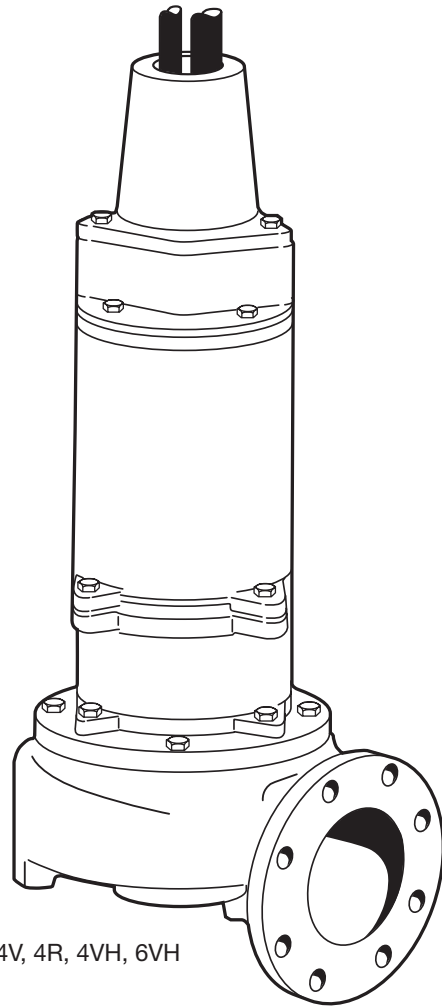
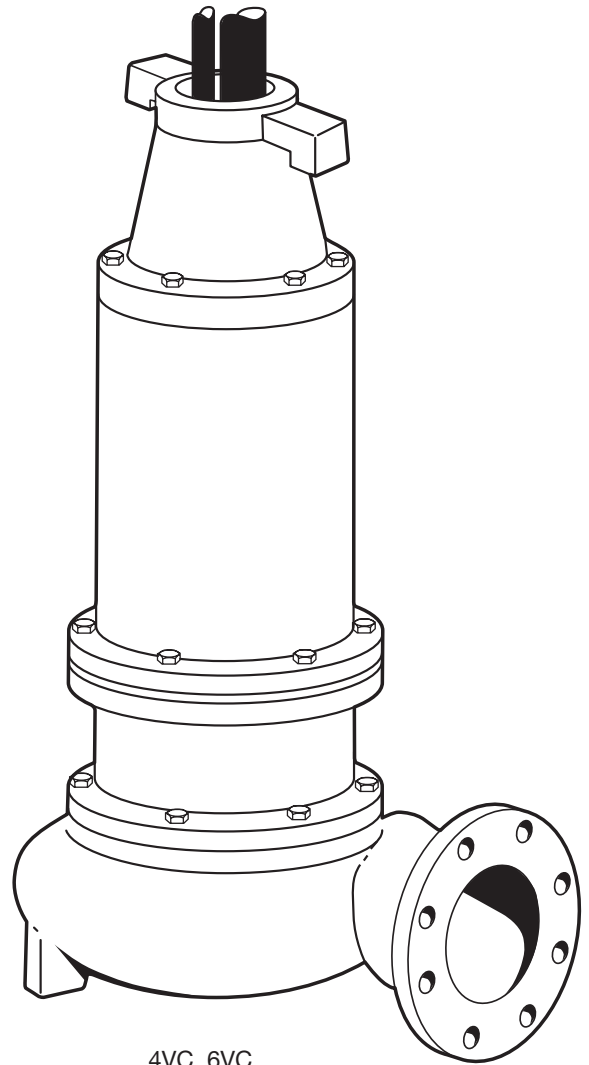




**MYERS®**



4V, 4R, 4VH, 6VH



4VC, 6VC

# MODELS 4V, 4R, 4VH, 6VH, 4VC and 6VC **SOLIDS HANDLING PUMPS**

## **INSTALLATION AND SERVICE MANUAL**

**For use with product built with GE® 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.

## PUMP MODELS

These instructions cover the installation of the 4V, 4VH, 6VH, 4R, 4VC and 6VC series of solids handling pumps. All models are designed for handling raw sewage and wastewater.

The 4R series is made with a recessed impeller. All other models have 2 vane solids handling impellers. All models will pass 3" dia. solids.

All models with 4 in the model number have a 4" std. flange discharge.

All models with 6 in the model number have a 6" std. flange discharge.

## VOLTAGES

All single phase motors are for 230 volts only. All three phase motors are either 200, 230, 460, or 575 volts. Most 4VC and 6VC models can be configured for 230 or 460 voltages. All 200 volt and 575 volt motors are single voltage.

## DESCRIPTION OF PUMP

For the 4R, 4V and 4VH models, pressure connectors are used on wire connections inside motor cover. The 4VC and 6VC series have terminal connections inside the motor cover. Power cord and cap can be removed without disturbing motor on 4VC and 6VC units.

**WARNING: Only qualified persons shall conduct services and installations of this pump. The pump must be wired by a qualified electrician, using an approved starter box and switching device.**

**DANGER: SEWAGE WATER GIVES OFF METHANE AND HYDROGEN SULFIDE GASES, BOTH OF WHICH ARE HIGHLY POISONOUS.**

**It is for this reason that Myers recommends the lift-out check valve so that no service is required in the basin. Consult federal, state and local codes for confined space entrance guidelines.**

### CALIFORNIA PROPOSITION 65 WARNING:

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

## SEAL FAILURE

All motors have a probe installed in seal chamber so that any leakage past the lower seal into seal chamber is detected.

A red warning light at the control panel comes on if water enters seal chamber. This is an indicator only and does not stop motor, but warns that seal should be replaced immediately to prevent motor damage. **PUMP MUST GO TO AUTHORIZED SERVICE STATION FOR SEAL REPLACEMENT.**

## HEAT SENSOR

All motors have a heat sensing thermostat installed in top winding of motor. Any motor winding temperature above 248°F for 4R, 4V, 4VH, 6VH and 266°F for 4VC, 6VC will open thermostat and stop motor. Thermostat will automatically reset as soon as it has cooled.

**CAUTION: AUTOMATIC (RESET) MOTOR CAN START AT ANY TIME AFTER THERMOSTAT IS TRIPPED SO NEVER DO SERVICE WORK ON PUMP UNLESS POWER SUPPLY IS DISCONNECTED.**

**IMPORTANT: BE SURE HEAT SENSOR WIRES AND SEAL FAILURE WIRES ARE CONNECTED AT PANEL TERMINAL BLOCK. WARRANTY IS VOID IF WIRES ARE NOT CONNECTED OR ARE JUMPED.**

## MOTOR POWER CABLE AND CONTROL CABLE

Each pump motor is furnished with a power and control cable. Longer than standard cord lengths are available on request.

Each power cord has four conductors – white, black, red and green. For 3 phase, the red, black and white conductors connect to the three line leads and the green is connected to a good outside ground. Interchanging any two leads reverses the motor.

For single phase, the white and black leads connect to the two line terminals and the red connects to the start winding terminal. The green is for ground and must be connected per NEC.

The control cable has five conductors – black, white, red, orange and green. White and black connect to heat sensor terminals; red and orange connect to the seal failure terminals and green connects to the ground terminal.

## APPLICATION

All Myers solids handling pumps can be used to pump raw sewage, storm water and other wastewater. **DO NOT USE FOR ACID WATER.** MAX. SOLID SIZE FOR ALL UNITS IS 3" DIAMETER.

## SINGLE PHASE MOTORS

Single phase motors are for 230 volts only. A special control panel with start and run capacitors and start relay is required for these pumps.

**THESE CONTROL PANELS MUST BE OBTAINED FROM F.E. MYERS CO. OR MUST BE APPROVED BY MYERS OR WARRANTY ON PUMP IS VOID.**

## OIL FILLED

Motor chamber and seal chamber are oil filled for coolest running, best heat transfer and best lubrications for bearings and seals. Motor requires no oiling or greasing. Motor is sealed for life of bearings.

## POWER CORD SIZES

Power cord gauge size is determined per NEC. Motors are generally furnished for single voltage, but the larger motors in the 4VC and 6VC pumps can be configured for dual voltage. Dual voltage configuration is for 230 or 460 volt only. When ordering a dual voltage capable pump, the cord size for the lower voltage must be used. 200 and 575 volt motors are single voltage only.

