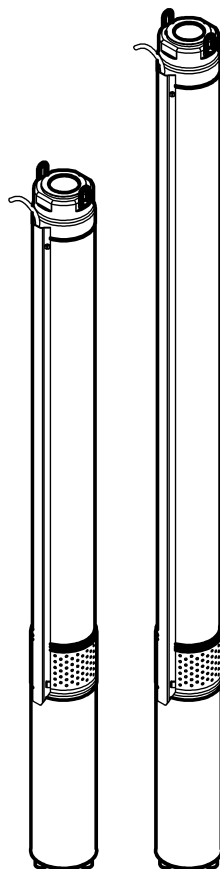


Elettropompe sommerse 3"
3" Electrosubmersible pumps
Électropompes immergées 3"
Electrobombas sumergidas 3"
3" Unterwasserpumpen



SB 3



Istruzioni d'installazione, d'uso e di
manutenzione
Installation, use and maintenance instructions
Instructions pour l'installation, l'emploi et
l'entretien
Instrucciones de instalacion,
de uso y mantenimiento
Betriebsanleitungen



Standard use

Well	artesian depth DN 80 mm (3")
Liquid	clean water or lightly charged, max, temperature 25°C; sand content 40 g/m ³
Service	continuous or intermittent max. 20 starts/hour well distributed. Max, voltage drop 3% on nominal data voltage.

FIRST CONTROL

- The well must be right, without sand or sediments, if not provide to bleed it.
- Before plunging the group check the sense of rotation of the motor: it must be anticlockwise looking from the shaft exit side. For water cooled motors also control the topping-up of the liquid according to the motor manufacturer's instructions.

MOTOR COUPLING

- Check the free rotation of the motor-pump and the cable condition, if not fitted, block the connector into its seat with a proper key (5 kgm).
Clean the surfaces to be coupled.
- Keep out the suction screen and cable protection, put the suction head of the pump in correspondance of the motor prisoners and cable cross; couple the grooved joint of the pump to the motor shaft then fix it whit nuts as standard (3 kgm).
- Make sure that a clearance exists on pump joint by using a screw-driver appealing to the motor, reassemble the suction screen and cable protection and insert the motor cable in its own seat.

CABLE CONNECTION

- Joint the motor cable to the line cable (10) with high insulating system (thermotightening or dielectric resin).
- Choose the standard feeder (2) according to: voltage - power - length- type of service (insulation >1 kV).
- When finishing the cable connection, before plunging the electropump, verify the followings by using suitable instruments: the CONTINUITY among phases, between the earth conductor and motor mass, the INSULATION between phases and earth.

INSTALLATION

- Handle the pump (12) carefully; don't hurt it and don't make it fall.
Apply safety and accident-prevention rules in force in the building yards when screwing pipings (9) and getting down the group. Be careful to avoid overtunings that could hurt persons and plants.
- Tighten the threads of the discharge pipings; for safety purposes it is better to execute some spot-weldings at the coupling level. With plastic pipings use proper connections.
- Anchor the group with resistant, antioxidant cables (8), suitable to bear the weight of the machine with discharge pipings full of water.
- When getting down the pump, link the electric cables to the discharge piping, fix them with plastic hose clamps (each 3 mt), be careful: don't damage them and NEVER use them to uphold the group.

- If the diameter of the well is quite bigger than the electropump, it is better to install another jacket, external to the motor; this is to grant that the cooling water speed is $\geq 0,1$ m/s.
- Place the electropump keeping it away from the bottom of the well (X); this is to avoid a bad cooling due to sediments; the dynamic level (A) of the well must not influence its work. Grant electrical protections and automatic level controls (3) to the installation.
- Always install, at least, one non-return valve (6) at the surface to protect the pump against water hammers due to the plant before the valve.

The horizontal installation of the group must be specified to the order, bearing in mind that: the pump axis must be 0,5 m over the bottom, the air of the plant could easily evacuate, an external non-return valve must be installed.

