

ELECTRIC PUMPS

IrriguaTM-1

**CENTRIFUGAL SINGLE STAGE
ELECTRIC PUMPS**



CE



Made in Italy

VALCO ELECTRIC PUMPS

CONTENTS

CENTRIFUGAL SINGLE STAGE ELECTRIC PUMPS

- Applications	pag.	3
- Pumps performance	pag.	4-5
- Pump and Motor Construction Data with Limits of Use and Operating Conditions	pag.	6
- Pumps dimensions and weights	pag.	7
- Parts list with exploded view	pag.	8
- Installation and operating instructions	pag.	9
- VALCO Products Declaration of Conformity	pag.	11

VALCO PRODUCTS

- SURFACE CENTRIFUGAL ELECTRIC PUMPS	pag.	12
- BOOSTER PRESSURIZATION SETS -PACKAGED PRESSURE UNITS AND SYSTEMS - VARIABLE SPEED (VSD)	pag.	13
- SUBMERSIBLE MULTISTAGE BOREHOLE ELECTRIC PUMPS FOR DEEP WELLS	pag.	14
- DRAINAGE AND WASTEWATER SEWAGE SUBMERSIBLE ELECTRIC PUMPS ALSO NO-CLOG EXECUTIONS	pag.	15-16
- PUMPING LIFTING STATIONS	pag.	17
- FITTINGS	pag.	18
- ELECTRIC MOTORS	pag.	19

ELECTRIC PUMPS

Irrigua™-1

CENTRIFUGAL SINGLE STAGE ELECTRIC PUMPS

Single, compact, balanced units.

High quality efficient but inexpensive pumps for low and medium duties.



Applications:

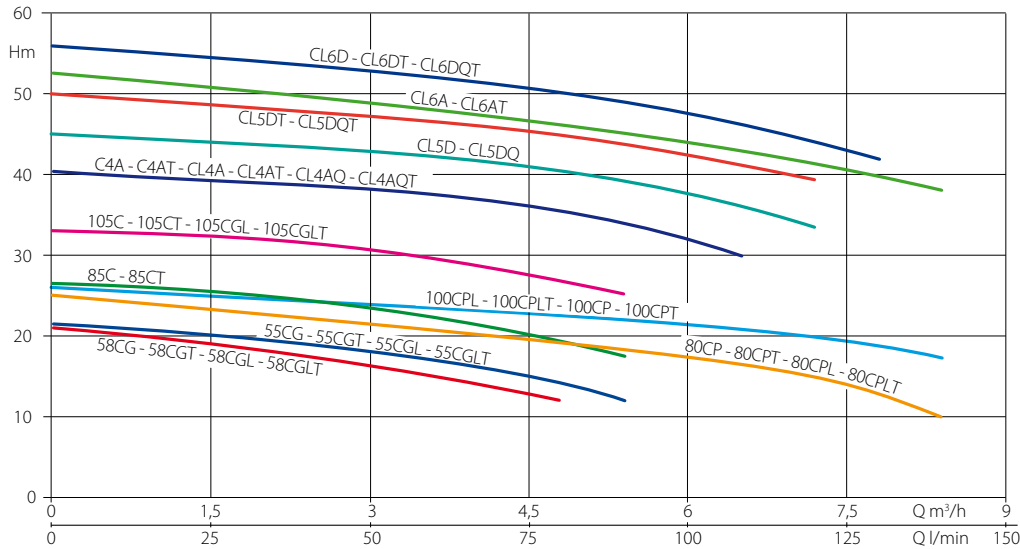
For low and medium duties.

Suitable for domestic, civil, agricultural, industrial, residential, commercial, washing and hobby uses, pressure boosting / increasing water pressure, irrigation, 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, water transfer, air conditioning and cooling systems, etc.

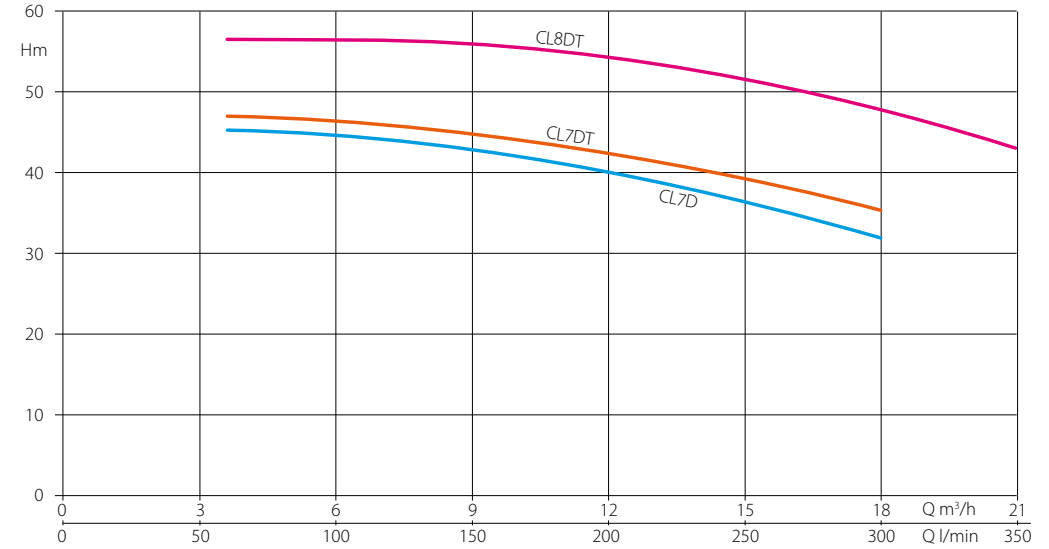
Energy efficient hydraulic design for cost-effective operation.

