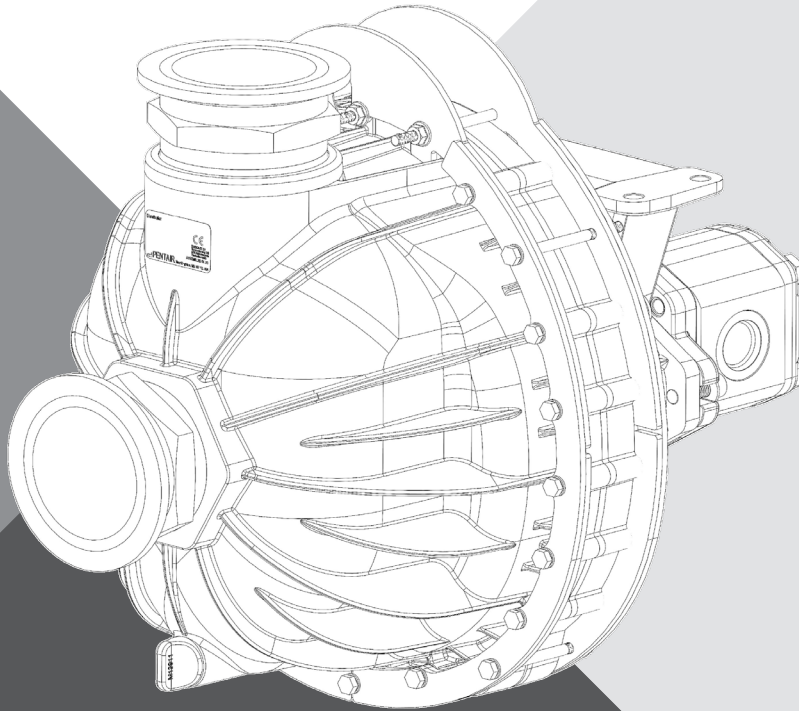




# HYDRAULICALLY DRIVEN SELF-PRIMING GTX TRANSFER PUMPS

9343P-GM6Y-SP-004 SERIES



# INSTALLATION AND OPERATIONS MANUAL

[pentair.com](https://www.pentair.com)

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## EU LANGUAGES

DO NOT attempt to install or operate your pump before reading the manual. Original copies of the manual for Hypro pumps are provided in English. To find a copy in your native language, go to [www.hypro.pentair.com](http://www.hypro.pentair.com).

Vor dem Ablezen des Handbuches versuchen Sie NICHT, Ihre Pumpe zu installieren. Originale des Handbuches für Hypro-Pumpen werden auf englisch zur Verfügung gestellt. Zu eine Kopie in Ihrer Muttersprache finden, zu [www.hypropumps.com](http://www.hypropumps.com) zu gehen (German).

N'essayez pas d'installer votre pompe avant de lire le manuel. Des exemplaires originaux du manuel pour des pompes de Hypro sont fournis en anglais. Pour trouver une copie dans votre langue maternelle pour aller a [www.hypro.pentair.com](http://www.hypro.pentair.com) (French).

NON tentare di installare la vostra pompa prima di leggere il manuale. Esemplare originale del manuale per Hypro pompe sono in inglese. Per trovare una copia nella vostra lingua andare a [www.hypropumps.com](http://www.hypropumps.com) (Italian).

NO intente instalar su bomba antes de leer el manual. Copias originales del manual para Hypro se provee de bombas en ingles. Para encontrar una copia en tu idioma nativo ir a [www.hypropumps.com](http://www.hypropumps.com) (Spanish).

NIE próbować instalować pompy przed jej odczytaniem instrukcji. Oryginalne kopie instrukcji obsługi pomp Hypro są dostarczane w języku angielskim. Aby uzyskać kopię w twoim ojczystym języku przejdź do [www.hypropumps.com](http://www.hypropumps.com) (Polish).

Takmaya çalışmayın okumadan önce pompanın manuel. Orijinal kopyalarını Hypro pompaları için İngilizce olarak sunulmuştur. Bir kopyasını bulmak için yerel dil git [www.hypropumps.com](http://www.hypropumps.com) (Turkish).


Nao tente instalar a bomba antes de ler o manual. As copias originais dos manuais para Hypro bombas sao fornecidos em Ingles. Para encontrar uma copia em sua lingua nativa ir para [www.hypropumps.com](http://www.hypropumps.com) (Portuguese).


VERGEET NIET uw pomp voor het lezen van het handboek. Exemplaren van de handleiding voor Hypro pompen zijn beschikbaar in het Engels. Op zoek naar een exemplaar in uw eigen taal ga naar [www.hypropumps.com](http://www.hypropumps.com) (Dutch).


# SAFETY INSTRUCTIONS


## IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS: This manual contains important instructions that should be followed during installation, operation, and maintenance of the product. Always refer to the equipment owner's manual for safety information relevant to that product.

 This is the safety alert symbol. When you see this symbol on your product or in this manual, look for one of the following signal words and be alert to the potential for personal injury!






 **DANGER** warns about hazards that will cause serious personal injury, death or major property damage if ignored.












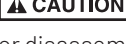



 **WARNING** warns about hazards that can cause serious personal injury, death or major property damage if ignored.

 **CAUTION** indicates a hazard which, if not avoided, could result in minor or moderate injury.


The word **NOTE** indicates special instructions that are important but not related to hazards.

## SAFETY INSTRUCTIONS

- ◆  Carefully read and follow all safety instructions in this manual and on product.
- ◆  Keep safety labels in good condition. Replace missing or damaged safety labels.
- ◆  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 compatible with the pump component materials. Failure to follow this notice may result in severe personal injury and/or property damage and will void the product warranty.
- ◆  Never use your hand to check the condition of hydraulic lines or hoses. If hydraulic fluid penetrates the skin, get medical help immediately. Failure to get proper medical help may result in loss of limb or life. The safest way to check hydraulic lines or hoses is by holding a piece of cardboard next to the hydraulic line or hose.
- ◆  **WARNING** The sound pressure level of the Pump is 80dBA. Observe all safety precautions when operating the pump within close proximity for extended periods of time by wearing hearing protectors. Extended exposure to elevated sound levels will result in permanent loss of hearing acuteness, tinnitus, tiredness, stress, and other effects such as loss of balance and awareness.

