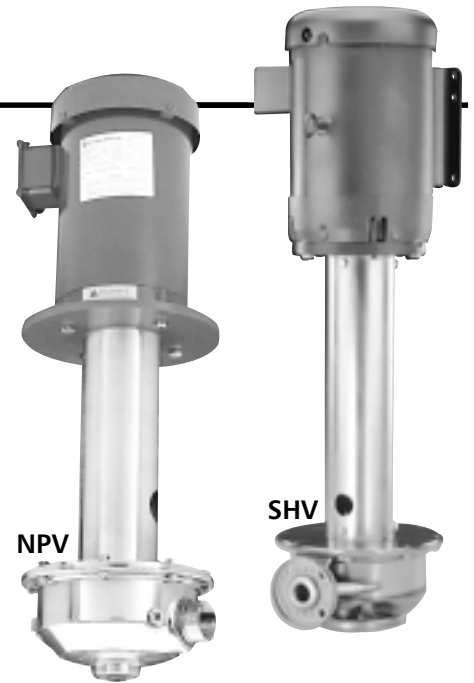


Series SHV and Series NPV

Installation, Operation and Maintenance Instructions



OWNER'S INFORMATION

Model Number: _____
 Serial Number: _____
 Dealer: _____
 Dealer Telephone: _____
 Date of Purchase: _____
 Installation Date: _____

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SAFETY INSTRUCTIONS

TO AVOID SERIOUS OR FATAL PERSONAL INJURY OR MAJOR PROPERTY DAMAGE, READ AND FOLLOW ALL SAFETY INSTRUCTIONS IN MANUAL AND ON PUMP.

THIS MANUAL IS INTENDED TO ASSIST IN THE INSTALLATION AND OPERATION OF THIS UNIT AND MUST BE KEPT WITH THE PUMP.



This is a **SAFETY ALERT SYMBOL**. When you see this symbol on the pump or in the manual, look for one of the following signal words and be alert to the potential for personal injury or property damage.



Warns of hazards that WILL cause serious personal injury, death or major property damage.



Warns of hazards that CAN cause serious personal injury, death or major property damage.



Warns of hazards that CAN cause personal injury or property damage.

NOTICE: Indicates special instructions which are very important and must be followed.



UNIT NOT DESIGNED FOR USE WITH HAZARDOUS LIQUIDS OR FLAMMABLE GASES.



THOROUGHLY REVIEW ALL INSTRUCTIONS AND WARNINGS PRIOR TO PERFORMING ANY WORK ON THIS PUMP.

MAINTAIN ALL SAFETY DECALS.

Goulds Pumps

NOTICE: INSPECT UNIT FOR DAMAGE AND REPORT ALL DAMAGE TO THE CARRIER OR DEALER IMMEDIATELY.

DESCRIPTION and SPECIFICATIONS

The NPV and SHV Series pumps are vertically immersed, end-suction designed pumps for general liquid transfer service, machine tool coolant, parts washer, filtration, waste treatment and OEM applications. Liquid-end construction is all AISI 300 series stainless steel.

These pumps are not designed for applications requiring ANSI, FDA or NSF ratings and are not recommended for use in highly abrasive services such as grinding.

Impellers are available in enclosed and open configurations depending on the model. Enclosed impeller versions of the NPV are fitted with a diffuser for high efficiency and for negligible radial shaft loading.

NPV units have NEMA 56J motors with C-face mounting and threaded shaft extensions. SHV units have NEMA standard JM frame motors.

ENGINEERING DATA

Maximum Liquid Temperature: 250° F (120° C)

**Maximum Working Pressure: NPV 125 psi (9 bars)
SHV 230 psi (15 bars)**

Starts per hour: 20 - Evenly distributed

INSTALLATION

NOTICE: UNIT CAN BE INSTALLED IN VERTICAL ORIENTATION ONLY. DO NOT INSTALL WITH MOTOR BELOW PUMP.

Unit may be mounted directly to a tank top or the optional Goulds Pumps mounting plate may be utilized.

Minimum and maximum liquid levels must be maintained for proper pump operation. Refer to Dimensions page for details.

Allow adequate space for servicing and ventilation. Protect from freezing or flooding.

PIPING

Piping should be no smaller than the pump discharge and suction connections and kept as short as possible, avoiding unnecessary fittings to minimize friction losses.

All piping **MUST** be independently supported and **MUST NOT** place any piping loads on the pump.

NOTICE: DO NOT FORCE PIPING INTO PLACE AT PUMP SUCTION AND DISCHARGE CONNECTIONS.

All joints **MUST** be air tight. Use 3-4 wraps of Teflon™ tape to seal threaded connections on NPV Series.

SHV Series pumps use standard ANSI 150# raised face flanges.

Piping - Suction

Suction piping is not required for typical installation of unit.

Suction intake should be above the minimum distance from tank bottom: NPV = 2", SHV = 4". Tank must be kept free of debris.

Use a foot valve only when necessary to hold prime during intermittent service where tank liquid level does not return to minimum depth before pump is re-started. Refer to dimensions page for details.

NOTICE: IN ALL CASES, THE BEARING MUST BE SUBMERGED IN LIQUID AT START-UP.

To avoid air pockets, no part of suction piping should be higher than pump suction connections.

Piping - Discharge

Install a check valve suitable to handle the flow, liquids and to prevent backflow. After the check valve, install an appropriately sized gate valve to be used to regulate the pump capacity, pump inspection and for maintenance.

WIRING and GROUNDING



⚠ Install, ground and wire according to local and National Electrical Code requirements.

⚠ Install an all leg disconnect switch near the pump.

⚠ Disconnect and lockout electrical power before installing or servicing pump.

⚠ Electrical supply **MUST** match pumps name plate specifications. Incorrect voltage can cause fire, damage to the motor and voids warranty.

⚠ Motors not protected **MUST** be provided with contactors and thermal overloads for single phase motors, or starters with heaters for three phase motors. See motor nameplate.

Use only stranded copper wire to motor and ground. The ground wire **MUST** be at a least as large as the wire to the motor. Wires should be color coded for ease of maintenance.

Follow motor manufacturer's wiring diagram on the motor nameplate or terminal cover carefully.



