

Standard Builder (Customizable) VMS

Valve Maintenance Skid System

Valve Exercising Equipment		Yes	No	Specify
ERV-750 (#79-404-00) <i>Patents:</i> #9,523,443 #9,188,240 #9,038,667 #8,025,078	An articulating arm, automated valve operator, utilizing proprietary intelligent automation (VITALS) to control torque, direction, and turns. Dual arms (one telescoping) provide 13' [3.9 m] reach over 270 degrees of freedom while automatic hydraulic disk brakes safely secure equipment in any position during operations up to 750 ft/lbs [1016 Nm] of torque. Constructed of 3" [76 mm] square steel tube. Powder coated for long life. A lightweight, telescoping valve key is also provided.			Optional (requires Powerpack with hydraulics & TC-100)
TM-7 HD Plus (#17-405-00) <i>Patent:</i> #5,381,996	Heavy duty, slide style, skid mount valve exerciser operated through either proprietary Intelligent Automation (VITALS) or fail-safe manual local interface (Plus) to control torque, direction, and turns. Rigidly mounted to the skid frame, the 27" [685 mm] head extension safely and securely exercises valves up to 2,500 ft/lbs [2033 Nm] torque. An 8' [2.4 m] long valve key with a 2" [50 mm] universal socket is also provided.			Optional (requires Powerpack with hydraulics & TC-100)
Valve Machine Intelligent Automation (VITALS) <i>Patent:</i> #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.			Included with TC-100 Controller/Data Logger
TC-100 Controller (#79-422-05)	Ruggedized Win10 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
Data Management	Fully compatible with the VITALS database, infraMap with VITALS, Unity with VITALS, or Sedaru with VITALS GIS software packages enabling 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.			Included with TC-100 Controller/Data Logger

Power Pack		Yes	No	Specify
Engine	Kubota 1.1L, I-3 4-stroke, liquid cooled, IDI diesel engine EPA Tier 4F compliant Specify Powerpack #77-260-13 with hydraulics or #77-260-12 with no hydraulics Kohler 27 HP [20.1 KW] gasoline engine, model CH7405 Command Pro27 Specify Powerpack #77-230-13 with hydraulics, #77-230-12 with no hydraulics			Powerpack Option (must match Skid Option)
Fuel Tank	Fabricated 10 gallon (38L) aluminum alloy tank utilizing rolled mid section and stamp formed end caps. Complies with all Federal Motor Carrier Safety Administration requirements for non-side mounted fuel tanks.	X		
Battery	12V, 550 CCA, Size 24 deep cycle battery fully enclosed and mechanically secured.	X		
Controls	Digital tachometer, engine hour meter, volt meter, vacuum gauge, spoils dump switch, spoils door switch, water/vacuum selector switch, arrow board control and service light switch.	X		
Vacuum Pump	Clutch operated, dual belt drive, positive displacement rotary lobe (Roots Type) blower. Vacuum performance of 500 CFM [14 CMM] @ 11 inches of Hg [37.2 kPa] produces conveying velocity rating of 10,185 FPM [3,104 MPM] through 3" [76 mm] hose.	X		
Pressure Washer Pump	Clutch operated, dual belt drive, 2.5 GPM [9.4 lpm] @ 3,000 PSI [206 BAR] pump.	X		
Hydraulic System	HTMA class II direct-coupled pump rated at 8 GPM [30 LPM] @ 2,000 PSI [138 BAR] continuous duty. 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; hydraulics are leak-tight JIC or O-ring face. Reservoir cleaning, filler neck, and filter are all easily accessed through the front panel. Instrumentation includes an oil level gauge, temperature gauge, pressure gauge, and selector switch for the hydraulic circuit with status lights.			Included with either 77-260-13 or 77-230-13 Powerpack