- ◆  **CAUTION** Do not pump at pressures higher than the maximum recommended pressure.
- ◆  **CAUTION** Maximum liquid temperature is 140o F.
- ◆  **CAUTION** Disconnect power before servicing.
- ◆  **CAUTION** Release all pressure within the system before servicing any component.
- ◆  **CAUTION** Drain all liquids from the system before servicing any component. Flush with water.
- ◆  **CAUTION** Secure the outlet lines before starting the pump. An unsecured line may whip, causing personal injury and/or property damage.
- ◆  **CAUTION** Check hose for weak or worn condition before each use. Make certain that all connections are tightly secured.
- ◆  **CAUTION** Periodically inspect the pump and the system components. Perform routine maintenance as required (See Repair Instructions).
- ◆  **CAUTION** Use only pipe, hose and fittings rated for the maximum psi rating of the pump.
- ◆  **CAUTION** Do not use these pumps for pumping water or other liquids for human or animal consumption.
- ◆  **CAUTION** Do not run pump with discharge fully closed for over two minutes.
- ◆  **CAUTION** Always drain and flush pump before servicing or disassembling for any reason.
- ◆  **CAUTION** Always drain and flush pump prior to returning unit for repair.
- ◆  **CAUTION** Never store pumps containing hazardous chemicals.
- ◆  **CAUTION** 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. It is illegal to ship or transport any hazardous chemicals without United States Environmental Protection Agency Licensing.

## CALIFORNIA PROPOSITION 65 WARNING

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

# GENERAL INFORMATION

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## DESCRIPTION/ INTENDED USES

Hypro Self-Priming Transfer Pumps handle big, high-capacity, liquid transfer jobs with ease. Use them for transferring water, liquid fertilizers, and other chemicals compatible with pump materials. Make short work of other farm jobs: filling nurse tanks, watering seedbeds, and transferring liquids. This self-priming model makes it ideal for de-watering applications.

## PURPOSE OF MANUAL

Pentair has provided this manual to provide instructions and requirements that must be met when installing, operating, and maintaining the pump(s) identified on the cover.

If the product is sold, the seller must pass this manual onto the new owner.

## MISUSES

Hypro centrifugal pumps are designed to operate effectively within the speed, pressure, and environmental ranges specified in this manual. Operating a pump outside of these ranges will void the warranty and could cause damage to property, serious personal injury, or death. You must observe the following safety guidelines:

- ◆ **DO NOT** pump non-approved liquids.
- ◆ **DO NOT** pump water or other liquids intended for human consumption.
- ◆ **DO NOT** operate any Hypro pump under the influence of drugs or alcohol.
- ◆ **DO NOT** run pumps when the liquid has exceeded the maximum or minimum temperature limit.
- ◆ **DO NOT** use pumps in explosive environments.
- ◆ **DO NOT** attach a pipe, hose or fittings to the pump that is not rated for the maximum pressure of the pump (outlet) or vacuum of the pump (inlet).
- ◆ **DO NOT** run a pump in reverse of its intended rotation.
- ◆ **DO NOT** run the pump dry.
- ◆ **DO NOT** run the pump hydraulic motor higher than the specified RPM, pressure, or flow.
- ◆ **DO NOT** close outlet line before closing inlet line.
- ◆ **DO NOT** run the pump faster than the maximum rated speed.
- ◆ **DO NOT** run pump above maximum operating pressure.
- ◆ **DO NOT** operate a pump with a gasoline engine in an enclosed area.

# GENERAL INFORMATION

## PRIOR TO HYDRAULIC INSTALLATION

Prior to installation, refer to the tractor or sprayer manual and determine what type of hydraulic system is being used. The three types of systems include:

- ◆ Open center systems
- ◆ Closed center (Pressure-Compensated) systems
- ◆ Closed center Load Sensing (Flow and Pressure-Compensated) systems

The hydraulic motor must be correctly configured and sized for the hydraulic system:

- ◆ **Open center systems:** Excess oil from the hydraulic pump must be bypassed around the motor. Separate bypass valve installed in the line feeding the motor inlet. Use the largest motor possible
- ◆ **Closed center (Pressure-Compensated) systems:** Pump not configured for this type of system.
- ◆ **Closed center Load Sensing (Flow and Pressure-Compensated) systems.** No special requirement for bypass or metering orifices

## HYDRAULIC SYSTEM PLUMBING

When installing the hydraulic motor into the tractor's or sprayer's hydraulic system, make sure that no dirt or liquid gets into the hydraulic motor.

 **Keep all hydraulic connections clean.**

Ensure return line is connected to low pressure return port on the tractor recommended for hydraulic motors. The larger hydraulic port will indicate the return. Hydraulic supply lines should be at least the same size as the hydraulic motor port or larger.

 **Hooking up the motor in the wrong direction will damage the hydraulic seal.**

Hydraulic back pressure in the return line must be less than 100 PSI [6.9 bar] to prevent reduced seal life. Pressures under 50 PSI [3.4 bar] are recommended.

For motors equipped with case drains the case drains must be used to minimize the pressure acting on the hydraulic motor seal, and extend the life of the oil seal.

 **Hydraulic motor's case drain port must never be plugged.**

The case drain line must be connected directly to the hydraulic reservoir with no restrictions, and the case drain port on the motor must always be oriented upward. (Max Case Drain Pressure must not exceed 15 PSI).

## PACKAGING DESCRIPTIONS AND UNPACKING INSTRUCTIONS


This pump comes completely assembled.

- ◆ Hypro centrifugal pumps are shipped in cardboard boxes or returnable bulk packs for safe transporting.
- ◆ When pumps are shipped in large quantities, they may be put on a pallet to allow for easy storage, lifting and handling.
- ◆ Before lifting any pump or pallet, determine the weight of the item by looking at the attached packing slips to establish what lifting equipment should be used.
- ◆ Before installing the pump, determine if all the components are present and undamaged. If the pump is missing components, contact customer service immediately.
- ◆ Once the pump is unpacked, dispose of the packaging in a manner compliant with local and national regulations.

## LIFTING INSTRUCTIONS

- ◆ Before attempting to lift a Hypro pump, ensure that the surrounding working area is free of hazards which could cause injury or damage to property.
- ◆ During lifting operations, any personnel not involved in the lift should not enter the working area.
- ◆ If lifting hooks, rope or chains are being used for a lift, they must be free of damage and be rated to carry 150% of the weight of the load to be lifted.

