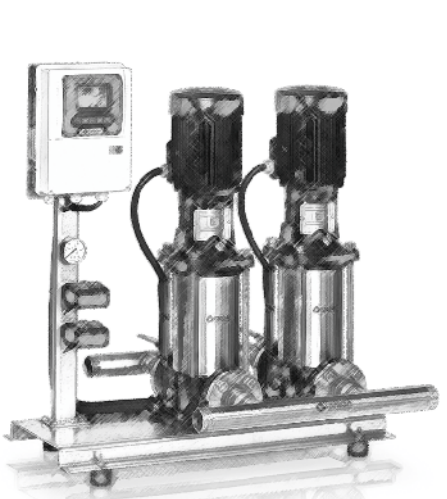
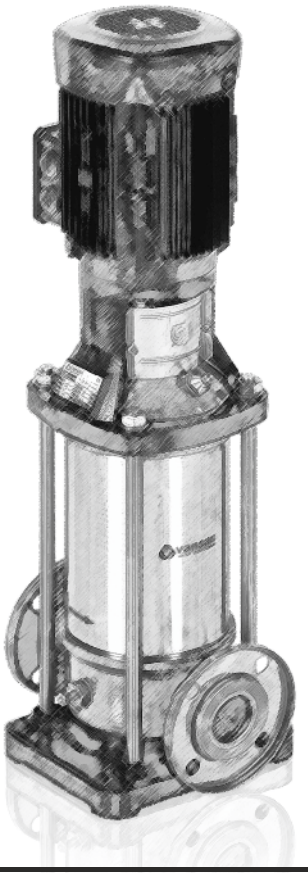
VERTICAL MULTISTAGE

VIP IN-LINE PUMPS

INSTALLATION / OPERATION / MAINTENANCE MANUAL





vansan
WATER TECHNOLOGIES

Safety Information
Information that refers to personal injury is printed in black and is always accompied by a ""WARNING" and " CAUTION" symbols.

Installation of the pump must be done by people who have been authorized certificate.

Instruction and Safety Information

Dear Customer,

We thank you for choosing VANSAN Vertical Inline Pump and wish you have good use of it. VANSAN Vertical Inline Pumps are certified under ISO 9001:2015 and manufactured with TS... Vertical Inline Pump standards.

This manual contains important instructions that should be followed during installation, operation and maintenance of the product.

Read this manual very carefully before you install the pump.

Please keep this manual to get use of it also in the future.

Symbols used in this Manual

Caution
Failure to observe these safety instructions may result in personal injury.

Warning
Failure to observe these instructions may result in electric shock, which could result in a risk of serious injury or death to operating personnel.

Attention — If these safety instructions are not observed, it may result in malfunction or damage to the equipment.

Note — Notes or instructions that make the job easier and ensure safe operation.

VERTICAL MULTISTAGE

VIP IN-LINE PUMPS

INDEX

Vansan VIP Pumps General Info

It is designed to find solutions for the applications like transfer the clean water to the place of usage in industrial premises, high buildings, fire fighting systems and booster systems at adequate pressure and amount. For this reason, it is conveniently used in a wide range of pumping systems that will respond to specific needs, where the pump's performance and material are important.

Vansan Vertical Multistage In-line Fire Pumps can be connected directly to a single pipeline thanks to the suction and discharge flanges of the same diameter that are placed in the same axis. This special design provides a compact installation and pumping system.

Vansan VIP Pumps Applications

- High Pressure Applications
- Agricultural use
- Geothermal use
- Chemical Fluid Applications
- Hygenic Applications
- Special solutions

Vansan VIP Pumps General Features

The bearings are lubricated with the pumped water. The pump designed for the working conditions between -20 ºC to +120 ºC up to 25 bar pressure.

The inline design gives the advantage of same horizontal line installation and same size of inlet&outlet connection advantage. This feature provides a compact system design.

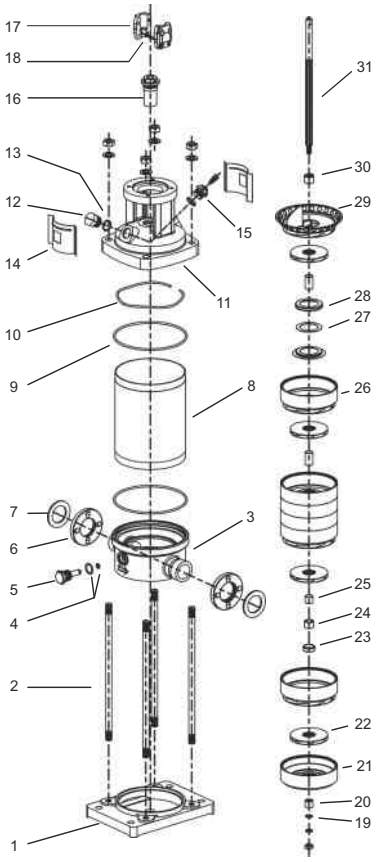
Mechanical Seal;
All Vansan VIP Pumps are produced with Si-C cartridge type mechanical seal provides the longlife and maintanence free operation.

Coupling;
The removable coupling design supplies easy replacement operation for the motor without dismantling the pump from the pipeline.

Wet Parts;
All impellers and difusers are made from AISI304 Stainless Steel. As an option the wet parts of the top&bottom brackets can also made from AISI304.

