



A Product of Magnetic Analysis Corp.

BULLETIN 440

MAGNETIC ANALYSIS CORP.

## Model 44 Three-Probe Follower for Immersed Ultrasonic Inspection of Cylindrical Material

The Model 44 Follower is used in immersion tanks of any depth to maintain precise transducer orientation for ultrasonic inspection of pipes, tubing and round bar stock which may not be straight. It enables up to three tests to be made simultaneously. For bar stock, these tests may consist of the typical longitudinal wave search for central defects plus a two-direction shear wave search for axially-oriented near-surface defects. The latter test can also be applied to pipe and tube inspection while using the third transducer for wall thickness measurement.

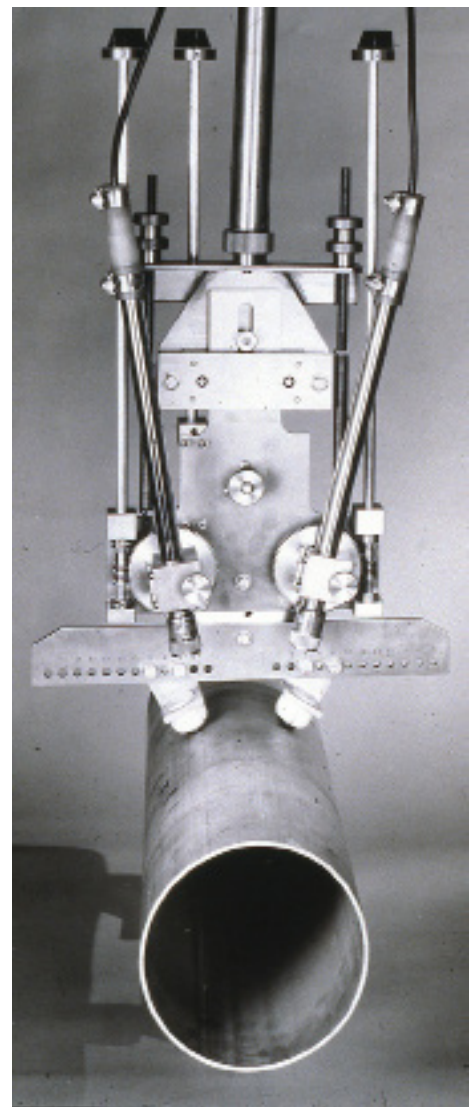
The follower may be attached to the carriage of a scanning bridge by connecting it to the end of a standard 1 3/8 inch diameter search tube held in a heavy-duty positioner (not furnished). Alternatively, it may be secured by special brackets attached between the carriage and the mounting angle on the follower.

Low friction ball transfers are employed to track any helical scan path without chatter or misalignment. Easily replaceable stainless steel balls are standard. Nylon balls can also be supplied. The ball housings are attached to a support bar with multiple mounting locations to enable optimum positioning for any size material. An easily attached optional extender plate lowers the position of the ball support bar to provide for increased transducer water path lengths when desired.

Transducer incidence angles are adjusted through precision worm gear reducers with calibrated control knobs extending upward from the follower mechanism to facilitate adjustment and dial reading in large tanks. Calibration curves are provided which enable transducer incidence angles to be set accurately on materials of all sizes.

The transducers on the same side of the follower plate may be operated in the same plane or one may be offset by inserting a spacer furnished for this purpose.

Counterbalance spring tension is adjustable to control riding pressure over a wide range to suit material surface and straightness conditions.



SPECIFICATIONS				
Material Size Range	1"-24" diameter (other ranges available)			
Displacement Following Range	Vertical	Horizontal		
	Short Extender Plate	1 1/2"	2 1/8"	
	Long Extender Plate	1 1/2"	3"	
Typical Maximum Transducer Water Paths (assuming 1 1/2" transducer length)	Matl. Extender	Lower	Upper	
	Diam. Plate	Positioners	Positioner	
	2" Short	3 3/4"	6 1/4"	
	2" Long	7"	9 3/4"	
	20" Short	2 1/4"	5"	
20" Long	5 3/4"	8 1/2"		
Incidence Angle Control	72:1 worm reducer, dial calibrated every 0.25°			
Ball Positioning	10 locations calibrated in 2" diameter increments from 2"-20" for 60° total arc between balls.			
Search Tubes	Three 3/4" diam. x 12" long tubes with sealed connections to 12 ft. coaxial cables.			
Riding Pressure Adjustment	0-22 pounds following weight.			
Total Weight	29 pounds			
Overall Width	14 1/2"			
Overall Height (to top of angulation knobs)	With short extender plate: 24 7/8"			
	With long extender plate: 28 3/8"			
Follower Material	Stainless steel and brass with nylon ball retainers			

Contact us for more information about our Model 44 Three-Probe Follower.