ITT

Lowara

it	ELETTROPOMPA SERIE CO - COM	Istruzioni d'installazione e d'uso
en	CO - COM SERIE PUMPS	Instructions for installation and use
fr	ELECTROPOMPES SERIE CO - COM	Instructions pour l'installation et l'emploi
de	MOTORPUMPEN BAUREIHE CO - COM	Installations - und Bedienungsanleitungen
es	ELECTROBOMBA SERIE CO - COM	Instrucciones de instalación y uso
pt	ELECTROBOMBA SÉRIE CO - COM	Instruções instalação e uso
nl	ELEKTROPOMPEN SERIE CO - COM	Aanwijzingen voor de installatie en het gebruik
sv	ELPUMPAR SERIE CO - COM	Instruktioner för installation och användning
fi	SÄHKÖPUMPUT SARJA CO - COM	Asennus - ka käyttöohjeet
ar	مضخات كهربائية سلسلة CO - COM	دفتر تعليمات التركيب والاستخدام
tr	CO – COM SERİSİ ELEKTRİKLİ POMPA	Kurma ve kullanım talimatları

It	Conservate con cura il manuale per future consultazioni
en	Save this manual for future reference
fr	Conservez avec soin le manuel pour toute consultation future
de	Das Handbuch muss für zukünftige Konsultationen sorgfältig aufbewahrt werden.
es	Guardar con cuidado el manual para poderlo consultar en el futuro
pt	Conservar cuidadosamente o manual para consultas futuras
nl	Bewaar de handleiding zorgvuldig voor latere raadpleging
sv	Spara bruksanvisningen för framtida bruk
fi	Säilytä käyttöopas huolellisesti
ar	احتفظ بعناية في الدفتر من أجل تصفحه في المستقبل
tr	Lütfen bu el kitabını ileride başvurmak üzere güvenli bir biçimde saklayınız

it

ISTRUZIONI D'INSTALLAZIONE E D'USO

en

INSTRUCTIONS FOR INSTALLATION AND USE

fr

INSTRUCTIONS POUR L'INSTALLATION ET L'EMPLOI

1. General

The purpose of this manual is to provide the necessary information for the installation, use and maintenance of the pumps.

The user should read this manual before using the pump.
Improper use could damage the pump and cause the forfeiture of the warranty coverage.
When asking our sales and after-sales services for technical information or spare parts, please indicate the model identification and construction numbers found on the nameplate.
The following instructions and warnings refer to the standard model; for any variations or characteristics of the special versions please refer to the sales contract.
For any instructions or situations not referred to in this manual or in the sales documentation, please contact our sales service.

2. Preliminary inspection

Upon delivery check the integrity of the packaging.
After unpacking the pump make sure that no damage has occurred during shipping.
Should the pump be damaged, please inform our agent within 8 days from the delivery date.

3. Applications

The CO series electric pumps are designed for the pumping of moderately charged, mildly aggressive chemical liquids containing no dissolved gases.
The most common applications include: washing of metal parts and/or surface treatment, washing of produce in the packing industry, washing and process plants in the food processing industry, dyeing and textile industry plants, plants for the circulation or transfer of moderately dense and viscous liquids, industrial washing machines and dishwashers.
The components in contact with the pumped liquid are all made of AISI 316L/DIN 1.4404 stainless steel. Make sure that the pumped liquid is chemically compatible with stainless steel, with the gasket material and with the mechanical seal material.
Suspended solids handled: 11 mm (CO 350 series pumps).
20 mm (CO 500 series pumps).

4. Working limits

DANGER **The pump is not suitable for dangerous or inflammable liquids.**

WARNING

Maximum working pressure: 8 bar.
Maximum liquid temperature: 110°C
Maximum number of starts per hour, evenly distributed: 40.

5. Installation

The product must be handled with care; impacts can cause damage without any visible external signs. See figs. 1 and 2 for correct installation.

