

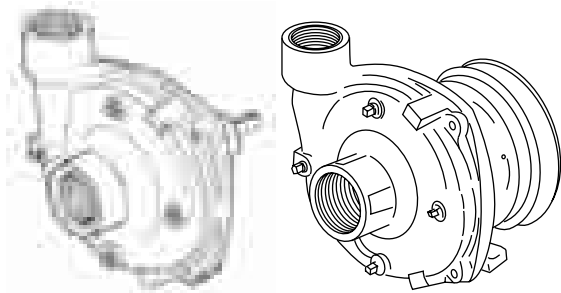


Installation, Operation, Repair Instructions

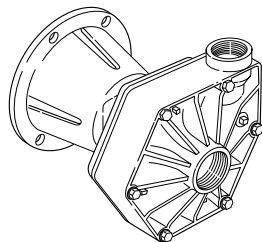
Description

Hypro Centrifugal Pumps handle big, high-capacity farm spraying jobs with ease. Use them for spraying liquid fertilizers and other chemicals, including wetttable powder slurries for weed control. Make short work of other farm jobs - filling nurse tanks, watering seed beds, and transferring liquids.

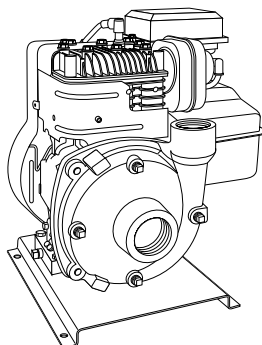
Available in a variety of models, including lightweight polypropylene (pump portion only) pumps for resistance to corrosive liquids such as acid-based fertilizers.



SERIES 9200
Cast Iron, Stainless Steel
Pedestal-Mount Centrifugal Pumps



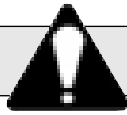
SERIES 9500P
Polypropylene
Flange-Mount Centrifugal Pumps



SERIES 1500
Close-Coupled, Gas Engine-Driven
Centrifugal Pumps

This form replaces Form 300C. For individual parts breakdowns, product outlines and performance specifications, visit www.hypropumps.com. See chart below for new form numbers.

Pump/Model Number	New Form Number
All 9202 Series.....	300AG-1
All 9203 Series.....	300AG-2
9203C-SP and 9263C-C-SP.....	300AG-3
9203C-R-SP, and 9263C-CR-SP	300AG-4
9203P-S, and 9253P-C.....	300AG-5
9204C	300AG-6
9205C	300AG-7
9205C-SP and 9205C-BSP	300AG-8
9206C and 9206S.....	300AG-9
9510P and 9513P	300AG-10
1536, 1537, 1538, 1539 and 1540.....	300AG-11
1536-SP, 1537-SP, 1539-SP and 1540-SP.....	300AG-12
1550, 1550-SP, 1550-BSP, 1551, 1551-SP and 1551-BSP	300AG-13

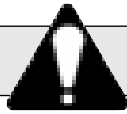


Safety Information

- 1. WARNING: Do Not Pump Flammable or Explosive Fluids Such as Gasoline, Fuel Oil, Kerosene, etc. Do Not Use in Explosive Atmospheres. The Pump Should be Used Only with Liquids that are Compatible with the Pump Component Materials. Failure to Follow this Warning Can Result in Personal Injury and/or Property Damage and Will Void the Product Warranty.**
2. Be sure all exposed moving parts such as PTO shafts and adapters are properly shielded or guarded and that all coupling devices are securely attached before applying power.
3. Pumps mounted directly onto PTO shaft or other power shaft must be prevented from rotating with the power shaft. Pump must float freely on the power shaft and must not be tied rigidly to equipment on which it is mounted.
4. DO NOT EXCEED recommended speed, pressure and temperature (140° F) for pump and equipment being used.
5. BEFORE SERVICING, disconnect all power, make sure all pressure in the system is relieved, drain all liquids from the system and flush. On gas engine-driven models, remove the spark plug wire from the spark plug before servicing the pump or engine.
6. Secure the discharge lines before starting the pump. An unsecured line may whip, causing personal injury and/or property damage.
7. Check hose for weak or worn condition before each use. Make certain that all connections are tight and secure.
8. Periodically inspect the pump and the system components. Perform routine maintenance as required (see Maintenance section).
9. Protect pump from freezing conditions by draining liquid and pumping rust inhibiting antifreeze solution through the system, coating the pump interior.
10. Do not operate a gasoline engine in an enclosed area. Be sure the area is well ventilated.

WARNING: Gasoline is a Highly Combustible Fuel. The Improper Use, Handling, or Storage of Gasoline Can be Dangerous. Never Touch or Fill a Hot Engine.

11. Use only pipe, hose and fittings rated for the maximum psi rating of the pump.
12. Do not use these pumps for pumping water or other liquids for human or animal consumption.



Hazardous Substance Alert

1. Always drain and flush pump before servicing or disassembling for any reason (see instructions).
2. Always drain and flush pumps prior to returning unit for repair.
3. Never store pumps containing hazardous chemicals.
4. Before returning pump for service/repair, drain out all liquids and flush unit with neutralizing liquid. Then, drain the pump. Attach tag or include written notice certifying that this has been done. Please note that it is illegal to ship or transport any hazardous chemicals without United States Environmental Protection Agency Licensing.

Drive Source Installation

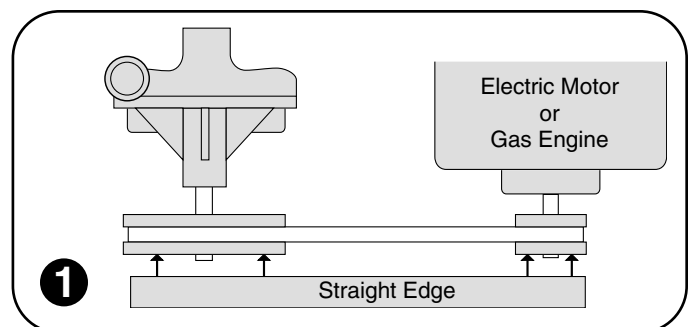
This manual will cover the installation of the basic drive configurations available for Hypro direct-drive centrifugal pumps. Consult the manufacturer of your tractor, motor or engine for additional information. Read all instructions and general safety information before attempting to install or operate the pump.

Belt/Pulley Drive Installation

Series 9200 Pedestal-Mounted Centrifugal Pumps

Mounting Belts and Pulleys

Mount pulleys as close to pump and motor engine shaft bearings as possible. Check alignment with a straight edge as shown in Fig. 1. Make sure that belt has proper tension. (Too much tension will cause bearing wear; too little will cause slippage.) See Fig. 2. Check with belt and pulley sources for specific recommendation.



Belt/Pulley Drive Installation (cont'd)

To figure proper diameter of pump pulley, multiply motor/engine rpm by diameter of the motor/engine pulley and divide that figure by desired pump speed.

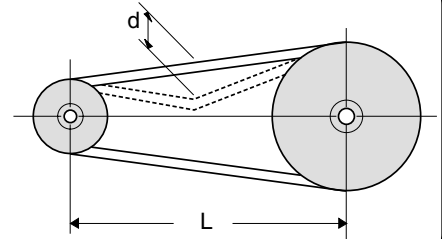
$$\text{Pump Pulley Size} = \frac{\text{Motor RPM} \times \text{Motor Pulley Size}}{\text{Desired Pump Speed}}$$

Refer to pump performance charts to determine desired speed to obtain desired maximum flow.

IMPORTANT: Note that shaft rotation is counter-clockwise as viewed from the shaft - opposite from most standard centrifugals. Be sure to drive pump in proper direction.

Push the belt midway between the pulleys, check the deflection (d) and adjust:

$$d = 0.016 \times L$$



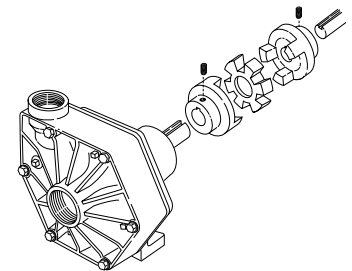
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Direct Drive - Flexible Coupling Installation

Series 9200 and 9500P Pedestal-Mounted Centrifugal Pumps

To install couplings, slide coupling ends onto motor or engine and pump shafts as far as possible. Mount engine/motor and pump on base. Shim up pump or power to align shafts. Leave enough room between shaft ends to install center disc. When aligned, slide ends over disc. Select couplings rated twice required horsepower when using motor; three times when using gas engine.

NOTE: Direction of shaft rotation, as viewed from the shaft side is counterclockwise for Series 9200 and clockwise for 9500P. 9200P is shown.



3

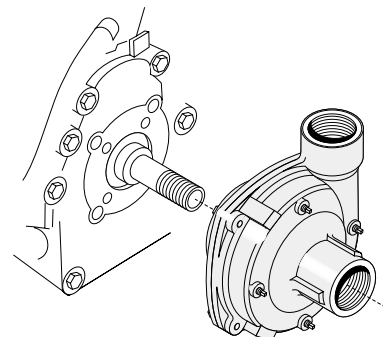
Direct Drive Gas Engine Installation for Models 1538 and 1551

Refer to your pump parts breakdown.

- Lubricate the seal cavity in the flange with WD-40, LPS or equivalent.
Be extremely careful with the new seal. Take special care not to scratch the lapped sealing faces of the rotary seal and stationary seat.
- Install the stationary portion of the mechanical seal by pushing it into the bore of the flange with the ceramic side out.
Important: Make sure the seal "cavity" is clean and lubricated. Never run the sealing faces dry.
- To seat the seal in the seal cavity, use a piece of 3/4" PVC pipe (1" for 1551) 4" to 6" in length. Press seal in firmly and squarely.
- Install slinger ring onto gas engine shaft.
- Install flange onto the gas engine. Make sure the flange bore fits into the bore on the engine. See Fig. 4.
- Insert four bolts and four seals (four bolts only for 1551) through the flange and into the gas engine. Tighten to 80-100 inch pounds of torque.
- To install the rotary portion of the mechanical seal, place it over the shaft with the carbon side facing in, and press until it bottoms out against the stationary seal portion.

Important: Use care in installing the seal on the shaft. The seal can be damaged by threads on the engine shaft.

- Install the gasket over the shaft against the rotary portion of the seal.
- Install the impeller onto the shaft, and hand tighten until it is secure.
- Install the o-ring on the mounting flange.
- Place the pump casing on the mounting flange; insert the bolts and tighten evenly.

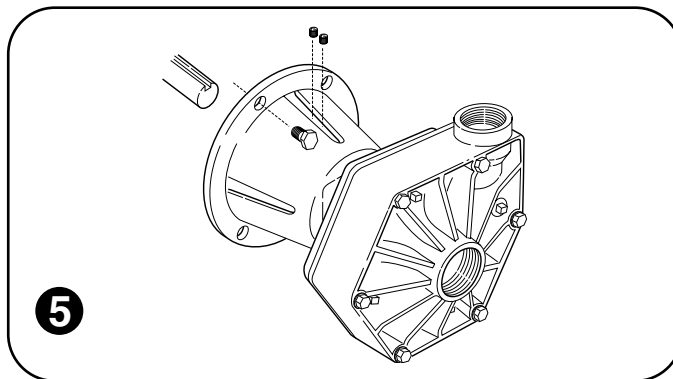


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Direct Drive - Flange Mount Installation

GAS ENGINE MOUNT — Models 9510P & 9513P
9510P fits most 8 hp gas engines with flange mount and 1" shafts; 9513P fits most 5 hp gas engines with flange mount and 3/4" shaft.

To install pump onto gas engine, first apply anti-seize compound to gas engine shaft and to inside of pump hollow shaft. Insert key into engine shaft. Next, slide pump onto engine shaft and secure with four hex head bolts. **NOTE:** Do not force pump onto shaft. Tighten set screws on pump shaft through slots in flange. Check to make sure pump rotates freely by slowly turning over the gas engine.



Operation and Maintenance

IMPORTANT: ENGAGE PTO CLUTCH SLOWLY AND SMOOTHLY. AVOID SUDDEN STARTS AND FAST CLUTCHING THAT CAN DAMAGE THE DRIVE SECTION OF THE PUMPS.

Controlling the Flow

Two flow control valves are used - one in the agitation line and one in the line leading to the boom or spray gun. This permits controlling agitation flow independently of nozzle flow.

To Adjust For Spraying

To adjust sprayer (regardless of power source - PTO, belt or pulley), follow these steps:

1. Prime pump with all valves open.
2. Close control valve and agitation line valve; open boom shut-off valve.
3. With pump running, open the control valve until pressure gauge indicates desired spraying pressure.
4. Open the agitation line valve until sufficient agitation is observed. Then, if spraying pressure drops, readjust the control valve to restore desired pressure.
5. Make sure flow is uniform from all nozzles.

After spraying adjustments are made, it is only necessary to close boom shut-off valve to discontinue spraying. On belt-drive models, check belt tension daily or before each use.

Flush Pump After Use

One of the most common causes for faulty pump performance is "gumming" or corrosion inside the pump. Flush the pump and entire system with a solution that will chemically neutralize the liquid pumped. Mix according to manufacturer's directions. This will dissolve most residue remaining in the pump, leaving the inside of the pump clean for the next use.

To Prevent Corrosion

After cleaning the pump as directed above, flush it with a permanent-type automobile antifreeze (Prestone, Zerex, etc.) containing a rust inhibitor. Use a 50% solution - that is, half antifreeze and half water, or fill pump with FLUID FILM and then drain it. A protective coating of FLUID FILM will remain on the inner pump surfaces. Save the excess FLUID FILM for the next application. Plug the ports to keep out air during storage. For short periods of idleness, non-corrosive liquids may be left in the pump, **BUT AIR MUST BE KEPT OUT.** Plug ports or seal port connections.

Troubleshooting

System	Probable Cause(s)	Corrective Action(s)
Low Discharge	Pump not primed	Remove topmost vent plug from face of pump and run pump to expel trapped air (See Installation instructions). Recommend vent line be used (KIT#3430-0456).
	Air leaks in suction line . . .	Check and reseal inlet fittings.
	Blocked or clogged line strainer or impeller . . .	Inspect strainer and impeller to clear any debris or obstruction.
	Undersize suction line or collapsed hose	Suction line should be the same diameter as inlet port of pump or larger.
	Eye of impeller rubbing on volute	Remove volute (front cover) and inspect the impeller. If wear detected, sand the impeller eye O.D. with emery cloth.
Liquid leaking out weep port	Worn seal	Replace seal.

Repair Instructions

Recommended repair tools for use with these instructions:



Always flush pump with water, or neutralizing agent, before servicing.

Pump Housing Disassembly (All Models)

In most cases, seal replacement requires disassembly of only the pump half of the unit.

NOTE: Instructions following in italics describe procedures for the polypropylene centrifugal pumps, when different than the cast iron pumps.

1. Remove the four casing cap screws with 9/16" box end wrench. Tap pump casing on discharge port with rubber hammer, if necessary, to break loose from mounting flange. Check inside of pump casing including suction port.

If badly eroded [or damaged], pump casing should be replaced. Remove o-ring and discard. o-ring should always be replaced. [Using a 1/2" wrench, remove the six bolts from the front. Also remove the 5/16" screw from the rear near the outlet port.]

2. To remove the impeller nut, clamp the flange in a vise and insert a large screwdriver or file (at least 10" long) into impeller vanes to prevent impeller from turning when loosening nut. Use a socket wrench (3/4" for Series 9000C or 5/8" for Series 9200C and 9400C) to remove the impeller nut by turning it counterclockwise (Fig. A). [Use 7/8" deep socket wrench to remove plastic seal nut, then 9/16" deep socket to remove metal jam nut, rubber gasket and washer.]
3. Once the nut [and washer] is removed, place a screwdriver on each side (Fig. B) behind the impeller and pry away from the mounting flange. Remove woodruff key from the shaft (for Series 9000 only). Remove o-ring from the mounting flange. **NOTE:** Fig. B shows 9000C gear flange. The same general procedure applies for the other pumps.

Pump Seal Removal

1. Lightly lubricate shaft for easier removal of seal. Using two screwdrivers positioned opposite each other, pry the rotary portion of the seal from the shaft (Fig. C).
2. [Remove plastic back cover flange. Knock seal out from back with a hammer and screwdriver.]
3. Remove stationary seat and boot by prying out with two small screwdrivers in manner similar to impeller removal. (Caution: The seal will be damaged by removal in this manner. A new seal and rubber gasket **MUST** be used when pump is reassembled.)

Clean-Up Of Pump Housing

1. Using the circular bottle-type wire brush with air or hand drill, clean the discharge port, suction port and the sealing areas of the o-ring on the pump casing and mounting flange. [The last step should not be performed on the polypropylene models.]
2. After wire brush cleaning, it is recommended that the pump casing and mounting flange be further cleaned in a solvent tank to remove rust and corrosion particles.

Pump Shaft and Bearing Assembly Removal and Replacement

1. While the pump is disassembled (see the Pump Housing Disassembly section), the driven pulley on the pump shaft must be removed. Remove the large retainer ring in pump bearing bore on the pulley side of housing. Press out the shaft and bearing assembly from the pump side using an arbor press.
2. Bearings must be pressed off each end of shaft and replaced in the same manner. **NOTE:** Shaft diameter between bearings is larger.
3. For reassembly, reverse the order of instructions.

Seal Replacement/Pump Housing Reassembly

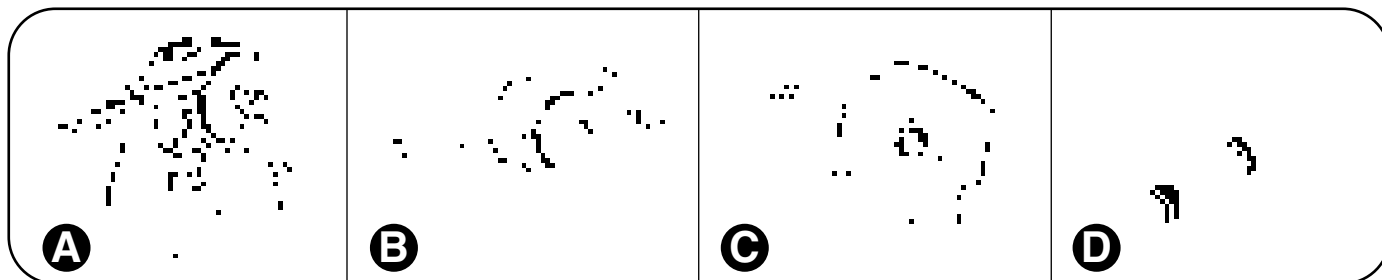
NOTE: Reassemble if drive end is not to be repaired.

Be extremely careful with the new seal. Take special care not to scratch the lapped sealing faces of the rotary washer and stationary seat.

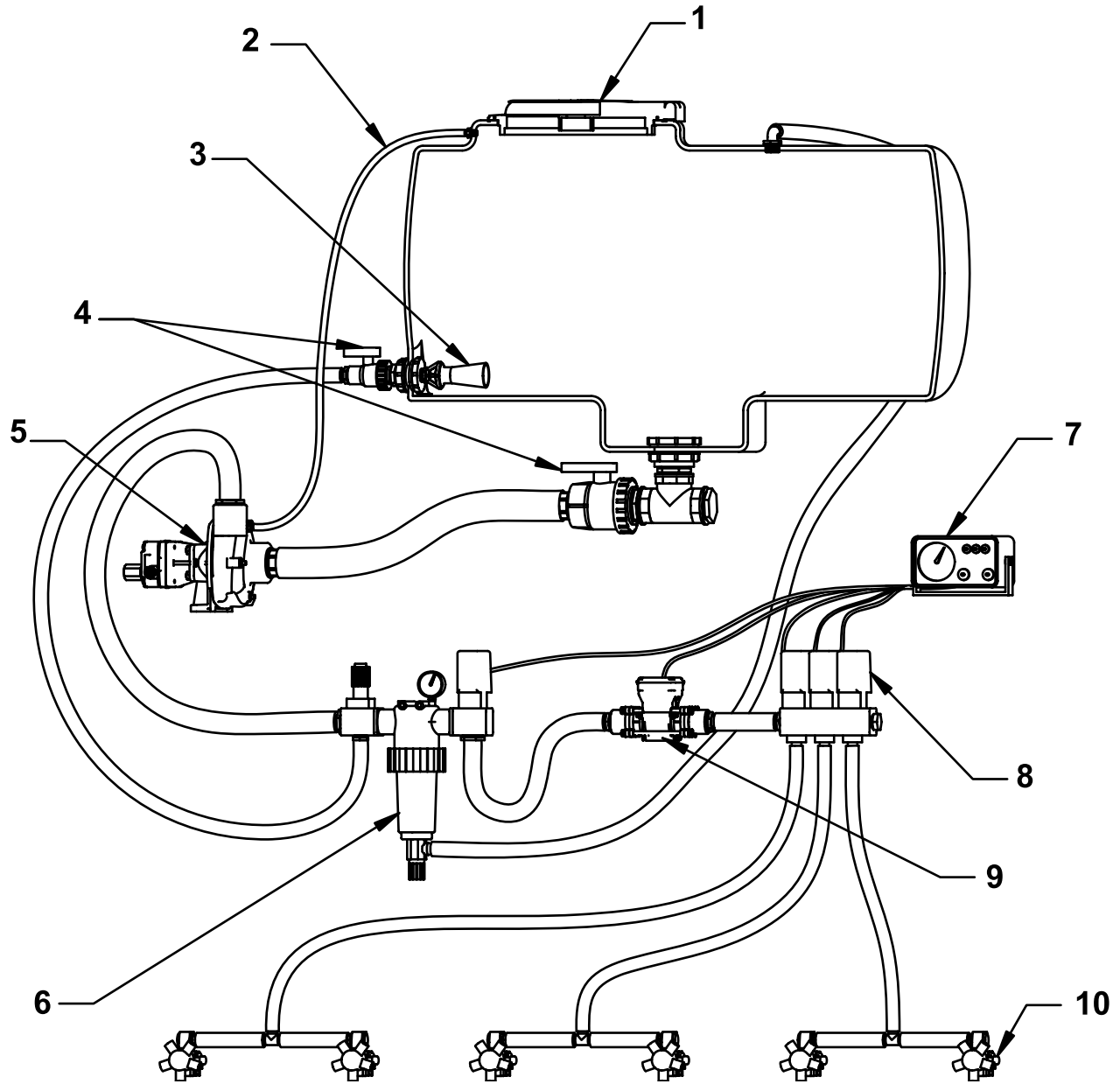
1. Lubricate seal cavity in mounting flange with WD-40, LPS or equivalent.
2. Install the stationary portion of the mechanical seal by sliding over the shaft with the ceramic side out.