**CAUTION: NEVER PULL PUMP OR WORK ON CONTROL BOX UNTIL INCOMING POWER IS DISCONNECTED. NEVER RUN MOTOR UNTIL GREEN GROUND CONDUCTOR IS CONNECTED PER NEC AT CONTROL BOX.**

## MAKING ELECTRICAL CONNECTIONS

1. Level controls are held by support bracket and cords are adjusted for proper depth.
  - a. Lower turnoff control should be set so that pump stops when water level is about at top of check valve or straight through casting.
  - b. Upper turn-on control is set to start pump when level is at height specified above pump.
  - c. Override control is set at height specified above upper turn-on control.
  - d. Alarm control is set about 6" to 12" above override control.
  - e. No control should be set above inlet invert.
2. If control panel is mounted directly on basin top, the power and control wires are taken directly to control box and are sealed in the cord plate with cord grip connectors.
3. If panel is installed remote from basin the cords can be taken through a conduit to control panel, or junction box can be used in the basin to make connections. The Myers junction box has a built-in sealing connector to seal the outgoing wires. If other than Myers junction box is used, a separate sealing connector must be used where wires leave the basin.

**CAUTION: IF CORDS ARE TAKEN DIRECTLY THROUGH A CONDUIT TO CONTROL BOX, A SEAL FITTING MUST BE USED AT INLET OF CONDUIT TO PREVENT GAS VAPORS FROM GETTING TO CONTROL BOX. THIS TYPE OF INSTALLATION IS GENERALLY NOT RECOMMENDED BECAUSE THE SEALING CEMENT MUST BE BROKEN TO REMOVE A CORD.**

## SINGLE PHASE MOTORS

Single phase pumps have only one rotation and do not need to be checked.

## THREE PHASE MOTORS

Rotation for three phase motors must be checked. The pump impeller should rotate counterclockwise when looking at the suction end of pump. To reverse rotation, interchange any two line leads to motor.

**CAUTION: PUMP MOTOR IS NOT TO BE TAKEN APART IN THE FIELD. MOTORS UNDER WARRANTY MUST BE SERVICED BY A MYERS AUTHORIZED REPAIR FACILITY OR BE SENT TO FACTORY.**

## 50 CYCLE PUMPS

All Myers 60 cycle solids handling, three phase pumps can operate on 50 cycle power at reduced performance. 60 cycle, 460 volt pumps should operate on 380 volt, 50 cycle. Single phase, 60 cycle, 230 volt pumps can operate on 220 volts, single phase, 50 cycle.

## REMOVING PUMP CASE AND IMPELLER

In case of wear, damage due to dropping, plugged pump, or replacing a defective motor, the pump volute case and impeller can be removed in the field.

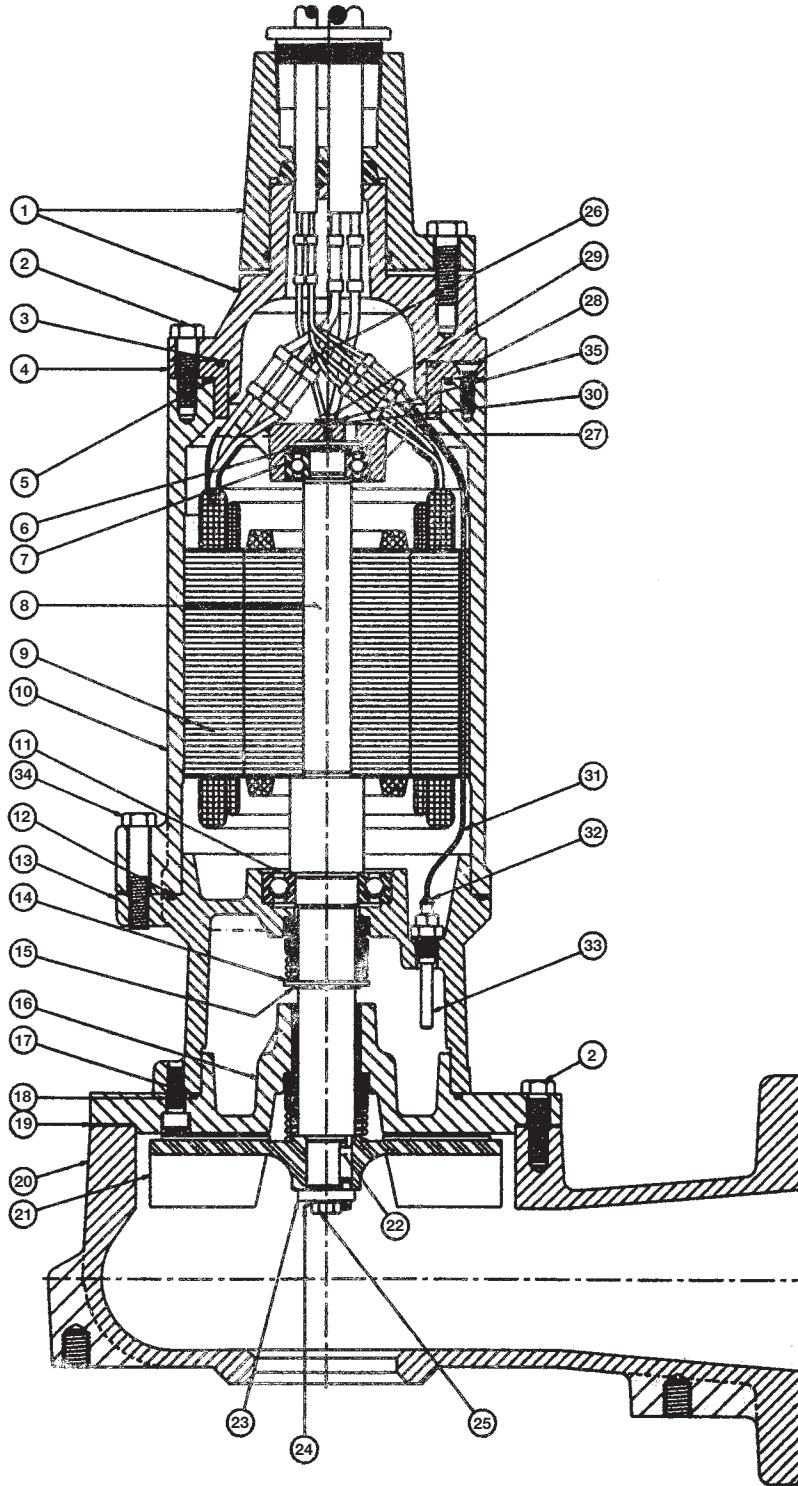
1. Remove bolts between seal housing flange and volute case. The motor and impeller can now be lifted off as a unit.
2. If necessary to remove impeller, lay pump on its side. With a screwdriver bend the tabs of the lock washer away from the head of the hex head bolt.
3. Loosen and remove the bolt by turning counterclockwise. Since Loctite® is used to secure the bolt and is applied to the shaft/impeller interface, heating of the shaft end to 450° or 500°F will usually be required.
4. Impeller is mounted by a straight fit with driving key. Pry evenly on opposite impeller sides with two large screwdrivers or small bars behind the impeller.
5. Set motor on end with shaft up after removing impeller so that oil will not drain past the seal.

## REPLACING IMPELLER AND PUMP CASE

1. Before reassembly, apply Loctite® #680 in keyway, impeller bore (lower shaft O.D.), and on the threads of the hex head cap screw.
2. Before placing the impeller on the shaft, be sure the mechanical seal and its spring are in place.
3. Position retaining washer with long pin extension in keyway.
4. Assemble hex head cap screw and tighten securely.

