



777 DOHENY COURT
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NORTHVILLE MI 48167

t 248.349.0904
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To: City of Traverse City
Office of the City Manager
400 Boardman Avenue
Traverse City, MI 49684

Date: February 10, 2015

Attn: Julie Dalton
Email: jdalton@traversecitymi.gov

Phone: 231-922-4440
Fax: 231-922-4476

We are pleased to submit a quotation for the equipment listed below.

One (1) Demo Standard LX – Valve Maintenance Trailer with the following:

- Wachs 750 Ft/lb (1020 Nm) Extended Reach Valve operator
- Telescoping valve key and ruggedized Recon controller.
- A Caterpillar/Perkins 29 HP (21.3 kW) liquid cooled
- DFI diesel engine provides ample power for all contained functions
- Auxiliary HTMA Class II circuit
- 10 gallon (38 L) reservoir
- Fan cooled heat exchanger
- Continuous duty rated for 8 GPM (30.3 LPM) @ 1,800 PSI (125 bar).
- A positive displacement blower provides 500 CFM (14.2 cmm)-11" (280mm) Hg vacuum, with spoils containment provided by a 250 (950 L) gallon tank with power hydraulic dump (rear exchange) and latching rear door.
- Also driven from the common power train is a 2.5 gpm (9.5 LPM) @ 3000 PSI (210 bar) pressure washer system with 3 gallon (11.4 L) anti-freeze tank and 95 gallon (360 L) water tank. Includes 2-1/2" (63.5 mm), 1-1/4" (31.75mm) & (22mm) suction wands and one each short and long wash-down guns.
- The LX package bundles the light bar with arrow board, 45' (14m) auxiliary hydraulic hose reel for operation of hydraulic power tools and 24"(61cm) x 18" (46cm) aluminum job box.
- GPS (79-411-00)
- 200,000 BTU Water Heater

Sale Price \$62,500.00

*Acceptance of this quote is subject to availability of unit

WARRANTY: NEW MACHINE WARRANTY

Price does not include state sales tax or license fees, if applicable

This quotation becomes a contract for delivery and payment of the merchandise listed above only when signed by the customer or one of its officers.

Customer: _____

By: _____

Date: _____

Keith Veros – 248-798-9858
JACK DOHENY SUPPLIES, INC.

**Bidder Proposes
To Furnish**

Articulating arm, automated valve operator utilizing intelligent automation to control torque, direction and turns. Twin arms (one telescoping) provide 13' reach over 270 degrees of freedom while hydraulic disk brakes secure exerciser capable of 750 Ft-Lb of torque. Constructed of 3" square steel tube and powder coated for long life. Valve key shall be light weight and telescoping.

Comply

Valve exerciser to utilize a "no assumption" automated technology to safely and effectively turn valves using AWWA recommended procedures.

Comply

This technology shall utilize "hands off" the machine while exercising the valve and protect the valve by not assuming size, direction or current position. Allowing the machine to use the path of least resistance, the programming and sensors will automatically stop the rotation and reverse in half turn increments to flush calcification from valve gate. The automation should be of the design to always exercise the valve at the minimum torque required to turn, and then automatically lower the preset threshold once rotation begins so impact at the end of valve travel is soft as possible.

Comply

The controller and data collector shall be a HC-100 or approved equal. Shall be a ruggedized handheld controller with built in GPS, with a bright touch screen that is water resistant and meets military specifications. Shall have Bluetooth wireless technology and have a USB port. The built in GPS shall be a high-sensitivity GPS/GLONASS/SBAS receiver with a 2-5 meter typical accuracy. Shall have a built in 5 megapixel resolution that can geotag photos with a date, time and GPS position. The controller and data collector shall have a 3 year warranty. Shall include 12v DC vehicle charger, AC wall charger, USB sync cable, machine control cable, screen protector & come preloaded with Vitals Mobile software.

Comply

The software on the controller/collector shall be Microsoft Windows Mobile Office Suite 2010 along with Microsoft Windows Embedded Handheld 6.5.3 Data management and shall be fully compatible with either VITALS or infraMap with VITALS software packages to enable full data logging and synchronization between the hand held and desktop GIS. Allows importing of existing data labels and categories with user defined fields.

Comply

**Bidder Proposes
To Furnish**

Exception -
~~Caterpillar/Perkins~~
Diesel 29HP

Engine shall be a Kubota 1.1L I-3 4-stroke, liquid cooled, IDI diesel engine EPA tier 4F & EU stage IIIA emission compliant.

