

DEPARTMENTAL INPUT

CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

New
 OTR
 Sole Source
 Bid Waiver
 Emergency
 Previous Contract/Project No. N/A

Contract
 Re-Bid
 Other
 LIVING WAGE APPLIES: YES
 NO

Requisition No./Project No.: RQWS1500017
 TERM OF CONTRACT YEAR(S) WITH YEAR(S) OTR

Requisition /Project Title: Purchase of Valve Maintenance Trailers

Description: Miami-Dade County's Water & Sewer Department requires two (2) valve maintenance trailers to be purchased to conduct routine service/maintenance at their Water Treatment Plants. There is only one vendor in the marketplace with equipment that meets the Department's need

Issuing Department: WASD
 Contact Person: Tracey Jones
 Phone: 305-375-4803

Estimate Cost: \$131,320.00

Funding Source: GENERAL
FEDERAL
OTHER Proprietary

ANALYSIS

Commodity Codes:	070-59	 	 	 	
Contract/Project History of previous purchases three (3) years Check here <input type="checkbox"/> if this is a new contract/purchase with no previous history.					
	EXISTING	2ND YEAR	3RD YEAR		
Contractor:	 	 	 		
Small Business Enterprise:	 	 	 		
Contract Value:	\$ 	\$ 	\$ 		
Comments:	 				
Continued on another page (s): <input type="checkbox"/> YES <input type="checkbox"/> NO					

RECOMMENDATION

	Set-aside	Sub-contractor goal	Bid preference	Selection factor
SBE	 	 	 	
Basis of recommendation:				
 				
Signed: Tracey Jones		Date sent to SBD: 6/25/15		
Also send to: oca@miamidade.gov		Date returned to DPM: 		

Scope: Miami-Dade County Water and Sewer Department Valve Maintenance Trailers

Miami-Dade County Water and Sewer Department requires a quantity of two (2) valve maintenance trailers to enable routine exercising of the valves through the Miami-Dade Water and Sewer Department system in order to prevent a critical valve failure when the valve must be opened or closed during an emergency. The ability to exercise the Department's network valves is vital to ensure that a given valve will be capable of opening or closing completely without failure during an emergency.

The operating arm must be able to extend at least 13 feet reach over 270 degrees and capable of at least 750 feet/pound of torque. This unit must be constructed of steel and powder coating for long life. The unit must come with ruggedized handheld water resistant controller to operate and collect data with built in GPS. In addition, it should have a software package which enables data logging and synchronized between the handheld controllers and desk to GIS. Engine must be diesel, liquid cooled and EPA emission compliant. The hydraulic system must be equipped with oil level, temperature gauges, pressure gauges and 1800PSI of continuous duty. Pressure washer should be at least 3000PSI with a 90 gallon water tank, and 50 feet of hose on a spring rewind hose reel. The equipment should have 20 feet long minimum hydraulic hose and a vacuum pump with positive displacement rotary lobe blower capable of at least 500CFM capable of running a 3 inch hydraulic pump trash pump tool.

Additional equipment required:

- 3 inch Hydraulic pump head with quick connects
- 4 inch Hydraulic pump head with quick connects
- 25 foot Hydraulic hose quick to connect



INTERNAL SERVICES DEPARTMENT
PROCUREMENT MANAGEMENT SERVICES

Justification/Input Document for Non-Competitive Acquisition

It is the policy of Miami-Dade County to consistently purchase goods and services using a full and open process/competition. The citizens of Miami-Dade County are best served when we make sound business decisions based on competitive bids or proposals. Early acquisition planning, including consultation with the Internal Service Department Procurement staff can help avoid delays and facilitates effective market research. However, there may be instances when an open competition is not conducive in addressing an immediate need and an alternate process may be justified. When a user department(s) determines that an alternate or other than full and open competition is necessary or in the best interest of the County, appropriate justification for that course of action must be submitted to ISD for approval and execution in order to waive the competitive bid/proposal process.