# 4R SERIES SUBMERSIBLE SOLIDS HANDLING PUMPS PARTS LIST

4 POLE (1750 RPM), 3 TO 10 HP – 3 PHASE AND 3 TO 5 HP – 230V, 1 PHASE  
3 PHASE IN ALL VOLTAGES 200, 230, 460 & 575



# 4R SERIES SUBMERSIBLE SOLIDS HANDLING PUMPS PARTS LIST

4 POLE (1750 RPM), 3 TO 10 HP – 3 PHASE AND 3 TO 5 HP – 230V, 1 PHASE  
3 PHASE IN ALL VOLTAGES 200, 230, 460 & 575

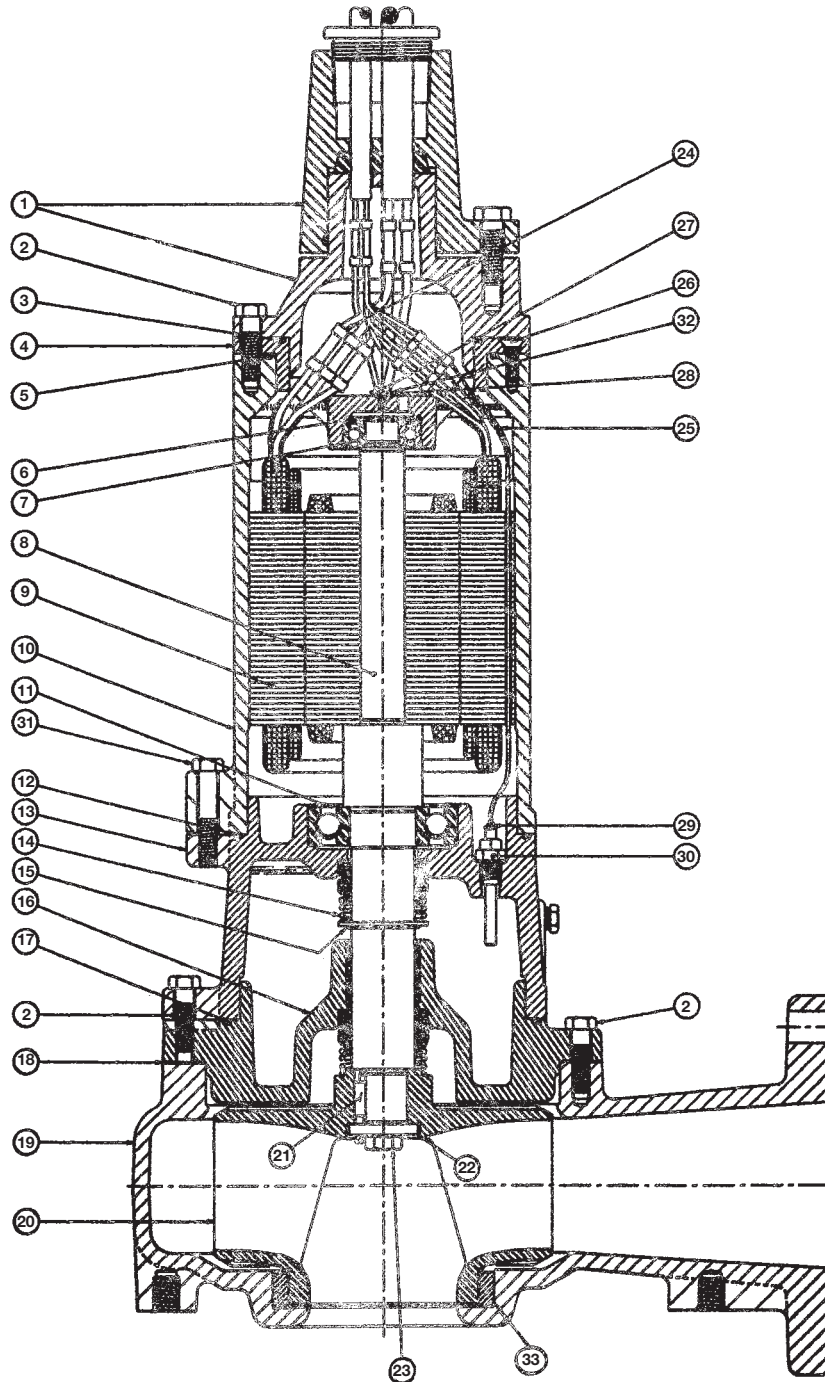
Ref. No.	Part Number	Description	Qty.
1	RTF	35' CORD ASSEMBLY	1
2	19102A006	CAP SCREW, HEX HD., 7/16"-14 x 1-1/2"	8
3	05876A123	O-RING, 4-7/8" x 4-5/8" x 1/8"	1
4	22590B000	CAP, UPPER BEARING	1
5	05876A112	O-RING, 5-1/2" x 5-1/4" x 1/8"	1
6	19331A006	WASHER, FINGER SPRING	2
7	08565A022	BEARING, BALL	1
8	SEE CHART	ROTOR WITH SHAFT	1
9	22848C100	SHAFT ONLY (FOR ALL HP SIZES)	1
	SEE CHART	STATOR	1
10	22571D000	HOUSING, MOTOR	1
11	08565A023	BEARING, BALL	1
12	05876A114	O-RING, 7" x 6-3/4" x 1/8"	1
13	22576D010	HOUSING, SEAL	1
14	22577A000	SEAL, 1-1/4" SHAFT	2
15	12558A008	RING, RETAINING	1
16	22853C000	HOUSING, LOWER SEAL, WITH BEARING	1
17	05876A113	O-RING, 6" x 5-3/4" x 1/8"	1
18	0610A028	CAP SCREW, SOCKET HD., 3/8"-16 x 1"	4
19	05231A079	GASKET, VELLUMOID	1
20	22854D000	CASE, VOLUTE	1
21	22855C502	IMPELLER (SPECIFY O.D.)	1
22	05818A074	KEY, 1/4" SQUARE x 11/16" LG.	1
23	23609A001	WASHER, IMPELLER RETAINER WITH PIN	1
24	08001A007	WASHER, BEARING LOCK (DISCONTINUED)	1
25	19101A010	CAP SCREW, HEX HD., 3/8"-16 x 1-1/4"	1
26	12672A003	CONNECTOR	3
27	10649A102	TUBE, PLASTIC, 1-1/4" LG.	2
	10649A116	TUBE, PLASTIC, 3" LG.	2
28	07597A017	MACH. SCREW, SOCKET FLAT HD., 5/16"-18 x 1"	2
29	05434A043	MACH. SCREW, #10-24 x 3/8" LG.	1
30	06107A015	LOCKWASHER, #10	1
31	22578A100	ELECTRODE, WIRE	2
32	05434A025	SCREW, MACH. #6-32	2
33	25343A100	PROBE, SEAL	2
	22912A000	RESISTOR, SEAL PROBE (4RX ONLY)	1
34	19102A023	CAP SCREW, HEX HD., 7/16"-14 x 2-1/4"	4
35	05030A126	WASHER, 7/16" x 13/64" x 1/32"	1

Pump Catalog Number	Rotor w/Shaft	Stator Only	Stator w/Housing
4R10M6-21	22875C108	24407C223	22571D315K
4R10M6-03	22875C107	24407C224	22571D320K
4R10M6-23	22875C107	24407C225	22571D325K
4R10M6-43	22875C107	24407C225	22571D325K
4R10M6-53	22875C107	24407C226	22571D335K
4R15M6-21	22875C109	24407C227	22571D340K
4R15M6-03	22875C110	24407C228	22571D345K
4R15M6-23	22875C110	24407C229	22571D350K
4R15M6-43	22875C110	24407C229	22571D350K
4R15M6-53	22875C110	24407C230	22571D360K
4R20M6-21	22875C109	24407C231	22571D385K
4R20M6-03	22875C110	24407C232	22571D365K
4R20M6-23	22875C110	24407C233	22571D370K
4R20M6-43	22875C110	24407C233	22571D370K
4R20M6-53	22875C110	24407C234	22571D380K
4R30M6-21	22875C109	24407C231	22571D385K
4R30M6-03	22875C110	24407C232	22571D365K
4R30M6-23	22875C110	24407C233	22571D370K
4R30M6-43	22875C110	24407C233	22571D370K
4R30M6-53	22875C110	24407C234	22571D380K
4R30M4-21	22846C100	24407C200	22571D270K
4R30M4-03	22846C100	24407C201	22571D275K
4R30M4-23	22846C100	24407C202	22571D280K
4R30M4-43	22846C100	24407C202	22571D280K
4R30M4-53	22846C100	24407C203	22571D290K
4R50M4-21	22846C100	24407C204	22571D440K
4R50M4-03	22846C100	24407C205	22571D295K
4R50M4-23	22846C100	24407C206	22571D300K
4R50M4-43	22846C100	24407C206	22571D300K
4R50M4-53	22846C100	24407C207	22571D310K
4R75M4-03	22846C100	24407C208	22571D405K
4R75M4-23	22846C100	24407C209	22571D410K
4R75M4-43	22846C100	24407C209	22571D410K
4R75M4-53	22846C100	24407C210	22571D415K
4R100M4-03	22846C100	24407C208	22571D405K
4R100M4-23	22846C100	24407C209	22571D410K
4R100M4-43	22846C100	24407C209	22571D410K
4R100M4-53	22846C100	24407C210	22571D415K

**NOTE: 25218A012 Repair Kit available.** Kit includes shaft seals, gasket, O-rings, seal leak wires, upper and lower ball bearings.

