INTOP®

ITALY TECHNOLOGY

MANUAL

HOUSEHOLD CENTRIFUGAL PUMP

Thank you for choosing our products.
Before using the pump, carefully read the instruction manual.
Save this manual for future reference.

Model:

PW, PWZ, WZB, QB, PHM, SGAm, CPM,
SGP, JETS, SGJW, SGT, CM, CMF, CPH

ATTENTION!

Before starting operation, make sure that the pump is properly grounded. Dont touch to a running pump. Do not operate the pump without water.

Intop Machinery Industry Co.,Ltd.

CONTENT

1. GENERAL INSTRUCTIONS.

Before starting to operate the electric pump, carefully read the instruction manual. When purchasing an electric pump, check the completeness of the electric pump and its performance. Ask for a stamp on the date of sale of the electric pump in the operating manual and in the warranty coupons. Customer claims for missing spare parts will not be accepted.

The electric pump you have purchased may have some differences from this operating manual.

It is strictly forbidden to connect the electric pump to the electrical network without grounding.

ATTENTION!

An electric pump is a complex household appliance, pump connection must be carried out by a specialist. The owner of the electric pump is obliged to involve a specialist at least once a year to inspect the condition of the electric wiring of the electric pump. The pumps are single stage. Not intended for use in aggressive environments. There is no exchange between gas and liquid.

Switching on the electric pump without filling the pumping part with water is strictly prohibited. This can lead to damage.

The use of an electric pump for pumping aggressive liquids is prohibited.

SAFETY REQUIREMENTS:

When installing an electric pump for pumping water from an open water reservoir, it is prohibited to stay in the water when the electric pump is running.

To avoid accidents, do not leave the running electric pump unattended.

ATTENTION!

If there is a date mark of the trade organization on the warranty card, the warranty period is calculated from the date of sale.

If there is no date mark of the trade organization on the warranty card, the warranty period starts from the date the pump was manufactured.

It is strictly forbidden to:

operation of the electric pump without grounding;

it is forbidden to check the heating temperature of the electric motor by touch.

In order to avoid accidents, the electric pump must be reliably grounded in all installation schemes. Grounding can be done with a bare steel wire with a diameter of at least 6 mm. One end of the wire should be fixed to the electric pump with a grounding screw, and the other end of the wire should be connected to the ground electrode. The following can be used as a ground electrode:

metal pipes of artesian wells;
metal pipes of buildings and structures (except for the heating system);
steel pipes or rods vertically driven into the ground (when using pipes, their wall thickness must be at least 3.5 mm);
steel strips with a thickness of at least 4 mm and a cross-sectional area of 48 mm or wire 6 mm in diameter;
the distance from the ground electrodes to the foundations of buildings and structures must be at least 1.5 m;
The upper edge of pipes and ground electrodes made of steel tapes must be located at a depth of at least 0.6 m.

The electric pump is equipped with thermal protection designed to automatically stop the pump in case of overheating.

2. PURPOSE.

Household centrifugal electric pumps with radial flow are designed to pump clean fresh water without impurities from wells, open reservoirs and wells under the following conditions:

the maximum temperature of the pumped-over water is up to + 90 ℃;
ambient temperature from + 10 ℃ to + 40 ℃;
relative humidity up to 95% at a temperature of + 25 ℃;
the connection was made to the AC 220 V, 50 Hz power supply (the permissible voltage deviation is no more than 10%, the current frequency deviation is no more than 5%);
height above sea level no more than 1000 m.

For safety reasons, the electric pump is double insulated.

** Depending on the pump model.*

3. COMPLETENESS.

Name	Quantity, pcs.
Pump assembly	1
Operating manual	1
Package	1

4. INSTALLATION.

Before proceeding with the installation of the electric pump, you must choose a suitable installation plan and make sure that the water does not enter the engine. The electric pump must be protected from atmospheric precipitation and direct sunlight.

Place the pump on a solid and level surface with sufficient space around the pump for engine ventilation and easy access to the pump for servicing. Secure the pump with bolts to avoid vibration. The pump must be installed with its feet facing down and completely horizontal to ensure correct bearing operation.

Position the suction pipe, equipped with a check valve(If the pump has a check valve, there is no need to install a check valve), at an angle to the inlet and immerse it in water to a depth of at least 0.3 m . All connections must be tight, since even a small air leak will drastically reduce suction performance.

Any connection of the suction pipeline with the valve is allowed, ensures tightness and does not allow a decrease in the dimensions in the section of the suction pipeline when the electric pump is operating by more than 5%.

