



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
DEP14598

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
CHUCK BOWMAN 304-558-2157

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

ENVIRONMENTAL PROTECTION
 DEPARTMENT OF
 ENVIRONMENTAL REMEDIATION
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
04/24/2009	05/07/2009			

BID OPENING DATE: 04/24/2009 BID OPENING TIME: 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
***** ADDENDUM NO. 1 *****						
ADDENDUM ISSUED FOR THE ADKINS REMEDIATION SITE IN CROSS LANES TO DISTRIBUTE THE PRE-BID SIGN-IN SHEETS, THE Q/A, AND EQUIPMENT SPECIFICATION SHEETS AS A RESULT OF THE MANDATORY PRE-BID MEETING OF 04/02/09.						
BID OPENING DATE AND TIME ARE EXTENDED FROM 04/29/09 TO 05/07/09 AT 1:30 PM.						
***** NO OTHER CHANGES *****						
0001	1	JB		962-73		
RECLAMATION: RESTORATION OF LAND & OTHER PROPERTIES						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

MANDATORY PRE-BID SIGN-IN ATTENDANCE SHEET

RFQ # : DEP14598 Bid Date: 04/29/09
 Project: Adkins site-Crosslanes Pre-Bid Date: 04/02/09

Name : BRYAN ARTHUR
 Company: WV DEP
 Address: P. O. Box 38
French Creek WV
26038

Phone #: 304-484-6211
 Fax #: 304-484-6251
 Email : Bryan.Arthur@wv.gov

Name : DAVE LEE
 Company: WV DEP
 Address: 611 57th St SE
Wash DC 20007

Phone #: 202-973-2477
 Fax #: 202-725-0157
 Email : Dave.Lee@wv.gov

Name : Matthew Watson
 Company: URS
 Address: 1505 Beed St
Kenova, WV 25530

Phone #: 304-453-2527
 Fax #: 304-453-3580
 Email : Matthew.Watson@URScorp.com

Name : Greg Sowder
 Company: URS
 Address: 1505 Beed St.
Kenova, WV 25530

Phone #: 304-453-2527
 Fax #: 304-453-3580
 Email : Greg-Sowder@URScorp.com

Name : Rod Moore
 Company: EnviroProbe INT SOLNS.
 Address: 630 CROSS LANES DR
NITRO, WV 25143

Phone #: 304 776-6717
 Fax #: 304 776-6769
 Email : rmoores@enviroprobeinc.com

Name : CHAD PETRY
 Company: POTESTA
 Address: 7012 McCorkle Ave
Charleston WV

Phone #: 304 342-1400
 Fax #: 304 343-9031
 Email : Chadpetry@Potesta.com

Name : MAT WRIGHT
 Company: TRIAD ENG.
 Address: TEAYS VALLEY RD
SCOT DEPOT WV

Phone #: 755.0721
 Fax #:
 Email : MWRIGHT@TRIADENG.COM

Name : Timothy Wilfong
 Company: KemRow Environmental Serv. Inc.
 Address: 5110 1st St N
Roanoke, WV 25151

Phone #: 304 755 0999
 Fax #: 304 755 0990
 Email : twilfong@kemrow.com

MANDATORY PRE-BID SIGN-IN ATTENDANCE SHEET

RFQ # : DEP14598 Bid Date: 04/29/09
 Project: Adkins site-Crosslanes Pre-Bid Date: 04/02/09

Name : Christopher Annick
 Company: KEMRON Environmental Services
 Address: 5 Croadock Way
Rock, WV 25759

Phone #: 304-755-0999
 Fax #: 304-755-0990
 Email : cannick@kemron.com

Name : Jeremiah Williamson
 Company: Sanford + Sons Exc.
 Address: Rt 1 Box 281
Genoa, WV 25517

Phone #: 304 272 5923
 Fax #: 304 272 5823
 Email : sanfordsons@frontier.net.net

Name : GENE STUTHERS
 Company: NGE
 Address: 171 MONTGOMERY ROAD
MOON TWP., PA 15109

Phone #: 412 722 1970
 Fax #: 412 722 1929
 Email : gstuthers@nge-novel.com

Name : Bill Hunt
 Company: NGE
 Address: 306 B Street
St. Albans, WV 25177

Phone #: 304-201-5180
 Fax #: 304-201-5182
 Email : bhunt@ngeconsulting.com

Name : Frank Lampert
 Company: Envirocheck
 Address: 375 Mt. Lane
Tazewell VA, 24651

Phone#: 276.472.2174
 Fax #: 276.472.2425
 Email : jilesliet@earthlink.net

Name : ~~XXXXXXXXXXXXXXXXXXXX~~
 Company: ~~XXXXXXXXXXXXXXXXXXXX~~
 Address: ~~XXXXXXXXXXXXXXXXXXXX~~

Phone#: ~~XXXXXXXXXXXXXXXXXXXX~~
 Fax #: ~~XXXXXXXXXXXXXXXXXXXX~~
 Email : ~~XXXXXXXXXXXXXXXXXXXX~~

Name : Denise Davis
 Company: ASTech Corp
 Address: RT 1 Box 479B
Char WV 25319

Phone#: 304-349-0545
 Fax #: 304 349-3978
 Email :

Name : Brandon Vista
 Company: CORE Environmental Serv.
 Address: 4 Emulsion Plaza
Morgantown, WV 26505

Phone#: 304-292-2673
 Fax #: 304-292-2773
 Email : bviola@core-env.com

MANDATORY PRE-BID SIGN-IN ATTENDANCE SHEET

RFQ # : DEP14598 Bid Date: 04/29/09
Project: Adkins site-Crosslanes Pre-Bid Date: 04/02/09

Name : Eli Wagoner Name :
Company: Ryan Environmental Company:
Address: Rt 4 Box 260 Address:
Bridgeport, WV 26330
Phone #: 304-842-5578 Phone#:
Fax #: 304-842-5131 Fax #:
Email : EWagoner@RyanEnviro.com Email :

Name : Name :
Company: Triad Engineering, Inc. Company:
Address: 2121 T-475 Highway 11 Address:
Crest Dept 11126530
Phone #: 304-755-2721 Phone#:
Fax #: 304-755-1835 Fax #:
Email : wmeadows@triadeng.com Email :

Name : Name :
Company: Company:
Address: Address:
Phone #: Phone#:
Fax #: Fax #:
Email : Email :

Name : Name :
Company: Company:
Address: Address:
Phone #: Phone#:
Fax #: Fax #:
Email : Email :



west virginia department of environmental protection

Division of Land Restoration
P.O. Box 38, St. Rt. 20 South
French Creek, WV 26218
(304) 926-0499 ext. 1201, fax (304) 924-6781

Joe Manchin III, Governor
Randy C. Huffman, Cabinet Secretary
www.wvdep.org

April 20, 2009

Questions and Answers for DEP14598
Pre Bid on April 2, 2009

1. Question: Can you provide us with the specs for the pneumatic pumps?
Answer: Yes. See attachment A.
2. Question: Can you provide us with the specs for the oil water separator?
Answer: Yes. See attachment A.
3. Question: Can you provide us with the specs for the air diffuser?
Answer: Yes. See attachment B.
4. Question: Can you provide us with the maintenance requirements for the air compressor?
Answer: Yes. See attachment A.
5. Question: Can you provide us with the drawings for the recovery well hookup?
Answer: Yes. See attachment C.
6. Question: Can you provide us with "as built" drawings/flow diagrams?
Answer: Yes. See attachment D.
7. Question: Do you want to lay a new floor in the room where the air compressor is?
Answer: No. You will be require to cover the old floor in the area of the trailer where the actual pump and treat equipment is. The interior dimensions are: Length:16 feet, Width: 89 inches, Height 78 inches.



PNEUMATIC MACHINERY CO., INC.

1301 North Euclid Avenue • Princeton, Illinois 61356-9990
Phone (815) 875-3321 • Fax (815) 872-0421

Champion Pneumatic Machinery Co., Inc. Model VR5-8 Simplex Tank Mounted Air Compressor Package consists of the following items:

COMPRESSOR: Two-stage, single acting, air cooled, V-belt driven, splash lubricated reciprocating type, with start-stop control, and dry type 10 micron intake filter silencer. Compressor delivers 16.5 CFM at 175 PSIG when operating at 710 RPM. The compressor and motor are mounted on an air receiver.

