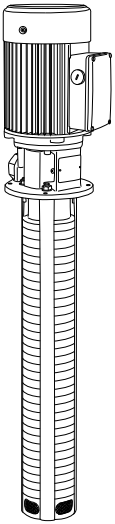
WALRUS PUMP

TPRK Series

Instruction Manual

Immersible Pump



Model : 1T / 3T / 5T

To ensure safe and proper use, please read this instruction before operation.

ISO 9001 Certified **WALRUS PUMP CO., LTD.** CE

EC Declaration of Conformity

Manufacturer:

Walrus Pump Co., Ltd.

Address:

No.83-14, Dapiantou, Sanzhi Dist., New Taipei City 252, Taiwan

Declare that the machinery described:

Name : Water Pump

Model : TPRK Series

Conform to the following directive:

2006/42/EC—Machinery directive

2014/35/EU—Low voltage directive

2014/30/EU—EMC (Electromagnetic compatibility) directive

Refer to the following standards:

EN ISO 12100:2010	EN ISO 13857:2008
EN 809:1998+A1:2009	EN 60204-1:2006
EN 60335-1:2002	EN 60335-2-41:2003+A2:2012
EN 61000-6-2:2005	EN 61000-6-3:2007

R&D Department: Kao Tien-Chuan

Director: Kao Tien chuan

TPRK Instruction Manual

Before installing your new system, please study all instructions carefully, as the warranty does not cover failures caused by incorrect installation and operation.

1. Application

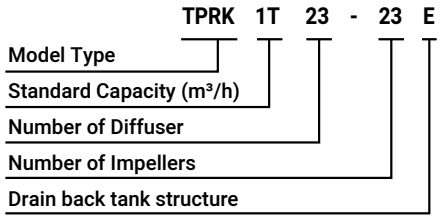
1.1 The TPRK Series is multi-stage centrifugal pump designed for transferring liquid used in machine tools.

1.2 The pump can not be used to transfer explosive liquids, such as gasoline, diesel oil and other similar liquids. It is only suitable for water diluted, low viscosity, uncorrosive cooling or lubricant liquids.

Caution: The pump must NOT be used to transfer flammable or toxic liquids.

2. Model Explanation

The pump models are coded based on the number of pump stages. Standard stages consist of both diffusers and impellers, and null stages, for special installation considerations, contain diffuser chamber only. The pump model is shown on the pump nameplate.



3. Technical Data

1. Ambient Temperature: Max. +40°C
2. Liquid Temperature: +0°C ~ +90°C
3. Enclosure Class: IP54
4. Discharge Pressure: Max. 25kg/cm²
5. Submerged depth: Min. 40mm
6. Stainer Diameter: Ø2mm (TPRK 1T / 3T)
   Ø4mm (TPRK 5T)
7. Particle Size: 2mm (TPRK 1T / 3T)
   4mm (TPRK 5T)
8. Liquids (maximum content of solid particles in suspension 50g/m³)
9. Kinematical Viscosity: 32 cst (mm²/s)
10. Head: 50Hz: Up to 240M
    60Hz: Up to 240M

4. Installation

The pump has hot surface on the motor. It must be installed so that persons cannot accidentally come into contact the hot surface.

4.1. Submerged Depth

To avoid dry running and damage the pump during operation, the minimum pump submerged depth is 40mm as shown in Fig 1. In addition, the bottom of the pump suction inlet must be at least 25 mm above the bottom of the tank.

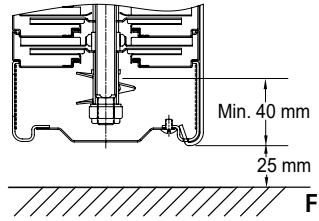


Fig.1

4.2 We recommend outlet should stay the same size as the original. If you narrow the pipe size, it will affect the performance of the pump.

4.3 The motor protector shall be installed by the user.

5. Electrical Connection

5.1 This mark located outside the connection box is an Electrical Hazard Warning.

5.2 The electrical connection should be carried out in accordance with local regulations. The operating voltage and frequency are marked on the nameplate. Please make sure that these data match your job requirement.

5.3 For your safety, please make sure that the wiring is correctly grounded.

5.4 The pumps must be supplied through a Residual Current Device (RCD) with a rated residual operating current not exceeding 30 mA.

5.5 Motors must be connected to a motor-protective circuit breaker which can be manually reset. Set the motor-protective circuit breaker according to the rated current of the motor. See nameplate.

5.6 Make electrical connection in accordance with connecting diagram located inside the connection box. The motor current must be within the rated amps range indicated on nameplate. Three phase motor requires a magnetic starter for safety.

5.7 Three phase motor must check rotating direction. The rotating direction indicated on the fan cover, is clockwise viewing from fan cover end. Interchanging any two leads with power off can reverse the pump rotation.

5.8 If the supply cord is damaged, it must be replaced by the manufacturer, authorized service agent, or qualified persons in order to avoid causing a hazard.