The electrical connection must be carried out by a specialist who meets all safety requirements. The socket must be placed in a safe place to prevent rainwater from seeping in and causing electric shock.

Beware of water getting into the pump motor - splashing water into the electric motor will immediately damage it.

It is not allowed to operate the electric pump when the suction pipeline is not filled with working fluid (water). To fill the suction line with water, fill the pump and line through the pump fill port using a funnel. Close the filler opening after the water has completely filled the pump end.

With an increase in the length of the discharge pipeline and the number of elbows, losses increase (the pressure and performance of the electric pump decrease).

When pumping water from an open reservoir (Fig. 1), a well or a well, for any version, the distance from the bottom of the reservoir to the inlet valve must be at least 0.5 m.

5. MAINTENANCE AND STORAGE.

The electric pump does not require special maintenance throughout the entire life cycle. The service life of the pump is 5 years. After the pump has expired, it is only allowed to continue operating the product if it is still in good working order.

If you need warranty and post-warranty repair of the electric pump, please contact specialized service centers or the company which you purchase of the product. All assemblies and parts can be assembled without adjustment and the application of significant effort.

In case of prolonged inactivity of the pump, as well as long-term storage (for example, during winter), the electric pump must be dismantled and moved to a dry, heated storage room.

After storage and transportation of the electric pump at subzero temperatures, in order to avoid cracking of the plastic sheath of the cord, it is necessary to keep the electric pump for three hours at a temperature of 25 ± 10 °C.

6. PRINCIPLES OF INSTALLATION.

In systems which a simple supply of pressurized water is required without automatic control of the pump operation, it will be sufficient to use pumps of the QB, CPm, PHm and WZB series without additional devices.

In systems which a pressured water supply with automatic control is required, the use of the PW series pumps is recommended. When using water, the pump turns on and pumps water to the consumer.

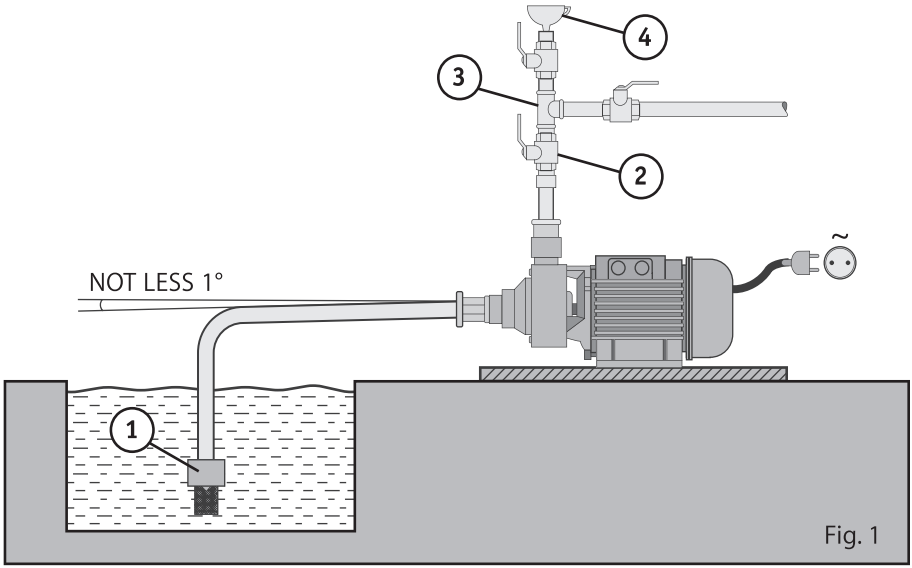


Fig. 1

1. Coarse filter with non-return valve. 2. The valve. 3. Tee. 4. Filling funnel.

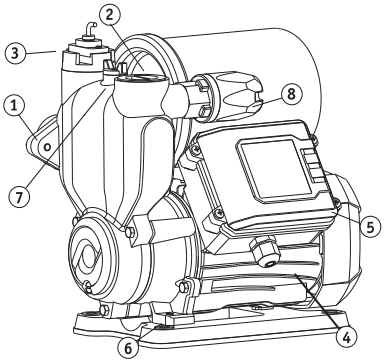
After closing the tap, the pump pumps water into the accumulator, expanding the membrane and increasing the pressure in the system. After the pressure reaches a certain (set) cut-off pressure, the relay will stop the pump. At the beginning of the drawdown, the water in the membrane of the accumulator under pressure begins to be supplied to the consumer. In this case, the pressure in the system begins to decrease, and the pump remains off. As soon as the pressure in the system drops to a certain (set) value of the switch-on pressure, the relay turns on the pump and the cycle repeats.