Please provide the information requested below to support the need and feasibility for waiving the competitive bid/proposal process:

Department:	WASD		
Contact Person:	Steve Kronheim	Phone Number:	786-268-5717
Requisition No.:		Estimated Value p/unit \$65,660.00 two (2) units :	\$131,320.00
Proposed Vendor:	WACHS		
Previous Contract Number:		Previous Contract Value:	

Purpose of the Purchase

Please describe your minimum requirements and the benefits of making the acquisition.

The Department is requesting two (2) Valve Maintenance Trailers for the Central District Wastewater Treatment Plant (CDWWTP) & North District Wastewater (NDWWTP). These units are being requested for the following purposes:

- 1) To enable maintenance personnel to safely* open and close large system underground valves that control the wastewater system network. These valves have a geared operation which require a portable, powered valve operation device to achieve proper opening or closure of a given valve at its location; often at times, on an emergency basis.

* The term "Safely" indicates an attribute that this particular machine possesses that enables the operator to effectively turn valves using AWWA (American Water Works Association) recommended procedures. This protects the valve by allowing the machine software to control the maximum torque applied to the valve operator, thus preventing potentially serious and/or permanent damage to the network valve.

- 2) To enable routine exercising of the above valves through the MDWASD system in order to prevent a critical valve failure when the valve must be opened or closed during an emergency. The ability to exercise the Department's network valves is vital to ensure that a given valve will be capable of opening or closing completely without failure during an emergency.



INTERNAL SERVICES DEPARTMENT
PROCUREMENT MANAGEMENT SERVICES

System Description:

The operating arm must be able to extend at least 13 ft., reach over 270 degrees and capable of at least 750ft/lb. of torque. This unit must be constructed of steel and powder coated for long life. The unit must come with ruggedized handheld water resistant controller to operate and collect data with built in GPS. In addition, it should have a software package which enables data logging and synchronization between the handheld controllers and desk top GIS. Engine must be diesel, liquid cooled and EPA emission compliant. The hydraulic system must be equipped with oil level, temperature gauges, pressure gauges and 1800PSI of continuous duty. Pressure washer should be at least 3000 PSI with a 90 gallon water tank, and 50 ft. of hose on a spring rewind hose reel. The equipment should have a 20 ft. long minimum hydraulic hose and a vacuum pump with positive displacement rotary lobe blower capable of at least 500CFM capable of running a 3 in. hydraulic pump trash pump tool.

Additional Equipment required:

- 3 in. Hydraulic pump head with quick connects.
- 4 in. Hydraulic pump head with quick connects.
- 25 ft. hydraulic hose quick to connect

Best Interest of the County / Uniqueness of Product

Please provide a detailed description as to why a waiver of formal bidding is in the County's best interest (e.g., product standardization, compatibility, proprietary access or distributorship, how vendor is uniquely qualified to provide the needed product or service, etc.). Please note that a lack of advance planning is not an acceptable justification for a non-competitive acquisition.

Equipment is consistent with similar equipment currently in operation within 3 Wastewater treatment plants.

Unit Valve stems must be automated.

This make provides prompt customer and technical support service when needed.

Loaner valves are available when unit is down.

Market Research

Please describe your market research and the results thereof. This should include a description of other, similar sources or products available in the market if any and why they are not acceptable.

Pacific Tec model it is not automated and requires manual torque and adjustments, and data logger not standard.

Flow Master model it is not automated and doesn't meet our minimum requirements.

Spin Doctor not automated, and can only be manually operated.

EH WACHS Equipped with GPS to identify location/label/and graph history of torque levels, it is able to sense torque resistance and alternate rotation to clear obstructions. Unit is equipped with automatic mode to protect valve from human error, and able to operate without being manned once it is set up.

This equipment should function safely on its own without damaging the valve.



**INTERNAL SERVICES DEPARTMENT
PROCUREMENT MANAGEMENT SERVICES**

Proposed Actions

Please describe the actions the department will take to overcome the present barriers to competition prior to any future acquisitions of this product or service.

The department owns a similar EH WACHS valve maintenance trailer, and division plant staff is well-trained on operation of EH WACHS valve Maintenance trailer. The manufacturer support has been outstanding, and equipment has been extremely reliable supporting the operation. Our recommended preference is to obtain the two (2) requested Valve Maintenance Trailer from WACHS Standard LX-Valve Maintenance Trailer Product number 77-000-38 requested.