MOTOR: 5HP, 1725 RPM, 230/460Volt, 60Hertz, 3 Phase, open drip proof Baldor motor with 1.15 service factor.

AIR RECEIVER: ASME stamped, National Board registered, with a nominal capacity of 80 gallons and a working pressure of 200 PSIG. Receiver is equipped with pressure gauge, ASME pressure relief valve, pressure switch, automatic tank drain and service valve.

ELECTRICAL SYSTEM: Underwriters Laboratories labeled full voltage, non-reversing magnetic starter with a NEMA 1 enclosure. Starter includes (1) contactor with thermal overload protection and door mounted reset. Panel is mounted and prewired, requiring inlet power connection only.

AIR DRYER: Model 18CND, (18CFM, 38 F pressure dewpoint, 100 F inlet air and 100 F ambient air), cycling type with mechanical refrigeration system. Air dryer is equipped with refrigerant suction pressure gauge and drain trap. Dryer is shipped separate.

FILTRATION: Model 25RT coalescing filter (0.7 micron, 25 CFM) and Model 18LT (0.3 micron, 18 CFM). Filters are shipped separate.

UNIT ASSEMBLY: The package will be assembled, tested and painted, according to manufacturers standard, prior to shipment.

DISCLAIMER: Nothing contained within this submittal data is intended to extend any warranty or representation, expressed or implied, regarding the products described herein. Any such warranties or other terms or conditions of sale of products shall be in accordance with Champion Pneumatic Machinery Co. Inc. Standard Terms And Conditions Of Sale for such products.

VR5-8a



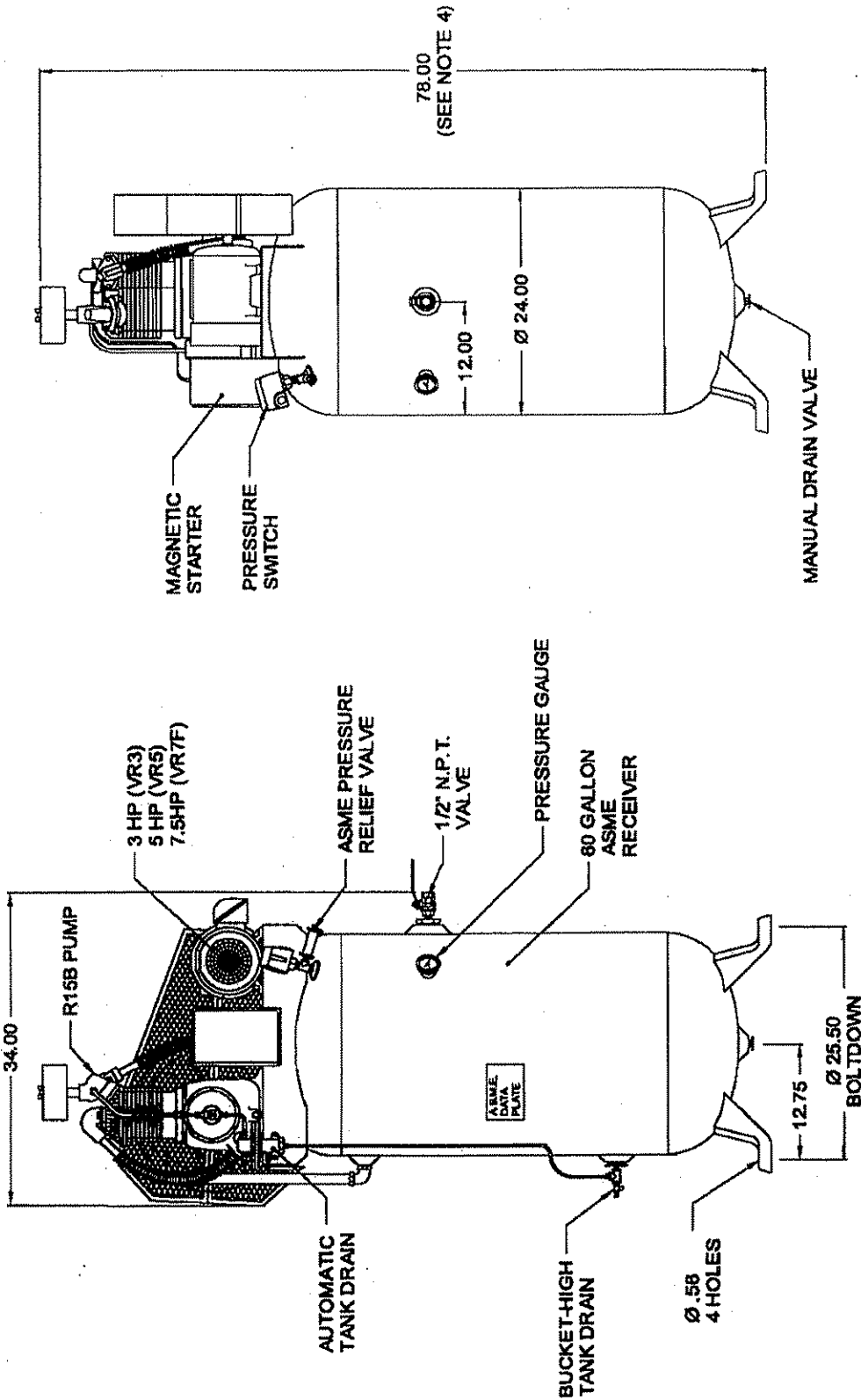
PRODUCTS CONCEIVED BY COMMON SENSE . . . PERFECTED BY EXPERIENCE SINCE 1919



DD-B-141

NOTES:

1. DO NOT SCALE PRINT, TYPICAL DIMENSIONS ONLY.
2. SPECIFICATIONS AND DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE OR OBLIGATION.
3. ALL DIMENSIONS IN INCHES.
4. ADD 1" TO HEIGHT FOR VIBRATION ISOLATION OPTION.



NOTICE:

REFERENCE DRAWING ONLY MAY NOT INCLUDE SPECIFIC ACCESSORY ITEMS FOR ANY PARTICULAR ORDER.

CHAMPION PNEUMATIC MACHINERY CO., INC.

UNIT MODEL

VR3-8 & VR5-8
VR7F-8

PRINT NO.:

DD-B-141

DRAWN BY: M. GRAY

DATE: 7-9-97

CHK'D BY: DA

DATE: 7-9-97

Submersible Pumps

DURHAM GEO SLOPE INDICATOR

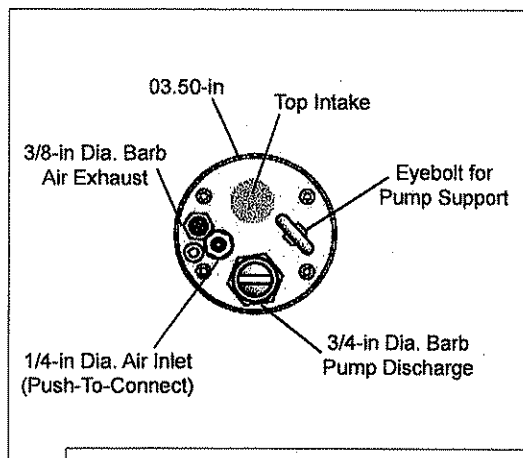
SELECTION TABLE FOR MVP SERIES PUMPS

Part Number	Model	Pump OD (in)	Pump Length (in)	Volume /cycle ¹ (US gal)	Material ²			Min. Submergence (in)	Pump Weight (lb)	Max. FlowRate ³ (gpm)	Air Valve Filtration
					Body	Pump Head	Pump Bottom				
Top Loading Models											
TR-775	MVP ET	3.5	40.5	0.4	Stainless Steel	S.S.*	S.S.*	40.1	27	8	Yes
TR-775S	MVP ETS		35.5	0.2		S.S.*	S.S.*	35.1	22	7	Yes
TR-802	MVP EDT		40.5	0.4	Delrin®	Delrin®	40.1	20	8	Yes	
TR-802SP	MVP EDTS		35.5	0.2		Delrin®	Delrin®	35.1	16	7	Yes
Bottom Loading Models											
TR-776	MVP EB	3.5	42.5	0.4	Stainless Steel	S.S.*	S.S.*	34	27	9.5	Yes
TR-776S	MVP EBS		37.5	0.2		S.S.*	S.S.*	29	22	7.5	Yes
TR-803	MVP EDB		40.5	0.4	Delrin®	Delrin®	32	16	9.5	Yes	
TR-803SP	MVP EDBS		35.5	0.2		Delrin®	Delrin®	29	15	7.5	Yes

