



water, sewage and sludge technology

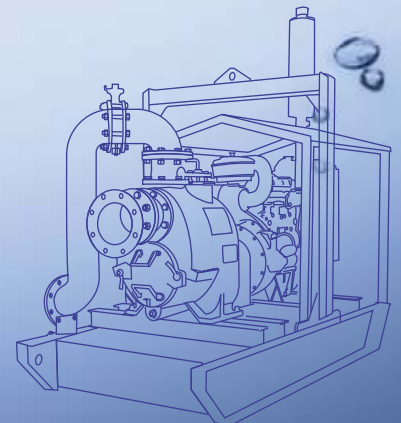
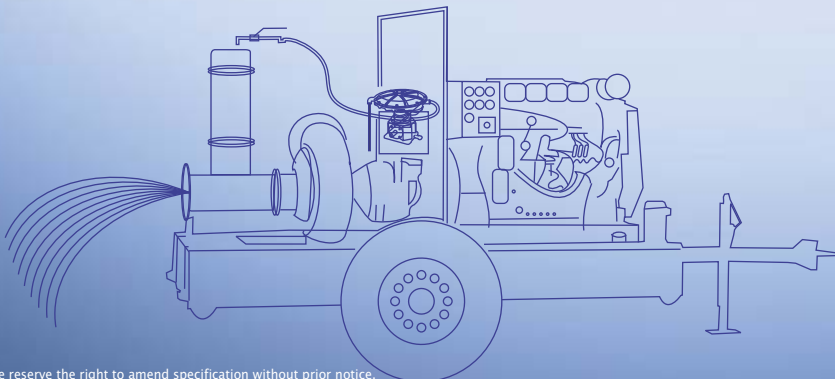
*pumps for life ...*

An ISO 9001:2008 certified company by 

## Instruction Manual

# POLO PUMPS

(Water Cooled Submersible Pumps)  
Polo Series 50Hz 2 Pole



\* We reserve the right to amend specification without prior notice.

### INDRA HYDRO TECH PUMPS PVT. LTD.

316, 1st Floor, 8th Cross, 4th Phase, Peenya Industrial Area, Bengaluru - 560 058, Karnataka, India  
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## Declaration of Conformity

**Company Name**            **Indra Hydro Tech Pumps Pvt. Ltd.**

**Address**                    **316, 4th Phase, 8th Cross, Peenya Industrial Area, Bangalore 560 058, INDIA.**  
**Tel: +91 80 2836 2916, 2836 6637 Fax: +91 80 2836 3048**  
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hereby declare that        **the following models**

Model	Type	Phase	Voltage	Power	Outlet	Pole/Rotation	Std.Head	Std.Flow	Max.Flow	Weight	Cable		
Impeller Model	TYPE	PH	VOLT	HP	KW	Inch	mm	P/rpm	M	M <sup>3</sup> /min	M <sup>3</sup> /min	KG	Meters
Semi open	Polo-1052	1Ø	220	½	0.4	2"	50	2P/2850	5 M	0.10	0.22	15	10
Impeller	Polo-3052	3Ø	380	½	0.4	2"	50	2P/2850	5 M	0.10	0.22	15	10

**Year**                        **is in conformity with the following directives with amendments:**

- ♦ **Low Voltage Directive 2006/95/EC**
- ♦ **EMC Directive 2004/108/EC**
- ♦ **Machinery Directive 2006/42/EC**

**(ARVIND MOHAN)**  
**Managing Director**  
**Indra Hydro-Tech Pvt. Ltd.**

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## 1. Introduction

Please read carefully and retain the instruction manual for future use so that the information listed will be easily accessible while the equipment is operated. If there are any trouble, failure in the pump, please contact the IHP authorised distributor / the sales representative of your location / the head office of IHP given in this instruction manual to check the pump.

