

VALCO®
International
Trademark

Jetdom™

SHALLOW WELL JET SELF PRIMING ELECTRIC PUMPS

with built-in ejector system



Suitable for shallow well lifts down to 9m providing highly efficient self priming performance.

Can draw up water in spite of presence of gas, air, or small quantities of sand.

Self priming pumps: pumps always ready for use.

CE



Made in Italy

VALCO SURFACE ELECTRIC PUMPS

Jetdom™ - SHALLOW WELL JET SELF PRIMING ELECTRIC PUMPS

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Jetdom™

SHALLOW WELL JET SELF PRIMING ELECTRIC PUMPS with built-in ejector system



Applications:

Suitable for shallow well lifts down to 9m providing highly efficient self priming performance; for drawing water out of a well, a spring, a reservoir, can draw up water in spite of presence of water-dissolved gases, air, or small quantities of sand. **The built-in ejector allows for self-priming to depths of 9 metres, once the pump body has been primed (we recommend to fit a Foot Valve).**

Domestic, civil, agricultural, industrial, residential, commercial, washing and hobby uses, pressure boosting / increasing water pressure, gardening, jet washing, stock watering, dairy washdown, vegetable washing, horticulture, hobby farm, turf irrigation, water distribution, household, in-ground tank installation, underground water storage tanks installation, fountains, water features and urban decoration, station washing, nurseries, rain water collection, water circulation, mains and municipal boosting.

Self priming pumps: pumps always ready for use.

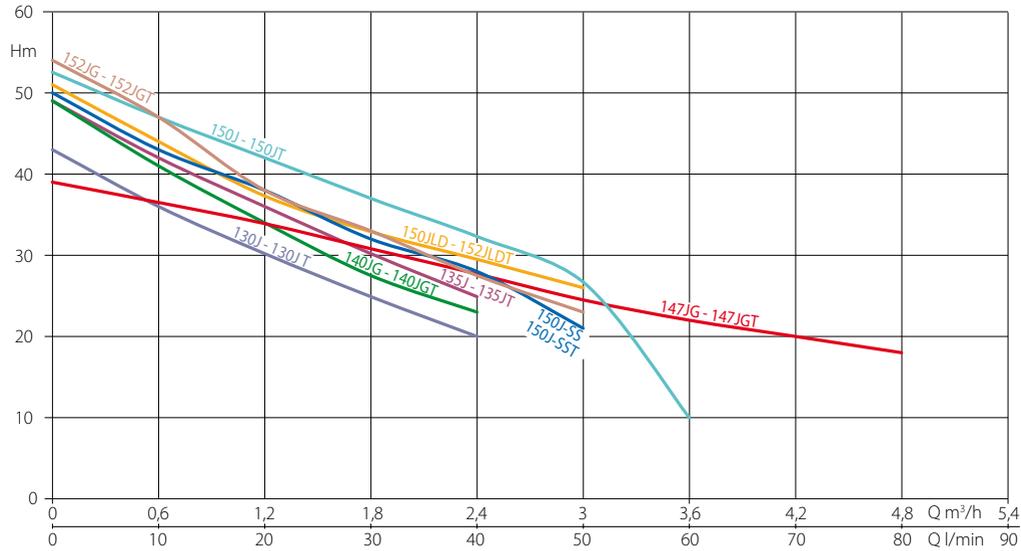
Can draw up water in spite of presence of gas, air, or small quantities of sand.

Energy efficient hydraulic design for cost-effective operation.

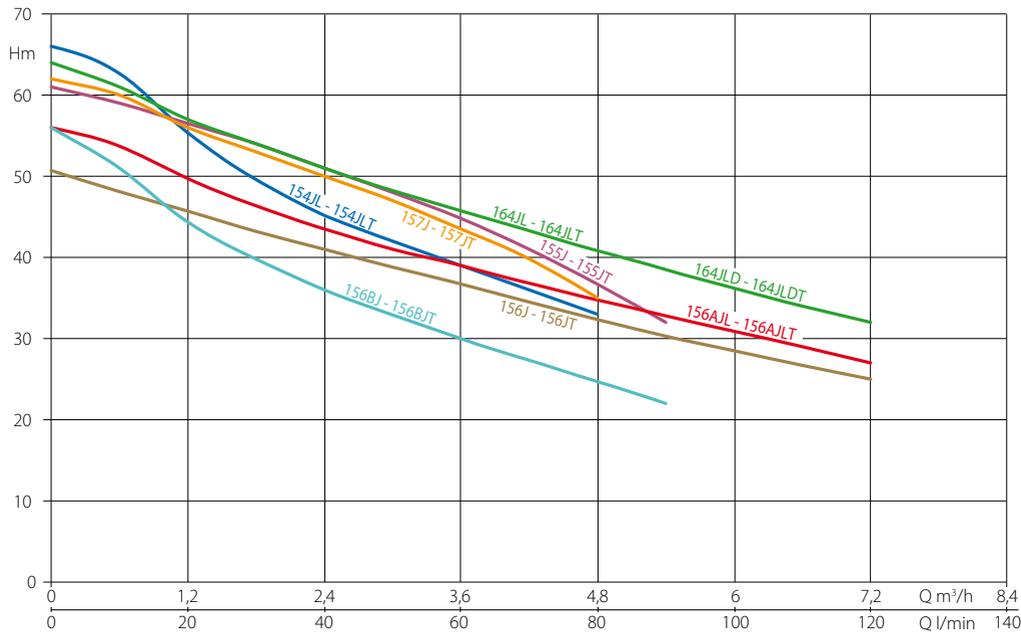
Easy to install and dismantle for service.