* Stainless Steel

- 1) Volume per pump cycle will vary slightly depending on air pressure supplied to pump, depth of well, etc.
- 2) Other materials of construction for some pump configurations are available. Contact DGSI for assistance.
- 3) Maximum flow rates can vary due to air pressure supplied to pump, depth of well, etc. For assistance, contact DGSI

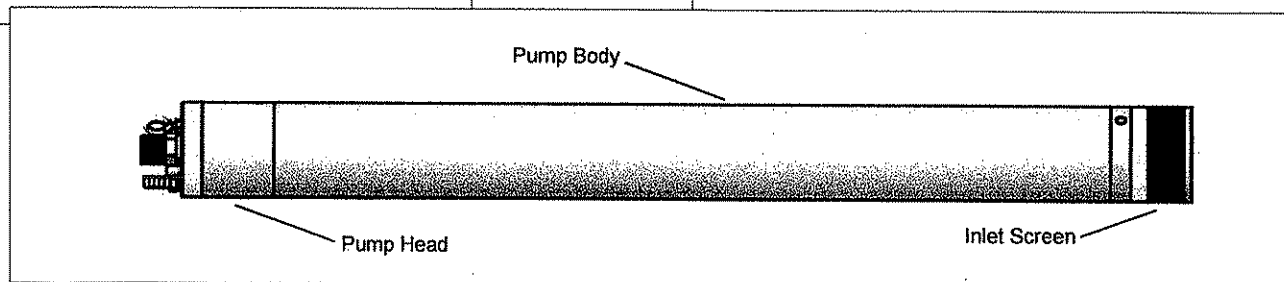
Note: DGSI also offers MVP Series pumps for landfill applications, complete with well seals. See www.DGSI.info/landfill



MVP EB Pump
(bottom-loading model)

Materials of Construction

- 304 Stainless Steel: Pump Body, Discharge Tube
- 303 Stainless Steel: Pump Head, Bottom Intake Valve Assembly Control Rod, Control Linkage Assembly
- Brass: All Hose and Tubing Barbs
- Delrin®: Control Linkage Bearings
- Nylon®: Discharge Check Valve Ball, Float Guide Bushings
- Buna-N®: Intake Check Valve Ball
- Viton®: O-Ring Seals, Air Inlet Ball Valve
- Glass Bead/Epoxy Composite: Float



Submersible Pumps

DURHAM GEO SLOPE INDICATOR

Valve Operation

The MVP Series pumps incorporate the air and exhaust valves on the same side of the pump head to impart a mechanical shifting advantage compared to valves located on opposite sides. The air valve operation is assisted by an encapsulated magnet in the pump head to instantly shift the air valve to the open position.

Pump Linkage

The MVP Series pumps feature all stainless steel linkage and Delrin® bushings to add durability and life to the pump. The high-strength stainless springs act as shock absorbers to reduce the energy that is created by the float movement. The springs are contained within a bushing, preventing them from being compressed beyond their design strength, increasing their life.

General Pump Construction

All of the MVP Series pumps have a Schedule 10 stainless steel pump body for superior durability. Fiberglass bodies are also available. The MVP E bottom loading pump uses a stainless steel screened bottom inlet with 0.1" openings. The MVP ED pump has a Delrin head and bottom inlet. The MVP ED and MVP E pumps utilize interchangeable internal components. The float is made of synthetic glass resin rated for use in temperatures up to 180°F while providing chemical compatibility. An optional stainless steel float is available. The top check balls are made of Nylon® and the bottom inlet is a precision-ground Buna-N ball.

Pump Maintenance

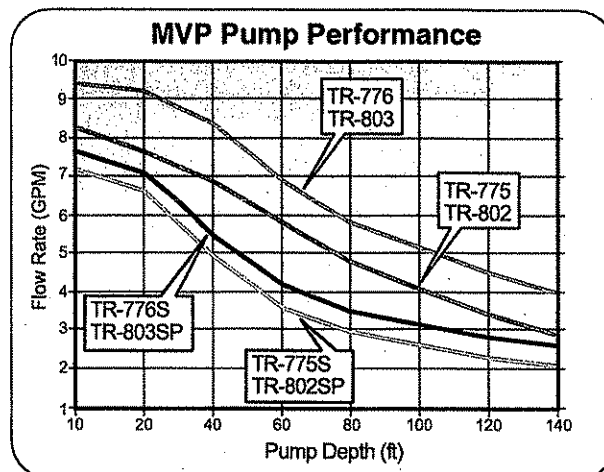
The pumps are designed to be field serviceable. Complete access to the internal components is achieved by unthreading the bottom intake of the pump. Should access to the valve assembly be required, simply remove the four screws from the pump head.

Tech Tips:

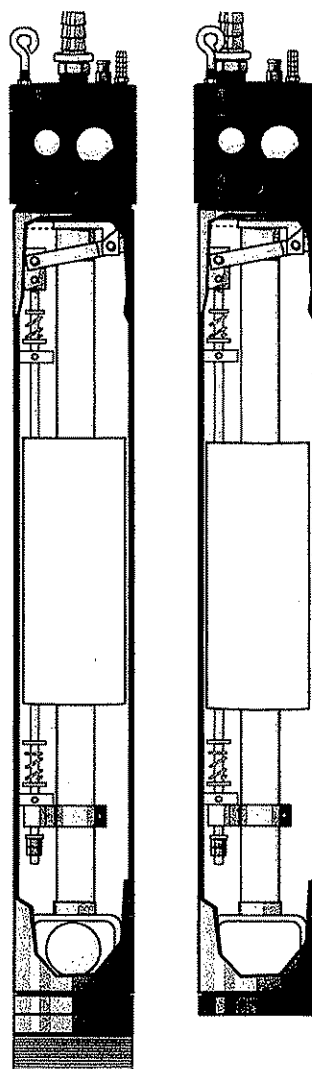
- *Minimum submergence can be reduced on the bottom loading MVP pump by installing the stop collar on the float actuating rod (TR-7714). This will reduce the float travel and open the air valve with less fluid in the pump. The submergence of the top loading pump can be reduced with a short pump. (TR-775S or TR-802SP)*

Tech Tips:

- *Air consumption of the MVP pump is based on the depth and air pressure (psi) setting. For a simple calculation use 1 cfm per gallon pumped. This is the maximum the pump will consume.*



(Flow rates will be affected depending on the head above the pump)



MVP Pumps.

Left: Bottom Loading model

Right: Top Loading model

Loading Configurations

Top-loading pumps are selected for pumping total fluids (LNAPL and ground water simultaneously). Water table draw-down will be maintained at a level corresponding to the top inlet of the pump. Pumps of shorter lengths are available for lower drawdown requirements.

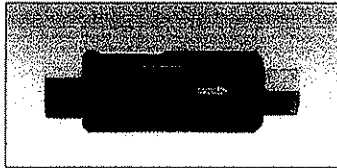
Bottom-loading pumps are selected for dissolved phase or DNAPL applications. When installing the pump, the head is positioned at the depth of the desired water table depression. During start-up, the pump fills from both the top and bottom inlet ports. As the water table stabilizes, the pump will fill from the bottom only.

Submersible Pumps

DURHAM GEO SLOPE INDICATOR

Accessories

Pulse Counter (TR-77804) - Is used to determine the flow rate of the MVP Series pump. This durable and compact pulse counter is installed in the air supply line at the well head. As the pump cycles, the counter senses the drop in air pressure indicating the pump has cycled. The number of cycles is multiplied by the volume of the specific pump you are using to provide the flow rate. The counter cannot be reset and can be purchased with or without fittings kit.



