

MODELS H3HX, H4HX, S4MX, S4PX, S4HVX and S4MVX (Class I, Division 1, Groups C & D): FM HAZARDOUS LOCATION SUBMERSIBLE PUMP

INSTALLATION AND SERVICE MANUAL

For use with product built with USEM motor.





NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.

General Information

Attention:

This manual contains important information for the safe use of this product. Read this manual completely before using this product and refer to it often for continued safe product use. Do not throw away or lose this manual. Keep it in a safe place so that you may refer to it often. Reasonable care and safe methods should be practiced. Check local codes and requirements before installation.

Unpacking Pump:

Remove pump from carton. When unpacking unit, check for concealed damage. Claims for damage must be made at the receiving end through the delivery carrier. Damage cannot be processed from the factory.

WARNING: Before handling these pumps and controls, always disconnect the power first. Do not smoke or use sparkable electrical devices or flames in a septic (gaseous) or possible septic sump.

CALIFORNIA PROPOSITION 65 WARNING:

A WARNING This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Pumps in Storage or Not Operating: Pumps with carbon ceramic seals must

have impellers manually rotated (6 revolutions) after setting nonoperational for 3 months or longer and prior to electrical start-up.

Pumps with tungsten carbide seals must have impellers manually rotated (6 revolutions) after setting nonoperational for three weeks or longer and prior to electrical start-up.

Seal Failure Probes:

All hazardous location submersible pumps have two factory installed moisture detectors (seal failure probes). They are in a normally open series circuit, in the seal chamber. Under normal operating conditions, the circuit remains open. If the lower seal leaks and moisture enters this chamber, the moisture would settle to the bottom of the chamber and will complete the circuit between the moisture detectors. This circuit must be connected to a sensing unit and signaling device. This is supplied in a Hydromatic[®] built control panel.

NOTE: Failure to install such a device negates all warranties by Hydromatic Pump.

Heat Sensors:

All motors in this family have heat sensors on or embedded in the motor winding to detect excessive heat. This prevents damage to the motor. If sensor trips due to excessive winding temperature, starter in panel breaks power to the pump. Once sensor resets, the starter is automatically reset for FM for continued operation of the pump. This circuitry is supplied in a Hydromatic control panel.

The sensors are set to trip at $120^{\circ}C$ (248°F).

NOTE: Failure to install such circuitry would negate FM approvals and all warranties by Hydromatic Pump.

Power Cords:

The power cord and heat sensor seal failure cord are potted into the connection box cap. The cords must not be spliced.

NOTE: Each cable has a green lead. This is the ground wire and must be grounded properly per NEC and/ or local codes. Cords should be inspected for abnormal wear and replaced accordingly.

Overload Heaters:

If the Hydromatic electrical panel is not used, starters with three-leg overload relay must be supplied on three-phase pumps. Each leg is to have an identical heater sized in accordance with the nameplate amps on the motor housing. The amp draw on these submersible motors is slightly higher than a corresponding horsepower surface motor, so heaters must be sized by the nameplate rating.

Single-phase pumps with capacitor start have a run and a start winding each drawing a different current. To adequately protect these windings with the appropriate heaters, consult the factory.

NOTE: Red lead is always start winding of pump using single-phase.

Pump Installation

Installing Sump Level Controls Float Controls:

In either simplex, duplex or triplex systems the lower or turn-off control is to be set to maintain a minimum level in the sump. This level shall be no more than 3-1/4" from the top of the motor housing down to the surface of the sewage.

The second or turn-on control is set above the lower turn-off control. The exact distance between the two floats must be a compromise between a frequent pumping cycle (10 starts per hour max.) to control septicity, solids and a slower cycle for energy economy. This distance should be determined by the engineer or consulting engineer depending on the conditions of the application.

For installation of Hydromatic supplied level controls refer to your system's installation and service manual.

Installing Pump in Sump:

Before installing pump in sump, lay it on side and rotate impeller. Impeller may be slightly stuck due to factory test water so it must be broken loose with small bar or screwdriver in edge of vanes. The impeller should turn freely. Do not connect the power until after this test.