Easy to install and dismantle for service.

TYPES		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		
1~ 230V 50Hz	3~ 230/400V 50Hz					m³/h	0	0,6	1,2	2,4	3,6	4,2	4,8	5,4	6	6,6	7,2	7,8	8,4	12	15				18	21
						l/m	0	10	20	40	60	70														
55CG	55CGT	0,5	0,37	1"	1"	21,5	21,0	20,5	19,0	17,0	15,8	14,2	12,0											Cast iron	Cast iron	Noryl®
55CGL	55CGLT	0,5	0,37	1"	1"	21,5	21,0	20,5	19,0	17,0	15,8	14,2	12,0											Cast iron	Cast iron	Brass
58CG	58CGT	0,5	0,37	1"	1"	21,0	20,3	19,5	17,5	15,0	13,6	12,0												Cast iron	Cast iron	Noryl®
58CGL	58CGLT	0,5	0,37	1"	1"	21,0	20,3	19,5	17,5	15,0	13,6	12,0												Cast iron	Cast iron	Brass
80CP	80CPT	0,8	0,6	1 1/4"	1"	25,0			22,2	20,8	20,0	19,1	18,3	17,3	16,4	15,0	12,8	10,0						Cast iron	Aluminium	Noryl®
80CPL	80CPLT	0,8	0,6	1 1/4"	1"	25,0			22,2	20,8	20,0	19,1	18,3	17,3	16,4	15,0	12,8	10,0						Cast iron	Aluminium	Brass
85C	85CT	0,8	0,6	1"	1"	26,5	26,2	25,8	24,5	22,2	20,9	19,5	17,5											Cast iron	Aluminium	Noryl®
100CP	100CPT	1	0,75	1 1/4"	1"	26,0			24,3	23,5	23,0	22,5	21,9	21,4	20,8	20,0	18,7	17,2						Cast iron	Aluminium	Noryl®
100CPL	100CPLT	1	0,75	1 1/4"	1"	26,0			24,3	23,5	23,0	22,5	21,9	21,4	20,8	20,0	18,7	17,2						Cast iron	Aluminium	Brass
105C	105CT	1	0,75	1"	1"	33,0		32,5	31,5	29,6	28,3	26,8	25,2											Cast iron	Aluminium	Noryl®
105CGL	105CGLT	1	0,75	1"	1"	33,0		32,5	31,5	29,6	28,3	26,8	25,2											Cast iron	Cast iron	Brass
C4A	C4AT	1,5	1,1	1"	1"	40,5		39,3	38,6	37,5	36,6	35,6	34,0	31,9	29,5									Cast iron	Cast iron	Noryl®
CL4A	CL4AT	1,5	1,1	1"	1"	40,5		39,3	38,6	37,5	36,6	35,6	34,0	31,9	29,5									Cast iron	Cast iron	Brass
CL4AQ	CL4AQT	1,5	1,1	1 1/4"	1"	40,5		39,3	38,6	37,5	36,6	35,6	34,0	31,9	29,5									Cast iron	Cast iron	Brass
CL5D	-	2	1,5	1"	1"	45,1		44,1	43,3	42,3	41,5	40,5	39,2	37,5	35,7	33,5								Cast iron	Cast iron	Brass
-	CL5DT	2	1,5	1"	1"	50,0		48,7	47,8	46,5	45,7	44,9	43,7	42,4	41,0	39,4								Cast iron	Cast iron	Brass
CL5DQ	-	2	1,5	1 1/4"	1"	45,1		44,1	43,3	42,3	41,5	40,5	39,2	37,5	35,7	33,5								Cast iron	Cast iron	Brass
-	CL5DQT	2	1,5	1 1/4"	1"	50,0		48,7	47,8	46,5	45,7	44,9	43,7	42,4	41,0	39,4								Cast iron	Cast iron	Brass
CL6A	CL6AT	3	2,2	1 1/4"	1"	52,5		51,0	49,5	48,0	47,0	46,0	45,1	44,0	42,9	41,5	39,9	38,0						Cast iron	Cast iron	Brass
CL6D	CL6DT	3	2,2	1"	1"	55,9			53,4	52,0	51,1	50,1	48,9	47,5	46,0	44,2	41,9							Cast iron	Cast iron	Brass
-	CL6DQT	3	2,2	1 1/4"	1"	55,9			53,4	52,0	51,1	50,1	48,9	47,5	46,0	44,2	41,9							Cast iron	Cast iron	Brass
CL7D	-	4	3	2"	1 1/4"	45,3				45,2	45,1	45,0	44,8	44,5	44,2	43,9	43,6	43,2	40,1	36,5	31,9			Cast iron	Cast iron	Brass
-	CL7DT	4	3	2"	1 1/4"	47,1				47,0	46,8	46,7	46,5	46,3	46,1	45,8	45,5	45,1	42,4	39,2	35,2			Cast iron	Cast iron	Brass
-	CL8DT	5,5	4	2"	1 1/4"	56,5				56,5	56,5	56,5	56,5	56,5	56,5	56,5	56,4	54,2	51,4	47,7	43,0			Cast iron	Cast iron	Brass



• 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.