TR-77804

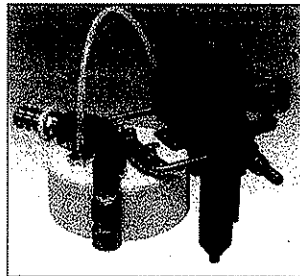
TR-77804 Pulse Counter (with fittings)	1 lb
TR-77802 Pulse Counter (without fittings)	1 lb
Dimensions	1.5-in dia. x 4.75-in w

Standard Hose Assembly (TR-777) - Consists of a 3/4-in Buna-N® discharge line, a 1/4-in Nylon® air supply line and a 3/8-in Buna-N® air exhaust line. The Buna-N® hose provides a flexible, chemically compatible discharge line. The main air supply and fluid discharge hoses should be properly sized to minimize head loss due to line friction.

TR-777 Standard Hose Assembly	
Contents and Dimensions	(1 ea.) 3/4-in ID, (1 ea.) 1/2-in ID Buna-N hose and (1) 1/4-in OD Nylon tubing
Max psi	0 - 250

Well Clincher (TR-773) -

Serves as a well seal and pump support, simplifying hose connections. A retractable handle provides for easy installation or removal of the pump system. The 90-degree fittings on the top of the Clincher reduce the possibility of kinked hoses in the well vault. Expandable Well Clinchers with pass-through ports are available for installations requiring frequent pump adjustments.



TR-773 Shown mounted to the Particulate Filter/Regulator (TR-77803) and Pulse Counter (TR-77804)

Well Clincher		Weight
TR-773	4 in MVP Well Clincher	2 lb
TR-788	6 in MVP Well Clincher	4 lb
600066	4 in MVP Well Clincher with adjustable fittings	2.5 lb

View animated graphics on the web. Visit www.DGSI.info/pumps to see how the pumps function.

Filter/Regulator (TR-77803) - Should be installed at the well head to supply the proper air pressure to an MVP Series pump. This will optimize air consumption. A good guideline for setting the air pressure is 0.5 psi per foot of pump depth. Includes a 5 micron (μ) filter and various fittings that will meet most requirements.



TR-77803

TR-77803 Filter/Regulator	2 lb
Dimensions	10.3-in h by 2.48-in w
Range	0 - 125 psi (Max 150 psi)
Fittings	Brackets, tube and hose fittings are included for MVP installations. Some Assembly required.
Capacity	Less than 1 psi pressure drop while passing 20 scfm at 100 psig.
TR-600217	Particulate filter replacement

OTHER ACCESSORIES:

Flow Valve (TR-698) - Is used when lower flow rates are required. Once installed on the exhaust line of an MVP Series pump, the user will be able to restrict air exhaust, regulating the fill time of the pump. Can be used with or without Well Clinchers.



TR-698

TR-698 Flow Valve	2 lb
Min/Max psi	0 - 100
ID/OD	3/8-in ID barbed fitting x 3/8-in npt fitting

MISCELLANEOUS:

TR-769 O-Ring Kit	1 lb
Contents	(5 ea.) cap O-rings and (2 ea.) body O-rings
Materials	Viton®
TR-752 Converts Bottom Loading Pump to Top Loading	5 lb
Materials	Stainless steel
301805 Converts Bottom Loading Pump to Top Loading	2 lb
Materials	Delrin®

Tech Tip:

- Maintenance of an MVP Series pump will vary based on site conditions. For sites with high mineral concentrations, it may be necessary to remove the pumps periodically to remove the mineral deposits.

Durham Geo Slope Indicator

2175 West Park Court, Stone Mountain, GA 30087, USA
Tel: 800.837.0864 or 770.465.7557 www.DGSI.info

ISO
9001:2000
QMS

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Printed in USA. (Ref: MVP Jan. 08)



DURHAM GEO SLOPE INDICATOR

Environmental and Geotechnical Protection

MVP Series Remediation Pumps

Controllerless air lift pumps

Application

For use in 4-inch and larger-diameter wells and up to 200-ft. depths for dissolved phase, total fluids, plume control and dewatering.

Benefits

- ❖ Air Valve Filtration
- ❖ Stainless Steel Linkage
- ❖ Proven Reliability

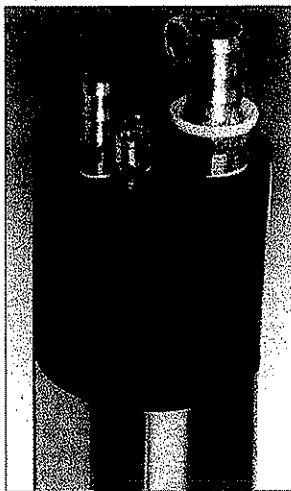
MVP E Pump - (TR-775, TR-775S, TR-776, TR-776S)

The MVP E pump uses an internal float which responds to the fluid level within the pump body to cycle the pump automatically, based on the recharge of the well. As the pump fills with fluid, the float moves to the upper position, activating the mechanical arm which opens the air inlet valve. This allows air to enter the pump chamber, simultaneously pressurizing the vessel and closing the upper and lower inlet check valves. The air pressure moves the fluid to the surface. As the fluid is emptied from the vessel, the float returns to the lower limit — off position — closing the air inlet and opening the air exhaust valve. During the filling cycle, air is vented through the exhaust port and the cycle is automatically repeated.

MVP ED Pump - (TR-802, TR-802SP, TR-803, TR-803SP)

Lower cost alternative

The MVP ED pump is identical to the MVP E except that the MVP ED pump head and bottom valve assemblies are manufactured from Delrin® instead of stainless steel. All other components are interchangeable. Delrin is a rugged, lightweight, high density plastic that is chemically compatible with most fluids encountered in such applications. The MVP ED pump is a cost effective, high performance product.



MVP ED pump with Delrin head



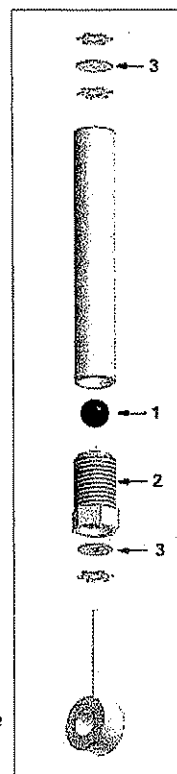
Description

Air Valve Design

The advanced air valve design incorporates a special Viton® ball (1) with a stainless steel seat (2) to provide a leak-tight seal. The positive seal eliminates air leakage that can contribute to increased precipitation at the pump head. The valve design significantly reduces the force required by the internal float to actuate the valve thus providing a positive shift, even in low filling situations. All of this adds to the reliability standard established by the MVP Series pumps.

Air Valve Filtration

The air valve incorporates a 330-mesh stainless steel screen (3) on the bottom and top of the assembly. The bottom screen prevents debris from entering when the air supply to the pump is turned off. This is a common occurrence on all pneumatic pumps. When the air supply is off, the float will move to the top position and open the air valve, creating a pathway for liquid or debris to enter the valve assembly. The filter screen prevents this from occurring.



MVP Series air valve assembly

From the leader in Air Compressor Components



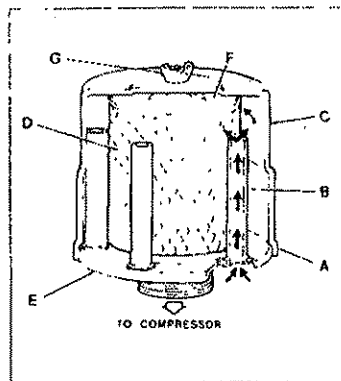
control devices



MUFFLAIRE™

AIR COMPRESSOR INLET FILTERS

Highly efficient, long-lived inlet filters from **Control Devices** offer features found nowhere else. After listening to our customers requirements, we proceeded to design and manufacture a line of filters second to none in quality, yet at an economical price. Oh, yes, there is one feature that no other company can offer - the service before and after the sale for which **Control Devices** is famous.



Look at these features.

- A. **Unique Seal (Patent Pending)** prevents escape of unwanted noise. Up to 3dB quieter than similar designs without seal.
- B. **Dampening tubes** attenuate compressor inlet noise.
- C. **Hood** is chemical and impact resistant and engineered to fit with no vibration noise.
- D. **Highly efficient paper or durable polyester cloth filter elements.** Laboratory testing on the paper elements show a 99+% cumulative efficiency when tested per SAE J726 test code. In addition, these filters have large dust holding capabilities which translates into longer periods between filter replacement.
- E. **Welded steel base with 360° filter guide.** Protected with electrodeposited epoxy coating - the same process auto companies use to insure long-lasting corrosion resistance.
- F. **Ribbed Steel reinforcing plate** insures positive seal with filter.
- G. **Self-locking wingnut** resists vibration loosening.



control devices inc.