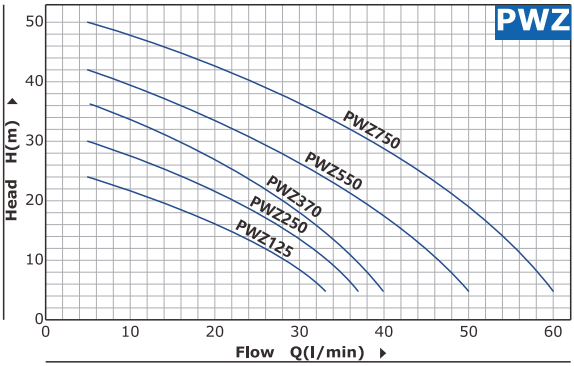
Only start the pump after filling the suction line with water. Filling is done through the filler hole.

ATTENTION!

When installing the suction pipeline, it is necessary to ensure a continuous slope of the pipe from the pump to the water intake source of at least 1 ° to exclude the accumulation of air bubbles and the formation of air plugs (Fig. 1).

7. TECHNICAL PRACTICE OF PUMPS SERIES PWZ.



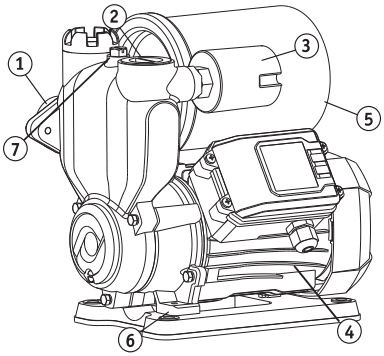


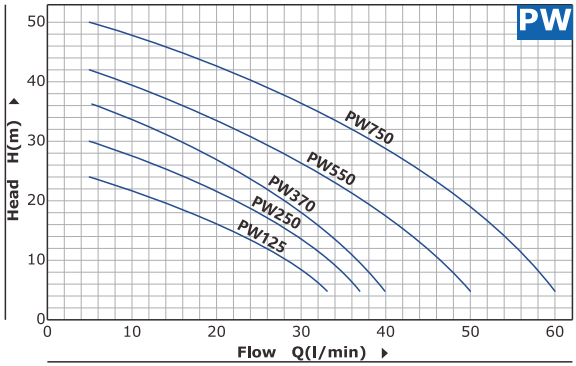
1. Inlet. 2. Outlet. 3. Dry running sensor. 4. Electric motor.
5. Pressure tank. 6. Support. 7. Filler hole.
8. Automatic pressure control device.

Surface pumps of the PWZ series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made. Designed for water supply. High level performance at low power.

MODEL	PW125Z	PW250Z	PW370Z	PW550Z	PW750Z
Flow max. , l / min	33	37	40	50	60
Head max. , m	24	30	36	42	50
Suction depth, m	8				
Power, W	125	250	370	550	750
Connecting dimensions, inch	3/4″	1″			
Engine rotation speed, rpm.	2850				
Voltage / Frequency	220 V , 50 HZ				
Created pressure, bar	2,4	3,0	3,6	4,2	5,0
Pressure tank - 2 L Maximum temperature of the pumped-over liquid + 90 ℃ Maximum ambient temperature + 40 ℃					

8. TECHNICAL CHARACTERISTICS OF PUMPS SERIES PW.



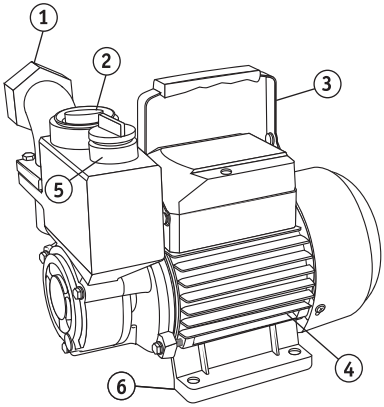


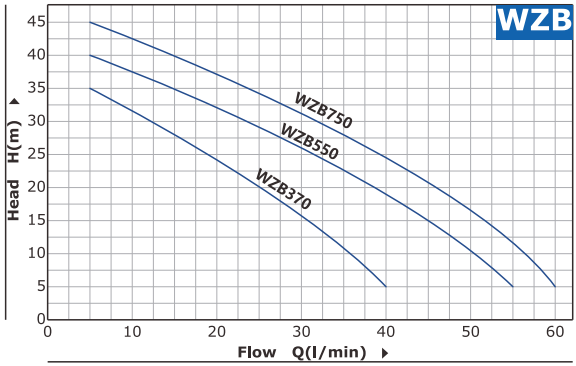
1. Inlet. 2. Outlet. 3. Automatic pressure control device.
4. Electric motor. 5. Pressure tank. 6. Support. 7. Filler hole.