IMPORTANT: Make sure the seal cavity is clean and lubricated. Never run the sealing faces dry.

3. To seat the seal in the seal cavity, use a piece of 3/4" PVC pipe 4" to 6" in length. Press it in firmly and squarely.
4. To install the rotary portion of the mechanical seal, place it over the shaft with the carbon side facing in, and press until it bottoms out against the stationary portion (Fig. D).
5. Insert key into shaft key slot. Place impeller on shaft. Put [washer, jam nut and gasket] impeller nut on shaft end, and using a large screwdriver or file in the impeller vanes for support, tighten impeller nut securely.
6. Install o-ring on mounting flange. Replace o-ring if worn or damaged.
7. Place pump casing on mounting flange, insert and tighten bolts evenly.



Plumbing Installation



Centrifugal Plumbing Hook-up

REF. NO.	DESCRIPTION
1	Tank Lid
2	Vent Line #3430-0456
3	Jet Agitator
4	Shut-off Ball Valves
5	Centrifugal Pump
6	Centrifugal Pump Control
7	Spray Control Console
8	Manifold Boom Valve
9	Electromagnetic Flowmeter
10	Compact Jet Turret Nozzle Body

Plumbing Installation

Pump Installation:

The following are recommendations to achieve the optimal performance out of your centrifugal pump and your spraying system.

Pump Inlet Line

To achieve full capacity from the pump, the inlet line should be at least the same size as the inlet port on the pump. Reducing this line size will restrict the capabilities of the pump. The line must also be free of air leaks. Check all fittings and connections in the suction line for tightness. The introduction of air may affect the priming and pumping capabilities of the pump. Use good quality suction hose that will not be collapsed by suction.

For non Self-Priming models, the centrifugal pump should be mounted below the liquid level and as near to the liquid source as possible to allow for the shortest suction line practical. To achieve optimal performance, the suction line should slope down into the pump. Avoid rises and humps that could trap air in the line to the pump. The suction line and pump should be filled with liquid prior to starting the pump and all discharge lines should be open.

Priming:

IMPORTANT: PUMP MUST NOT BE RUN DRY.

In addition to the proper suction plumbing, a vent line should be installed to assist in priming. Use a Hypro Vent Line Kit 3430-0456. The vent line will help to prevent air locks and allows air to bleed off to the tank. This helps ensure proper priming and helps to prevent dry-run damage to the mechanical seal during priming. The vent line should be installed in the top port of the pump casing and the line routed sloping upward to the tank, where it should be mounted above the liquid line.

Pump Outlet Line

The recommended orientation for the outlet port is pointing straight up. This allows liquid to stay in the pump while it is priming. The outlet line should be the same size as the pressure port on the pump to give the optimal flow. The line should have as few restrictions and elbows as possible to optimize the pump performance and reduce pressure drop from the pump to the spray tips.

Centrifugal Pump Control

Hypro now offers many different components for spraying systems. The Hypro centrifugal pump control incorporates the electric flow control valve, a self-cleaning line strainer, a visual pressure gauge and a manual agitation control valve.

Flow Control Valve

A high-flow electric proportional valve allows for maximum flow control to the boom valves. It provides smooth, rapid control that can be controlled from either an electronic rate controller or switch box.

Strainers

The recommended placement of the strainer for a centrifugal pump is in the pump outlet line. This will eliminate any possible restriction that the strainer could create if it were installed in the inlet line. Ensure that the proper strainer size and screen mesh are used to limit the pressure drop and achieve the best filtration. Line strainers can also be installed in the tank fill line to filter liquid as it is loaded into the tank as well as in the boom lines to further filter the solution prior to the spray tips. Tank baskets can also be used to filter material added through the tank lid.

Agitation

The centrifugal pump control contains a manual agitation control valve that can be adjusted to provide the right amount of flow to the jet agitators in the tank to ensure proper mixing within the tank.

Flowmeter

To eliminate the mechanical problems of a turbine flowmeter, we recommend that an electromagnetic flowmeter be used. These flowmeters have no moving parts to wear out and will provide a more consistent and accurate flow reading. They can be input into just about any electronic rate controller or switch box.

Boom Section Valves

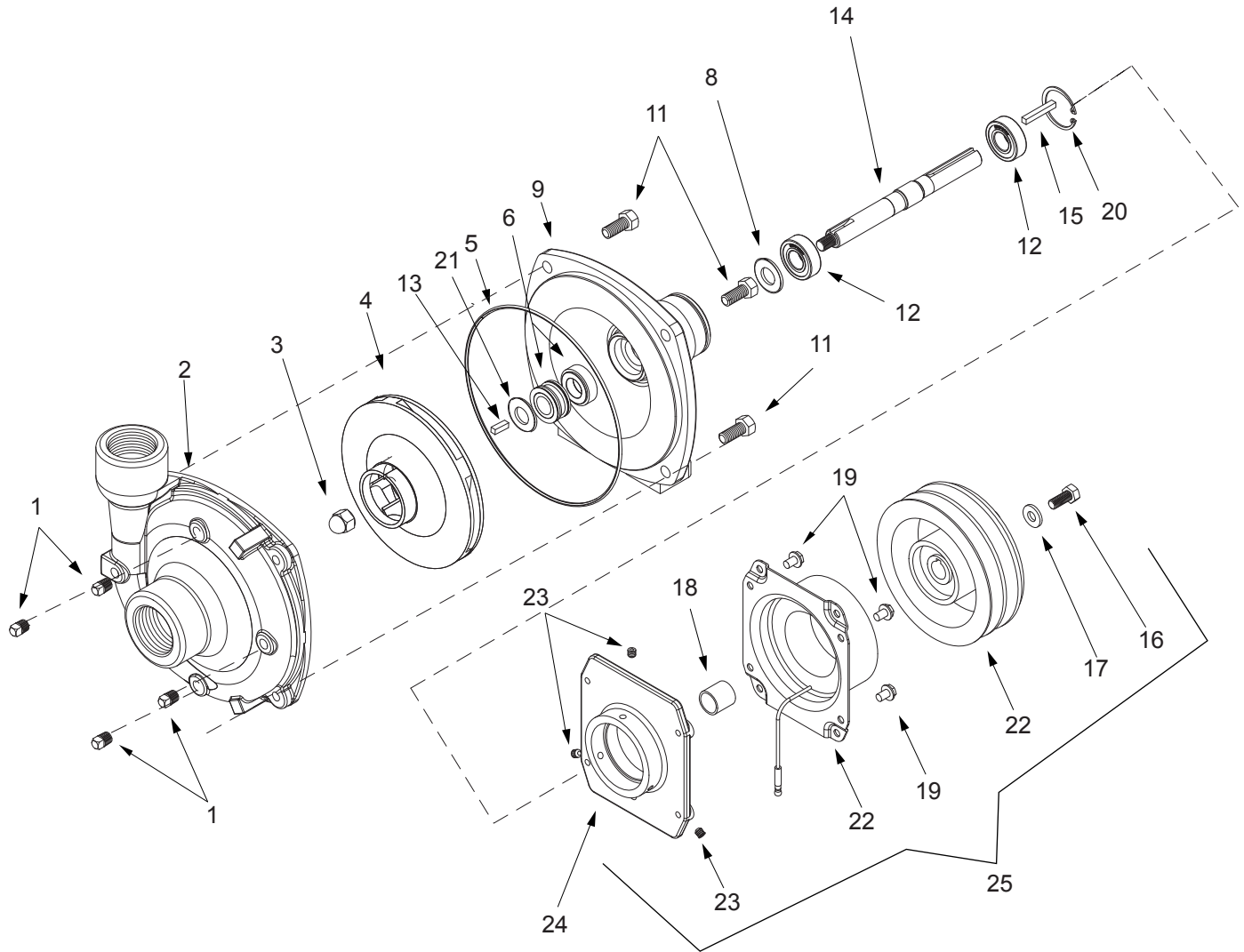
For rapid response and reliability, we recommend electric plunger valves be used for boom control. The valves should be sized accordingly to minimize the pressure drop and maximize the flow rate. The boom tubing or hose should be sized accordingly to ensure that a pressure drop in the lines does not occur, causing inconsistent pressures at the nozzles.

Nozzle Bodies

Nozzle bodies with shut-off check valves are recommended to eliminate dripping from the spray tips when the boom valves are shut down.

**For further information
regarding Hypro products,
contact your local dealer
or Hypro directly at
www.hypropumps.com or by
calling 1-800-424-9776.**

9202 Cast Iron and Stainless Steel Series



Seal Kit for Cast Iron series:
No. 3430-0332 consists of:
(1) Ref. 5 O-Ring
(1) Ref. 6 Mechanical seal
(1) Ref. 21 Gasket

Seal Kit for Stainless series:
No. 3430-0589 consists of:
(1) Ref. 5 O-Ring
(1) Ref. 6 Mechanical seal

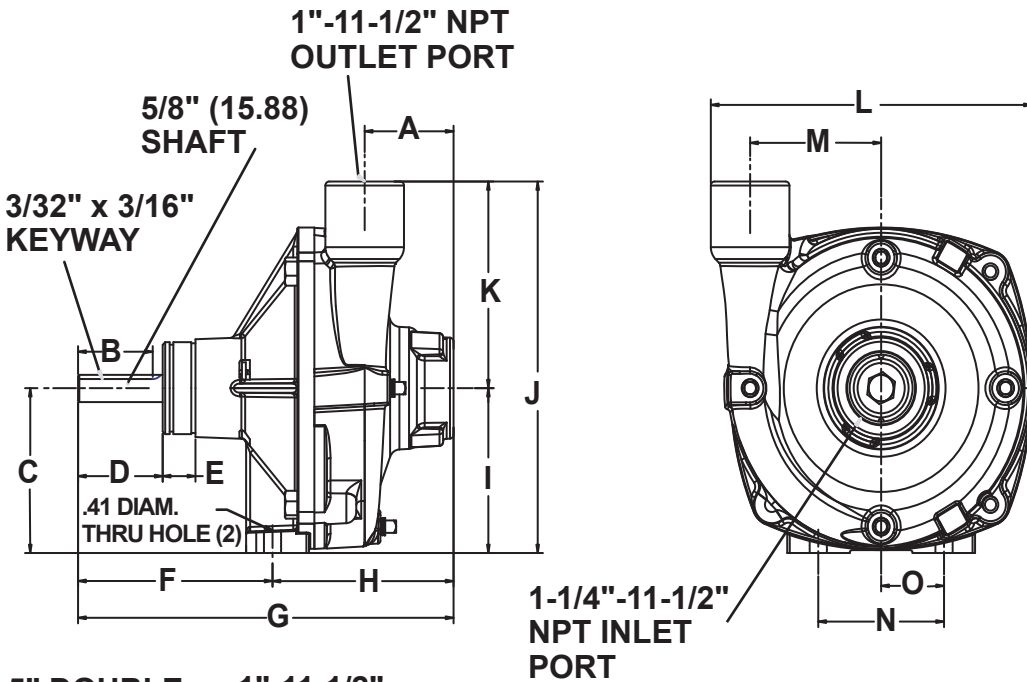
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain Plug (Cast series)
1	4	2406-0016	Drain Plug (316 Stainless series)
2	1	0150-9200C	Pump Casing (Cast series)
2	1	0156-9200S1	Pump Casing (Stainless w/plugs)
3	1	2253-0002	Impeller Nut
3	1	2253-0006	Impeller Nut (Stainless series)
4	1	0401-9100P	Impeller (Cast series) (Nylon)
4	1	0402-9100P	Impeller (Stainless series) (Poly)
5	1	1720-0083	O-Ring
6	1	2120-0008	Mechanical Seal (Optional Buna-N)
6	1	2120-0009	Mechanical Seal (Cast series)
6	1	3430-0589	Mech. Seal (Silicon Carbide) (SS series) Includes ref #5 O-Ring
8	1	1410-0056	Slinger Ring
9	1	0750-9200C3	Mounting Flange (Cast series)
9	1	0756-9200S	Mounting Flange (Stainless series)
11	4	2210-0020	Bolt (Cast series)

Ref. No.	Qty. Req'd.	Part No.	Description
11	4	2210-0125	Bolt (Stainless series)
12	2	2000-0010	Ball Bearing
13	1	1610-0015	Key (Cast series)
13	1	1610-0057	Key (Stainless series)
14	1	0505-9200	Pump Shaft
15	1	1610-0004	Key
16	1	2210-0003	Bolt
17	1	2270-0092	Retaining Washer
18	1	1410-0107	Spacer
19	4	N/A	Bolt (part of Clutch Assy)
20	1	1820-0013	Bearing Retainer
21	1	1700-0100	Gasket (Cast series)
22	1	2526-0012	Clutch
23	3	2230-0001	Set Screw
24	1	0753-9200C	Mounting Bracket
25	1	3430-0592	Clutch Kit

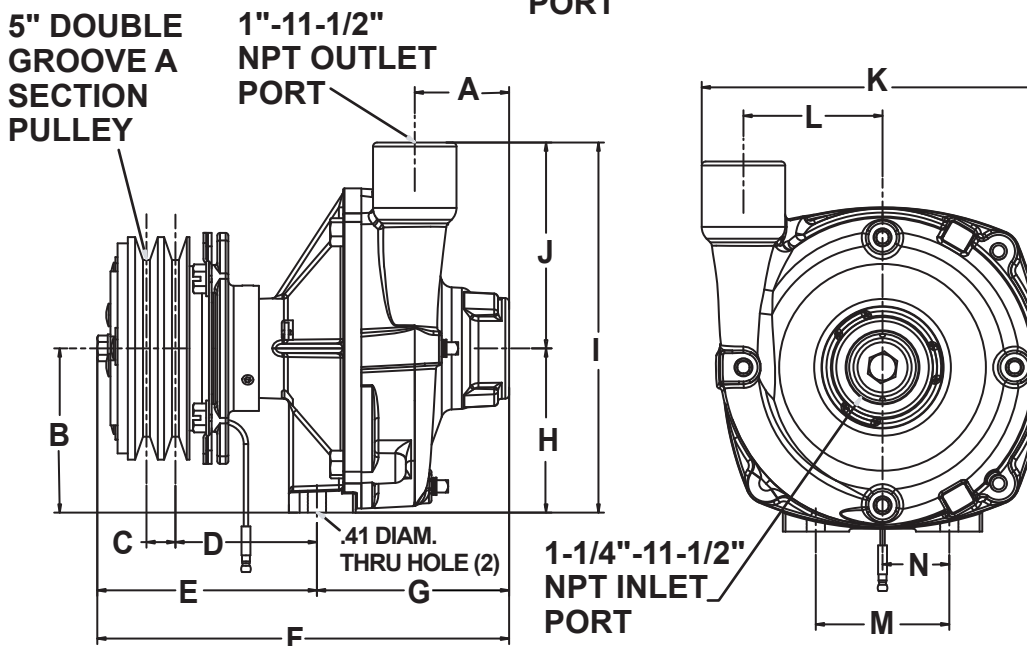
9202 and 9262 Series		GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP
	RPM	10 PSI		20 PSI		40 PSI		60 PSI		80 PSI		100 PSI		120 PSI		140 PSI	
	2400	50	1.3	46	1.2												
3600	67	3.7	66	3.7	62	3.5	34	2.6									
4200	75	5.7	75	5.7	75	5.7	66	5.3	44	4.2							
5000	88	0.3	88	9.3	88	9.3	88	9.3	77	8.6	60	7.5					
6000	103	15.6	103	15.6	103	15.6	103	15.6	103	15.6	100	15.5	91	14.8	56	11.4	

9202 and 9262 Series		LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP
	RPM	0.7 BAR		1.4 BAR		2.8 BAR		4.1 BAR		5.5 BAR		6.9 BAR		8.3 BAR		9.7 BAR	
	2400	189	1.3	174	1.2												
3600	254	3.7	250	3.7	235	3.5	129	2.6									
4200	284	5.7	284	5.7	284	5.7	250	5.3	167	4.2							
5000	333	0.3	333	9.3	333	9.3	333	9.3	291	8.6	227	7.5					
6000	390	15.6	390	15.6	390	15.6	390	15.6	390	15.6	379	15.5	344	14.8	212	11.4	



9202

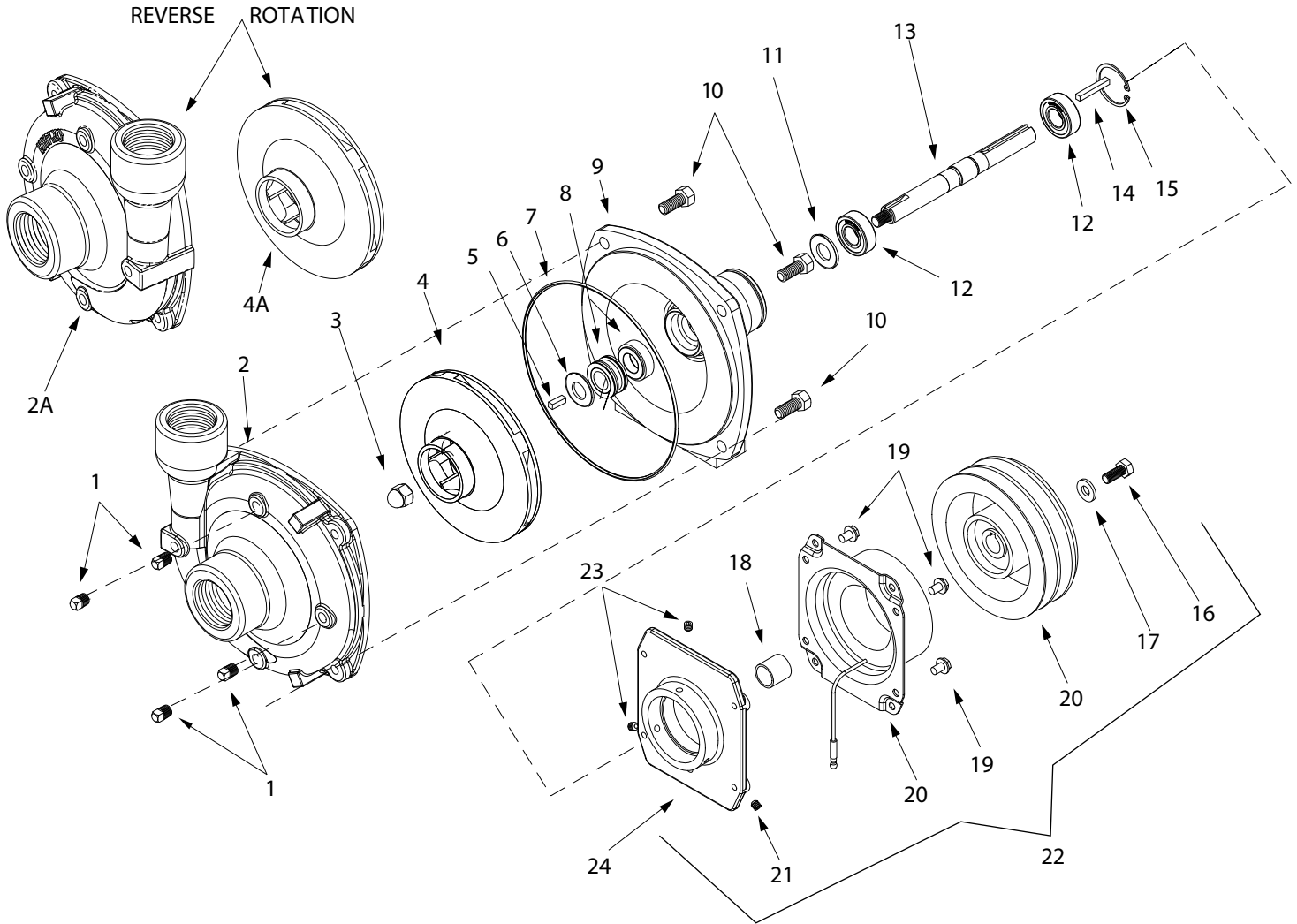
Dimensions		
	Inches	mm
A	2.13	54
B	1.78	45
C	3.69	93.7
D	2.02	51.3
E	0.78	19.9
F	4.64	117.8
G	9.01	228.9
H	4.37	111.1
I	3.69	93.7
J	8.25	209.6
K	4.56	115.9
L	7.78	197.7
M	3.06	77.8
N	3	76.2
O	1.5	38.1



9262

Dimensions		
	Inches	mm
A	2.12	53.8
B	3.69	93.7
C	0.65	16.5
D	3.18	80.7
E	4.93	125.3
F	9.25	235
G	4.32	109.7
H	3.69	93.7
I	8.32	211.2
J	4.63	117.5
K	7.66	194.5
L	3.13	79.4
M	3	76.2
N	1.5	38.1

9203 Cast Iron and Stainless Steel Series



Seal Kit for Stainless Series:
No. 3430-0589 consists of:
(1) Ref. 7 O-Ring
(1) Ref. 8 Mechanical seal

Seal Kit for Cast Iron Series
No. 3430-0332 consists of:
(1) Ref. 7 O-Ring
(1) Ref. 8 Mech. seal
(1) Ref. 6 Gasket