Clean all trash and sticks from sump and connect pump to piping. A check valve must be installed on each pump. A gate or plug valve in each pump discharge is highly recommended. This valve should be installed on the discharge side of the check valve so if necessary to service the check valve, the line pressure can be cut off. Single pump systems are sometimes installed without a check valve where it is desirable to self-drain the discharge line to prevent freezing. This can be done only with short discharge lines; otherwise water will return to the sump and cause short cycling of the pump.

Making Electrical Connections:

All electrical wiring must be in accordance with local code, and only qualified electricians should make the installations. All wires should be checked for shorts to ground with an ohmmeter or Megger[®] after the connections are made. This is important, as one grounded wire can cause considerable trouble. IMPORTANT: If equipment is not properly wired and protected as recommended, Hydromatic warranty is void.

To Re-wire the pump from 230V to 460V 3 phase:

Only a 230V pump from the factory is considered dual voltage, a cord label clearly states the factory wound voltage.

Remove bolts securing capcord then raise the cord cap assembly enough to slip a prying instrument on opposite sides between the cord cap casting and the junction box. Take care to not damage the o-ring or the machined surfaces of the castings. Doing so could void FM agency certifications. While prying evenly on both sides; separate the cord cap casting from the motor housing, the assembly is airtight and will have a vacuum effect when disassembling. Once separated, the cord cap can be inverted and rotated to the outside of the pump assembly, and a bolt can be re-used to secure the upside down cord cap to the motor housing for ease of rewiring.

Refer to the wiring diagram within this manual for wiring details. Once all electrical connections are finished and secure (a crimped electrical connector is best to prevent issues due to vibration if required), the cord cap should be re-attached reversing the steps above. Ensure the o-ring is in place and perform a hi-pot test for safety once everything is complete.

Heat Sensor and Seal Failure Connections:

If a Hydromatic control panel is used, terminal blocks are provided for heat sensor and seal failure connections. If a control panel is supplied by others, it must allow heat sensor and seal failure terminations.

Pump Operations

Starting System:

- 1. Double check all wire connections.
- 2. Turn pumps to Off position on H-O-A switches.
- 3. Turn on breakers.
- 4A. When using single-phase pumps, make sure red pump lead is connected to capacitor circuit, connect amprobe to pump power cord and turn pump on. Pump will

show high amp draw momentarily, then as pump comes off start wirings, amps will drop to normal nameplate amps.

- 4B. When using three-phase pumps (230/460/575), turn H-O-A switch to Hand position On one pump and notice operation. If pump is noisy and vibrates, rotation is wrong. To change rotation, interchange any two line leads to pump. Do not interchange main incoming lines. Check rotation of all pumps in this same manner.
- 5. Now set both H-O-A switches to Auto position and allow water to rise in sump until one pump starts. Allow pump to operate until the level drops to turn-off point.
- 6. Allow sump level to rise to start other pump(s). Notice run lights to panel. Pumps should alternate on each successive cycle of operation.
- Turn both H-O-A switches to Off position and allow sump to fill to the override control level(s).
- 8. Turn switches to Auto position, and pumps should start and operate together until level drops to turnoff point.
- 9. Repeat this operation cycle several times before leaving the job.
- 10. Check voltage when pumps are operating and check the amp draw of each pump. Check amps on each wire as sometimes a high leg will exist. One leg can be somewhat higher by 5 to 10 percent without causing trouble. For excessive amp draw on one leg, the electric utility company should be consulted.

Pump Maintenance

As the motors are oil filled, no lubrication or other maintenance is required.

If the heat sensor and seal failure are hooked up properly, no attention is necessary as long as the seal failure indicator light doesn't come on. To ensure continuity of the seal sensor leads, a test light is provided on intrinsically safe Hydromatic panels as standard equipment.

Pump should be checked every quarter for corrosion and wear.