To be equipped with a digital tachometer, engine hour meter, volt meter, vacuum gauge, spoils and door dump switches, water/vacuum selector switch, arrow board control and service light switch.

Comply

Vacuum Pump to be clutch operated, dual belt drive, positive displacement rotary lobe (Roots Type) blower. Vacuum performance of 500 CFM @ 11 inches of Hg produces conveying velocity rating of 10,185 FPM through 3" hose.

Comply

Pressure washer pump shall be a clutch operated, dual belt drive, 2.5 GPM @ 3000 PSI pump. 3 gallon antifreeze tank with two position selector valve.

Comply

Water heater used in conjunction with Pressure washer pump stated above; be diesel fired water heater producing 197,000 BTUs of energy. Adjustable to 210 F, and will have flow and temperature limit switches to maintain safe operation.

Comply

90 gallon clean water holding tank with 8" fill neck.

Exceed - 95 gallon tank

Hose shall be 50' hose on spring rewind hose reel with quick disconnects to change between the included wands; one with a zero degree nozzle for digging and 45 degree, fan wash down "shorty" wand.

Comply

Hydraulic system direct coupled pump rated at 8GPM @1800 psi continuous duty. 10 gallon hydraulic reservoir with thermostatic controlled fan cooled heat exchanger. Instrumentation includes an oil level gauge, temperature gauge, pressure gauge and selector valve switching to a HTMA class II auxiliary hydraulic circuit.

Comply

Debris holding tank shall have a 250 gallon holding capacity. Top hinged full opening dump door with twin hydraulic remote operation door latches, sure seal square gasket, vacuum break valve 6" mechanical ball shut-off and 3" dump valve.

Comply

Staged filtration 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 re-usable.

Comply

**Bidder Proposes
To Furnish**

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.

_____ Comply _____

Hose shall be a 3" by 20' suction hose with 2 1/2", 1 1/4" and 7/8" by 8' long steel suction wands.

_____ Comply _____

Trailer shall be 7,000 lb GVWR trailer with a single axle, independent torsion suspension with electric brakes. All structural steel construction (no tubing) with metal deck.

_____ Comply _____

Lighting shall be DOT approved LED lighting with Weather pack environmentally sealed connectors.

_____ Comply _____

Finish is to be that of high quality paint or powder coat in such design to resist rust and corrosion.

_____ Comply _____

Unit shall have a Pintle hitch with safety chains.

_____ Comply _____

Unit shall meet or exceed all OSHA, ANSI and State and Federal Motor Vehicle Safety standards where applicable.

_____ Comply _____

Unit shall have a heavy duty locking job box.

_____ Comply _____

Service lighting shall include a programmable arrow board includes eight function control box with eight individual segments and two mounted halogen swiveling work lights.

_____ Comply _____

Shall have Bluetooth Tether wireless control of the valve exercising machine using a secure Bluetooth connection.

_____ Comply _____

Hydraulic hose reel shall have a 50' spring rewind hose reel for auxiliary hydraulic power with quick disconnects.

_____ Comply _____

Unit to include two (2) operator/owner manuals. Unit also to include a parts/repair manual (CD is allowed and preferred).

_____ Comply _____

Please direct ALL questions to: Dave Courtad, Garage Superintendent, City of Traverse City, at 231-922-4900, ext. 111.

Submitted by:

Gary Mapes
Signature

Gary Mapes, Senior Vice President
Name and Title (Print)

248-349-0904 248-349-2774
Phone Fax

Jack Doheny Companies, Inc.
Company Name

P.O. Box 609
Company Address

Northville MI 48167
City, State, Zip

Corporation
Sole proprietorship/partnership/corporation

Michigan
If corporation, state of corporation



E.H. WACHS®

A Division of ITW

Superior Equipment. Complete Support.™

Water Utility Products

455 Comanche Circle | Harvard, IL 60033

T: +1.815.943.4785 | F: +1.815.943.5098

ehwachs.com

Quotation

Page 1 of 2

TO: **Dave Courtad**
City of Traverse City
400 Boardman Avenue
Traverse City, MI 49684

Date: 2/9/2015
Quotation Number: KR75846
Payment Terms:
Shipping Terms: FOB Destination
Valid Through: 4/10/2015
Reference: KR75006

E.H. Wachs is pleased to offer the following quotation.