TYPES		No of impeller/s	HP	kW	DNa- Suction BSP/Gas	DNm- Delivery BSP/Gas	Q = Performance at 2900 rpm							Q = Performance at 2900 rpm							Pump body material	Pump motor bracket material	Impeller material	Diffuser material	Shaft in stainless steel			
1~ 230V 50Hz	3~ 230/400V 50Hz						m³/h	0	0,6	1,2	1,8	2,4	3	3,6	4,2	4,8	5,4	6	6,6	7,2						7,8	8,4	
							l/m	0	10	20	30	40	50	60	70	80	90	100	110	120						130	140	
130J	130JT	1	0,6	0,45	1"	1"		43,0	36,0	30,2	24,9	20,0											Cast iron	Aluminium	Noryl®	Noryl®	AI SI 416	
135J	135JT	1	0,8	0,6	1"	1"		49,0	42,0	36,0	30,2	24,9											Cast iron	Aluminium	Noryl®	Noryl®	AI SI 416	
140JG	140JGT	1	0,8	0,6	1"	1"		49,0	41,0	34,0	27,5	23,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 416	
147JG	147JGT	1	1	0,75	1"	1"		39,0	36,5	33,9	30,8	27,7	24,5										Cast iron	Cast iron	Noryl®	Noryl®	AI SI 416	
150J	150JT	1	1	0,75	1"	1"		52,5	47,0	42,0	37,0	32,0	26,7										Cast iron	Aluminium	Noryl®	Noryl®	AI SI 416	
150JLD	150JLDT	1	1	0,75	1"	1"		51,0	44,0	37,3	32,9	29,5	26,0										Cast iron	Cast iron	Brass	Cast iron	AI SI 416	
150J-SS	150J-SST	1	1	0,75	1"	1"		50,0	43,0	38,0	32,0	28,0	21,0										Stainless Steel AISI 304	Aluminium	Noryl®	Noryl®	AI SI 416	
152JG	152JGT	1	1	0,75	1"	1"		54,0	47,0	38,0	33,0	27,5	23,0										Cast iron	Cast iron	Noryl®	Noryl®	AI SI 416	
154JL	154JLT	1	1,5	1,1	1"1/2	1"	Hm = Total head in meters w.c.	66,0	63,0	55,0	50,0	45,0	42,0										Cast iron	Cast iron	Brass	Noryl®	AI SI 416	
155J	155JT	2	1,5	1,1	1"1/2	1"		61,0	59,0	56,5	54,0	51,0	48,0										Cast iron	Cast iron	Noryl®	Noryl®	AI SI 303	
156J	156JT	1	1,5	1,1	1"1/2	1"1/4		50,7	48,1	45,7	43,2	41,0	38,8										Cast iron	Cast iron	Noryl®	Noryl®	AI SI 416	
156AJL	156AJLT	1	1,5	1,1	1"1/2	1"		56,0	54,0	49,5	46,0	43,5	41,0											Cast iron	Cast iron	Brass	Noryl®	AI SI 416
156BJ	156BJT	1	1,5	1,1	1"1/4	1"		56,0	51,0	44,0	40,0	36,0	33,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 416
157J	157JT	2	1,5	1,1	1"1/2	1"		62	60,0	56,0	53,0	50,0	47,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 304
164JL	164JLT	1	2	1,5	1"1/2	1"		64,0	61,0	57,0	54,0	51,0	48,0											Cast iron	Cast iron	Brass	Noryl®	AI SI 416
164JLD	164JLDT	1	2	1,5	1"1/2	1"		64,0	61,0	57,0	54,0	51,0	48,0											Cast iron	Cast iron	Brass	Cast iron	AI SI 416
165J	165JT	2	2	1,5	1"1/2	1"		62,5	61,0	59,5	58,0	56,1	54,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 303
166J	166JT	1	2	1,5	1"1/2	1"1/4		58,1	55,5	52,8	50,4	48,0	46,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 416
167J	167JT	2	2	1,5	1"1/2	1"	62,0	60,0	58,0	56,0	54,0	52,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 304	
175J	175JT	2	3	2,2	1"1/2	1"	64,5	63,0	62,0	60,5	59,0	57,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 303	
-	176JT	1	3	2,2	1"1/2	1"1/4	64,8	62,0	59,5	57,2	55,0	53,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 416	
177J	177JT	2	3	2,2	1"1/2	1"	65,0	64,0	62,0	60,0	58,0	56,0											Cast iron	Cast iron	Noryl®	Noryl®	AI SI 304	