Field Service on Hydromatic Hazardous Location Pumps:

If a Hydromatic hazardous location pump is used in a hazardous location the pump must be returned to the factory for service. This will ensure the integrity of the hazardous location rating of the pump and comply with our warranty requirements.

Disconnecting Pump Cords:

If a Hydromatic hazardous location pump is to be removed from its location, the pump cords may be disconnected at control panel (on sump mounted control panels) and cord assembly taken with pump.

CAUTION: If cord openings from sump to control panel are open, gases from sump could enter panel and an explosive condition could exist.

CAUTION: Do not reconnect power to a cord and cap assembly while removing from pump.

Replacing Cords:

The power cord and heat sensor - seal failure cord is potted into the connection box cap, forming the cord and cap assembly.

If cords require replacement due to damage or cords being too short, cord and cap assembly must be replaced as a complete assembly available from factory.

Check pump for proper rotation before returning to normal service.

Replacing Lower Seal, Impeller or Volute:

The wet end component may be repaired or replaced by an authorized Hydromatic service facility without compromising the hazardous location rating to the pump.

NOTE: Any time the seal is disturbed, it must be replaced.

Wiring Diagrams







1 PHASE

BLACK, WHITE, AND RED MOTOR LEADS CAN ONLY BE CONNECTED TO PANEL TERMINAL BLOCKS AS SHOWN ON SCHEMATIC. INCORRECT CONNECTION CAN CAUSE DAMAGE TO PUMP AND/OR PANEL COMPONENTS. THREE PHASE OVERLOAD RELAY MUST BE CLASS 10 TRIP & AMBIENT COMPENSATED & CONNECTED IN THE 'DAISY CHAIN' CIRCUIT AS SHOWN.

Notes: 1) Level Switches Must Be Rated a Minimum of 2 Amps at 120 Volts 2) Torque all white field wiring terminals to 20 In.Lbs. 3) Field Wiring Must Be 60°C Copper Wire Minimum. 4)------ I tems Not Supplied In Control Panel. 5) Pump power, heat sensor, and seal probe cables must pass through approved NEC 501.15 conduit seals.

3 PHASE

Notes: 1) Level Switches Must Be Rated a Minimum of 2 Amps at 120 Volts 2) Torque all white field wiring terminals to 20 In.Lbs. 3) Field Wiring Must Be 60°C Copper Wire Minimum. 4) ------ I tems Not Supplied In Control Panel. 5) Pump power, heat sensor, and seal probe cables must pass through approved NEC 501.15 conduit seals.

H3HX, H4HX, S4MX, S4PX, S4HVX and S4MVX Parts List

For use with product built with USEM motor.

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Ker.	Part	Part	Qty.
No.	No.	Description	
1	151761005	PG LIFTING BAIL – 180 FRM	1
2	001500191	0-RING - 1/8 x 6.734, ID #2-261	1
3	19103A052	SCREW - HHC 1/2-13UNC x 1-1/4	4
4	108980001	CONNECTOR - ELEC	2
6	009750171	SNAP RING	1
7	105710002	HOUSING - MOTOR	1
8	109000025	SEAL SENSOR ASSY.	1
9	107540002	PLATE – SEAL	1
10	109010001	SEAL FAILURE PROBE	2
11	19101A021	SCREW - HHC 3/8-16UNC x 1-1/2	4
12	107440002	HOUSING - BEARING	1
13	109020001	WIRE – SAFETY	1
14	009240111	PLUG - PIPE 1/2	2
15	001500311	0-RING - 1/8 x 3.984, ID #2-242	1
16	105-014034-263	SCREW - CAP (HEX SOC.)	4
17	107820023	RING – LABYRINTH	1
18	009750191	RING – RETAIN. (EXT)	1
19	001780081	SCREW - CAP (HEX SOC.)	4
20	070740003	RING - RETAINING STATOR	1
21	000650271	BEARING - BALL	1