Item Number	Description	Qty	U/M	Unit Price (USD)	Line Total (USD)
1	77-000-38 Standard LX (Diesel) - VMT: Single turner valve maintenance trailer; includes Wachs 750 Ft/lb (1020 Nm) Extended Reach Valve operator, telescoping valve key and Wachs ruggedized HC-100 with GPS controller/datalogger. A Tier 4F compliant, Kubota 1.1L, I-3 4-stroke, liquid cooled, IDI diesel engine provides ample power for all contained functions, including an auxiliary HTMA Class II circuit; 10 gallon (38 L) reservoir, fan cooled heat exchanger, continuous duty rated for 8 GPM (30.3 LPM) @ 1,800 PSI (125 bar). A positive displacement blower provides 500 CFM (14.2 cmm)-11" (280mm) Hg vacuum, with spoils containment provided by a 250 (950 L) gallon tank with power hydraulic dump (rear discharge) and latching rear door. Also driven from the common power train is a 2.5 gpm (9.5 LPM) @ 3000 PSI (210 bar) pressure washer system with 3 gallon (11.4 L) anti-freeze tank and 95 gallon (360 L) water tank. Includes 2-1/2" (63.5mm), 1-1/4" (31.75mm) & 7/8" (22mm) suction wands and one each short and long wash-down guns. The LX package bundles the light bar with arrow board, 45' (14 M) auxiliary hydraulic hose reel for operation of hydraulic power tools and 24" (61cm) X 18" (46cm) x 18" (46cm) aluminum job box. Domestic destination and freight charges included. Already GPS enabled, however adding option 79-412-01 (Pathfinder Pro 6T) for Submeter accuracy or 79-412-02 (Pathfinder Pro 6H) for Decimeter accuracy.	1	EA	60,245.00	60,245.00
2	77-414-01 HOT WATER KIT	1	EA	6,500.00	6,500.00
3	79-419-00 Bluetooth Adapter for ERV or TM-7. Allows connection between machine and controller to function either wirelessly or tethered.	1	EA	500.00	500.00
4	79-412-02 Pathfinder Pro 6H Decimeter GPS Receiver with Floodlight; provides "Decimeter" accuracy with Floodlight Technology to deliver dramatic improvements when working in urban canyons and under tree canopy. This unit is a stand alone Pathfinder GPS receiver which includes the NEMA output option (required when utilizing Vitals or other third party software) that pairs via Bluetooth wireless communication to the Recon or other supported data collector. Also included are Ram Mount interfaces for the TM-7 & ERV-750 valve machines.	1	EA	7,230.00	7,230.00
5	79-110-13 **Optional**HC-100 Extended Protection Plan (3 YR): The ultimate in "worry-free" maintenance and product protection. Includes expedited services, accidental damage and loaner coverages. Consult the Complete Care brochure for details.	1	EA	1,425.00	1,425.00
				Quote Total (USD)	\$75,900.00

Please refer to our [website](#) for terms and conditions.



Water Utility Products
455 Comanche Circle | Harvard, IL 60033
T: +1.815.943.4785 | F: +1.815.943.5098
ehwachs.com

Quotation

Page 2 of 2

TO: Dave Courtad

Date: 2/9/2015
Quotation Number: KR75846

Thank you for the opportunity to quote your application needs. If you have any questions or if I may be of any further assistance to you please do not hesitate to notify me.

(SALES TAX!!!!) We collect sales tax in all but the following states: AK, DE, MT, OR and NH. If you are tax exempt please supply your identification number and certificate with your order. If your exempt number is not on file, tax will be added to your order.

Ken Redding
Utility Technical Sales Rep
815-943-4785 x2773
kredding@ehwachs.com

**Bidder Proposes
To Furnish**

Articulating arm, automated valve operator utilizing intelligent automation to control torque, direction and turns. Twin arms (one telescoping) provide 13' reach over 270 degrees of freedom while hydraulic disk brakes secure exerciser capable of 750 Ft-Lb of torque. Constructed of 3" square steel tube and powder coated for long life. Valve key shall be light weight and telescoping.

Yes

Valve exerciser to utilize a "no assumption" automated technology to safely and effectively turn valves using AWWA recommended procedures.