## LIFTING INSTRUCTIONS

- ◆ Before attempting to lift a Hypro pump, ensure that the surrounding working area is free of hazards which could cause injury or damage to property.
- ◆ During lifting operations, any personnel not involved in the lift should not enter the working area.
- ◆ If lifting hooks, rope or chains are being used for a lift, they must be free of damage and be rated to carry 150% of the weight of the load to be lifted.
- ◆  Always wear steel-toed shoes and cut-resistant gloves when attempting to lift.
- ◆ When lifting and carrying, always keep the pump close to your body (Figure 3).
- ◆ When starting the lift, bend your knees and keep your back straight (Figure 3). Tightening the stomach muscles will help keep your back straight.
- ◆ During the lift, use your legs to do the work. Never use your back, and make sure your legs are at least shoulder-width apart (Figure 3).

# GENERAL INFORMATION / INSTALLATION

## TRANSPORT

All Hypro pumps are capable of being transported by air, sea, rail or motor vehicle. When the pump is shipped, ensure that the pump is moved in accordance with local and national laws and is properly secured to prevent unwanted movement which could cause damage to person or property. Prior to shipping, all fluids should be removed from the pump.

## STORAGE

New pumps in their boxes can be stored several years as long as the port plugs are not removed. Once the plugs have been removed, if the pump is not to be used for an extended period of time (i.e. more than 30 days), the pump must be winterized as described in the Cleaning section.

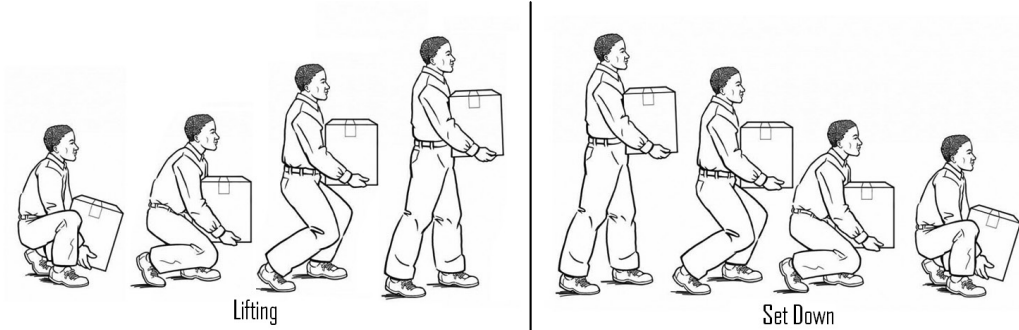


Figure 3 - Lifting Instruction

## INSTALLATION


Before attempting to install your Hypro centrifugal pump, it is imperative to read and understand the following:


- ⚠️ Installation of a Hypro pump should only be performed by a technician having the knowledge and skills necessary to install the pump without the risk of property damage or injury.
- ⚠️ Installation of a Hypro pump should only be performed by a technician having the knowledge and skills necessary to install the pump without the risk of property damage or injury.
- ⚠️ When handling Hypro pumps, one should wear steel-toed shoes and protective gloves in order to protect the feet in the event the pump is dropped and protect the hands from any sharp surfaces on the pump or chemicals.


- ⚠️ Pumping systems must be installed in accordance with Hypro installation instructions. Failure to do so will void your warranty and could cause damage to property, serious personal injury, or death
- ⚠️ Electrical power cables and pump hoses must be routed where there is no risk of personnel tripping, walking into, or falling because they have been routed in areas where personnel are expected to move. Electrical power cables and pump hoses should be routed according to local and national standards.
- ⚠️ It is the installer's responsibility to ensure that AC electric-drive motors, Hypro pumps, and metalwork of support structures are bonded to earth (ground), per local and national standards.


# INSTALLATION


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 It is the installer's responsibility to conduct earth continuity tests between AC electric-drive motors, Hypro pumps, and metalwork of support structures and earth according to EN60204-1:2006/A1:2009, or its superseding standard, to confirm that all components that need to be connected to earth are satisfactorily bonded.


 It is the installer's responsibility to conduct electrical tests in accordance with EN60204-1:2006/A1:2009, or its superseding standard, on finished pump assemblies.


 All connections to electrical components must be number, symbol, or color-coded generally as recommended by EN60204-1:2006/A1:2009, or its superseding standard.


 Installers must provide hydraulic components that are capable of withstanding maximum source pressure.


 The working pressure must be controlled by a pressure relief valve that is adjusted to operate at a maximum pressure of the hydraulic motor.


 For pumps with gas engines, the exhaust must be directed away from operators and anyone standing nearby to ensure that exhaust fumes do not enter their breathing zone.


 If a rigid plumbing system is to be used on a Hypro centrifugal pump, the system must be properly aligned with the inlet and outlet ports.

 The working pressure in the hydraulics system must be controlled by a pressure relief valve that is adjusted to operate at 10% of the maximum system pressure.

 When installing, adjusting or removing a Hypro centrifugal pump, ensure that there are no objects which can fall on the installer and make certain that all machinery to which the pump is to be attached is turned off.

 Pumps must be installed in a location where they are accessible for any necessary maintenance.

 When a main electrical supply is needed to power electric-drive motors, installers are responsible for ensuring that a supply disconnect device, capable of isolating the machine from its electricity supply, be provided.

 When hydraulic power is used, the system should contain a quick disconnect coupling that can be disconnected to isolate the pump.

## PRELIMINARY TO MOUNTING

Consult the owners manual to determine the type and capacity of the hydraulic system. Make sure the hydraulic system is recommended to operate with a continuous load. Refer to the Pump Selection Guide at [www.hypro.pentair.com](http://www.hypro.pentair.com) to confirm you have the proper pump for your hydraulic system.

Check to see that the pump impeller can be turned by hand. (Turn the shaft clockwise using a deep socket wrench on the impeller nut.) If it cannot be turned, open the pump casing to look for obstructions. Clean out any corrosion buildup where the casing fits over the eye of the impeller.

## 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.

## PUMP OUTLET LINE

The required 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 discharge point.

When operating, the outlet line shall not be closed before inlet line is closed. Doing so will result in a pressure spike to the pump and potential damage.

## PRIMING THE PUMP

Before starting the pump, the chamber needs to be filled with liquid. The pump **MUST NOT** be run unless it is completely filled with liquid because there is a danger of damaging the mechanical seal, which depends on the liquid for its lubrication.

Self-priming models can be primed by removing the top vent plug and filling the priming chamber. The priming chamber will fill to the level of the inlet port. After use, the priming chamber should be flushed and drained to avoid chemical corrosion and damage from freezing. Drain by removing the lower drain plug.

# INSTALLATION

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## HOOKING UP THE HYDRAULIC MOTOR TO THE TRACTOR HYDRAULIC SYSTEM

Hypro hydraulic motor-driven pumps can be mounted on either the tractor or sprayer. When hooking up, make sure that no dirt or liquid gets into the hydraulic motor. Keep all hydraulic connections clean. Hydraulic cleanliness of system must be maintained at 17/15/13 per ISO 4406 or better.