Spoils - Rear Discharge (pump specifications in the Power Pack section)		Yes	No	Specify
Debris Holding Tank	150 gallon [946 L] holding capacity. Top hinged full opening dump door with twin hydraulic remote operation door latches, sure seal square gasket, vacuum break valve, 6" [152 mm] mechanical ball shut-off, and 3" [76 mm] dump valve (#77-433-02)	X		Spoils Tank Option (250 Gallon Best Value)
	250 gallon [946 L] holding capacity. Top hinged full opening dump door with twin hydraulic remote operation door latches, sure seal square gasket, vacuum break valve, 6" [152 mm] mechanical ball shut-off, and 3" [76 mm] dump valve (#77-431-02-00)			
	350 gallon [946 L] holding capacity. Top hinged full opening dump door with twin hydraulic remote operation door latches, sure seal square gasket, vacuum break valve, 6" [152 mm] mechanical ball shut-off, and 3" [76 mm] dump valve (#77-432-02-00)			
Filtration	Staged filtration consisting of a heavy material drop out debris tank and a self-contained multi-stage filter canister with a 10 micron polyester reusable cartridge. All filters washable and reusable.	X		
Dumping	Twin cylinder, electric over hydraulic dump system, powered by Monarch HPU. The slide and tip system moves the tank out before tilting to clear the truck/trailer bed for dumping, then lifts to 55 degrees to drop debris.	X		
Dump Chute	10 gauge, rolled Stainless Steel	X		
Hose and Wands	3" x 20' [76 mm x 6 m] suction hose with 2.5" [63 mm], 1.25" [31 mm] and .875" [22 mm] x 8' [2.4 m] long steel suction wands.	X		

Pressure Washer (pump specifications in the Power Pack section)		Yes	No	Specify
Water Holding Tank	100 gallon [378 L] clean water holding tank with 8" [203 mm] fill lid and back flow protected quick fill port at rear of skid.	X		
Winterizing	Low point drain for held water & recirculation system allows operation in sub-zero temperatures. A separate (3) gallon [11 L] antifreeze tank with two position selector valve allows pump to source antifreeze and prime entire system.	X		
Hose and Wands	50' [15.2 m] hose on spring rewind hose reel uses quick disconnects to change between the (2) included wands; one with a zero degree nozzle for digging and 45 degree, fan wash down "Shorty" wand.	X		
Hot Water Heater (#77-414-02)	Optional for cold weather climes, used in conjunction with 2.5 GPM [9.4 LPM] at 3000 PSI [206 BAR] pressure washer, diesel fired water heater produces 197,000 BTUs of energy. Adjustable to 210 degrees F [98 degrees C], the unit has flow and temperature limit switches to maintain safe operation.			Optional

Skid		Yes	No	Specify
Frame	A36 formed steel fabrication utilizing 1/4" thick material on structural tube frames and 3/16" thick material elsewhere; welded in accordance with AWS D1.3/D1.3M:2018 & AWS D1.1/D1.1M:2015 standards. (77-000-60 for Diesel)	X		Skid Option (must match Powerpack Option)
	A36 formed steel fabrication utilizing 1/4" thick material on structural tube frames and 3/16" thick material elsewhere; welded in accordance with AWS D1.3/D1.3M:2018 & AWS D1.1/D1.1M:2015 standards. (77-000-61 for Gas)			
Storage	Integrated storage for (3) 8' long vacuum wands in the dedicated magazine, (2) pressure washer wands in the dedicated magazine, telescoping valve key for ERV-750 in quick access tray, and long storage for Valve Nut Rx (optional) or TM-7 valve keys (optional).	X		
Access	Arrangement and features provide for safe work flow, operational interfaces and access to features provided either curb side or at the rear of skid (irrespective options)	X		
Lifting	2X fork lift points at both the rear of the frame and a second set curb side assessable through removable service covers.	X		
Finish	Entire fabricated skid is solvent washed and phosphoric etched. All seams are caulked then a two part urethane paint (color black) applied.	X		

LX Features		Yes	No	Specify
Job Box (#77-409-00)	Heavy duty, locking, polished diamond plate job box. (Not available when TM-7 HD Plus is optioned)			Optional
Service Lighting (#77-420-00)	Programmable eight-function arrow board light bar features six lighting sections, dual-mounted swiveling halogen work lights, and a control box.			Optional
Bluetooth Tether	Wireless control of your valve exercising machine(s) via a secure Bluetooth connection. Up to 25' range to control the exerciser.			Included with Optional Valve Machines
Hydraulic Hose Reel (#77-413-05)	50' [15.2 m] spring rewind hose reel with quick disconnects for auxiliary hydraulic power.			Optional (requires Powerpack with hydraulics)