# 4V SERIES SUBMERSIBLE SOLIDS HANDLING PUMPS PARTS LIST

4 POLE (1750 RPM), 3 TO 10 HP – 3 PHASE AND 3 TO 5 HP – 230V, 1 PHASE  
6 POLE (1150 RPM), 1 TO 3 HP – 3 PHASE AND 1 TO 3 HP – 230V, 1 PHASE  
3 PHASE IN ALL VOLTAGES 200, 230, 460 & 575



# 4V SERIES SUBMERSIBLE SOLIDS HANDLING PUMPS PARTS LIST

4 POLE (1750 RPM), 3 TO 10 HP – 3 PHASE AND 3 TO 5 HP – 230V, 1 PHASE  
 6 POLE (1150 RPM), 1 TO 3 HP – 3 PHASE AND 1 TO 3 HP – 230V, 1 PHASE  
 3 PHASE IN ALL VOLTAGES 200, 230, 460 & 575

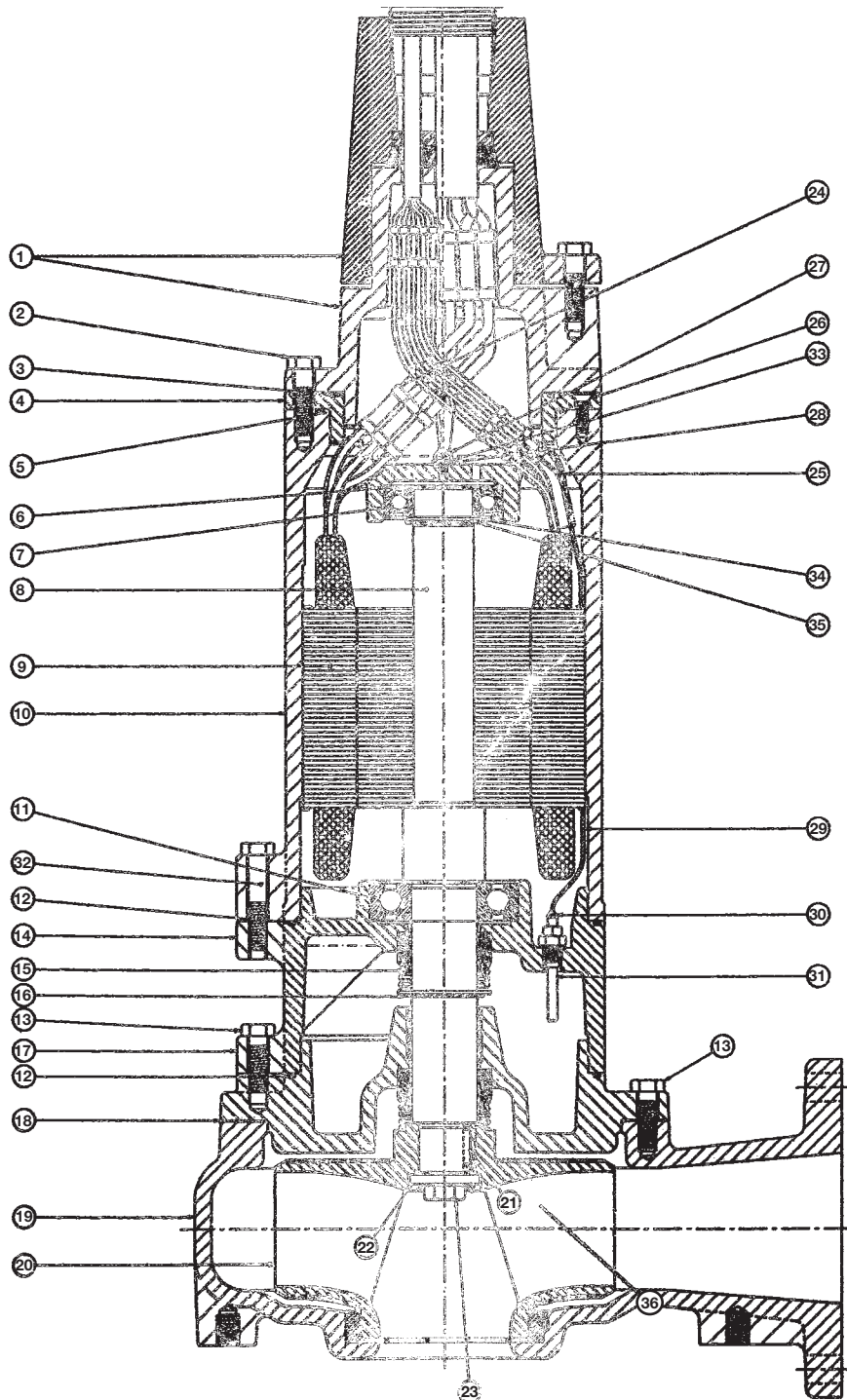
Ref. No.	Part Number	Description	Qty.
1	RTF	35' CORD ASSEMBLY	1
2	19102A006	CAP SCREW, HEX HD., 7/16"-14 x 1-1/2"	8
3	05876A123	O-RING, 4-7/8" x 4-5/8" x 1/8"	1
4	22590B000	CAP, UPPER BEARING	1
5	05876A112	O-RING, 5-1/2" x 5-1/4" x 1/8"	1
6	19331A006	WASHER, FINGER SPRING	2
7	08565A022	BEARING, BALL	1
8	SEE CHART	ROTOR WITH SHAFT	1
	22881C101	SHAFT ONLY (FOR ALL HP SIZES)	1
9	SEE CHART	STATOR	1
10	22571D000	HOUSING, MOTOR	1
11	08565A027	BEARING, BALL	1
12	05876A114	O-RING, 7" x 6-3/4" x 1/8"	1
13	22709D010	HOUSING, SEAL	1
14	00920-001-1	SEAL, 1-1/2" SHAFT	2
15	12558A018	RING, RETAINING	1
16	22710C000	HOUSING, LOWER SEAL, WITH BEARING	1
17	05876A127	O-RING, 7-1/2" x 7-1/4" x 1/8"	1
18	05231A079	GASKET, VELLUMOID	1
19	22712D000	CASE, VOLUTE WITH WEAR RING	1
20	22711C500	IMPELLER (SPECIFY O.D.)	1
21	05818A066	KEY, 1/4" SQUARE x 13/16" LG.	1
22	23609A002	WASHER, IMPELLER RETAINER WITH PIN	1
23	19103A052	CAP SCREW, HEX HD., 1/2"-13 x 1-1/4"	1
24	12672A003	CONNECTOR	3
25	10649A102	TUBE, PLASTIC, 1-1/4" LG.	2
	10649A116	TUBE, PLASTIC, 3" LG.	2
26	07597A017	MACH. SCREW, SOCKET FLAT HD., 5/16"-18 x 1"	2
27	05434A043	MACH. SCREW, #10-24 x 3/8" LG.	1
28	06107A015	LOCKWASHER, #10	1
29	05434A025	SCREW, MACH. #6-32	2
30	25343A100	PROBE, SEAL	2
	22912A000	RESISTOR, SEAL PROBE (4VX ONLY)	1
31	19102A023	CAP SCREW, HEX HD., 7/16"-14 x 2-1/4"	4
32	05030A126	WASHER, 7/16" x 13/64" x 1/32"	1
33	22712D001A	WEAR RING, VOLUTE	1
	05013A013	SCREW, WEAR RING	2

