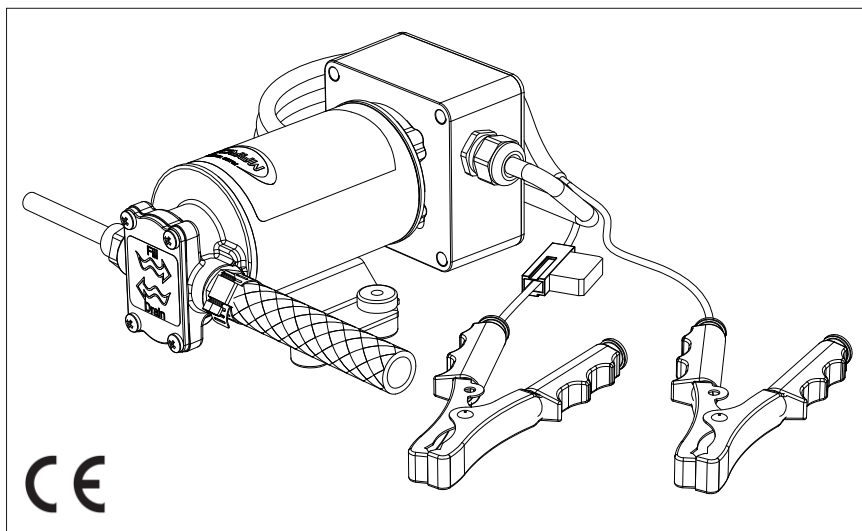




**ELETTROPOMPA AUTOADESCANTE  
PER TRAVASO LIQUIDI  
SELF-PRIMING ELECTRIC PUMP  
FOR TRANSFERRING VARIOUS LIQUIDS**

**AVVERTENZE D'USO  
INSTRUCTIONS FOR USE**

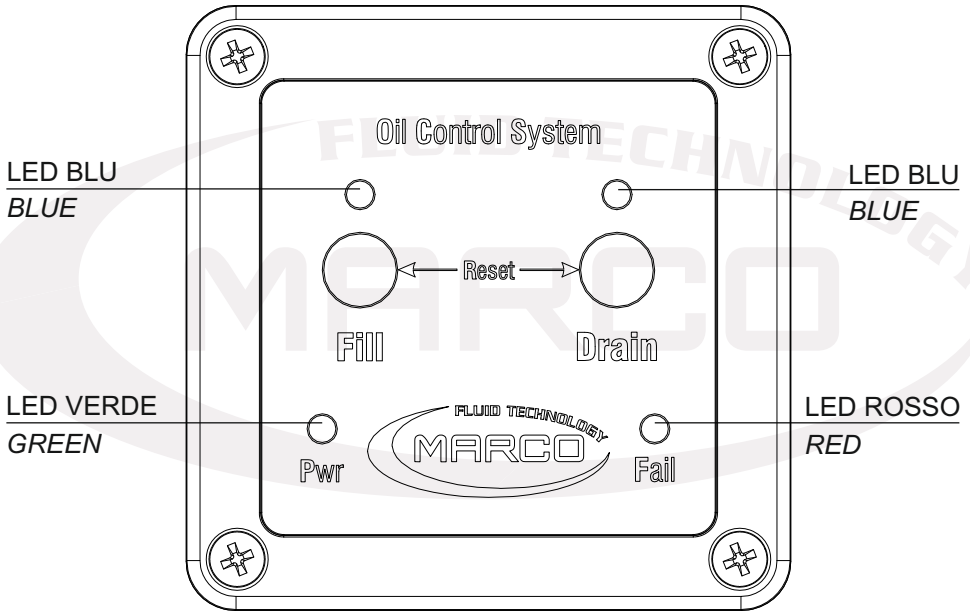
**164 931 15 - OCK1-E 12/24V**



## DESCRIZIONE / DESCRIPTION

- 1) All'accensione il LED verde è fisso e i due LED blu lampeggiano
  - 2) Per aspirare premere il tasto «DRAIN»
  - 3) Per riempire premere il tasto «FILL»
  - 4) Per arrestare la pompa premere uno dei due tasti
  - 5) Per far ripartire la pompa premere il tasto corrispondente alla funzione desiderata
  - 6) In caso di olio troppo viscoso o di rubinetto chiuso, il motore gira molto lentamente, il LED rosso lampeggia e la pompa è in funzione. Il LED si spegnerà aprendo il rubinetto o in caso venga rilevato olio meno viscoso. Per non surriscaldare il motore, la pompa funzionerà per un massimo di 30 secondi: per riavviarla premere un tasto.
  - 7) Terminato il travaso, quando la pompa è vuota, il LED blu e rosso lampeggiano alternativamente e, trascorsi 90 secondi, la pompa si arresterà.
  - 8) In fabbrica è impostato il programma per l'olio: per modificare l'impostazione, scollegare il circuito dall'alimentazione e prima di riaccendere il circuito, mantenere premuto il tasto «FILL» per abilitare il programma per acqua o gasolio, o il tasto «DRAIN» per tornare al programma per l'olio. Il LED blu relativo al tasto premuto lampeggerà per conferma.
  - 9) Dopo mezz'ora di funzionamento, senza interruzioni, la pompa si fermerà. Per disattivare questa funzione temporaneamente (fino allo spegnimento del circuito), accendere la pompa in una direzione e tenere premuti i due tasti insieme fino all'accensione del LED rosso: se lampeggia una volta la funzione è stata disattivata, due volte se la funzione è stata riattivata. Per disattivare od attivare permanentemente la funzione, scollegare il circuito dall'alimentazione e tenere premuti entrambi i tasti prima di riaccendere il circuito.
- 1) When turned on, the green LED is solid and the two blue LEDs are flashing
  - 2) To empty press the button "DRAIN"
  - 3) To fill press the button "FILL"
  - 4) To stop the pump press either button
  - 5) To start the pump, press the button with the desired function.
  - 6) When the oil is highly viscous or the valve is closed, the pump runs slowly and the red LED is flashing; when the valve is opened or the oil gets more fluid, the LED will be switched off. In order not to overheat the motor, the pump will be working for max 30': to restart it, press any button.