Pump Parts and Materials

3/5 m³/h - Parts and Material List

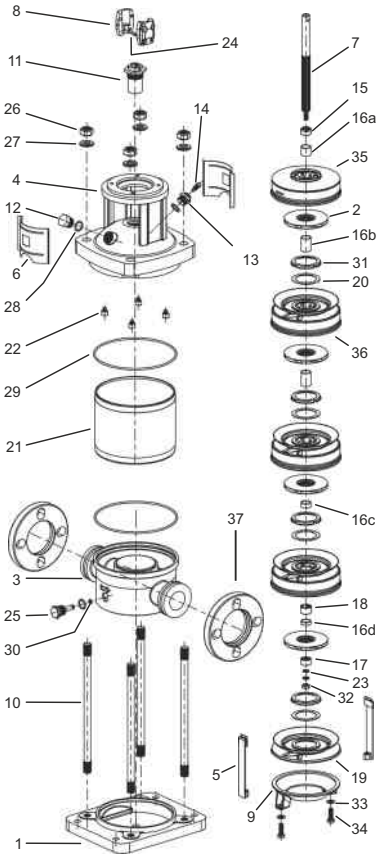


Nr	Part Name	Material
1	Lower Table	Cast Iron (GG25)
2	Staybolds	SS (CK 45)
3	Suction Case	SS (AISI304)/Cast Iron (GG25)
4	O-Ring	NBR
5	Drain Plug	SS (AISI 303)
6	Con. Flange for Suction	SS (AISI 304)
7	Cylinder Head Gasket	SS (AISI 304)
8	Outer Sleeve	SS (AISI 304)
9	O-Ring	NBR
10	Pump Pressure Ring	SS (AISI 304)
11	Pump Head	Cast Iron (GG25)
12	Plug	SS (AISI 303)
13	O-Ring	NBR
14	Coupling Guard	SS (AISI 304)
15	Drain Plug	SS (AISI 303)
16	Mechanical Seal	SIC/VITON/SUS304
17	Coupling	Cast Iron (GG25)
18	Coupling Pin	SS (AISI 304)
19	Lock Washer	SS (AISI 304)
20	Stop Nut	SS (AISI 304)
21	Chamber	SS (AISI 304)
22	Impeller	SS (AISI 304)
23	Carbon Bearing	Carbon
24	Sinter Bearing Bronze	Bronze (ASTM B145-4A)
25	Spacing Pipe	SS (AISI 304)
26	Chamber	SS (AISI 304)
27	Neck Ring	Teflon
28	Neck Ring Retainer	SS (AISI 304)
29	Strainer	SS (AISI 304)
30	Stop Nut	SS (AISI 304)
31	Shaft Seal	SS (AISI 420)

SS= Stainless Steel

Pump Parts and Materials

10/15/20 m³/h - Parts and Material List

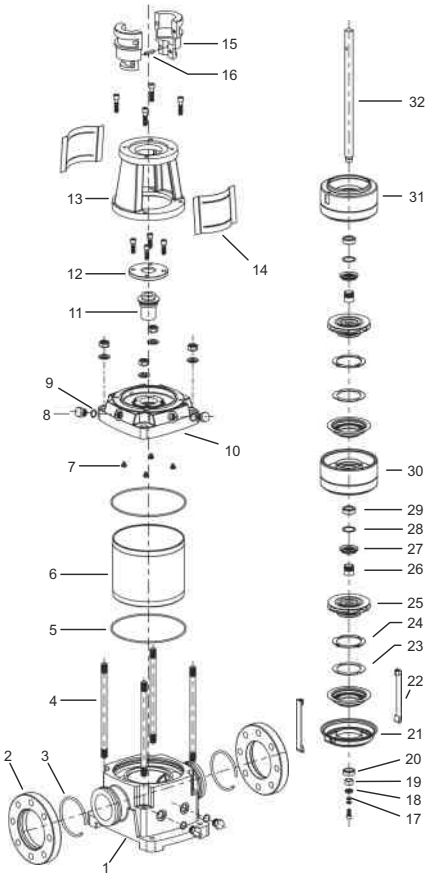


Nr	Part Name	Material
1	Lower Table	Cast Iron (GG25)
2	Impeller	SS (AISI 304)
3	Suction Case	SS (AISI304)/Cast Iron (GG25)
4	Pump Head	Cast Iron (GG25)
5	Tie Rod	SS (AISI 304)
6	Coupling Guard	SS (AISI 304)
7	Shaft	SS (AISI 420)
8	Coupling	Cast Iron (GG25)
9	Discharge	Cast Iron (GG25)
10	Staybolts	SS (CK 45)
11	Mechanical Seal	SIC/VITON/SUS304
12	Plug	SS (AISI 303)
13/14	Vent Plug	SS (AISI 303)
15	Stop Spacer	NBR
16	Spacing Pipe	SS (AISI 304)
17	Stop Nut	SS (AISI 304)
18	Sinter Bearing Bronze	Bronze (ASTM B145-4A)
19	Centrilizer Suct.Carbon	Carbon
20	Neck Ring	Teflon
21	Outer Sleeve	SS (AISI 304)
22	Stop Spacer	NBR
23	Lock Washer	SS (AISI 304)
24	Coupling Pin	SS (AISI 304)
25	Drain Plug	SS (AISI 303)
26	Bolt	SS (AISI 304)
27	Washer	SS (AISI 304)
28	O-Ring	NBR
29	O-Ring	NBR
30	O-Ring	NBR
31	Neck Ring Retainer	SS (AISI 304)
32/33	Lock Nut for Shaft,Washer	SS (AISI 304)
34	Bolt	SS (AISI 304)
35	Slot Diffuser	SS (AISI 304)
36	Diffuser	SS (AISI 304)
37	Suction Case	Cast Iron (GG25)
38	Carbon Bearing	Carbon

SS= Stainless Steel

Pump Parts and Materials

32 m³/h - Parts and Material List



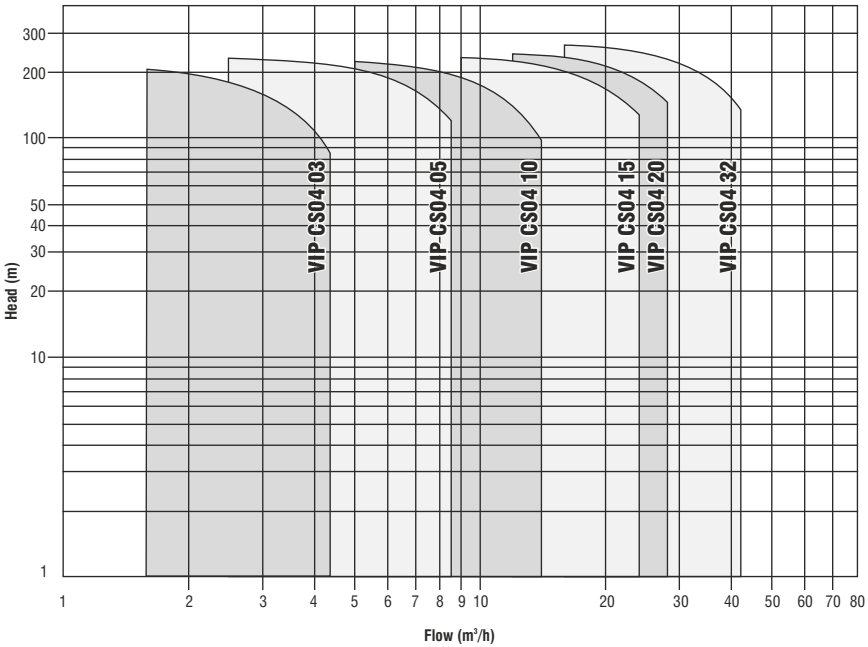
Nr	Part Name	Material
1	Suction Case	Cast Iron (GG25)
2	Connection Flange	Cast Iron (GG25)
3	Flange Centring Spring	SS (AISI 304)
4	Staybolts	SS (CK 45)
5	O-Ring	NBR
6	Outer Sleeve	SS (AISI 304)
7	Stop Spacer	NBR
8	Plug	SS (AISI 303)
9	O-Ring	NBR
10	Pump Head	Cast Iron (GG25)
11	Mechanical Seal	SIC/VITON/SUS304
12	Mechanical Seal Holder	SS (AISI 420)
13	Pump Head	Cast Iron (GG25)
14	Coupling Guard	SS (AISI 304)
15	Coupling	Cast Iron (GG25)
16	Coupling Pin	SS (AISI 304)
17	Lock Washer	SS (AISI 304)
18	Thrust Washer	SS (AISI 304)
19	Shaft Bearing Support	SS (AISI 304)
20	Shaft Bearing	SS (AISI 304)
21	Centralizer Suction Sheet	SS (AISI 304)
22	Tie Rod	SS (AISI 304)
23	Neck Ring	Teflon
24	Neck Ring Retainer	SS (AISI 304)
25	Impeller	SS (AISI 304)
26	Impeller Connection Collar	SS (AISI 420)
27	Impeller Retaining Nut	SS (AISI 420)
28	Centrilizer Suction Carbon	SS (AISI 420)
29	Carbon Bearring	Carbon
30	Intermediate Chamber	SS (AISI 304)
31	End Chamber	SS (AISI 304)
32	Shaft	SS (AISI 420)