Pump Catalog Number	Rotor w/Shaft	Stator Only	Stator w/Housing
4V10M6-21	22875C108	24407C223	22571D315K
4V10M6-03	22875C107	24407C224	22571D320K
4V10M6-23	22875C107	24407C225	22571D325K
4V10M6-43	22875C107	24407C225	22571D325K
4V10M6-53	22875C107	24407C226	22571D335K
4V15M6-21	22875C105	24407C227	22571D340K
4V15M6-03	22875C110	24407C228	22571D345K
4V15M6-23	22875C110	24407C229	22571D350K
4V15M6-43	22875C110	24407C229	22571D350K
4V15M6-53	22875C110	24407C230	22571D360K
4V20M6-21	22875C109	24407C231	22571D385K
4V20M6-03	22875C110	24407C232	22571D365K
4V20M6-23	22875C110	24407C233	22571D370K
4V20M6-43	22875C110	24407C233	22571D370K
4V20M6-53	22875C110	24407C234	22571D380K
4V30M6-21	22875C109	24407C231	22571D385K
4V30M6-03	22875C110	24407C232	22571D365K
4V30M6-23	22875C110	24407C233	22571D370K
4V30M6-43	22875C110	24407C233	22571D370K
4V30M6-53	22875C110	24407C234	22571D380K
4V30M4-21	22875C105	24407C200	22571D270K
4V30M4-03	22875C105	24407C201	22571D275K
4V30M4-23	22875C105	24407C202	22571D280K
4V30M4-43	22875C105	24407C202	22571D280K
4V30M4-53	22875C105	24407C203	22571D290K
4V50M4-21	22875C105	24407C204	22571D440K
4V50M4-03	22875C105	24407C205	22571D295K
4V50M4-23	22875C105	24407C206	22571D300K
4V50M4-43	22875C105	24407C206	22571D300K
4V50M4-53	22875C105	24407C207	22571D310K
4V75M4-03	22875C105	24407C208	22571D405K
4V75M4-23	22875C105	24407C209	22571D410K
4V75M4-43	22875C105	24407C209	22571D410K
4V75M4-53	22875C105	24407C210	22571D415K
4V100M4-03	22875C105	24407C208	22571D405K
4V100M4-23	22875C105	24407C209	22571D410K
4V100M4-43	22875C105	24407C209	22571D410K
4V100M4-53	22875C105	24407C210	22571D415K

**NOTE: 25218A013 Repair Kit available.** Kit includes shaft seals, gasket, O-rings, seal leak wires, upper and lower ball bearings.

# 4VH & 6VH SERIES SUBMERSIBLE SOLIDS HANDLING PUMPS PARTS LIST

4 POLE (1750 RPM), 5 TO 20 HP – 3 PHASE ONLY  
 6 POLE (1150 RPM), 3 TO 5 HP – 3 PHASE ONLY  
 3 PHASE IN ALL VOLTAGES 200, 230, 460 & 575





# 4VH & 6VH SERIES SUBMERSIBLE SOLIDS HANDLING PUMPS PARTS LIST

**4 POLE (1750 RPM), 5 TO 20 HP – 3 PHASE ONLY**

**6 POLE (1150 RPM), 3 TO 5 HP – 3 PHASE ONLY**

**3 PHASE IN ALL VOLTAGES 200, 230, 460 & 575**

Ref. No.	Part Number	Description	Qty.
1	RTF	35' CORD ASSEMBLY	1
2	19103A045	CAP SCREW, HEX HD., 1/2"-13 x 1-3/4"	4
3	05876A119	O-RING, 5-7/8" x 5-5/8" x 1/8"	1
4	22873C000	CAP, UPPER BEARING	1
5	05876A120	O-RING, 6-1/2" x 6-1/4" x 1/8"	1
6	19331A007	WASHER, WAVE SPRING	2
7	08565A025	BEARING, BALL	1
8	SEE CHART	ROTOR WITH SHAFT	1
	22881D100	SHAFT ONLY (FOR ALL HP SIZES)	1
9	SEE CHART	STATOR	1
10	22874D000	HOUSING, MOTOR	1
11	08565A026	BEARING, BALL	1
12	05876A121	O-RING, 8-1/4" x 8" x 1/8"	2
13	19103A043	CAP SCREW, HEX HD., 1/2"-13 x 1-1/2"	8
14	22882D010	HOUSING, SEAL	1
15	22883A000	SEAL, 1-3/4" SHAFT	2
16	12558A017	RING, RETAINING	1
17	22884D000	HOUSING, LOWER SEAL, WITH BEARING	1
18	05231A080	GASKET, VELLUMOID	1
19	22886D000	CASE, VOLUTE, 4" FLANGE W/WEAR RING (4VH)	1
	23035E000	CASE, VOLUTE, 6" FLANGE W/WEAR RING (6VH)	1
20	22885D500	IMPELLER (SPECIFY O.D.) 4VH & 6VH	1
	23498D000	IMPELLER, 9" O.D., 4VHS & 6VHS ONLY	1
21	05818A067	KEY, 5/16" SQUARE x 25/32" LG.	1
22	23609A003	WASHER, IMPELLER RETAINER WITH PIN	1
23	19105A033	CAP SCREW, HEX HD., 3/8"-11 x 1-1/4"	1
24	23394A001	CONNECTOR	3
25	10649A102	TUBE, PLASTIC, 1-1/4" LG.	2
	10649A116	TUBE, PLASTIC, 3" LG.	2
26	07597A017	MACH. SCREW, SOCKET FLAT HD., 3/16" x 1"	2
27	05028A002	MACH. SCREW, 1/4"-20 x 1/2" LG.	1
28	06107A016	LOCKWASHER, 1/4"	1
29	22578A100	ELECTRODE, WIRE	2
30	05434A025	SCREW, MACH. #6-32	2
31	25343A100	PROBE, SEAL	2
	22912A000	RESISTOR, SEAL PROBE (4VHX/6VHX)	1
32	19103A048	CAP SCREW, HEX HD., 1/2"-13 x 2-1/2"	4
33	05030A091	WASHER, 7/16" x 9/32" THICK	1
34	05030A214	WASHER, SUPPORT	1
35	12558A024	RING, RETAINING	1
36	22712D001A	WEAR RING, VOLUTE	1
	05013A013	SCREW, WEAR RING	2