Surface pumps of the PW series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made. Designed for water supply. High level performance at low power.

MODEL	PW125	PW250	PW370	PW550	PW750
Flow max. , l / min	33	37	40	50	60
Head max. , m	24	30	36	42	50
Suction depth, m	8				
Power, W	125	250	370	550	750
Connecting dimensions, inch	3/4″	1″			
Engine rotation speed, rpm.	2850				
Voltage / Frequency	220 V , 50 HZ				
Created pressure, bar	2,4	3,0	3,6	4,2	5,0
Pressure tank - 2 L Maximum temperature of the pumped-over liquid + 90 ℃ Maximum ambient temperature + 40 ℃					

9. TECHNICAL CHARACTERISTICS OF PUMPS SERIES WZB.





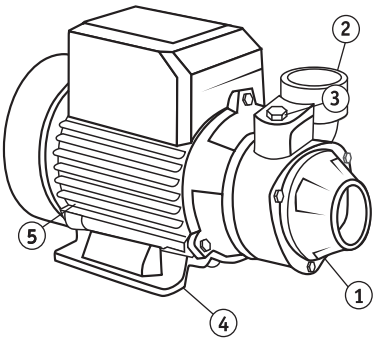
1. Inlet. 2. Outlet. 3. Carrying handle. 4. Electric motor. 5. Filling hole. 6. Support.

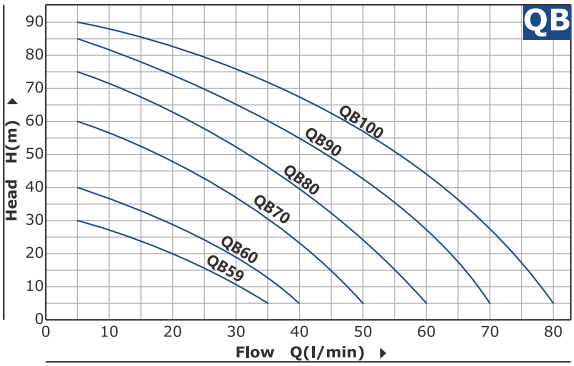
Surface pumps of the WZB series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	WZB370	WZB550	WZB750
Flow max. , l / min	45	55	65
Head max. , m	30	40	50
Suction depth, m	8		
Power, W	370	550	750
Connecting dimensions, inch	1″		
Engine rotation speed, rpm.	2850		
Voltage / Frequency	220 V , 50 HZ		
Created pressure, bar	3,0	4,0	5,0
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃			

10. TECHNICAL CHARACTERISTICS OF PUMPS SERIES QB.





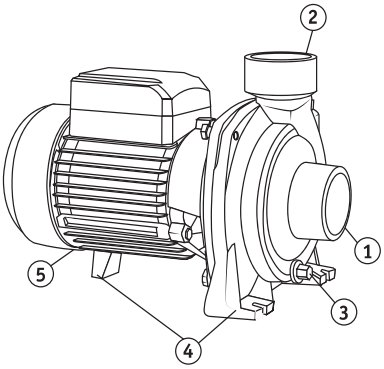
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

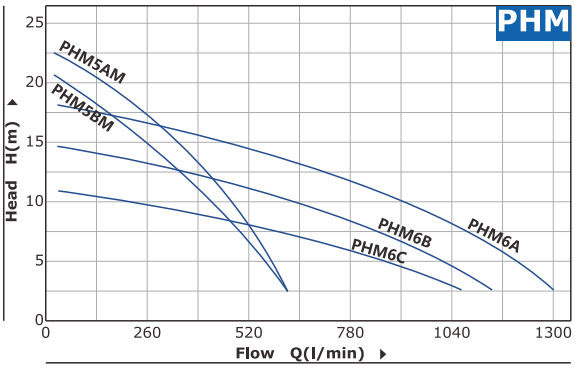
Surface pumps of the QB series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	QB59	QB60	QB70	QB80	QB90	QB100
Flow max. , l / min	35	40	50	60	70	80
Head max. , m	30	40	60	75	85	90
Suction depth, m	8					
Power, W	300	370	600	750	1100	1500
Connecting dimensions, inch	1″					
Engine rotation speed, rpm.	2850					
Voltage / Frequency	220 В , 50 Гц					
Created pressure, bar	3,0	4,0	6,0	7,5	8,5	9,0
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃						