SS= Stainless Steel

VIP Pump Types Table

Product Type	Inlet-Outlet Dia.	Direction of Rotation	Voltage	Frequency	Rotation Speed
VIP CS04 03	Rp 1 ¼" Oval Flange	CCW	380-415 V (+%6 / -%10)	50 Hz	2900 RPM
VIP CS04 05	Rp 1 ¼4" Oval Flange	CCW	380-415 V (+%6 / -%10)	5O Hz	2900 RPM
VIP CS04 10	DN 40	CCW	380-415 V (+%6 / -%10)	50 Hz	2900 RPM
VIP CS04 15	DN 50	CCW	380-415 V (+%6 / -%10)	50 Hz	2900 RPM
VIP CS04 20	DN 50	CCW	380-415 V (+%6 / -%10)	50 Hz	2900 RPM
VIP CS04 32	DN 65	CCW	380-415 V (+%6 / -%10)	50 Hz	2900 RPM

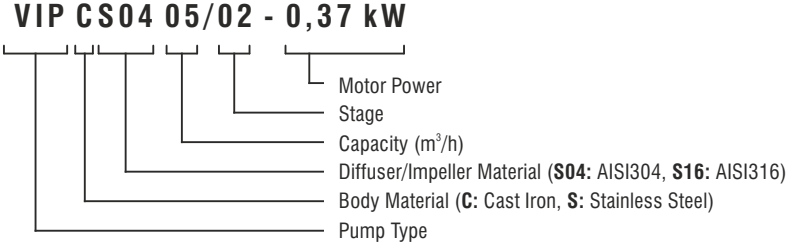
General Performane Curves



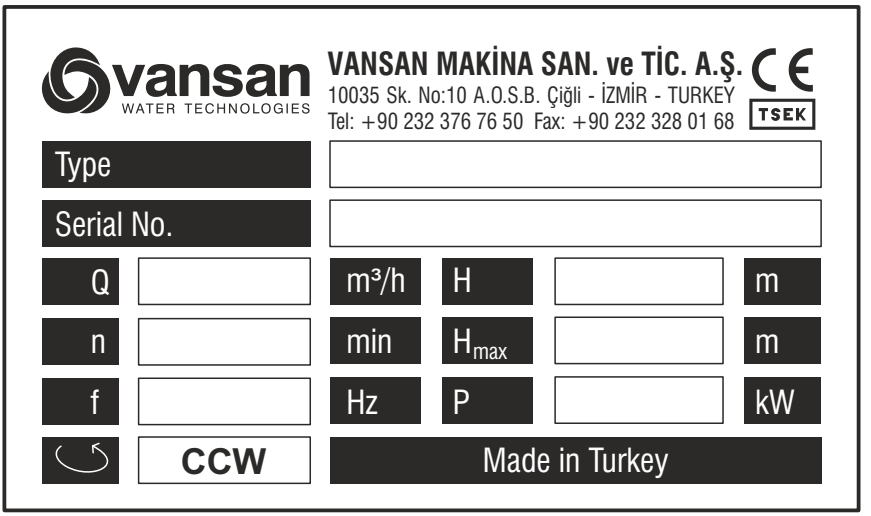
General Capacity

- Capacity of 3-32 m^3/h
- Total head up to 290 m.
- Work temperature range from -20°C to 120ºC
- Pressure up to 25 bar

Type Identification Code System



Sample of Label



Preparation for Installation

Before the installation, pump and motor should be checked if it has been damaged during the shipment or not. Check if there is any fracture or cut on the pump, motor and power cables and do not start the installation until damaged area is repaired.

Delivery and Unpacking

Pumps, that are ready to be delivered, accessories are attached on them after they are tested.

Installation of the pump must be done by people who have been certificated.Controls of the pump should be done in order to detect there is any damage on them happened during the delivery and handling and if so, it must be reported.

If there are any fracture on the pump or any damage on the motor, installation has to be stopped and you should get in touch with our distributor. Otherwise, failures that might be caused because of starting in these condintions are out of WARRANTY.

Uncrating and Lifting

Pumps, that are ready to be delivered, accessories are attached on them after they are tested.

Before shipment pump is fastened securely to the crate. The pump should be removed from the crate carefully by using proper tools and equipments. After removing from crate make sure that all the components are in good condition and have been received as mentioned in the packing list. Report immediately to the concerned person /department if any component is missing or received in a damaged condition.

Attention

• Use lifting equipment which is approved for the weight of the product

• Persons must keep a safe distance to the product during lifting operations.

• Do not transport the pump or pump assembly from the collectors or kit parts.

• Lift the pump to the center of gravity (Fig.1)

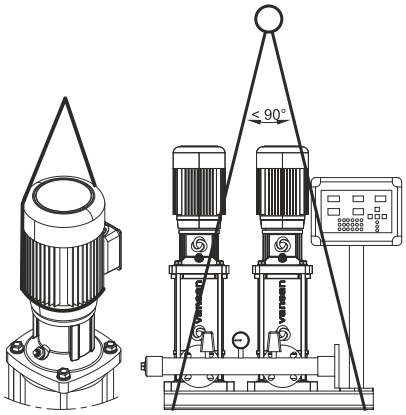


Figure 1

Mechanical Installation

The installation area of the pump must be carried out according to the following instructions.