FAILURE TO PERMANENTLY GROUND THE PUMP, MOTOR AND CONTROLS BEFORE CONNECTING TO ELECTRICAL POWER CAN CAUSE SHOCK, BURNS OR DEATH.

ROTATION

NOTICE: INCORRECT ROTATION MAY CAUSE DAMAGE TO THE PUMP AND VOIDS THE WARRANTY.

Correct rotation is right-hand, **CLOCKWISE** when viewed from the motor end. On tank mounted units, remove motor

end plug or cover, turn power on and off quickly to observe rotation.

To reverse three phase motor rotation, interchange any two power supply leads.

OPERATION



SPLASHING OR IMMERSING OPEN DRIP PROOF MOTORS IN FLUIDS CAN CAUSE FIRE, SHOCK, BURNS OR DEATH.

NOTICE: PUMP MUST BE FULLY PRIMED BEFORE OPERATION. DO NOT RUN PUMP DRY OR PUMP BEARING DAMAGE WILL RESULT.

After stabilizing the system at normal operating conditions, check the piping. If necessary, adjust the pipe supports.

MAINTENANCE



FAILURE TO DISCONNECT AND LOCKOUT ELECTRICAL POWER BEFORE ATTEMPTING ANY MAINTENANCE CAN CAUSE SHOCK, BURNS OR DEATH.

Motors have permanently lubricated bearings. No lubrication is possible or necessary. Follow the motor manufacturer's recommendations for maintenance.

If pump performance degrades due to excessive leakage, inspect pump bearing, bushing and shaft for excessive wear. Replace as necessary.

Seasonal Service:

To **REMOVE** pump from service, drain all pumpage from pump and piping.

To **RETURN** pump to service, replace all plugs and piping using Teflon™ tape or equivalent on male threads for the NPV Series.

Refer to "OPERATION" section of manual.

NPV SERIES DISASSEMBLY

Follow **ALL** warnings and instructions in the "MAINTENANCE" section of this manual.

While complete disassembly of the unit will be described, it is recommended that you proceed only as far as required to perform the maintenance needed.

Remove the mounting plate, or clamp, from pump.

Liquid End:

1. Remove casing bolts (5).
2. Remove casing (1, 2) and casing O-ring (4) from pump mounting plate (7).
3. Remove guidevane (3) and O-ring (21) on model SL only.
4. Restrain shaft (12) from rotation by applying a 9/16" wrench to shaft flats through holes in the support tube (11).

5. Remove impeller nut (20) by turning **COUNTERCLOCKWISE**. Nut may need to be heated with a torch to remove.

NOTICE: EXERCISE CAUTION IN HANDLING HOT IMPELLER NUT.

6. Remove impeller (16, 17) by turning **COUNTERCLOCKWISE** when looking at the front of the pump. Protect hand with a rag or glove.

NOTICE: SUPPORT TUBE HAS LEFT HAND THREADS.

7. Remove pump plate from support tube by turning plate **CLOCKWISE** when viewing from the front of the pump.
8. Remove snap ring (13) from pump plate and pull out restricting bushing (14).
9. Press out pump bearing (15A, 15B) with a bearing or arbor press.
10. Remove support tube from motor plate (9) by turning tube **CLOCKWISE** when viewing from the front of the pump.
11. Remove motor end plug, or cover, to expose screwdriver slot, or flats, on end of the motor shaft.
12. Restrain motor shaft with appropriate tool and remove shaft extension (12) from motor shaft, by turning it **COUNTERCLOCKWISE**. Shaft extension may need to be heated with a torch to remove. Apply heat to the shaft extension, not to motor shaft.

NOTICE: EXERCISE CAUTION IN HANDLING HOT SHAFT EXTENSION.

NOTICE: INSPECT BUSHING, PUMP BEARING AND SHAFT EXTENSION FOR EXCESSIVE WEAR. REPLACE AS NECESSARY.

13. Remove motor bolts (8) and remove motor plate from motor.
14. Remove U-cup seal (23) from motor plate and discard.

NPV SERIES REASSEMBLY

All parts should be cleaned before assembly.

NOTICE: ALL O-RINGS SHOULD BE REPLACED AFTER ANY DISASSEMBLY OF UNIT.

1. Check motor shaft for run out. Maximum permissible is .002" TIR.
2. Install new U-cup seal in motor plate and install motor plate on motor, torquing bolts to 15 lbs. ft.
3. Restrain motor shaft with appropriate tool. Apply **LOCTITE® #242** to motor shaft threads and install shaft extension by turning **CLOCKWISE**.
4. Apply **LOCTITE® #242** to support tube threads. Attach support tube to motor plate turning **COUNTERCLOCKWISE**.
5. Replace pump bearing, bushing and snap ring in pump plate. Use **LOCTITE® #242** when installing bushing in pump plate.
6. Install pump plate to support tube turning **COUNTERCLOCKWISE**.

7. While holding shaft from rotation with a 9/16" wrench, install impeller by turning it **CLOCKWISE**, insuring that the impeller seats securely against the shaft.
8. Apply LOCTITE® #242 to end of shaft and install impeller nut, turning **CLOCKWISE**.
9. Install guidevane and guidevane O-ring on SL models only.

NOTICE: DO NOT LUBRICATE GUIDEVANE O-RING. ENSURE IT IS NOT PINCHED BY THE IMPELLER ON REASSEMBLY.

10. Install new casing O-ring and casing, torquing casing bolts to 50 lbs. in.
11. Check reassembled unit for binding. If binding occurs, realign casing over impeller eye.
12. Assembly is complete.

SHV SERIES DISASSEMBLY

Follow **ALL** warnings and instructions in the "MAINTENANCE" section of this manual.

While complete disassembly of the unit will be described, it is recommended that you proceed only as far as required to perform the maintenance needed.

Remove mounting plate bolts from tank top.

Lift pump out of the tank with an adequately sized nylon lifting strap or chain attached to the motor.

Remove the mounting plate and motor leg from pump and motor.