Be sure to connect the hydraulic motor into the system correctly by putting the pressure line to the pressure port and return line to the tank port. The ports on the hydraulic motor are sized to accommodate 7/8" and 1 1/16" SAE fittings. For maximum performance, the hydraulic lines should also be at least 1/2" [12.7 mm] in size. For lines longer than 8 feet [2.44 m], hydraulic line size should be at least 3/4" [19.05 mm] in order to reduce heat generation.

Standard spool valves, which are found on all tractor hydraulic systems, may cause potentially damaging high peak pressures in the hydraulic system when closed, because of abrupt shut-off of oil flow in both the supply and return lines. When shutting off the pump, move the selector to the FLOAT position to allow the centrifugal pump to come to a stop gradually.

## ADJUSTING CENTRIFUGAL PUMP OUTPUT

1. Install a shut-off valve and pressure gauge on the discharge line for initial setup.
2. Open the bypass adjustment screw 2-1/2 turns from fully closed. Turn the bypass screw in to achieve the flow for the desired gpm and psi.
3. Start the tractor. Leave the directional valve in the neutral position and allow hydraulic oil to circulate for approximately 10 to 15 minutes or until adequately warmed.
4. Prime the centrifugal pump with all valves open (See the Installation Instructions and System Configuration Diagram).
5. Once the pump is primed, shut off the discharge line and monitor the pressure. Shut-off pressure is not to exceed 60 PSI. Adjust discharge screw accordingly.

## CLOSED CENTER (LOAD SENSING) ALL MODELS

Many tractors are being introduced with load sensing systems (also referred to as flow and pressure-compensated systems) which simplify system setup and eliminate many of the problems associated with using the wrong size pump motors on a given hydraulic system.

Usually, any of Hypro's 9300HMC models may be used on this type of system, provided the hydraulic system produces sufficient

oil flow for the hydraulic motor being used (Refer to the Pump Selection Guide).

This system maintains a constant flow of hydraulic oil for a given pressure drop. The flow is adjustable with a flow control valve installed in the hydraulic system (such as the Tortoise/Hare control on John Deere tractors).

Because this system has adjustable flow, there is no need to bypass hydraulic oil as in an open center system, or to restrict the flow with orifices as in a closed center pressure-compensated system.

## ADJUSTING CENTRIFUGAL PUMP OUTPUT

6. Install a shut-off valve and pressure gauge on the discharge line for initial setup.
7. Close and lock down the bypass adjusting screw in the hydraulic motor.
8. Set the tractor hydraulic flow control valve for minimum hydraulic oil flow to the remote outlet (Tortoise position).
9. Start the tractor and allow the hydraulic oil to circulate for approximately 10 to 15 minutes or until adequately warmed.
10. Prime the centrifugal pump with all valves open (See the Installation Instructions and System Configuration Diagram).
11. Shut off the discharge valve and monitor the pressure. Slowly adjust the tractor hydraulic flow control valve until the pump deadhead pressure approaches 60 PSI.

## STORAGE

1. Drain pump. 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 the manufacturer's directions. This will dissolve most residues remaining in the pump, leaving the inside of the pump clean and ready for use.
2. Store pump in a clean, dry environment.



# MAINTENANCE AND SERVICE

## MAINTENANCE AND SERVICE

### PRIOR TO SERVICE

- ◆ All maintenance should be done when machinery is stationary and has been isolated from its energy sources. It is dangerous to perform maintenance while machinery is still connected to its power source. Machinery should be isolated from its electrical, hydraulic or gas engine power source.
- ◆  Be sure to release all pressure from the system before performing any sort of maintenance on these pumps.
- ◆  **DO NOT** perform service or maintenance to the pump, or attached components, until the pump unit is below 109°F(43°C).
- ◆ The lubrication of this pump unit has been done at the factory prior to shipping.
- ◆  When handling Hypro pumps, one should wear steel-toed shoes and protective gloves in order to protect the feet in the event the pump is dropped and protect the hands from any sharp surfaces on the pump or chemicals. If the pump is being repaired while the pump is in service, eye protection should also be worn.
- ◆ Any hazardous liquids should be disposed of in a manner which complies with local and national regulations. Never dump fluids onto the ground.

### DISPOSAL

When disposing of a Hypro pump, be sure to remove all fluids from the pump before scrapping. These fluids should be disposed of in a manner which complies with local and national regulations. Never dump fluids onto the ground. Once the pump is free of all fluids, it may be scrapped in accordance with local and national laws.

### CLEANING

Your pump will last longer and give best performance when properly taken care of. Proper pump care depends on the liquid being pumped and when the pump will be used again. After each use, flush pump with a neutralizing solution for the liquid just pumped. Follow with a clean water rinse. This is especially important for corrosive chemicals.

It is good practice to clean the pump after each use to prevent deposits from forming and damaging the pump. For infrequent use and before long periods of storage, drain pump thoroughly. Open any drain plugs, remove suction hose from liquid, and blow pump dry with air. An antifreeze/rust inhibitor should be injected into the pump before both ports are plugged and the pump is stored. Plug all ports to keep out air until pump is used again.

## MAINTENANCE, ROUTINE SERVICING, AND INSPECTION

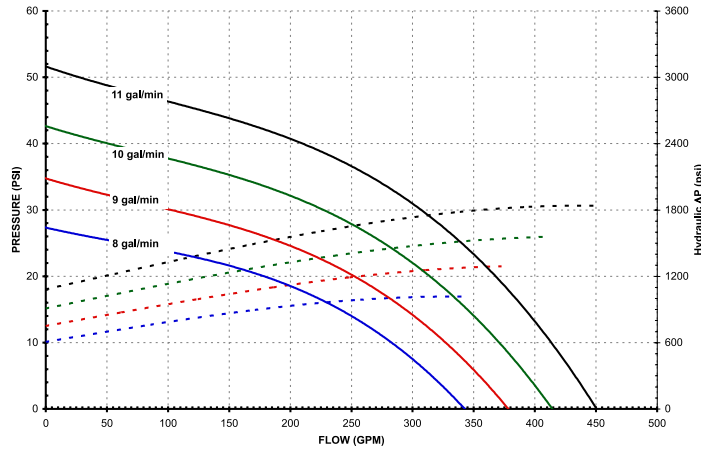
### PREVENTATIVE MAINTENANCE CHECKLIST

CHECK	DAILY	WEEKLY
Clean Filters	X	
Water Leaks	X	
Plumbing		X

- ◆ Each system's maintenance cycle will be exclusive. If system performance decreases, check immediately.
- ◆ Duty cycle, temperature, quality, type of fluid being pumped, and inlet feed conditions all affect the life and service interval of the pump.
- ◆ Before attempting to service your pump, be sure that it is disconnected from all energy sources.