ELECTRIC PUMPS

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

OPERATING CONDITIONS (LIMITS OF USE)	
Maximum temperature of pumped liquid:	0 +50 with Noryl® impeller; 0 +90 with brass impeller
Maximum ambient temperature:	40 °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
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

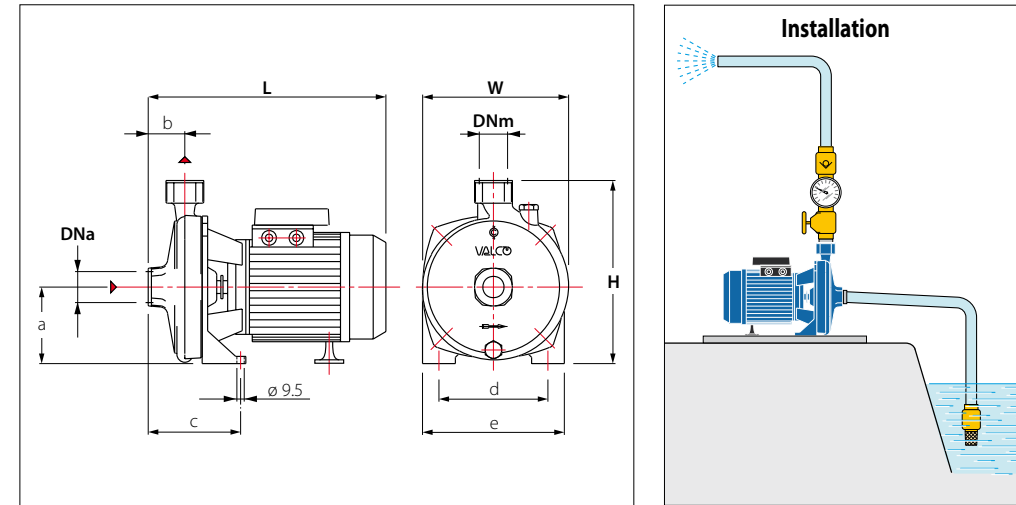
MOTOR	
Motor type:	Asynchronous Electric motor
Number of poles:	2
Insulation class:	F
Degree of protection:	IP44
Service:	Continuous duty
Built in thermal protection for 1 phase:	Yes (excluding type CL7D)
Maximum tolerance (fluctuation) from the nominal voltage:	±6%
Starts per hour max:	30 (15 for star-delta starting or reactance); 20 (10) for 4 and 5.5 HP
3phase and type CL7D:	the overload motor protection must be provided by the user (we recommend the use of a control box)

PUMP CONSTRUCTION MATERIALS	
Pump body:	Cast Iron
Pump bracket:	Cast iron (for pumps from 0,8 HP to 1 HP included available also in aluminium*); see Table above
Impeller:	Brass (for pumps 0,5 HP to 1,5 HP included available also in Noryl®); see Table above
Shaft:	Stainless steel AISI 416 up to 1 HP included; Stainless steel AISI 303 upper 1 HP (AISI416 for CL6A/T)
Mechanical seal:	Ceramic, carbon-graphite
Motor casing:	Aluminium