Yes

This technology shall utilize "hands off" the machine while exercising the valve and protect the valve by not assuming size, direction or current position. Allowing the machine to use the path of least resistance, the programming and sensors will automatically stop the rotation and reverse in half turn increments to flush calcification from valve gate. The automation should be of the design to always exercise the valve at the minimum torque required to turn, and then automatically lower the preset threshold once rotation begins so impact at the end of valve travel is soft as possible.

Yes

The controller and data collector shall be a HC-100 or approved equal. Shall be a ruggedized handheld controller with built in GPS, with a bright touch screen that is water resistant and meets military specifications. Shall have Bluetooth wireless technology and have a USB port. The built in GPS shall be a high-sensitivity GPS/GLONASS/SBAS receiver with a 2-5 meter typical accuracy. Shall have a built in 5 megapixel resolution that can geotag photos with a date, time and GPS position. The controller and data collector shall have a 3 year warranty. Shall include 12v DC vehicle charger, AC wall charger, USB sync cable, machine control cable, screen protector & come preloaded with Vitals Mobile software.

Yes

The software on the controller/collector shall be Microsoft Windows Mobile Office Suite 2010 along with Microsoft Windows Embedded Handheld 6.5.3 Data management and shall be fully compatible with either VITALS or infraMap with VITALS software packages to enable full data logging and synchronization between the hand held and desktop GIS. Allows importing of existing data labels and categories with user defined fields.

Yes

**Bidder Proposes
To Furnish**

Engine shall be a Kubota 1.1L I-3 4-stroke, liquid cooled, IDI diesel engine EPA tier 4F & EU stage IIIA emission compliant.

Yes

To be equipped with a digital tachometer, engine hour meter, volt meter, vacuum gauge, spoils and door dump switches, water/vacuum selector switch, arrow board control and service light switch.

Yes

Vacuum Pump to be clutch operated, dual belt drive, positive displacement rotary lobe (Roots Type) blower. Vacuum performance of 500 CFM @ 11 inches of Hg produces conveying velocity rating of 10,185 FPM through 3" hose.

Yes

Pressure washer pump shall be a clutch operated, dual belt drive, 2.5 GPM @ 3000 PSI pump. 3 gallon antifreeze tank with two position selector valve.

Yes

Water heater used in conjunction with Pressure washer pump stated above; be diesel fired water heater producing 197,000 BTUs of energy. Adjustable to 210 F, and will have flow and temperature limit switches to maintain safe operation.

Yes

90 gallon clean water holding tank with 8" fill neck.

Yes

Hose shall be 50' hose on spring rewind hose reel with quick disconnects to change between the included wands; one with a zero degree nozzle for digging and 45 degree, fan wash down "shorty" wand.

Yes

Hydraulic system direct coupled pump rated at 8GPM @1800 psi continuous duty. 10 gallon hydraulic reservoir with thermostatic controlled fan cooled heat exchanger. Instrumentation includes an oil level gauge, temperature gauge, pressure gauge and selector valve switching to a HTMA class II auxiliary hydraulic circuit.

Yes

Debris holding tank shall have a 250 gallon holding capacity. Top hinged full opening dump door with twin hydraulic remote operation door latches, sure seal square gasket, vacuum break valve 6" mechanical ball shut-off and 3" dump valve.

Yes

Staged filtration 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 re-usable.

Yes

**Bidder Proposes
To Furnish**

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.

Yes

Hose shall be a 3" by 20' suction hose with 2 1/2", 1 1/4" and 7/8" by 8' long steel suction wands.

Yes

Trailer shall be 7,000 lb GVWR trailer with a single axle, independent torsion suspension with electric brakes. All structural steel construction (no tubing) with metal deck.

Yes

Lighting shall be DOT approved LED lighting with Weather pack environmentally sealed connectors.

Yes

Finish is to be that of high quality paint or powder coat in such design to resist rust and corrosion.

Yes

Unit shall have a Pintle hitch with safety chains.

Yes

Unit shall meet or exceed all OSHA, ANSI and State and Federal Motor Vehicle Safety standards where applicable.

Yes

Unit shall have a heavy duty locking job box.

Yes

Service lighting shall include a programmable arrow board includes eight function control box with eight individual segments and two mounted halogen swiveling work lights.

Yes

Shall have Bluetooth Tether wireless control of the valve exercising machine using a secure Bluetooth connection.

Yes

Hydraulic hose reel shall have a 50' spring rewind hose reel for auxiliary hydraulic power with quick disconnects.