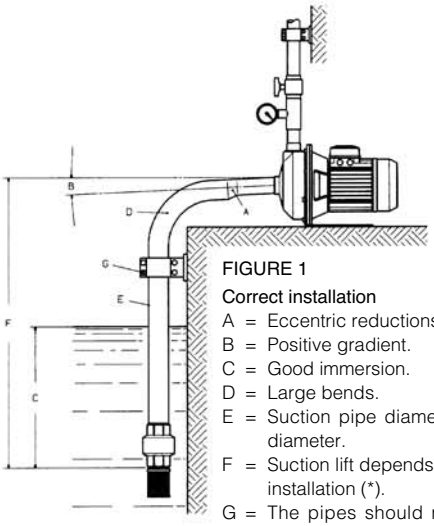


FIGURE 1

Correct installation

A = Eccentric reductions.
B = Positive gradient.
C = Good immersion.
D = Large bends.
E = Suction pipe diameter ≥ pump port-diameter.
F = Suction lift depends on the pump and installation (*).
G = The pipes should not weigh on the pump but on separated supports.

(*) The suction lift is determined based on liquid temperature, flow resistance and NPSH required by the pump.

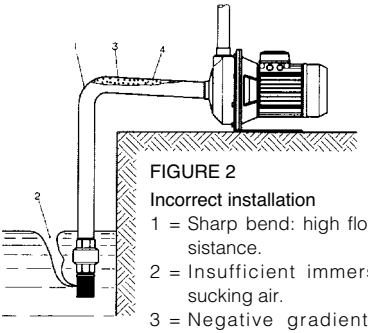


FIGURE 2

Incorrect installation

1 = Sharp bend: high flow resistance.
2 = Insufficient immersion: sucking air.
3 = Negative gradient: air pockets.
4 = Pipe diameter < pump port diameter: high flow resistance.

6. Start-up

6.1 Electrical connection

WARNING **Make sure that the rated voltage corresponds to the supply voltage.**

DANGER
RISK OF
ELECTRIC SHOCK

Ground the pump before making any other connection.
We recommend that a high sensitivity differential switch (30 mA) be installed as extra protection against lethal electric shocks in the event of faulty grounding.

Connect the pump to the mains using a multiple-pole switch or other device ensuring multiple-pole disconnection (interruption of all the supply wires) from the mains, with a contact separation of at least 3 mm.
Remove the terminal board cover by first removing the screws.
Carry out the connections as indicated on the back of the terminal board cover, and as shown in fig. 3 for single-phase versions and in fig. 4 for three-phase versions.

RECOMMENDED POWER CABLE SECTION			
CABLE TYPE	H05VV-F	H05RN-F	H07RN-F
Single-phase	3x0.75 mm 3x1 mm 3x1.5 mm	3x0.75 mm 3x1 mm	3x1 mm
Three-phase	4x0.75 mm 4x1 mm 4x1.5 mm		