  - 7) When the transfer is completed and the pump is empty, the two blue and red LEDs will flash alternately. After 90" the pump will shut off
  - 8) The electronic control is set, in the factory, for the oil program. To change program, cut the power supply to the panel. Before reconnecting the power, keep the button "FILL" pressed to activate the FUEL/WATER program or keep the "DRAIN" button pressed to activate the oil program. The blue LED of the pressed key will flash to confirm.
  - 9) After running continuously for 30' the pump will automatically shut off. To temporarily remove this function, switch the pump on and keep the two buttons pressed together until the red LED will switch on. If the red LED flashes just once, the function is disabled, if it flashes twice the function is activated. To permanently disable the function, remove the power supply from the electronic panel and keep the two buttons pressed before switching it on again.

**PANNELLO DI CONTROLLO / CONTROL PANEL** **B**



# PRODUCT DESCRIPTION

C

Self-priming electric pump designed for lubricants and viscous fluids (see chapter exclusions) for discontinuous or intermittent usage. .

The pumping elements are made up of bronze gear drives which can possibly even run dry for brief periods. Completely equipped with fast connector for oil suction pipe.

# TECHNICAL DETAILS

D

Tab.1 EN								
CODE	TYPE	VOLT	FUSE	FLOW RATE			WEIGHT	CABLE *
				ø 6 mm	ø 8 mm	ø 13 mm		
164 931 15	OCK1-E	12/24	7,5 A	20 l/h	60 l/h	330 l/h	2,4 kg	1,5 mm2
				* Length up to 4 m				

# APPLICATIONS



E

There are numerous fields of applications for the pump, however only exclusively with the allowed liquids mentioned:

- transfer of lubricating oil;
- transfer of viscous liquids;
- transfer of oils, antifreezing;
- circulation of viscous liquids;
- draining of engine sumps.

# FLUIDS ALLOWED / NOT ALLOWED

F

Tab.2 EN		LIQUIDS		DANGERS 					
		WARRANTY EXPIRES IF MAX FLUID TEMPERATURE IS EXCEEDED		FIRE / EXPLOSION	MOTOR OVERHEATING	FOODSTUFF LIQUID CONTAMINATION	PUMP CORROSION	INJURY TO PERSONNEL	DAMAGE TO SEALS
OK	MOTOR OIL (max 85°C-185°F)								
	DIESEL FUEL*								
NO 	PETROL (GASOLINE)			●					
	FLAMMABLE LIQUIDS with PM < 131°F			●					
	LIQUIDS WITH VISCOSITY > 350 cSt				●				
	FOODSTUFF LIQUIDS					●			
	CORROSIVE CHEMICAL PRODUCTS							●	
	SOLVENTS			●				●	●
* Minimum flashpoint (PM): 55°C-131°F.									