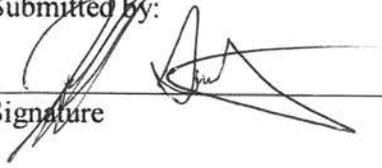
Yes

Unit to include two (2) operator/owner manuals. Unit also to include a parts/repair manual (CD is allowed and preferred).

Yes

Please direct ALL questions to: Dave Courtad, Garage Superintendent, City of Traverse City, at 231-922-4900, ext. 111.

Submitted by:



Signature

Jeff Swiatowy/Business Unit Manager

Name and Title (Print)

815-943-4785 815-943-5098

Phone Fax

E.H. Wachs

Company Name

455 Comanche Circle

Company Address

Harvard, IL. 60033

City, State, Zip

Corporation

Sole proprietorship/partnership/corporation

Delaware

If corporation, state of corporation

Valve Maintenance Trailer

Standard LX

77-000-36 Gas & 77-000-38 Diesel

The Standard LX VMT combines all the necessary features required for valve maintenance (hydro-excavation & valve turning) plus added all of the more common accessory features (light bar, job box, auxiliary hydraulic hose reel) on a single axle, structural steel framed trailer.



Power Pack (26.5 HP Diesel shown) combines Pressure Washer Pump, Hydraulic Pump & Vacuum Pump



Pressure Washer Hose Reel & Wand/Pressure Washer Gun Storage



Light Bar with Service Lights

ERV-750 & Auxiliary Hydraulic Hose Reel



Environmentally protected Control Panel, Locking Job Box & Class II Hydraulic System

Standard LX - Valve Maintenance Trailer System

Valve Exercising Equipment		Yes	No	Specify
ERV-750	Articulating arm, automated valve operator utilizing patented intelligent automation to control torque, direction and turns. Twin arms (one telescoping) provide 13' [3.9 m] reach over 270 degrees of freedom while hydraulic disk brakes safely secure exerciser capable of 750 Ft-Lb [1016 Nm] of torque. Constructed of 3" [76 mm] square steel tube and powder coated for long life. A light weight, telescoping valve key is also provided.	X		
Valve Machine Intelligent Automation	Wachs valve exercisers utilize patented "no assumption" automation technology to safely and effectively turn valves using AWWA recommended procedures. This technology protects the operators by keeping "hands off" the machine while exercising the valve and protects the valve by not assuming size, direction or current position. Allowing the machine to follow the path of least resistance, the programming and sensors automatically stop the rotation and reverse in half turn increments as to flush calcification from valve gate. This patented automation always exercises valve at the minimum torque required to turn, then automatically lowers preset threshold once rotation begins so impact at end of valve travel is soft as possible.	X		
Recon Controller	Ruggedized PDA style handheld controller to operate and collect data for either arm (ERV-750) or slide (TM-6 upgraded & TM-7) style valve exercisers. Rugged handheld controller with bright touch screen is water resistant and meets and military specifications. Available as a Recon upgrade is GPS Kit 79-411-00 or Submeter GPS Kit 79-413-00.	X		
Data Management	Fully compatible with either VITALS or infraMap with VITALS software packages which enable full data logging and synchronization between the handheld and your desktop GIS. Allows importing of existing data labels and categories with user defined fields.	X		
Power Pack		Yes	No	Specify
Engine	Caterpillar/Perkins 29 HP [21.6 KW], liquid cooled, DFI, diesel engine EPA Tier 4i & EU Stage IIIA emission compliant (trailer #77-000-38) Kohler 27 HP [20.1 KW] gasoline, model CH7405 Command Pro27 (trailer #77-000-36)	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. 3 gallon [11 L] antifreeze tank with two position selector valve.	X		
Hydraulic System	Direct coupled pump rated at 8 GPM [30 LPM] @ 1,800 PSI [124 BAR] continuous duty. 10 gallon [37 L] hydraulic reservoir with thermostatic controlled fan cooled heat exchanger. Instrumentation includes an oil level gauge, temperature gauge, pressure gauge and selector valve switching to a HTMA class II auxiliary hydraulic circuit.	X		

Standard LX - Valve Maintenance Trailer System

Spoils - Rear Discharge (pump specifications in the Power Pack section)		Yes	No	Specify
Debris Holding Tank	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.	X		
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		
Hose and Wands	3" x 20' [76 mm x 6 m] suction hose with 2-1/2" [63 mm], 1 1/4" [31 mm] and 7/8" [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 Tank	90 gallon [340 L] clean water holding tank with 8" [203 mm] fill neck.	X		
Hose and Wands	50' 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		
Water Heater	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