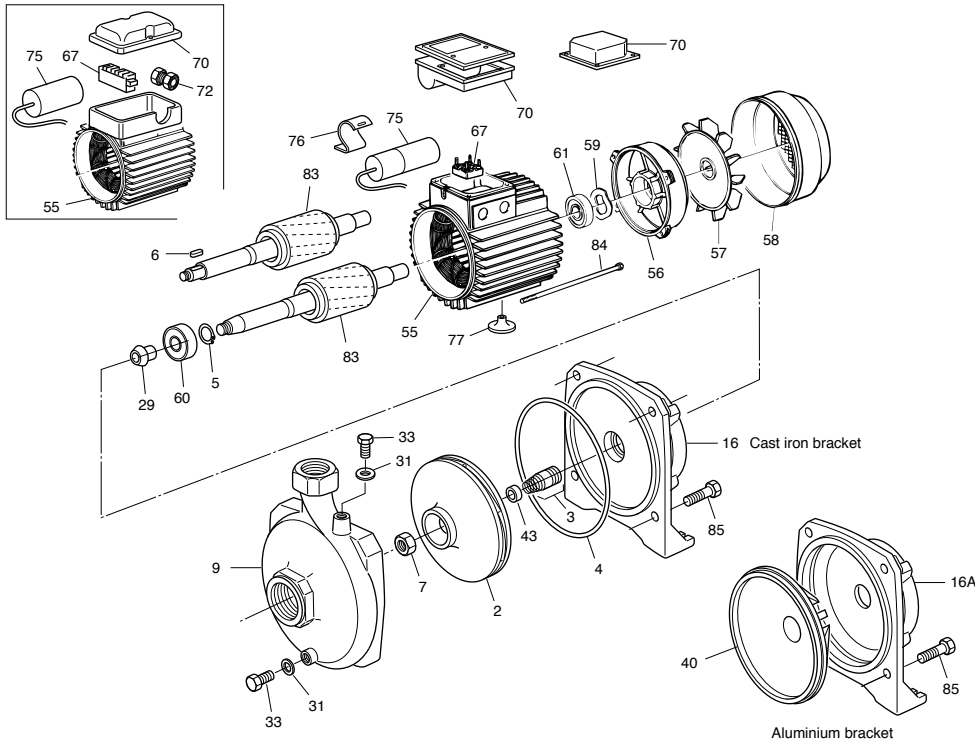
* Seal holding Disc in technopolymer

ELECTRIC PUMPS

Pumps dimensions and weights



TYPES		DIMENSIONS in mm								
		L	W	H	a	b	c	d	e	kg
55CG	55CGT	265	160	202	82	45,5	95	110	150	9
55CGL	55CGLT	265	160	202	82	45,5	95	110	150	9,2
58CG	58CGT	270	170	225	84	45	95	120	160	8,7
58CGL	58CGLT	270	170	225	84	45	95	120	160	9,3
80CP	80CPT	340	185	200	92	67	160	140	185	10,2
80CPL	80CPLT	340	185	200	92	67	160	140	185	10,2
85C	85CT	300	185	234	97	46,5	110	140	180	12,7
100CP	100CPT	340	185	200	92	67	160	140	185	11,5
100CPL	100CPLT	340	185	200	92	67	160	140	185	11,5
105C	105CT	300	185	234	97	46,5	110	140	180	14
105CGL	105CGLT	300	185	234	97	46,5	110	140	180	15,2
C4A	C4AT	348	225	285	115	46,5	117	180	220	22,5
CL4A	CL4AT	348	225	285	115	46,5	117	180	220	22,5
CL4AQ	CL4AQT	348	225	285	115	46,5	117	180	220	22,5
CL5D	-	348	225	285	115	46,5	117	180	220	23
-	CL5DT	348	225	285	115	46,5	117	180	220	23
CL5DQ	-	348	225	285	115	46,5	117	180	220	23
-	CL5DQT	348	225	285	115	46,5	117	180	220	23
CL6A	CL6AT	355	225	295	115	50	120	170	210	23,5
CL6D	-	410	225	285	115	46,5	117	180	220	27,5
-	CL6DT	348	225	285	115	46,5	117	180	220	23,5
-	CL6DQT	348	225	285	115	46,5	117	180	220	23,5
CL7D	-	425	250	323	133	54	108	190	240	39,8
-	CL7DT	425	250	323	133	54	108	190	240	39,8
-	CL8DT	425	250	323	133	54	108	190	240	39,8



REF.	PART
2	IMPELLER
3	MECHANICAL SEAL
4	OR GASKET
5	SEEGER
6	KEY
7	IMPELLER STOP NUT
9	PUMP BODY
16	MOTOR BRACKET (CAST IRON)
16A	MOTOR BRACKET (ALUMINIUM)
29	SPLASH RING
31	WASHER
33	PLUG

NOTE

To order SPARE PARTS always state:

- pump type
- part description
- part reference number

REF.	PART
40	MECHANICAL SEAL DISC HOLDER
43	IMPELLER SPACER BUSHING (FOR BRASS IMPELLER)
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
75	CAPACITOR
76	CAPACITOR HOLDER
77	SUPPORTING FOOT WITH SCREW
83	SHAFT AND ROTOR
84	MOTOR ROD
85	SCREW

Installation and operating instructions

1. APPLICATIONS

VALCO electric pumps are suitable for pumping clean water up to 90 °C (50 °C for Noryl® impeller) and within the rating as stamped on the nameplate. Maximum number of starts per hour is 30 (20 for 4 and 5,5 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, ambient temperature should not be above 40 °C.

Ensure that pump runs freely before installation.

3. SUCTION CONDITIONS:

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 all conditions. Max suction lift is 4 m..

4. PIPEWORK:

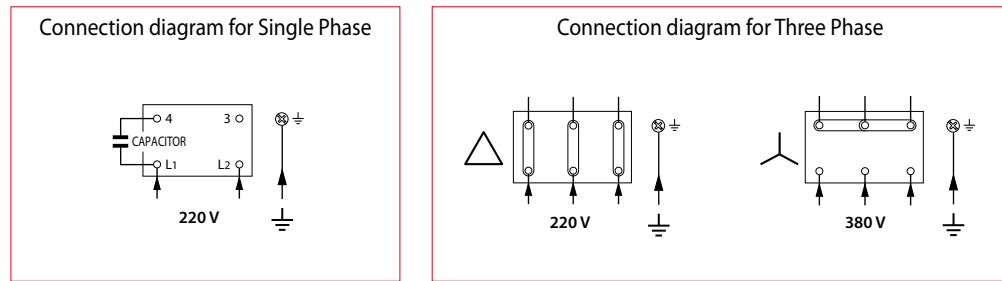
Pipework must be supported in order not to impose any strain on the pump. Suction and delivery pipes should be equal or greater than the diameter of pump ports. The suction pipe should gently slope towards the pump to prevent the forming of air pockets, which could impair the pump performance and disturb 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. Remove the brass plug and fill the pump slowly to ensure that no air bubbles remain. Replace brass plug.

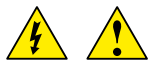
5. ELECTRICAL CONNECTIONS:

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).

- **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.** 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.**

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. 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).

Signature/Qualification
Valerio Costenaro (Managing Director)
Marostica (VI) : 28-May-2015

SURFACE CENTRIFUGAL ELECTRIC PUMPS

Pump construction

Horizontal and vertical, close-coupled, single and multistage, end suction, split case, in cast iron, stainless steel, brass, bronze and thermoplastics.

Applications

Drinking potable water supply, domestic, civil, community and district water boosters, irrigation, heating, air conditioning, firefighting, sprinklers, food processing, industry, chemical, water treatment, sea water pumping.

Innovations and Specialties

- with Variable Speed Control with Inverters, (frequency control with modulation), for control and protection of the system, for low power consumption and energy saving according to EU energy saving rating recommendations Energy Standards Classes (to meet Kyoto Protocol recommendations), and for durability.
- built with materials following EU Directive 98/83/CE referring to waters for human consumption.
- with Flame-proof ATEX following Directive 94/9/EC for equipment intended for use in potentially explosive atmospheres Exd-IB-T3-II-2-G and Low voltage versions for use in installations with safety rules against electrocution.
- with pump assembly and motor made to customers' requirements.