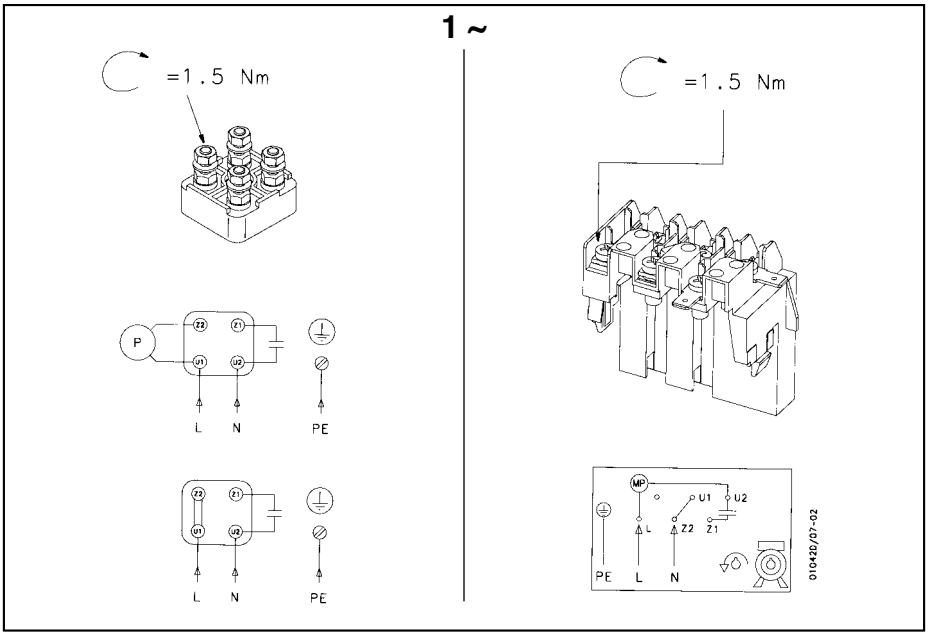

1 ~
=1.5 Nm
=1.5 Nm
P
Z2
Z1
U1
U2
L
N
PE
MP
010420/07-02

Fig. 3

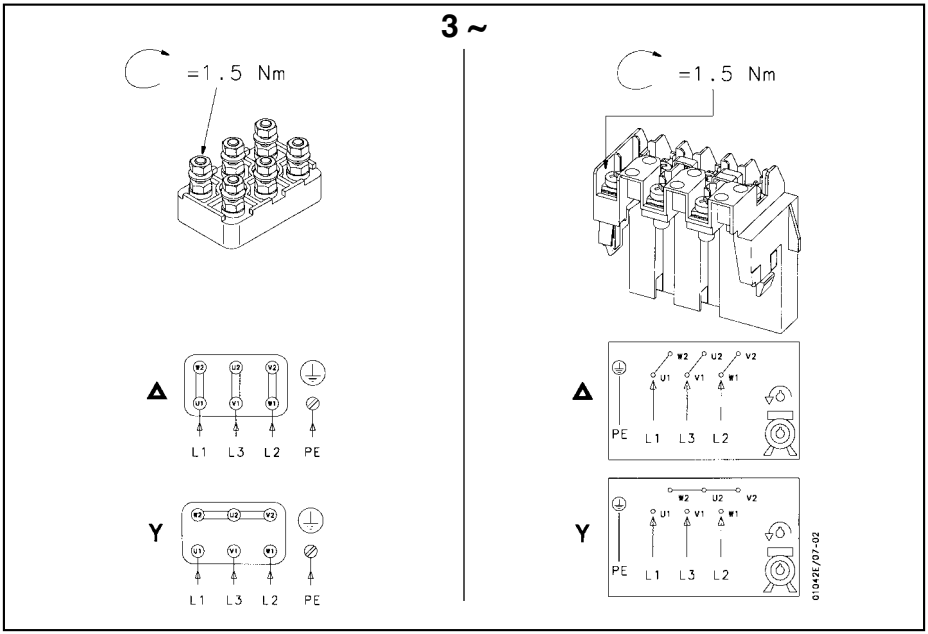

3 ~
=1.5 Nm
=1.5 Nm
W2
U2
V2
U1
V1
W1
L1
L3
L2
PE
Y
010421/07-02

Fig. 4

Ground the pump before making any other connection. The installation technician must make sure that the wiring system complies with local regulations. The single-phase version has a built-in overload protection; the three-phase version must be equipped by the user with a suitable protection.
Install a magneto-thermal motor protector set to the rated current.

6.2 Priming

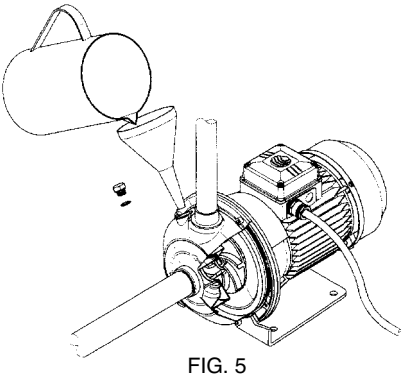


FIG. 5

WARNING The pump must be filled with water (fig. 5) before you start it. Dry running even for a short time would seriously damage the mechanical seal.