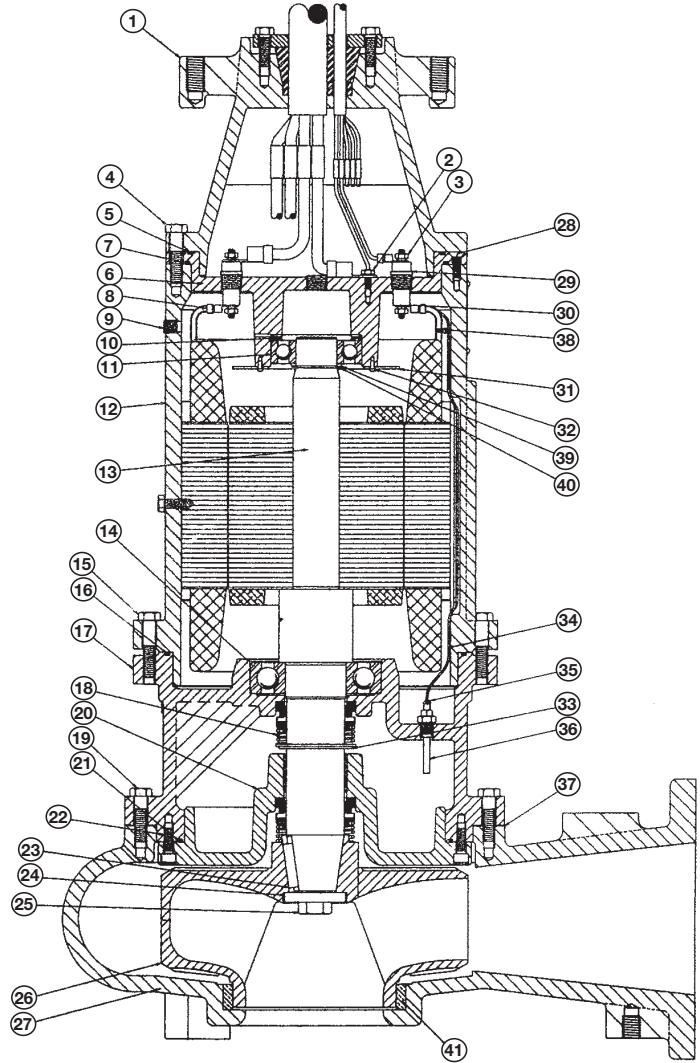
Pump Catalog Number		Rotor w/Shaft	Stator Only	Stator w/Housing
4VH30M6-03	6VH30M6-03	22875C100	22877D216	22874D300K
4VH30M6-23	6VH30M6-23	22875C100	22877D217	22874D305K
4VH30M6-43	6VH30M6-43	22875C100	22877D217	22874D305K
4VH30M6-53	6VH30M6-53	22875C100	22877D219	22874D315K
4VH50M6-03	6VH50M6-03	22875C103	22877D220	22874D320K
4VH50M6-23	6VH50M6-23	22875C103	22877D221	22874D325K
4VH50M6-43	6VH50M6-43	22875C103	22877D221	22874D325K
4VH50M6-53	6VH50M6-53	22875C103	22877D223	22874D335K
4VH50M4-03	6VH50M4-03	22875C102	22877D200	22874D220K
4VH50M4-23	6VH50M4-23	22875C102	22877D201	22874D225K
4VH50M4-43	6VH50M4-43	22875C102	22877D201	22874D225K
4VH50M4-53	6VH50M4-53	22875C102	22877D203	22874D235K
4VHS75M4-21		22875C112	22877D224	
4VH75M4-03	6VH75M4-03	22875C103	22877D204	22874D240K
4VH75M4-23	6VH75M4-23	22875C103	22877D205	22874D245K
4VH75M4-43	6VH75M4-43	22875C103	22877D205	22874D245K
4VH75M4-53	6VH75M4-53	22875C103	22877D207	22874D255K
4VH100M4-03	6VH100M4-03	22875C104	22877D208	22874D260K
4VH100M4-23	6VH100M4-23	22875C104	22877D209	22874D265K
4VH100M4-43	6VH100M4-43	22875C104	22877D209	22874D2665K
4VH100M4-53	6VH100M4-53	22875C104	22877D211	22874D275K
4VH150M4-03	6VH150M4-03	22875C104	22877D212	22874D280K
4VH150M4-23	6VH150M4-23	22875C104	22877D213	22874D285K
4VH150M4-43	6VH150M4-43	22875C104	22877D213	22874D285K
4VH150M4-53	6VH150M4-53	22875C104	22877D215	22874D295K
4VH200M4-03	6VH200M4-03	22875C104	22877D212	22874D280K
4VH200M4-23	6VH200M4-23	22875C104	22877D213	22874D285K
4VH200M4-43	6VH200M4-43	22875C104	22877D213	22874D285K
4VH200M4-53	6VH200M4-53	22875C104	22877D215	22874D295K
4VHS100M4-03	6VHS100M4-03	22875C104	22877D208	22874D260K
4VHS100M4-23	6VHS100M4-23	22875C104	22877D209	22874D265K
4VHS100M4-43	6VHS100M4-43	22875C104	22877D209	22874D265K
4VHS100M4-53	6VHS100M4-53	22875C104	22877D211	22874D275K

**NOTE: 25218A015 Repair Kit available.** Kit includes shaft seals, gasket, O-rings, seal leak wires, upper and lower ball bearings.

# 4VC & 6VC SERIES SEWAGE PUMPS PARTS LIST

4 POLE (1750 RPM), 15 TO 60 HP – 3 PHASE ONLY  
 6 POLE (1150 RPM), 5 TO 20 HP – 3 PHASE ONLY  
 8 POLE (870 RPM), 2 TO 7½ HP – 3 PHASE ONLY

Ref. No.	Part Number	Description	Qty.
1	RTF	35' CORD ASSEMBLY	1
	9859A793	JUMP WIRES WITH TERMINALS (5 REQ'D. ON 230V & 3 REQ'D. ON 460V ONLY)	AS NOTED
2	19099A003	CAP SCREW, HX. HD., 1/4"-20 x 1/2"	1
3	11904A005	LOCK NUT, 1/4"-20 (14 REQ'D. ON 200V & 575V, 26 REQ'D. ON 230V & 460V)	AS NOTED
4	19103A47	CAP SCREW, HEX HD., 1/2"-13 x 2"	8
5	5876A135	O-RING 10" x 9-3/4" x 1/8"	1
6	23557D000	HOUSING, UPPER BEARING (FOR 200V & 575V)	1
	23557D001	HOUSING, UPPER BEARING (FOR 230V & 460V)	1
7	5876A136	O-RING, 10-1/4" x 10" x 1/8"	1
8	5022A056	PIPE PLUG, 1/4" NPT, CTRSK. HD.	2
9	SEE CHART	TERMINAL, RING TONGUE, 1/4" STUD. 16-14 WIRE (3 REQ'D. ON 200V & 575V, 9 REQ'D. ON 230V & 460V)	AS NOTED
10	19331A008	WASHER, WAVE SPRING	2
11	8565A027	BEARING, BALL, UPPER	1
12	SEE CHART	HOUSING WITH STATOR	1
13	RTF	ROTOR WITH SHAFT	1
14	000650381	BEARING, BALL, LOWER	1
15	19103A049	CAP SCREW, HEX HD., 1/2"-13 x 2-1/4"	8
16	5876A137	O-RING, 11-3/4" x 11-1/2" x 1/8"	1
17	23604D010	HOUSING, UPPER SEAL	1
18	23605A000	SEAL, 2-1/4" SHAFT	2
19	19103A045	CAP SCREW, HEX HD., 1/2"-13 x 1-3/4"	8
20	RTF	HOUSING, LOWER SEAL	1
21	5876A138	O-RING, 10-3/4" x 10-1/2" x 1/8"	1
22	6106A028	CAP SCREW, SOCKET HD., 3/8"-16 x 1"	8
23	05818A071	KEY, 3/8" SQUARE x 1-5/8" LG.	1
24	23609A004	WASHER, IMPELLER RETAINER WITH PIN	1
	08001A009	WASHER, BEARING LOCK	1
25	19106A017	CAP SCREW, HEX HD., 3/4"-19 x 1-3/4" LG.	1
26	23608D500	IMPELLER, PUMP, SPECIFY O.D.	1
27	23606F010	CASE, VOLUTE, 4" FLANGE FOR 4VC ONLY (INCLUDES WEAR RING 23607B000 AND 2 SET SCREWS 05013A015)	1
	23606F000	CASE, VOLUTE, 6" FLANGE FOR 6VC ONLY (INCLUDES WEAR RING 23607B000 AND 2 SET SCREWS 05013A015)	1
28	07597A017	MACHINE SCREW, FLAT SKT. HD., 5/16"-18 x 1"	2
29	23555A000	TERMINAL, ELECTRICAL (7 REQ'D. ON 200V & 575V AND 13 REQ'D. ON 230V & 460V)	AS NOTED
	23768A022	ACCESSORY – SUPPORT LEG-750 (NOT SHOWN)	1
30	12074A036	TERMINAL, RING TONGUE, 1/4" STUD, 22-16 WIRE	4
31	23600A000	GUARD, WIRE	1
32	05160A004	DRIVE SCREW, .138 x 5/16"	10
33	12558A020	RING, RETAINING	1
34	22578A101	WIRE, ELECTRODE	2



35	05434A025	SCREW, MACH. #6-32	2
36	25343A100	PROBE, SEAL	2
	22912A000	RESISTOR, SEAL PROBE (4VCX ONLY)	1
37	05863A021	GASKET, VELLUMOID	1
38	17190A004	TIE, CABLE	10
39	05030A214	WASHER, SUPPORT	1
40	12558A024	RING, RETAINING	1
41	23607B000	WEAR RING, VOLUTE	1

**NOTE: 25218A014 Repair Kit available.** Kit includes shaft seals, gasket, O-rings, seal leak wires, upper and lower ball bearings.

