AIRMO INC.®
PRESSURE TECHNOLOGIES

TESTMASTER®
Hydrostatic Pressure Systems
and Test Tooling

"UNPARALLELED PERFORMANCE AND SAFETY UNDER PRESSURE!"®

TestMaster®

Model 500 Series

Hydrostatic Test Tools

- **Pressures up to 15,000 psi (1,034 bar)**
- **0.25 in. to 3.50 in. OD (6.4 mm to 88.9 mm OD)**
- **Collet grip and retractable seal on tube OD**
- **Air-piloted clamp and release**
- **Pressure-compensated grip**

DESCRIPTION

The TestMaster® Model 500 Series Hydrostatic Test Tool allows production speed hydrostatic testing for tube mills and other applications where accurate, rapid testing is needed. The tool design employs an air-operated mechanism for positive pre-clamp and release of collets. The tube seal retracts during tube loading and removal, greatly enhancing seal life.

The pressure compensated design on the Model 500 Tool places the tube or pipe in tension, using internal pressure to increase grip on the tube OD. This design eliminates the need for tube clamping devices along the tube length. The Model 500 Hydrostatic Test Tool grips and seals on the tube OD. One tool size will accommodate multiple wall thicknesses, while maintaining high fill rates.

The Model 500 Series Tool comes in standard and metric tube, pipe, and fitting sizes from 0.25 in. to 3.50 in. (6.4 mm to 88.9 mm) in diameter. For tube sizes larger than 3.50 in. (88.9 mm), please contact Airmo for specifications and options.

OPERATION

Connect the Model 500 Tool to the air and fluid lines. Apply air pressure to release port to open collets and retract tube seal. Insert the pipe until it is passes the tube seal. Redirect air pressure to clamp port, and the collets and tube seal will engage with the pipe OD. Apply fluid pressure to desired level, ***but do not exceed maximum operating pressure***. After pressure cycle is complete, release all fluid pressure. Finally, release collets as before to remove pipe.

APPLICATION

The TestMaster® Model 500 Series Hydrostatic Test Tool is suitable for hydrostatic pressure testing and hydro-expansion on tubes and pipes with standard OD tolerances with working pressures up to 15,000 psi (1,034 bar). This tool conforms to military, nuclear, automotive, and aerospace testing specifications such as API, ASTM, ASME, ISO, DIN, and BS.

MATERIALS

Wetted Parts:	Heat-treated, stainless steel

TOOL CONFIGURATION

Collet Grip:	On tube OD
Gripping:	Pressure-compensated
Seal:	Retractable seal on tube OD
Mounting:	Tapped holes in body
Actuation:	Air-piloted clamp and release
Air Requirement:	80 to 100 psi (5.5 to 6.9 bar)

OPERATING CONDITIONS

Maximum Pressure:	15,000 psi (1,034 bar)
Temperature:	32° F to 120° F (0° C to 49° C)
Services:	Water and oil
Tube OD Range:	0.25 in. to 3.50 in. (6.4 mm to 88.9 mm)
OD Tolerance:	Standard tube and pipe tolerances

MAXIMUM PRESSURE
15,000 psi
1,034 bar

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Model 500 Series Tool Specifications

Tube OD Range				Overall Length		Body Diameter		Minimum Orifice		Minimum Tube Swallow		Std. Port
Inches*		MM*										
Min.	Max.	Min.	Max.	Inches	MM	Inches	MM	Inches	MM	Inches	MM	
0.25	0.54	6.4	13.7	7.25	184.2	2.50	63.5	0.56	14.2	2.39	60.7	1" MP
0.54	0.84	13.7	21.3	7.65	194.3	3.00	76.2	0.56	14.2	2.78	70.6	1" MP
0.84	1.05	21.4	26.7	7.65	194.3	3.25	82.6	0.56	14.2	2.79	70.9	1" MP
1.05	1.32	26.7	33.4	7.65	194.3	3.50	88.9	0.56	14.2	2.60	66.0	1" MP
1.32	1.66	33.4	42.2	7.65	194.3	3.75	95.3	0.56	14.2	2.65	67.3	1" MP
1.66	1.90	42.2	48.3	7.65	194.3	4.00	101.6	0.56	14.2	2.59	65.8	1" MP
1.90	2.38	48.3	60.3	8.52	216.4	4.75	120.7	0.56	14.2	3.07	78.0	1" MP
2.38	2.88	60.4	73.0	8.52	216.4	5.38	136.5	0.56	14.2	2.88	73.2	1" MP
2.88	3.50	73.1	88.9	8.52	216.4	6.00	152.4	0.56	14.2	2.96	75.2	1" MP

* *Note: Tools are designed for a dedicated tube diameter and do not cover the entire range of tube diameters noted for each body size. A single tube OD must be specified for the collet set.*

Special Configurations Available Upon Request
Automatic Air-Bleed Valve Recommended for Optimal Performance

FEATURES

- **Full-flow, high pre fill rate**
- **Air-actuated collet release**
- **Patented retractable seal design and segmented collets**
- **Built-in tube end tolerances require no square cut ends**
- **Pressure-compensated design**
- **Tube size sets allow rapid changeover between tube sizes**
- **Low marking collet design**
- **Precision-machined from heat-treated stainless steel**
- **Compatible with NuQuip® Automatic Air-Bleed Valve**

BENEFITS

Decreases cycle time
Ensures fast, easy chuck removal
Quick connection to plain end or upset tube or pipe
Lowers machining costs
Contains all high-pressure loads for safe operation
Reduces tooling expense
Prevents tube end collapse and eliminates scrap
Provides long, trouble-free service
Eliminates operator attendance during fill cycle

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