Liquid End:

NOTE: PRIOR TO DISASSEMBLY PLEASE NOTE RELATIONSHIP OF PUMP CASING, PUMP PLATE, MOTOR PLATE AND SUPPORT TUBE. WHEN PUMP IS REASSEMBLED THE BOLT CIRCLES WILL HAVE TO BE LINED UP IN THE SAME WAY TO INSURE THE CASING DISCHARGE IS DIRECTLY OPPOSITE THE MOTOR FEET. IT MAY BE HELPFUL TO MARK A LINE ON THESE PARTS PRIOR TO DISASSEMBLY.

1. Remove casing (22) and casing O-ring (21) from pump mounting plate (12).
2. While restraining impeller from rotating remove impeller bolt (20) and impeller washer (19) by turning C.C.W.
3. Remove impeller (18) and key (17) from shaft.
4. Remove the three bolts which connect the tube support (10) to the pump mounting plate (12).
5. Grasp the pump mounting plate and carefully slide it out from the tube support and set it aside.
6. Remove snap ring (15) from pump mounting plate and pull out bushing (14).
7. Carefully press out pump bearing (13A, 13B) with a bearing or arbor press.
8. Remove shaft sleeve (16) from shaft extension (9).
9. Remove the three bolts (11) that connect the tube support to the motor plate and then remove the tube support from the motor plate.

10. Using (2) 1½ inch open end wrenches on the flats of the shaft extension and the coupling (6), remove the shaft by turning it C.C.W.
11. Remove coupling bolt (8) and coupling washer from the motor shaft with a socket and extension.
12. Remove coupling and key (5) from the motor shaft.
13. Remove motor bolts (11) from motor mounting plate (3).
14. Remove motor mounting plate from motor.
15. Remove U-cup seal (2) from motor mounting plate.

NOTICE: INSPECT BUSHING, PUMP BEARING AND SHAFT SLEEVE FOR EXCESSIVE WEAR. REPLACE AS NECESSARY.

SHV SERIES REASSEMBLY

All parts should be cleaned before assembly.

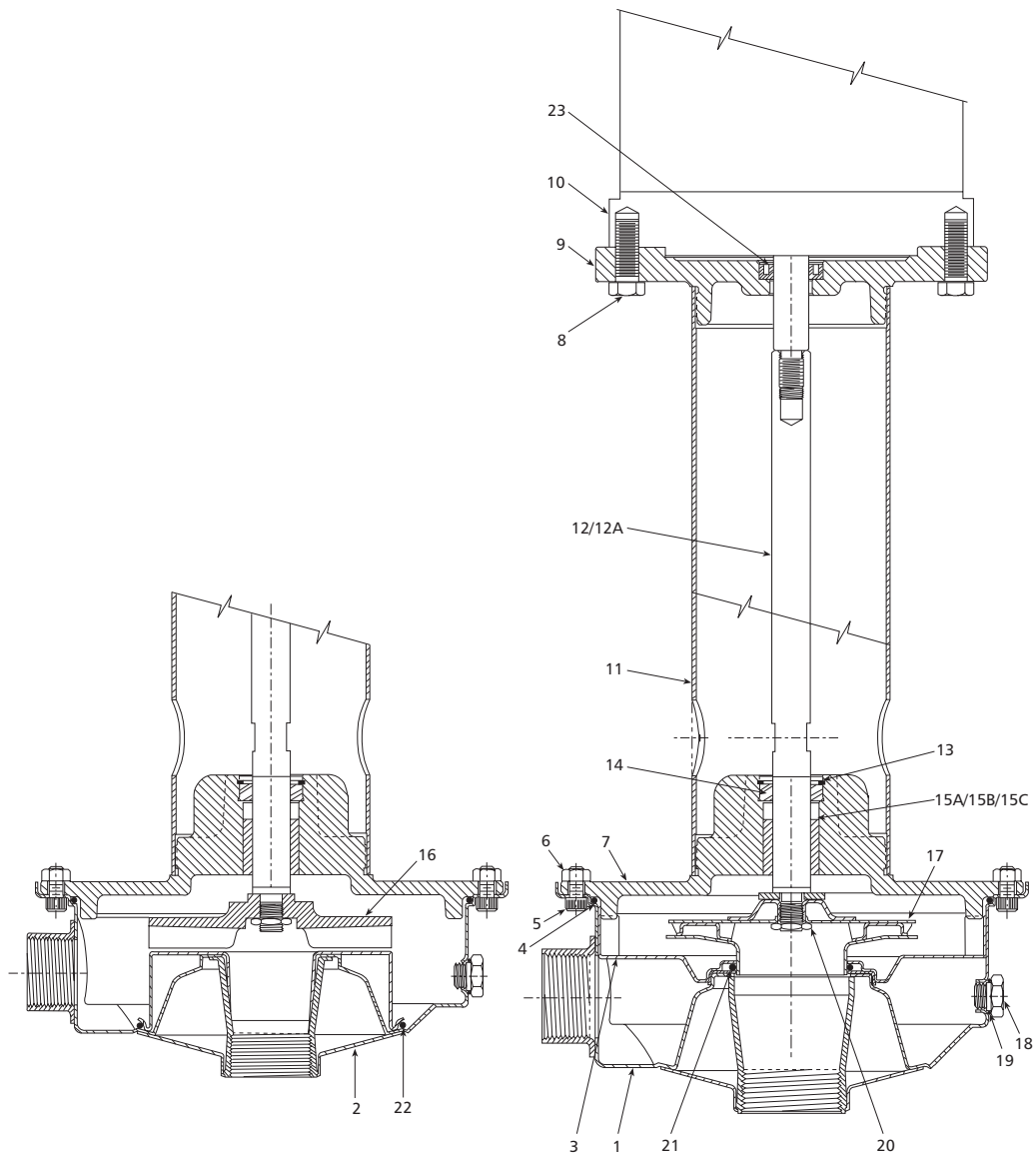
NOTICE: ALL O-RINGS SHOULD BE REPLACED AFTER ANY DISASSEMBLY OF UNIT.

1. Check motor shaft to the following dimensions. Reference NEMA standards for proper measurement methods.
2. Maximum shaft runout - .002 inches.
3. Maximum eccentricity of mounting rabbet - .004 inches.
4. Maximum face runout - .004 inches.
5. Install new U-cup seal in motor mounting plate and then install motor plate on motor with 4 bolts.
6. Place key in motor shaft and slide coupling on motor shaft. Install bolt with washer and torque to 17 ft. lbs.