Pumps performance

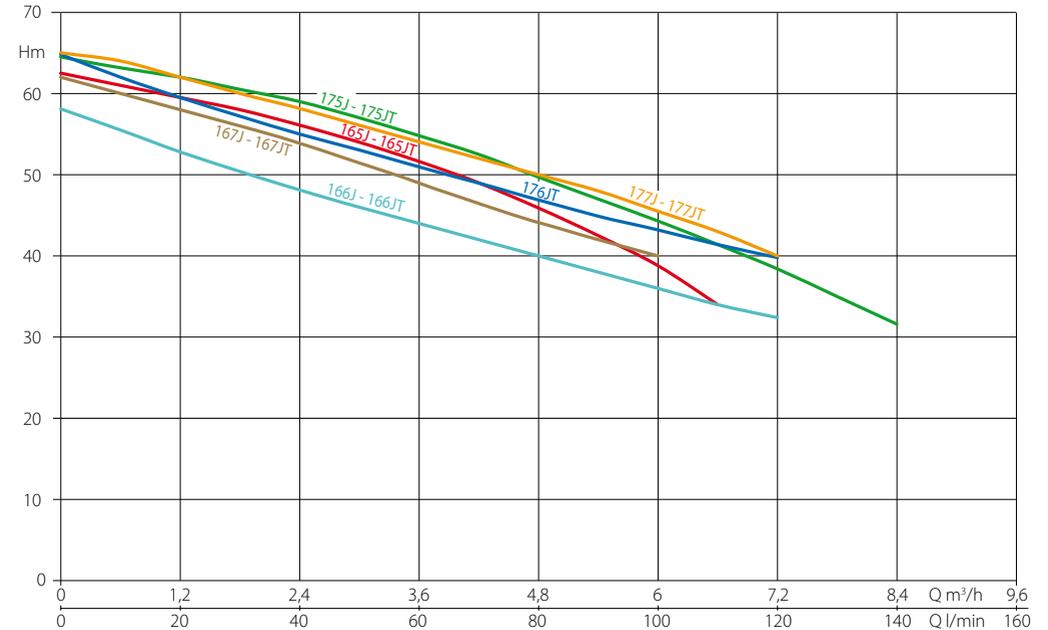


• Reduction in speed will result in a fall of performance. • DO NOT RUN PUMP DRY! • Tolerances according to ISO 9906, Annex A.

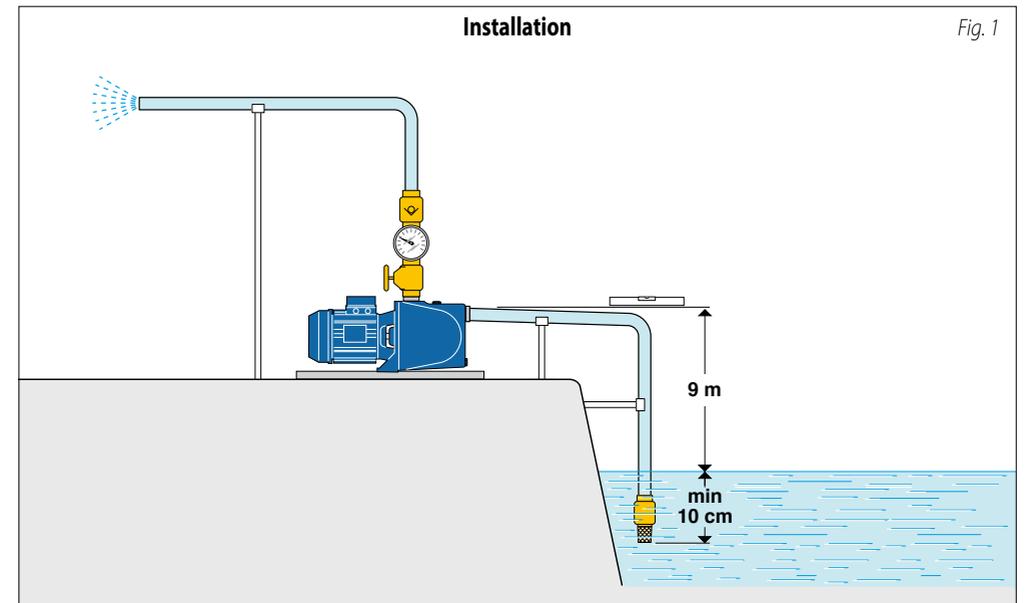


• Reduction in speed will result in a fall of performance. • DO NOT RUN PUMP DRY! • Tolerances according to ISO 9906, Annex A.