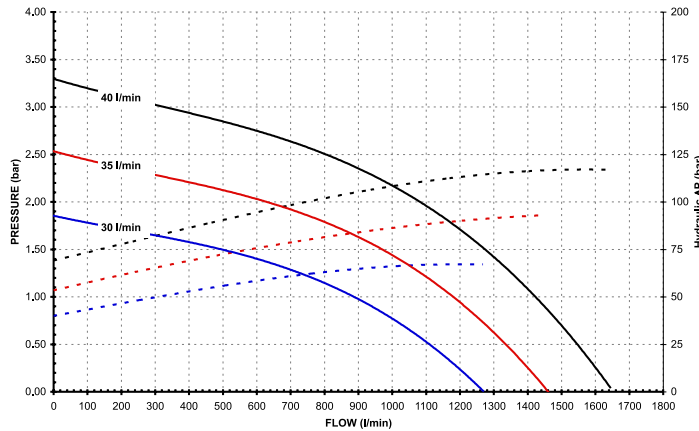
# TECHNICAL DATA

## 9343P-GM6Y-SP-004 - PUMP PERFORMANCE - STANDARD



9343P-GM6Y-SP-004 PERFORMANCE	Feet	0	12	23	35	46	58	69	81	92	104	116	127
	PSI	0	5	10	15	20	25	30	35	40	45	50	55
8 gal/min	GPM	342	316	284	240	176	67						
9 gal/min	GPM	378	355	327	294	252	194	103					
10 gal/min	GPM	414	394	371	345	314	276	227	155	52			
11 gal/min	GPM	450	433	414	392	368	340	307	265	210	128	28	

## 9343P-GM6Y-SP-004 - PUMP PERFORMANCE - METRIC

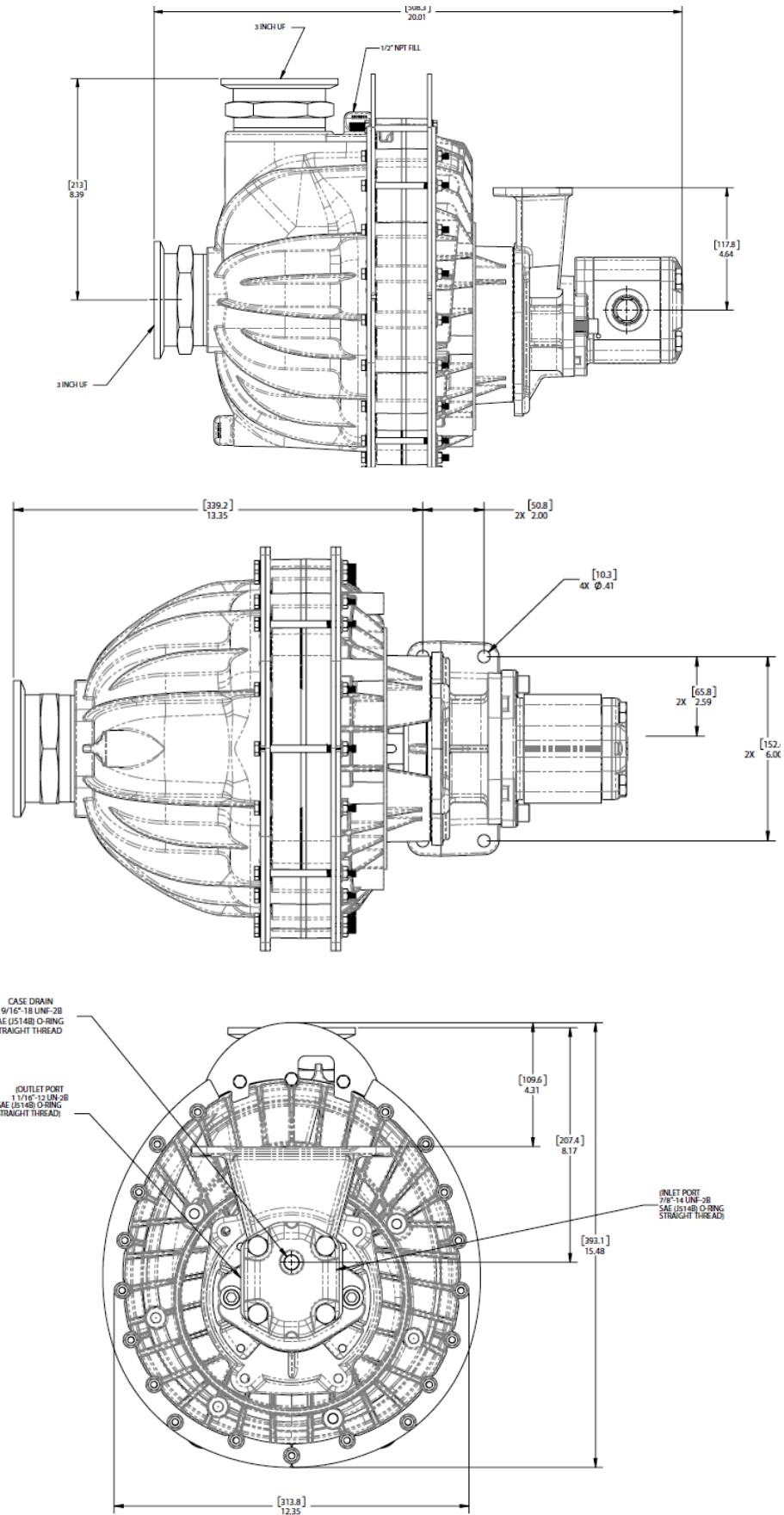


9343P-GM6Y-SP-004 PERFORMANCE	m	5.1	10.2	12.8	15.3	17.9	20.4	23.0	25.5	28.1	30.6	33.2	35.7
	bar	0.50	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50
30 l/min	l/min	1110	885	730	495	145							
35 l/min	l/min	1335	1180	1085	970	825	630	345	35				
40 l/min	l/min	1545	1425	1355	1270	1185	1080	960	805	600	325	45	