NOTE: INSURE U-CUP SEAL REMAINS IN ITS PROPER POSITION DURING COUPLING INSTALLATION.

7. Place 2 or 3 drops of thread locker on shaft extension threads. Screw shaft extension into coupling and tighten securely with open end wrenches.
8. Place tube support over motor mounting plate, insert 3 bolts and tighten to 17 ft. lbs. Apply 1 drop of thread locker to each bolt prior to tightening.
9. Press bearing into pump mounting plate.
10. Install restricting bushing with snap ring to pump mounting plate.
11. Carefully position pump mounting plate assembly and slide into open end of pump support.
12. Insert 3 bolts and tighten to 17 ft. lbs. Apply 1 drop of thread locker to each bolt prior to tightening.
13. Apply 1 drop of thread locker to inside of shaft sleeve and then slide sleeve over shaft extension.
14. Place key in shaft extension keyseat and slide impeller over shaft extension. Install impeller bolt with washer and torque to 17 ft. lbs.
15. Install new O-ring and casing on the pump mounting plate. Install casing bolts using alternating method and torque to 17 ft. lbs. Insure casing plug is installed.
16. Check unit for free turning of impeller prior to pump startup.
17. Assembly is complete.

Repair Parts Model NPV



Model SR — Open Impeller

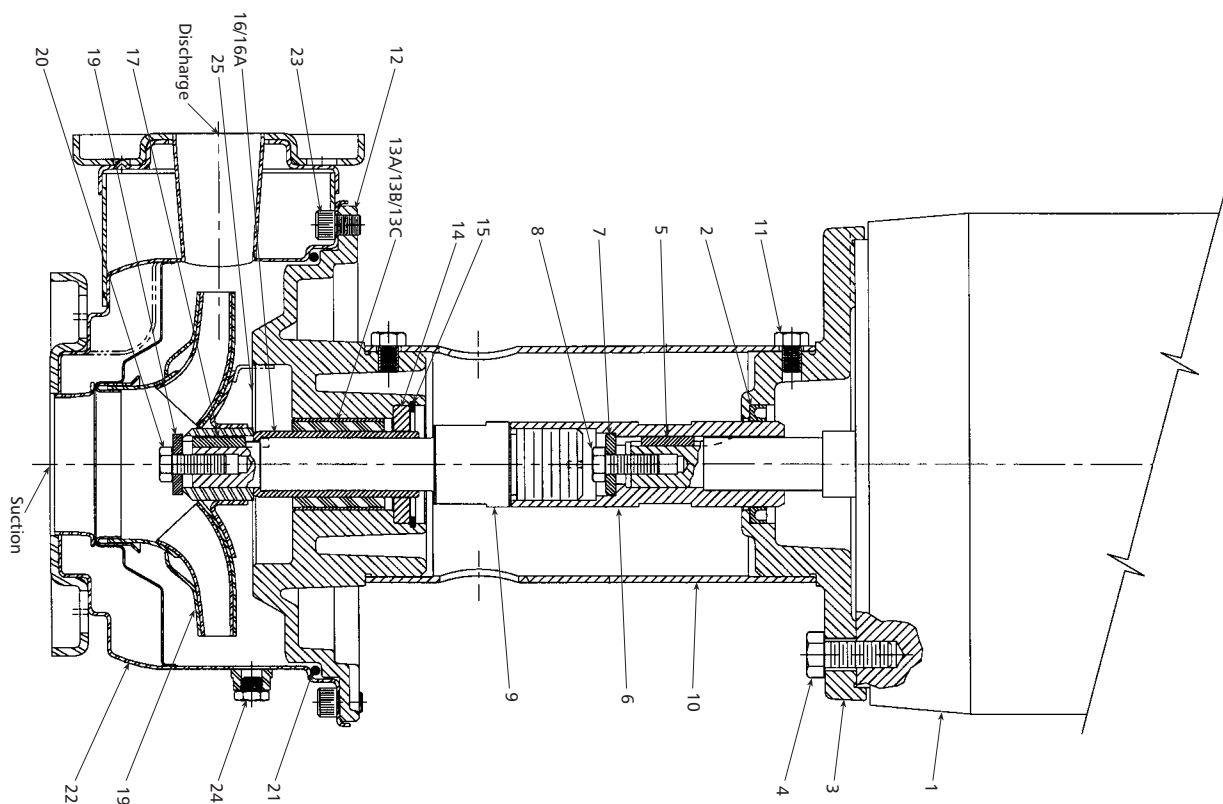
Item #	Quantity	Description	Material
1	1	Casing (Model SL)	AISI 316 Stainless Steel
2	1	Casing (Model SR)	
3	1	Guidevane	Viton/EPR
4	1	O-ring - Casing	
5	8	Socket Head Cap Screw	AISI 304 Stainless Steel
6	8	Hex Nut	
7	1	Pump Mounting Plate	AISI 303 SS
8	4	Hex Head Bolt	Plated Steel
9	1	Motor Plate	Cast Iron
10	1	Motor	Electrical
11	1	Support Tube	AISI 304 SS
12	1	Shaft Extension	AISI 304 SS
12A	1	Shaft, Ceramic Coated	AISI 304 SS

Model SL — Closed Impeller

Item #	Quantity	Description	Material
13	1	Internal Snap Ring	Stainless Steel
14	1	Bushing	Nitronic 60 SS
15A	1	Bearing	Viton
15B	1	Bearing	Carbon
15C	1	Bearing	EPR
16	1	Impeller (Model SR)	AISI 316 SS
17	1	Impeller (Model SL)	AISI 316 SS
18	1	Plug, Drain and Vent	AISI 316 SS
19	2	O-ring (Drain and Vent Plug)	Viton/EPR
20	1	Impeller Nut	AISI 300 SS
21	1	O-ring (Impeller)	Viton/EPR
22	1	O-ring - Casing	Viton/EPR
23	1	U-cup Seal	Teflon™