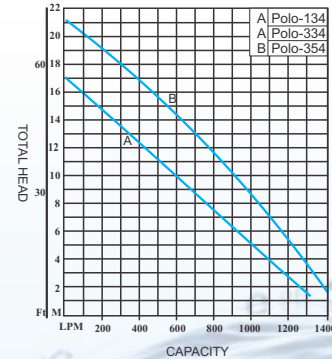
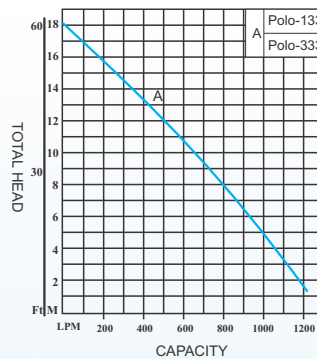
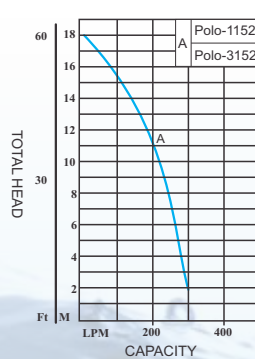
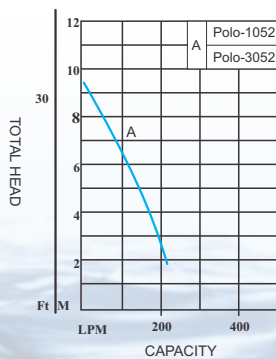
**⚠ Caution:** The equipment shall not be used for applications other than the information listed in the instruction manual. Failure to take notice of precautions may lead to property damage, personal injury and other accidents. In the event of property damage and hazards, the manufacturer will not be responsible for any liability.

## 2. Application

Grinding and shredding mechanism to reduce industrial and domestic sewage to fine slurry.

## 3. Models

Models	HP/kW	Pole	Voltage	Outlet (inches)	Weight(KG)
Polo-1052 / Polo-3052	1 & 3 $\phi$	2	240 / 415V	2"	15
Polo-1152 / Polo-3152	1 & 3 $\phi$	2	240 / 415V	2"	26
Polo-113 / Polo-333	1 & 3 $\phi$	2	240 / 415V	3"	42
Polo-134 / Polo-334	1 & 3 $\phi$	2	240 / 415V	4"	42
Polo-354	3 $\phi$	2	415V	4"	46



## 4. Safety instructions

**⚠ Warning:** Be sure to ground the pump properly before operation and install the circuit breaker and overload protector to prevent the motor from burning out. Failure to follow the precaution may lead to hazards if current leaked or electric shock occur.

1. The supply voltage should be within  $\pm 5\%$  of the rated voltage.
2. The pump should be immersed in water surface to advance cooling the motor while the temperature should be kept between  $0\sim 40^{\circ}\text{C}$ .
3. Never attempt to replace the built-in protective device.

**⚠ Caution:** Do not extend the length of the power cable without consulting your supplier. The insulation resistance could be reduced significantly and cause electric shock. If the power cable is extended, do not immerse the splice in water.

4. DO NOT use the pump for application of food or drinking water.
5. DO NOT use the pump in an explosive or flammable environment or for pumping.

## 5. Transport

- ⚠ During transport the unit should not be dropped or thrown.
- ⚠ The unit should never be raised or lowered by the power cable.
- ⚠ Any hoist used must be adequately dimensioned for the weight of the unit.

All relevant safety regulations as well as general good technical practice must be complied with.

## 6. Setup and installation

- ⚠ **Warning:** All relevant regulations covering sewage pumping installations and, where applicable, explosion-proof installations must be complied with.

1. Be sure the power cable is not being kinked during installation.
2. Carry the pump with pump handle or with hoist arrangement.

- ⚠ **Warning:** Always lift the pump by lifting handle, do not move or lift the pump by pulling the cable, which may cause electrical shock, current leakage.