11. TECHNICAL CHARACTERISTICS OF PUMPS SERIES PHM.





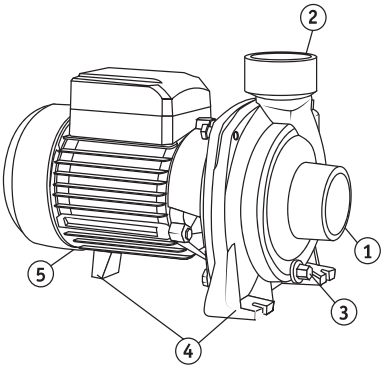
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

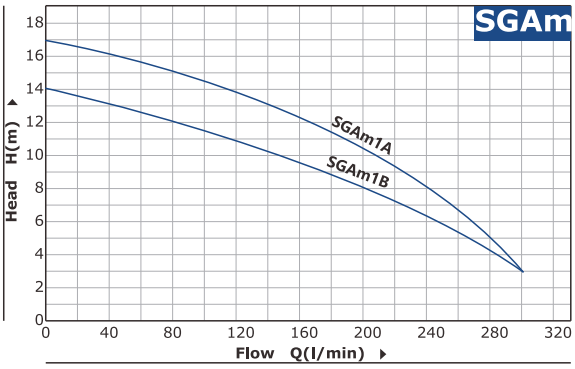
PHM surface pumps are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials of which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	PHM5AM	PHM5BM	PHM6A	PHM6B	PHM6C
Flow max. , l / min	600	600	1300	1200	1100
Head max. , m	22,5	20,2	18,5	14,7	11,9
Suction depth, m	7				
Power, W	1500	1100	2200	1500	1100
Connecting dimensions, inch	2″		3″		
Engine rotation speed, rpm.	2850				
Voltage / Frequency	220 V , 50 HZ				
Created pressure, bar	2,25	2,02	1,85	1,47	1,19
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃					

12. TECHNICAL CHARACTERISTICS OF PUMPS SERIES SGAm.





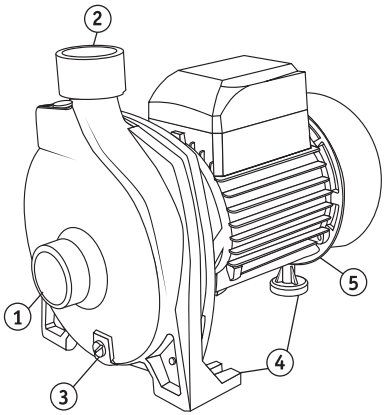
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

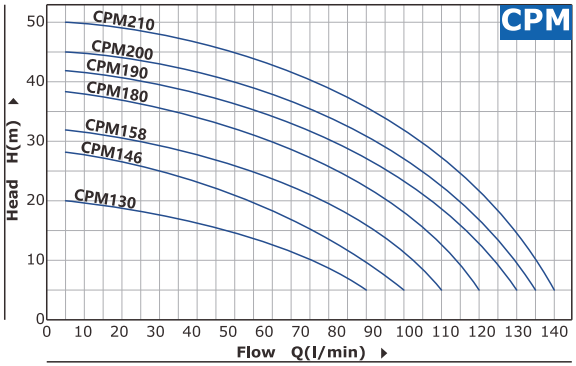
Surface pumps of the SGAm series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	SGAm1A	SGAm1B
Flow max. , l / min	300	300
Head max. , m	17	14
Suction depth, m	7	
Power, W	750	550
Connecting dimensions, inch	1½"	
Engine rotation speed, rpm.	2850	
Voltage / Frequency	220 V , 50 HZ	
Created pressure, bar	1,7	1,4
Максимальная температура перекачиваемой жидкости +60 ℃ Максимальная температура окружающей среды +40 ℃		

13. TECHNICAL CHARACTERISTICS OF THE CPM SERIES PUMPS.





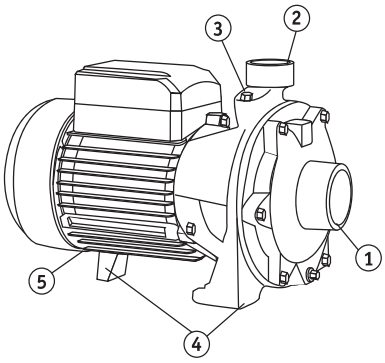
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