G

## AMBIENT CONDITIONS

**TEMPERATURE:** min. -10°C 14°F-max. 60°C 140°F **RELATIVE HUMIDITY:** max. 90 %

**⚠ WARNING:** the above indicated temperature ranges are applicable to all components of the pump and these limits must be respected in order to avoid any possible damage or malfunctioning.

H

## OPERATING CYCLE

The pump has been designed for discontinuous use. Under conditions of high operating pressures (eg. with closed or blocked outlet, excessive length of the delivery circuit and/or excessive pressure due to accessories), it can be subjected to elevated stresses and overheating and therefore should not be used for prolonged periods under such conditions.

I

## TRANSPORTATION AND HANDLING

Due to limited weight and dimensions the pump does not require the use of any special handling or lifting equipment. When handling manually, normal personal protective gear should be worn (safety shoes with toe piece, etc.). The pump is carefully packed prior to shipment. Upon receiving, the packaging should be inspected for damages and the pump

Loaded in a dry area.

## INSTALLATION

**L-1** Recommended that the use of the pump be according to normative safety standards and also as per the precautions listed below.


### PRELIMINARY CHECKS

**L-2** Check that there has been no damage to the pump during transportation or storage. Both inlet and outlet ports should be carefully cleaned removing possible dust or residual packaging material. Verify that the available electrical power supply corresponds to the specification requirements.

### POSITIONING

The pump can be mounted in any position. Fix it utilizing suitable screws corresponding to the antivibration mounts supplied.

To ensure the correct directional flow of the fluid as indicated by the arrow on the top plate, it is necessary to connect the positive pole (+) of the battery supply to the red wire on the motor end-cap and the negative pole (-) to the black wire. Electrical connections must be made using adequate terminal blocks and connectors ensuring a tight fitment of the electrical cables. Bad wiring can cause power losses and/or overheating of the cabling itself.

 **WARNING:** it is the responsibility of the installation technician to ensure a correctly designed circuit installation fitted according to regulations. Environmental risks must be taken into account with the installation.

## TUBING CONNECTIONS

L-3

- Prior to making any tube/hose connections, check that the inlet ports have no end caps;
- Do not position the pump at a excessive height with respect to the minimum level of the fluid to be transferred. Damage may occur if this height is exceeded as the pump may not draw fluid. Make sure that the outlet tube is empty and without chokes;
- Avoid choking the inlet or outlet tubes so that efficiency is optimized.

The use of an inlet filter is recommended especially with fluids containing impurities (ASTM mesh 35).

In this case frequent cleaning and maintenance of the filter is advisable. Utilize tubes and connection pieces that are resistant to the fluid types handled and avoid any possible environmental dispersion.

## ELECTRICAL CONNECTION

L-4

The electrical installation of the pump must include a protection fuse which is suitably rated as indicated on the motor label.

## WARRANTY EXPIRES IF NO FUSE IS UTILIZED

Always mount the anti vibration rubber fittings supplied with the pump kit. Their usage ensures a consistent reduction in noise and vibration levels. Electrical cabling size should depend on the distance between pump and battery power supply (see Tab.1 EN). The use of undersized cabling can cause overheating of the electrical wiring and subsequent fire hazard. There will also be a voltage drop at the motor terminals with a consequent reduction in efficiency. The flow rate value indicated on the motor label is obtained with internal tube diameter indicated on Tab.1 EN. Tubes with inferior diameters will cause an increase in current with potential risk of motor overheating.

M

# TROUBLESHOOTING

M-1

## CHECK POINTS IF THE PUMP HAS STOPPED OR WILL NOT START

- Check the effectiveness of the battery power supply (voltage activity);
- Check if the fuse has blown;
- Check for any foreign matter present in the pump body. To do this, disconnect the power supply and unscrew the four fixing screws, remove the front cover plate and inspect the chamber. Replace the cover plate in the same initial position after inspection;
- Avoid running the pump dry for more than a few minutes. Pumps found defective that have run dry in the absence of fluid are not covered by warranty;
- The average life span of the motor commutator brushes is approximately 1500 hours under normal operating conditions. Stoppages are possible due to brush wear and tear after such a time period.