ELECTRICAL CONNECTION

After installing the unit check again the feeding cable following the CABLE CONNECTION instructions and connect it to the control panel (1) that must be fitted, according to the actual rules, with:

- An omnipolar device for switching-off/separation of the net (minimum opening contacts 3 mm).
- A protection against short circuits (Am fuse) and magnetothermics, rated in compliance with the current plate.
- Possible devices against: lack of phases, electric dissipations, lack of water, atmospheric discharges and functioning-failure indicators.

IMPORTANT

ALL THE ELECTRIC MASSES MUST BE CONNECTED TO THE EARTH OF THE PLANT.

ALL THE CONNECTIONS MUST BE EXECUTED ACCORDING TO THE LAW BY QUALIFIED STAFF.

FIRST RUNNING

- With discharge gate (5) completely opened no more air should leak from the pipings. Close almost completely the gate and start the electropump waiting for the exit of clean water without air bubbles. Close the gate and control on the pressure-gauge (4) that the maximum pressure data corresponds to the one shown in our catalogue, if not, reverse the sense of rotation of the motor only for three phase types.
- Gradually open the gate and run the pump until clean water is coming out. If the well has correctly been built and previously bled, clean water will come out in 15 min.
- During the previous instructions control voltage and current; admitted intermittent rush of current of $\pm 5\%$ for voltage and current referred to plate data.

STANDARD RUNNING

Execute the hydraulic connection of the group to the distributing plant, check during some working cycles voltage and current data; if necessary retouch the delivery, pressure and electric protection settings.

ATTENTION

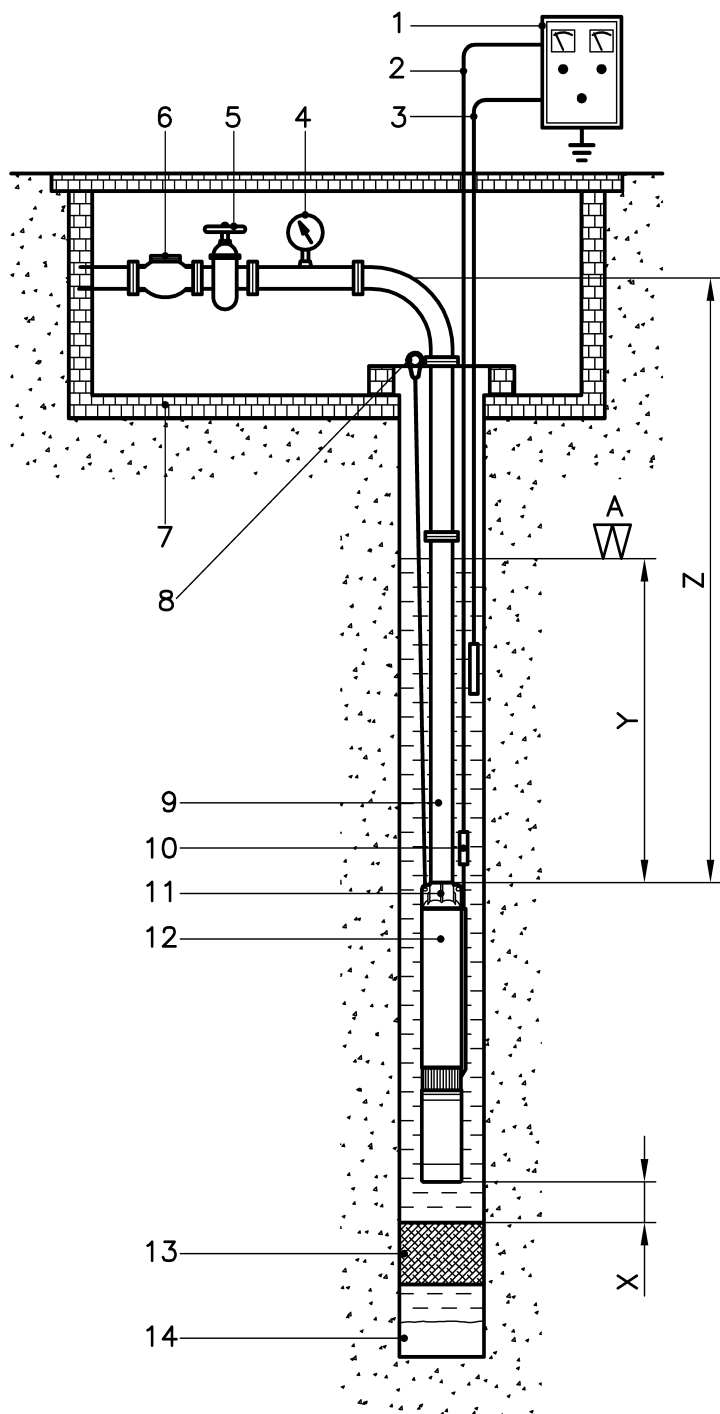
- **NEVER RUN THE PUMP DRY.**
- **NEVER LET THE PUMP WORK WITH CLOSED GATE FOR MORE THAN 2 MIN.**
- **NEVER LET THE PUMP RUN IN THE OPPOSITE DIRECTION FOR MORE THAN 30 SEC.**