Range of Performance:

Capacity (flow rate) up to 240 m³/h - Head up to 260 m
Powers: 0,37 ÷ 75 kW

PUMP RANGES

- **Conva™** - Deep Well Jet Self Priming suitable for wells with low capacity
- **Jetdom™** - Shallow Well Jet Self Priming
- **Irrigua™** - Centrifugal Single and Two-Stage and to DIN-EN 733-DIN 24255 flanged DIN2533 (of back pull-out design for quick and simple dismantling and reassembling for ease of Maintenance), also Bareshaft versions and Split Case
- **Casalinga™** - Peripheral Turbine with multivane impeller generating high lifts with a small power consumption
- **Nordica™ & Buta™** - Multistage horizontal and vertical all stainless steel, high heads, silent operation
- **Valco-Lem™** - Self priming contractors' trash pumps in cast iron, bronze and stainless steel castings
- **TLC®** - Circulating Pumps with Variable Speed Control

Conva™ - Deep well packer




Single Pipe 2" and Twin Pipe 4" Deep Well Ejector Assembly

Jetdom™ - Shallow well jet self priming



Stainless Steel

Irrigua™-1D - Centrifugal single stage DIN-EN standard cast iron and stainless steel



Stainless Steel 304 or 316L Version
Cast Iron also bronze impeller
Bareshaft DIN Standard Version

Nordica™ Multistage vertical



Irrigua™-1 - Centrifugal single stage



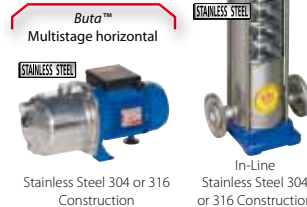
Irrigua™-2 - Centrifugal two-stage for high heads



Irrigua™-3 - Centrifugal single stage for high capacities



Buta™ Multistage horizontal



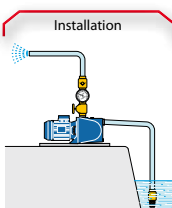
Stainless Steel 304 or 316 Construction
In-Line Stainless Steel 304 or 316 Construction

Casalinga™ Turbine peripheral booster



Bronze Casting

Installation

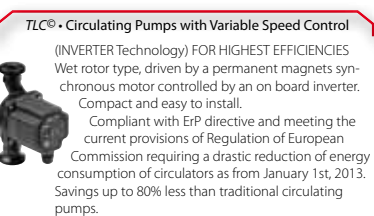


Valco-Lem™ - Self priming contractors' trash



3" Bareshaft

TLC® - Circulating Pumps with Variable Speed Control
(INVERTER Technology) FOR HIGHEST EFFICIENCIES
Wet rotor type, driven by a permanent magnets synchronous motor controlled by an on board inverter. Compact and easy to install.
Compliant with ErP directive and meeting the current provisions of Regulation of European Commission requiring a drastic reduction of energy consumption of circulators as from January 1st, 2013. Savings up to 80% less than traditional circulating pumps.



BOOSTER PRESSURIZATION SETS -PACKAGED PRESSURE UNITS AND SYSTEMS - VARIABLE SPEED (VSD)

Booster construction

Made of 1, 2 or more service electric pumps also version with Jockey Pump, (centrifugal, jet, multistage horizontal and vertical), with controls either electric, electronic or with variable speed inverter (with frequency control with modulation: to make an "Intelligent Pump") with high efficiency and lower power consumption and energy saving to meet EU Classes recommendations and according to Kyoto Protocol, with a wide range of settings, protections also with remote control.

Applications

Drinking Potable water applications. Raising water for general use from varied sources: residential, civil, agricultural and industrial uses; providing sufficient water delivery to meet users' demand and maintaining a sufficient minimum pressure in the system to ensure that the water reaches all points of demand: it enables the system to constantly adapt to your demands. Ideal to make up for insufficient pressure or shortages of water supply from the public water supplier or for water supply from varied sources (tanks, wells, etc.).

They are widely used also in agricultural and industrial applications where variable capacities at a constant pressure are required.

Innovations and Specialties

Special executions built with materials, (i.e. all stainless steel) following EU Directive 98/83/CE referring to waters for human consumption.

We build on demand Firefighting Systems and Special Booster Sets for the most efficient and effective handling of Water Resources, for lower Power Consumption and Energy Saving according to Kyoto Protocol also through the use of Alternative Energy Sources.
Water Turbines for the production of Green Energy.

Ranges of Performance:

- Capacity (flow rate) up to 225 m³/h - Head up to 141 m
- Powers from 0.37 ÷ 74 kW

Sets Controlled by:

- Electric Panel Starter and Pressure Switch with Tank and 1 - 2 or more Pumps
- TC Drive Twin-Electronic Pump Controller for 1 or 2 Pumps
- Variable Speed Inverter V or C-Drive with 1 - 2 or more Pumps

Valco variable speed (VSD) booster pressurization sets



Prej - predisposed sub-assembly



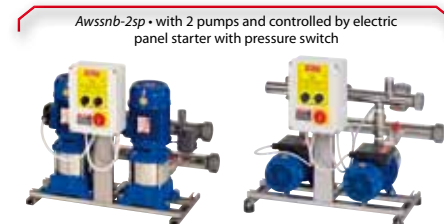
Awssj-2spt - with 2 pumps and controlled by electric panel starter with pressure switch and with 2 units of 19 litre tank



Awssn-2spt - with 2 pumps and controlled by electric panel starter with pressure switch and with 2 units of 19 litre tanks



Awssnb-2sp - with 2 pumps and controlled by electric panel starter with pressure switch



Awssj-pt - controlled by pressure switch and with membrane tank



SUBMERSIBLE MULTISTAGE BOREHOLE ELECTRIC PUMPS FOR DEEP WELLS

from 3 to 14-inch wells, to NEMA standard and complete with electric motors.