711 Hanley Industrial Court • P O Box 20021 • St. Louis, Missouri 63144

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Distributed by

FILTER ASSEMBLIES

F - Series filter assemblies are used on air compressor inlets wherever efficient filtering in a tough package is required. Reinforced resin hood with heavy-gauge steel base. Size 20 assemblies include special foam prefilter to increase dust holding capacity.

Filter Assembly		Media Area, Ft. ²		Rated Flow, CFM	Inlet Size, NPT	O.A. Height	Inlet Pipe Length	O.D.
w/Cloth Filter	w/Paper Filter	Cloth	Paper					
F-10C-025	F-10D-025	0.25	0.45	7	1/4	3-1/4	3/4	3-1/4
F-10C-038	F-10D-038	0.25	0.45	7	3/8	3-1/4	3/4	3-1/4
F-10C-050	F-10D-050	0.25	0.45	10	1/2	3-1/2	1	3-1/4
F-16C-050	F-16D-050	0.5	0.9	10	1/2	4-1/2	1-1/2	6-3/4
F-16C-075	F-16D-075	0.5	0.9	20	3/4	4-1/2	1-1/2	6-3/4
F-16C-100	F-16D-100	0.5	0.9	20	1	4-1/2	1-1/2	6-3/4
F-20CP-100	F-20DP-100	1.5	3.0	35	1	7	1-1/2	6-3/4
F-20CP-125	F-20DP-125	1.5	3.0	60	1-1/4	7	1-1/2	6-3/4
F-20CP-150	F-20DP-150	1.5	3.0	60	1-1/2	7	1-1/2	6-3/4

SILENCING FILTER ASSEMBLIES

S - Series filter assemblies have a tubular inlet design which effectively dampens compressor inlet noises. In addition, a unique seal around the bottom of the hood prevents the escape of additional unwanted noise. Size 20 assemblies include special foam prefilter to increase dust holding capacity.

Filter Assembly		Media Area, Ft. ²		Rated Flow, CFM	Inlet Size, NPT	O.A. Height	Inlet Pipe Length	O.D.
w/Cloth Filter	w/Paper Filter	Cloth	Paper					
S-16C-050	S-16D-050	0.5	0.9	10	1/2	4-1/2	1-1/2	6-3/4
S-16C-075	S-16D-075	0.5	0.9	20	3/4	4-1/2	1-1/2	6-3/4
S-16C-100	S-16D-100	0.5	0.9	20	1	4-1/2	1-1/2	6-3/4
S-20CP-100	S-20DP-100	1.5	3.0	30	1	7	1-1/2	6-3/4
S-20CP-125	S-20DP-125	1.5	3.0	60	1-1/4	7	1-1/2	6-3/4
S-20CP-150	S-20DP-150	1.5	3.0	60	1-1/2	7	1-1/2	6-3/4

REPLACEMENT FILTER ELEMENTS

Available in the most popular sizes to fit Control Devices as well as other brands of filter assemblies. Cloth elements have high grade polyester media with wire reinforcement on both sides. Paper elements are industrial grade, high efficiency paper. Size 20 filters include special foam prefilter to increase dust holding capacity.

Filter Element		Media Area, Ft. ²		I.D.	O.D.	Height
Cloth	Paper	Cloth	Paper			
10C	10D	0.25	0.45	1-1/8	2-1/4	2-1/4
16C	16D	0.5	0.9	3	4-3/8	2-5/16
20CP	20DP	1.5	3.0	3	4-3/8	4-3/4

TO ORDER

S - 20C P - 100

Inlet pipe size
050=1/2, 100=1, etc.

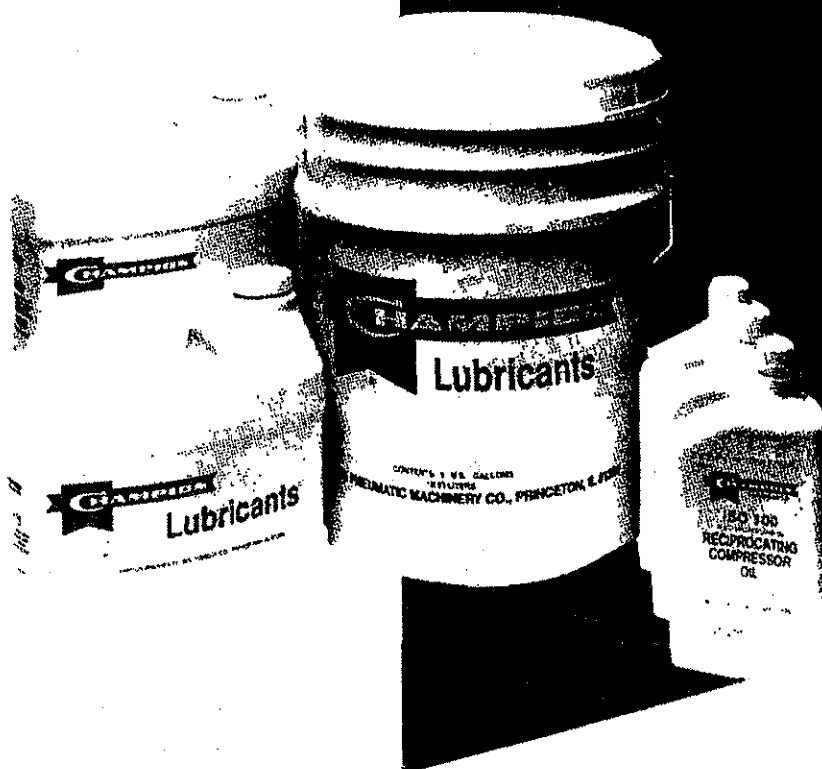
P=Foam prefilter included

Element size and type
C=Cloth
D=(Disposable) Paper

Filter assembly type
F=Standard Assembly
S=Silencing Assembly

Other Sizes Available . . . Please, Consult Factory.

CHAMPION



The proper compressor lubricant will protect your Champion compressor and allow it to provide years of trouble-free service. Champion offers a specially-blended lubricant for the harsh environment of compressor service.

This Premium Non-Detergent Reciprocating Oil is especially formulated for Champion. It is blended from high quality, chemically stable, high viscosity index. The inherent stability of these base stocks is further enhanced by carefully chosen additives. Oxidation inhibitors resist thermal degradation and the rust inhibitor has the ability to maintain its effectiveness over an extended period of time. The defoamers ensure any entrained air is released, and its good demulsibility permits water and

other contaminants to be readily separated from the oil.

Available in 55 gallon non-returnable drums, 5 gallon pails, one gallon bottles in cases of four each, and in one quart bottles in cases of twelve.

55 Gallon Drum
Part Number P08907A

5 Gallon Pail
Part Number P08908A

1 Gallon Bottle, Case of 4
Part Number P08909A

1 Quart Bottle, Case of 12
Part Number P09479A

Shipments. FOB Factory, Freight Not Allowed*

*Shipments made that exceed 400 lbs., or when shipped with compressors to the same location are freight allowed to first destination in Continental U.S.



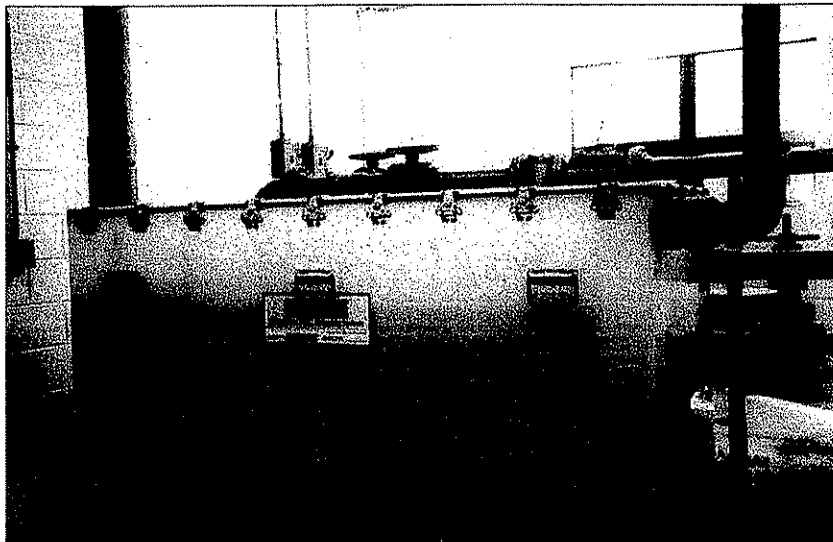
Pneumatic Machinery Co., Inc.