Fill both the suction pipe and the pump body with water through the fill plug near the delivery port.
Carry out this operation carefully to prevent formation of air pockets inside the suction pipe or the pump body.
With three-phase motors start the pump briefly to check the direction of rotation: this must correspond to that indicated by the arrow on the pump body. If the pump rotates in the wrong direction, switch two supply leads.
To make sure that the shaft is rotating freely, introduce a screwdriver in the hole in the centre of the motor fan cover.

WARNING

- Frost can damage the pump if it remains full and inactive at freezing temperatures.
- The maximum noise of the electric pump when properly installed and ope rating within its limits does not exceed 70 dB(A).

7. Maintenance

The pump does not require any regularly scheduled maintenance.
It may require occasional cleaning of the liquid end and replacing of any worn or damaged hydraulic components.
All maintenance operations should be carried out by skilled and qualified personnel.

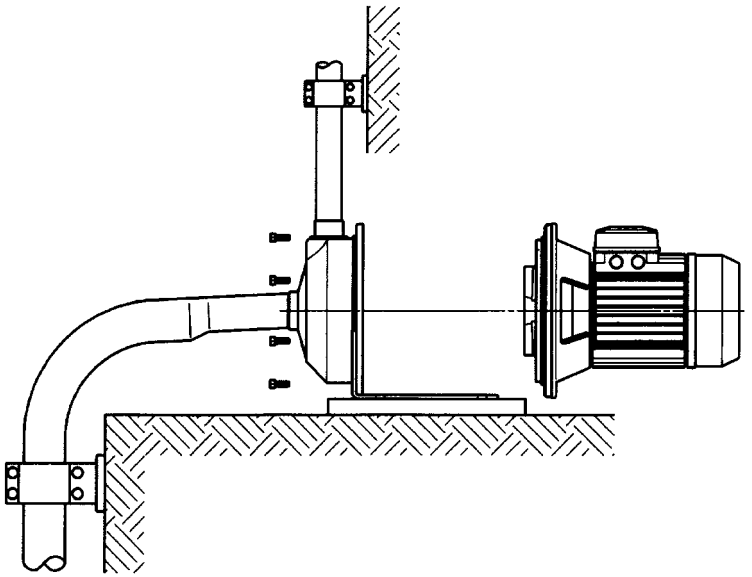
DANGER
RISK OF
ELECTRIC SHOCK

Make sure that the multiple-pole switch is disconnected before carrying out any maintenance operations.

8. Fault finding chart

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDIES
1. The pump does not deliver The motor does not start	A) No power B) Automatic switch tripped or fuses blow C) Overload protection tripped D) Faulty capacitor E) Impeller jammed	A) Supply electrical power B) Reset the switch or replace the fuses C) Single-phase: it will reset automatically after cooling down D) Replace the capacitor E) Foreign matter between fixed and rotating parts
2. The pump does not deliver The motor does not start	A) Water level too low: the foot valve is not submerged B) Pump not filled. Check for leaks	A) The mechanical seal could be damaged B) Same as per above
3. Insufficient delivery	A) Suction lift exceeds pump suction capacity. Excessive flow resistance B) Pump or pipes obstructed C) Incorrect direction of rotation (three-phase versions only)	A) Replace suction pipe with one of larger diameter Reduce elbows Remove deposits Reduce suction lift B) Clean or unclog C) See point 6.2
4. Pump stops at short intervals	A) Overload protection activation The pump does not rotate freely. Viscous liquid	

FIG. 6
ABB. 6
6 رسم
Şekil 6



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Lowara

Headquarters

LOWARA S.r.l. UNIPERSONALE
Via Lombardi 14
36075 Montecchio Maggiore - Vicenza - Italy
Tel. (+39) 0444 707111 - Fax (+39) 0444 492166
e-mail: lowara.mkt@itt.com
web: www.lowara.com

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