Ref.	Part	Part	
No.	No.	Description	Q
22	000640071	SPRING - BEARING ADJ.	
23	110650013	SCREEN - 2.62 DIA.	1
24	19101A017	SCREW - HHC 3/8-16UNC x 1-1/2	4
25	001500241	O-RING - 1/8 x 6.734, ID #2-261	1
0/	110490011	UPPER SEAL – CARBON CERAMIC / BUNA-N	1
20	110490021	UPPER SEAL – TUNGSTEN CARBIDE / BUNA-N	1
07	081000005	LOWER SEAL - CARBON CERAMIC / BUNA-N	
27	081000025	LOWER SEAL - TUNGSTEN CARBIDE / BUNA-N	
20	000650331	BEARING – BALL ON S4PX, H4HX, H3HX	1
28	08565A026	BEARING – BALL ON S4MX, S4MVX, S4HVX	1
20	083460033	KEY – 3/8 x 1/4 ON S4PX, H4HX, H3HX	I
29	083460011	KEY – 3/8 x 1/4 ON S4MX, S4MVX, S4HVX	
	05876A112	0-RING - 1/8 x 5.234 ID #2-252	1
	517000507	CERAMIC SEAL KIT – S4MX, S4MVX, S4HVX	1
30	517003507	CARBIDE SEAL KIT – S4MX, S4MVX, S4HVX	1
	517000707	CERAMIC SEAL KIT – S4PX, H3HX, H4HX	
	517003707	CARBIDE SEAL KIT – S4PX, H3HX, H4HX	



Wet Ends Parts List - For use with product built with USEM motor.





S4MX





S4HVX





S4MVX

S4PX

НЗНХ

Item No.	Description	Part No.	S4MX	S4MVX	S4PX	S4HVX	H3HX/H4HX
B1	O-RING - 1/8 X 9.984, ID #2-274	001500471	-	-	1	-	1
B2	SCREW – CAP	CHARTED	005680021	005680021	005680021	029210041	005680021
B3	WASHER - IMPELLER SST	CHARTED	080230001	080230001	080230001	080230001	080230001
B4	VOLUTE	CHARTED	070680015	070800002	137210015	082120002	151540015
B5	SPACER	137720003	-	-	1	-	1

Motor Parts Group

Ref.		10 hp	10 hp	10 hp	10 hp	15 hp	15 hp	15 hp	15 hp
No.	2 Pole, 3450 RPM	200/3/3450	230/3/3450	460/3/3450	575/3/3450	200/3/3450	230/3/3450	460/3/3450	575/3/3450
A1	Connection Box	114080005	114080015	114080015	114080005	114080025	114080035	114080015	114080005
A2	Rotor/Shaft Assy.	141450125	141450125	141450125	141450125	141450125	141450125	141450125	141450125
A3	Stator	141452031	141450031	141450031	141456031	141462031	141460031	141460031	141466031
A4	Spacer	007360061	007360061	007360061	007360061	007360061	007360061	007360061	007360061