Department Director's Approval

6/9/15

Date Approved



OK (B50)

WASD MOBILE EQUIPMENT REQUEST FORM

ROUTE COMPLETED FORM TO WASD/FLEET MANAGEMENT WITH DIVISION CHIEF SIGNATURE

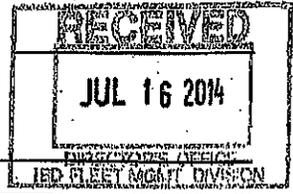
Check the appropriate box for this vehicle action.

All request require Department Director, OSBM and Mayor's Office approval

Replacement equipment request. Division Requesting Equipment 850
Complete vehicle information below:

Asset DC #: _____ Year: _____ Make: _____

Model: _____ Current miles/ hour meter reading: _____
If meter reader is not accurate specify N/A and explain below why replaced



Description of equipment: _____

Amount Budgeted for Equipment: \$ 130,000.00

Estimated New Equipment Cost \$ \$65,000.00 each

Budget Line Item: # 2571
Fiscal Year: 2013 / 2014

Cumulative Repair Costs \$ _____

Expenditure Requisition (ER): # S048990

Number of Shullar Existing Equipment in Division # 1

Index code to be billed for fuel, fluids, and repairs: (required*) 321133

Local Bid # _____ Recommended Existing Contract # _____

New Additional Equipment Request.

Quantity to be purchased: TWO

Estimated purchase price: \$ 65,000.00 each

Estimated total: \$ 130,000.00

Description of the equipment being purchased including all accessories: _____
Standard LX - Valve Maintenance Trailer



WASD MOBILE EQUIPMENT REQUEST FORM

Select type of equipment being requested with specifications

Vans

- Mini
- Standard
- Extended
- Sprinter

Van Type

- Cargo
- Passenger

_____ # of Passengers

Walk In Step (Note Size)

_____ Ft.

Pickup Trucks

- Compact
- ½ Ton
- ¾ Ton
- 1 Ton
- Cab & Chassis Only

Drive Type

- 4X2
- 4X4
- Other Chassis(Specify below)

Hybrid Sedans

- Compact
- Mid-Size

Hybrid Pickups:

- ½ Ton 4x2
- ½ Ton 4x4

Miscellaneous

- Utility Carts
- ATV's
- Lawn Mowers
- Air Compressors
- Pumps
- Generators

Other Vehicle/Accessories
(Specify below)

Division Justification for Replacement/Addition:

Equipment is required for valve exercise and improved operations, if valve are not exercised they can freeze and become inoperable and must be replaced. The portable valve operator is essential for the implementation of a valve management program at the CDWWTP to reduce the number of non-working valves in the system. This has a direct effect on the reliability of the wastewater treatment system. Reliability is knowing the system is working correctly and the ability to consistently process an acceptable quantity and quality of wastewater at a suitable pressure with minimum interruptions, wastewater quality impacts, inoperable valves and process system breaks.

Description-Scope of Work

- Equipment is required for valve exercise and improved operations, if valve are not exercised they can freeze and become inoperable and must be replaced. This equipment is primarily needed to maintain underground 30 years old valves at the CDWWTP and identify frozen and broken ones for repair in preparation of the massive court-mandated consent decree projects to come. These major time-sensitive projects will be delayed if isolation valves cannot be relied on to secure and isolation portions of the plant for construction. Portable valve operators are standard equipment in the Water and Wastewater Treatment Plants and can service a varied assortment of different size valves found at the CDWWTP. The unit is versatile and adaptable to almost any valve or gearbox combination through dedicated couplings and suitable for any operating position.



WASD MOBILE EQUIPMENT REQUEST FORM

Signature(s): (Originals Only)

Robert E. Fergon

Robert E. Fergon

Requested and Completed
Division Chief Print and Sign

5/09/14

Date

Fleet Recommendation(s):

Equipment requested by the division for operation.