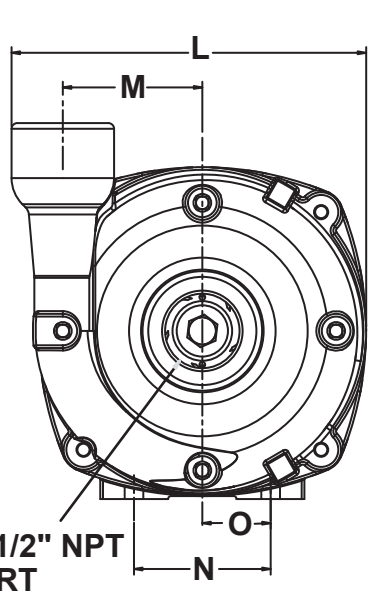
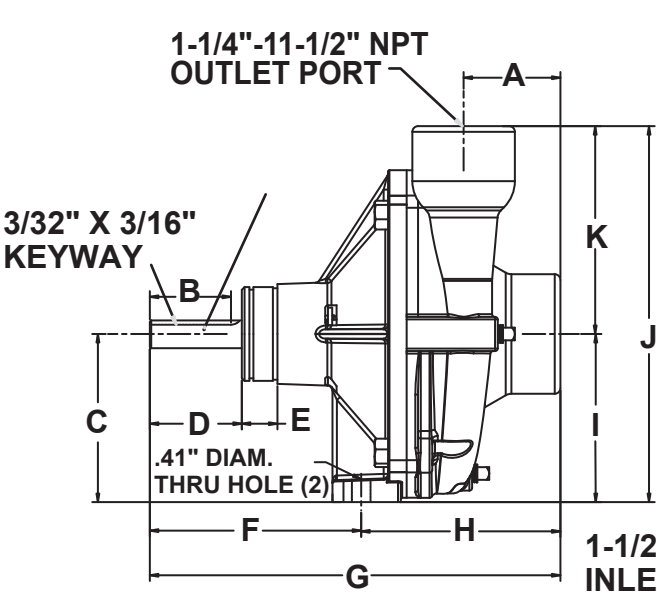
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain Plug (Cast series)
1	4	2406-0016	Drain Plug (316 Stainless series)
2	1	0150-9000C	Pump Casing (Cast series)
2	1	0150-9000S	Pump Casing (Stainless series)
2A	1	0152-9000C	Pump Casing (Reverse)(Cast series)
2A	1	0152-9000S	Pump Casing (Reverse)(Stainless)
3	1	2253-0002	Impeller Nut (Cast series)
3	1	2253-0006	Impeller Nut (Stainless series)
4	1	0401-9100P	Impeller (Model 9203C) (Nylon)
4	1	0402-9100P	Impeller (Model 9203S) (Poly)
4A	1	0404-9100P	Impeller (Reverse)(Cast series)
4A	1	0403-9100P	Impeller (Reverse)(Stainless series)
5	1	1610-0015	Key (Cast series)
5	1	1610-0057	Key (Stainless series)
6	1	1700-0100	Gasket (Cast series)
7	1	1720-0083	O-Ring
8	1	2120-0008	Mechanical Seal (Optional Buna-N)
8	1	2120-0009	Mechanical Seal (Cast series)

Ref. No.	Qty. Req'd.	Part No.	Description
8	1	3430-0589	Mech. Seal (Silicon Carbide) (Stainless) Includes ref #5 O-Ring
9	1	0750-9200C3	Mounting Flange (Cast series)
9	1	0756-9200S	Mounting Flange (Stainless series)
10	4	2210-0020	Bolt (Cast series)
10	4	2210-0125	Bolt(Stainless series)
11	1	1410-0056	Slinger Ring
12	2	2000-0010	Ball Bearing
13	1	0505-9200	Pump Shaft
14	1	1610-0014	Key
15	1	1820-0013	Bearing Retainer
16	1	2210-0003	Bolt
17	1	2270-0092	Retaining Washer
18	1	1410-0107	Spacer
19	4	N/A	Bolt (part of clutch assy)
20	1	2526-0012	Clutch
21	3	2230-0001	Setscrew
22	1	3430-0592	Clutch Kit

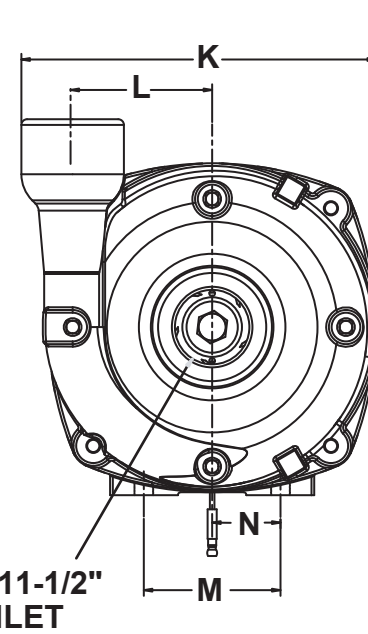
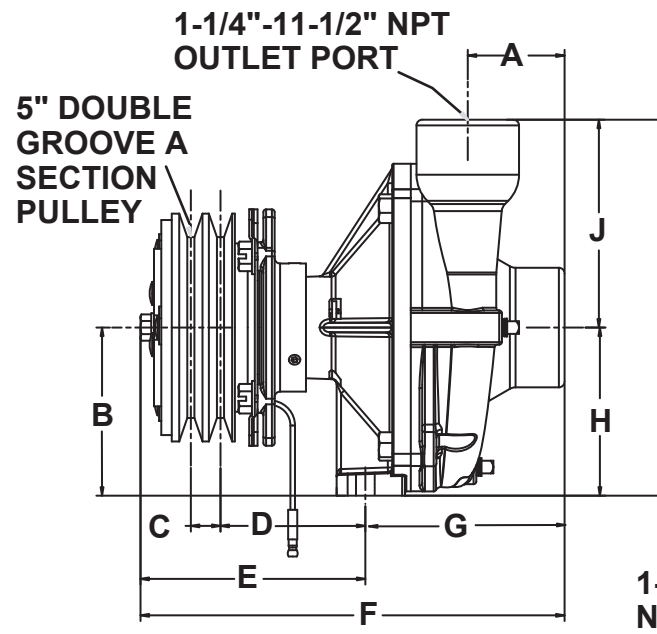
ALL 9203 SERIES		GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP	GPM at	HP
	RPM	10 PSI		20 PSI		40 PSI		60 PSI		80 PSI		100 PSI		120 PSI		140 PSI	
	2400	80	1.9	65	1.8	26	1.3										
	3600	105	5.3	105	5.3	92	5.0	50	3.7								
	4200	122	8.2	120	7.9	115	7.7	98	7.1	56	5.3						
	5000	140	12.6	140	12.6	138	12.6	130	12.2	118	11.6	88	9.9	45	7.2		
	5500	140	14.9	140	14.9	138	14.9	135	15.2	130	15.2	118	14.4	90	12.5	60	9.8
	6000	140	17.1	140	17.1	140	17.5	140	18.0	135	18.2	130	18	125	18.2	100	16.3

ALL 9203 SERIES		LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP	LPM at	HP
	RPM	0.7 BAR		1.4 BAR		2.8 BAR		4.1 BAR		5.5 BAR		6.9 BAR		8.3 BAR		9.7 BAR	
	2400	303	1.9	246	1.8	98	1.3										
	3600	397	5.3	397	5.3	348	5.0	189	3.7								
	4200	462	8.2	454	7.9	435	7.7	371	7.1	212	5.3						
	5000	530	12.6	530	12.6	522	12.6	492	12.2	447	11.6	333	9.9	170	7.2		
	5500	530	14.9	530	14.9	522	14.9	511	15.2	492	15.2	447	14.4	341	12.5	227	9.8
	6000	530	17.1	530	17.1	530	17.5	530	18.0	511	18.2	492	18	473	18.2	379	16.3



9203C

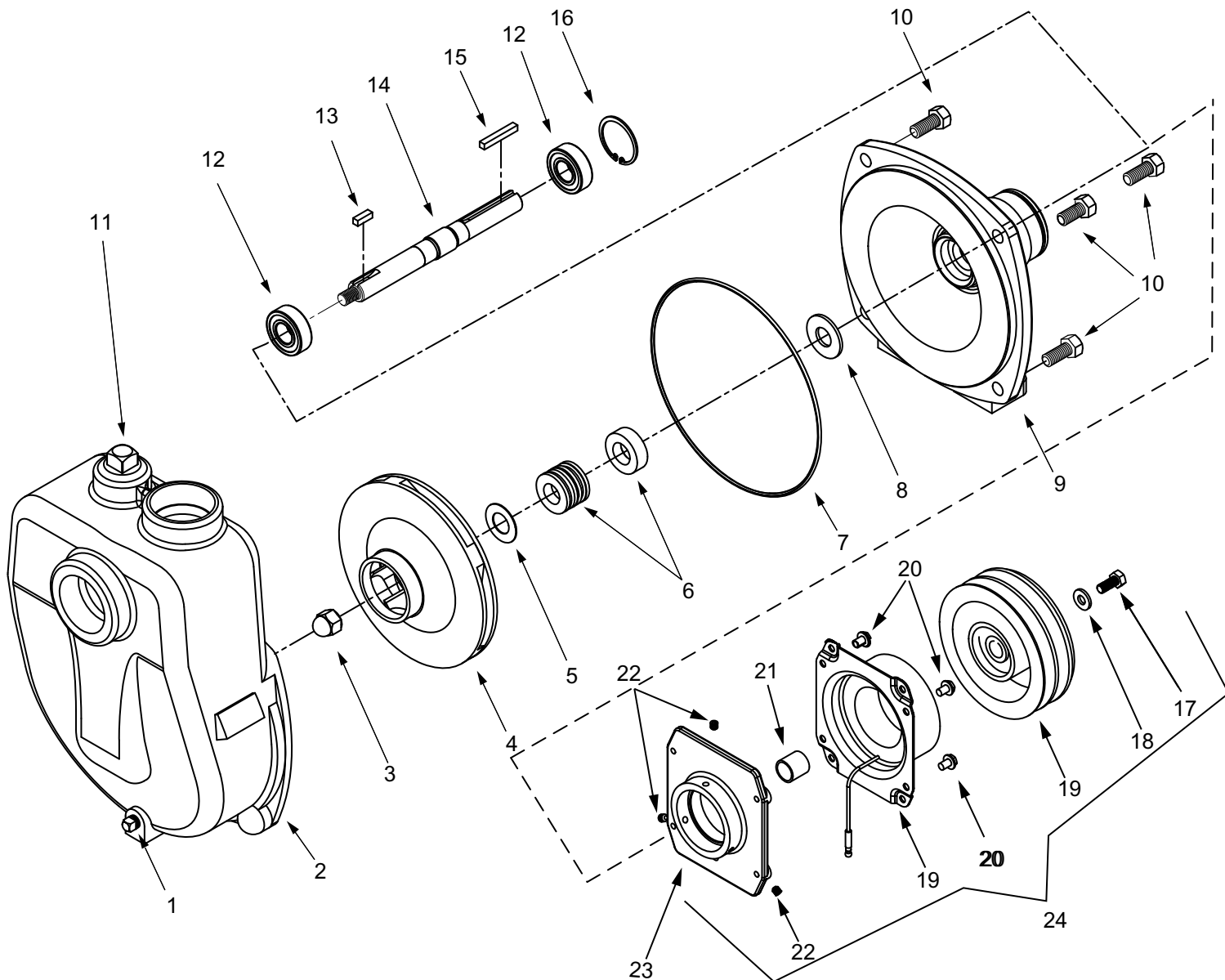
Dimensions		
	Inches	mm
A	2.13	54
B	1.78	45.2
C	3.69	93.7
D	2.02	51.3
E	0.78	19.9
F	4.64	117.8
G	9.01	228.9
H	4.37	111.1
I	3.69	93.7
J	8.25	209.6
K	4.56	115.9
L	7.78	197.7
M	3.06	77.8
N	3	76.2
O	1.5	38.1



9263

Dimensions		
	Inches	mm
A	2.12	53.8
B	3.69	93.7
C	0.65	16.5
D	3.18	80.7
E	4.93	125.3
F	9.31	236.4
G	4.32	109.7
H	3.69	93.7
I	8.25	209.6
J	4.56	115.9
K	7.78	197.7
L	3.11	78.9
M	3	76.2
N	1.5	38.1

Model 9203C-SP and 9263C-C-SP



Standard Seal Kit Number
No 3430-0332 consists of:

- (1) Ref. 5 Gasket
- (1) Ref. 6 Mech. seal (Viton)
- (1) Ref. 7 O-Ring

Silicon Carbide Seal Kit
No. 3430-0589 consists of:

- (1) Ref. 6 Mech. seal
- (1) Ref. 7 O-Ring

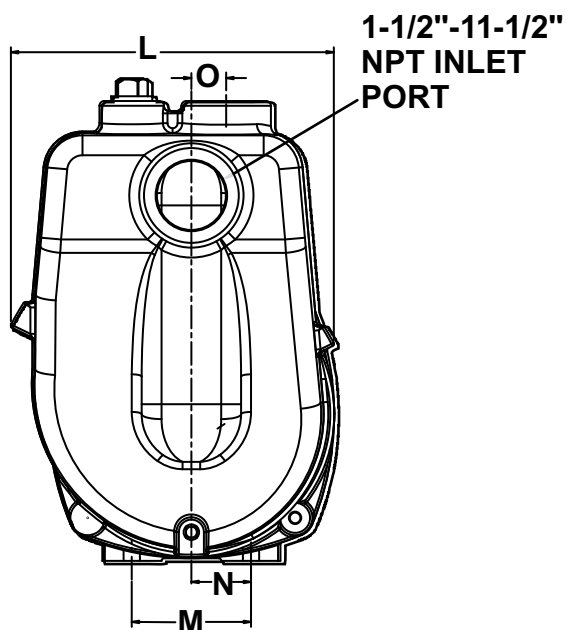
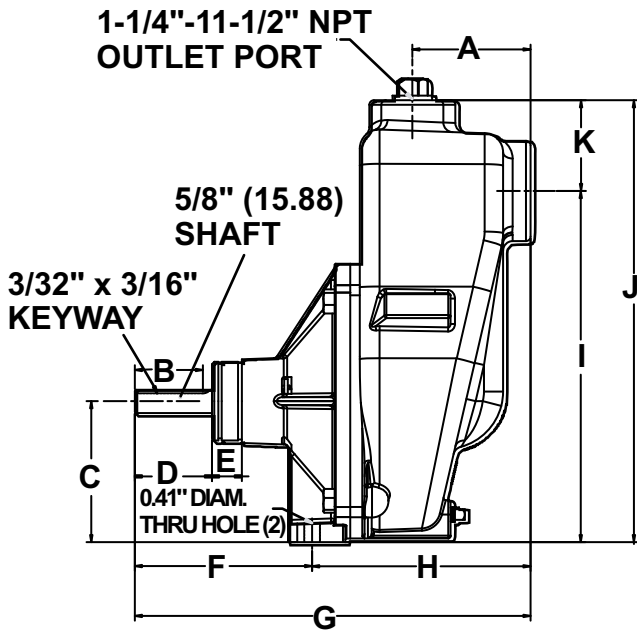
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

No.	Qty. Req'd.	Part No.	Description
1	1	2406-0007	Drain Plug
2	1	0150-9070C	Self Priming Chamber
3	1	2253-0002	Impeller Nut
4	1	0401-9100P	Impeller (Nylon)
5	1	1700-0100	Gasket (use with Buna and Viton only)
6	1	2120-0008	Mechanical Seal (Optional Buna-N)
6	1	2120-0009	Mechanical Seal (Standard Viton)
6	1	3430-0589	Mechanical Seal (Opt. Silicon Carbide)
7	1	1720-0083	O-Ring
8	1	1410-0056	Slinger Ring
9	1	0750-9200C3	Mounting Flange
10	4	2210-0020	Bolt
11	1	2406-0001	Priming Port Plug

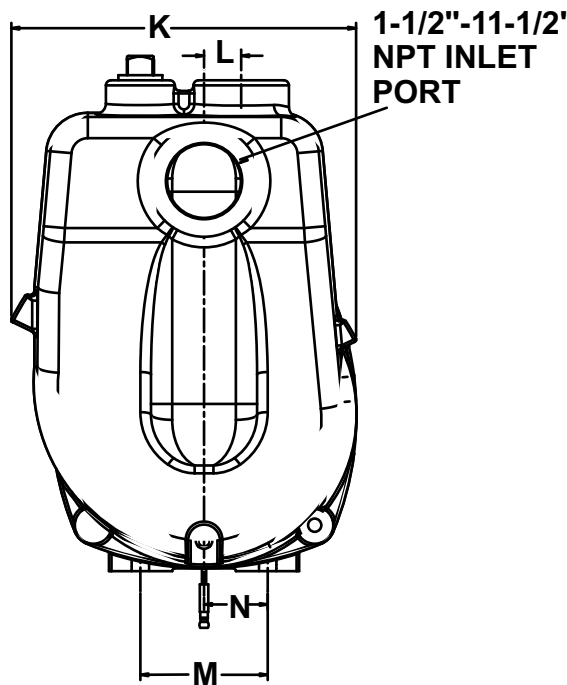
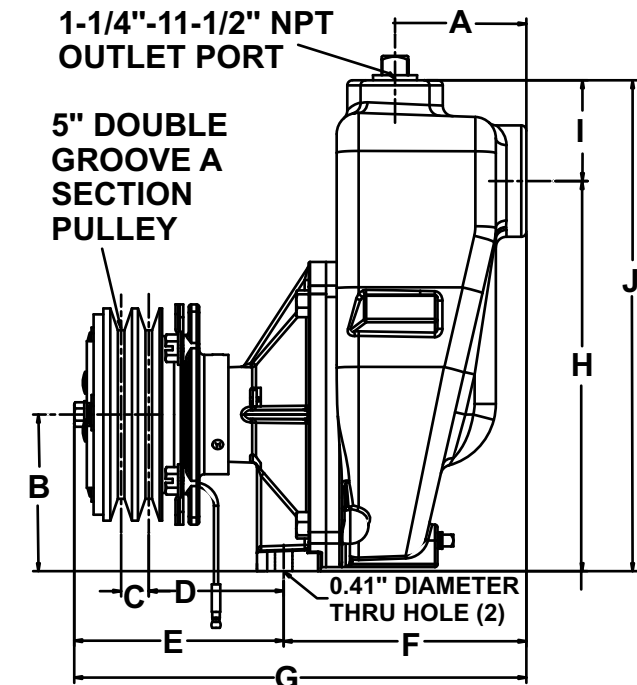
Ref No.	Qty. Req'd.	Part No.	Description
12	2	2000-0010	Ball Bearing
13	1	1610-0015	Key
14	1	0505-9200	Pump Shaft
15	1	1610-0004	Key
16	1	1820-0013	Bearing Retainer
17	1	2210-0003	Bolt
18	1	2270-0092	Retaining washer
19	1	2526-0012	Clutch (Model 9263C-C-SP)
20	4	N/A	Bolt (Part of Clutch Assy)
21	1	1410-0107	Spacer
22	3	2230-0001	Set Screw
23	1	0753-9200C	Mounting Bracket
24	1	3430-0592	Complete Clutch Kit

9203C-SP 9263C-SP		GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at
	RPM	20 PSI	30 PSI	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI	110 PSI	120 PSI
	3600	101	84	60	25							
	4200	118	112	97	79	54	23					
	5000	121	120	119	117	110	96	78	52	25		
	5500	121	120	119	118	116	115	110	96	79	53	29
	6000	121	120	119	118	116	115	114	113	110	99	82

9203C-SP 9263C-SP		LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at
	RPM	1.4 BAR	2.1 BAR	2.8 BAR	3.4 BAR	4.1 BAR	4.8 BAR	5.5 BAR	6.2 BAR	6.9 BAR	7.6 BAR	8.3 BAR
	3600	382	318	227	95							
	4200	447	424	367	299	204	87					
	5000	458	454	450	443	416	363	295	197	95		
	5500	458	454	450	447	439	435	416	363	299	201	110
	6000	458	454	450	447	439	435	432	428	416	375	310

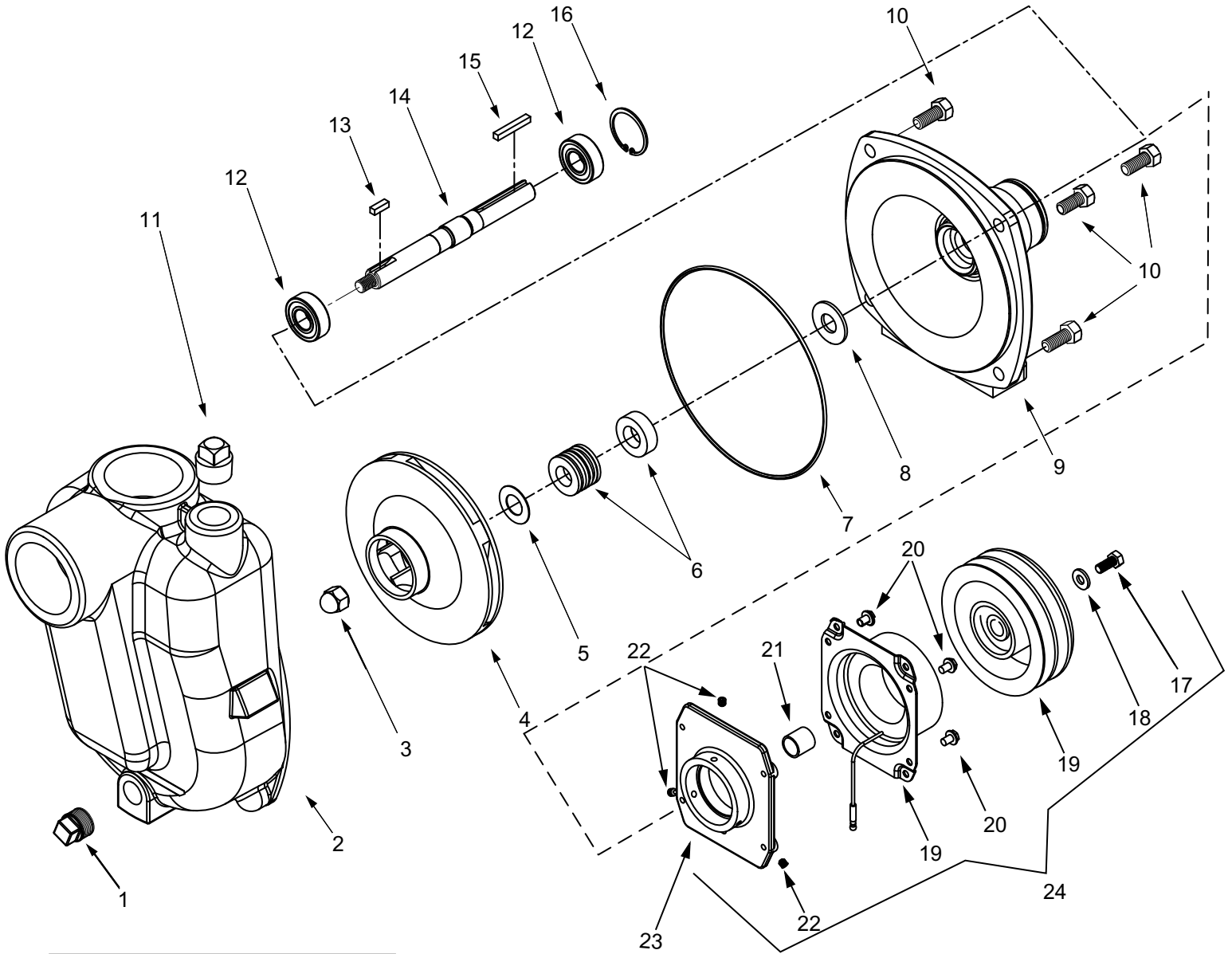


9203C-SP Dimensions		
Inches	mm	
A	3.09	78.5
B	1.78	45.2
C	3.69	93.7
D	2.02	51.3
E	0.78	19.8
F	4.66	118.4
G	10.36	263.1
H	5.72	145.3
I	9.19	233.4
J	11.57	293.9
K	2.38	60.5
L	8.12	206.2
M	3.00	76.2
N	1.50	38.1
O	0.88	22.4