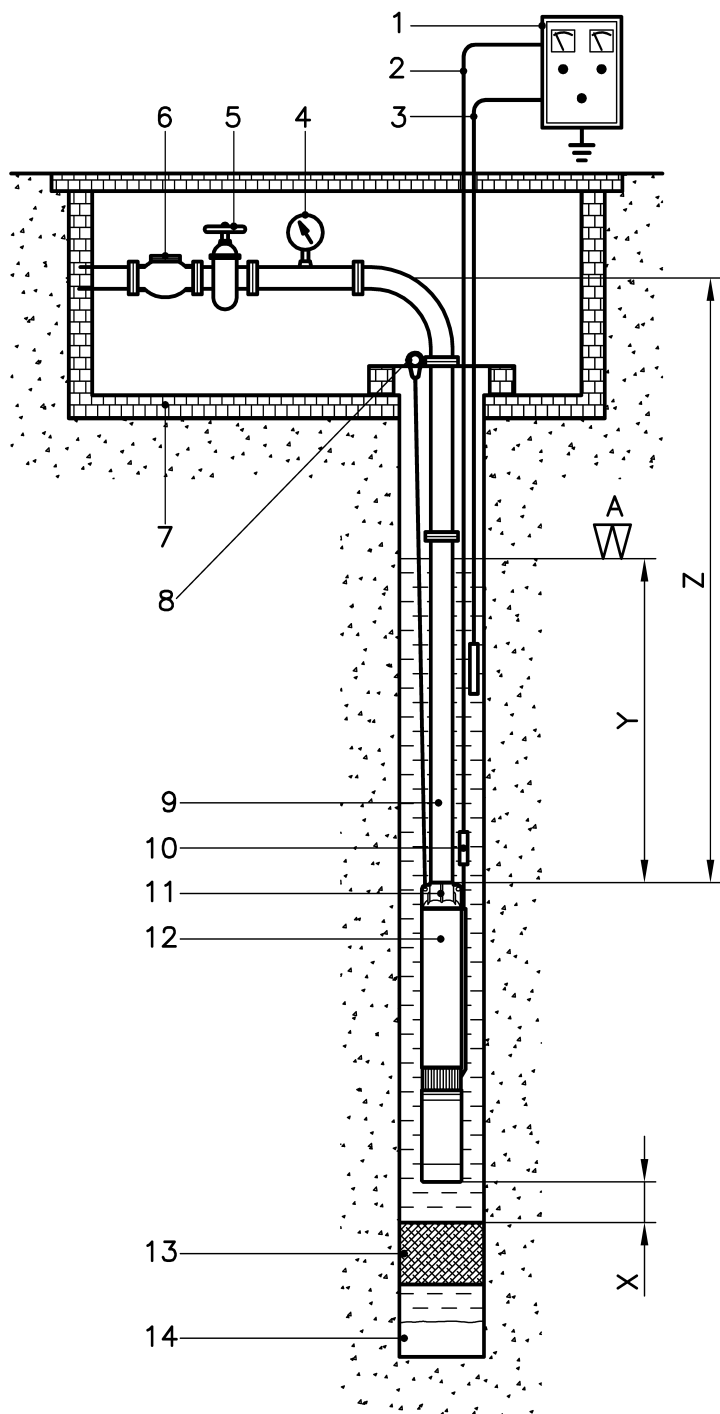
MAINTENANCE

Often control the plant trying to eliminate the disturbing causes such as sand, lime, ecc. Keep efficient the parts exposed to damages (valves, filters, detectors and protections). For interventions always call qualified technicians. In case of long rests provide to often start the electropump.

ATTENTION:

**BEFORE ANY MAINTENANCE INTERVENTION ENSURE THAT THERE IS NO PRESSURE IN THE PLANT.
TAKE OFF THE POWER SUPPLY.**





- 1: Quadro elettrico
- 2: Cavo elettrico
- 3: Sondina di livello
- 4: Manometro
- 5: Saracinesca di portata
- 6: Valvola di ritegno
- 7: Pozzetto di accesso
- 8: Fune di sicurezza
- 9: Canalizzazione di mandata
- 10: Giunzione cavo
- 11: Valvola incorporata
- 12: Gruppo elettropompa
- 13: Filtro del pozzo
- 14: Fondo del pozzo

- A: Livello dinamico variabile
 Z: Lunghezza totale tubo di mandata; se >100m installare una o più valvole di ritegno intermedie
 Y: Quota di immersione, in tutti i casi >1 m.
 X: Distanza fra motore e filtro pozzo: >1 m.

- 1: Control panel
- 2: Feeding cable
- 3: Level probes system
- 4: Pressure gauge
- 5: Delivery gate
- 6: Non-return valve
- 7: Inspection shaft
- 8: Safety cable
- 9: Delivery piping
- 10: Cables connection
- 11: Built-in valve
- 12: Electropump
- 13: Filter
- 14: Well bottom