# 4VC & 6VC SERIES SEWAGE PUMPS PARTS LIST

Pump Catalog Number		RPM	⑨ Terminal	⑩ Housing w/Stator
4VC20M8-03	6VC20M8-03	870	12074A038	23558E140K
4VC20M8-23	6VC20M8-23	870	12074A038	23558E141K
4VC20M8-43	6VC20M8-43	870	12074A038	23558E141K
4VC20M8-53	6VC20M8-53	870	12074A038	23558E142K
4VC30M8-03	6VC30M8-03	870	12074A038	23558E140K
4VC30M8-23	6VC30M8-23	870	12074A038	23558E141K
4VC30M8-43	6VC30M8-43	870	12074A038	23558E141K
4VC30M8-53	6VC30M8-53	870	12074A038	23558E142K
4VC50M8-03	6VC50M8-03	870	12074A037	23558E143K
4VC50M8-23	6VC50M8-23	870	12074A038	23558E144K
4VC50M8-43	6VC50M8-43	870	12074A038	23558E144K
4VC50M8-53	6VC50M8-53	870	12074A038	23558E145K
4VC75M8-03	6VC75M8-03	870	12074A037	23558E171K
4VC75M8-23	6VC75M8-23	870	12074A038	23558E172K
4VC75M8-43	6VC75M8-43	870	12074A038	23558E172K
4VC75M8-53	6VC75M8-53	870	12074A038	23558E173K
4VC50M6-03	6VC50M6-03	1150	12074A037	23558E174K
4VC50M6-23	6VC50M6-23	1150	12074A038	23558E175K
4VC50M6-43	6VC50M6-43	1150	12074A038	23558E175K
4VC50M6-53	6VC50M6-53	1150	12074A038	23558E176K
4VC75M6-03	6VC75M6-03	1150	12074A037	23558E146K
4VC75M6-23	6VC75M6-23	1150	12074A038	23558E147K
4VC75M6-43	6VC75M6-43	1150	12074A038	23558E147K
4VC75M6-53	6VC75M6-53	1150	12074A038	23558E148K
4VC100M6-03	6VC100M6-03	1150	12074A037	23558E149K
4VC100M6-23	6VC100M6-23	1150	12074A038	23558E150K
4VC100M6-43	6VC100M6-43	1150	12074A038	23558E150K
4VC100M6-53	6VC100M6-53	1150	12074A038	23558E151K
4VC150M6-03	6VC150M6-03	1150	12074A028	23558E152K
4VC150M6-23	6VC150M6-23	1150	12074A037	23558E153K
4VC150M6-43	6VC150M6-43	1150	12074A037	23558E153K
4VC150M6-53	6VC150M6-53	1150	12074A037	23558E154K
4VC200M6-03	6VC200M6-03	1150	12074A028	23558E152K
4VC200M6-23	6VC200M6-23	1150	12074A037	23558E153K
4VC200M6-43	6VC200M6-43	1150	12074A037	23558E153K
4VC200M6-53	6VC200M6-53	1150	12074A037	23558E154K
4VC150M4-03	6VC150M4-03	1750	12074A028	23558E155K
4VC150M4-23	6VC150M4-23	1750	12074A037	23558E156K
4VC150M4-43	6VC150M4-43	1750	12074A037	23558E156K
4VC150M4-53	6VC150M4-53	1750	12074A037	23558E157K
4VC200M4-23	6VC200M4-23	1750	12074A037	23558E158K
4VC200M4-43	6VC200M4-43	1750	12074A037	23558E158K
4VC200M4-53	6VC200M4-53	1750	12074A037	23558E159K
4VC250M4-23	6VC250M4-23	1750	12074A037	23558E160K
4VC250M4-43	6VC250M4-43	1750	12074A037	23558E160K
4VC250M4-53	6VC250M4-53	1750	12074A037	23558E161K
4VC300M4-23	6VC300M4-23	1750	12074A037	23558E162K
4VC300M4-43	6VC300M4-43	1750	12074A037	23558E162K
4VC300M4-53	6VC300M4-53	1750	12074A028	23558E163K
4VC400M4-23	6VC400M4-23	1750	12074A028	23558E164K
4VC400M4-43	6VC400M4-43	1750	12074A028	23558E164K
4VC400M4-53	6VC400M4-53	1750	12074A028	23558E165K
4VC500M4-23	6VC500M4-23	1750	12074A028	23558E166K
4VC500M4-43	6VC500M4-43	1750	12074A028	23558E166K
4VC500M4-53	6VC500M4-53	1750	12074A028	23558E167K
4VC600M4-23	6VC600M4-23	1750	12074A028	23558E166K
4VC600M4-43	6VC600M4-43	1750	12074A028	23558E166K
4VC600M4-53	6VC600M4-53	1750	12074A028	23558E167K

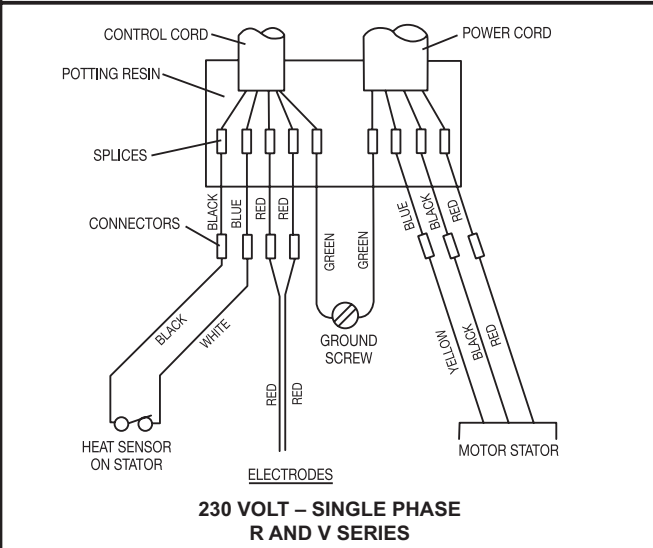
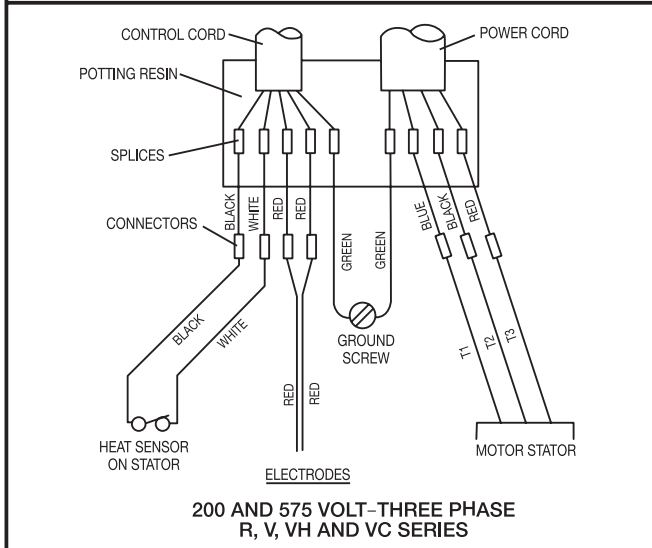
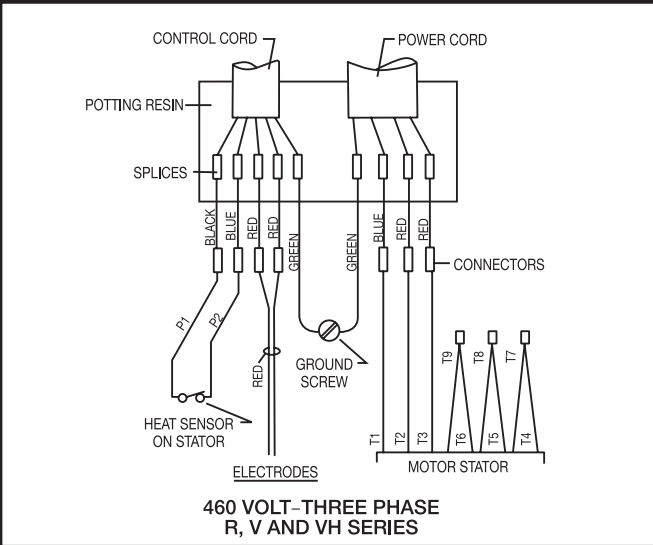
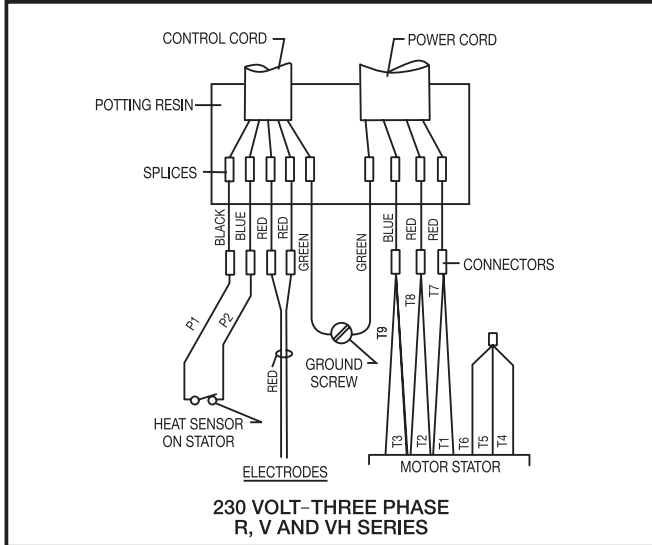
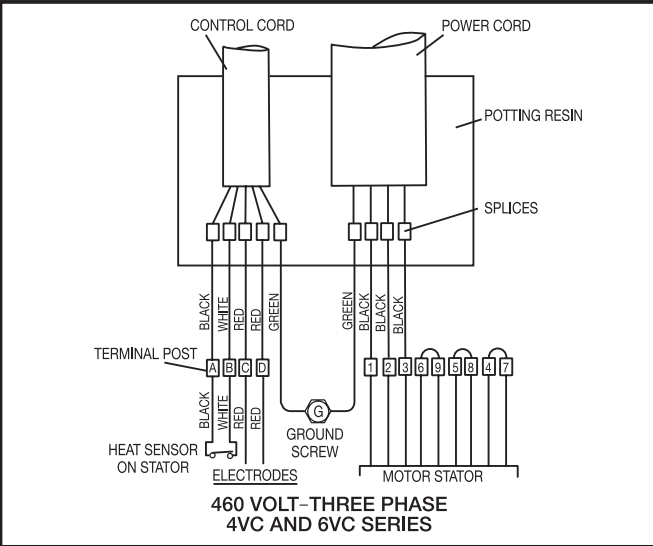
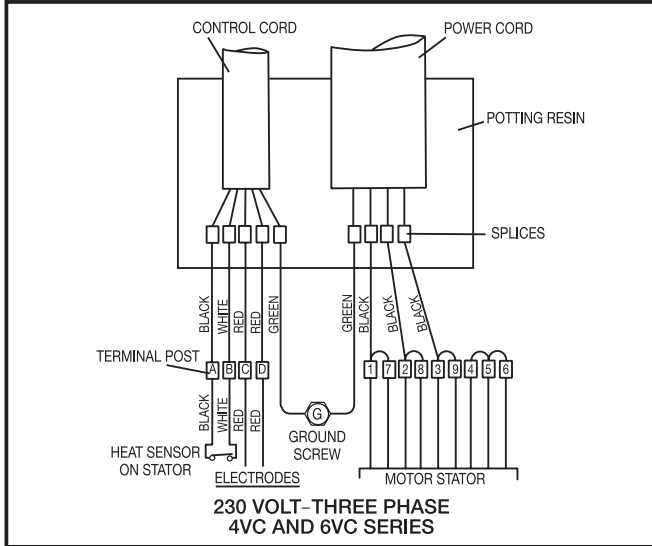
**4 POLE (1750 RPM), 15 TO 60 HP –  
3 PHASE ONLY**