3. Be sure the size of the discharge is suitable to pipe size and pumping direction is correct during connection.
4. Install the pump at a location which has the least turbulence.
5. DO NOT permit the end of discharge piping immersed in water, reverse flow may result the pump stop operation.
6. Due to manual type of pumps do not have built-in float switch, to be sure the pump is operating in water and maintain water level higher than pump body is important. Or self-install float switch to remain water cooling effects is necessary.

## 7. Operation

- ⚠ **Warning:** DO NOT operate the pump while anybody is in water, electric shock could occur during electric leakage.

1. Be sure the pump is operating in water and maintain water level is higher than pump body.
2. If the overload protector has tripped, the pump will stop and restart automatically when it has cooled down.

- ⚠ **Caution:**

Do not run pump dry.  
Pump liquid should not exceed a maximum temperature of 100°C.

Never place the pump on loose or soft ground. The pump may sink, preventing water from reaching the impeller. Place on a solid surface or suspend the pump with a lifting rope/chain. The SLD Series pumps are provided with a suction strainer to prevent large solids from clogging the impeller. Any spherical solids which pass through the strainer should pass through the pump.

For maximum pumping capacity, use the proper size non-collapsible hose or rigid piping. A check valve may be installed after the discharge to prevent back flow when the pump is shut off.

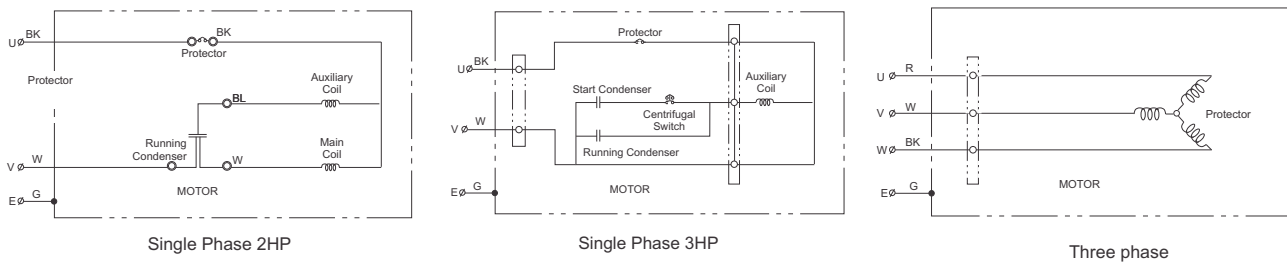
## 8. Electrical connection

1. Be sure to ground the pump properly before operation and install the circuit breaker and overload protector to prevent the motor from burning out. Failure to follow the precaution may lead to hazards if current leakage or electric shock occurs.
2. Make sure that the supply voltage should be within  $\pm 5\%$  of the rated voltage.
3. The pump must rotate in a clockwise direction (while looking down, not looking up) and never operate in reverse. If the pump runs in reverse during pre-installation (for 3 phase motor), change two of the three phases to achieve correct rotation is necessary

### ⚠ Caution:

4. DO NOT use damaged cable or power plug.

**NOTE:** Be aware of the type of the power plugs are respectively applicable for various countries or regions.



## 9. Thermal protection

The pump is equipped with an internal thermal protector (Thermal protector in a star-point winding).

- ⚠ **Caution:** Cut the power source during inspection and repair, so that the unit cannot be started by accident. In case of neglect, this could lead to serious injury, electric shocks or fire.

During a power outage, please shutdown the power source. Unexpected startup of the pump after the power has been restored can be very dangerous for people in direct neighborhood of the pump.

- ⚠ **Caution:** Until the cause of a problem with the pump has been resolved, the pump may switch on and off on its motor-protection. This will eventually lead to damage to the pump and could lead to electric shocks and power leakage. It is therefore advised to immediately check and resolve problems when the pump switches off.

Do not run the pump at low head with a clogged inlet. This will cause the pump to overload and could lead to vibrations and noise. This situation could cause damage to the pump, electric shocks and fire.