Pumps performance



• Reduction in speed will result in a fall of performance. • DO NOT RUN PUMP DRY! • Tolerances according to ISO 9906, Annex A.



Pump and Motor Construction Data with Limits of Use and Operating Conditions

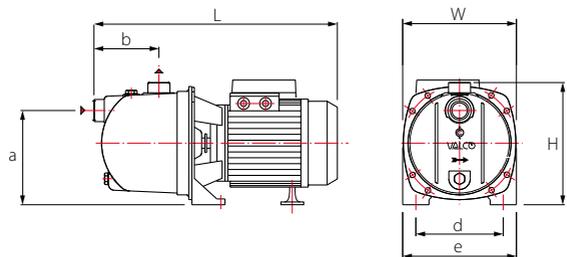
OPERATING CONDITIONS (LIMITS OF USE)	
Maximum temperature of pumped liquid:	0 +50 °C
Maximum working pressure (maximum permissible/allowed pressure in the pump casing):	600 KPa / 6 bar up to 1 HP included; 800 KPa / 8 bar upper 1 HP
Maximum ambient temperature:	40 °C
Type of pumped liquid:	Neutral clean water and fluid chemically and mechanically non-corrosive, non-aggressive, non-abrasive, non-explosive.
Density of pumped liquid with $\rho =$ water specific gravity:	1 kg/dm ³
Presence of solids in suspension:	No

PUMP CONSTRUCTION MATERIALS	
Pump body:	See table above
Pump motor bracket *:	See table above
Impeller:	See table above
Shaft:	See table above
Mechanical seal:	Ceramic, carbon-graphite
Motor casing:	Aluminium

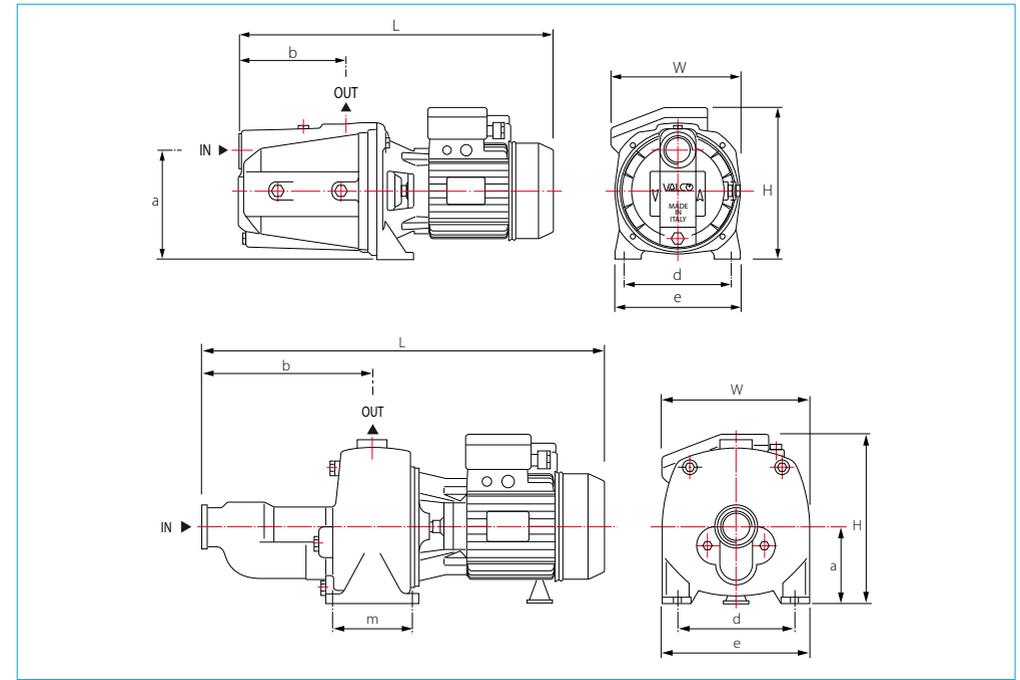
* Seal holding disc in technopolymer for aluminium pump motor bracket

MOTOR	
Motor type:	Asynchronous Electric motor
Number of poles:	2
Insulation class:	F
Degree of protection:	IP44
Service:	Continuous duty
Built in thermal protection for 1phase:	Yes
Maximum tolerance (fluctuation) from the nominal voltage:	±6%
Starts per hour max:	30 (15 for star-delta starting or reactance) up to 1,5 HP; 20 (10 for star-delta starting or reactance) for 2 and 3 HP