A5	CAPCORD	152790325	152790325	152790305	152790305	152790325	152790325	152790315	152790305
Ref.		5 hp	5 hp	7.5 hp	5-7 hp	5-7 hp	5-7 hp	5-7 hp	10 hp
No.	4 Pole, 1750 RPM	230/1/1750	230/1/1750	230/1/1750	200/3/1750	230/3/1750	460/3/1750	575/3/1750	200/3/1750
A1	Connection Box	114080005	114080005	114080005	114080005	114080015	114080015	114080005	114080005
A2	Rotor/Shaft Assy.	141420125	141420125	141440125	141390125	141390125	141390125	141390125	141410125
A3	Stator	141422011	141420011	141440011	141402031	141400031	141400031	141406031	141412031
A4	Spacer	007360061	007360061	-	007360061	007360061	007360061	007360061	-
A5	CAPCORD	152790315	152790315	152790325	152790315	152790315	152790305	152790305	152790325
D of		10 hp	10 hp	10 hp	15 hp	15 hp	15 hp	15 hp	
No.	4 Pole, 1750 RPM	230/3/1750	460/3/1750	575/3/1750	200/3/1750	230/3/1750	460/3/1750	575/3/1750	
A1	Connection Box	114080015	114080015	114080005	114080025	114080035	114080015	114080005	
A2	Rotor/Shaft Assy.	141410125	141410125	141410125	141410125	141410125	141410125	141410125	
A3	Stator	141410031	141410031	141416031	141432031	141430031	141430031	141436031	
A4	Spacer	_	_	_	_	_	_	_	
A5	CAPCORD	152790325	152790305	152790305	152790325	152790325	152790315	152790305	
									I
Ref		5 hp	5 hp	7.5 hp	5-7 hp	5-7 hp	5-7 hp	5-7 hp	10 hp
No.	4 Pole, 1750 RPM	200/1/1750	230/1/1750	230/1/1750	200/3/1750	230/3/1750	460/3/1750	575/3/1750	200/3/1750
A1	Connection Box	114080005	114080005	114080005	114080005	114080015	114080015	114080005	114080005
A2	Rotor/Shaft Assy.	141420165	141420165	141440165	141390165	141390165	141390165	141390165	141410165
A3	Stator	141422011	141420011	141440011	141402031	141400031	141400031	141406031	141412031
A4	Spacer	007360061	007360061	_	007360061	007360061	007360061	007360061	_
A5	CAPCORD	152790315	152790315	152790325	152790315	152790315	152790305	152790305	152790325
Ref.		10 hp	10 hp	10 hp	15 hp	15 hp	15 hp	15 hp	
	1								