The most complete range of submersible borehole electric pumps to meet all your borehole pumping applications. Suitable to replace standard surface pumps, carrying the advantages of lesser space needed, less maintenance and complete absence of noise.

Pump and Motor construction

From 3 to 14 inch sizes to Nema standard and complete with 2-pole and 4-pole electric motors, rewindable, 2-wire, 3-wire with control box, oil cooled (prefilled with food grade additives to protect against freeze and rust) and wet type water-cooled executions.

Protection IP68.

Pump ends made of stainless steel, bronze, brass and cast iron.

Impellers in stainless steel, cast iron, brass, bronze, noryl®, polycarbonate and technopolymers and thermoplastics, corrosion and abrasion resistant and non-toxic, radial and mixed-flow, brass multivane turbine.

Heavy duty stainless steel or cast iron or bronze casting pump enclosure.

Applications

For domestic drinking potable water, industrial and agricultural and geothermal applications, to explore geothermal resources for fluids in spas, industry, agriculture and private, community and district heating and in all cases where it is requested to lift water out from

below the ground from aquifers and to push it above with pressure: boreholes, bored wells, riverbanks, in-line pressure boosting, dewatering, sprinkler and drip irrigation, greenhouses and gardening, air conditioning, water supply to offshore oil platforms, booster pumping, fire fighting, fountains and water features, large rural irrigation schemes, turf watering installations and stock watering plants, dewatering of mines and excavations, level control (wellpoint) of groundwater waterbeds, sump drainage, artificial snow, solar power, etc.

Water Well Drilling and Perforations.

Techniques for Searching Underground Waters.

We co-operate with Drillers and Well Operators for Well Examination.

Innovations and Specialties

On demand all wetted parts available with grade 304 or 316 stainless steel.

Executions for superior sand handling able to handle a tolerable quantity of sand.

On demand executions with protector against stray currents.

Also available Line-shaft turbine units.

DC motors versions available.

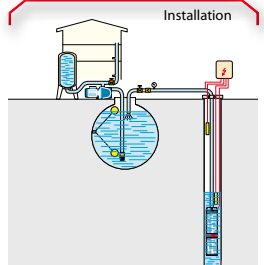
Intelligent Control systems: Electric, Electronic Controls Panels also with Variable Speed Inverters. All pumps can be supplied with protection and control boxes (panel-starters).

Delivery outlets from 1 to 8".

Ranges of Performance:

Capacity (flow rate) up to 1300m³/h – Head up to 800 m
Powers: 0.37 ÷ 400 kW

• **Vera®** - Submersible Multistage Borehole for deep wells



DRAINAGE AND WASTEWATER SEWAGE SUBMERSIBLE ELECTRIC PUMPS ALSO NO-CLOG EXECUTIONS

Pump construction

Cast iron, Stainless steel, Bronze, no-clog, Portable, synthetic corrosion and abrasion-free material (thermoplastics), Automatic with float switch.

Impellers: Open , vortex, single-channel, double-channel and three-channel and grinder cutter plate made of cast iron, stainless steel, aluminium, abrasion-resistant nitrilic rubber and technopolymers. Pump bodies made in cast iron, stainless steel, aluminium and technopolymers.

Applications

Suitable for domestic, residential, industrial, agricultural and civil drainage and wastewater sewage uses: dewatering; sump drainage, effluent and sewage; ponds, construction, mines, reclamation, swimming pools, basements and flooded areas, stormwaters, irrigation, stock breeding, food beverage, for waste, sewage and washwater for single and several households and public buildings, for building sites also partially dry, for continuous and heavy duties for most types of fluids also with bodies in suspension in water treatment plants, brackish waters, dirty waters, sludge, industrial processes, etc.

Innovations and Specialties

Executions **Flame-proof ATEX** Directive 94/9/EC for equipment intended for use in potentially explosive atmospheres Exd-IB-T3-II-2-G.

Low Voltage versions 42V AC following rules CENELEC HD 400.1 for use in installations with safety rules against electrocution.

Intelligent Control Systems: Electric, Electronic Controls Panels also with Variable Speed Inverters, Sensors, Alarm Transmitters and Remote Monitoring. Executions for construction sites able to withstand limited dry running. We also supply **Sewage Pumping Lifting Stations** for lifting household waste water.

Coupling Devices: Foot Pedestals and **Adapters** (outlet bends couplings, inlet bends intake suction curve), Gate Valves and Flange Ball Retaining Valves (Check Non return totally free passage with cover easily removable for plant inspection).

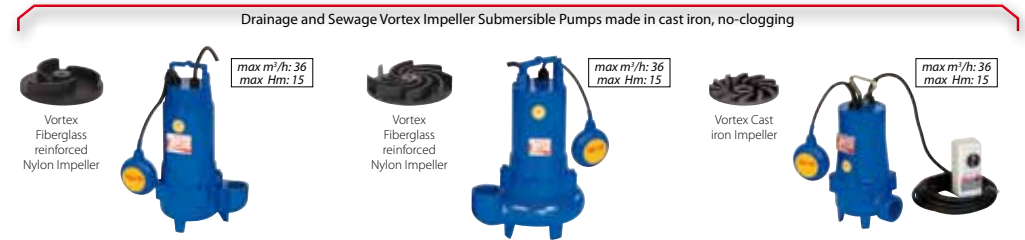
We provide full Technical Service, Spare Parts, Assistance and Aftersale Service and Maintenance through our Valco Distributors' Network and our Valco Service Centres.