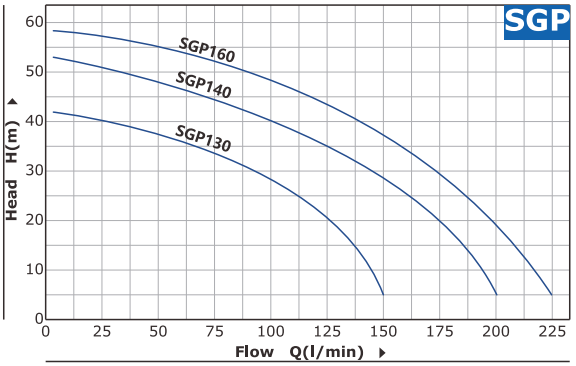
Surface pumps of the CPM series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	CPM130	CPM146	CPM158	CPM180	CPM190	CPM200
Flow max. , l / min	100	110	120	130	130	140
Head max. , m	22	26	32	40	48	55
Suction depth, m	7					
Power, W	370	550	750	1100	1500	2200
Connecting dimensions, inch	1″			1¼″/1″	1″	
Engine rotation speed, rpm.	2850					
Voltage / Frequency	220 V , 50 HZ					
Created pressure, bar	2,2	2,6	3,2	4,0	4,8	5,5
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃						

14. TECHNICAL CHARACTERISTICS OF PUMPS SERIES SGP.





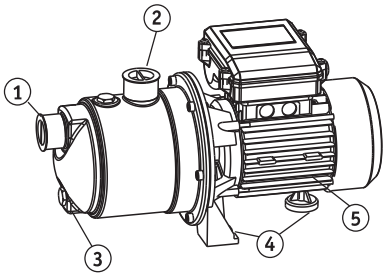
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

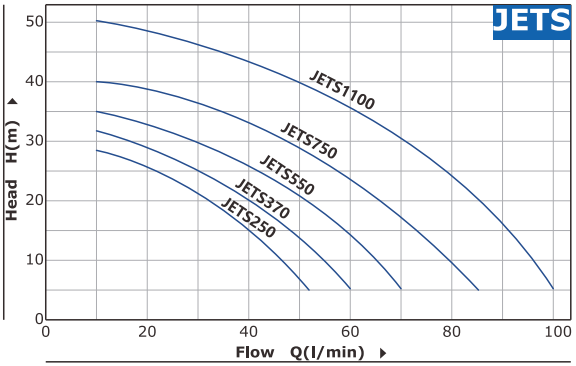
Surface pumps of the SGP series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	SGP130	SGP140	SGP160
Flow max. , l / min	150	200	225
Head max. , m	42	53	58
Suction depth, m	7		
Power, W	750	1100	1500
Connecting dimensions, inch	1″/1″	1¼″/1″	1¼″/1″
Engine rotation speed, rpm.	2850		
Voltage / Frequency	220 V , 50 HZ		
Created pressure, bar	4,2	5,3	5,8
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃			

15. TECHNICAL CHARACTERISTICS OF THE JETS SERIES PUMPS.





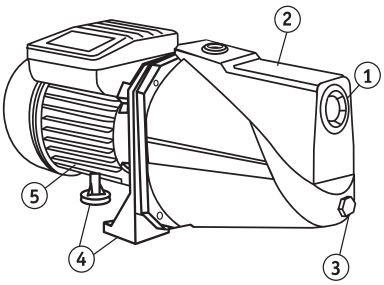
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

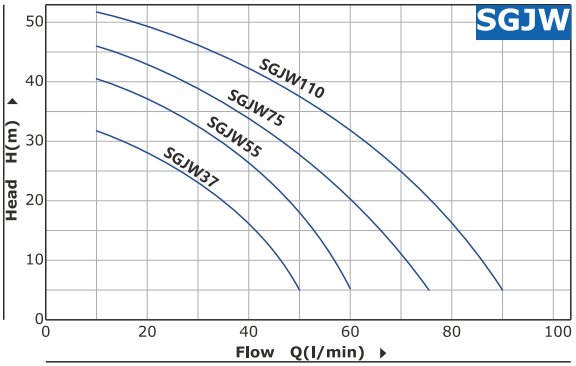
Surface pumps of the JETS series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	JETS250	JETS370	JETS550	JETS750	JETS1100
Flow max. , l / min	53	60	70	85	100
Head max. , m	28	32	35	40	48
Suction depth, m	8		9		
Power, W	250	370	550	750	1100
Connecting dimensions, inch	1″				
Engine rotation speed, rpm.	2850				
Voltage / Frequency	220 V , 50 HZ				
Created pressure, bar	2,8	3,2	3,5	4,0	4,8
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃					