Trailer		Yes	No	Specify
Frame	7,000 Lb [3175 Kg] GVWR trailer with single axle, independent torsion wheel suspension with electric brakes. All structural steel construction (no tubing) with metal deck. Tongue weight is 850 Lb [386 Kg] dry.	X		
Lighting	DOT approved LED lighting with Weather Pack environmentally sealed connectors.	X		
Finish	Entire trailer is solvent washed and phosphoric etched. All seams are caulked then a two part urethane paint (color white/black) applied. A durable plastic bed lining product is then applied to trailer deck and fender fronts.	X		
Pintle Hitch	Pintle with Safety Chains	X		
Safety Compliance	Member of the National Association of Trailer Manufacturers (NATM) and verified compliant with NATM Guidelines. Guidelines are a compilation of federal safety standards and regulations along with industry best practices that govern trailer construction. Compliant manufacturers have had a third-party expert verify their processes are designed to produce trailers which meet Federal Motor Vehicle Safety Standards and recommended industry practices. It signifies a commitment to safety.	X		

LX Package		Yes	No	Specify
Job Box	Heavy duty, locking, polished diamond plate job box.	X		
Service Lighting	Programmable arrow board includes eight function control box with eight individual segments and (2) mounted halogen swiveling work lights	X		
Hydraulic Hose Reel	50' [15.2m] spring rewind hose reel for auxiliary hydraulic power with quick disconnects.	X		

PRODUCT SPECIFICATIONS

Standard LX – Valve Maintenance Trailer

Valve Exercising Equipment		Yes	No	Specify
ERV-750	Articulating arm, automated valve operator utilizing patented intelligent automation to control torque, direction and turns. Twin arms (one telescoping) provide 13' [3.9 m] reach over 270 degrees of freedom while hydraulic disk brakes safely secure exerciser capable of 750 Ft-Lb [1016 Nm] of torque. Constructed of 3" [76 mm] square steel tube and powder coated for long life. A light weight, telescoping valve key is also provided.	X		
Valve Machine Intelligent Automation	Wachs valve exercisers utilize patented "no assumption" automation technology to safely and effectively turn valves using AWWA recommended procedures. This technology protects the operators by keeping "hands off" the machine while exercising the valve and protects the valve by not assuming size, direction or current position. Allowing the machine to follow the path of least resistance, the programming and sensors automatically stop the rotation and reverse in half turn increments as to flush calcification from valve gate. This patented automation always exercises valve at the minimum torque required to turn, then automatically lowers preset threshold once rotation begins so impact at end of valve travel is soft as possible.	X		
HC-100	Ruggedized PDA style handheld controller to operate and collect data for either arm (ERV-750) or slide (TM-6 upgraded & TM-7) style valve exercisers. Rugged handheld controller with built in GPS, the bright touch screen is water resistant and meets military specifications. Available as a GPS upgrade kit 79-412-01 Pro 6T (Submeter) or 79-412-02 Pro 6H (Decimeter).	X		
Data Management	Fully compatible with either VITALS or infraMap with VITALS software packages which enable full data logging and synchronization between the handheld and your desktop GIS. Allows importing of existing data labels and categories with user defined fields.	X		

Power Pack		Yes	No	Specify
Engine	Kubota 1.1L, I-3 4-stroke, liquid cooled, IDI diesel engine EPA Tier 4F & EU Stage IIIA emission compliant (trailer #77-000-38)	X		
	Kohler 27 HP [20.1 KW] gasoline, model CH7405 Command Pro27 (trailer #77-000-36)			
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		

PRODUCT SPECIFICATIONS

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. 3 gallon [11 L] antifreeze tank with two position selector valve.	X		
Hydraulic System	Direct coupled pump rated at 8 GPM [30 LPM] @ 1,800 PSI [124 BAR] continuous duty. 10 gallon [37 L] hydraulic reservoir with thermostatic controlled fan cooled heat exchanger. Instrumentation includes an oil level gauge, temperature gauge, pressure gauge and selector valve switching to a HTMA class II auxiliary hydraulic circuit.	X		