9263C-SP Dimensions		
Inches	mm	
A	3.09	78.5
B	3.69	93.7
C	0.65	16.5
D	3.18	80.8
E	4.93	125.2
F	5.72	145.3
G	10.65	270.5
H	9.19	233.4
I	2.38	60.5
J	11.57	293.9
K	8.12	206.2
L	0.88	22.4
M	3.00	76.2
N	1.50	38.1

Model 9203C-R-SP and 9263C-CR-SP



Standard Seal Kit
 No. 3430-0332 consists of:
 (1) Ref. 5 Gasket
 (1) Ref. 6 Mech. seal (Viton)
 (1) Ref. 7 O-Ring

Silicon Carbide Seal Kit
 No. 3430-0589 consists of:
 (1) Ref. 6 Mechanical seal
 (1) Ref. 7 O-Ring

Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

No.	Qty. Req'd.	Part No.	Description
1	1	2406-0002	Drain Plug
2	1	0152-9070C	Self Priming Chamber
3	1	2253-0002	Impeller Nut
4	1	0403-9100P	Impeller (Nylon)
5	1	1700-0100	Gasket
6	1	2120-0008	Mechanical Seal (Optional Buna-N)
6	1	2120-0009	Mechanical Seal (Standard Viton)
6	1	3430-0589	Mechanical Seal (Opt. Silicon Carbide)
7	1	1720-0083	O-Ring
8	1	1410-0056	Slinger Ring
9	1	0750-9200C3	Mounting Flange
10	4	2210-0020	Bolt
11	1	2406-0001	Priming Port Plug

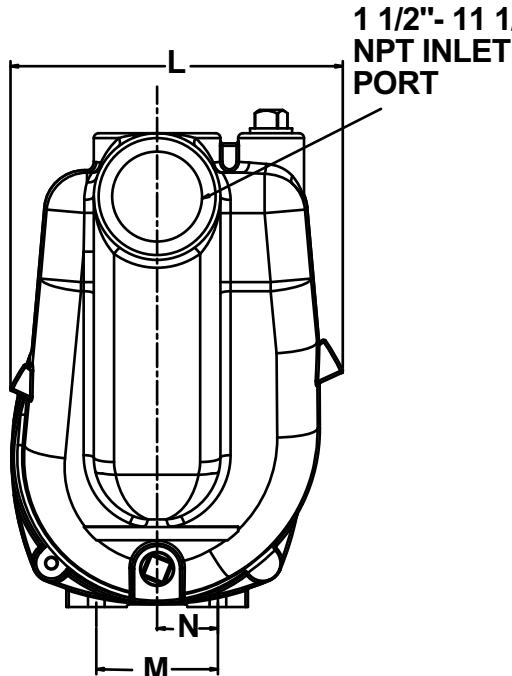
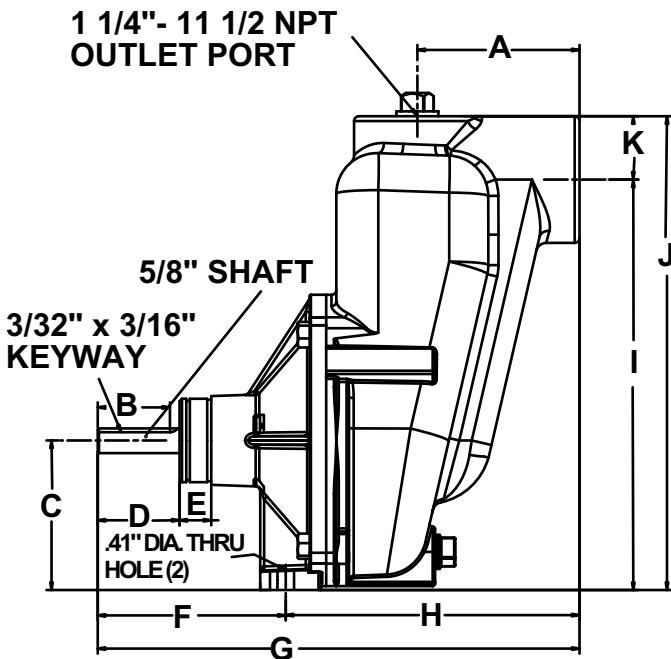
Ref. No.	Qty. Req'd.	Part No.	Description
12	2	2000-0010	Ball Bearing
13	1	1610-0015	Key
14	1	0505-9200	Pump Shaft
15	1	1610-0004	Key
16	1	1820-0013	Bearing Retainer
17	1	2210-0003	Bolt
18	1	2270-0092	Retaining washer
19	1	2526-0012	Clutch (Model 9263C-CR- SP)
20	4	N/A	Bolt (Part of Clutch Assy)
21	1	1410-0107	Spacer
22	3	2230-0001	Set Screw
23	1	0753-9200C	Mounting Bracket
24	1	3430-0592	Complete Clutch Kit

9203C-R-SP
9263C-CR-SP

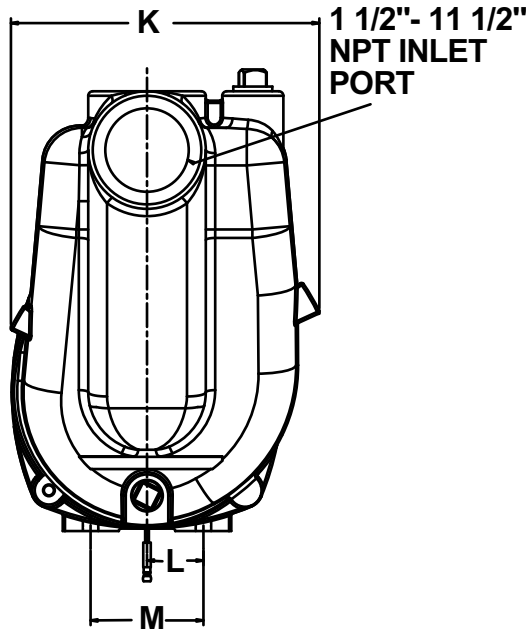
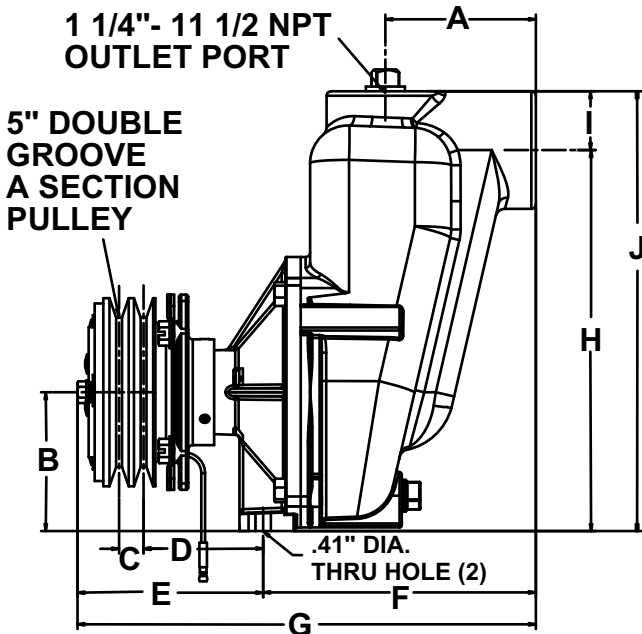
	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at
RPM	20 PSI	30 PSI	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI	110 PSI	120 PSI	
3600	80	64	43	17								
4200	102	90	76	59	38	16						
5000	127	119	109	99	86	70	55	37	18			
5500	135	131	125	118	110	98	83	71	57	40	21	
6000	138	135	132	127	122	117	111	103	93	80	67	

9203C-R-SP
9263C-CR-SP

	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at
RPM	1.4 BAR	2.1 BAR	2.8 BAR	3.4 BAR	4.1 BAR	4.8 BAR	5.5 BAR	6.2 BAR	6.9 BAR	7.6 BAR	8.3 BAR	
3600	303	242	163	64								
4200	386	341	288	223	144	61						
5000	481	450	413	375	326	265	208	140	68			
5500	511	496	473	447	416	371	314	269	216	151	79	
6000	522	511	500	481	462	443	420	390	352	303	254	

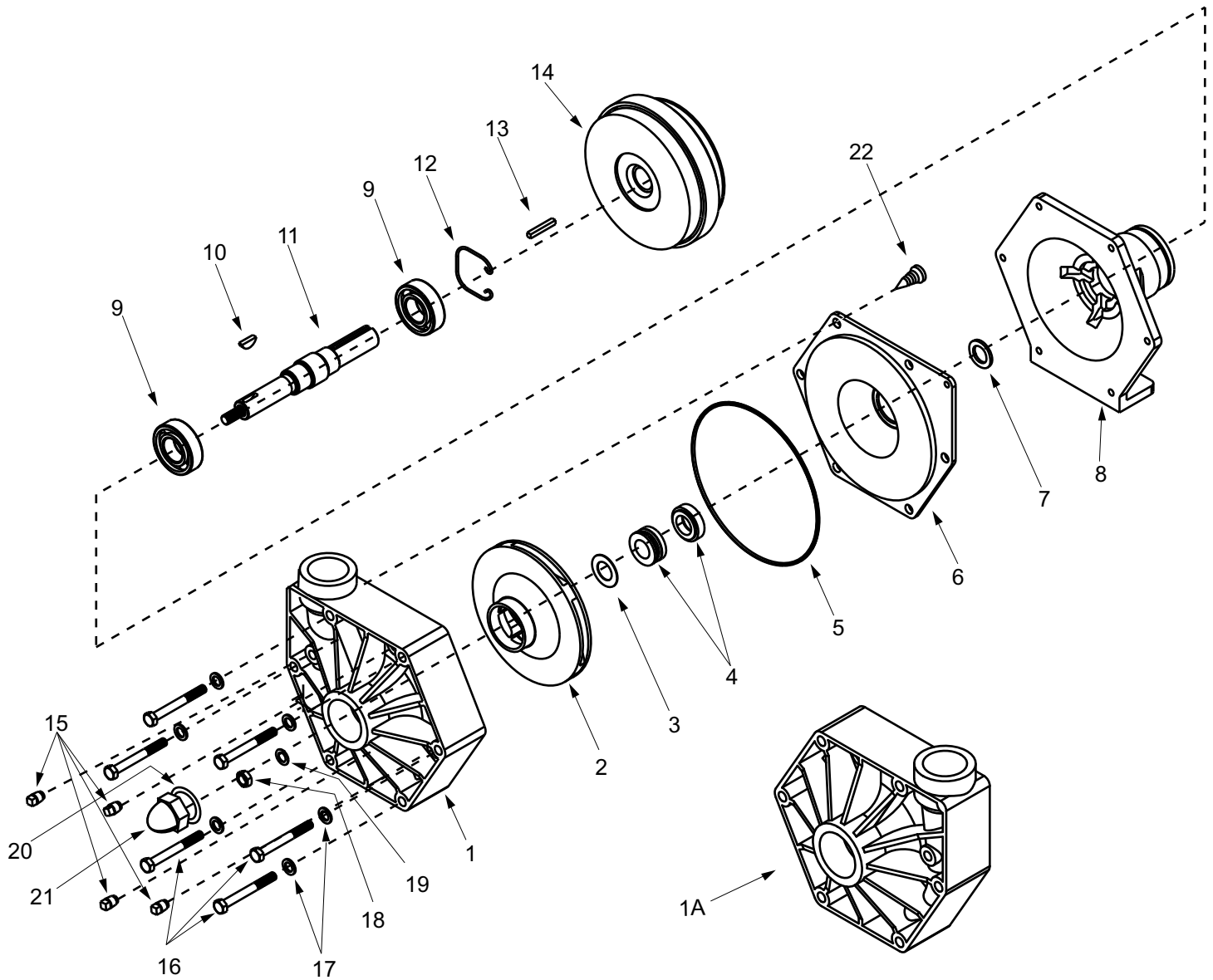


9203C-R-SP Dimensions		
	Inches	mm
A	4.00	101.6
B	1.78	45.2
C	3.69	93.7
D	2.02	51.3
E	0.78	19.8
F	4.64	117.9
G	11.89	302.0
H	7.25	184.2
I	10.13	257.3
J	11.69	296.9
K	1.56	39.6
L	8.20	208.3
M	3.00	76.2
N	1.50	38.1



9203C-CR-SP Dimensions		
	Inches	mm
A	4.00	101.6
B	3.69	93.7
C	0.65	16.5
D	3.18	80.8
E	4.93	125.2
F	7.25	184.2
G	12.18	309.4
H	10.13	257.3
I	1.56	39.6
J	11.69	296.9
K	8.20	208.3
L	1.50	38.1
M	3.00	76.2
N	1.50	38.1

Models 9203P-S, 9253P-C, 9500P-S and 9553P-C



SEAL KIT FOR ALL MODELS

No. 3430-0333 consists of:

- (1) Ref. 3 Gasket
- (1) Ref. 4 Mechanical Seal
- (1) Ref. 5 O-ring
- (1) Ref. 19 Washer
- (1) Ref. 20 Gasket

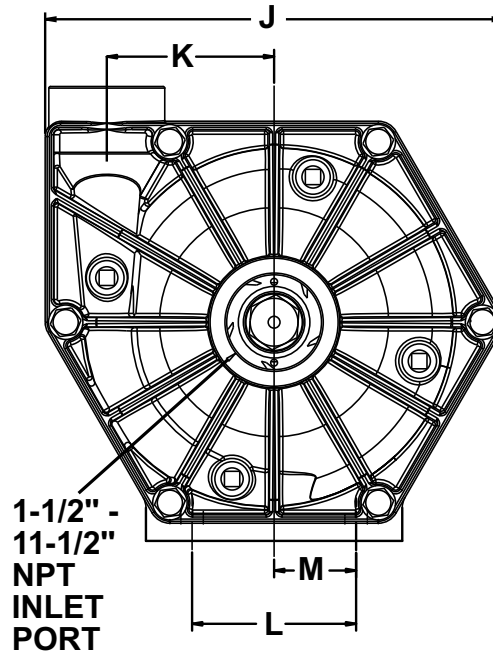
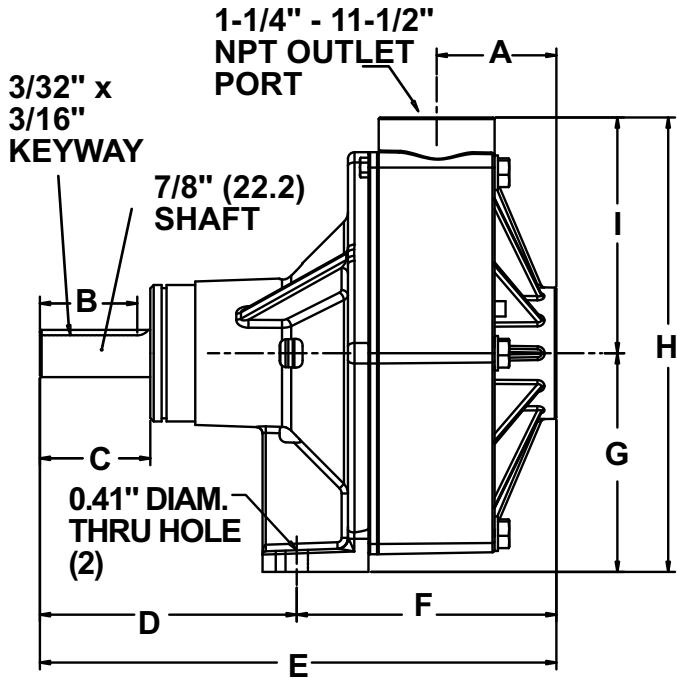
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

No.	Qty. Req'd.	Part No.	Description
1	1	0700-9000P	Pump Casing (9203P-S, 9253P-C)
1A	1	0701-9500P	Pump Casing (9500P-S, 9553P-C)
2	1	0403-9000P	Impeller (Polypropylene) 9203P-S, 9253P-C
2A	1	0402-9000P	Impeller (Polypropylene) 9500P-S, 9553P-C
3	1	1700-0101	Gasket
4	1	2120-0011	Mechanical Seal
5	1	1721-0083	O-ring
6	1	0750-9000P	Back Cover (9203P-S, 9253P-C)
6A	1	0700-9500P	Back Cover (9500P, 9553P-C)
7	1	1410-0083	Slinger Ring
8	1	0702-9200C	Flange
9	2	2008-0001	Bearing
10	1	1610-0042	Woodruff Key (Stainless Steel)

Ref. No.	Qty. Req'd.	Part No.	Description
11	1	0507-9200	Shaft (316 Stainless Steel)
12	1	1820-0025	Retaining Ring
13	1	1610-0004	Key
14	1	2526-0011	Clutch (Models 9253P-C and 9553P-C only)
15	4	2406-0020	Plug
16	6	2210-0087	Hex head Bolt
17	6	2270-0041	Washer
18	1	2250-0051	Jam Nut
19	1	2270-0057	Washer
20	1	1700-0097	Gasket
21	1	2250-0052	Impeller Nut
22	1	2210-0088	Screw

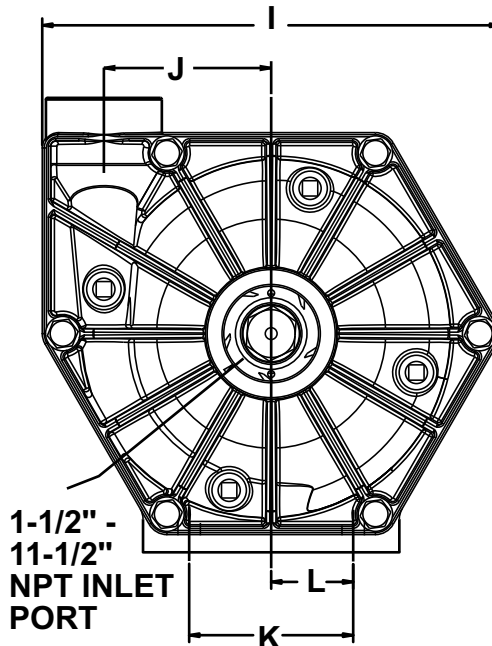
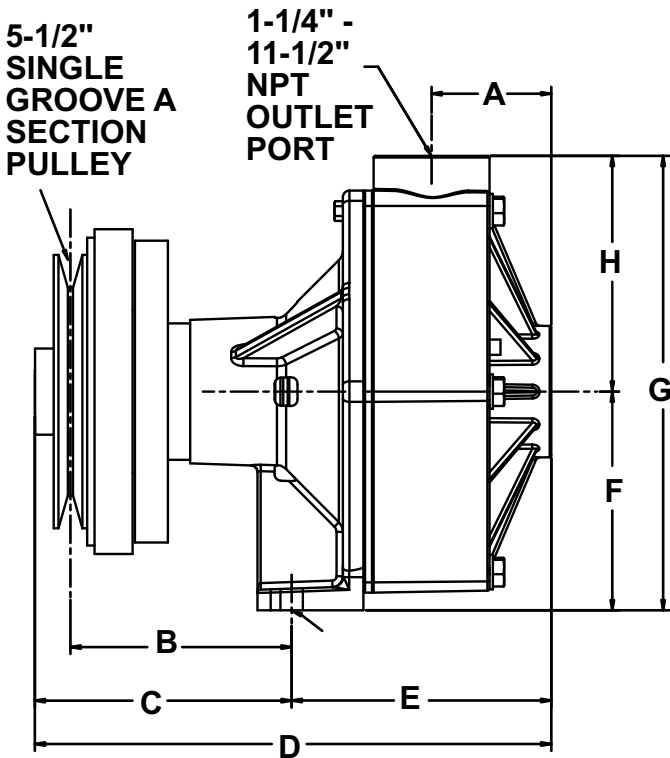
9203P-S 9253P-C		GPM at HP		GPM at HP		GPM at HP		GPM at HP		GPM at HP		GPM at HP		GPM at HP			
	RPM	10 PSI		20 PSI		30 PSI		40 PSI		50 PSI		60 PSI		70 PSI		80 PSI	
	2400	63	1.5	49	1.4	29	1.1										
	3600	91	4.4	87	4.3	81	4.1	70	3.9	58	3.6	39	3.6				
	4200	103	6.7	101	6.6	98	6.5	90	6.3	82	6.0	71	5.7	60	5.2	42	4.5

9203P-S 9253P-C		LPM at HP		LPM at HP		LPM at HP		LPM at HP		LPM at HP		LPM at HP		LPM at HP			
	RPM	0.7 BAR		1.4 BAR		2.1 BAR		2.8 BAR		3.4 BAR		4.1 BAR		4.8 BAR		5.5 BAR	
	2400	238	1.5	185	1.4	110	1.1										
	3600	344	4.4	329	4.3	307	4.1	265	3.9	220	3.6	148	3.1				
	4200	390	6.7	382	6.6	371	6.5	341	6.3	310	6.0	269	5.7	227	5.2	159	4.5