1301 North Euclid Ave. • Princeton, Illinois 61356 U.S.A.
Phone (815) 875-3321 • Fax (815) 872-0421



BREEZE™

Low Profile Air Stripper



Proven Air Stripping.

The BREEZE Air Stripper is a compact, low profile, low cost alternative to filters, packed towers, and mechanical aerators for the fast and efficient removal of dissolved gases and volatile organic compounds (VOC's) from water.

Proven Aeration.

The BREEZE Air Stripper is a compact, low maintenance solution for iron removal and other oxidation problems.

Proven Air Scrubbing.

The BREEZE Air Stripper is a compact, cost efficient air scrubber and odor control device. Common odors removed include ammonia gas and sulfur.

The BREEZE Low Profile Air Stripper removes many contaminants:

Common VOC's include:

BTEX
PCE
TCE
MTBE

Common dissolved gases include:

Radon
H₂S
CO₂
Methane

Proven Advantages.

Five-Minute Maintenance. The BREEZE tank design and CYCLONE II diffusers resist fouling caused by iron, calcium, and biological activity. A completely removable cover allows for easy routine maintenance and access to the diffusers.

Complete Flexibility. Units are available in six sizes with three to nine aeration chambers. Each tank is portable and equipped with handles for easy transportation. The patented quiescent chamber and adjustable weir plate maintain proper water level and performance without complicated electrical controls. A blast gate throttle allows the user to ramp up air flow rates to provide a factor of operating safety. The system can be operated with an induced draft or positive displacement blower and either coarse or fine bubble diffusers.

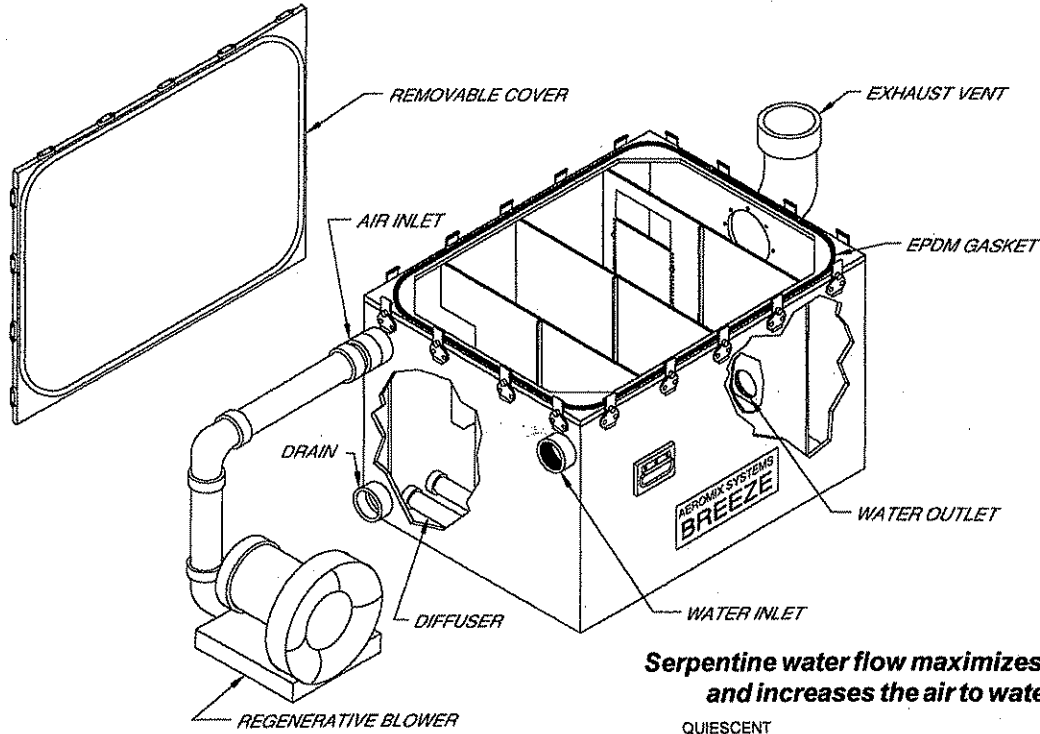
Modular. The BREEZE Low Profile Air Stripper works well in a stand-alone mode or in series with other treatment technologies. Single units can handle flow rates up to 175 GPM (660 LPM). Multiple units can be placed in series or parallel to handle most any flow rate and achieve superior performance. Units can be stacked vertically to save floor space.

Durability. The BREEZE Low Profile Air Stripper is constructed entirely of high-strength polypropylene. The tank is welded and molded without the use of adhesives. Gaskets are constructed of chemically-resistant EPDM.

Ease of Operation. An energy efficient blower delivers air to the CYCLONE II diffusers in each aeration chamber. The diffusers release specifically sized air bubbles to create turbulence, which provides an extremely high liquid-to-air interface. The serpentine water flow maximizes detention time and enhances stripping capacity.

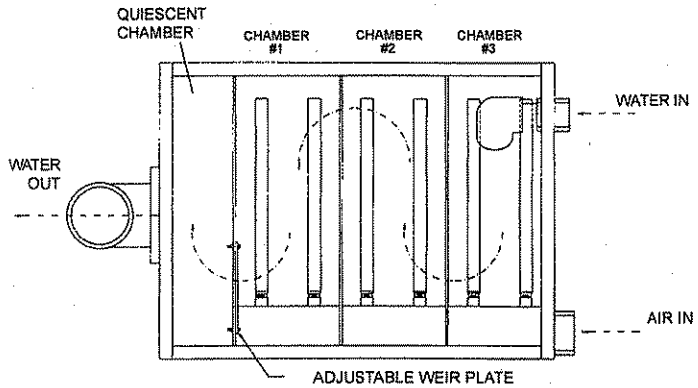
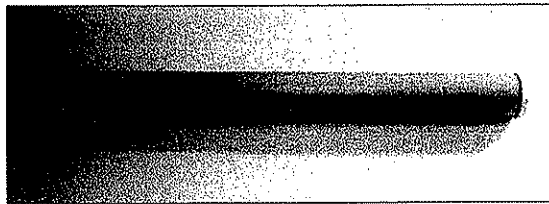
Designed For Flexibility And Ease Of Operation.

The BREEZE system consists of a high strength polypropylene tank, air blower, internal air header and non-fouling all polypropylene CYCLONE II diffusers. Excellent air stripping and contaminant removal, without the need for packing or media, are the result of this economical design. The BREEZE system provides superior performance with water containing high levels of dissolved and suspended solids. The heavy-duty removable cover and latch system provide a secure seal and easy access to the inside of the aeration chambers.



Serpentine water flow maximizes detention time and increases the air to water contact.

DIFFUSER



	Tank Dimensions			Water Port		Air Port		Recommended Water Flow	Recommended Air Flow	Shipping Weights
	Length	Width	Height	Inlet	Outlet	Inlet	Outlet			
SERIES 3	45"	34"	30"	4" NPT	4" NPT	4" NPT	8" SLIP	1-175 GPM	300 CFM	~250 lbs
SERIES 4	57"	34"	30"	4" NPT	4" NPT	4" NPT	8" SLIP	1-175 GPM	400 CFM	~300 lbs
SERIES 5	69"	34"	30"	4" NPT	4" NPT	4" NPT	8" SLIP	1-175 GPM	500 CFM	~350 lbs
SERIES 6	81"	34"	30"	4" NPT	4" NPT	4" NPT	8" SLIP	1-175 GPM	600 CFM	~400 lbs
SERIES 7	93"	34"	30"	4" NPT	4" NPT	4" NPT	8" SLIP	1-175 GPM	700 CFM	~450 lbs
SERIES 8	105"	34"	30"	4" NPT	4" NPT	4" NPT	8" SLIP	1-175 GPM	800 CFM	~500 lbs
SERIES 9	117"	34"	30"	4" NPT	4" NPT	4" NPT	8" SLIP	1-175 GPM	900 CFM	~550 lbs