Spoils - Rear Discharge (pump specifications in the Power Pack section)		Yes	No	Specify
Debris Holding Tank	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.	X		
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		
Hose and Wands	3" x 20' [76 mm x 6 m] suction hose with 2-1/2" [63 mm], 1 1/4" [31 mm] and 7/8" [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 Tank	90 gallon [340 L] clean water holding tank with 8" [203 mm] fill neck.	X		
Hose and Wands	50' 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		
Water Heater	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

PRODUCT SPECIFICATIONS

Trailer		Yes	No	Specify
Frame	7,000 Lb [3175 Kg] GVWR trailer with single axle, independent torsion wheel suspension with electric brakes. All structural steel construction (no tubing) with metal deck. Tongue weight is 850 Lb [386 Kg] dry.	X		
Lighting	DOT approved LED lighting with Weather Pack environmentally sealed connectors.	X		
Finish	Entire trailer is solvent washed and phosphoric etched. All seams are caulked then a two part urethane paint (color white/black) applied. A durable plastic bed lining product is then applied to trailer deck and fender fronts.	X		
Pintle Hitch	Pintle with Safety Chains	X		
Safety Compliance	Member of the National Association of Trailer Manufacturers (NATM) and verified compliant with NATM Guidelines. Guidelines are a compilation of federal safety standards and regulations along with industry best practices that govern trailer construction. Compliant manufacturers have had a third-party expert verify their processes are designed to produce trailers which meet Federal Motor Vehicle Safety Standards and recommended industry practices. It signifies a commitment to safety.	X		

LX Package		Yes	No	Specify
Job Box	Heavy duty, locking, polished diamond plate job box.	X		
Service Lighting	Programmable arrow board includes eight function control box with eight individual segments and (2) mounted halogen swiveling work lights	X		
Bluetooth Tether	Wireless control of your valve exercising machine(s) via a secure Bluetooth connection.	X		
Hydraulic Hose Reel	50' [15.2m] spring rewind hose reel for auxiliary hydraulic power with quick disconnects.	X		

E.H. Wachs Equipment Warranty

This Equipment Warranty applies to all E. H. Wachs new, used, and repaired machines, components or accessories that have been manufactured by E. H. Wachs, under the following warranty policies, extended to the original purchaser only.

1. 1 year Warranty

E.H. Wachs warrants that all parts and equipment manufactured by Wachs shall be free from defects in material and workmanship under normal use and service for a period of 1 year from ship date. Wachs obligation under this warranty shall be limited to the repair or replacement of any parts or equipment that, upon examination by Wachs, shall be deemed defective. Wachs shall assign manufacturer warranties for parts and equipment manufactured by others, such as motors, engines, tires, etc. Purchaser shall use Wachs parts or equipment according to the directions or operating manual furnished. Any failure by the purchaser to properly use the parts or equipment shall absolve Wachs of all warranty liabilities and obligations hereunder.

2. Warranty Limitations

E.H. Wachs warranties do not extend to normal wear and maintenance, or to any parts or equipment subjected to misuse, neglect, accident, improper maintenance, altered or modified. No person, agent, distributor, dealer, service station or company is authorized to change, modify, or extend the terms of these warranties in any manner whatsoever. The repair warranty is limited to the items replaced at the time of repair.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED, IMPLIED, OR STATUTORY OF E.H. WACHS, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL WACHS BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

PURCHASER RESPONSIBILITIES

WACHS warranties are expressly subject to the following conditions:

- You must contact E.H. WACHS to receive a Return Materials Authorization number (RMA)
- You must notify E.H. WACHS of any defect you may discover in parts or equipment within 1 year (of ship date) and such notice must be made to Wachs at:

Phone: (847) 537-8800

Phone: (800) 323-8185

Fax: (847) 520-1147

Address: E. H. Wachs

600 Knightsbridge Parkway

Lincolnshire, IL 60069₁

TO SERVE YOU BETTER, WE ASK THAT THE PERSON RESPONSIBLE FOR MAINTENANCE OR USE OF THIS EQUIPMENT PLEASE REGISTER YOUR NEW TOOL WITH E.H. WACHS BY COMPLETING AND FAXING THE WARRANTY REGISTRATION REPLY FORM. KEEP THIS INFORMATION WITH YOUR EQUIPMENT RECORDS.

HAVING THIS INFORMATION ON HAND FOR YOUR REFERENCE AIDS US IN HELPING YOU ANY TIME SERVICE MAY BE REQUIRED.