**6 POLE (1150 RPM), 5 TO 20 HP –  
3 PHASE ONLY**

**8 POLE (870 RPM), 2 TO 7½ HP –  
3 PHASE ONLY**

\*If pump was manufactured *after* August 1, 1997 order rotor w/shaft designated with 26576D\_\_\_(not 23601D\_\_\_).  
Example: Pump No. 4VC20M8-03 manufactured *after* August 1, 1997 would use rotor w/shaft 26576D100.

# WIRING DIAGRAMS



## CHECK LIST IF PUMP DOES NOT OPERATE PROPERLY

**Checking for Moisture in Motor:** Use ohmmeter and set on highest scale. Readings on the large power cord between any of the conductors red, black, white to green conductor or motor housing should be more than 500,000 ohms.

Readings should be taken with line leads disconnected from terminal strip.

**Resistance of Windings:** Every motor winding has a fixed resistance. Winding must check close to the specification values to operate properly. This winding resistance also shows if motor is connected for voltage being used. Use ohmmeter for this test and set on scale to read directly in ohms.

## TROUBLE CHECK LIST

Troubles listed are generally caused by the pump. Other trouble can occur from faulty control box operation. These will be listed with the control box instructions.

CONDITION	PROBABLE CAUSE
Pump runs but does not pump liquid from basin.	<ol style="list-style-type: none"><li>1. Pump impeller may be air locked. This occasionally occurs on a new installation. Start and stop pump several times to purge air. Be sure air vent hold in volute case is clean.</li><li>2. Run additional water into basin so that pump will be submerged deeper to clear air.</li><li>3. If pump is three phase, rotation may be wrong. See instructions for checking proper rotation.</li><li>4. If pump has been installed for some time and does not pump, it may be clogged at inlet.</li><li>5. Discharge gate valve may be closed.</li><li>6. Discharge check valve may be clogged or have a broken clapper or spring.</li><li>7. Discharge head may be too high. Check elevation.</li><li>8. If above checks do not locate trouble, motor rotor may be loose on shaft which allows motor to run but will not turn impeller or only at low RPM.</li></ol>

## TROUBLE CHECK LIST (Cont'd)

CONDITION	PROBABLE CAUSE
Red light comes on at control box.	This indicates some water has leaked past the lower seal and has entered the seal chamber and made contact with the electrode probe. Pump must be removed from basin immediately for replacement of lower seal. This preventive repair will save an expensive motor.
Overload trips at control box and alarm buzzer or flashing red light comes on due to high water level in basin.	<ol style="list-style-type: none"> <li>1. Push in on red reset button to reset overload. If overload trips again after short run, pump has some damage and must be removed from basin for checking.</li> <li>2. Trouble may be from clogged impeller causing motor to overload or could be from failed motor.</li> <li>3. Trouble may be from faulty component in control box. Always check control box before removing pump.</li> </ol>
Yellow run light stays on continuously.	<ol style="list-style-type: none"> <li>1. Indicates H-O-A switch may be in the Hand position.</li> <li>2. Level control switch may have failed causing pump to continue to operate when water is below lower control.</li> <li>3. Impeller may be partially clogged causing pump to operate at much reduced capacity.</li> <li>4. Gate valve or check valve may be clogged causing low pump flow.</li> <li>5. Pump may be air logged.</li> </ol>
Circuit breaker trips.	<ol style="list-style-type: none"> <li>1. Reset breaker by pushing clear down on handle then back to On position. If breaker trips again in few seconds it indicates excessive load probably caused by a short in the motor or control box. Check out instructions given with control box before pulling pump.</li> <li>2. If this condition happens after an electrical storm, motor or control box may be damaged by lightning.</li> <li>3. Resistance reading of the motor with lead wires disconnected from the control box can determine if trouble is in motor or control box.</li> </ol>
Pump is noisy and pump rate is low.	<ol style="list-style-type: none"> <li>1. Impeller may be partially clogged with some foreign objects causing noise and overload on the motor.</li> <li>2. Impeller may be rubbing on wear ring due to bent shaft or misalignment.</li> <li>3. Pump may be operating too close to shut-off. Check head.</li> </ol>
Grease and solids have accumulated around pump and will not pump out of basin.	<ol style="list-style-type: none"> <li>1. Lower weight of level switch may be set too high.</li> <li>2. Run pump on Hand operation for several minutes with small amount of water running into basin to clean out solids and grease. This allows pump to break suction and surge which will break up the solids. If level switch is set properly this condition generally will not occur.</li> <li>3. Trash and grease may have accumulated around floats causing pump to operate erratically.</li> </ol>

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## STANDARD LIMITED WARRANTY

Pentair Myers® warrants its products against defects in material and workmanship for a period of 12 months from the date of shipment from Pentair Myers or 18 months from the manufacturing date, whichever occurs first – provided that such products are used in compliance with the requirements of the Pentair Myers 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 Myers, at its discretion, will repair or replace to the original user, the parts that prove defective in materials and workmanship. Pentair Myers 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 Myers website: <http://forms.pentairliterature.com/startupform/startupform.asp?type=m>. Warranty is effective only if Pentair Myers 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 Myers will cover only the lower seal and labor thereof for all dual seal pumps. Under no circumstance will Pentair Myers 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 Myers 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 Myers or an authorized Pentair Myers service provider; (h) to any unit that has been repaired using non factory specified/OEM parts.

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