To protect the motor from overload or overheating, the protector will cause the pump to stop, irrespective of the water level.

- Abnormal fluctuations of the voltage.
- Pump is running under too heavy conditions.
- The pump is running with a dropped phase or bad connection of one or more phase wires.

## 10. Inspection and maintenance

It is of the utmost importance to provide regular maintenance and service to ensure a correct operation of the pump. Please contact your nearest **IHP** dealer to provide details on service and parts.

### Periodic check

⚠ **Caution:** Ensure that the pump has been disconnected from the power source before attempting any maintenance or checks. Negligence could have serious consequences, such as electric shocks and personal injury due to unexpected startup of the pump.

**1. Cleaning the pump:** Remove all dirt from the outer casing of the pump and clean the pump with clean water. Particular attention should be given to the pump inlet, strainer and impeller and remove all dirt and solids in these areas.

**2. Inspection of pump surface:** Check the coating of the pump for serious damage or whether any other damages can be detected. Check whether all bolts and nuts are still tightened sufficiently. Should the coating be seriously damaged, let the pump dry and repair the damages.

The coating of the pump should be provided by the user themselves. Should the pump need to be dis-assembled in order to repair or rework damages, please contact your nearest **IHP** dealer.

### Periodic maintenance

Monthly	-	Check insulation values with megger
	-	Measure input current
		Check voltage
		Inspect impeller
Half-year	-	Check and change oil in oil chamber
Yearly	-	Change oil and replace mechanical seal
Once in 2-5 years	-	Complete overhaul (even when pump is functioning correctly)

### Storage of pump

When the pump is to be stored for a prolonged period, lift the pump from the water. Let it dry and store in a dry area.

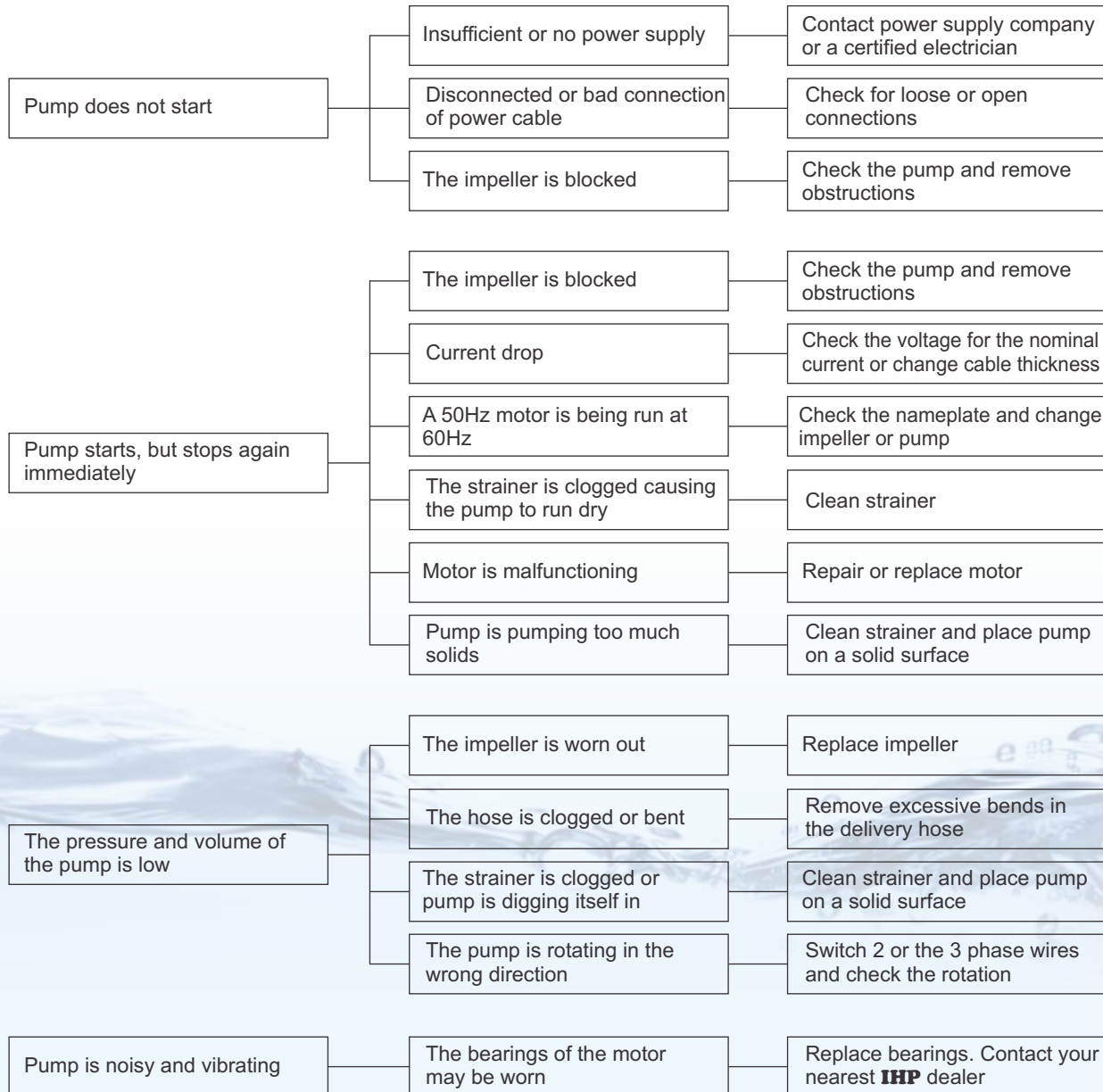
When the pump is to be put into operation after a prolonged period of storage, please test the pump, as indicated in this manual, before putting into operation again.