Made in the U.S.A. by



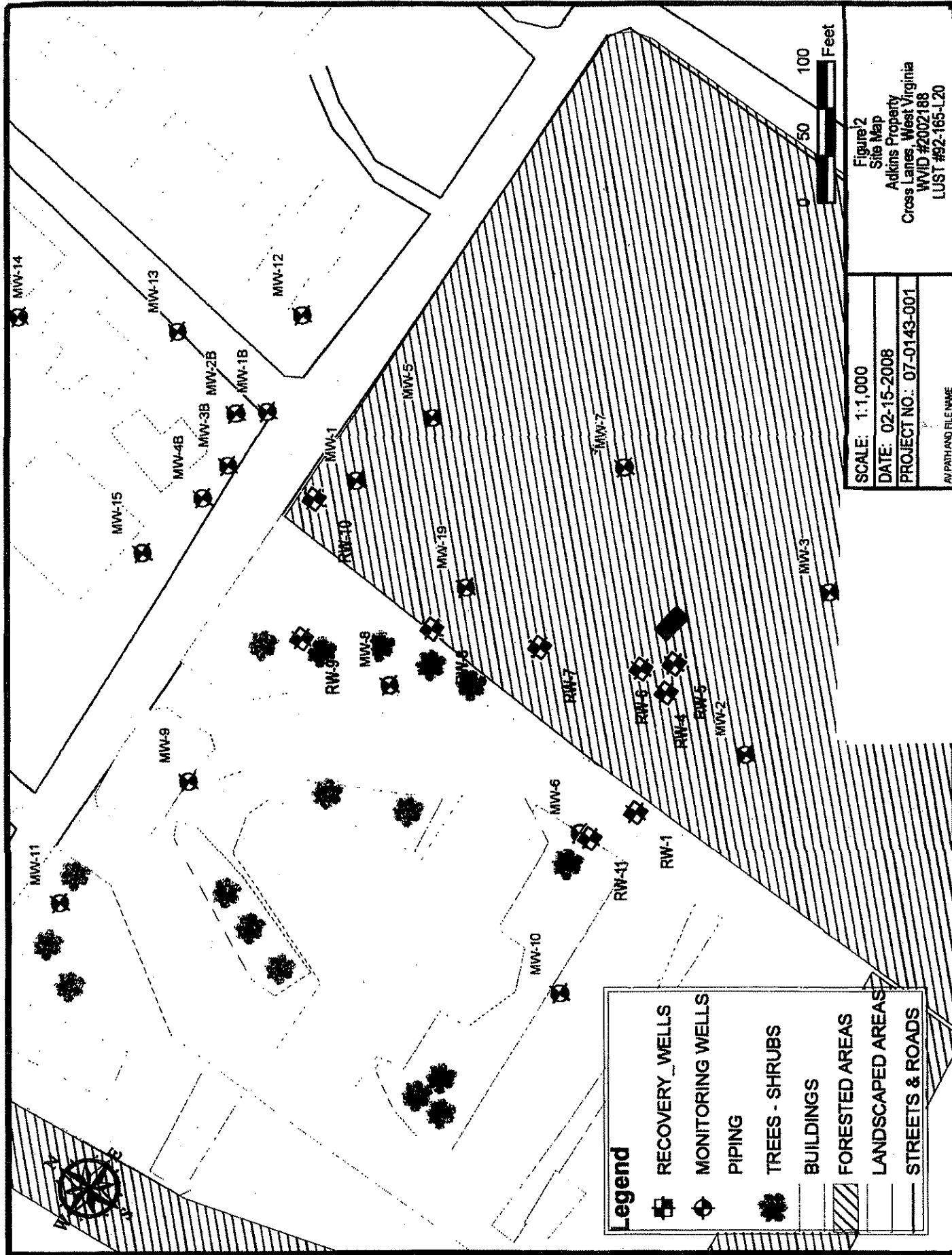
AEROMIX Systems, Inc.
7135 Madison Ave. West
Minneapolis, MN 55427 U.S.A.

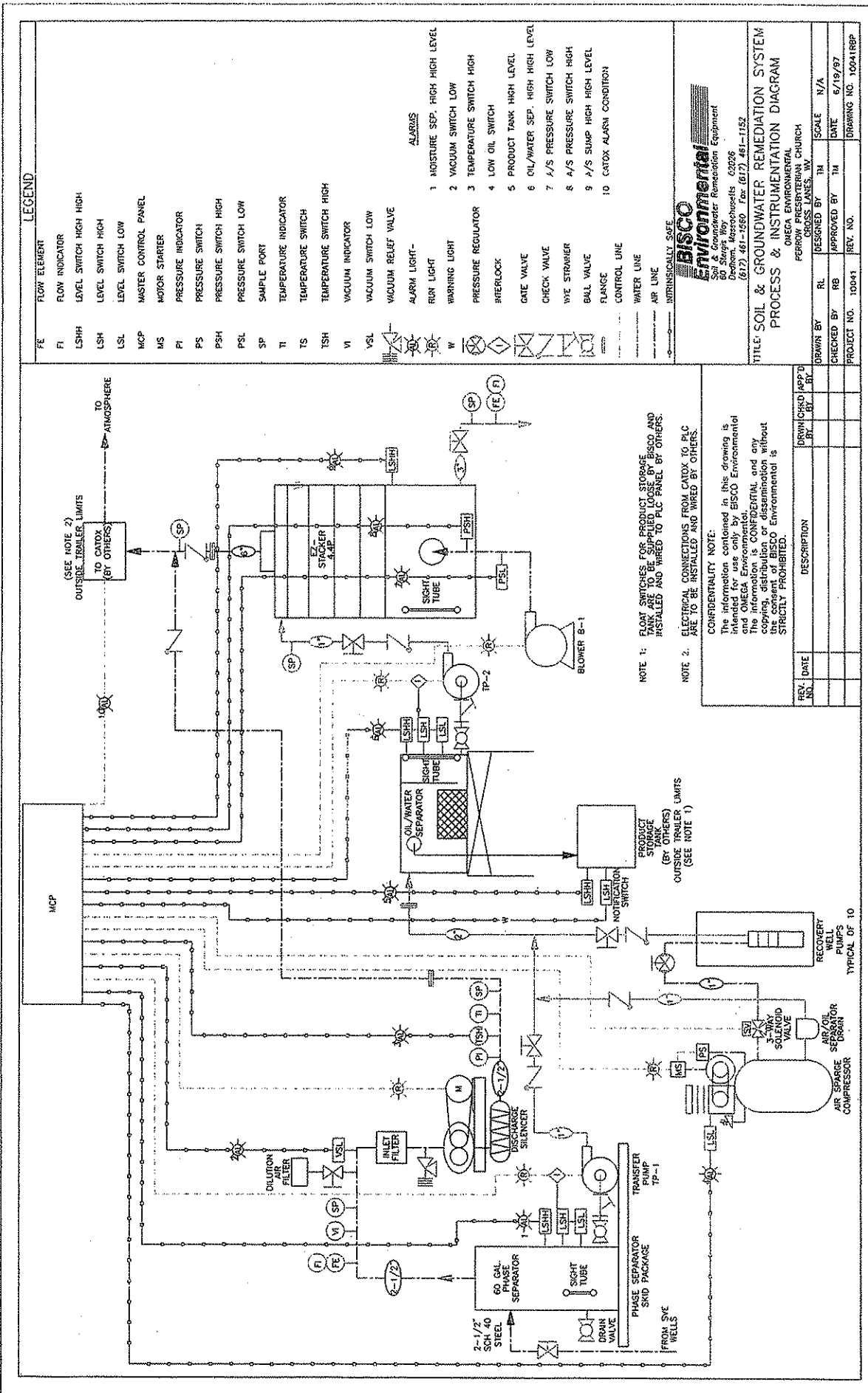
Ask About The Full Aeration Line.