M-2

## WHY THE PUMP WILL NOT PRIME ITSELF?

- The pump is fitted at an excessive height above the fluid level;
- The pump has run dry for too long a period;
- Long periods of inactivity. In this case it is advisable to add liquid directly into the chamber before start-up. It is also advisable to add, before running the pump, a drop of lubricating oil inside the pump only;
- Air leak at the suction pipe due to the following reasons, possible cuts in the pipe, inadequate hose clamps, malfunctioning of the filter due to defective/worn seals or filter clogged;
- Air leak at the front plate cover due to the following reasons, loose fixing screws, poor effectiveness of the seal;
- Faulty electrical cable connections;
- Presence of obstructions or restrictions in the suction or delivery pipes or the use of special devices(eg. automatic spray pistol or aqua-stop);
- Presence of liquid loops in the outlet tube.

M-3

## GOOD PRACTICES ENSURING A WELL FUNCTIONING PUMP

If it is expected that the pump will not be used for a period of at least 30 days, especially in the case of usage with water, it is advisable to run fresh water through it and to then loosen the front plate screws. Upon re-use, run the pump briefly (a few seconds) and tighten the screws again. Check under conditions of maximum operating pressure that the motor current value is within the motor label specifications.

## NORMAL MAINTENANCE

M-4

- Check frequently and keep the inlet filter clean;
- Check every month the chamber and keep clean from any foreign matter;
- Check every month that electrical wiring is in good condition;
- Every 1500 hours of pump operation substitute the motor brushes.
- Replace the rubber impeller every season or every 500 hours (UP1-J-N-M)

M-5

## INDICATORS THAT THE PUMP IS FUNCTIONING CORRECTLY

- Temperature of body and motor frame is within 60°C - 70°C (140°F - 158°F);
- Regular flow and constant noise levels;
- Amp-draw within the limits indicated in the technical details.

M-6

## TO OPEN THE PUMP

- It is recommended that a specialized service technician be consulted for any repair work or the replacement of worn out internal components, exclusively with original spare parts;
- During the warranty period, only by authorized Marco S.p.A. personnel, failing which the warranty will expire.

N

## ENVIRONMENTAL DISPOSAL

Do not dispose of pumps into household waste: pumps that are no longer usable, must be collected separately and disposed of in an environmentally correct manner.

N-1

## PACKAGING ENVIRONMENTAL DISPOSAL

The user is invited to effect a proper waste separation, in order to facilitate the recycling of the materials of which the packing is composed.

O

## WARRANTY

- 1) The Warranty period is 2 years from date of purchase on production of the appropriate sales invoice.
- 2) Should the original sales invoice not be available, then the 2 year warranty period will be valid from production date.
- 3) The Warranty becomes null and void in the case of incorrect utilization or disregard of the instructions contained herein.
- 4) The Warranty only covers original production defects.
- 5) The Warranty does not cover any related installation costs involved.
- 6) Transport costs are refundable only in the case where warranty has been duly accepted by Marco Spa and they will be limited to the actual shipment costs between Marco Spa warehouse and the client's delivery address.
- 7) No credit notes or replacement items will be issued prior to the receipt and proper testing of any Marco goods that are deemed faulty.



## P SEQUENZA DI MONTAGGIO / MOUNTING SEQUENCE

1. Montare gli antivibranti (2) sulla pompa (1);
2. Avvitare il portagomma (4), completo di o-ring (3), sul corpo pompa (1);
3. Infilare la fascetta stringi tubo (5) sul tubo retinato (6);
4. Calzare il tubo retinato (6) sul portagomma (4) ed avvitare la fascetta stringitubo (5);
5. Avvitare l'innesto rapido (7) sul corpo pompa (1);
6. Nel caso si voglia utilizzare il tubo Rilsan  $\varnothing$  8/6 L=1.2 m (8) come aspirazione, infilarlo nell'innesto rapido (7) fino a sentire uno scatto: per accertarsi della corretta installazione verificare che tirandolo non si sfilì dall'innesto rapido (7);
7. Nel caso si voglia utilizzare il tubo Rilsan  $\varnothing$  6/4 L=1.2 m (11) come aspirazione, infilare il tubo Rilsan 8/6 L=0,3 m (9) nell'innesto rapido (7) fino a sentire uno scatto. Per accertarsi della corretta installazione verificare che tirandolo non si sfilì. Ripetere la stessa operazione infilando l'altra estremità del tubo Rilsan (9) nel giunto (10). Con le stesse modalità infilare il tubo Rilsan (11) nel giunto (10) e verificarne il corretto montaggio;
8. Per estrarre i tubi Rilsan (8) (9) (11) dall'innesto rapido (7) o dal giunto (10), premere la ghiera in plastica nera contro la parte in metallo, nella direzione opposta a quella di estrazione del tubo.