Pumps dimensions and weights

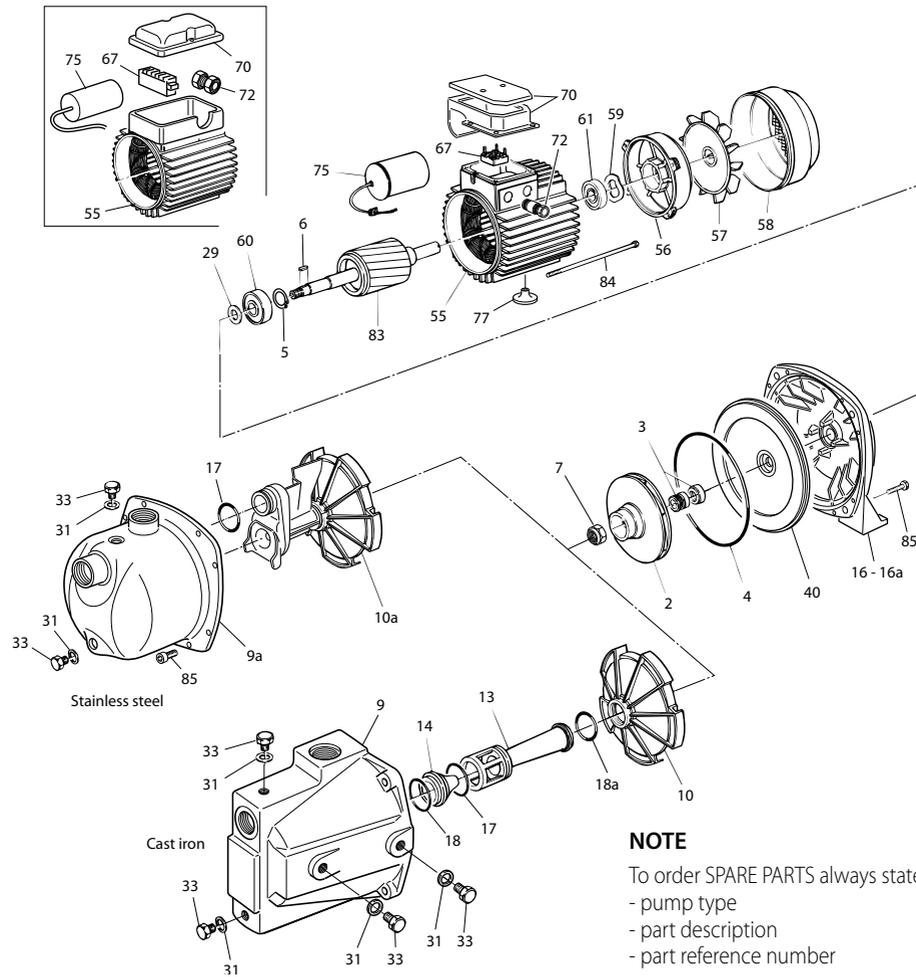


Pumps dimensions and weights



TYPES		DIMENSIONS in mm								
		L	W	H	a	b	d	e	m	kg
130J	130JT	420	180	195	152	140	140	180	-	15,4
135J	135JT	420	180	195	152	140	140	180	-	15,8
140JG	140JGT	430	185	195	153	141	140	185	-	14,5
147JG	147JGT	402	180	195	147	123	140	180	-	16
150J	150JT	420	180	195	152	140	140	180	-	17
150JLD	150JLDT	429	191	203	150	135	140	191	-	18,5
150J-SS	150J-SST	360	175	199	150	79	140	175	-	9,9
152JG	152JGT	430	185	195	153	141	140	185	-	15
154JL	154JLT	510	210	220	165	166	166	210	-	25,6
155J	155JT	596	221	248	112	257	177	220	105	27,9
156J	156JT	506	220	245	175	167	165	203	-	24,5
156AJL	156AJLT	510	210	220	165	166	166	210	-	25,7
156BJ	156BJT	510	210	220	165	166	166	210	-	24,6
157J	157JT	595	220	230	159	240	180	220	97	28,1
164JL	164JLT	510	210	220	165	166	166	210	-	27,7
164JLD	164JLDT	510	210	220	165	166	166	210	-	28,5
165J	165JT	596	221	248	112	257	177	220	105	28,7
166J	166JT	506	220	245	175	167	165	203	-	25,5
167J	167JT	595	220	230	159	240	180	220	97	29,3
175J	175JT	596	221	248	112	257	177	220	105	29,6
-	176JT	506	220	245	175	167	165	203	-	26,5
177J	177JT	595	220	230	159	240	180	220	97	30,4