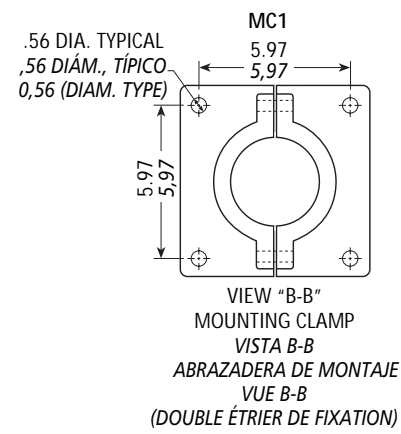
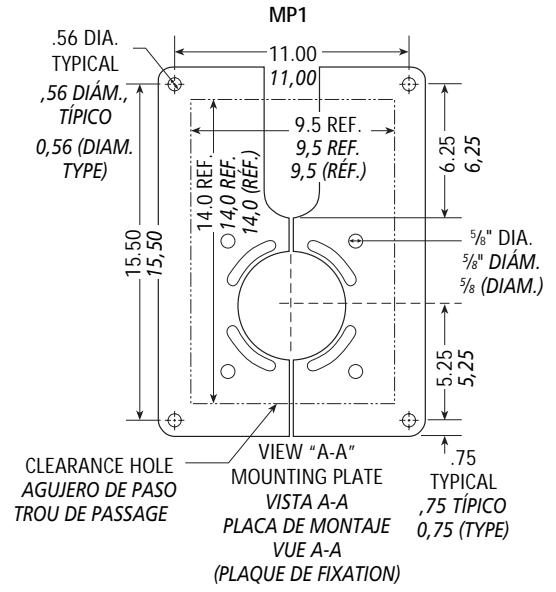
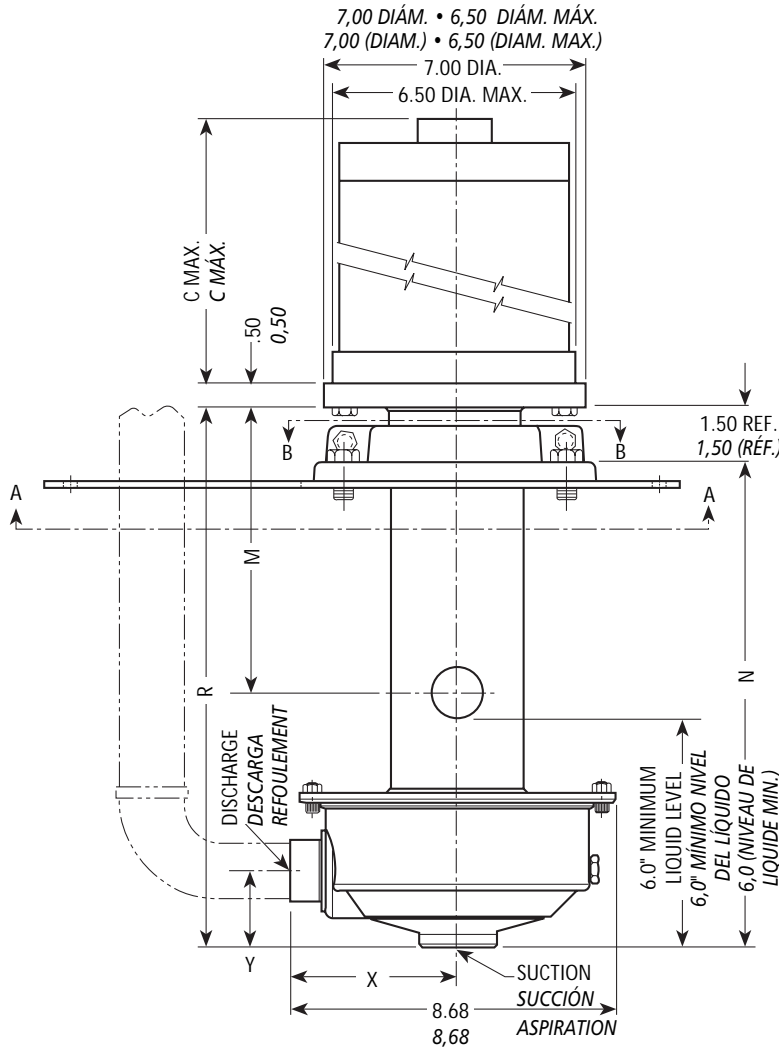
Repair Parts Model SHV

List of Material			
Item #	Quantity	Description	Material
1	1	Motor	Electrical
2	1	Seal, U-cup	Teflon
3	1	Motor Mounting Plate	Painted Cast Iron
4	4	Bolt, Motor	Plated Steel
5	1	Key, Motor	Steel
6	1	Coupling	300 Series SS
7	1	Washer, Coupling	300 Series SS
8	1	Bolt, Coupling	300 Series SS
9	1	Shaft Extension	300 Series SS
10	1	Tube	300 Series SS
11	6	Bolt, Tube	300 Series SS
12	1	Pump Mounting Plate	300 Series SS
13A	1	Bearing	Viton
13B	1	Bearing	Carbon
13C	1	Bearing	EPR
14	1	Bushing	300 Series SS
15	1	Snap Ring	300 Series SS
16	1	Shaft Sleeve	300 Series SS
16A	1	Shaft Sleeve, Ceramic Coated	300 Series SS
17	1	Key, Impeller	300 Series SS
18	1	Impeller	316SS
19	1	Washer, Impeller	300 Series SS
20	1	Bolt, Impeller	300 Series SS
21	1	O-ring	Viton
22	1	Casing	316SS
23	8	Bolt, Casing	300 Series SS
24	1	Plug, Pipe	300 Series SS
25	1	Thrust Plate	300 Series SS



NPV Pump – Dimensions, Weights and Specifications
Bomba NPV – Dimensiones, Pesos y Especificaciones
Série NPV – dimensions, poids et caractéristiques

Optional Mounting Accessories
Accesorios de Montaje Opcionales
Série NPV – accessoires de fixation optionnels



Dimensions – Determined by Pump,
Dimensiones – Determinadas por la Bomba
Dimensions – pompe

Pump, Bomba Pompe	Suction NPT, Succión NPT Aspiration (NPT)	Discharge NPT, Descarga NPT Refoulement (NPT)	X	Y	Dimensions Determined by Shaft, Dimensiones Determinadas por el Eje, Dimensions – selon l'arbre						Max. Wt. Pump only, Peso máx., Bomba sola. Poids max., pompe seule
					M		N		R		
					14	24	14	24	14	24	
1SL, 1SR	1¼	1	4¾	2	7.78	17.78	13.20	23.20	14.68	24.68	65
2SL, 2SR	1½	1¼	4½	2½	7.78	17.78	13.20	23.20	14.68	24.68	70
3SL, 3SR	2	1½	4¾	2½	7.78	17.78	13.20	23.20	14.68	24.68	70

NOTES:

1. Motor dimensions may vary with motor manufacturers.
2. Dimensions in inches, weights in pounds.
3. For explosion proof motor dimensions consult factory for information.
4. Not to be used for construction purposes unless certified.