- A: Changeable dynamic level
 Z: Total length of delivery piping; if >100m install one or more non-return valves
 Y: Depth of immersion, always >1 m.
 X: Distance between motor and well filter >1 m.

- 1: Coffret électrique
- 2: Câble électrique
- 3: Sonde de niveau
- 4: Manomètre
- 5: Vanne de débit
- 6: Clapet de retenue
- 7: Puisard d'accès
- 8: Cordon de sécurité
- 9: Canalisation de refoulement
- 10: Jonction de câble
- 11: Clapet incorporé
- 12: Groupe électropompe
- 13: Filtre du puits
- 14: Fond de puits

- A: Niveau dynamique variable
 Z: Longueur totale de la canalisation de refoulement, si >100m installer un ou plusieurs clapets de retenue intermédiaires
 Y: Hauteur d'immersion, dans tous les cas >1 m.
 X: Distance entre moteur et filtre du puits: >1 m.

- 1: Panel de control
- 2: Cable de alimentación grupo
- 3: Sistema sondas de nivel
- 4: Manometro
- 5: Cierre de descarga
- 6: Valvula de retención
- 7: Pozo de inspección
- 8: Cuerda de seguridad
- 9: Cañerías de descarga
- 10: Juntura de cables
- 11: Valvula incorporada
- 12: Grupo electrobomba
- 13: Filtro del pozo
- 14: Fondo del pozo

- A: Nivel dinamico variable
 Z: Largueza total de la cañerías de descarga; si >100m instalar una o más valvulas de retención
 Y: Altura de imersión, siempre >1 m.
 X: Distancia entre el motor y el filtro del pozo: >1 m.