Parts list with exploded view



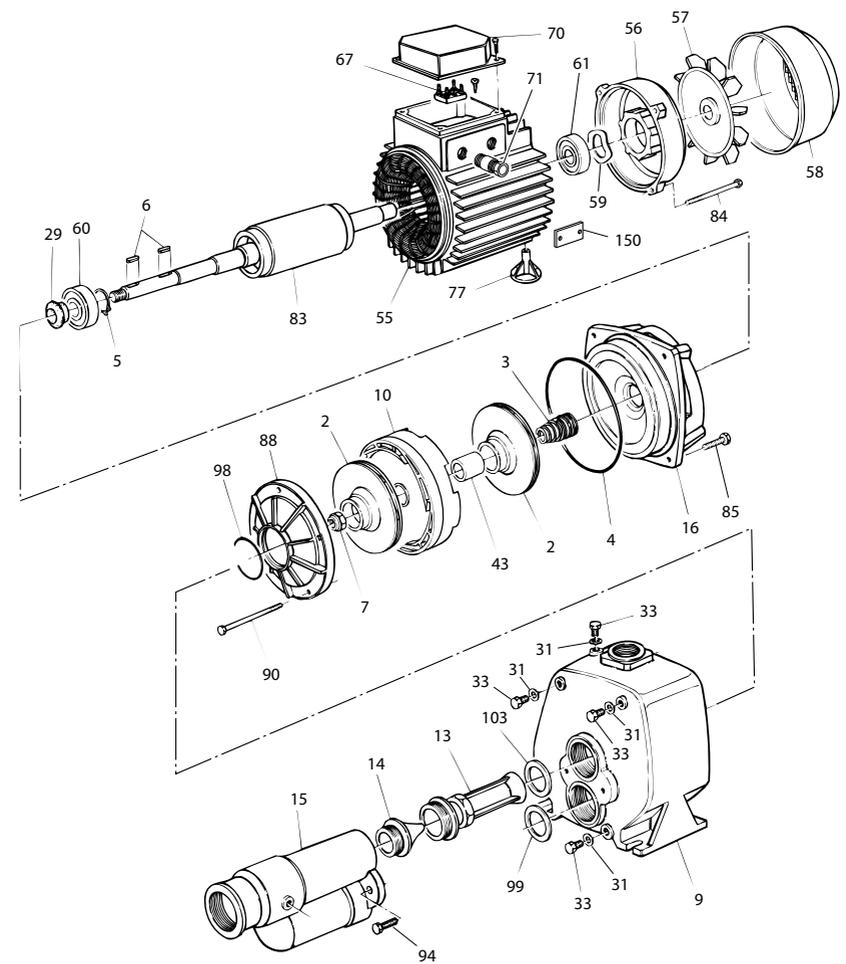
NOTE

To order SPARE PARTS always state:
 - pump type
 - part description
 - part reference number

REF.	PART
2	IMPELLER
3	MECHANICAL SEAL
4	PUMP BODY OR-GASKET
5	SEEGER (circlip ring)
6	KEY
7	IMPELLER SELF-LOCKING NUT
9	PUMP BODY (cast iron)
9a	PUMP BODY (stainless steel)
10	DIFFUSER (or diffuser complete assembly for two-impeller pumps)
10a	DIFFUSER WITH VENTURI TUBE with NOZZLE TANK
13	VENTURI HOSE

REF.	PART
14	NOZZLE
15	EJECTOR BODY
16	PUMP MOTOR BRACKET (cast iron)
16a	PUMP MOTOR BRACKET (aluminium)
17	OR GASKET FOR VENTURI HOSE
18	OR GASKET FOR NOZZLE
18a	OR GASKET FOR DIFFUSER
29	SPLASH RING
31	WASHER
33	PLUG
40	MECHANICAL SEAL DISC HOLDER

Parts list with exploded view



REF.	PART
43	IMPELLER SPACER BUSHING
55	MOTOR CASE AND STATOR
56	MOTOR COVER
57	FAN
58	FAN COVER
59	ADJUSTING RING
60	FRONT BEARING
61	BACK BEARING
67	TERMINAL BOX
70	TERMINAL BOX COVER
72	CABLE PRESS

REF.	PART
75	CAPACITOR
77	SUPPORTING FOOT WITH SCREW
83	SHAFT AND ROTOR
84	MOTOR ROD
85	SCREW
88	DIFFUSER COVER
90	DIFFUSER TIE ROD
94	EJECTOR BODY SCREW
98	OR GASKET FOR DIFFUSER COVER
99	OR GASKET FOR EJECTOR
103	OR GASKET FOR EJECTOR (Venturi hose)

1. APPLICATIONS

VALCO self priming jet electric pumps are suitable for pumping clean water up to 50 °C and within the rating as stamped on the nameplate. Maximum number of starts per hour is 30 (20 for 2 and 3 HP), evenly spaced. Maximum pressure rating is 6 bar up to 1 HP included, 8 bar upper 1 HP.

This type of pump must never be allowed to work on the closed valve condition.

- **ALWAYS FILL WITH WATER BEFORE STARTING THE PUMP.**
- **DO NOT ALLOW PUMP TO RUN DRY.**

2. INSTALLATION

The pump must be installed horizontally on its feet on a firm base. The location should be well ventilated, if outside it should be protected from rain and direct sunlight (Fig. 2), ambient temperature should not be above 40 °C.