16. TECHNICAL CHARACTERISTICS OF PUMPS SERIES SGJW.





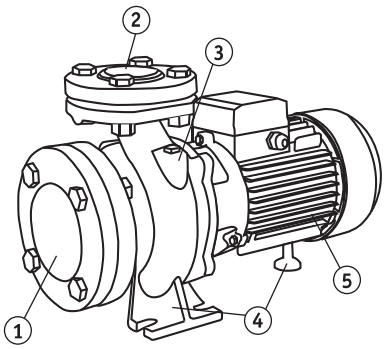
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

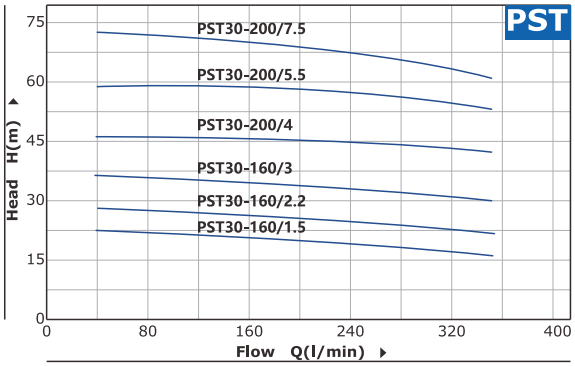
Surface pumps of the SGJW series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	SGJW37	SGJW55	SGJW75	SGJW110
Flow max. , l / min	50	60	75	90
Head max. , m	32	41	46	52
Suction depth, m	8	9		
Power, W	370	550	750	1100
Connecting dimensions, inch	1″			
Engine rotation speed, rpm.	2850			
Voltage / Frequency	220 V , 50 HZ			
Created pressure, bar	3,2	4,1	4,6	5,2
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃				

17. TECHNICAL CHARACTERISTICS OF PUMPS SERIES PST.





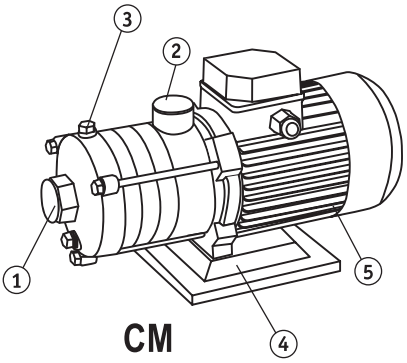
1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

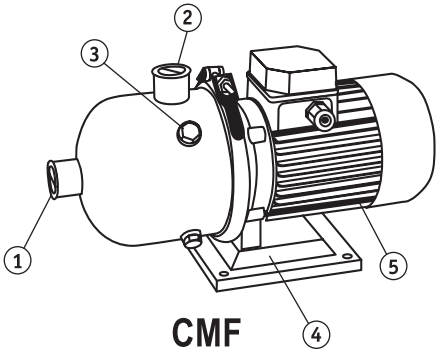
Surface pumps of the PST series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	PST32-200/7.5
Flow max. , l / min	350
Head max. , m	70
Suction depth, m	7
Power, W	7500
Connecting dimensions, inch	2″/1¼″
Engine rotation speed, rpm.	2850
Voltage / Frequency	220 V , 50 HZ
Created pressure, bar	7,0
Maximum temperature of the pumped-over liquid + 60 ℃ Maximum ambient temperature + 40 ℃	

17. TECHNICAL CHARACTERISTICS OF PUMPS SERIES CM (F).





1. Inlet. 2. Outlet. 3. Filling hole. 4. Support. 5. Electric motor.

Surface pumps of the CM (F) series are recommended for pumping clean water without abrasive suspensions and impurities; liquids that are not aggressive to the materials from which the pump is made.

Designed for domestic water supply and irrigation.