5.9 This pump appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the pump appliance by a person responsible for their safety.

6. Start-Up

6.1 Before starting the pump, make sure the following:

6.1.1 All piping joints are completely tightened. Leakage in piping may cause the pump hydraulic loss.

6.1.2 The pump is filled with liquid.

6.1.3 The suction filter is not blocked by any foreign objects.

6.2 Start the pump as follows:

6.2.1 Start the pump and check the direction of rotation.

6.2.2 See the correct direction of rotation of the pump on the motor fan cover or on the coupling guard. When seen from the top, the pump should rotate counter clockwise.

7. Operation and Maintenance



It is dangerous to operate the pump against a closed discharge outlet because it will cause extremely high liquid flow temperature and damage the pump in a few minutes.

7.1. Lubrication

The mechanical seal and shaft sleeves are lubricated by the pumped liquid.

7.2. Suction Filter

Always keep suction filter clean and make sure it is not blocked by impurities.

7.3. Periodic Checks

To ensure regular operation, please follow the below-checking points:

7.3.1 Check the amount of liquid and operating pressure.

7.3.2 Check there are no leaks on piping joints.

7.3.3 Check the tripping of the motor starter.

7.3.4 Check that all controls are functioned normally.

7.4 When pump is not in use for a period, it should be drained. For start up after long time inactivity please check if the impeller and mechanical seal are free. If they are locked up by sand, rust or something else please clean them up.

7.5 DO NOT use the pump to transfer explosive liquids. In systems with hot liquid (over 60°C), extra caution should be exercised to prevent personal injury.

7.6 DO NOT use the pump should not be used to transfer toxic or contaminated liquids. Please carefully follow all instructions in

the manual as Walrus may refuse to accept the contaminated pump for servicing.

7.7 If the power supply cord is damaged, it must be replaced by an authorized engineer or assembly available from the manufacturer or service agent.

8. Please lift or move the pump by hoist as shown in Fig 2 below.

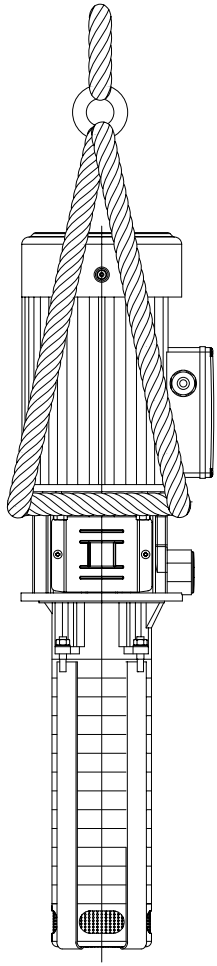


Fig.2

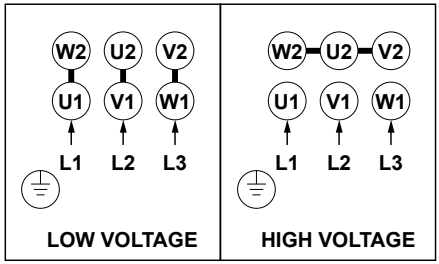
9. Noise Level

Motor (kW)	$\overline{LA}$ dB(A)	
	50Hz	60Hz
1.5	< 70	-
2.2	< 70	< 70
3.0	< 70	72
4.0	< 70	72
5.5	< 85	85
7.5	< 85	85

The above drawing shows the noise level while the pump operated with a closed outlet.

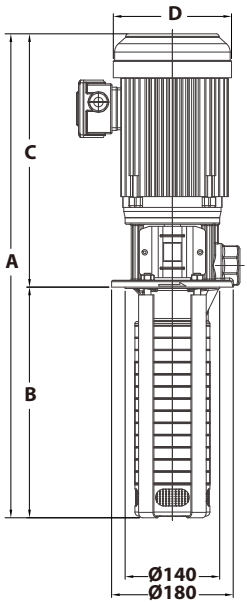
The tolerance of noise level is ±3dB(A).