- Keep the product in a stable and fixed position before installing.
- Make sure that the foundation is suitable for the weight of the product.

We recommend that you install the pump on a concrete foundation which is heavy enough to provide permanent and rigid support for the entire pump. The foundatin must be capable of absorbing any vibration, normal strain or shock. The concrete foundation must have an absolutely level and even surface. (Fig.2)

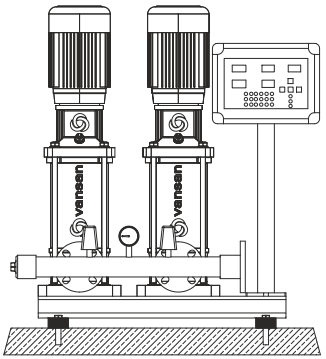


Figure 2

Attention

- Never use the collectors of the pump as a support for piping.

- The pump suction pipe should be as short as possible and without bend.

- Install the pump right next to the water reservoir and with the suction collector not above the lower cistern level.

Mechanical Installation

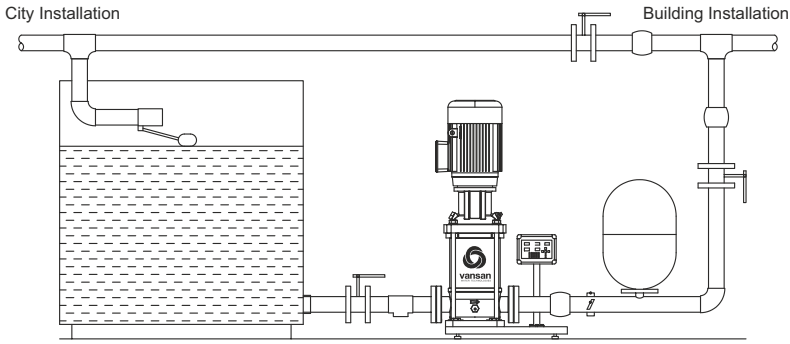


Figure 3

• Install the pressure booster collector to the installation with a rubber hose or a compensator and valve. (Figure 3)

• The nominal diameter of the pipes and accessories used must be equal to or greater than the flange or mouth diameters of the suction collector. Never use pipes and accessories of smaller diameter than collector flange or mouth diameters.

• The piping system should be supported at points close to the collectors, and it must be checked that the stresses and contractions in the piping system do not affect the booster collector.

Electrical Connection

- Follow the instruction for the motor when carrying out the electrical connections.
- The electrical connection must be carried out by an authorised electrician in accordance with local regulations.

- Before starting any work on the product, make sure that the power supply has been switched off and that it cannot be accidentally switched on.
- Connect the pump to an external main switch close to the pump and to a motor-protective circuit breaker or a frequency converter. Make sure you can lock the main switch in OFF position.

Electrical Connection

Attention

The operating voltage and frequency are marked on the motor nameplat. Make sure that the motor is suitable for the power supply on which it is used and that the motor terminal connection is correct. You will find the connection scheme below. (Figure 4-5)

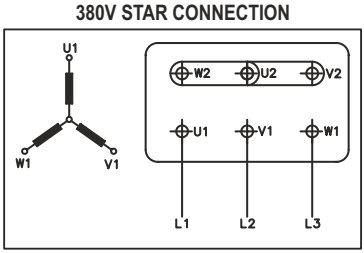


Figure 4

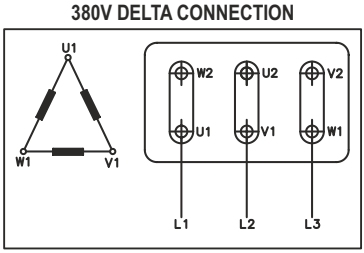


Figure 5

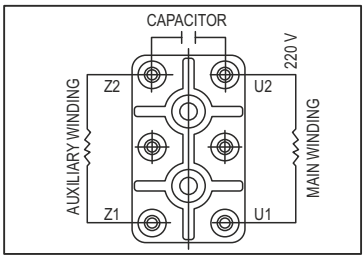


Figure 6

Electrical Connections and Grounding

Direction of Rotation

If you want to change the direction of rotation of the motor, the two phases are replaced. When the installation is complete, the box cover must be carefully tightened to ensure that the terminal box has IP specifications.

Box Cover

After making the necessary connections in the terminal box, the box cover must be closed and tightened to meet IP requirements. Box covers that are left open may cause electric shock and property damage.

Correct Connection

The user is responsible for the proper connection of the electrical connections using the fittings and diagrams (nuts, washers, spring washers) provided with the electric motor terminal. (Figure 6)

Grounding

Where electrical energy is used, the electrical connection arrangement of the metallic parts that can carry current on the earth is called grounding.

The purpose of grounding in electrical installations is to ensure the safety of the person using the electrical equipment and to prevent the destruction of the equipment. The grounding circuit must be made of low resistance conductors (copper or alum.), Capable of transmitting the greatest leakage current in the circuit of the device to which it is connected, and protected from mechanical and chemical influences.

The motor housing and terminal box must be grounded.

Electrical connections must be completed using the grounding terminal on the terminal box and the grounding bolt on the motor foot. The ground resistance must be less than 1 ohm.

Start Up

Attention Check the direction of rotation when starting up and read these installation and operating instruction.

- Check the network values and compare them with the label values
- Check the grounding system
- Check the connections on the control panel (Read the first operating instructions.)
- Check the flange and other fittings
- Open the valves of the suction line
- Fill the suction line and vent the pump
- Keep the discharge line cut-off valve in the closed position.
- Manually check if the pumps are stuck.
- Check the direction of rotation of the pumps.
- Check the sequential operation of the multi-pump booster.
- Vent again 5-10 minutes after starting the pump
- After stopping the pumps, open the shut-off valves of the pressure line.
- Check the booster for unacceptable noise and vibration during operation
- Check the tightness of the fittings

Attention

Do not starting the pump until when it is filled with water and vented. If the pump runs dry, the pump bearings and the shaft seal may be damaged.

