



TM-7 PLUS

Mounted Valve Exerciser

General		Yes	No	Specify
Capacity	Operates all valves 4" (100mm) and larger	X		
Speed	Standard Duty: 18 RPM at rated flow			Select a Model
	Heavy Duty: 16 RPM at rated flow			
Torque	Standard Duty: 0-1,500 ft/lbs fully isolated within equipment's design			Select a Model
	Heavy Duty: 0-2,500 ft/lbs fully isolated within equipment's design			
Supply Requirements	Standard Duty: 6 GPM @ 2,000 PSI (recommended 3-6 GPM variable)			Select a Model
	Heavy Duty: 8 GPM @ 2,000 PSI (recommended 4-8 GPM variable)			
Finish	White & Black, two part powder on carbon steel components	X		

Dexterity		Yes	No	Specify
Range	Complete head coverage within reach over 180 degrees of motion when used in conjunction with Grand LX trailer swivel deck mount (Standard Duty only)			Optional
Reach	21 inches from frame to center of head; 27 inches maximum.	X		
Alignment	Valve key swivel mount allows up to 15 degrees of valve stem misalignment.	X		
Valve Key	Included valve key operates standard AWWA 2" nuts to a depth of 6', rated for 2,500 ft/lbs of torque. Longer, shorter and low clearance keys are available as options.	X		

Operation		Yes	No	Specify
Valve Machine Intelligent Automation (VITALS) Patent: #5,937,373	Wachs valve exercisers utilize proprietary "no assumption" automation technology to safely and effectively turn valves using AWWA recommended procedures. This technology protects the operators by keeping their "hands off" the machine while exercising the valve and protects the valve by not assuming size, direction, or current position. Torque is applied until the device senses resistance, causing the programming and sensors to automatically stop the rotation and reverse in half-turn increments to flush calcification from the valve gate. This patented automation process always exercises valves at the minimum torque required to turn, then automatically lowers the preset threshold once rotation begins so the impact at end of valve travel is soft as possible.	X		
TC-100 Controller (#79-422-05)	Ruggedized Win10 Pro Tablet Controller to operate and collect data for either arm (ERV-750) or slide (TM-6 upgraded & TM-7) style valve exercisers. The TC-100 includes a built-in GPS and bright touch screen display. TC-100 is water resistant and meets IP68 and MIL-STD-810G military specifications. Trimble R2 GPS upgrade kit 79-412-02 (Submeter without subscription or down to Centimeter with subscription service) optionally available.			Optional
Plus Interface	Operated through either proprietary Intelligent Automation (VITALS) or fail-safe manual local interface (Plus) to control torque, direction and turns in the event the computer control is not available. A pressure gauge and corresponding chart assist operator in controlling the power, while a direction control switch and associated bi-directional digital counter keeps track of rotational position.	X		
Operator Safety	No operator support or interaction required during valve exercise, all reaction torque and feedback is absorbed through machine only. This combined with automated control allow the operator to start the exercise then get out of any environmental conditions which might pose a hazard. When combined with optional wireless control tether (#79-419-00), allows operator to monitor and control the exerciser up to 25' away for increased safety.	X		
Bluetooth Tether	Wireless control of your valve exercising machine(s) via a secure Bluetooth connection. Up to 25' range to control the exerciser.	X		
Data Management	Fully compatible with VITALS database, or infraMap with VITALS, Unity with Vitals or Sedaru with Vitals GIS software packages which enable full data logging and synchronization between the handheld and your ArcGIS database. Allows importing/exporting of existing data labels and categories with user defined fields. Conforms to the AWWA Valve Exercising Standard.	X		



Mechanical		Yes	No	Specify
Positioning	TM-7 HD Plus standard on Grand LX Trailer, optional on Standard LX Skid. Driver side mounting for line of sight. Exerciser reach slide locked in place with use of a single, over-center cam.	X		
Materials of Construction	Frame - 3/16" formed carbon steel weldment Exerciser Slide - Cast aluminum alloy Reservoir - 1/8" (10 Ga) cold rolled steel	X		
Torque Measurement	A single pressure transducer combined with an calibration script, samples system pressure in both directions prior to beginning an exercise for precise feedback every exercise.	X		
Drive	Single hydraulic drive motor with spur gear offset drive reduction allowing for pass through of drive key to keep operating head at a consistent and convenient working height.	X		

Power Supply		Yes	No	Specify
Hydraulic Reservoir	10 gallon [37 L] hydraulic reservoir with thermostatic controlled fan cooled heat exchanger (factory set at 120F/49C). Hydraulic circuits controlled via solenoid operated control valve with pressure neutral, return to tank default position or if over temp is signaled (185F/85C). All electrical terminations are Deutsch IP67 waterproof connectors; hydraulic are leak tight JIC or O-ring face. Reservoir cleaning, filler neck and filter all easily accessed through front panel. Instrumentation includes an oil level gauge, temperature gauge, pressure gauge, selector switch for hydraulic circuit with status lights.			Optional
Gas Engine (79-405-00)	Stand alone HTMA Class II Hydraulic Power Supply Skid unit with electric start 16 H.P. Briggs & Stratton Vanguard V-Twin Engine with 10 gallon reservoir, heat exchanger and auxiliary tool circuit. Supplies both hydraulic and 12v power to either TM-7 or ERV-750 valve operators.			Optional