Ref.		10 hp	10 hp	10 hp	15 hp	15 hp	15 hp	15 hp
No.	4 Pole, 1750 RPM	230/3/1750	460/3/1750	575/3/1750	200/3/1750	230/3/1750	460/3/1750	575/3/1750
A1	Connection Box	114080015	114080015	114080005	114080025	114080035	114080015	114080005
A2	Rotor/Shaft Assy.	141410165	141410165	141410165	141410165	141410165	141410165	141410165
A3	Stator	141410031	141410031	141416031	141432031	141430031	141430031	141436031
A4	Spacer	-	-		-	-	-	-
A5	CAPCORD	152790325	152790305	152790305	152790325	152790325	152790315	152790305

Ref.		3-5 hp	3-5 hp	3-5 hp	3-5 hp
No.	6 Pole, 1150 RPM	200/3/1150	230/3/1150	460/3/1150	575/3/1150
A1	Connection Box	114080005	114080015	114080015	114080005
A2	Rotor/Shaft Assy.	141390125	141390125	141390125	141390125
A3	Stator	142972031	142970031	142970031	142976031
A4	Spacer	007360061	007360061	007360061	007360061
A5	CAPCORD	152790305	152790305	152790305	152790305

Impeller Parts List

Description	hp	Volt/ph	Impeller	Trim
1750 RPM	_			
S4MX500BC	5	200/1	070710152	6.88
S4MX500CC	5	230/1	070710152	6.88
S4MX500DC	5	200/3	0/0/10152	6.88
S4MX500EC	5	230/3	070710152	0.00
S4MX500CC	5	400/3	070710152	0.00
S4MX300GC	75	2/2/3	070710132	0.00
S4MX750CC	7.5	230/1	070710232	7.30
SAMX750EC	7.5	200/3	070710232	7.30
SAMX750EC	7.5	460/3	070710232	7.30
S4MX750GC	7.5	575/3	070710232	7 38
S4MX1000DC	10	200/3	070710122	7.88
S4MX1000EC	10	230/3	070710122	7.88
S4MX1000FC	10	460/3	070710122	7.88
\$4MX1000GC	10	575/3	070710122	7.88
\$4MX1500DC	15	200/3	070710102	8.88
\$4MX1500EC	15	230/3	070710102	8.88
\$4MX1500FC	15	460/3	070710102	8.88
\$4MX1500GC	15	575/3	070710102	8.88
1150 RPM		······		
S4MX300DB	3	200/3	070710052	8
S4MX300EB	3	230/3	070710052	8
S4MX300FB	3	460/3	070710052	8
S4MX300GB	3	575/3	070710052	8
S4MX500DB	5	200/3	070710012	9
S4MX500EB	5	230/3	070710012	9
S4MX500FB	5	460/3	070710012	9
S4MX500GB	5	575/3	070710012	9
1750 RPM				
H3HX500BC	5	200/1	151460102	7.5
H3HX500CC	5	230/1	151460102	7.5
H3HX500DC	5	200/3	151460102	7.5
H3HX500EC	5	230/3	151460102	7.5
H3HX500FC	5	460/3	151460102	7.5
H3HX750GC	5	575/3	151460102	7.5
H3HX/50CC	7.5	200/3	151460062	8.5
H3HX/50DC	7.5	230/3	151460062	8.5
H3HX/SUEC	7.5	230/3	151460062	8.5
	7.5	400/3	151400062	8.5
	10	2/0/3	151460062	0.0
H3HX1000EC	10	200/3	151460032	9.25
H3HX1000EC	10	230/3	151460032	9.25
H3HX1000GC	10	575/3	151460032	9.25
H3HX1500DC	15	200/3	151460002	10
H3HX1500EC	15	230/3	151460002	10
H3HX1500FC	15	460/3	151460002	10
H3HX1500GC	15	575/3	151460002	10
1750 RPM				
H4HX500BC	5	200/1	151460102	7.5
H4HX500CC	5	230/1	151460102	7.5
H4HX500DC	5	200/3	151460102	7.5
H4HX500EC	5	230/3	151460102	7.5
H4HX500FC	5	460/3	151460102	7.5
H4HX750GC	5	575/3	151460102	7.5
H4HX750CC	7.5	200/3	151460202	8.13
H4HX750DC	7.5	230/3	151460202	8.13
H4HX750EC	7.5	230/3	151460202	8.13
H4HX750FC	7.5	460/3	151460202	8.13
H4HX750GC	7.5	575/3	151460202	8.13
H4HX1000DC	10	200/3	151460052	8.75
H4HX1000EC	10	230/3	151460052	8.75
H4HX1000FC	10	460/3	151460052	8.75
H4HX1000GC	10	575/3	151460052	8.75
H4HX1500DC	15	200/3	151460012	9.75
H4HX1500EC	15	230/3	151460012	9.75
H4HX1500FC	15	460/3	151460012	9.75
H4HX1500GC	15	575/3	151460012	9.75