[Signature]
Department Fleet Manager

5-13-14

Date

[Signature]
Department Director

5/20/14

Date

[Signature]
OSBM Approval

6/29/14

Date

[Signature]
Mayor/Deputy Approval

7/14/14

Date



E.H. WACHS®
A Division of ITT®
 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 Hudgens
 Miami-Dade Water & Sewer Dept.
 20820 S.W. 117th
 Miami, FL 33177

Date: 7/11/2013
 Quotation Number: KR60936
 Payment Terms: Net 30
 Shipping Terms: FOB Destination
 Valid Through: 4/27/2014

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 ruggedized Recon controller. A Caterpillar/Perkins 29 HP (21.3 kW), liquid cooled, DFI 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" (1143mm) 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. Available as a GPS upgrade for Recon is kit 79-411-00 or submeter kit 79-413-00.	1	EA	59,250.00	59,250.00
2	08-000-03 WDP3500 Dewatering Pump is lightweight, compact unit capable of discharging water quickly and quietly. Centrifugal-type pump features a direct drive hydraulic motor for continuous use. The contaminant-tolerant gear motor is designed for continuous high-speed operation. Direct drive impeller with no spindle bearings that require periodic lubrication or replacement. Cast stainless steel, semi-closed impeller resists corrosion and sealed drive shaft. Includes operation manual. Domestic destination and freight charges included.	1	EA	2,495.00	2,495.00
3	08-400-03 Hose, Discharge 3" for WDP3500 25'x 3" Diameter Vinyl Coated Discharge Hose with Aluminum Female Camlock Coupler	1	EA	180.00	180.00
4	08-000-04 The WTP4800 Trash Pump is a light-weight, heavy duty machine capable of pumping high volumes of water, sand slurries, gravel, sludge, and solids up to 3 in. /75 mm in diameter. Features a "free flow" impeller with a direct drive hydraulic motor for continuous use. Submersible and self-priming, can run dry without damage to the motor, bearings or impeller. Abrasion-resistant impeller and volute with replaceable wear plates. Includes operating manual. Domestic destination and freight charges included.	1	EA	3,465.00	3,465.00
5	08-400-04 Hose, Discharge 4" for WTP4800	1	EA	270.00	270.00
				Quote Total (USD)	\$65,660.00

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



E.H. WACHS®

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Superior Equipment. Complete Support.™

Water Utility Products
455 Comanche Circle | Harvard, IL 60033
T: +1.815.943.4765 | F: +1.815.943.5098
ehwachs.com

Quotation

Page 2 of 2

TO: Dave Hudgens

Date: 7/11/2013
Quotation Number: KR60936

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

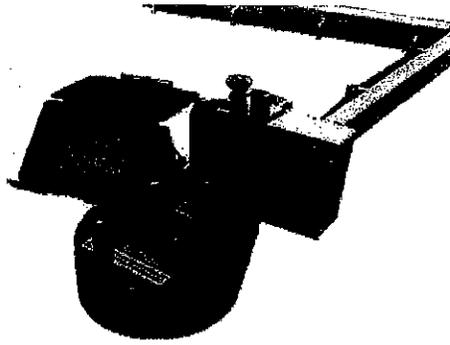
Please refer to our [website](#) for terms and conditions.

- Reversible and resetable LED revolution counter built in.
- Can be used alone with it's lightweight hydraulic power unit (Model PU-2G, or as a helper to the truck mounted valve operator on valves located off the street.

Quick Form

1

PT-13



PT-13 Standard Features:

- Turns valves with adjustable torque from 0 to 850 ft. lbs.
- Digital reversible revolution counter.
- Operate valves up to 13 ft. away from the vehicle.
- Hydraulic unit or PTO drive.
- Modify ANY truck into a valve exerciser vehicle!
- Valve operator/exerciser head has torque readout, torque control valve, speed control valve, directional control valve, and arm lock/unlock controls.
- Can operate valves in the street, median, or off the road.
- Counter counts in 1/10th of a turn for data accuracy.
- Can be linked to computerized data collection program to automatically capture and store data.