MODEL	Max. Head(m)	Power (W)	Max. Flow(l/min)	Generated Pressure (bar)	Dimensions (inch)	G.W. KGS
CM2-5	46	550	60	4,6	G 1x1"	11
CM2-6	54	750	60	5,4	G 1x1"	15,6
CMF2-2	19	370	60	1.9	G 1x1"	9,3
CMF2-3	28	370	60	2,8	G 1x1"	10,3
CMF2-4	36	550	60	3,6	G 1x1"	11,3
CMF2-5	46	550	60	4,6	G 1x1"	12,3
CMF2-6	54	750	60	5,4	G 1x1"	14,3
CMF4-2	19	370	120	1,9	G 1x1¼"	10,3
CMF4-3	28	550	120	2,8	G 1x1¼"	11,8
CMF4-4	38	750	120	3,8	G 1x1¼"	14,3
CMF8-2	19	750	190	1,9	G 2x2"	13,0
CMF8-3	29	1100	190	2,9	G 2x2"	19,0
CMF8-4	39	1500	190	3,9	G 2x2"	23,0
CMF8-5	49	2200	190	4,9	G 2x2"	23,5
CMF16-2	25,5	2200	370	2,55	G 2x2"	26,0
CMF16-3	38,5	3000	370	3,85	G 2x2"	33,3
Maximum temperature of the pumped-over liquid + 120 ℃ Maximum ambient temperature + 40 ℃						

19. POSSIBLE FAULTS AND METHODS OF THEIR ELIMINATION.

Malfunction	Cause	Elimination
The pump is r unning, but not pumping water.	Residual air in the suction system after filling the pipeline with water.	Loosen the air bleed screw and wait until air bubbles stop escaping and water flows t hrough the screw.
	Air leaks through connections.	Check all connections for leaks.
	The intake valve grill is clogged; the rubber gasket is stuck to the valve base.	Remove the grate and clean it from dirt.
When filling the electric pump, water leaves the suction pipe.	The non-return valve allows water to pass through.	Replace the non-return valve.
The electric motor is not working.	No voltage, power cord defective.	Check fuse and / or electrical wiring for faults. Make sure the wires to the motor are connected to the motor according to the zeroing diagram. Replacement of the power cord is carried out only in the warranty workshop.
The electric pump is on, but has stopped working.	Defective motor.	Check electrical connections.
	Overheating protection has tripped.	Let the pump cool down and reduce the load.

Malfunction	Cause	Elimination
The electric pump reduced the water supply.	The inlet filter is clogged.	Remove the valve and clean the filter from dirt.
	Shut-off valve defective.	Check the shut-off valve.
	The resistance in the pipeline has increased.	Reduce the length of the pipes in the system so that the length of the suction line does not exceed the maximum suction depth of the model. The length of the pressure line must not exceed the maximum head of the model.

If a problem occurs that is not described in this table, contact an authorized service center.

WARRANTY OBLIGATIONS.

1. The warranty period for the pump is 12 months from the date of sale. The service life of the pump is up to 10 years, subject to strict adherence to all the requirements set forth in this operating manual.
2. If the pump fails due to the fault of the manufacturer during the warranty period, the owner can go to the place of purchase to enjoy the free warranty with the correctly filled-in warranty card and the complete set of packaging of the pump during the warranty period. In the case of water pump maintenance, the warranty period will be extended accordingly.
3. The warranty period is 12 months from the date of sale. If the date of sale is not indicated on the manual, the warranty period shall be calculated from the date of dispatch from the factory (the final warranty period is determined by the seller, but it cannot exceed 24 months).
4. The guaranteed shelf life is 12 months.
5. In all cases indicated on the warranty card, if the warranty card does not have the date of sale and store stamp (seller's signature), or there is no warranty card, no claim will be accepted.
6. The warranty does not cover pumps with defects resulting from operation in violation of the requirements of the operating manual, including:

Work under the condition of mechanical damage caused by motor overload, impact, drop, etc.;
Damage caused by fire, corrosive substances, etc.;
Liquid and foreign objects enter the product and cause mechanical damage (cracks, debris, etc.);
Damage caused by exposure to corrosive media and high temperature, foreign matter entering the ventilation grille of the pump, damage caused by improper storage (corrosion of metal parts, etc.);
Wear parts (rubber seals, mechanical seals, bearings, protective covers, grease, etc.);
There are signs of opening or repair during the warranty period;
Failure due to force majeure (fire, flood, lightning, etc.);
Remove, erase or change the serial number.

The normal conditions that the equipment should be stored are: in a naturally ventilated closed room (the environment should be free of corrosive substances and dust, the ambient temperature should be 0°C to 40°C, the relative humidity should not exceed 85%, shock and vibration are unacceptable of).

The storage period of the equipment depends on the storage conditions and is not restricted. The service life of the equipment (subject to transportation rules, storage conditions, installation and maintenance requirements) is at least 10 years.

Electronic equipment and materials must not be disposed of together with other household garbage. To prevent possible damage to the environment or human health, please comply with local current disposal regulations.

For any questions about disposal, please contact the corresponding utility company.

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