Ensure that pump runs freely before installation.

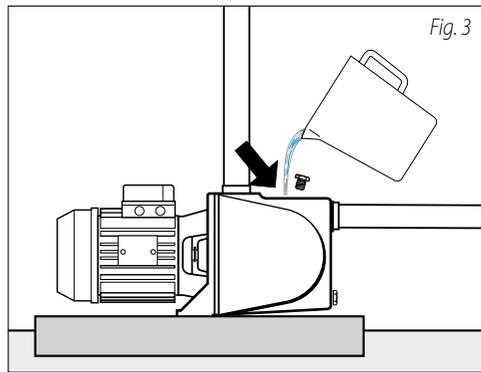
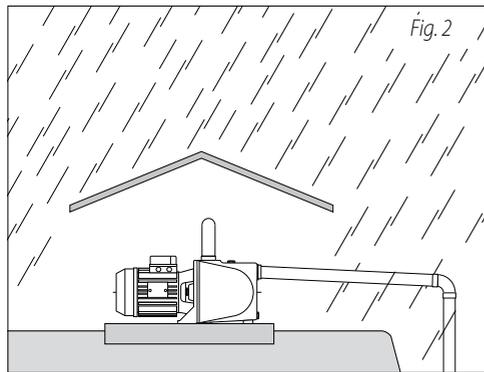
3. SUCTION CONDITIONS (see fig. 1 at page 7)

Endeavour to install the pump as near as possible to the source of water, in order to obtain reliable and optimum performance. Ensure that the suction pipe is immersed at least 10 cm. Under the most favourable conditions max suction lift is 9m, (once the pump body has been primed. We recommend to fit a Foot Valve).

4. PIPEWORK (see fig. 1 at page 7 and fig. 3)

Pipework must be supported in order not to impose any strain on the pump. Suction and delivery pipes should be equal or greater than the diameter of pump ports. The suction pipe should gently slope towards the pump to prevent the forming of air pockets, which could impair the pump performance and disturb the priming process. The suction pipe should also be absolutely air tight, a foot valve and strainer should be fitted.

When the pump is installed under flooded suction condition an isolating gate valve should be fitted. On the delivery side, a valve should be installed together with a non return valve. The valve is used to regulate the flow, the non-return (or check) valve prevents back flow and water hammer. It is also advised to fit a pressure gauge at this point. At this stage proceed to fill the pump with water through the fill up port situated near the delivery outlet (fig. 3). Remove the brass plug and fill the pump slowly to ensure that no air bubbles remain. Replace brass plug.



5. ELECTRICAL CONNECTIONS

Electrical work must be carried out by a competent electrician according to local rules and regulations. The cable has to be connected according to the diagram printed inside the terminal cover reproduced here for the user's convenience. It is advisable that a starter is installed with the correct overloads fitted for the protection of the electric motor.

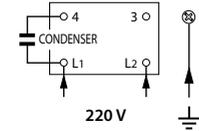
For amps rating see nameplate.

Always connect the earth terminal. Use adequate cable sizes.

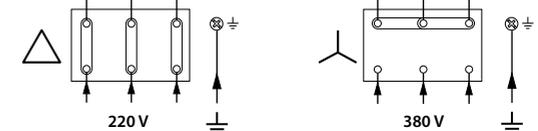


ALWAYS DISCONNECT POWER BEFORE HANDLING OR WORKING ON THE ELECTRIC PUMP (ALWAYS ISOLATE FROM MAINS).

Connection diagram for Single Phase



Connection diagram for Three Phase



- **Disconnect and lockout electrical power before installing or servicing any electrical equipment.** Keep fingers, your person and property away from openings and rotating parts and from any other part. Terminal cover must be in a place for safe operation ground in accordance with current electrical regulations.
 - **WARNING: SUDDEN STARTS due to automatic overload resets (always isolate from mains before handling or working on the electric pump).** Many pumps are equipped with automatic thermal overload protection which may allow an overheated pump to restart unexpectedly!!! If power to pump is "on" when thermal overload resets, pump may start without warning. If you are working on pump you may get an electrical shock or impeller may catch fingers or tools.
- Motors fitted with internal auto reset overload and restart without warning: if the motor stops due to operation of the thermostat, the motor electrical terminals will still be live. So isolate before remove terminal cover!!!
- **Electrical work, installation, repair and maintenance must be carried out only by an authorized and qualified technician according to local rules and regulations.**

Pump maintenance

Remove the brass plug to empty the pump for maintenance.