NOTAS:

1. Las dimensiones del motor puede que varíen con los fabricantes.
2. Dimensiones en pulgadas, pesos en libras.
3. Para las dimensiones de los motores a prueba de explosión consultar con la fábrica para información.
4. No usar para propósitos de construcción sin certificar.

NOTA :

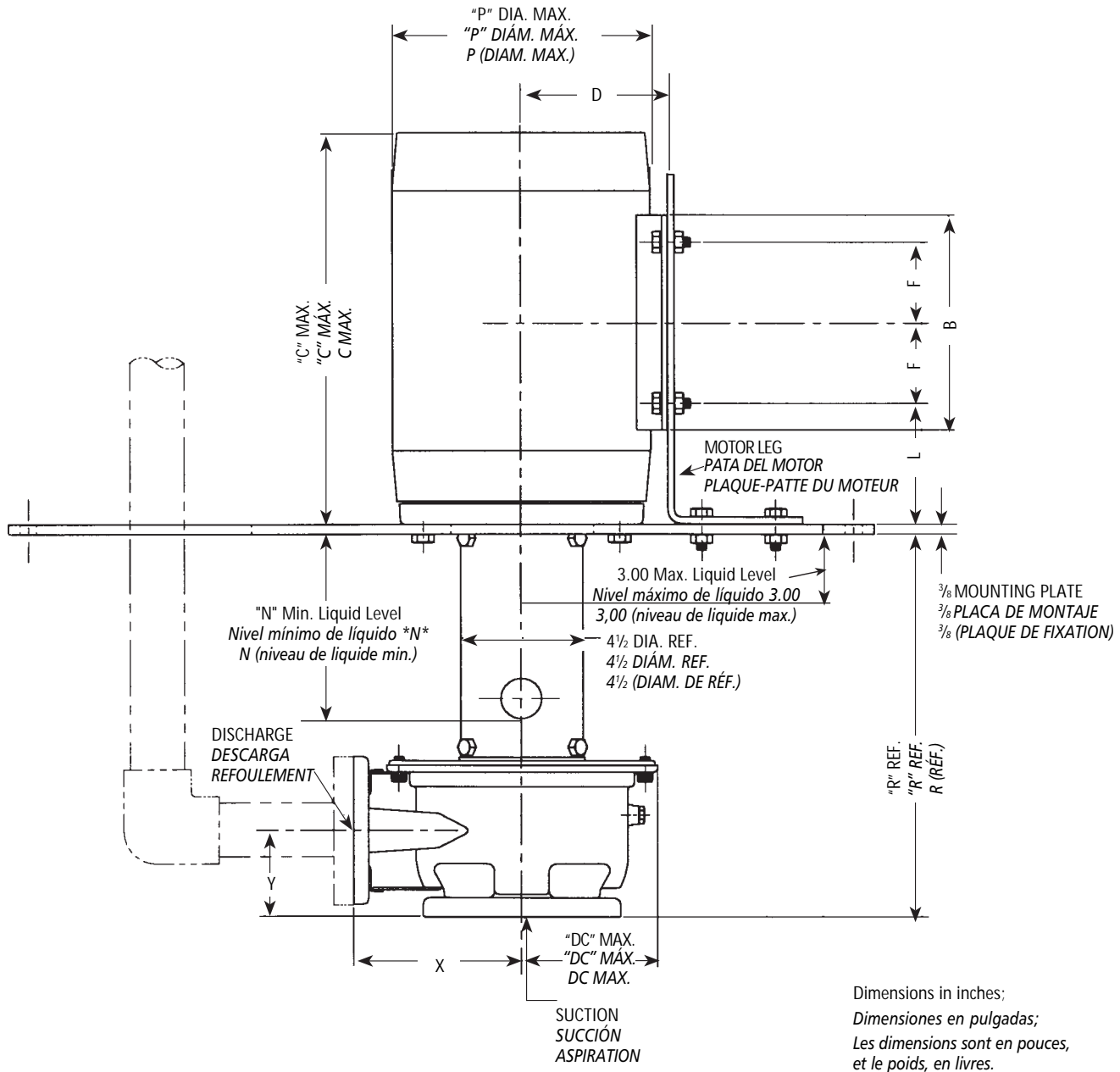
1. Les dimensions du moteur peuvent varier selon le fabricant.
2. Les dimensions sont en pouces, et le poids, en livres.
3. S'adresser au personnel de l'usine pour les dimensions des moteurs antidéflagrants.
4. Ne pas utiliser les dimensions pour la construction si elles ne sont pas certifiées à cette fin.

Available Motor Weights and Dimensions,
Pesos y Dimensiones de Motores que se ofrecen
Dimensions et poids – moteur

HP hp	Motor Weights, Pesos del Motor, Poids						C Max. Length, Longitud, C max.
	1 Phase, Monofásicos, 1 Ø			3 Phase, Trifásicos, 3 Ø			
	ODP	TEFC	EXP	ODP	TEFC	EXP	
½	16	21	47	19	18	27	9 ¹⁵ / ₁₆
¾	19	24	41	21	21	30	10 ¹ / ₄
1	22	26	49	23	21	30	11
1½	28	35	56	27	27	37	11 ⁵ / ₁₆
2	33	39	60	32	33	44	12 ¹ / ₁₆
3	40	43	—	41	37	—	12 ⁷ / ₁₆
5	50	—	—	50	—	—	13
7½	—	—	—	49	—	—	14

Dimensions in inches, weights in pounds., Dimensiones en pulgadas, pesos en libras., ODP = abrité (à ouvertures de ventilation protégées) ; TEFC = fermé autoventilé ; EXP = antidéflagrant.