The sealing surfaces of the shaft seal are lubricated with pump fluid. When the pump is started for the first time or when a new shaft seal is installed, the seal needs to run for a certain period of time to reduce the leakage to a reasonable level. The length of this time varies depending on the operating conditions. Please read first our Startup Instruction! (Figure 7)

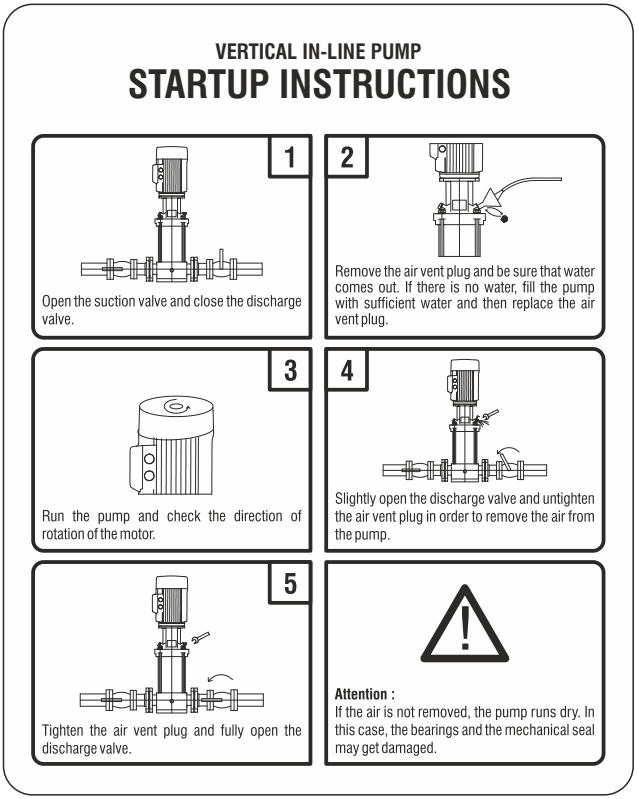


Figure 6

Frequency Converter Operation

The three-phase motors supplied by vansan can be connected to the frequency converter. The frequency converter must be adjust to a variable torque.

For more information, please contact the supplier of the frequency converter or motor. For proper operation, carefully observe the application and wiring diagram of the frequency converter manual.

Frost Protection

Pumps which are not being used during periods of frost to avoid damage. Periods of frost to avoid damage. To drain the pump loosen or remove the drain plug from the pump base.

Pay attention to the direction of the drain plug when draining the pump. Make sure that the escaping liquid doesn't cause injury the persons.

Maintenance and Service

Attention

- The pump must be maintained and repaired by authorized service personnel.
- The supply cables must be disconnected before any maintenance is performed.
- Original spare parts must be used when the pump parts need to be replaced.
- Before starting to repair and maintenance of the pump, always take the environmental safety, follow the necessary instructions.
- Before commissioning the pump, make sure that all pump components are correct.
- Do not carry out any work on the pump except for unsafe operating instructions.

Maximum Permissible Operating Pressure

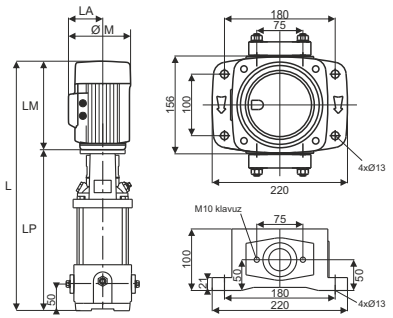
Inlet Pressure of "VIP CS" Pumps

VIP CS04 03/02 - VIP CS04 03/29	10 BAR
VIP CS04 03/31 - VIP CS04 03/36	15 BAR
VIP CS04 05/02 - VIP CS04 05/16	10 BAR
VIP CS04 05/20 - VIP CS04 05/36	15 BAR
VIP CS04 10/01 - VIP CS04 10/06	8 BAR
VIP CS04 10/08 - VIP CS04 10/22	10 BAR
VIP CS04 15/02 - VIP CS04 15/03	8 BAR
VIP CS04 15/05 - VIP CS04 15/17	10 BAR
VIP CS04 20/01 - VIP CS04 20/03	8 BAR
VIP CS04 20/04 - VIP CS04 20/17	10 BAR
VIP CS04 32/01 - VIP CS04 32/04	4 BAR
VIP CS04 32/05 - VIP CS04 32/10	10 BAR
VIP CS04 32/11 - VIP CS04 32/14	15 BAR

Inlet Pressure of "VIP SS" Pumps

VIP SS04 03/02 - VIP SS04 03/29	10 BAR
VIP SS04 03/02 - VIP SS04 03/31	10 BAR
VIP SS04 10/01 - VIP SS04 10/06	8 BAR
VIP SS04 10/08 - VIP SS04 10/22	10 BAR
VIP SS04 15/02 - VIP SS04 15/03	8 BAR
VIP SS04 15/05 - VIP SS04 15/17	10 BAR
VIP SS04 20/01 - VIP SS04 20/03	8 BAR
VIP SS04 20/04 - VIP SS04 20/17	10 BAR
VIP SS04 32/01 - VIP SS04 32/04	4 BAR
VIP SS04 32/05 - VIP SS04 32/10	10 BAR
VIP SS04 32/11 - VIP SS04 32/14	15 BAR

In-Line Pumps Weight and Dimensions



VIP CS04 03 02 - 36 STAGE

Inlet-Outlet Diameter : Rp 1 ¼" (Oval Flange)

Number of Vanes : 6

Rotation : CCW

Voltage : 380-415 V (+%6 / -%10)

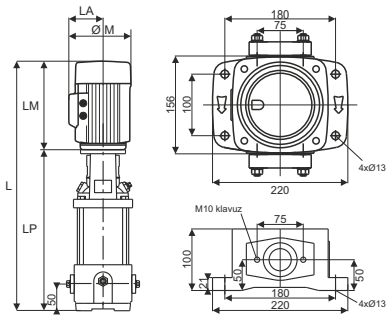
Frequency : 50 Hz.