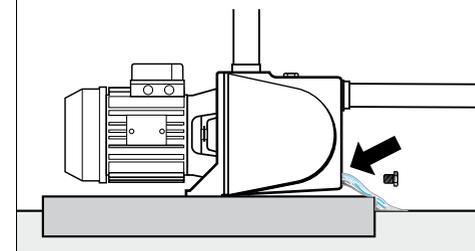


Fig. 4

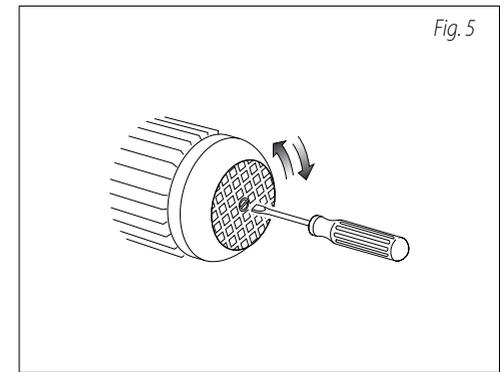


Fig. 5

6. START UP

Before starting the pump ensure that it can rotate freely, if not it can be freed by placing a screwdriver in the slot that can be found on the fan end of the motor shaft, a slight tap on the screwdriver with a plastic hammer will facilitate this operation (Fig. 5). At this point the pump can be started. Check for leaks and ensure that water is being delivered.

- **DO NOT ALLOW THE PUMP TO RUN DRY!!!**
- **ALWAYS FILL WITH WATER BEFORE STARTING THE PUMP.**
- **ALWAYS READ PUMP INSTRUCTIONS**

7. FAULT FINDING: Problems and possible causes

PUMP DOES NOT START:

1. Pump is seized
2. Incorrect wiring
3. Low voltage
4. Mains failure
- 4A. **N.B.** If the pump is started but does not operate, after a short time the winding overload will operate
- Remove power and rectify fault

PUMP RUNS WITHOUT DELIVERING WATER

5. Pump not filled or partially filled
6. Water supply in the well exhausted
7. Pipework leaking allowing air to enter suction
8. Motor speed too low
9. Blocked pipework by debris
10. Suction lift too high
11. Suction pipework exposed
12. Delivery pipework too long

REDUCED CAPACITY AND PRESSURE

13. See (10) suction or delivery pipe obstructed. See also (8) (9) (7) (3) (2) (11)

MOTOR GETS EXCESSIVELY HOT

14. See (2) (3) (9) pump used outside working range as stamped on nameplate
15. Pump running dry see (4A)

Electrical work, installation, repair and maintenance must be carried out only by an authorized and qualified technician according to local rules and regulations.

VALCO PRODUCTS DECLARATION OF CONFORMITY

The products listed above comply with the safety requirements of the Machines Directive 89/392/EEC (and subsequent modifications 91/368/EEC, 93/44/EEC, 93/68/EEC), the Low Voltage Directive 73/23/EEC and the Electromagnetic Compatibility 89/336/EEC (and subsequent modification 92/31/EEC).

They conform also to the following European harmonized norms: EN 809/IEC 34-1, [D-CE] and are manufactured in accordance with the harmonized norms [N-A]: • (D-CE) 2006/42/CE; 2006/95/CE; 2004/108/CE; 2000/14/CE (following procedure annex V) • (N-A) EN 60034...EN 60204-1; EN 60335-1; EN 60335-2-41; EN 61000; EN 55014; UNI EN ISO 12100-1; UNI EN ISO 12100-2; UNI EN ISO 14121-1; UNI EN ISO 3744.

We remind you that the present declaration loses its validity if the products are modified without the written agreement of Valco srl.

Manufacturer and depositary of
technical documentation:

VALCO s.r.l. - Via dell'industria, 27-29
I-36063 Marostica (Vicenza)
Veneto, (Venice Region) - EU - Italy

Signature/Qualification: Valerio Costenaro (Managing Director)

Marostica (VI),
31st July, 2015



If repairs are required, contact an authorized
VALCO dealer.

We also manufacture and supply:

Sold by VALCO distributor
Authorized VALCO dealer



Exclusive High-Tech Pumps for Water and other Fluids, Motors and Controls, in Standard or Custom Designs, manufacturing of:

- Electric Pumps: Borehole Submersible, Drainage and Sewage, Surface Centrifugal Close Coupled
- Controls and Fittings for Pumps and Pumping Installations
- Electric Motors (Compact AC Power) in Standard or Custom Designs

Exclusive High-Tech Pumps for Water and other Fluids, Motors and Controls, Made in ITALY by VALCO.
Established in Marostica (Vicenza, Venice Region in North-East Italy) since 1976

VALCO[®]
water is the future[®]

VALCO[®] International trademark.

**HEAD OFFICE, WORKS,
PUMP & MOTOR TEST LABORATORY,
PUMP & MOTOR RESEARCH CENTRE
PUMPS & WATER HANDLING UNIVERSITY**

Pumps, Motors and Controls Manufacturing

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