HURCO
TECHNOLOGIES, INC.

VAC250G Specifications

SPIN OR
#2

Standard Equipment

- 34 HP V-Twin Kohler Gas Engine
- 600 CFM Lobe Type Blower @ 14" Hg. Continuous With Simultaneous 4.7 GPM @ 3000 PSI Water Flow – Giant High Pressure Water Pump with Electric Clutch
- Y-Strainer Water Filter Element
- 95 Gallon Plastic Fresh Water Tank with 1-1/2" Drain Valve
- 6 Gallon Anti-Freeze Tank With 1" PVC 3-Way Valve
- Low Water Automatic Pressure Washer Pump Shutdown
- Cat Pump Pressure Sensitive Regulating Unloader Valve
- Large Blower Silencer Muffler For Noise Abatement - 80 db.
- 220 Gallon Spills Tank With 6" Full Spills Tank Check Valve And 3" Inlet Gate Valve
- Hydraulic Full Opening Rear Door Cammed For Using A Single Handle, Moving 4 Deadbolts Into Lock Position And A 3" Drain Gate Valve
- 1 Micron Washable Bag Filtration, Wet Or Dry Vacuum Capability With 3" PVC Drain Valve
- 10 Gallon Fuel Cell
- 6000# Torflex Rubber Torsion Axle With Electric Brakes
- (2) ST235/80 R16 Load Range E Tires
- Rear Curbside Aux. Hydraulics – 8 GPM @ 3000 PSI With 10 Gallon Oil Reservoir
- Oil Reservoir
- Lockable Hose Reel With 50' HP Hose & Flexible Spray Wand
- 2" Vacuum Relief Valve
- 2-1/2" Stainless Steel Vacuum Gauge
- 7000# Trailer Jack
- 12-Volt Battery
- Curbside Controls
- 2-5/16" Ball Hitch, Pintle Hitch Available Upon Request
- 3" X 25' Vac Hose With Ball And Socket Fittings
- 16" Lawn Sweep On 3" Steel Vac Tube
- Standard Valve Box Cleanout Tool
- Strobe & Dual Halogen Work Light Kit

Dimensions

- Skid Mount: Fits In 8' (96") Truck Bed
- Trailer Mount:
 - Width – 6'7" (79")
 - Length – 15' (180")
 - Height – Approx. 7'2" (86") - Top of Strobe

082411-250G

Mounting Base & Arms: Mounting base is 1 ft. square plate with an inner and outer articulated arm onto which the valve operator head is mounted. A deck mounted stowage bracket is furnished to secure arms for travel.

Reach: With articulated arm fully extended valves up to 11 ft. from mounting base can be operated.

Power Head: The valve operator power head is driven by a single hydraulic motor. Output torque can be controlled from 0 to 850 ft. lbs. Rotating speed is controlled from 0 to 40 RPM.

Controls: Power head controls include position lock on/off buttons, 3-position directional control valve with detents in each position, torque control valve, speed control. Both revolution count and torque are displayed on digital electronic readouts on powerhead. **Unit is computer ready to interface with data collection software system.**

Position Locks: Both inner & outer arm are held in position by a push button actuated independent hydraulic "position lock" system while machine is in use. Push button actuated "lock" and "unlock" to be located on powerhead.

Valve Key & Sockets: Unit to be furnished with a double jointed 1 1/2" square drive valve key with universal joint and 2" socket.

4. "Drive One" System

A single 25 HP V-twin gas engine will power the 525 CFM vacuum blower, the 8 GPM hydraulic pump, and the water jet system pump described above. Water & hydraulic pump will be activated via a selector switch.

A 19 gal. hydraulic reservoir with cooler and filters, a 6 gallon fuel tank, and a starting battery will also be included.

5. Hydraulic Tool Circuit (Optional)

An auxiliary 8 GPM hydraulic tool circuit with a hose reel and a 50 ft. set of 1/2" hydraulic hoses will be mounted on trailer deck.

6. Trailer.

All above described equipment will be mounted on a custom 7 ft. wide x 10 ft. long raised deck tandem axle trailer.