## TECHNICAL DATA TABLE

PUMP	MAX FLOW RATE (GPM) [LPM]	MAX SUSTAINED PRESSURE (PSI) [BAR]	PORTS	HYDRAULIC MAX INLET (PSI) [BAR]	HYDRAULIC MAX CASE DRAIN (PSI) [BAR]	MAX HYD. FLOW (GPM) [LPM]	HYDRAULIC PORTS	DRY WEIGHT LB[KG]	MOUNTING BOLTS
9343P-GM6Y-SP-004	450[1703]	52[3.5]	3" UF Inlet 3" UF Outlet	3190[220]	15[1]	11[41.6]	Inlet -(SAE-10) Outlet -(SAE-12) Case Drain -(SAE 6)	30.5[13.8]	4X3/8" OR M10

# DIMENSIONAL DATA



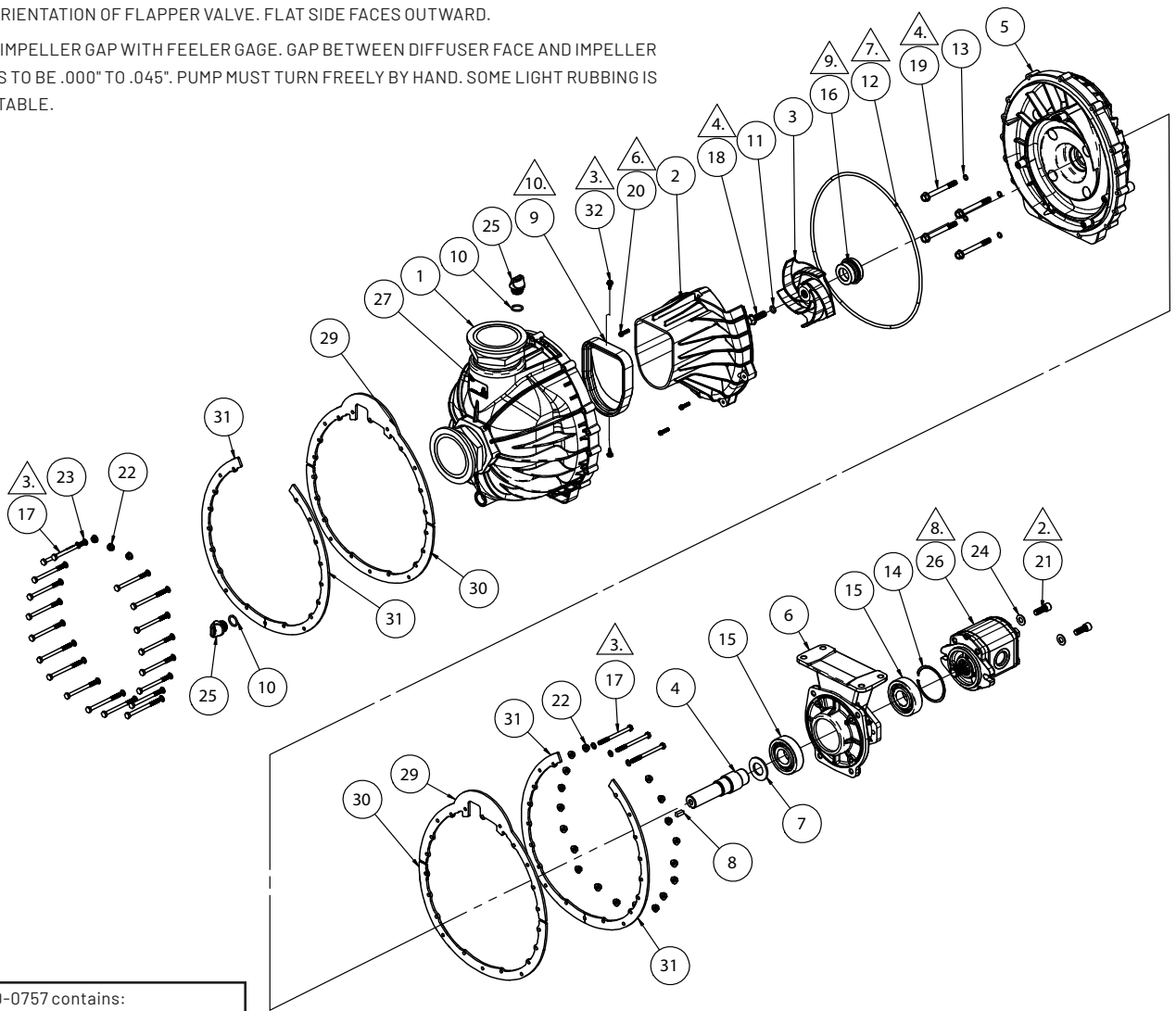
# REPAIR PARTS

The following drawings show the pumps and their replacement parts. Only genuine replacement parts should be used. Failure to follow this warning can result in damage to property, serious injury or death. If the pump malfunctions or is defective, it should be sent back to Hypro for service.

1. ITEM 28 IS NOT SHOWN.

- 2. APPLY MEDIUM STRENGTH LOC-TITE, AND TORQUE CAP SCREWS TO 12±2 FT LB.
- 3. TORQUE ITEM TO 45 ± 7 IN LBS.
- 4. TORQUE ITEM TO 10 ± 1 FT LBS.
- 5. TORQUE ITEM TO 24 ± 5 IN LBS.
- 6. TORQUE ITEM TO 7 ± 1 IN LBS.
- 7. LUBRICATE SURFACE(S) PER HYPRO STANDARD ES0048-A [SILICONE GREASE].
- 8. LUBRICATE EXTERNAL SPLINES PER HYPRO STANDARD ES0048-B [ANTI-SEIZE LUBRICANT].
- 9. LUBRICATE SEAL SEAT WITH WATER PRIOR TO INSTALLING IN IMPELLER BORE.
- 10. NOTE ORIENTATION OF FLAPPER VALVE. FLAT SIDE FACES OUTWARD.

11. CHECK IMPELLER GAP WITH FEELER GAGE. GAP BETWEEN DIFFUSER FACE AND IMPELLER BLADES TO BE .000" TO .045". PUMP MUST TURN FREELY BY HAND. SOME LIGHT RUBBING IS ACCEPTABLE.



Seal Repair Kit 3430-0757 contains:  
 (4) Ref. 13 O-ring (1723-0149), (1) Ref. 11 Mechanical Seal O-ring (1723-0142), (1) Ref. 16 Mechanical Seal (2120-0055), (1) Ref. 9 Flapper (1700-0232), (1) Ref. 12 Body O-ring (1723-0146) and (2) Ref. 32 Flapper Screw (2210-0226)

Pedestal Assembly 0751-9343A contains:  
 (1) Ref. 6 Pedestal 0750-9243A, (2) Ref. 15 Ball Bearing (2000-0119), (1) Ref. 4 Pump Shaft (0500-1343), and (1) Ref. 14 Snap Ring (1820-0045).

