

VR



- Ⓓ Bedienungsanleitung
- ⒼⒷ Operating instructions
- Ⓕ Mode d'emploi
- Ⓘ Libretto Istruzioni
- Ⓔ Manual de instrucciones
- ⒫ Manual de instruções



INSTRUCTIONS FOR THE INSTALLATION AND USE OF ELECTROPUMPS



Conditions of use and installation

- Are suitable for pumping clean water and fluids that are chemically and mechanically non-aggressive as regards the pump materials, free from explosive substances, with a maximum temperature of 90° C if the impeller is made of metal (cast iron, brass, steel) or 50° C if the impeller is made of plastic (nylon) or if one or more diffusers are fitted.
- Must be fitted in a well ventilated place, protected from unfavourable weather conditions and with an environment temperature not exceeding 40° C. (Fig. 1)
- Are provided with a horizontal rotor axis (except the VR models with a vertical axis) and with feet at the bottom, for safety reasons it is advisable to fix the electropump using the holes provided in the feet; avoid installing the motor below the pump body.
- Should not be started more than 5÷30 times in one hour at regular intervals: the larger the power of the machine, the lower the number of starts.

Pipes

The pipes must be fastened and anchored to their supports and connected in such a way that they do not transmit force, stress or vibrations to the pump. (Fig. 3) The internal diameter of the pipes depends not only on their length but also on the flow rate to be produced: the diameter must be chosen in such a way that the speed of the fluid does not exceed 1,4-1,5 m/s on intake and 2,4-2,5 m/s on delivery; in no case must the pipe diameter be smaller than the diameter of the pump apertures. Before installation, check that the insides of the pipes are clean.

The intake hose

- Must be as short as possible, without choking or sudden changes in direction.
- Must have a perfect seal and resist the vacuum that is created during pump suction.
- Must slope upwards towards the pump so as to prevent the formation of air pockets which could prevent priming of the pump or cause it to become unprimed.

For pump operation, fit a foot valve with a suction rose on intake; (Fig. 2). In the case of installation of a self-priming pump, the foot valve may be replaced by a check valve fitted directly on the intake aperture. For correct operation of the electropump the end of the intake hose must be immersed in water at a depth at least twice the diameter of the hose. For operation below the head fit a gate valve.

The delivery hose should be fitted with a check valve and a regulating valve. The former, upstream from the latter, protects the pump from water hammer and prevents inverse flow through the impeller in the event of sudden stopping of the electropump. On the other hand the regulating valve is used to regulate the flow rate head and absorbed power. Fit a pressure gauge on the delivery pipe. In the case of self-priming electropumps, for high priming and suction heights (greater than 5 m but less than 9 m), the delivery pipe must have a straight vertical stretch at least 1,0 m long.

Electric connection

Select suitable sizes for the electric power cables based on their length and on the electric current indicated on the data plate on the electropump, (Fig. 4) prepare the ends of the power and earth leads in such a way that, during connection, the leads cannot escape when they are being blocked with

the nuts on the terminal board and the earth screw. The electric connection must always be carried out by a skilled technician, complying with the regulations in force in the country of installation. Connect the terminals according to the indications on the diagram on the first page and/or inside the cover of the terminal board. Connect the electropump to earth, using the terminal provided. Ensure that the power network has an efficient earth system and that the earthing of the electropump is effective. On some models of single-phase electropump the electric motor is protected by a thermal device with automatic cut-out and reset, built into the winding. **Always switch off the electric power before carrying out maintenance and/or repairs on the electropump** because the motor, if stopped due to the intervention of the thermal device, could restart suddenly. In any case, on both three-phase and single phase electropumps, a suitable electric protection must be fitted (magnetothermal switch and differential switch with a rated residual operating current < 3 mA) which can ensure omnipolar disconnection from the mains with a distance of at least 3 mm between the contacts on opening. The maximum allowed tolerance between the actual electric supply voltage and the rated value shown on the data plate of the electropump is ±5%.

Starting up

Before starting the pump, check that the motor shaft is turning freely. For this purpose the smaller electropumps have a groove for a screwdriver at the end of the shaft on the fan side; if the shaft is blocked, insert a screwdriver in the groove and tap lightly with a plastic hammer. (Fig. 8) Start the electropump only after having filled the pump body and the intake pipe completely with liquid, through the hole provided. **The pump must absolutely not be allowed to run dry.** (Fig. 6) In the case of three-phase electro-pumps, ensure that the motor is turning in the correct direction as indicated by the arrow on the pump body (in a clockwise direction when viewing the motor from the fan side); if it is turning in the wrong direction, invert the connections of the wires that feed the two phases. (Fig. 5) Check that the electropump is working within its rated performance range indicated on the data plate; otherwise adjust the gate valve on the delivery pipe and/or the intervention pressure of any pressure switches.