10. Wiring Diagram

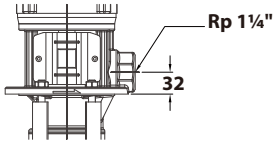


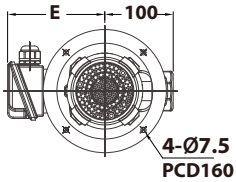
11. Dimensions

60Hz

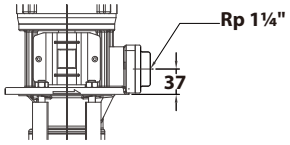


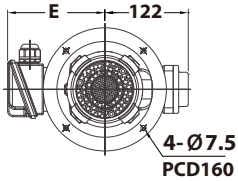
TPRK





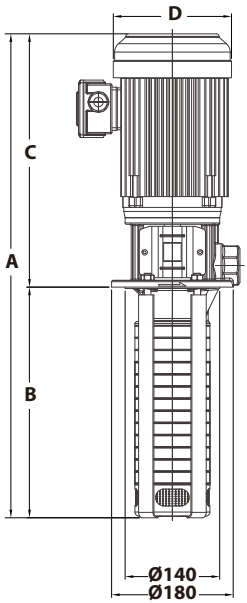
TPRK-E



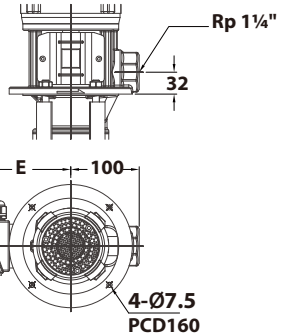


Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
TPRK 1T 60Hz					
TPRK1T 15-15	771	396	375	175	142
TPRK1T 17-17	807	432	375	175	142
TPRK1T 19-19	843	468	375	175	142
TPRK1T 21-21	879	504	375	175	142
TPRK1T 22-22	897	522	375	175	142
TPRK1T 23-23	915	540	375	175	142
TPRK1T 25-25	951	576	375	175	142
TPRK1T 26-26	1032	594	438	219	173
TPRK1T 27-27	1050	612	438	219	173
TPRK 3T 60Hz					
TPRK3T 9 - 9	663	288	375	175	142
TPRK3T 10-10	681	306	375	175	142
TPRK3T 11-11	699	324	375	175	142
TPRK3T 12-12	717	342	375	175	142
TPRK3T 13-13	735	360	375	175	142
TPRK3T 15-15	771	396	375	175	142
TPRK3T 17-17	807	432	375	175	142
TPRK3T 19-19	906	468	438	219	173
TPRK3T 21-21	942	504	438	219	173
TPRK3T 22-22	960	522	438	219	173
TPRK3T 23-23	978	540	438	219	173
TPRK3T 25-25	1014	576	438	219	173
TPRK3T 26-26	1032	594	438	219	173
TPRK 5T 60Hz					
TPRK5T 5 - 5	627	252	375	175	142
TPRK5T 6 - 6	654	279	375	175	142
TPRK5T 7 - 7	681	306	375	175	142
TPRK5T 8 - 8	708	333	375	175	142
TPRK5T 10-10	825	387	438	219	173
TPRK5T 12-12	879	441	438	219	173
TPRK5T 14-14	933	495	438	219	173
TPRK5T 16-16	987	549	438	219	173
TPRK5T 18-18	1119	603	516	268	201
TPRK5T 19-19	1146	630	516	268	201
TPRK5T 20-20	1173	657	516	268	201
TPRK5T 22-22	1227	711	516	268	201
TPRK5T 24-24	1281	765	516	268	201

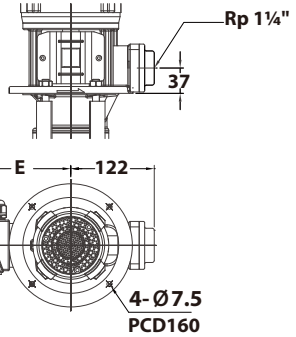
50Hz



TPRK



TPRK-E



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
TPRK 1T 50Hz					
TPRK1T 25-25	951	576	375	175	142
TPRK1T 26-26	969	594	375	175	142
TPRK1T 27-27	987	612	375	175	142
TPRK1T 30-30	1041	666	375	175	142
TPRK1T 33-33	1095	720	375	175	142
TPRK1T 36-36	1149	774	375	175	142
TPRK 3T 50Hz					
TPRK3T 17-17	807	432	375	175	142
TPRK3T 19-19	843	468	375	175	142
TPRK3T 21-21	879	504	375	175	142
TPRK3T 22-22	897	522	375	175	142
TPRK3T 23-23	915	540	375	175	142
TPRK3T 25-25	951	576	375	175	142
TPRK3T 26-26	969	594	375	175	142
TPRK3T 27-27	987	612	375	175	142
TPRK3T 30-30	1104	666	438	219	173
TPRK3T 33-33	1158	720	438	219	173
TPRK3T 36-36	1212	774	438	219	173
TPRK 5T 50Hz					
TPRK5T 9 - 9	735	360	375	175	142
TPRK5T 10-10	762	387	375	175	142
TPRK5T 12-12	816	441	375	175	142
TPRK5T 14-14	870	495	375	175	142
TPRK5T 16-16	924	549	375	175	142
TPRK5T 17-17	1014	576	438	219	173
TPRK5T 18-18	1041	603	438	219	173
TPRK5T 19-19	1068	630	438	219	173
TPRK5T 20-20	1095	657	438	219	173
TPRK5T 21-21	1122	684	438	219	173
TPRK5T 22-22	1149	711	438	219	173
TPRK5T 24-24	1203	765	438	219	173
TPRK5T 26-26	1257	819	438	219	173
TPRK5T 29-29	1338	900	438	219	173
TPRK5T 32-32	1497	981	516	268	201

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