9203P

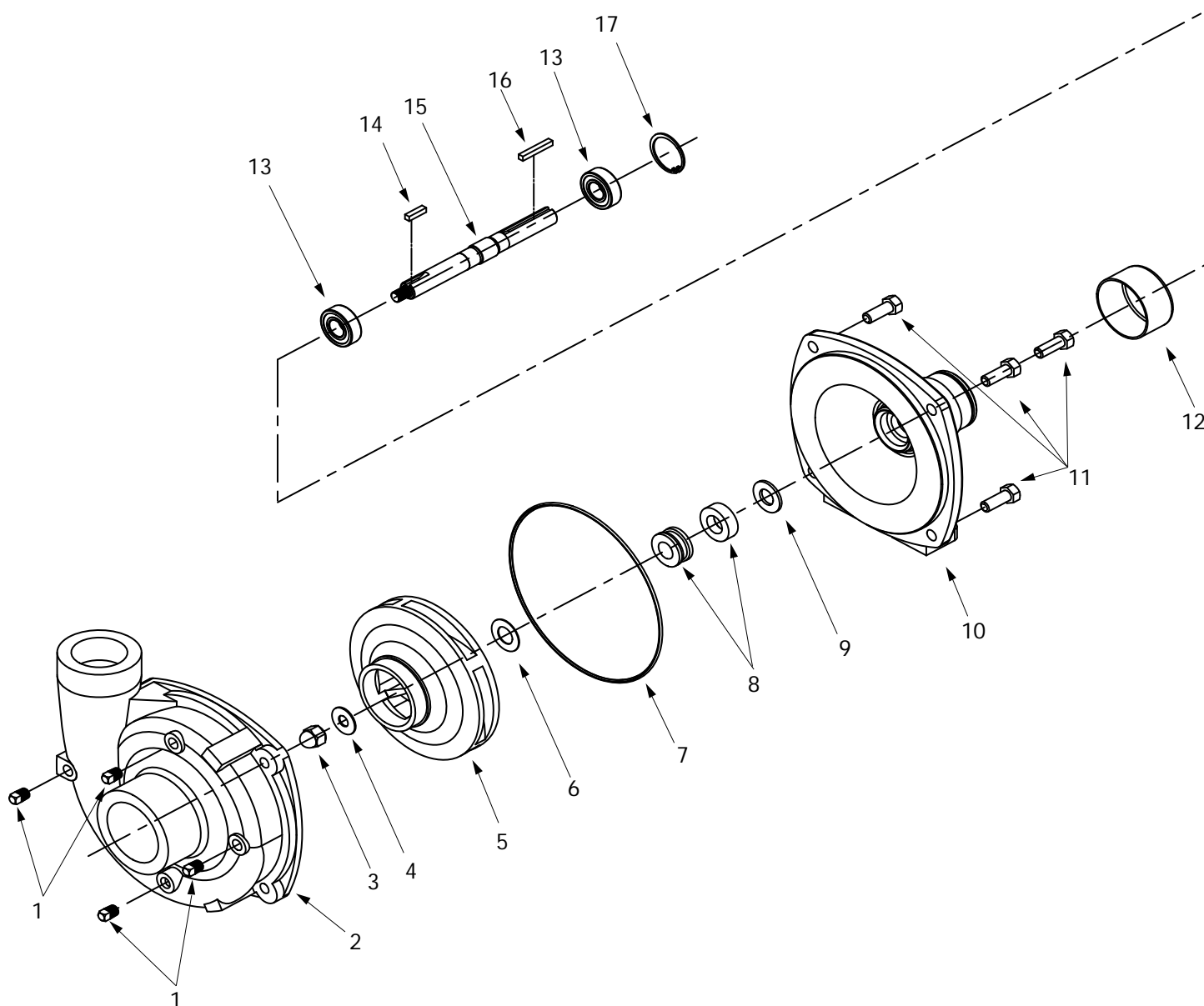
Dimensions		
Inches	mm	
A	2.19	55.6
B	1.78	45.2
C	2.02	51.3
D	4.7	119
E	9.45	240
F	4.75	121
G	4	102
H	8.31	211
I	4.31	109
J	8.38	213
K	3.06	77.7
L	3	76.2
M	1.5	38.1



9253P-C

Dimensions		
Inches	mm	
A	2.19	55.6
B	4.05	103
C	4.7	119
D	9.45	240
E	4.75	121
F	4	102
G	8.31	211
H	4.31	109
I	8.38	213
J	3.06	77.7
K	3	76.2
L	1.5	38.1

Model 9204C



Seal Kit for 9204C (STD)
No. 3430-0332 consists of:
(1) Ref. 6 Gasket
(1) Ref. 7 O-Ring
(1) Ref. 8 Mechanical seal

Seal Kit (Silicon Carbide)
No. 3430-0589 consists of:
(1) Ref. 7 O-Ring
(1) Ref. 8 Mechanical seal

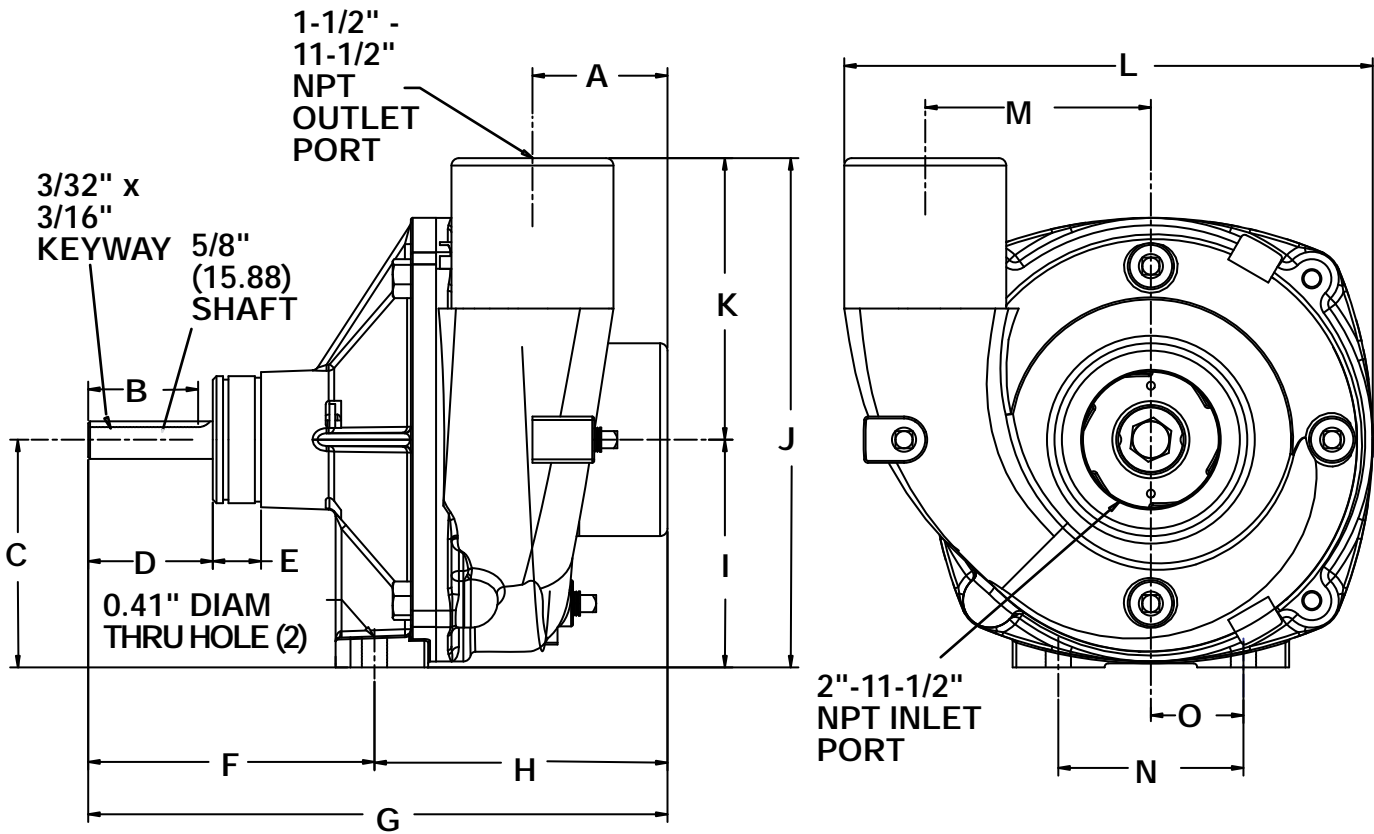
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain Plug
2	1	0151-9200C	Pump Casing (Includes SS wear ring)
3	1	2253-0002	Impeller nut
4	1	2270-0071	Washer
5	1	0401-9200P1	Impeller (Nylon)
6	1	1700-0100	Gasket
7	1	1720-0083	O-Ring
8	1	2120-0008	Mechanical Seal (Optional Buna-N)
8	1	2120-0009	Mechanical Seal (Standard Viton)
8	1	3430-0589	Mechanical Seal (Silicon Carbide Opt.)

Ref. No.	Qty. Req'd.	Part No.	Description
9	1	1410-0056	Slinger Ring
10	1	0750-9200C3	Mounting Flange
11	4	2210-0020	Bolt
12	1	2300-0025	Protective Cover
13	2	2000-0010	Ball Bearing
14	1	1610-0053	Key
15	1	0505-9200	Pump Shaft
16	1	1610-0004	Key
17	1	1820-0013	Bearing Retainer

9204C		GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	
	RPM	10 PSI		20 PSI		30 PSI		40 PSI		50 PSI		60 PSI		70 PSI		
	2400	155	2.5	100	2.2											
	3600	190	6.3	190	6.9	188	7.1	170	6.9	100	5.6					
4200	190	9.1	190	9.2	190	10.0	190	10.4	187	10.5	165	10.0	115	8.3		

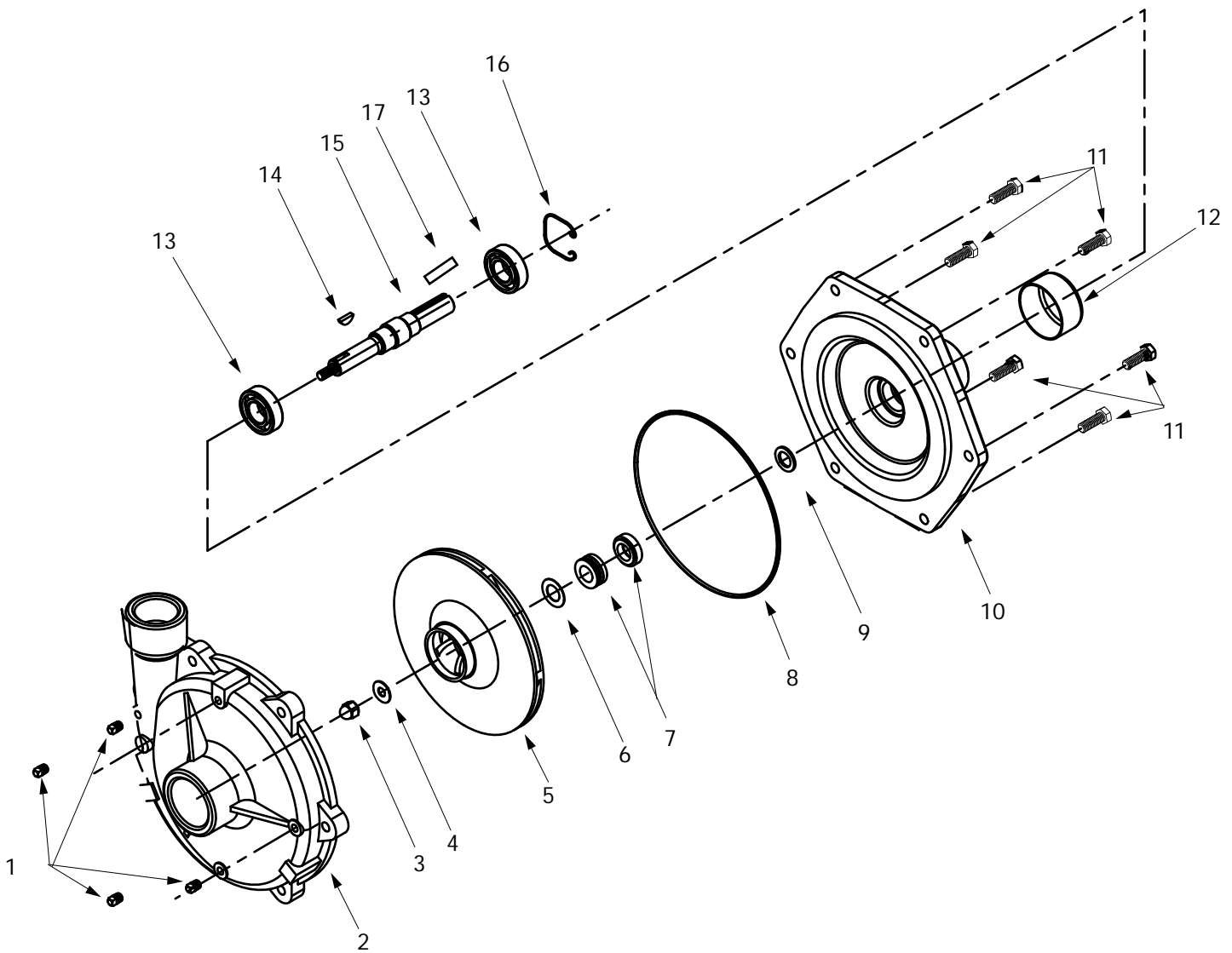
9204C		LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	
	RPM	0.7 BAR		1.4 BAR		2.1 BAR		2.8 BAR		3.4 BAR		4.1 BAR		4.8 BAR		
	2400	578	2.5	379	2.2											
	3600	719	6.3	719	6.9	712	7.1	644	6.9	379	5.6					
4200	719	9.1	719	9.2	719	10.0	719	10.4	708	10.5	625	10.0	435	8.3		



**9204C
Dimensions**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Inches	2.19	1.78	3.69	2.02	0.78	4.64	9.39	4.75	3.69	8.25	4.56	8.56	3.66	3	1.5
mm	55.6	45.2	93.7	51.3	19.8	118	239	121	93.7	210	116	217	93	76.2	38.1

Model 9205C



Seal Kit for 9205C
 No. 3430-0537 consists of:
 (1) Ref. 6 Gasket
 (1) Ref. 7 Mechanical seal
 (1) Ref. 8 O-Ring

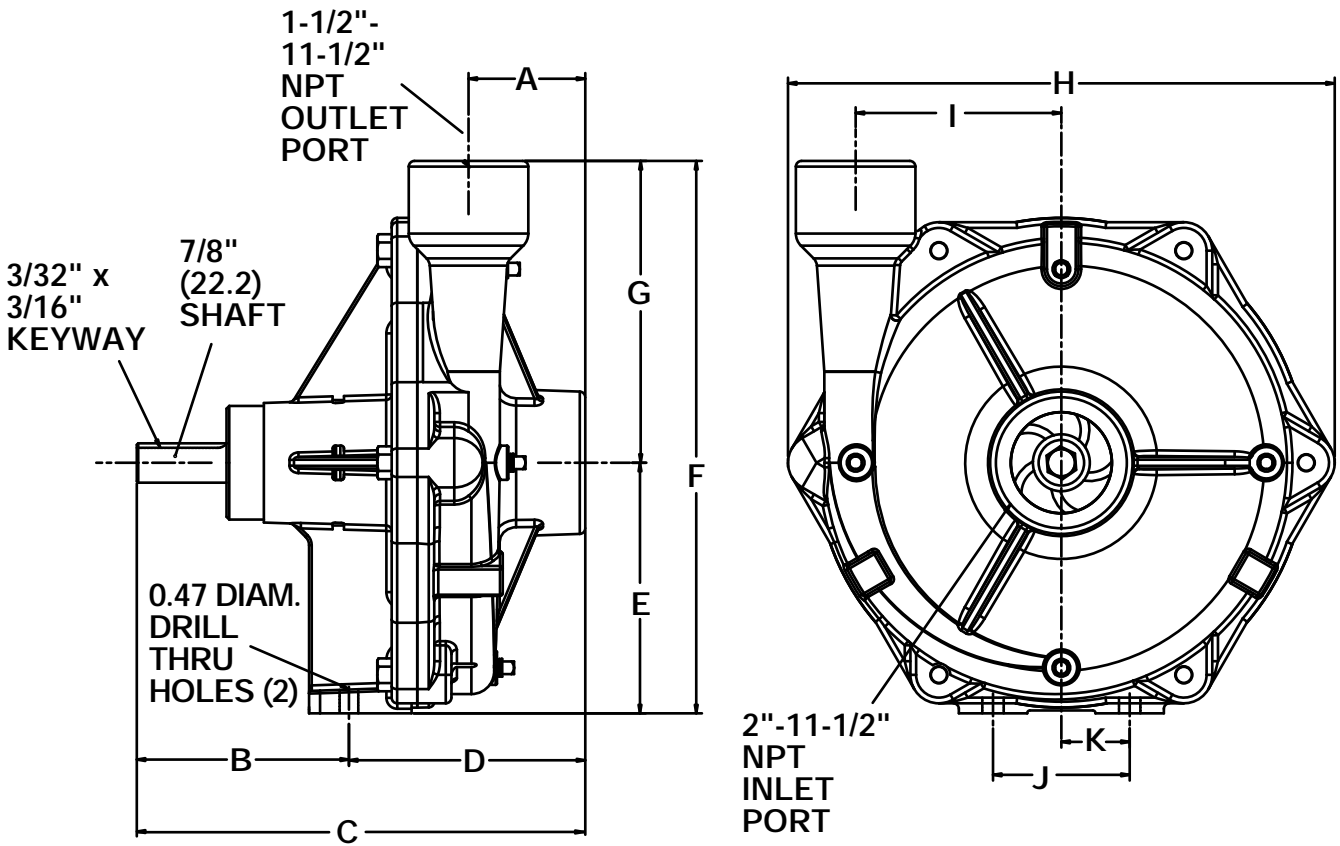
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain Plug
2	1	0152-9200C	Pump Casing
3	1	2253-0002	Impeller Nut
4	1	2270-0071	Washer
5	1	0403-9200P	Impeller (Nylon)
6	1	1700-0101	Gasket
7	1	2120-0011	Mechanical Seal (Viton)
8	1	1720-0180	O-Ring

Ref. No.	Qty. Req'd.	Part No.	Description
9	1	1410-0083	Slinger Ring
10	1	0751-9200C	Mounting Flange
11	6	2210-0086	Bolt
12	1	2300-0035	Protective Cover
13	2	2008-0001	Ball Bearing
14	1	1610-0012	Key
15	1	0507-9200	Pump Shaft
16	1	1820-0025	Bearing Retainer
17	1	1610-0004	Key

9205C		GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP
	RPM	20 PSI		40 PSI		60 PSI		80 PSI		100 PSI		120 PSI		140 PSI		160 PSI	
	3000	165	11.4	164	11.7	154	11.6	104	9.5								
	3400	175	14.8	175	15.5	173	16.3	168	16.3	127	14.2	43	8.7				
	3800	180	18.2	180	18.8	180	19.8	178	21.1	173	21.8	156	20.7	112	17.5		
4200	180	21.9	180	22.0	180	24.0	180	25.3	180	26.9	177	27.9	173	28.1	157	26.4	

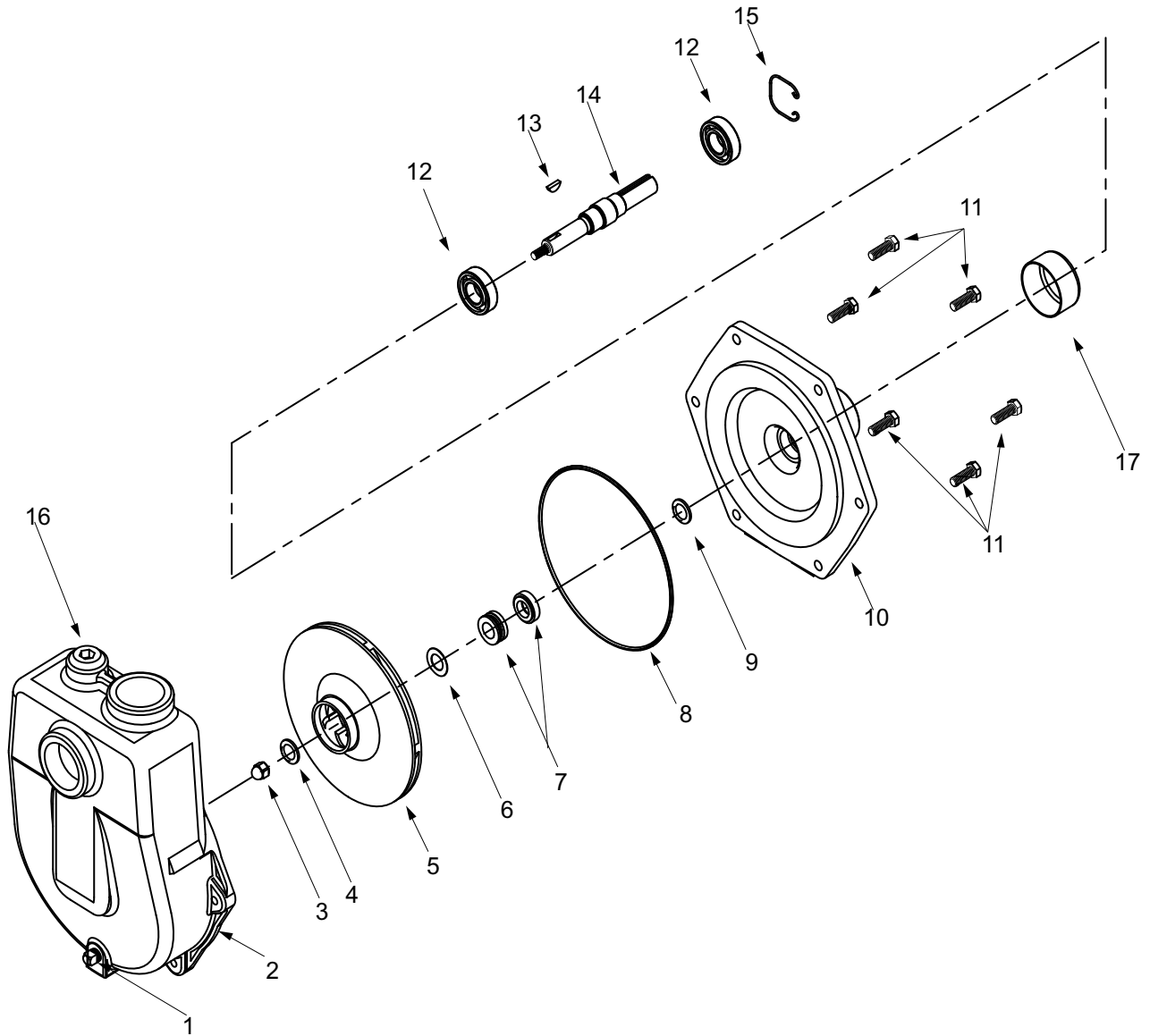
9205C		LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP
	RPM	1.4 BAR		2.8 BAR		4.1 BAR		5.5 BAR		6.9 BAR		8.3 BAR		9.7 BAR		11.0 BAR	
	3000	625	11.4	621	11.7	583	11.6	394	9.5								
	3400	662	14.8	662	15.5	655	16.3	636	16.3	481	14.2	163	8.7				
	3800	681	18.2	681	18.8	681	19.8	674	21.1	655	21.8	591	20.7	424	17.5		
4200	681	21.9	681	22.0	681	24.0	681	25.3	681	26.9	670	27.9	655	28.1	594	26.4	