Speed : 2900 rpm

Dimension and Weight Table

Pump Type	Stage	Motor			Dimensions(mm)							Weight
		kW	HP	Current (A)	L		LP		LM	FM	LA	Kg
					CS	SS	CS	SS				
VIP CS04 03/02	2	0,37	0,5	0,93	461	494	238	271	223	138	66	18
VIP CS04 03/03	3	0,37	0,5	0,93	479	512	256	289	223	138	66	19
VIP CS04 03/04	4	0,37	0,5	0,93	497	530	274	307	223	138	66	20
VIP CS04 03/05	5	0,37	0,5	0,93	515	548	292	325	223	138	66	20
VIP CS04 03/06	6	0,55	0,75	1,32	533	566	310	343	223	138	66	22
VIP CS04 03/07	7	0,55	0,75	1,32	551	584	328	361	223	138	66	23
VIP CS04 03/08	8	0,75	1	1,7	597	630	353	386	244	158	115	26
VIP CS04 03/09	9	0,75	1	1,7	615	648	371	404	244	158	115	27
VIP CS04 03/10	10	0,75	1	1,7	633	666	389	422	244	158	115	27
VIP CS04 03/11	11	1,1	1,5	2,4	651	684	407	440	244	158	115	29
VIP CS04 03/12	12	1,1	1,5	2,4	669	702	425	458	244	158	115	30
VIP CS04 03/13	13	1,1	1,5	2,4	687	720	443	476	244	158	115	31
VIP CS04 03/14	14	1,1	1,5	2,4	705	738	461	494	244	158	115	32
VIP CS04 03/15	15	1,1	1,5	2,4	723	756	479	512	244	158	115	32
VIP CS04 03/16	16	1,1	1,5	2,4	754	787	510	543	244	158	115	33
VIP CS04 03/17	17	1,5	2	3,2	775	808	528	561	247	193	132	38
VIP CS04 03/18	18	1,5	2	3,2	793	826	546	579	247	193	132	39
VIP CS04 03/19	19	1,5	2	3,2	811	844	564	597	247	193	132	40
VIP CS04 03/20	20	1,5	2	3,2	829	862	582	615	247	193	132	40
VIP CS04 03/21	21	2,2	3	4,5	867	900	600	633	267	193	132	43
VIP CS04 03/22	22	2,2	3	4,5	885	918	618	651	267	193	132	44
VIP CS04 03/23	23	2,2	3	4,5	903	936	636	669	267	193	132	45
VIP CS04 03/24	24	2,2	3	4,5	921	954	654	687	267	193	132	45
VIP CS04 03/25	25	2,2	3	4,5	939	972	672	705	267	193	132	46
VIP CS04 03/26	26	2,2	3	4,5	957	990	690	723	267	193	132	47
VIP CS04 03/27	27	2,2	3	4,5	975	1008	708	741	267	193	132	48
VIP CS04 03/28	28	2,2	3	4,5	993	1026	726	759	267	193	132	49
VIP CS04 03/29	29	2,2	3	4,5	1011	1044	744	777	267	193	132	49
VIP CS04 03/30	30	2,2	3	4,5	1029	1062	762	795	267	193	132	50
VIP CS04 03/31	31	3	4	6	1072	1105	780	813	292	217	141	55
VIP CS04 03/32	32	3	4	6	1090	1123	798	831	292	217	141	56
VIP CS04 03/33	33	3	4	6	1108	1141	816	849	292	217	141	57
VIP CS04 03/34	34	3	4	6	1126	1159	834	867	292	217	141	57
VIP CS04 03/35	35	3	4	6	1144	1177	852	885	292	217	141	58
VIP CS04 03/36	36	3	4	6	1162	1195	870	903	292	217	141	59

In-Line Pumps Weight and Dimensions



VIP CS04 05 02 - 35 STAGE

Inlet-Outlet Diameter : Rp 1 ¼" (Oval Flange)

Number of Vanes : 6

Rotation : CCW

Voltage : 380-415 V (+%6 / -%10)

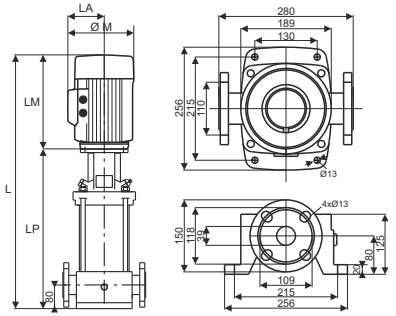
Frequency : 50 Hz.

Speed : 2900 rpm

Dimension and Weight Table

Pump Type	Stage	Motor			Dimensions(mm)							Weight
		kW	HP	Current (A)	L		LP		LM	F M	LA	Kg
					CS	SS	CS	SS				
VIP CS04 05/02	2	0,37	0,5	0,93	477	510	254	287	223	138	66	18
VIP CS04 05/03	3	0,55	0,75	1,32	504	537	281	314	223	138	66	20
VIP CS04 05/04	4	0,75	1	1,7	552	585	308	341	244	158	115	23
VIP CS04 05/05	5	1,1	1,5	2,4	586	619	342	375	244	158	115	24
VIP CS04 05/06	6	1,1	1,5	2,4	613	646	369	402	244	158	115	25
VIP CS04 05/07	7	1,1	1,5	2,4	640	673	396	429	244	158	115	26
VIP CS04 05/08	8	1,1	1,5	2,4	671	703	424	456	247	193	132	31
VIP CS04 05/09	9	1,5	2	3,2	711	743	464	496	247	193	132	32
VIP CS04 05/10	10	1,5	2	3,2	758	790	491	523	267	193	132	34
VIP CS04 05/11	11	2,2	3	4,5	785	817	518	550	267	193	132	35
VIP CS04 05/12	12	2,2	3	4,5	812	844	545	577	267	193	132	36
VIP CS04 05/13	13	2,2	3	4,5	839	872	572	605	267	193	132	37
VIP CS04 05/14	14	2,2	3	4,5	866	899	599	632	267	193	132	38
VIP CS04 05/15	15	2,2	3	4,5	918	951	626	659	292	217	141	42
VIP CS04 05/16	16	2,2	3	4,5	945	978	653	686	292	217	141	43
VIP CS04 05/17	17	3	4	6	972	1005	680	713	292	217	141	44
VIP CS04 05/18	18	3	4	6	999	1032	707	740	292	217	141	45
VIP CS04 05/19	19	3	4	6	1026	1059	734	767	292	217	141	46
VIP CS04 05/20	20	3	4	6	1053	1086	761	794	292	217	141	52
VIP CS04 05/21	21	4	5,5	7,5	1090	1123	788	821	292	217	141	53
VIP CS04 05/22	22	4	5,5	7,5	1117	1150	825	858	292	217	141	54
VIP CS04 05/23	23	4	5,5	7,5	1144	1177	852	885	292	217	141	55
VIP CS04 05/24	24	4	5,5	7,5	1171	1204	879	912	292	217	141	55
VIP CS04 05/25	25	4	5,5	7,5	1198	1231	906	939	292	217	141	56
VIP CS04 05/26	26	5,5	7,5	10,4	1270	1302	934	966	336	232	149	70
VIP CS04 05/27	27	5,5	7,5	10,4	1297	1329	961	993	336	232	149	71
VIP CS04 05/28	28	5,5	7,5	10,4	1324	1356	988	1020	336	232	149	72
VIP CS04 05/29	29	5,5	7,5	10,4	1351	1383	1015	1047	336	232	149	72
VIP CS04 05/30	30	5,5	7,5	10,4	1378	1410	1042	1074	336	232	149	73
VIP CS04 05/31	31	5,5	7,5	10,4	1405	1437	1069	1101	336	232	149	74
VIP CS04 05/32	32	5,5	7,5	10,4	1432	1464	1096	1128	336	232	149	75
VIP CS04 05/33	33	5,5	7,5	10,4	1459	1492	1123	1156	336	232	149	76
VIP CS04 05/34	34	5,5	7,5	10,4	1486	1519	1150	1183	336	232	149	76
VIP CS04 05/35	35	5,5	7,5	10,4	1513	1546	1177	1210	336	232	149	77