SHV Pump – Dimensions, Weights and Specifications;
Dimensiones, Pesos y Especificaciones de la Bomba SHV;
Série SHV — dimensions, poids et caractéristiques



Dimensions in inches;
 Dimensiones en pulgadas;
 Les dimensions sont en pouces,
 et le poids, en livres.

Dimensions – Determined by Pump; Dimensiones – Determinadas por la Bomba; Dimensions — pompe

Pump Size; Tamaño de la Bomba; Pompe	150 lb. Flange; Brida de 150 libras; Bride, 150 lb/po ²		X	Y	"DC" Max.; "DC" Máx.; DC max.	Dimensions Determined by Shaft; Dimensiones Determinadas por el Eje; Dimensions — selon l'arbre				Max. Wt. Pump only; Peso máx., Bomba sola; Poids max., pompe seule	
	Suction; Succión; Aspiration	Discharge; Descarga; Refoulement				N		"R" Ref.; "R" Ref.; R (réf.)		14	24
						14	24	14	24		
10SHV — 1 x 2 - 8	2	1	7 ¹ / ₈	3 ³ / ₈	5 ⁵ / ₈	7 ⁷ / ₁₆	17 ⁵ / ₁₆	14 ⁴ / ₁₆	24 ⁴ / ₁₆	83	93
9SHV — 1 x 2 - 6			6 ³ / ₈	3 ¹ / ₄	5			14 ⁵ / ₈	24 ⁵ / ₈	75	85
4SHV — 1 ¹ / ₂ x 2 ¹ / ₂ - 6	2 ¹ / ₂	1 ¹ / ₂	7 ⁷ / ₈	4	5 ⁵ / ₈	7 ⁷ / ₁₆	17 ⁵ / ₁₆	15 ¹¹ / ₃₂	25 ¹¹ / ₃₂	83	93
7SHV — 1 ¹ / ₂ x 2 ¹ / ₂ - 8								15 ⁷ / ₁₆	25 ⁷ / ₁₆	76	86
5SHV — 2 x 2 ¹ / ₂ - 6								15 ⁷ / ₁₆	25 ⁷ / ₁₆	76	86

For motor information and related dimensions, see page 9.
 Para información acerca del motor y las dimensiones relacionadas, vea la página 9.
 Voir autres dimensions et détails relatifs aux moteurs, en page 9.

**SHV Pump – Dimensions, Weights and Specifications;
Dimensiones, Pesos y Especificaciones de la Bomba SHV;
Série SHV — dimensions, poids et caractéristiques (suite)**

Dimensions – Determined by Motor;
Dimensiones – Determinadas por el motor; Dimensions — moteur

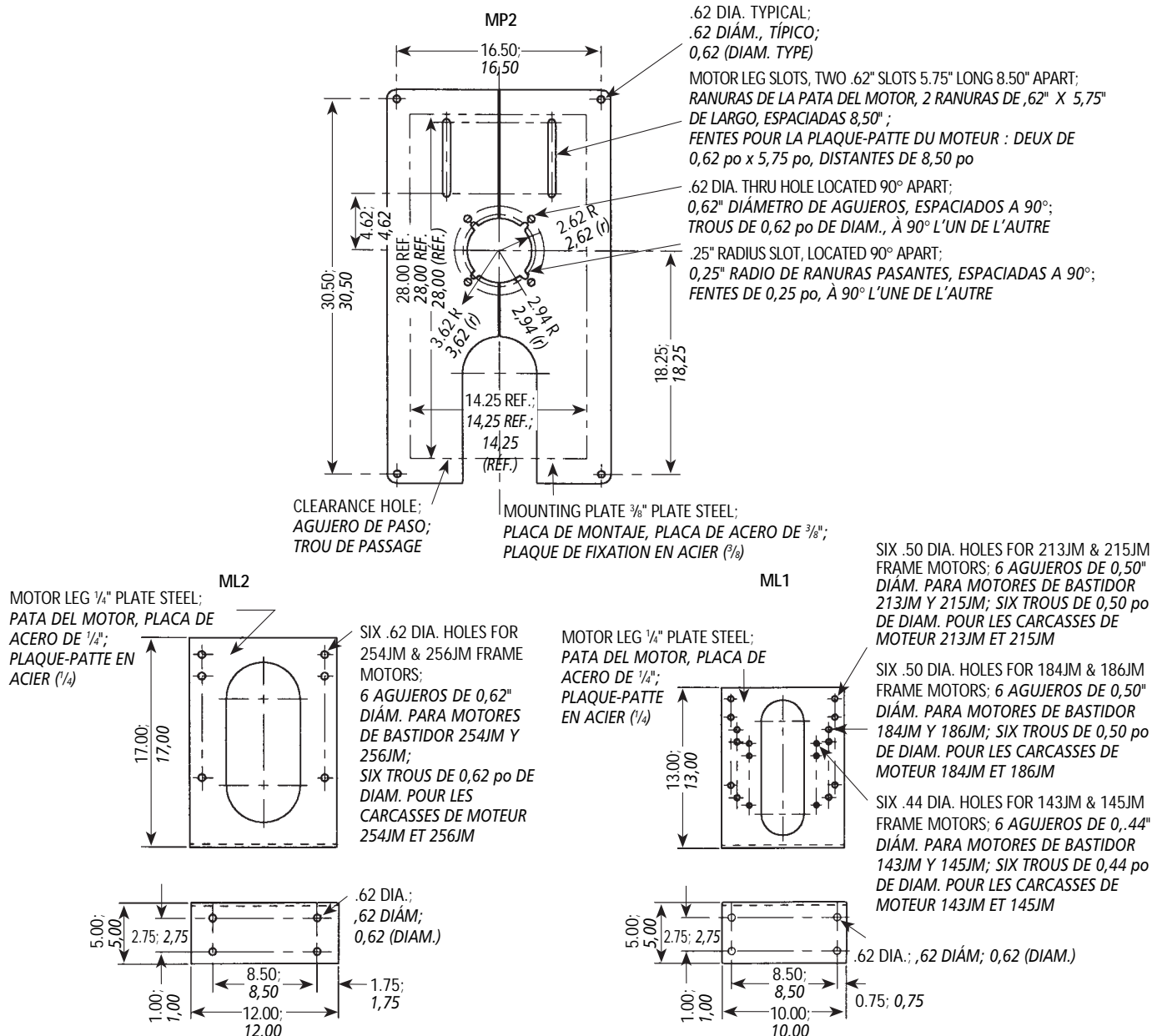
Motor Frame; Bastidor del motor; Carcasse de moteur	L	F	B	D	"C" Max.; "C" C max.	"P" Dia. Max.; Diám. P Máx.; P (diam. max.)	Max. Wt. Motor; Peso Máx. del motor; Poids max.
143JM	3 ¹⁵ / ₃₂	2	6	3 ¹ / ₂	11 ¹ / ₈	6 ³ / ₈	41
145JM		2 ¹ / ₂					57
182JM	4 ³ / ₃₂	2 ¹ / ₄	6 ¹ / ₂	4 ¹ / ₂	14 ³ / ₈	7 ⁷ / ₈	77
184JM		2 ³ / ₄					97
213JM	5 ³ / ₃₂	2 ³ / ₄	8	5 ¹ / ₄	18 ³ / ₄	9 ³ / ₈	122
215JM		3 ¹ / ₂					155
254TCZ	5 ⁵ / ₈	4 ¹ / ₈	9 ¹ / ₂	6 ¹ / ₄	21 ¹ / ₂	11 ¹ / ₂	265
256TCZ		5	11 ³ / ₄	320			