When the pump is stored under water, perform regular tests (once a week) to avoid the impeller rusting against the casing.

## 11. Troubleshooting list

⚠ **Caution:** Before attempting any maintenance of checks, please ensure that the pump has been disconnected from the power source. Neglecting to do so, may result in serious injury, damage, electrical shocks or fire.

Before attempting any repair, please study this complete manual carefully. Should the pump not function correctly after a 2nd inspection, please contact your nearest **IHP** dealer immediately.



## 12. Spare parts

- ♦ The spare parts of all our products will be available for a period of 12 years.
- ♦ The spare parts are available in any part of the globe within the shortest time using modern logistics methods.
- ♦ Fast-wearing spare parts will be available with all our distributors/authorised service centres at any given time.



## Consumer Warranty

Indra Hydro Tech Pumps (P)Ltd warrants that, when this product is used for the purpose it was designed, is correctly housed and protected from weather, vermin and dust etc, that it will be free from material and manufacturing defects at the time of the original purchase.

Our products comes with guarantee that cannot be excluded under Indian Consumer Laws . You are entitled to a replacement or refund for major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have products repaired or replaced if goods fail to be of acceptable quality and failure doesn't amount to major failure

### How to claim warranty

Before doing so, study the instruction booklet provided with the product, and ensure it has been correctly installed. Remember, we as manufacturer has built thousands of identical units , they have been extensively tested and in field use for many years. Failure of this products to work correctly, 99% of the time relates to installation, operating or application faults. In the event of a possible warranty problems, contact nearest distributor or manufacturer

**Indra Hydro Tech Pumps (P) Ltd**  
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**To assist the distributor or Indra Hydro Tech Pumps (P) Ltd to address your request for warranty, could you please provide:**

- Product
- The product must be delivery to IHP's authorized distributor or dealer or Indra Hydro Tech Pumps Pvt Ltd (as per above address) inspection / repairs
- Proof of date of original purchase must be supplied
- The serial number of the product if any
- Full contact details including name, full address and telephone or mobile number or SKYPE IDs.



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