Pump Assy. Kit 9343P-X-003 includes all items less the motor mounting bolts (Ref. 21), motor mounting washers (Ref. 24), and motor (Ref. 26).

Motor Repair Kit 3430-0788 for GM6 and GM10 includes all seal and gasket components.

Additional Available Service Components include:  
 Ref. 27 Pump Housing (0101-1543GT X)  
 Ref. 5 Pump Back Plate (0750-1543GT X)  
 Ref. 13 Bolt (2210-0239)  
 Ref. 29 Top Bracket (1520-0147)  
 Ref. 30 Bottom Bracket (1520-0148)  
 Ref. 31 Side Bracket (1520-0149)

## REPAIR PARTS

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY.
1	0101-1543GTX	HOUSING UNI FLANGE GTX	1
2	0150-1543P	VOLUTE POLY TRANSFER 1543P	1
3	0150-1543P	IMPELLER	1
4	0500-9343	HYD PEDESTAL SHAFT	1
5	0750-1543GTX	PLATE BACK XFER PUMP GTX	1
6	0750-9243A	PEDESTAL HOUSING	1
7	1410-0091	SLINGER RING	1
8	1610-0069	KEY (SQUARE)	1
9	1700-0232	FLAPPER VALVE	1
10	1720-0230	O-RING	2
11	1723-0142	O-RING	1
12	1723-0146	O-RING	1
13	1723-0149	O-RING	4
14	1820-0045	INT SNAP RING	1
15	2000-0019	BEARING	2
16	2120-0055	MECHANICAL SEAL	1
17	2210-0239	BOLT HEX M6X1	22
18	2210-0181	BOLT HEX HEAD FLANGE 1"	1
19	2210-0182	BOLT HEX HEAD FLANGE 3"	4
20	2210-0183	HEX WASHER HEAD SCREW	4
21	2220-0125	SOCKET HEAD CAP SCREW	2
22	2250-0087	NUT M6 FLANGE HEX SERRATED	22
23	2270-0115	FLAT WASHER	22
24	2270-0137	WASHER FLAT SAE 3/8"	2
25	2404-0350P	FILL/DRAIN PLUG	2
26	2500-0119R	MOTOR HYDRAULIC CASE DRAIN	1
27	6031-0547	LABEL SPEC CE UKCA	1
28	L-1605	MANUAL	
29	1520-0147	TOP BRACKET	2
30	1520-0148	BOTTOM BRACKET	2
31	1520-0149	SIDE BRACKET	4
32	2210-0226	DRILLING SCREW 10 16	2

# TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
No water delivered	Not primed.	Reprime, inspect suction system for air leaks and/or check assembly.
	Pump takes too long to prime.	Check hose and fittings for leaks and correct.
	Flow through pump completely or partially blocked.	Locate and remove obstruction. Attach strainer.
	Pressure required by system at design flow rate exceeds pressure rating of pump.	Compare pump pressure and flow rate against pump performance chart. Reduce system pressure requirement. Increase pressure capability of pump.
	Obstruction in suction piping	Locate and remove obstruction. Attach strainer.
	Suction lift too high.	Check with gauge or measure vertical distance between water surface and center line of pump, allowing for friction loss in suction pipe. Reduce rate of flow to obtain desired lift. Refer to pump performance chart.
	Leaky suction line or connection admitting air.	Repair or replace suction line. Tighten connections.
Not enough water delivered	Flow through pump completely or partially blocked.	Locate and remove obstruction. Attach strainer.
	Internal leakage.	Check clearances between face of vanes and case. Should not exceed 1/32.
	Pressure required by system at design flow rate exceeds pressure rating of pump.	Compare pump pressure and flow rate against pump performance chart. Reduce system pressure requirement. Increase pressure capability of pump.
	Obstruction in suction piping	Locate and remove obstruction. Attach strainer.
	Suction lift too high.	Check with gauge or measure vertical distance between water surface and center line of pump, allowing for friction loss in suction pipe. Reduce rate of flow to obtain desired lift. Refer to pump performance chart.
	Leaky suction line or connection admitting air.	Repair or replace suction line. Tighten connections.
Not enough pressure.	Flow through pump completely or partially blocked.	Locate and remove obstruction. Attach strainer.
	Internal leakage.	Check clearances between face of vanes and case. Should not exceed 1/32.
	Pressure required by system at design flow rate exceeds pressure rating of pump.	Compare pump pressure and flow rate against pump performance chart. Reduce system pressure requirement. Increase pressure capability of pump.
	Obstruction in suction piping	Locate and remove obstruction. Attach strainer.
	Suction lift too high.	Check with gauge or measure vertical distance between water surface and center line of pump, allowing for friction loss in suction pipe. Reduce rate of flow to obtain desired lift. Refer to pump performance chart.
Abnormal noise and/or vibration	Not primed.	Reprime, inspect suction system for air leaks and/or check assembly.
	Flow through pump completely or partially blocked.	Locate and remove obstruction. Attach strainer.
	Loose or broken parts.	Inspect and repair.
	Obstruction in suction piping	Locate and remove obstruction. Attach strainer.
	Suction lift too high.	Check with gauge or measure vertical distance between water surface and center line of pump, allowing for friction loss in suction pipe. Reduce rate of flow to obtain desired lift. Refer to pump performance chart.
	Discharge head too low.	Decrease rate of flow.
Pump works for a while then stops.	Flow through pump completely or partially blocked.	Locate and remove obstruction. Attach strainer.
	Loose or broken parts.	Inspect and repair.
	Suction lift too high.	Check with gauge or measure vertical distance between water surface and center line of pump, allowing for friction loss in suction pipe. Reduce rate of flow to obtain desired lift. Refer to pump performance chart.
	Suction inlet not immersed deep enough.	Refer to Installation.
	Leaky suction line or connection admitting air.	Repair or replace suction line. Tighten connections.