Ranges of Performance:

Capacity (flow rate) up to 1700 m³/h – Head up to 94 m
Powers: 0.37 ÷ 80 kW

Nominal Delivery Diametres up to DN300
Solids in suspension (free passage) max diametre 140 mm. Non-Clog.

- **Dernajo®** - Drainage Submersible
- **Liqua®** - Sewage Submersible

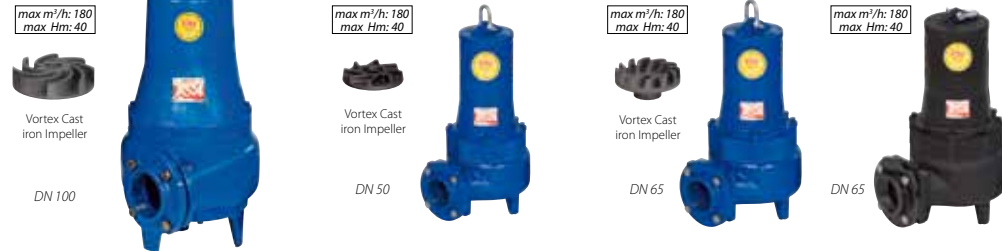


DRAINAGE AND WASTEWATER SEWAGE SUBMERSIBLE ELECTRIC PUMPS ALSO NO-CLOG EXECUTIONS

Sewage Wastewater Submersible Pumps Single, Double and three-channel Impellers heavy duty cast iron, bronze and stainless steel castings, non-clogging



Sewage Wastewater Submersible Pumps, Vortex Impellers heavy duty cast iron, bronze and stainless steel castings, non-clogging



Drainage Submersible heavy duty Dewatering Pumps, open nitrile coated bronze impeller for effluents with some abrasive substances



Cutter Sewage Wastewater Submersible Pumps with open cutting impeller with diffuser and blade device for liquids containing fibres

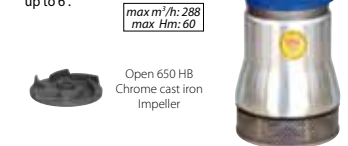


Coupling Devices - Foot Pedestals for Sewage Submersible Pumps also interchangeable to replace major brands



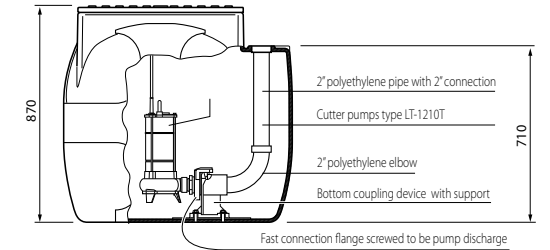
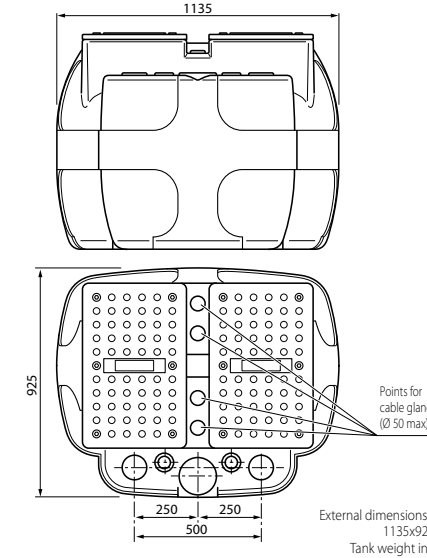
Ball check valves, no clogging for wastewater up to DN600 (24")

Heavy Duty Drainage Submersible Contractors' Pumps, open cast iron impeller, stainless steel housing and 316 stainless steel motor cooling jacket for muddy and sandy waters, cooled by the liquid pumped, suitable to operate in hard conditions also not fully submerged. Delivery outlet up to 6".

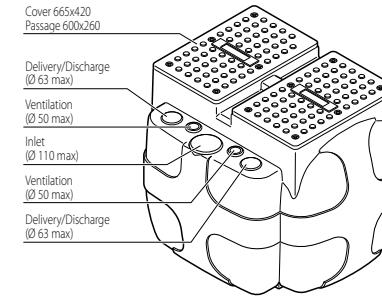


PUMPING LIFTING STATIONS

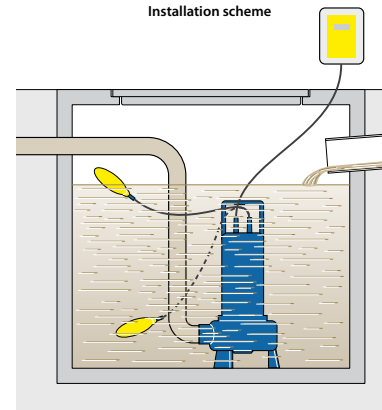
POLYETHYLENE TANK FOR VALCO SEWAGE LIFTING STATION (to house 2 pumps 650 Litres)



NOTE: The 2 Cutter Pumps with the fast connection Flange screwed to the pump discharge are packed separately from the Tank in order to avoid damage during transportation. The Bottom Coupling Device with Support and the 2" Pipe with elbow are supplied fitted into the Tank.