Motor Horsepower; Potencia del motor;
Puissance du moteur (hp)

Motor Frame; Bastidor del motor; Carcasse de moteur	3500 RPM; 3 500 r/min					1750 RPM; 1 750 r/min				
	1 Phase; 1 Ø; Monofásicos		3 Phase; 3 Ø; Trifásicos			1 Phase; 1 Ø; Monofásicos		3 Phase; 3 Ø; Trifásicos		
	ODP	TEFC	ODP	TEFC	EXP	ODP	TEFC	ODP	TEFC	EXP
143JM	-	-	-	-	-	-	-	1	1	1
145JM	2	2	2-3	2	-	1-1 ¹ / ₂	1-1 ¹ / ₂	1 ¹ / ₂ -2	1 ¹ / ₂ -2	1 ¹ / ₂ -2
182JM	3	3	5	3	3	2	2-3	3	3	3
184JM	5	5	7 ¹ / ₂	5	5	3	-	5	5	5
213JM	7 ¹ / ₂	-	10	7 ¹ / ₂	7 ¹ / ₂	5	-	7 ¹ / ₂	7 ¹ / ₂	7 ¹ / ₂
215JM	10	-	15	10-15	10	-	-	10	10	10
254TCZ	-	-	20	-	-	-	-	-	-	-
256TCZ	-	-	25	20-25	-	-	-	-	-	-

Les dimensions sont en pouces, et le poids, en livres. ODP = abrité (à ouvertures de ventilation protégées); TEFC = fermé autoventilé; EXP = antidéflagrant.

**Optional Mounting Accessories;
Accesorios de Montaje Opcionales; Série SHV — accessoires de fixation optionnels**



TROUBLE SHOOTING



FAILURE TO DISCONNECT AND LOCKOUT ELECTRICAL POWER BEFORE ATTEMPTING ANY MAINTENANCE CAN CAUSE SHOCK, BURNS OR DEATH

SYMPTOM:

Motor Not Running

See Probable Causes 1 through 5

Little or No Liquid Delivered

See Probable Causes 6 through 12

Excessive Power Consumption

See Probable Causes 3, 12, 13, 14

Excessive noise and Vibration

See Probable Causes 3, 6, 7, 10, 13, 15 and 16

PROBABLE CAUSES:

1. Motor thermal protector tripped
2. Open circuit breaker or blown fuse
3. Impeller binding
4. Motor improperly wired
5. Defective motor
6. Pump is not primed, air or gases in pumpage
7. Discharge, suction plugged or valve closed
8. Incorrect rotation (3 phase only)
9. Low voltage or phase loss
10. Impeller worn or plugged with debris
11. System head too high
12. Incorrect impeller diameter
13. Discharge head too low - excessive flow rate
14. Fluid viscosity and/or specific gravity too high
15. Worn bearing
16. Pump, motor or piping loose

GOULDS PUMPS LIMITED WARRANTY

This warranty applies to all water systems pumps manufactured by Goulds Pumps.

Any part or parts found to be defective within the warranty period shall be replaced at no charge to the dealer during the warranty period. The warranty period shall exist for a period of twelve (12) months from date of installation or eighteen (18) months from date of manufacture, whichever period is shorter.

A dealer who believes that a warranty claim exists must contact the authorized Goulds Pumps distributor from whom the pump was purchased and furnish complete details regarding the claim. The distributor is authorized to adjust any warranty claims utilizing the Goulds Pumps Customer Service Department.

The warranty excludes:

- (a) Labor, transportation and related costs incurred by the dealer;
- (b) Reinstallation costs of repaired equipment;
- (c) Reinstallation costs of replacement equipment;
- (d) Consequential damages of any kind; and,
- (e) Reimbursement for loss caused by interruption of service.

For purposes of this warranty, the following terms have these definitions:

- (1) "Distributor" means any individual, partnership, corporation, association, or other legal relationship that stands between Goulds Pumps and the dealer in purchases, consignments or contracts for sale of the subject pumps.
- (2) "Dealer" means any individual, partnership, corporation, association, or other legal relationship which engages in the business of selling or leasing pumps to customers.
- (3) "Customer" means any entity who buys or leases the subject pumps from a dealer. The "customer" may mean an individual, partnership, corporation, limited liability company, association or other legal entity which may engage in any type of business.

THIS WARRANTY EXTENDS TO THE DEALER ONLY.