In-Line Pumps Weight and Dimensions



VIP CS04 10 01 - 22 STAGE

Inlet-Outlet Diameter : DN40

Number of Vanes : 6

Rotation : CCW

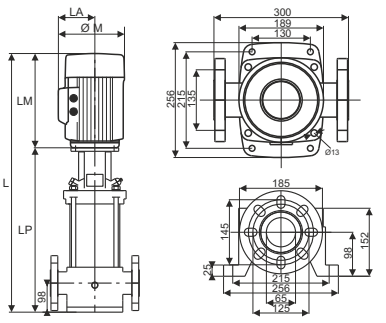
Voltage : 380-415 V (+%6 / -%10)

Frequency : 50 Hz.

Speed : 2900 rpm

Pump Type	Stage	Motor			Dimensions(mm)							Weight
		kW	HP	Current (A)	L		LP		LM	F M	LA	Kg
					CS	SS	CS	SS				
VIP CS04 10/01	1	0,55	0,75	1,32	532	559	309	0336	223	138	66	35
VIP CS04 10/02	2	0,75	1	1,7	593	620	349	376	244	158	115	38
VIP CS04 10/03	3	1,1	1,5	2,4	623	650	379	406	244	158	115	41
VIP CS04 10/04	4	1,5	2	3,2	666	693	419	446	247	193	132	46
VIP CS04 10/05	5	2,2	3	4,5	716	743	449	476	267	193	132	50
VIP CS04 10/06	6	2,2	3	4,5	746	773	479	506	267	193	132	51
VIP CS04 10/07	7	3	4	6	811	838	519	546	292	217	141	57
VIP CS04 10/08	8	3	4	6	841	868	549	576	292	217	141	58
VIP CS04 10/09	9	3	4	6	871	898	579	606	292	217	141	66
VIP CS04 10/10	10	4	5,5	7,5	901	928	609	636	292	217	141	67
VIP CS04 10/11	11	4	5,5	7,5	931	958	639	666	292	217	141	69
VIP CS04 10/12	12	4	5,5	7,5	1005	1032	669	696	336	232	149	83
VIP CS04 10/13	13	5,5	7,5	10,4	1035	1062	699	726	336	232	149	85
VIP CS04 10/14	14	5,5	7,5	10,4	1065	1092	729	756	336	232	149	86
VIP CS04 10/15	15	5,5	7,5	10,4	1095	1122	759	786	336	232	149	88
VIP CS04 10/16	16	5,5	7,5	10,4	1170	1197	789	816	381	232	149	96
VIP CS04 10/17	17	7,5	10	13,8	1220	1247	839	866	381	232	149	98
VIP CS04 10/18	18	7,5	10	13,8	1250	1277	869	896	381	232	149	99
VIP CS04 10/19	19	7,5	10	13,8	1280	1307	899	926	381	232	149	101
VIP CS04 10/20	20	7,5	10	13,8	1310	1337	929	956	381	232	149	102
VIP CS04 10/21	21	7,5	10	13,8	1340	1367	959	986	381	232	149	104
VIP CS04 10/22	22	7,5	10	13,8	1370	1397	989	1016	381	232	149	105

In-Line Pumps Weight and Dimensions



VIP CS04 15 01 - 17 STAGE

Inlet-Outlet Diameter : DN50

Number of Vanes : 6

Rotation : CCW

Voltage : 380-415 V (+%6 / -%10)

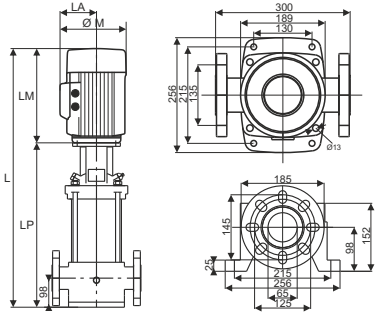
Frequency : 50 Hz.

Speed : 2900 rpm

Dimension and Weight Table

Pump Type	Stage	Motor			Dimensions(mm)							Weight
		kW	HP	Current (A)	L		LP		LM	F M	LA	Kg
					CS	SS	CS	SS				
VIP CS04 15/01	1	1,1	1,5	2,4	607	607	363	363	244	158	115	42
VIP CS04 15/02	2	2,2	3	4,5	686	686	419	419	267	193	132	51
VIP CS04 15/03	3	3	4	6	756	756	464	464	292	217	141	58
VIP CS04 15/04	4	4	5,5	7,5	811	811	519	519	292	217	141	66
VIP CS04 15/05	5	4	5,5	7,5	900	900	564	564	336	232	149	82
VIP CS04 15/06	6	5,5	7,5	10,4	945	945	609	609	336	232	149	85
VIP CS04 15/07	7	5,5	7,5	10,4	991	991	655	655	336	232	149	88
VIP CS04 15/08	8	7,5	10	13,8	1101	1101	720	720	381	232	149	98
VIP CS04 15/09	9	7,5	10	13,8	1126	1126	765	765	361	279	182	107
VIP CS04 15/10	10	11	15	20	1171	1171	810	810	361	279	182	109
VIP CS04 15/11	11	11	15	20	1216	1216	855	855	361	279	182	112
VIP CS04 15/12	12	11	15	20	1262	1262	901	901	361	279	182	115
VIP CS04 15/13	13	11	15	20	1307	1307	946	946	361	279	182	118
VIP CS04 15/14	14	11	15	20	1467	1467	991	991	476	323	200	149
VIP CS04 15/15	15	15	20	26,5	1537	1537	1061	1061	476	323	200	151
VIP CS04 15/16	16	15	20	26,5	1582	1582	1106	1106	476	323	200	154
VIP CS04 15/17	17	15	20	26,5	1628	1628	1152	1152	476	323	200	157

In-Line Pumps Weight and Dimensions



VIP CS04 20 01 - 17 STAGE

Inlet-Outlet Diameter : DN50

Number of Vanes : 6

Rotation : CCW

Voltage : 380-415 V (+%6 / -%10)

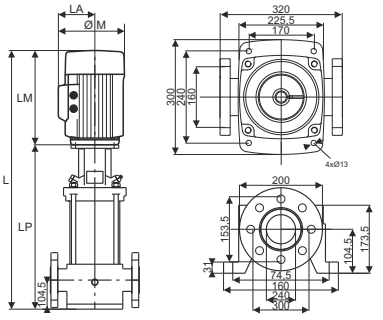
Frequency : 50 Hz.