**9205C
Dimensions**

	A	B	C	D	E	F	G	H	I	J	K
Inches	2.56	4.66	9.84	5.19	5.5	12.1	6.63	12.0	4.52	3	1.5
mm	65	118	250	132	140	308	168	305	115	76.2	38.1

Model 9205C-SP and 9205C-BSP



Seal and O-ring Repair Kit
No. 3430-0537 consists of:
(1) Ref. 6 Gasket
(1) Ref. 7 O-Ring
(1) Ref. 8 Mechanical seal

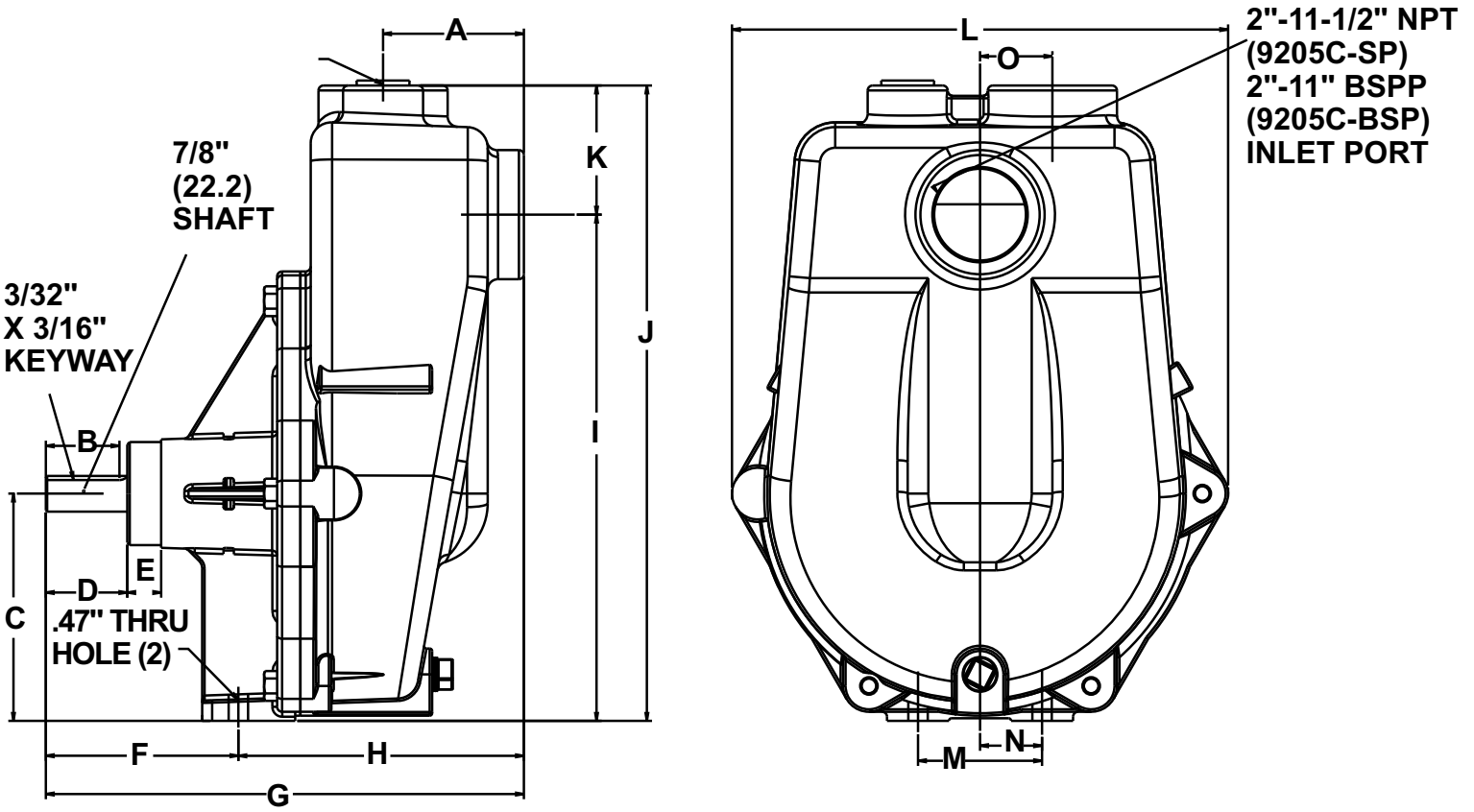
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	1	2406-0002	Drain Plug
2	1	0150-9075C	Pump Casing (standard)
2	1	0150-9075C1	Pump Casing (BSP)
3	1	2253-0002	Impeller Nut
4	1	2270-0071	Washer
5	1	0403-9200P	Impeller (Nylon)
6	1	1700-0101	Gasket
7	1	2120-0011	Mechanical Seal (Standard Viton)
8	1	1720-0180	O-Ring
9	1	1410-0083	Slinger Ring

Ref. No.	Qty. Req'd.	Part No.	Description
10	1	0751-9200C	Mounting Flange
11	6	2210-0086	Bolt
12	2	2008-0001	Ball Bearing
13	1	1610-0012	Key
14	1	0507-9200	Pump Shaft
15	1	1820-0025	Bearing Retainer
16	1	2406-0034	Priming Port Plug (Standard)
16	1	2406-0036	Priming Port Plug (BSP)
17	1	2300-0035	Protective Cover

9205C-SP		GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at	GPM at
	RPM	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI	110 PSI	120 PSI	130 PSI	140 PSI	
	3400	133	132	131	130	115	94	68	35				
	3600	135	134	133	127	114	97	80	54	20			
	3800	159	159	159	159	159	159	140	120	96	65	24	

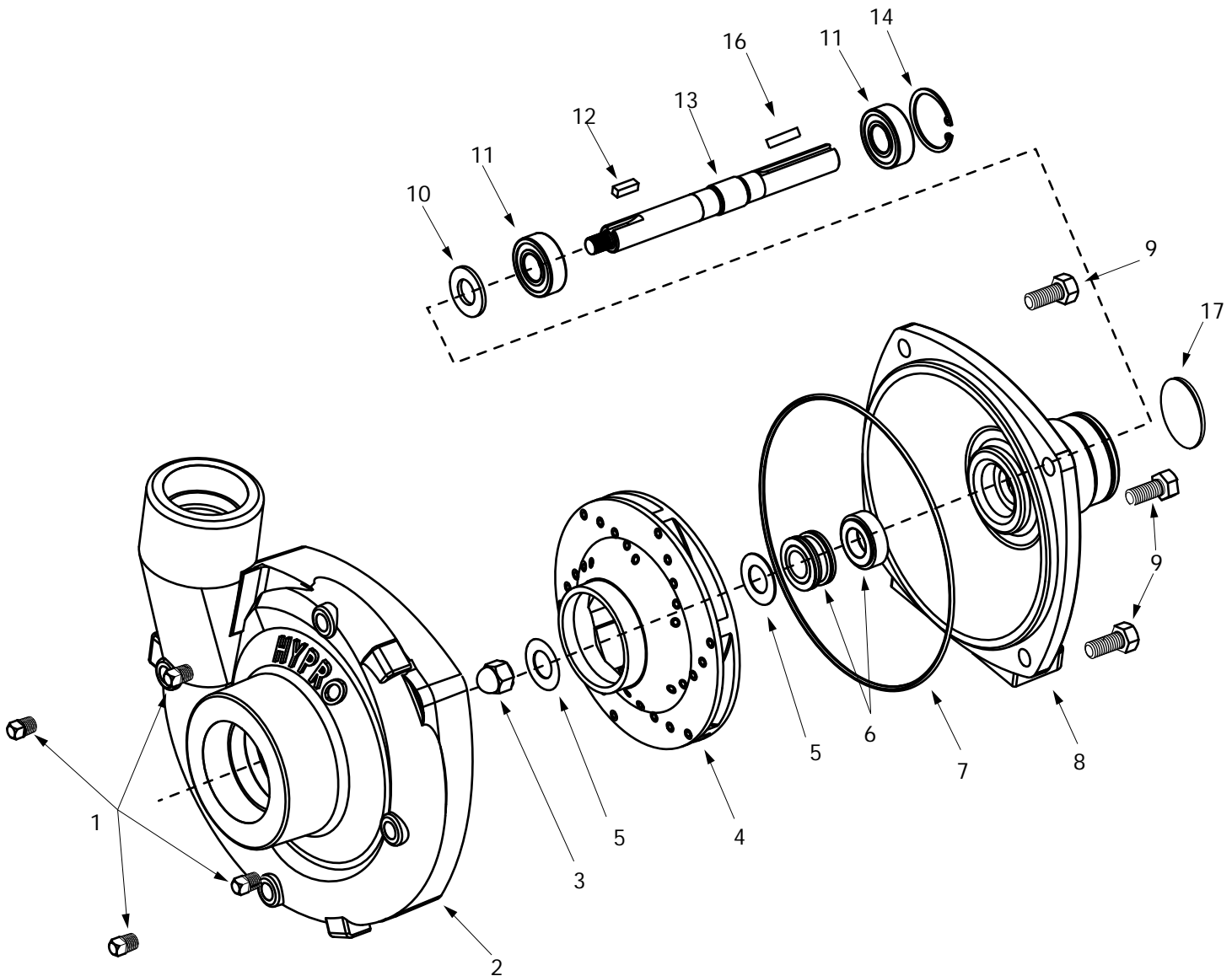
9205C-SP		LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at	LPM at
	RPM	2.8 BAR	3.4 BAR	4.1 BAR	4.8 BAR	5.5 BAR	6.2 BAR	6.9 BAR	7.6 BAR	8.3 BAR	9.0 BAR	9.7 BAR	
	3400	503	500	496	492	435	356	257	132				
	3600	511	507	503	481	432	367	303	204	76			
	3800	601	601	601	601	601	601	531	454	363	244	91	



**9205C-SP
Dimensions**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Inches	3.41	1.78	5.50	1.97	0.82	4.66	11.56	6.91	12.75	15.38	3.13	12.00	3.00	1.50	1.75
mm	86.6	45.2	139.7	50.0	20.8	118.4	293.6	175.5	323.9	390.7	79.5	304.8	76.2	38.1	44.5

Model 9206C and 9206S



Seal Kit for 9206C
No. 3430-0332 consists of:
(1) Ref. 5 Gasket
(1) Ref. 6 Mechanical seal
(1) Ref. 7 O-Ring

Seal Kit for 9206S
No. 3430-0589 consists of:
(1) Ref. 6 Mechanical seal
(1) Ref. 7 O-Ring

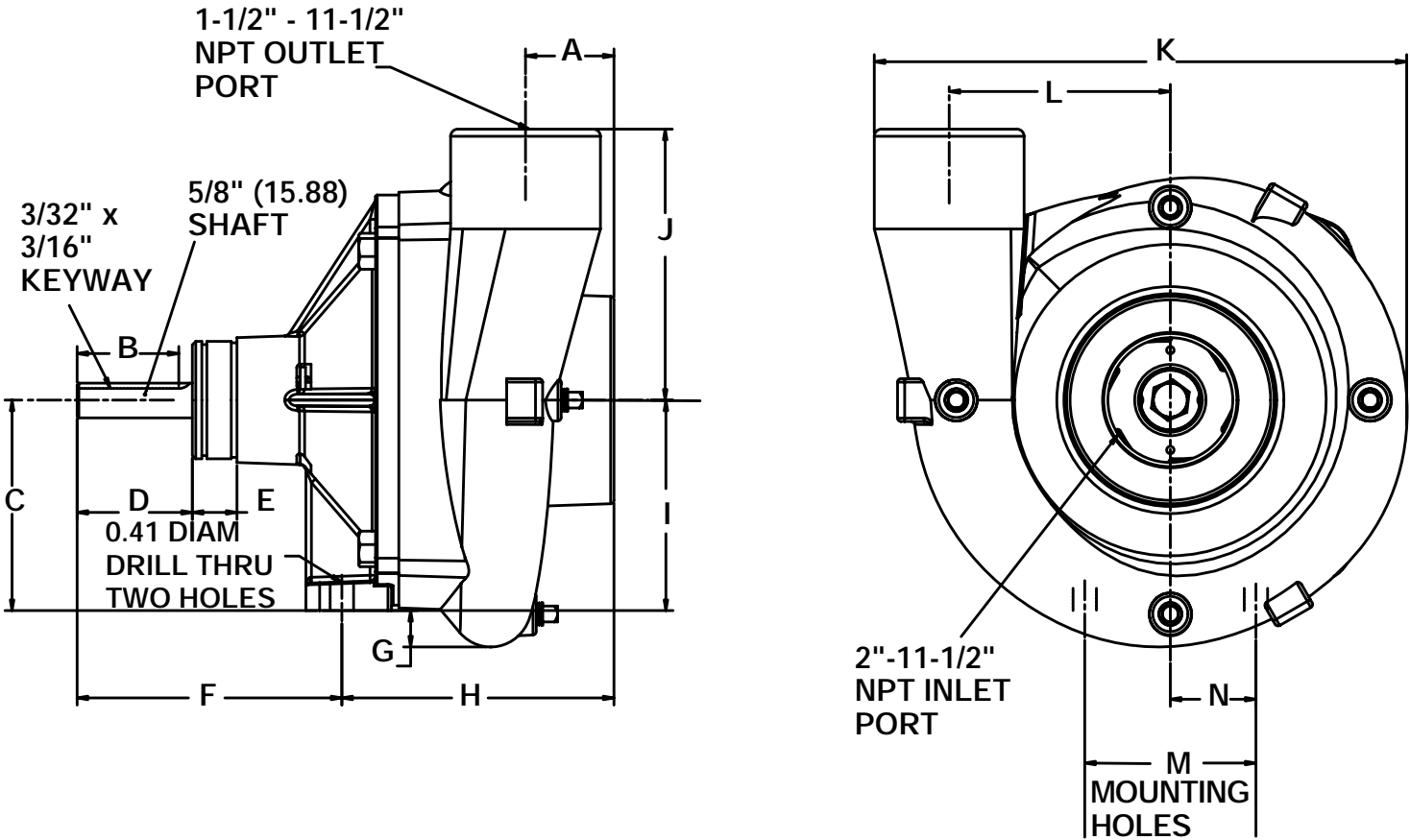
Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Pipe Plug 9206C
1	4	2406-0016	Pipe Plug 9206S
2	1	0154-9200C1	Cover 9206C
2	1	0154-9200S1	Cover 9206S
3	1	2253-0002	Impeller Nut 9206C
3	1	2253-0006	Impeller Nut 9206S
4	1	0401-9200P1	Nylon Impeller 9206C
4	1	0405-9200P	Poly Impeller 9206S
5	1	1700-0100	Gasket (Cast iron only)
6	1	2120-0009	Mech. Seal 9206C
6	1	3430-0589	Silicon Carbide Seal 9206S
7	1	1720-0083	O-Ring
8	1	0756-9200C4	Mounting Flange 9206C

Ref. No.	Qty. Req'd.	Part No.	Description
8	1	0756-9200S	Mounting Flange 9206S
9	4	2210-0020	Screw Hex Head 9206C
9	4	2210-0125	Screw Hex Head 9206S
10	1	1410-0056	Slinger Ring
11	2	2000-0010	Bearing
12	1	1610-0053	Key 9206C
12	1	1610-0057	Key 9206S
13	1	0505-9200	Shaft
14	1	1820-0013	Retaining Ring
15	1	2270-0071	Washer
16	1	1610-0004	Key
17	1	2300-0025	Protective Cover

9206C 9206S	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP
	10 PSI		20 PSI		30 PSI		40 PSI		50 PSI		60 PSI		70 PSI		80 PSI	
	171	2.3	114	2.0												
	226	7.0	226	7.1	226	7.5	196	7.3	143	6.1						
	226	9.2	226	9.4	226	10.7	226	11.0	225	11.3	202	10.9	158	9.5	80	6.4

9206C 9206S	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP
	0.7 BAR		1.4 BAR		2.1 BAR		2.8 BAR		3.4 BAR		4.1 BAR		4.8 BAR		5.5 BAR	
	647	2.3	432	2.0												
	856	7.0	856	7.1	856	7.5	742	7.3	541	6.1						
	856	9.2	856	9.4	856	10.7	856	11.0	852	11.3	765	10.9	598	9.5	303	6.4



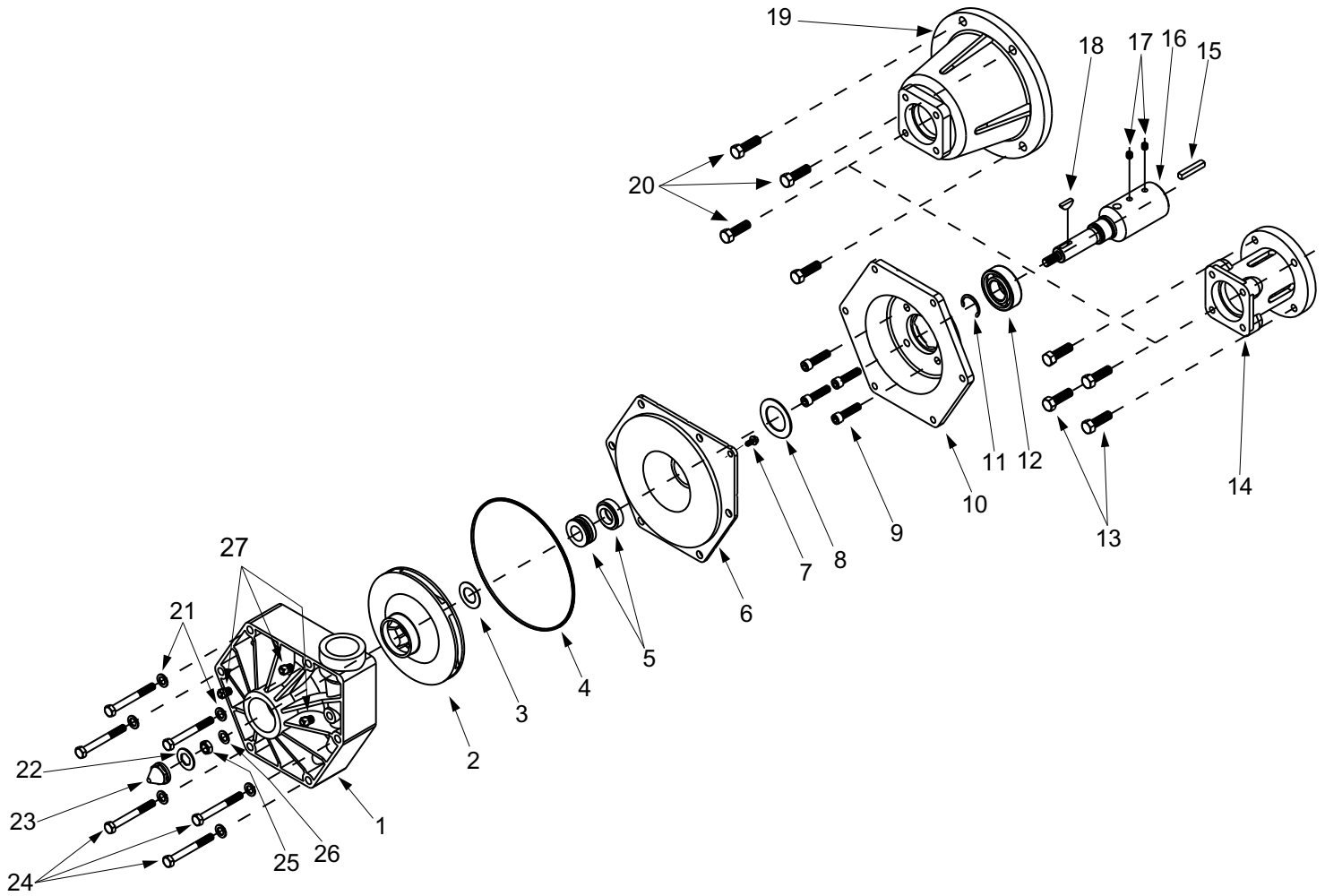
9206

Dimensions

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Inches	1.55	1.78	3.69	2.02	0.78	4.64	0.64	4.77	3.69	4.75	9.33	3.88	3	1.5
mm	39.4	45.2	93.7	51.3	19.9	117.8	16.2	121.1	93.7	120.7	237	98.4	76.2	38.1

Models 9510P and 9513P

(CW Rotation when viewed from shaft end)



Seal Kit for 9510P, 9513P
 No. 3430-0333 consists of:
 (1) Ref. 3 Gasket
 (1) Ref. 4 O-ring
 (1) Ref. 5 Mechanical Seal
 (1) Ref. 22 Gasket
 (1) Ref. 26 Washer

Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	1	0701-9500P	Pump Casing
2	1	0402-9000P	Impeller (Polypropylene)
3	1	1700-0101	Gasket
4	1	1721-0083	O-Ring
5	1	2120-0011	Mechanical Seal
6	1	0700-9500P	Back Cover
7	1	2210-0088	Screw
8	1	1410-0082	Spacer
9	4	2220-0055	Socket Head Capscrew
10	1	0702-9500C	Intermediate Flange
11	1	1810-0013	Retainer Ring
12	2	2008-0001	Bearing
13	4	2210-0077	Hex head bolt
14	1	0705-9500C	Flange (Model 9513P)
15	1	1610-0005	Key (9510P)

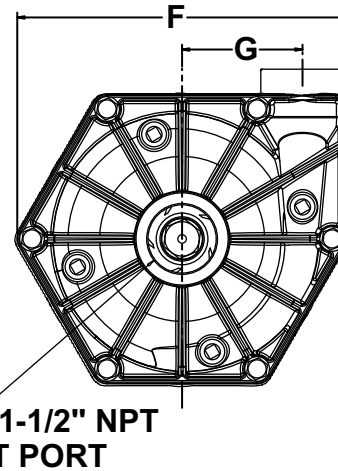
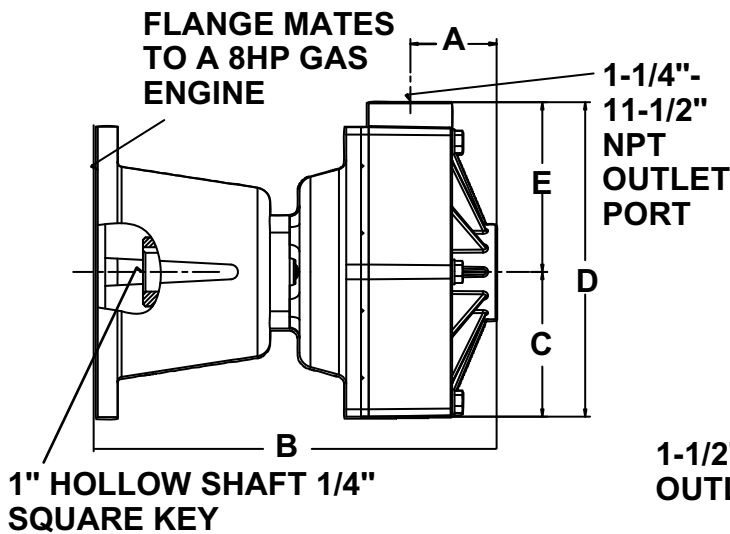
Ref. No.	Qty. Req'd.	Part No.	Description
15	1	1610-0004	Key (9513P)
16	1	0508-9500	416 Stainless Shaft (Model 9513P)
16	1	0505-9500	Shaft (Model 9510P)
17	2	2230-0017	Set Screw
18	1	1610-0042	Woodruff Key (316 SS)
19	1	0703-9500C	Flange (Model 9510P)
20	4	2210-0026	Hex head bolt
21	6	2270-0041	Washer
22	1	1700-0097	Gasket
23	1	2250-0052	Impeller Nut
24	6	2210-0087	Hex Head Capscrew
25	1	2250-0051	Jam Nut
26	1	2270-0057	Washer
27	4	2406-0020	Plug

9510P		GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP	GPM _{at}	HP
	RPM	0 PSI		10 PSI		20 PSI		30 PSI		40 PSI		50 PSI	
	2400	55	1.2	47	1.1	27	0.8						
3000			69	2.3	58	2.1	43	1.8					
3450					74	3.3	65	3.2	48	2.8			
3600					83	4.5	73	4.2	62	3.9	44	3.3	

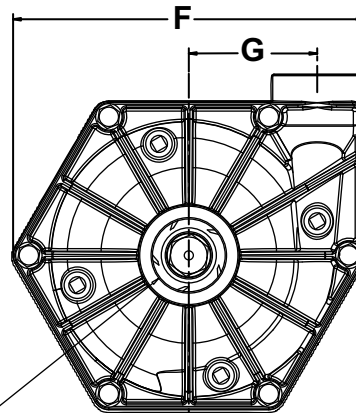
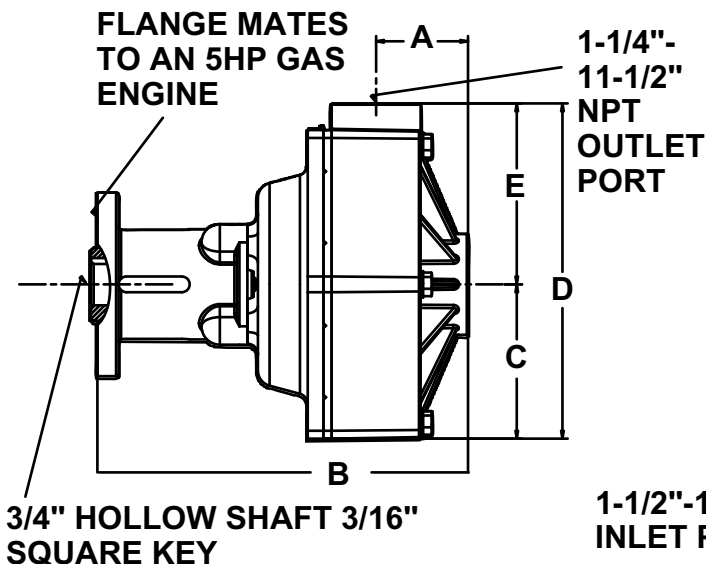
9510P		LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP	LPM _{at}	HP
	RPM	0.0 BAR		0.7 BAR		1.4 BAR		2.1 BAR		2.8 BAR		3.4 BAR	
	2400	208	1.2	178	1.1	103	0.8						
3000			260	2.3	221	2.1	161	1.8					
3450					280	3.3	245	3.2	182	2.8			
3600					315	4.5	277	4.2	233	3.9	166	3.3	

9513P Based on 5.5 Honda Engine							English Standard
GPM at 0 PSI	GPM at 10 PSI	GPM at 20 PSI	GPM at 30 PSI	GPM at 40 PSI	GPM at 50 PSI	GPM at 60 PSI	
92	91	88	81	70	58	42	

9513P Based on 5.5 Honda Engine							Metric
LPM at 0.0 BAR	LPM at 0.7 BAR	LPM at 1.4 BAR	LPM at 2.1 BAR	LPM at 2.8 BAR	LPM at 3.4 BAR	LPM at 4.1 BAR	
348	344	333	307	265	220	159	

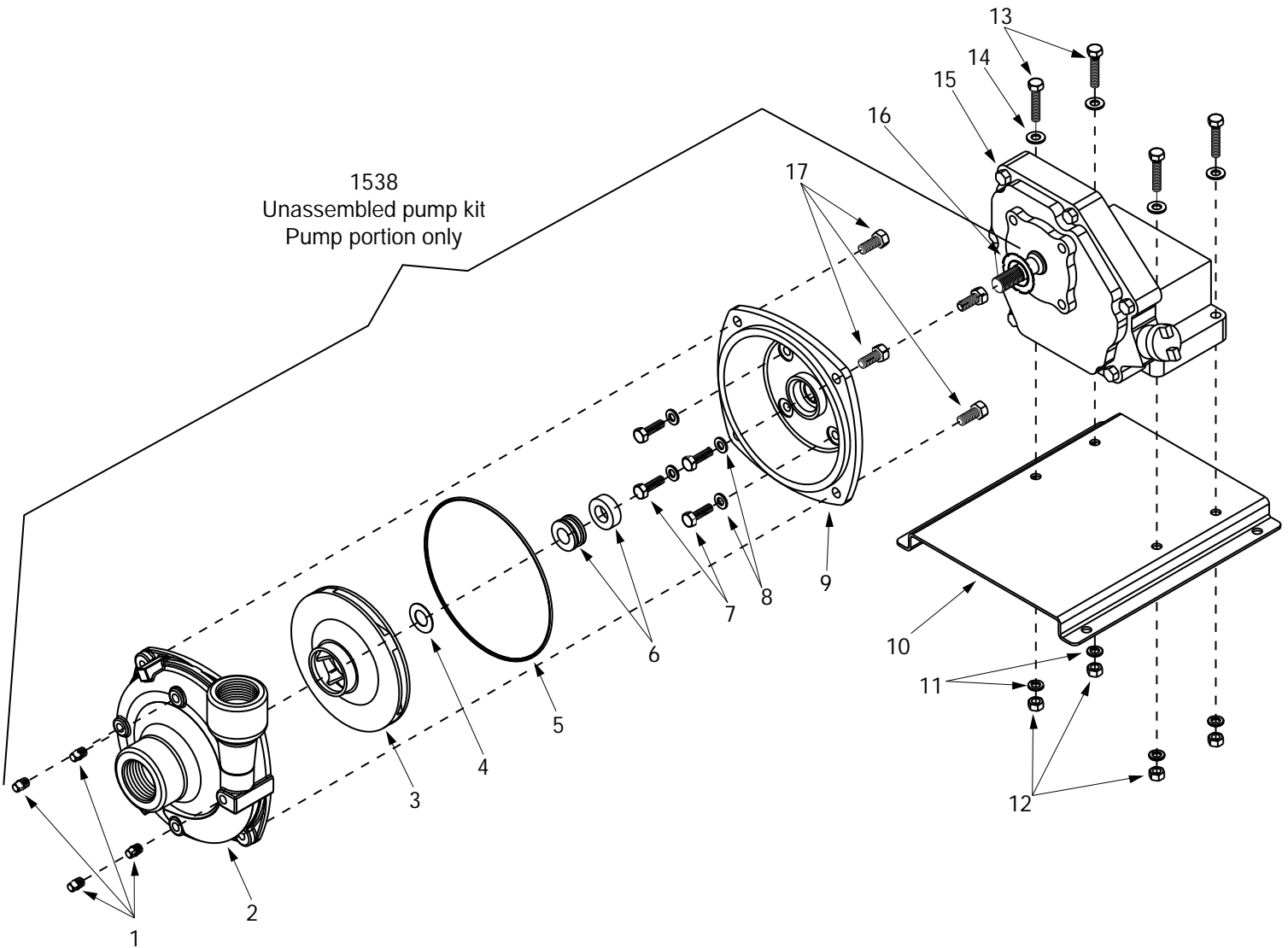


9510P Dimensions		
	Inches	mm
A	2.19	55.6
B	10.13	257.3
C	3.68	93.5
D	7.99	202.9
E	4.31	109.5
F	8.38	212.9
G	3.06	77.7



9513P Dimensions		
	Inches	mm
A	2.19	55.6
B	8.83	224.3
C	3.68	93.5
D	7.99	202.9
E	4.31	109.5
F	8.38	212.9
G	3.06	77.7

Models 1536, 1537, 1538, 1539 and 1540



Seal Kit for 1536 thru 1540 (Std.)
 No. 3430-0332 consists of:
 (1) Ref. 4 Gasket
 (1) Ref. 5 O-Ring
 (1) Ref. 6 Mechanical seal

Seal Kit for 1536 thru 1540 (Opt.)
 No. 3430-0589 (Silicon carbide)
 consists of:
 (1) Ref. 5 O-Ring
 (1) Ref. 6 Mechanical seal

Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0007	Drain Plug
2	1	0152-9000C	Pump Casing (with SS wear ring)
3	1	0402-9200P	Impeller (Nylon)
4	1	1700-0100	Gasket
5	1	1720-0083	O-ring
6	1	2120-0009	Mechanical Seal - Viton
7	4	2210-0098	Bolt
8	4	1700-0119	Seal
9	1	0703-9200C	Flange
10	1	1510-0083	Mounting Plate
11	4	2260-0002	Lock Washer
12	4	2250-0003	Nut

Ref. No.	Qty. Req'd.	Part No.	Description
13	4	2210-0021	Bolt
14	4	2270-0040	Washer
15	1	2541-0033 (135232-0035-01)*	Briggs & Stratton Engine (Model 1536 and 1539)
15	1	2541-0034 GX160K1 Type-TX2*	Honda Engine (Model 1537)
15	1	2541-0035 GX160KIT1C3	Honda Engine (Model 1540)
16	1	1410-0088	Bearing Shield (5 HP Briggs)
16	1	1410-0105	Bearing Shield (5.5 HP Briggs)
17	4	2210-0020	Bolt

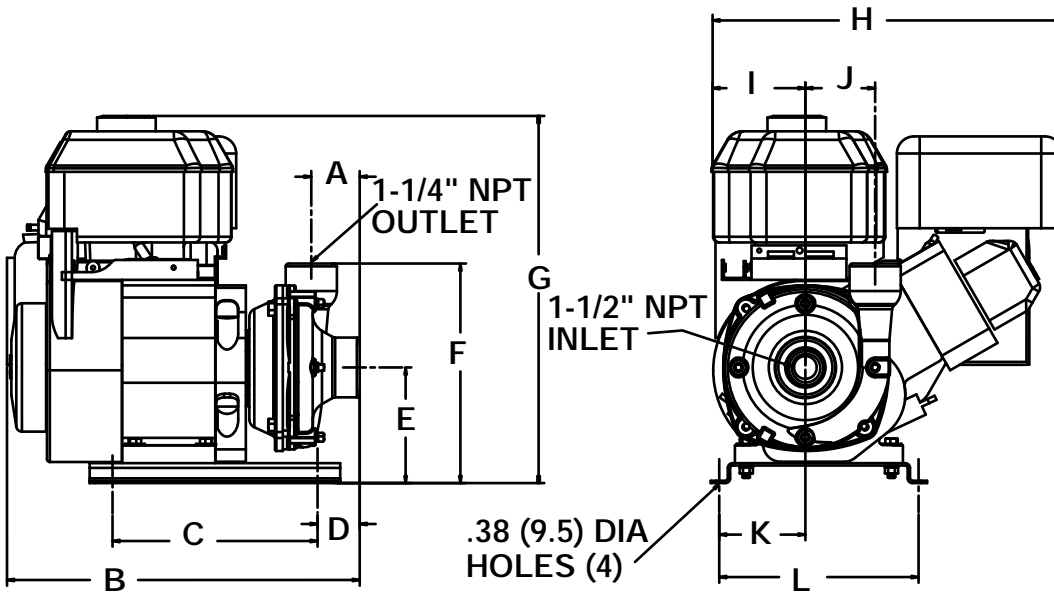
* Contact the engine manufacturer for this product number.

1536 1539	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP
	10 PSI		20 PSI		30 PSI		40 PSI		50 PSI		60 PSI	
	104	5.5	100	5.5	94	5.5	82	5.5	70	5.5	50	5.5

1536 1539	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP
	0.7 BAR		1.4 BAR		2.1 BAR		2.8 BAR		3.4 BAR		4.1 BAR	
	394	5.5	379	5.5	356	5.5	310	5.5	265	5.5	189	5.5

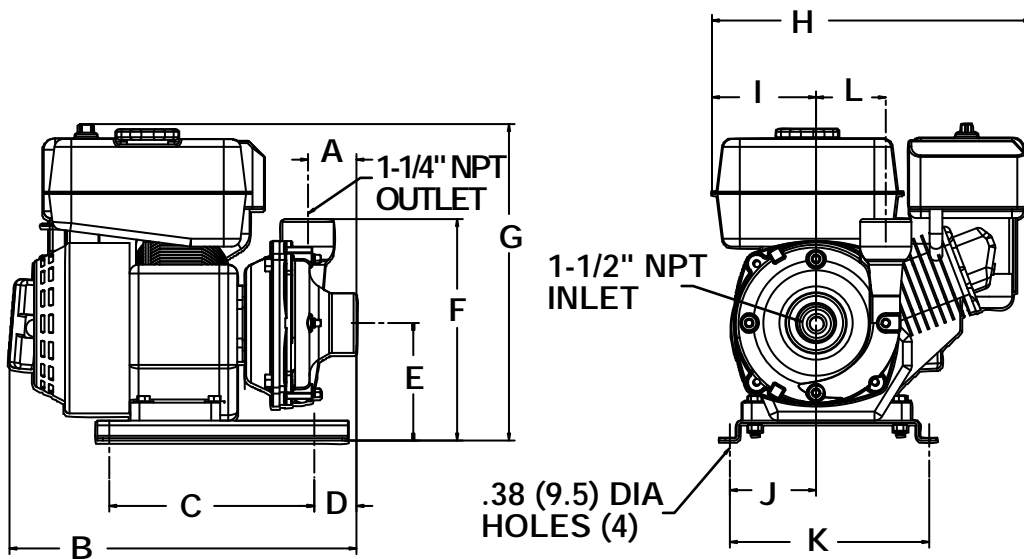
1537 1540	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP	GPMat	HP
	10 PSI		20 PSI		30 PSI		40 PSI		50 PSI		60 PSI		70 PSI	
	110	5.5	106	5.5	96	5.5	88	5.5	80	5.5	60	5.5	60	5.5

1537 1540	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP	LPMat	HP
	0.7 BAR		1.4 BAR		2.1 BAR		2.8 BAR		3.4 BAR		4.1 BAR		4.8 BAR	
	416	5.5	401	5.5	363	5.5	333	5.5	303	5.5	227	5.5	114	5.5



1536

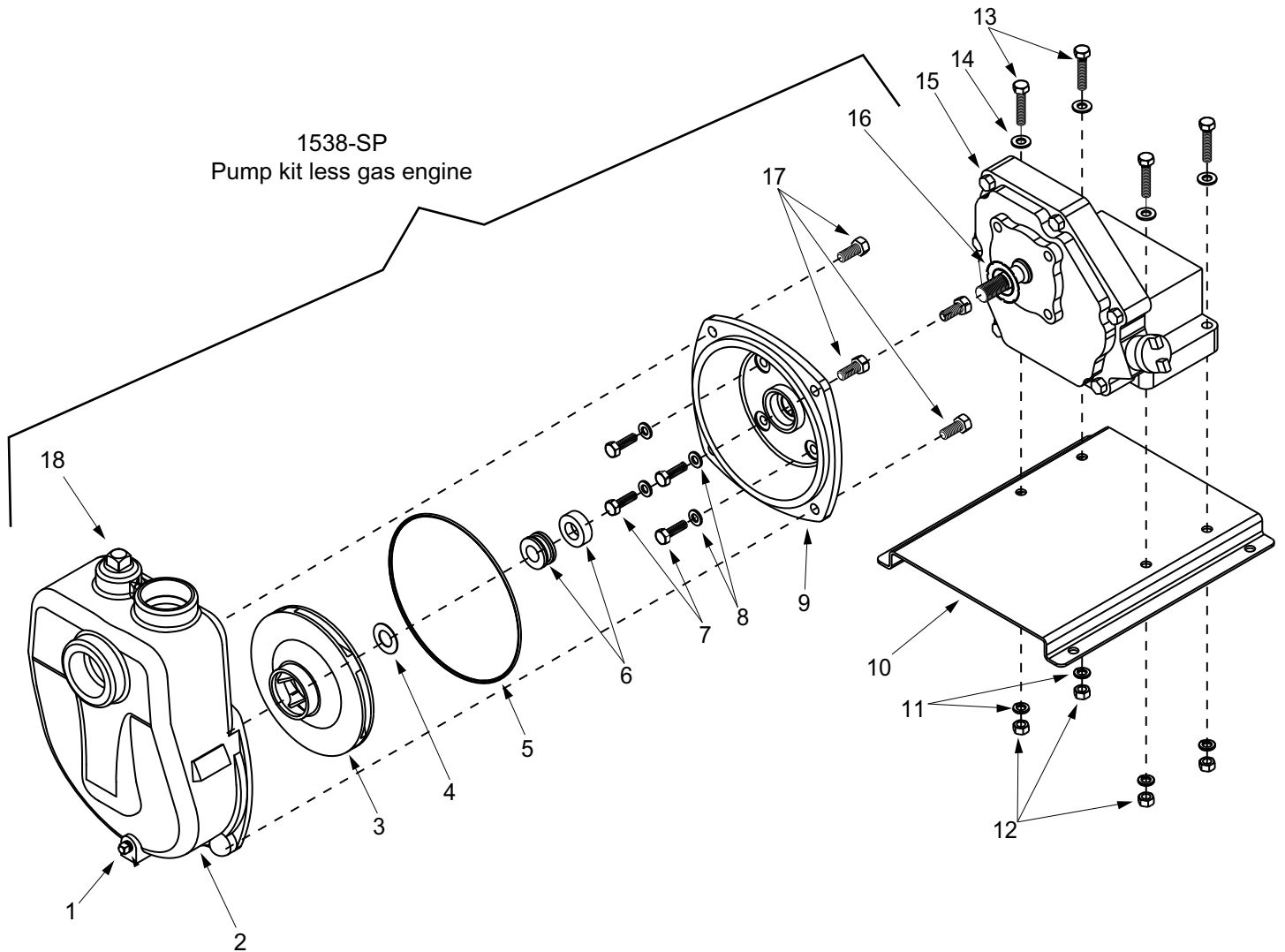
Dimensions		
Inches	mm	
A	2.13	54.1
B	15.48	393.2
C	9.00	228.6
D	1.85	47.0
E	5.08	129.0
F	9.64	244.9
G	16.12	409.4
H	15.34	389.6
I	4.07	103.4
J	3.06	77.7
K	3.78	96.0
L	8.75	222.3



1537

Dimensions		
Inches	mm	
A	2.30	58.4
B	15.23	386.8
C	9.00	228.6
D	1.85	47.0
E	5.16	131.1
F	9.72	246.9
G	13.89	352.8
H	14.00	355.6
I	4.57	116.1
J	3.78	96.0
K	8.75	222.3
L	3.06	77.7

Models 1536-SP, 1537-SP, 1538-SP, 1539-SP, and 1540-SP



Seal Kit for 1536 thru 1540
(Std.) No. 3430-0332
consists of:
(1) Ref. 4 Gasket
(1) Ref. 5 O-ring
(1) Ref. 6 Mechanical Seal

Seal Kit for 1536 thru 1540
(Opt.) No. 3430-0589
(silicon carbide) consists of:
(1) Ref. 5 O-ring
(1) Ref. 6 Mechanical Seal

Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	4	2406-0001	Drain Plug
2	1	0152-9070C	Pump Casing (with SS wear ring)
3	1	0402-9200P	Impeller (Nylon)
4	1	1700-0100	Gasket
5	1	1720-0083	O-ring
6	1	2120-0009	Mechanical Seal - Viton
7	4	2210-0098	Bolt
8	4	1700-0119	Seal
9	1	0703-9200C	Flange
10	1	1510-0083	Mounting Plate
11	4	2260-0002	Lock Washer
12	4	2250-0003	Nut

Ref. No.	Qty. Req'd.	Part No.	Description
13	4	2210-0021	Bolt
14	4	2270-0040	Washer
15	1	2541-0033 (135232-0035-01)*	Briggs & Stratton Engine (Model 1536 and 1539)
15	1	2541-0034 GX160K1 Type-TX2*	Honda Engine (Model 1537)
15	1	2541-0035 GX160KIT1C3*	Honda Engine (Model 1540)
16	1	1410-0088	Bearing Shield (5 HP Briggs)
16	1	1410-0105	Bearing Shield (5.5 HP Briggs)
17	4	2210-0020	Bolt
18	1	2406-0002	Prime Port Plug

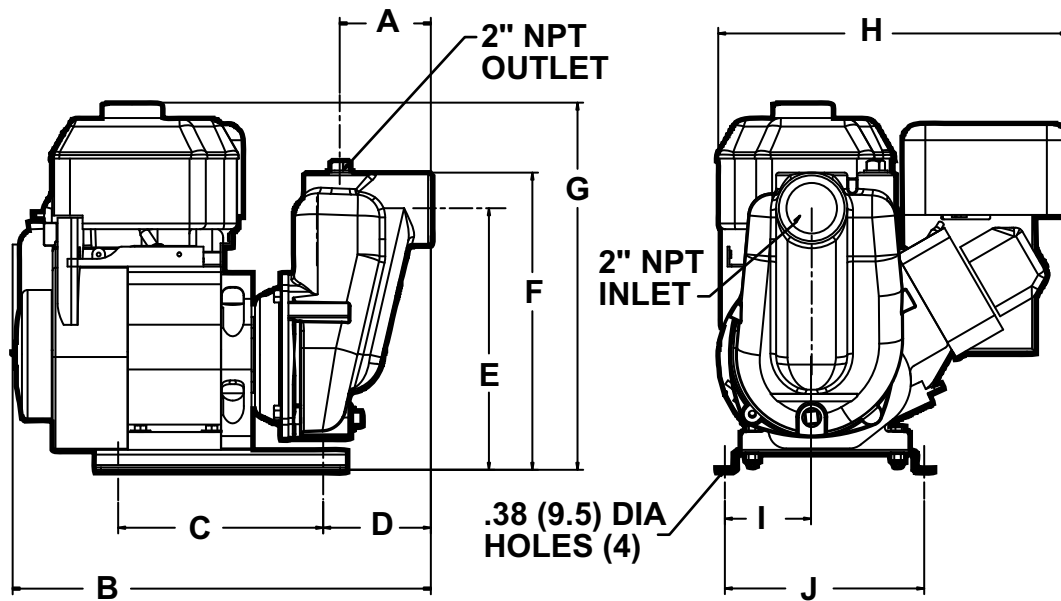
* CONTACT THE ENGINE MANUFACTURER FOR THIS PRODUCT NUMBER

1536-SP, 1539-SP 5.5 HP Briggs & Stratton English Standard						
GPM at 10 PSI	GPM at 20PSI	GPM at 30 PSI	GPM at 40 PSI	GPM at 50 PSI	GPM at 60 PSI	GPM at 70 PSI
92	81	67	55	40	15	

1536-SP, 1539-SP 5.5 HP Briggs & Stratton Metric						
LPM at 0.7 BAR	LPM at 1.4 BAR	LPM at 2.1 BAR	LPM at 2.8 BAR	LPM at 3.4 BAR	LPM at 4.1 BAR	LPM at 4.8 BAR
348	307	254	208	151	57	

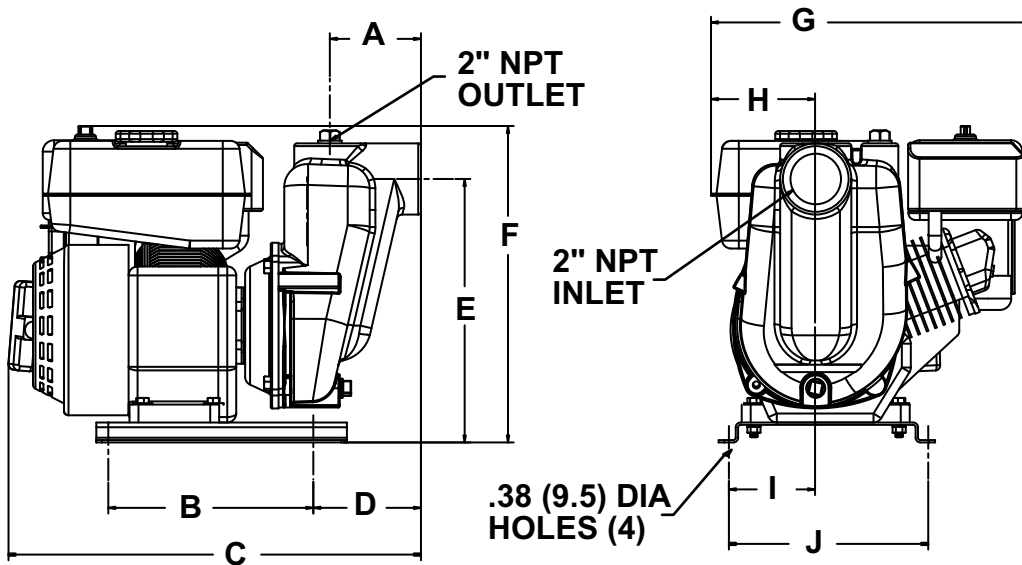
1537-SP, 1540-SP 5.5 HP Honda English Standard						
GPM at 10 PSI	GPM at 20 PSI	GPM at 30 PSI	GPM at 40 PSI	GPM at 50 PSI	GPM at 60 PSI	GPM at 70 PSI
98	87	73	60	44	21	

1537-SP, 1540-SP 5.5 HP Honda Metric						
LPM at 0.7 BAR	LPM at 1.4 BAR	LPM at 2.1 BAR	LPM at 2.8 BAR	LPM at 3.4 BAR	LPM at 4.1 BAR	LPM at 4.8 BAR
371	329	276	227	167	79	



1536-SP, 1539-SP

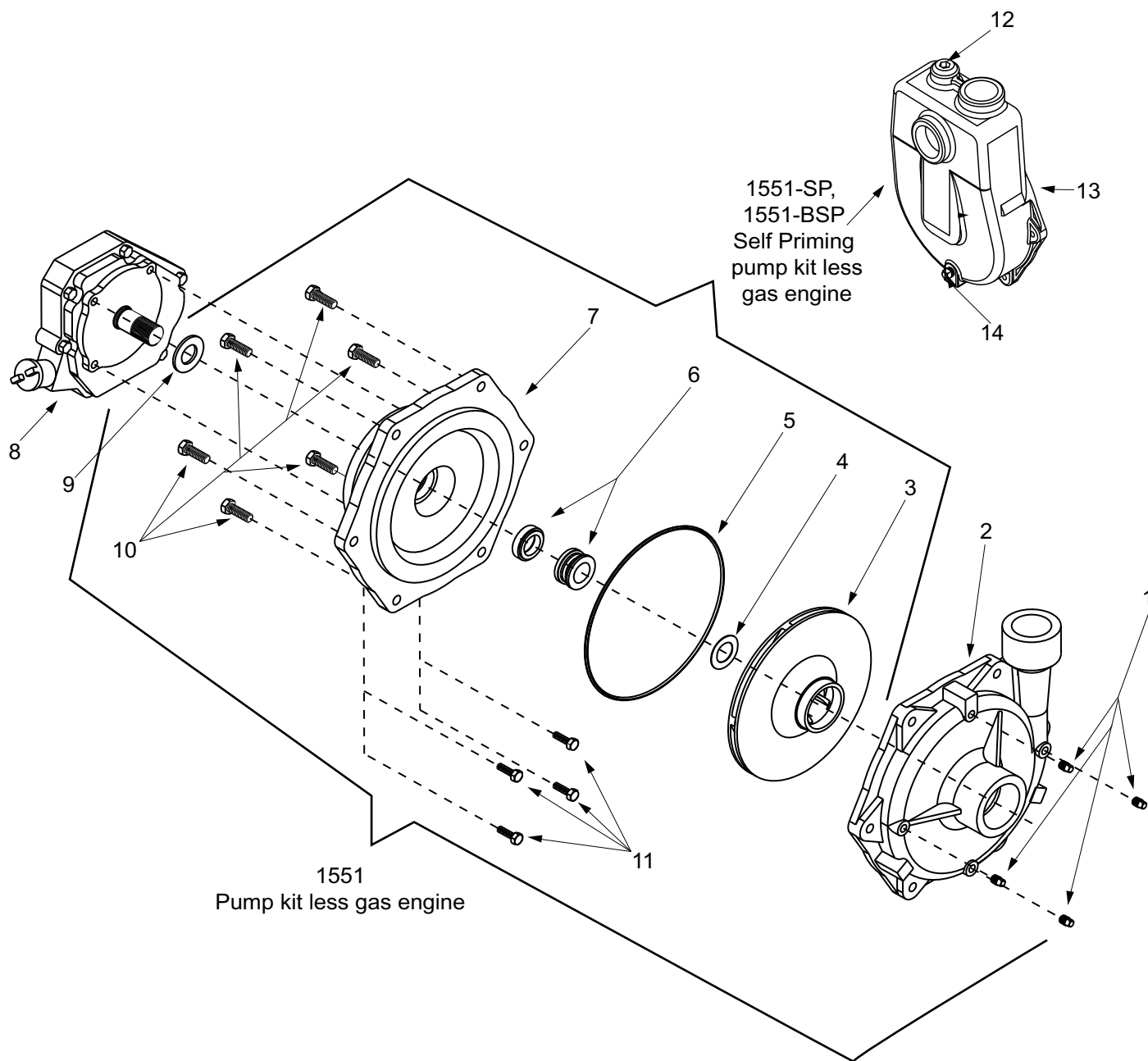
Dimensions		
	Inches	mm
A	4.00	101.6
B	18.36	466.3
C	9.00	228.6
D	4.73	120.1
E	11.48	291.6
F	13.05	331.5
G	16.12	409.4
H	15.34	389.6
I	3.78	96.0
J	8.75	222.3



1537-SP, 1540-SP

Dimensions		
	Inches	mm
A	4.00	101.6
B	9.00	228.6
C	18.10	459.7
D	4.73	120.1
E	11.57	293.9
F	13.89	352.8
G	14.00	355.6
H	4.57	116.1
I	3.78	96.0
J	8.75	222.3

Models 1550,1550-SP, 1550-BSP, 1551, 1551-SP, 1551-BSP



Seal Kit for 1550 and 1551
 No. 3430-0464 consists of:
 (1) Ref. 4 Gasket
 (1) Ref. 5 O-ring
 (1) Ref. 6 Mechanical Seal

Note: When ordering parts, give quantity, part number, description and complete model number. Reference numbers are used ONLY to identify parts in the drawing and NOT to be used as order numbers.

Ref. No.	Qty. Req'd	Part No.	Description
1	4	2406-0007	Drain Plug
2	1	0153-9200C	Pump Casing (Includes SS wear ring)
3	1	0404-9200P	Impeller (Nylon)
4	1	1700-0121	Gasket
5	1	1720-0180	O-Ring
6	1	2120-0034	Mechanical Seal - Viton
7	1	0707-9200C	Flange
8	1	2541-0037	Honda eng. (Model 1550) (GX-270PA)*

Ref. No.	Qty. Req'd	Part No.	Description
9	1	1410-0091	Slinger Ring
10	6	2210-0086	Bolt
11	4	2210-0098	Bolt
12	1	2406-0034	Priming port plug (Standard)
12	1	2406-0036	Priming port plug (BSP)
13	1	0152-9075C	Pump Casing (Standard NPT)
13	1	0152-9075C1	Pump Casing (BSP)
14	1	2406-0002	Drain plug

* CONTACT THE ENGINE MANUFACTURER FOR THIS PRODUCT NUMBER

1550 Based on 9.0 HP Honda English Standard

GPM at 20 PSI	GPM at 40 PSI	GPM at 60 PSI	GPM at 80 PSI	GPM at 100 PSI	GPM at 120 PSI	GPM at 140 PSI
145	130	107	87	69	45	16

1550 Based on 9.0 HP Honda Metric

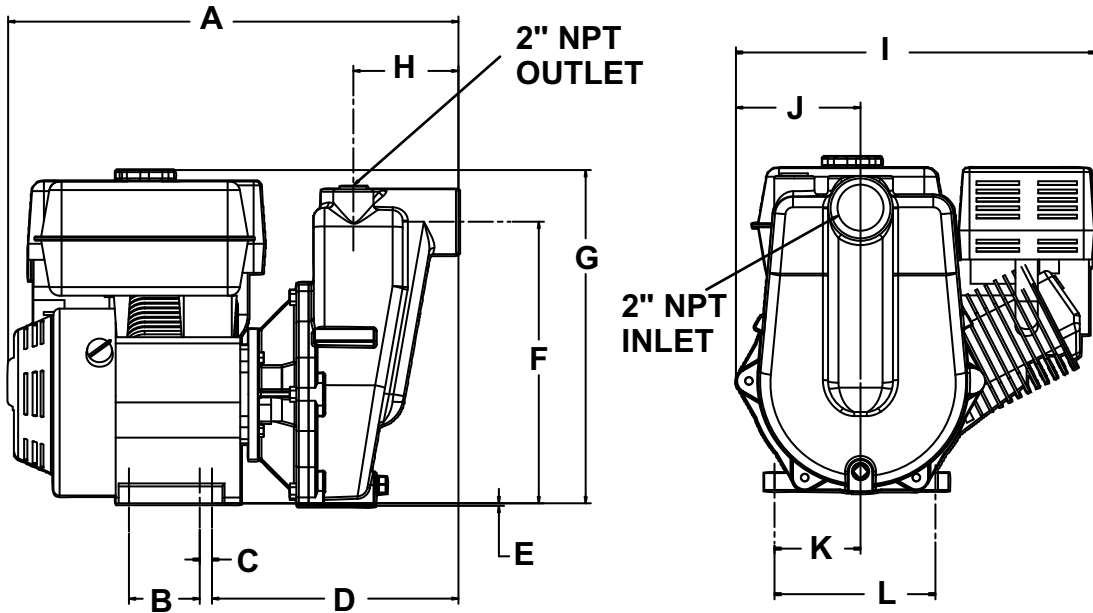
LPM at 1.4 BAR	LPM at 2.8 BAR	LPM at 4.1 BAR	LPM at 5.5 BAR	LPM at 6.9 BAR	LPM at 8.3 BAR	LPM at 9.7 BAR
549	492	405	329	261	170	61

1550SP Based on 9.0 HP Honda English Standard

GPM at 10 PSI	GPM at 20 PSI	GPM at 40 PSI	GPM at 60 PSI	GPM at 80 PSI	GPM at 100 PSI	GPM at 120 PSI
145	141	118	93	71	49	28

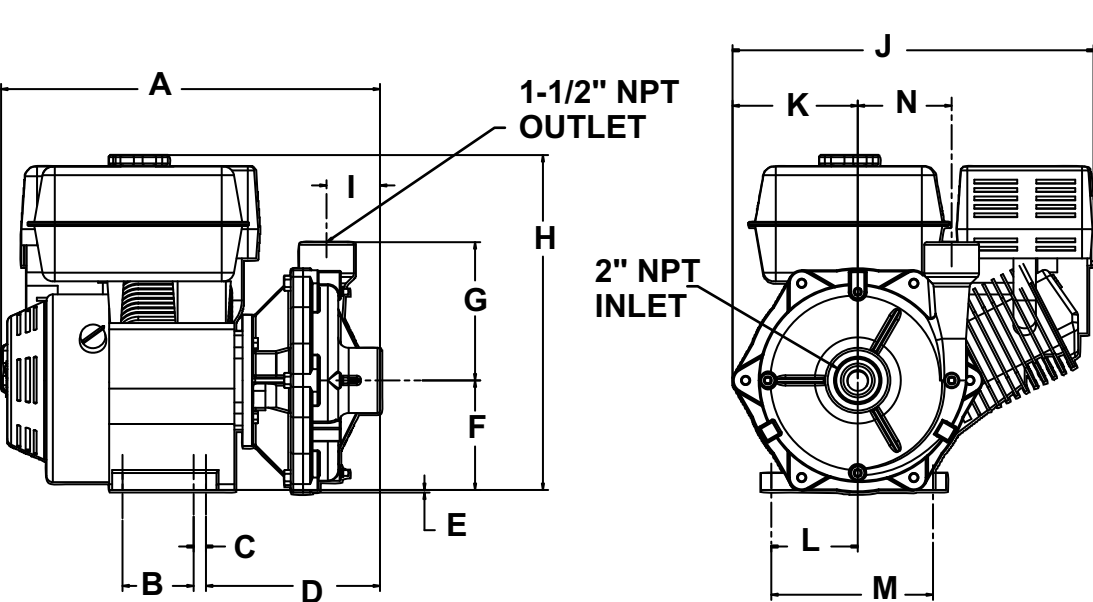
1550SP Based on 9.0 HP Honda Metric

LPM at 0.7 BAR	LPM at 1.4 BAR	LPM at 2.1 BAR	LPM at 2.8 BAR	LPM at 3.4 BAR	LPM at 4.1 BAR	LPM at 4.8 BAR
549	534	447	352	269	185	106



1550SP

Dimensions		
	Inches	mm
A	21.69	550.9
B	3.41	86.6
C	0.59	15.0
D	11.87	301.5
E	0.13	3.3
F	13.56	344.4
G	16.05	407.7
H	5.06	128.5
I	17.30	65.0
J	6.00	152.4
K	4.14	105.2
L	7.75	196.9



1550

Dimensions		
	Inches	mm
A	18.16	461.3
B	3.41	86.6
C	0.59	15.0
D	8.34	211.8
E	0.13	3.3
F	5.25	133.4
G	6.63	168.4
H	16.05	407.7
I	2.56	65.0
J	17.30	439.4
K	6.00	152.4
L	4.14	105.2
M	7.75	196.9
N	4.50	114.3

Limited Warranty on Hypro Pumps and Other Hypro Products

Hypro warrants to the original purchaser of its products (the "Purchaser") that such products will be free from defects in material and workmanship under normal use for the period of one (1) year for all products except: oil crankcase plunger pumps will be free from defects in material and workmanship under normal use for the period of five (5) years, and accessories will be free from defects in material and workmanship under normal use for the period of ninety (90) days. In addition, Hypro warrants to the purchaser all forged brass pump manifolds will be free from defects in material and workmanship under normal use and from damage resulting from environmental conditions for the life of the pump.

"Normal use" does not include use in excess of recommended maximum speeds, pressures, vacuums and temperatures, or use requiring handling of fluids not compatible with component materials, as noted in Hypro product catalogs, technical literature, and instructions. This warranty does not cover freight damage, freezing damage, normal wear and tear, or damage caused by misapplication, fault, negligence, alterations, or repair that affects the performance or reliability of the product.

THIS WARRANTY IS EXCLUSIVE. HYPRO MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Hypro's obligation under this warranty is, at Hypro's option, to either repair or replace the product upon return of the entire product to the Hypro factory in accordance with the return procedures set forth below. **THIS IS THE EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.**

IN NO EVENT SHALL HYPRO BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, WHETHER FOR BREACH OF ANY WARRANTY, FOR NEGLIGENCE, ON THE BASIS OF STRICT LIABILITY, OR OTHERWISE.

Return Procedures

All pumps or products must be flushed of any chemical (ref. OSHA Section 0910.1200 (d)(e)(f)(g)(h)) and hazardous chemicals must be labeled before being shipped* to Hypro for service or warranty consideration. Hypro reserves the right to request a Material Safety Data sheet from the Purchaser for any pump or product Hypro deems necessary. Hypro reserves the right to "disposition as scrap" pumps or products returned which contain unknown substances, or to charge for any and all costs incurred for chemical testing and proper disposal of components containing unknown substances. Hypro requests this in order to protect the environment and personnel from the hazards of handling unknown substances.

For technical or application assistance, call the **Hypro Technical/Application number: 1-800-445-8360.**

To obtain service or warranty assistance, call the Hypro Service and Warranty number: 1-800-468-3428; or call the Hypro Service and Warranty FAX: (651) 766-6618.

Be prepared to give Hypro full details of the problem, including the following information:

1. Model number and the date and from whom you purchased your pump.
2. A brief description of the pump problem, including the following:
 - Liquid pumped. State the pH and any non-soluble materials, and give the generic or trade name.
 - Temperature of the liquid and ambient environment.
 - Suction lift or vacuum (measured at the pump).
 - Discharge pressure.
 - Size, type, and mesh of the suction strainer.
 - Drive type (gas engine/electric motor; direct/belt drive; tractor PTO) and rpm of pump.
 - Viscosity (of oil, or other than water weight liquid).
 - Elevation from the pump to the discharge point.
 - Size and material of suction and discharge line.
 - Type of spray gun, orifice size, unloader/relief valve.

Hypro may request additional information, and may require a sketch to illustrate the problem. Contact the factory to receive a return material authorization before sending the product. All pumps returned for warranty work should be sent shipping charges prepaid to:

HYPRO
Attention: Service Department
375 Fifth Avenue NW
New Brighton, Minnesota 55112-3288

* Carriers, including U.S.P.S., airlines, UPS, ground freight, etc., require specific identification of any hazardous materials being shipped. Failure to do so may result in a substantial fine and/or prison term. Check with your shipping company for specific instructions.

Note: This warranty does not apply to Hypro Pump Kit Model 1538, 1551, 1538-SP and 1551-SP. This is because the user could incorrectly assemble the parts and cause the pump to work improperly.