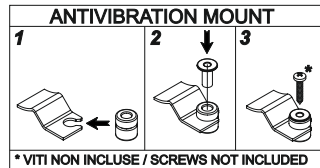
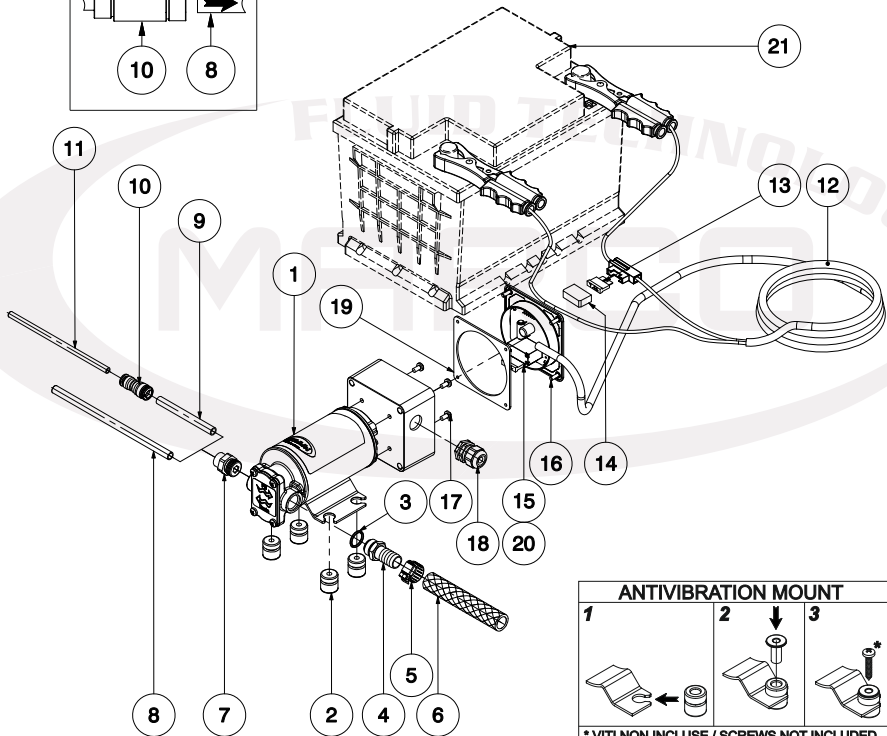
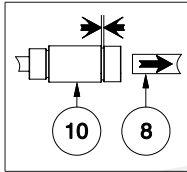
1. *Mount the isolators (2) on the pump (1);*
2. *Screw the hose fitting (4) complete with OR (3), on the pump (1);*
3. *Fit the hose clamp (5) on the hose (6);*
4. *Connect the hose (6) on the hose fitting (4) and screw the hose clamp (5);*
5. *Screw the quick fitting (7) on the pump body (1);*
6. *As an option, the Rilsan hose  $\varnothing$  8/6 L=1.2 m (8) can be connected on the inlet side: for its proper connection, press the hose in the quick fit (7) and check by pulling for sufficient force;*
7. *As an option, the hose  $\varnothing$  8/6 L=0.3 m (9) can be connected on the inlet side: the quick coupling (10) must be used to join the Rilsan hose (9) with Rilsan hose  $\varnothing$  6/4 L=1.2 m (11). Check by pulling for sufficient retention force;*
8. *To pull out the Rilsan hose (8), (9), (11) from quick fit (7) or coupling (10), press the black chape and pull the hose all at once.*

# SCHEDA DI MONTAGGIO / MOUNTING LAYOUT

Pos.	Q.tà	Descrizione
1	1	POMPA
2	4	ANTIVIBRANTI
3	1	O-RING
4	1	PORTAGOMMA
5	1	FASCETTA
6	1	TUBO RETINATO
7	1	INNESTO RAPIDO
8	1	TUBO RILSAN Ø 8/6 L=1,2 m
9	1	TUBO RILSAN Ø 8/6 L=0,3 m
10	1	GIUNTO
11	1	TUBO RILSAN Ø 6/4 L=1,2 m

Pos.	Q.tà	Descrizione
12	1	CAVO CON PINZE
13	1	FUSIBILE
14	1	PROTEZIONE FUSIBILE
15	1	PANNELLO DI CONTROLLO
16	4	VITE FISSAGGIO PANNELLO
17	4	VITE FISSAGGIO SCATOLA
18	1	PASSACAVO
19	1	GUARNIZIONE
20	1	FUSIBILE PANNELLO DI CONTROLLO
21	-	BATTERIA (NON INCLUSA)

