AMET can also offer the following models of turning on special request and order.

UNIT TURNING ROLLS

These turning rolls include a frame assembly, with two independent sets of turning rolls on a shaft assembly. One shaft (set) of turning rolls are driven by an AC motor and worm gear drive. The other shaft (set) of turning rolls are idler. Number of wheels on each shaft depends on the weight capacity, and can be optionally added if desired. Frame size is weight dependent, but can be optionally lengthen. Idler shaft has three locations to handle different diameter ranges. Contact AMET for details.

ADJUSTABLE CENTERLINE TURNING ROLLS

These turning rolls are similar in appearance to the conventional turning rolls. However, instead of manually adjusting the position of each set of wheels for different part diameters, the operator turns a hand crank on each end

of the turning rolls to adjust both wheels at the same time. Wheels are positioned by Acme screw and nut along base support of turning rolls. These rollers are ideal for job shops, where part diameters are varying frequently. Offered in 2.5 to 90 ton capacities.



Adjustable centerline idler turning roll, shown on a roller bed with anti-creep device and motorized positioning.

TURNING ROLLS (Rotators) Product Overview



VARIABLE HEIGHT (V-Style) TURNING ROLLS

These turning rolls include a frame assembly, with two adjustable arms, each holding a wheel assembly. The arms open and close in a V shape adjustment and adjust simultaneously. Diameter capacity and height of wheels

change as support arms are moved together. The drive roller is driven by dual AC motors and worm gear drives. A synchronized drive is used to maintain consistent drive motion. Weight capacities are in 2.5 ton, 5 ton and 10 ton. Contact AMET for details.

OPTIONAL FEATURES – TURNING ROLLS

Anti-Creep Device – Piper rolls (ACD-Piper)

Anti-creep device to 1 and 3 ton piper rolls. Mount to driven or idler rolls.

On/Off Foot Switch – Piper rolls (FSW-1)

Allows operator to start and stop driven piper rollers with industrial foot switch. (Speed is still set on turning roll control)

On/Off/Speed Foot Switch (FSW-2VS)

Allows operator to press foot pedal to start and stop rotation, plus allows operator to control speed by varying how far foot pedal is depressed.

Non-motorized travel car for Piper Rollers

Piper rolls are mounted to this non-motorized travel cart and allows them to be move along a set of rails or a turning roll bed

Turning Roll Bed for Piper Rollers

Idler Piper rolls are mounted to a non-motorized travel cart and allow to be manually adjusted along the length of the turning roll bed. Turning bed provides 4.5 M (15 ft) of travel stroke for the idler rolls, which are manually locked into desired position. Bed is machined to insure consistent alignment between driven and idler set of rollers.

This roller bed can be quoted with hydraulic tilting capability.

Non-Powered travel car for Turning Rolls

Turning rolls are mounted to this non-motorized travel cart, allowing them to be manually move along a set of rails or a turning roll bed.

Powered travel car for Turning Rolls

Turning rolls are mounted to this motorized travel cart, allowing them to be move along a set of rails or a turning roll bed.

Turning Roll Bed for Turning Rolls

Idler rolls are mounted to a motorized travel cart and allow to be adjusted along the length of the turning roll bed. Turning bed provides 6 M (20 ft) of travel stroke for the idler rolls. Bed is machined to insure consistent alignment between driven and idler set of rollers.

This roller bed can be quoted with hydraulic tilting capability.

XMS-Rotation Control

Upgrade basic control to XMS-Rotation control. Includes the following capabilities:

- Program in degrees of rotation
- Program in surface speed or RPM
- 9 program storage
- Ability to sequence weld
- Hand pendant displays speed and allows for override

Note: Specifications subject to change
AI-TR-INTRO-0801