Description 1750 RPM	hp	Volt/ph	Impeller	Trim
S4MVX500BC	5	200/1	070810082	6 75
S4MVX500CC	5	230/1	070810082	6 75
S4MVX500DC	5	200/3	070810082	6 75
S4MVX500EC	5	230/3	070810082	6.75
SAMVX500EC	5	460/3	070810082	6 75
S4MVX500CC	5	575/2	070010002	6.75
S4MVX750CC	7.5	220/1	070010002	0.75
S4MVX750DC	7.5	200/3	070810022	8
S4MVX750EC	7.5	230/3	070810022	8
S4MVX750EC	7.5	460/3	070810022	8
S4MVX750CC	7.5	575/2	070010022	0
S4MVX1000DC	10	200/3	070810022	8 4 9
S4MVX1000DC	10	200/3	070010132	9.60
S4MVX1000EC	10	230/3	070810132	9.60
S4MVX10001C	10	575/2	070010132	0.07
S4MVX1500DC	10	200/2	070810132	0.07
S4MVX1500DC	15	200/3	070810002	7
SAMVX1500EC	15	230/3	070810002	7
S4MVX1500FC	15	400/3	070810002	7
1150 DDM	15	575/5	070810002	9
	2	200/2	070910010	0.5
SAMUY200ED	2	200/3	070010012	0.5
SAMVY200ED	2	230/3	070010012	0.5
SAMVX200CP	2	400/3	070010012	0.5
SAMVX500DP	5	2/2/3	070810012	0.5
SAMVEOOFD	5	200/3	070810002	7
SAMVEOOFD	5	230/3	070810002	7
SAMVX500CP	5	400/3	070810002	9
1750 DDM	5	5/5/3	070810002	9
SARVEOORC	5	200/1	127220102	7 1 2
SAFAJUUBC	5	200/1	137220192	7.13
SAPXEOODC	5	230/1	137220192	7.13
54PX500DC	5	200/3	137220192	7.13
S ADVEODEC	5	230/3	137220172	7.13
SAFAGOOCC	5	400/3	137220192	7.13
S4FX300GC	7.5	220/1	137220192	0.00
SAPX750DC	7.5	230/1	137220232	0.30
S4FX750DC	7.5	200/3	137220232	0.30
S 4DX750EC	7.5	230/3	137220252	0.30
54PX/50FC	7.5	400/3	137220252	0.30
54PX/50GC	1.0	3/3/3	137220252	0.30
54PX1000DC	10	200/3	137220052	9
54PX1000EC	10	230/3	137220052	9
54PX1000FC	10	400/3	137220052	9
54PX1000GC	10	3/3/3	137220052	10
54PX1500DC	15	200/3	137220012	10
54PX1500EC	15	230/3	13/220012	10
54PX1500FC	15	460/3	13/220012	10
34PX1300GC	15	5/5/3	13/220012	10
3450 KPM	7.5	000/0	000100000	4.70
54HVX/50DD	7.5	200/3	082130082	4.69
54HVX/50JD	7.5	2302/3	082130082	4.69
54HVX/50JD	7.5	460/3	082130082	4.09
34HVX1000DD	/.5	5/5/3	002130082	4.09
	10	200/3	082130042	5
S4HVX1000JD	10	230/3	082130042	5
S4HVX1000JD	10	460/3	082130042	5
54HVX1000GD	10	5/5/3	082130042	5
SOHVX1500DD	15	200/3	082130052	5.69
S4HVX1500JD	15	230/3	082130052	5.69
S4HVX1500JD	15	460/3	082130052	5.69
54HVX1500GD	15	5/5/3	082130052	5.69

STANDARD LIMITED WARRANTY

Pentair Hydromatic[®] warrants its products against defects in material and workmanship for a period of 12 months from the date of shipment from Pentair Hydromatic or 18 months from the manufacturing date, whichever occurs first – provided that such products are used in compliance with the requirements of the Pentair Hydromatic catalog and technical manuals for use in pumping raw sewage, municipal wastewater or similar, abrasive-free, noncorrosive liquids.

During the warranty period and subject to the conditions set forth, Pentair Hydromatic, at its discretion, will repair or replace to the original user, the parts that prove defective in materials and workmanship. Pentair Hydromatic reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for prior sold and/or shipped units.

Start-up reports and electrical schematics may be required to support warranty claims. Submit at the time of start up through the Pentair Hydromatic website: http://forms.pentairliterature.com/startupform/startupform.asp?type=h. Warranty is effective only if Pentair Hydromatic authorized control panels are used. All seal fail and heat sensing devices must be hooked up, functional and monitored or this warranty will be void. Pentair Hydromatic will cover only the lower seal and labor thereof for all dual seal pumps. Under no circumstance will Pentair Hydromatic be responsible for the cost of field labor, travel expenses, rented equipment, removal/reinstallation costs or freight expenses to and from the factory or an authorized Pentair Hydromatic service facility.

This limited warranty will not apply: (a) to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with the printed instructions provided; (b) to failures resulting from abuse, accident or negligence; (c) to normal maintenance services and parts used in connection with such service; (d) to units that are not installed in accordance with applicable local codes, ordinances and good trade practices; (e) if the unit is moved from its original installation location; (f) if unit is used for purposes other than for what it is designed and manufactured; (g) to any unit that has been repaired or altered by anyone other than Pentair Hydromatic or an authorized Pentair Hydromatic service provider; (h) to any unit that has been repaired using non factory specified/ OEM parts.

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