Maintenance

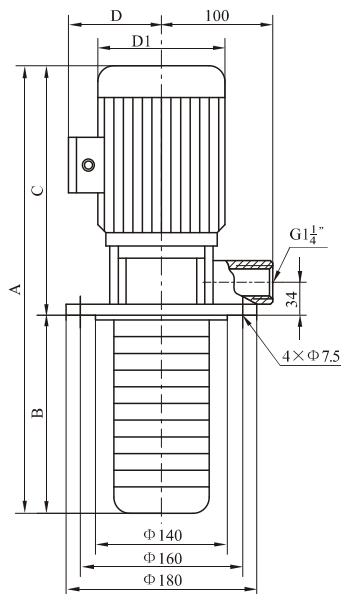
The electropumps do not require any specific maintenance. When there is danger of frost, if the pump is to remain inactive for a long time, the pump body and the pipes should be drained completely. Before restarting the electropump, ensure that the shaft is not blocked by scale or other causes and fill the pump body and the intake pipe completely with liquid. (Fig. 7)

N.B.: Always switch off the power supply before carrying out any maintenance and/or repairs.

Performance table

Model	Driving motor		Q (m ³ /h)	1.0	1.2	1.6	2.0	2.4	2.8	3.2	3.5	
	(kW)	(hp)										
VR 2-5	0.55	0.75	H (m)	45	43	40	37	33	30	24	20	
VR 2-6	0.75	1		53	52	50	45	40	36	30	24	
VR 2-7	0.75	1		63	61	57	52	47	41	35	28	
VR 2-9	1.1	1.5		80	78	73	67	61	54	45	37	
VR 2-11	1.1	1.5		98	95	89	82	73	64	54	44	
VR 2-13	1.5	2		116	114	106	98	89	78	65	52	
VR 2-15	1.5	2		134	130	123	112	100	90	73	60	
VR 2-18	2.2	3		161	157	148	136	121	108	91	76	
VR 2-22	2.2	3		197	192	180	165	148	130	110	90	
VR 2-26	3.0	4		232	228	214	198	179	158	130	110	

Installation sketch



Size and weight

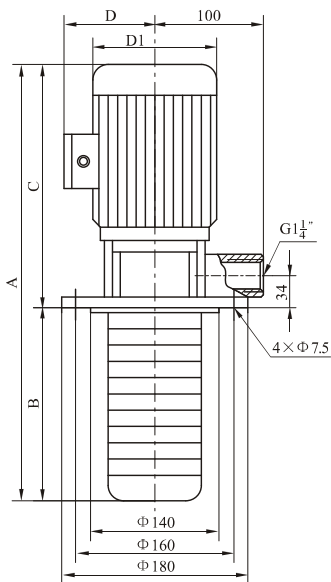
Model	Size (mm)					Weight (kg)
	A	B	C	D	DI	
VR 2-5	492	177	315	117	148	17
VR 2-6	553	195	358	142	170	20
VR 2-7	571	213	358	142	170	20
VR 2-9	607	249	358	142	170	22
VR 2-11	643	285	358	142	170	22
VR 2-13	734	321	413	155	190	29
VR 2-15	770	357	413	155	190	29
VR 2-18	824	411	413	155	190	33
VR 2-22	896	483	413	155	190	33
VR 2-26	1003	555	448	165	197	41

The overall dimensions of the single-phase motor and explosion-proof motor are a little changed. Pls contact us for details.

Performance table

Model	Driving motor		Q (m ³ / h)	1.5	2.0	3.0	4.0	5.0	6.0	8.0	
	(kW)	(hp)									
VR 4-4	0.75	1	H (m)	38	36	34	32	27	24	13	
VR 4-5	1.1	1.5		47	45	43	40	34	31	17	
VR 4-6	1.1	1.5		56	54	52	48	41	37	20	
VR 4-7	1.5	2		66	63	61	56	48	43	24	
VR 4-8	1.5	2		74	72	70	64	55	50	27	
VR 4-10	2.2	3		96	90	87	81	71	62	34	
VR 4-12	2.2	3		114	108	104	95	85	75	41	
VR 4-14	3.0	4		136	126	122	112	101	89	48	
VR 4-16	3.0	4		152	144	140	129	115	101	55	
VR 4-19	4.0	5.5		183	171	168	153	137	122	67	
VR 4-22	4.0	5.5		211	200	192	178	160	138	79	

Installation sketch



Size and weight

Model	Size (mm)					Weight (kg)
	A	B	C	D	D1	
VR 4-4	560	202	358	142	170	18
VR 4-5	587	229	358	142	170	20
VR 4-6	614	256	358	142	170	21
VR 4-7	696	283	413	155	190	27
VR 4-8	723	310	413	155	190	28
VR 4-10	777	364	413	155	190	30
VR 4-12	831	418	413	155	190	30
VR 4-14	920	472	448	165	197	35
VR 4-16	974	526	448	165	197	35
VR 4-19	1075	607	468	185	230	40
VR 4-22	1156	688	468	185	230	41

The overall dimensions of the single-phase motor and explosion-proof motor are a little changed. Pls contact us for details.