Installation scheme



FITTINGS

Pumpcontrollers



VALCONTROL-1

Pumpcontroller for constant pressure. It eliminates cycling



VALCONTROL-2

Pumpcontroller with temperature sensor. Adjustable.

Variable speed inverters (VSD)



V-DRIVE



C-DRIVE



full bore brass and stainless steel ball valves

BV



Safety relief valves

VSG



Sway Brass Connectors

SW



Gate valves

GV



Special non return brass valves

CSV



Non return brass valves

CNV



Foot Valve brass

FSV



Pressure Gauges

V50B

V50D



Level Regulators mercury-free to RoHS directive wastewater

PCMF



Float Switches for Drainage/Dewatering

VMS-C



Flexible Hoses steel, stainless steel corrosion-proof

VFH



Ball check valves, no clogging for wastewater up to DN600 (24")

CBV

Membrane tanks



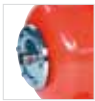
V60, V100, V200, V300



C8



SC24



steel type with stainless steel flange corrosion-free



SC3F



Spare Rubber Membranes



FCV2



FSG2

Valco and Square-D Pressure Switches - VPS



Ball check valves, no clogging for wastewater up to DN600 (24")

CBV

ELECTRIC MOTORS

High Efficiency Motors, Energy-saving and with variable Speed controls
Efficiency levels on request to Erp Directive and special executions.

Motor construction

Asynchronous Induction Compact AC Power in Standard or Custom Designs. Totally enclosed fan ventilated ranges for industrial applications. Single phase and three phase. Standards: Powers and Frames to IEC, IEC 60072-1, IEC 60034-7, IEC 60034-1, IEC 60034-5, EN 50347. With frame sizes from 56 to 400 with construction forms footmounted or flangemounted B3, B5, B14, B3/B5, B3/B14 and special executions on demand. From 2 to 8 pole and with double polarity and also with Variable Speed Inverter control (frequency control with modulation), soft-starters and controls. Stator frames and shields made of die-cast aluminium or cast iron; ball bearings with double screen, silent: they do not require maintenance; steel or stainless steel shafts. Degree of protection IP44, other degrees available on request. Insulation Class F or B and other classes available on request, in an ambient temperature not exceeding 40 DEG.C., and at an altitude not exceeding 1000 metres.

Voltage and Frequency

Voltage: from 110 V to 250 V for single-phase motors, from 110 V to 660 V, (SD = Star Delta Y - Δ Starting), for three-phase motors, with a tolerance of ± 5% with a temperature rise of 10 DEG.C. Nominal standard Voltages 230-400 V 50 Hz On demand from 110 to 600 V 50-60 Hz and dual voltage. Frequency: 50 Hz or 60 Hz

Innovations and Specialties

Windings in Class F with copper wiring in class H2 with impregnation in Class H. Tropicalization on request. Flame-proof versions available – motors for hazardous areas - following Directive 94/9/EC ATEX for equipment intended for use in potentially explosive atmospheres Exd (motors compatible with explosive atmosphere that are mixed or inflammable: air, gases and dust). Low Voltage executions for use in installations with safety rules against electrocution. DC motors and low voltage motors available on demand all throughout the ranges.

AC and DC Brake Motors also available. Asynchronous and Synchronous Generators suitable for Hydropower, Marine and Industrial Applications.

Special Executions available with special voltages, special shafts and special flanges.

Important: we also supply motors components like Wound Stators and Rotor Shafts made to custom designs for customers individual requirements.

Motors designed and built for highest efficiency, lower power consumption and energy saving according to the current most advanced world recommendations and standards EFF1, EU, Cemep and USA Nema PREMIUM and EPACT, Wimes and for environmental compatibility. Powers from 0.17 to 560 kW.

Single Phase 2 Pole



F63-2M-33



F80-2M-150

Single Phase 4 Pole



F80-4M-75

Three Phase 2 Pole



F80-2T-100



F80-2T-150

Three Phase 4 Pole



F71-4T-50



with custom made shaft

F80-4T-75



F90L-4T-200



F132S-4T-750

Innovative and Practicable Faston Type-Connection



Motor with fitted the innovative, practicable and safe faston type-connection on the terminal box

Motor parts - Stators, Rotors and Shaft



Windings and shafts



Wound stator with double or triple enamelling



Stator with winding and Rotor with Shaft



Shaft with Rotor balanced. Also special executions

V-Diecasting



Stator laminations in iron steel sheets or magnetic silicon sheets (packs) with rotor diecast

Flange frame size 80 B14



Flange frame size 100 B5



Flange frame size 100 B5R reduced



Motor Housings and Shields in Aluminium Diecast also made to Custom Designs



If repairs are required, contact an authorized VALCO dealer.

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

VALCO srl

Via dell'Industria, 27-29

I-36063 MAROSTICA (Vicenza)

Veneto, (Venice Region) - EU - Italy

Ph.: +39-0424-77847

Fax: +39-0424-475806



E-Mail: valco@valco-costenaro.com

Http://www.valco.eu

Manufacturer of Useful and Valuable Products for Progress, Prosperity and Peace[®] - All rights reserved. Reproduction even partial not permitted.
Features subject to change – not contractually valid unless specifically authorized by VALCO.

Noryl[®] is a registered trademark and exclusive property of General Electric Company (GE).

VALCO[®] is a registered trademark of Valco srl. Text by Valco srl. Copyright© 1976-2015 by VALCO srl.