# EC DECLARATION OF INCORPORATION

EC Declaration of Incorporation

Manufacturers Name: Pentair Flow Technologies, LLC  
 Manufacturers' Address: 375 Fifth Avenue NW,  
 New Brighton, MN 55112, USA

Declare that the partially complete machinery described below conforms to applicable health and safety requirements of Emission Directive 2010/26/EU and of Parts 1 of Annex I of Machinery Directive 2006/42/EC. This partly completed machinery must not be put into service until the equipment into which it is to be incorporated has been declared in conformity with the provisions of these directives. Confidential technical documentation has been compiled as described in Annex VII Part B of Machinery Directive 2006/42/EC and is available to European national authorities on written request. If a request is received, documentation will be transmitted either electronically or by post. Clauses 1.1.4, 1.1.7, 1.1.8 Section 1.2, Clauses 1.3.5, 1.3.6, 1.3.7, 1.3.8.1, 1.3.8.2, 1.3.9, 1.4.1, 1.4.2.1, 1.4.2.2, 1.4.2.3, 1.4.3, 1.5.2, 1.5.7, 1.5.12, 1.5.14, 1.5.16, 1.6.2, 1.7.1.1, 1.7.1.2, 1.7.2, and 1.7.4.2 are clauses of Machinery Directive 2006/42/EC that have not been met, but could be applicable and must be addressed during installation by a third party.

Description:	PENTAIR Pump
Type:	Roller Pumps
Series Numbers	1502, 1700, 4001, 4101, 6500, 7560, 7700
Type:	Centrifugal Pumps
Series Numbers	1442P, 1539, 1540, 1542P, 1543P, 1550, 90XX, 9202, 9203, 9205, 9206, 9208, 9262, 9263, 9253, 9302, 9303, 9305, 9306, 9307, 9308, 9313, 9314, 9316, 9342P, 9343P, 9742P, 15HPS, 93HPS
Type:	Cleanload Assembly
Series Numbers	3376, 3378
Type:	Piston/Plunger Pumps
Series Numbers	5315C, 5320C, 5321C, 5322C, 5324C, 5325C, 5330C, 53702, 53703

The following standards have either been referred to or been complied with in part or in full as relevant:

ENISO 12100	Machinery Safety -	General principles for design - Risk assessment and risk reduction
EN809-1998 + A1 2009	Machinery Safety -	Pumps and pump units for liquids - Common safety requirements
EN ISO 13732-1	Machinery Safety -	Ergonomics of the thermal environment
EN ISO 3744:2010	Acoustics -	Determination of sound power levels and sound energy levels of noise sources using sound pressure
EN ISO 11202/A1 1997	Machinery Safety -	Noise emitted by machinery and equipment
EN 12162:2001+A1:2009	Machinery Safety -	Liquid pumps - Safety requirements-Procedure for hydrostatic testing
EN ISO 4254-6:2009	Machinery Safety -	Sprayers and liquid fertilizer distributors
EN 60204-1:2006/A1:2009	Machinery Safety -	Electrical Equipment of Machines

Name ..... Position.....  
 Signature ..... Date.....  
 Place of Signing.....

**EC REP**  
**QNET BV**  
**Hommerterweg 286**  
**6436 AM Amstenrade**  
**The Netherlands**

Rev 12/22/18

# Limited Warranty on HYPRO/SHURFLO Agricultural Pumps & Accessories

Hypro/SHURflo (hereafter, "Hypro") agricultural products are warranted to be free of defects in material and workmanship under normal use for the time periods listed below, with proof of purchase.

- Pumps: one (1) year from the date of manufacture, or one (1) year of use. This limited warranty will not exceed two (2) years, in any event.
- Accessories: ninety (90) days of use.

This limited warranty will not apply to products that were improperly installed, misapplied, damaged, altered, or incompatible with fluids or components not manufactured by Hypro. All warranty considerations are governed by Hypro's written return policy.

Hypro's obligation under this limited warranty policy is limited to the repair or replacement of the product. All returns will be tested per Hypro's factory criteria. Products found not defective (under the terms of this limited warranty) are subject to charges paid by the returnee for the testing and packaging of "tested good" non-warranty returns.

No credit or labor allowances will be given for products returned as defective. Warranty replacement will be shipped on a freight allowed basis. Hypro reserves the right to choose the method of transportation.

This limited warranty is in lieu of all other warranties, expressed or implied, and no other person is authorized to give any other warranty or assume obligation or liability on Hypro's behalf. Hypro shall not be liable for any labor, damage or other expense, nor shall Hypro be liable for any indirect, incidental or consequential damages of any kind incurred by the reason of the use or sale of any defective product.

## Return Procedures

All products must be flushed of any chemical (ref. OSHA section 1910.1200 (d) (e) (f) (g) (h)) and hazardous chemicals must be labeled/tagged before being shipped\* to Hypro for service or warranty consideration. Hypro reserves the right to request a Material Safety Data Sheet from the returnee for any pump/product it deems necessary. Hypro reserves the right to "disposition as scrap" products returned which contain unknown fluids. Hypro reserves the right to charge the returnee for any and all costs incurred for chemical testing, and proper disposal of components containing unknown fluids. Hypro requests this in order to protect the environment and personnel from the hazards of handling unknown fluids.

Be prepared to give Hypro full details of the problem, including the model number, date of purchase, and from whom you purchased your product. Hypro may request additional information, and may require a sketch to illustrate the problem.

Contact the appropriate Hypro Service Department to receive a Return Merchandise Authorization number (RMA#). Returns are to be shipped with the RMA number clearly marked on the outside of the package. Hypro shall not be liable for freight damage incurred during shipping. Please package all returns carefully. All products returned for warranty work should be sent shipping charges prepaid:

**US/Canada**  
HYPRO / PENTAIR  
Attention: Service Department  
375 Fifth Avenue NW  
New Brighton, MN 55112  
Service: 800-468-3428  
Fax: 651-766-6618  
Technical: 800-445-8360  
hypro.technical@pentair.com

**Europe**  
HYPRO EU Ltd.  
Station Road  
Longstanton  
Cambridge CB24 3DS UK  
Service/Technical:  
+44 1954 260097  
Fax: +44 1954 260245  
euagorders@pentair.com

**South America & Central America**  
Pentair Water do Brasil LTDA  
Av. Marginal Norte da Via  
Ananguera, 53.700  
Jundiai/SP - Brasil  
CEP 13206-245  
Tel: (11) 3378-5400  
vendas.pwdb@pentair.com

**All Other Regions**  
HYPRO / PENTAIR  
Attention: Service Department  
375 Fifth Avenue NW  
New Brighton, MN 55112  
Service: 800-468-3428  
Fax: 651-766-6618  
Technical: 800-445-8360  
hypro.technical@pentair.com

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



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NW New Brighton, MN 55112 US  
Ph: 651.766.6300, 800.424.9776  
Fx: 800.323.6496

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