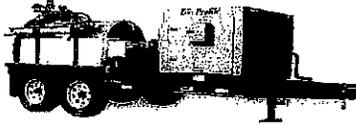
Trailer will have a steel diamond plate deck, 2 axles with a 5,200 lb. capacity each, an overall GVW rating of 9,990 Lbs. Tongue jack to be a 3,500 lb. retractable leg unit.

An adjustable height pintle hitch to be included along with electric brakes, and all standard L.E.D. highway lighting and markings.

Valve key storage tubes (3) to be installed under rear of trailer deck.

LP Mini 303GT /
FlowMaster

3



Accessories

	YES	NO
1) 4 ft. non-conductive suction wand with t-handle		
2) 6 ft. non-conductive suction wand with t-handle		
3) 4 ft. gun control low pressure variable nozzle spray wand		
4) 5 ft. gun control high pressure roto nozzle water knife		

Longevity

1) 2 coats of Epoxy Primer		
2) 2 coats of Polyurethane Top Coat		
3) Color "Safety" yellow for easy visibility		
4) Wiring Connections Sealed		

Trailer

1) 7,000 GVWR		
2) Four tires on 2 single axles		
3) Electric Brakes for both axles with safety breakaway		
4) 10,000 lb. pintle hitch		
5) 5,000 lb. jack stand		
6) Storage racks for all accessories		
7) Under coated to prevent corrosion		

Valve Exerciser

1) Capable of reaching valve 13' from machine (270 degrees total movement)		
2) Capable of hydraulically open and close valves up to 405 ft lbs. Torque x 50 rpm		
3) Hydraulically operate fire hydrants		
4) 2" Valve wrench/extensions to operate valves up to 9' deep		
5) Variable hydraulic pressure controller		
6) Directional controls at head of exerciser		
7) Hydraulic pressure gauge to determine torque required to operate valve		
8) Built in Rotation Counter w/LED readout		
9) Torque conversion chart up to 405 ft. lbs		
10) Auxiliary Hydraulics (optional)		

Options:

1) Hydraulic Door - LP Mini 333GT		
2) 24HP Kohler Diesel w/hydraulic door (580 cfm) - LP Mini 333DT		

PRODUCT SPECIFICATIONS

Standard LX - Valve Maintenance Trailer

Comment [A1]:

Valve Exercising Equipment		Yes	No	Specify
ERV-750	Articulating arm, automated valve operator utilizing patented intelligent automation to control torque, direction and turn. 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 operator 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		#4
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 IntraMap with VITALS software packages which enable full data logging and synchronization between the handheld and your desktop GIS. Allows importing of existing data levels 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 4E & 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, spills dump switch, spills door switch, water/vacuum selector switch, arrow board control and service light switch	X		

Wachs Utility Products
455 Comanche Circle • Harvard, Illinois 60033 • 815.943.4785
www.hmvalex.com

Specifications Pacific-Tek #1 Spin_doctor #2 Flow-Master #3 eh-wachs #4 Specs

ENGINE TYPE	Pacific-Tek #1	Spin_doctor #2	Flow-Master #3	eh-wachs #4	Specs
Trailer Spec	5,000 lb 2 axles	not specified	7,000 lb 2 axels	7,000 2 axle elect brakes	Minimum 6,500 trailer
Collection Tank	250 gal hydraulic door	220 gal tank hydraulic door	300 gal tank	250 gal hydraulic door	250 gal hydraulic door
Dumping					
Water Tank	100 gal tank	95 gal tank	2- 50 gal tanks	90 gal tank	80 gal minimum
Pressure Washer Psig	3,000psi 3.5 gpm	no spec	3,000 psi	3,000 psi 2.5 gpm	3,000 psi minimum
ARM Reach	11 feet	9 feet to 13 feet	13 feet	13 feet	10 ft minimum
Torque	850 lbs	800 lbs	850lbs	750 lbs	700 lbs minimum
Hose Reel	yes	yes	yes	yes	yes
Vacuum Pump	525 cfm positive	600 cfm	550 cfm positive	500 cfm positive	500 cfm positive
Data					
See cut sheets					