Speed : 2900 rpm

Dimension and Weight Table

Pump Type	Stage	Motor			Dimensions(mm)							Weight
		kW	HP	Current (A)	L		LP		LM	FM	LA	Kg
					CS	SS	CS	SS				
VIP CS04 20/01	1	1,1	1,5	2,4	606	606	363	363	243	193	115	42
VIP CS04 20/02	2	2,2	3	4,5	685	685	419	419	266	232	132	50
VIP CS04 20/03	3	4	5,5	7,5	756	756	464	464	292	279	141	55
VIP CS04 20/04	4	5,5	7,5	10,4	854	854	519	519	335	279	141	68
VIP CS04 20/05	5	5,5	7,5	10,4	899	899	564	564	335	279	141	69
VIP CS04 20/06	6	7,5	10	13,8	1004	1004	609	609	395	279	141	94
VIP CS04 20/07	7	7,5	10	13,8	1050	1050	655	655	395	279	141	95
VIP CS04 20/08	8	11	15	20	1115	1115	720	720	395	279	149	126
VIP CS04 20/09	9	11	15	20	1160	1160	765	765	395	279	149	128
VIP CS04 20/10	10	11	15	20	1205	1205	810	810	395	279	149	130
VIP CS04 20/11	11	15	20	26,5	1250	1250	855	855	395	279	149	132
VIP CS04 20/12	12	15	20	26,5	1367	1367	901	901	466	279	149	136
VIP CS04 20/13	13	15	20	26,5	1412	1412	946	946	466	279	149	138
VIP CS04 20/14	14	15	20	26,5	1457	1457	991	991	466	279	149	140
VIP CS04 20/15	15	15	20	26,5	1527	1527	1061	1061	466	279	149	142
VIP CS04 20/16	16	15	20	26,5	1572	1572	1106	1106	466	279	149	144
VIP CS04 20/17	17	18,5	25	34	1618	1618	1152	1152	466	279	149	158

In-Line Pumps Weight and Dimensions



VIP CS04 32 01 - 14 STAGE

Inlet-Outlet Diameter : DN65

Number of Vanes : 6

Rotation : CCW

Voltage : 380-415 V (+%6 / -%10)

Frequency : 50 Hz.

Speed : 2900 rpm

Dimension and Weight Table

Pump Type	Stage	Motor			Dimensions(mm)							Weight
		kW	HP	Current (A)	L		LP		LM	F M	LA	Kg
					CS	SS	CS	SS				
VIP CS04 32/01	1	2,2	3	4,5	740	-	473	-	267	193	132	66
VIP CS04 32/02	2	5,5	7,5	10,4	891	-	555	-	336	232	149	101
VIP CS04 32/03	3	7,5	10	13,8	1028	-	647	-	381	232	149	120
VIP CS04 32/04	4	11	15	20	1080	-	719	-	361	279	182	138
VIP CS04 32/05	5	11	15	20	1152	-	791	-	361	279	182	150
VIP CS04 32/06	6	15	20	26,5	1339	-	863	-	476	323	200	190
VIP CS04 32/07	7	15	20	26,5	1441	-	965	-	476	323	200	202
VIP CS04 32/08	8	18,5	25	32,2	1513	-	1037	-	476	323	200	225
VIP CS04 32/09	9	18,5	25	32,2	1585	-	1109	-	476	323	200	237
VIP CS04 32/10	10	22	30	38,1	1700	-	1181	-	519	370	248	267
VIP CS04 32/11	11	22	30	38,1	1772	-	1253	-	519	370	248	279
VIP CS04 32/12	12	30	40	53	1864	-	1345	-	519	415	261	326
VIP CS04 32/13	13	30	40	53	1936	-	1417	-	519	415	261	338
VIP CS04 32/14	14	30	40	53	2008	-	1489	-	519	415	261	350

Possible Troubles and Corrective Actions

Problem	Possible Cause	Solution
1. Motor does not run when started	a) Supply failure	Connect the power supply
	b) The fuses are blown	Replace the fuses
	c) The control circuit is defective	Repair the control circuit
	d) The motor-protective circuit breaker has tripped	Reactivate the motor-protective circuit breaker
	e) The thermal protection has tripped	Reactivate the thermal protection
	f) The motor is failed	Change the motor
2. The motor-protective circuit breaker trips immediately when the power supply switched on	a) One fuse is blown or the automatic circuit breaker has tripped	Replace the fuse or cut in the circuit breaker
	b) The contacts in the motor-protective circuit breaker are faulty	Replace the motor-protective circuit breaker contacts
	c) The cable connection is loose or faulty	Fasten or replace the cable connection
	d) The motor winding is defective	Replace the motor
	e) The pump is mechanically blocked	Remove the mechanical blocking of the pump
	f) The motor-protective circuit breaker setting is too low	Set the motor-protective circuit breaker correcty
3. The pump performance is not constant	a) The pump inlet pressure is too low (cavitation)	Check the inlet conditions
	b) The inlet pipe or pump is partly blocked by impurities	Clean the inlet pipe or pump
	c) The pump is mechanically blocked	Check the inlet conditions
4. The pump runs, but gives no water	a) The inlet pipe or pump is blocked by impurities	Clean the inlet pipe or pump
	b) The foot or non-return valve is blocked in closed position	Repair the foot or non-return valve
	c) There is a leckage in the inlet pipe	Repair the inlet pipe
	d) There is air in the inlet pipe or pump	Check the inlet conditions
	e) The motor runs in the wrong direction of rotation	Change the direction of rotations
5. The pump runs backwards when switched off	There is a leckage in the inlet pipe	Repair the inlet pipe
	The foot or non-return valve is defective	Repair the foot or non-return valve
6. Noise	Cavitation	Check the inlet conditions
	The pump doesn't rotate freely due to frictional resistance as a result of incorrect pump shaft position	Adjust the pump shaft

Notes

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