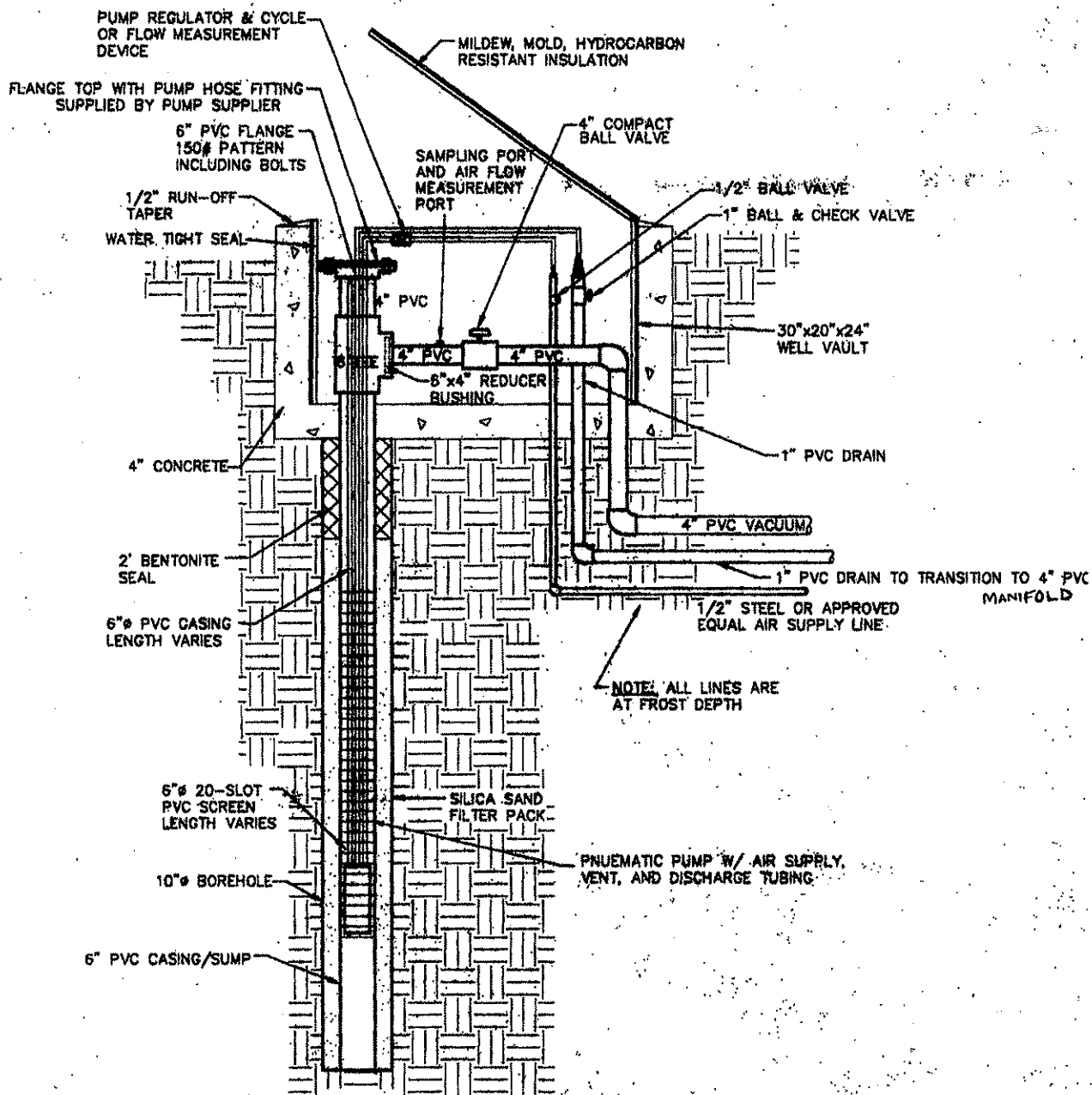
AEROMIX manufactures a complete line of specialized aeration and mixing equipment for treating water and wastewater in industrial, municipal and freshwater markets. Call today to learn more about the AEROMIX aeration solutions best for your application.

Ph: 800/879-3677, 763/746-8400
Fax: 763/746-8408
e-mail: aeromix@aeromix.com
web site: www.aeromix.com

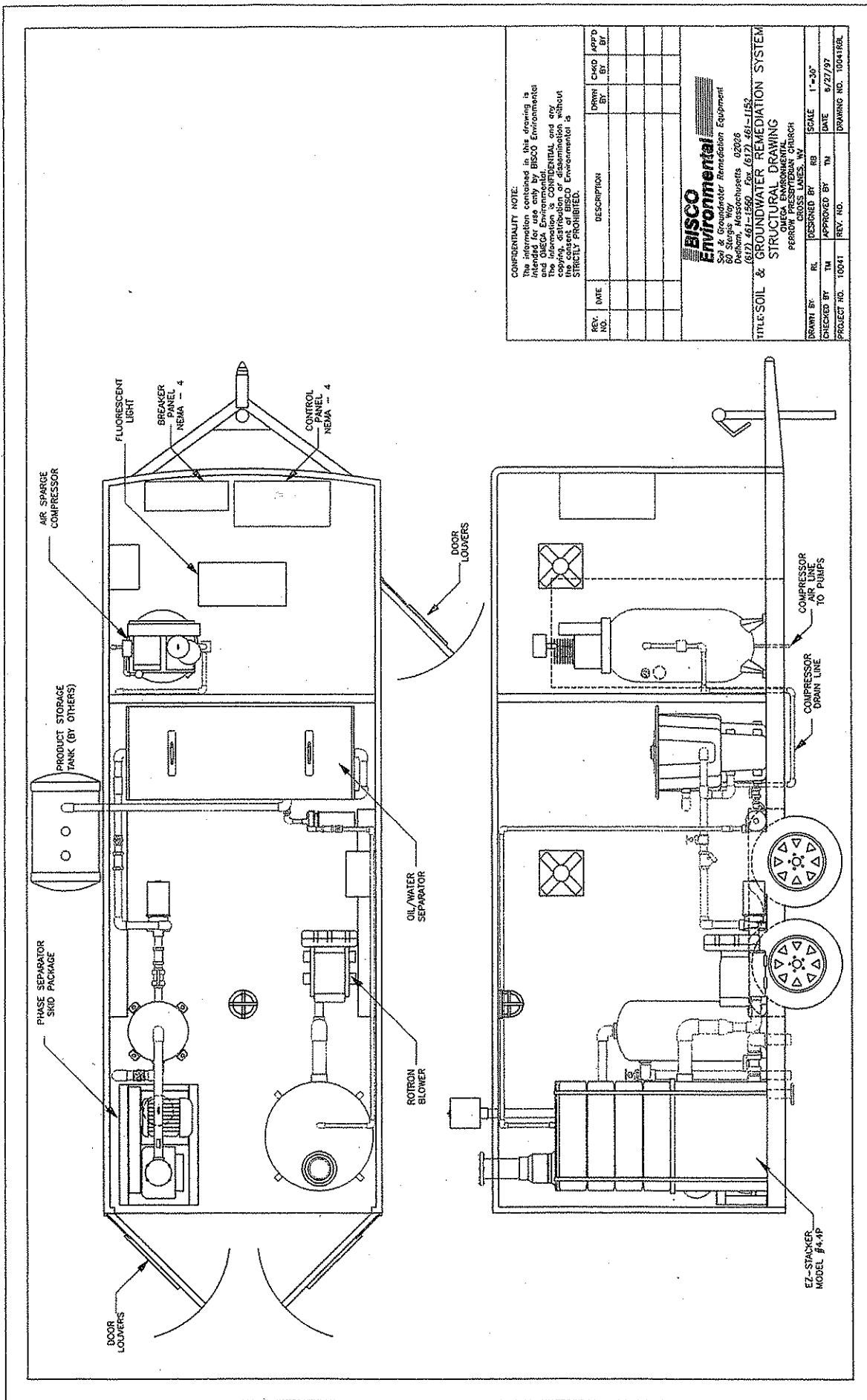
Rental units available.
Covered by United States Patent Nos. 324,279 and 6,355,096.
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TOTAL FLUID/VACUUM ENHANCED WELL DETAIL
SCALE: NONE



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REV. NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY

BISCO Environmental
 Soil & Groundwater Remediation Equipment
 60 Stevens Way
 Westborough, Massachusetts 01581
 (508) 861-6611

PROJECT NO. 10041

DESIGNED BY RB
CHECKED BY TM
APPROVED BY TN

DATE 6/27/97
SCALE 1"=30"

DRAWING NO. 10041R2

**TITLE/SOIL & GROUNDWATER REMEDIATION SYSTEM
 STRUCTURAL DRAWING**