SGANCIO TUBO RILSAN  
RILSAN TUBE RELEASE



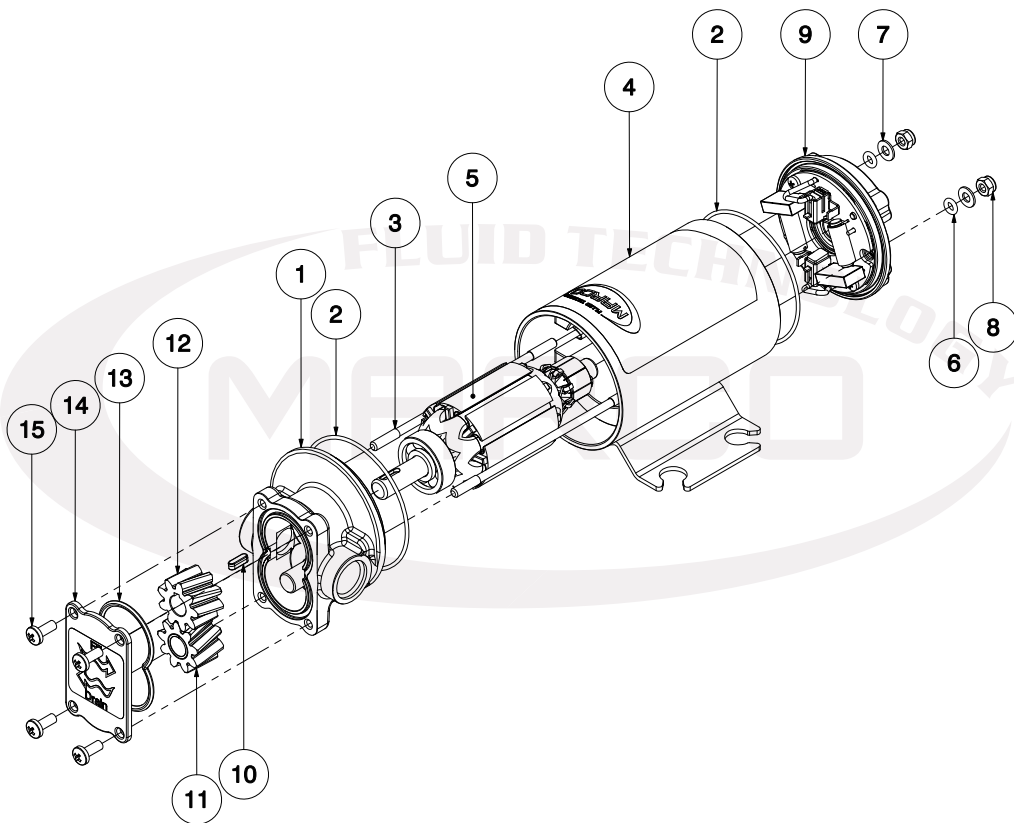
Pos.	Q.ty	Description
1	1	PUMP
2	4	ANTIVIBRATION MOUNT
3	1	O-RING
4	1	TUBE OUTLET
5	1	HOSE CLAMP
6	1	TUBE
7	1	QUICK FIT
8	1	RILSAN TUBE Ø 8/6 L=1,2 m
9	1	RILSAN TUBE Ø 8/6 L=0,3 m
10	1	COUPLING
11	1	RILSAN TUBE Ø 6/4 L=1,2 m

Pos.	Q.ty	Description
12	1	CABLE
13	1	FUSE
14	1	FUSE COVER
15	1	CONTROL PANEL
16	4	CONTROL PANEL SCREW
17	4	BOX SCREW
18	1	GROMMET
19	1	GASKET
20	1	CONTROL PANEL FUSE
21	-	BATTERY (NOT INCLUDED)

R **SCHEDA DI ASSEMBLAGGIO / EXPLODED VIEW**

Pos.	Q.tà	Descrizione
1	1	CORPO POMPA
2	2	O-RING
3	2	TIRANTE
4	1	CARCASSA
5	1	INDOTTO
6	2	O-RING
7	2	RONDELLA
8	2	DADO

Pos.	Q.tà	Descrizione
9	1	CALOTTA PORTASPAZZOLE
10	1	LINGUETTA
11	1	INGRANAGGIO FOLLE
12	1	INGRANAGGIO TRAINANTE
13	1	O-RING
14	1	PIATTELLO
15	4	VITE

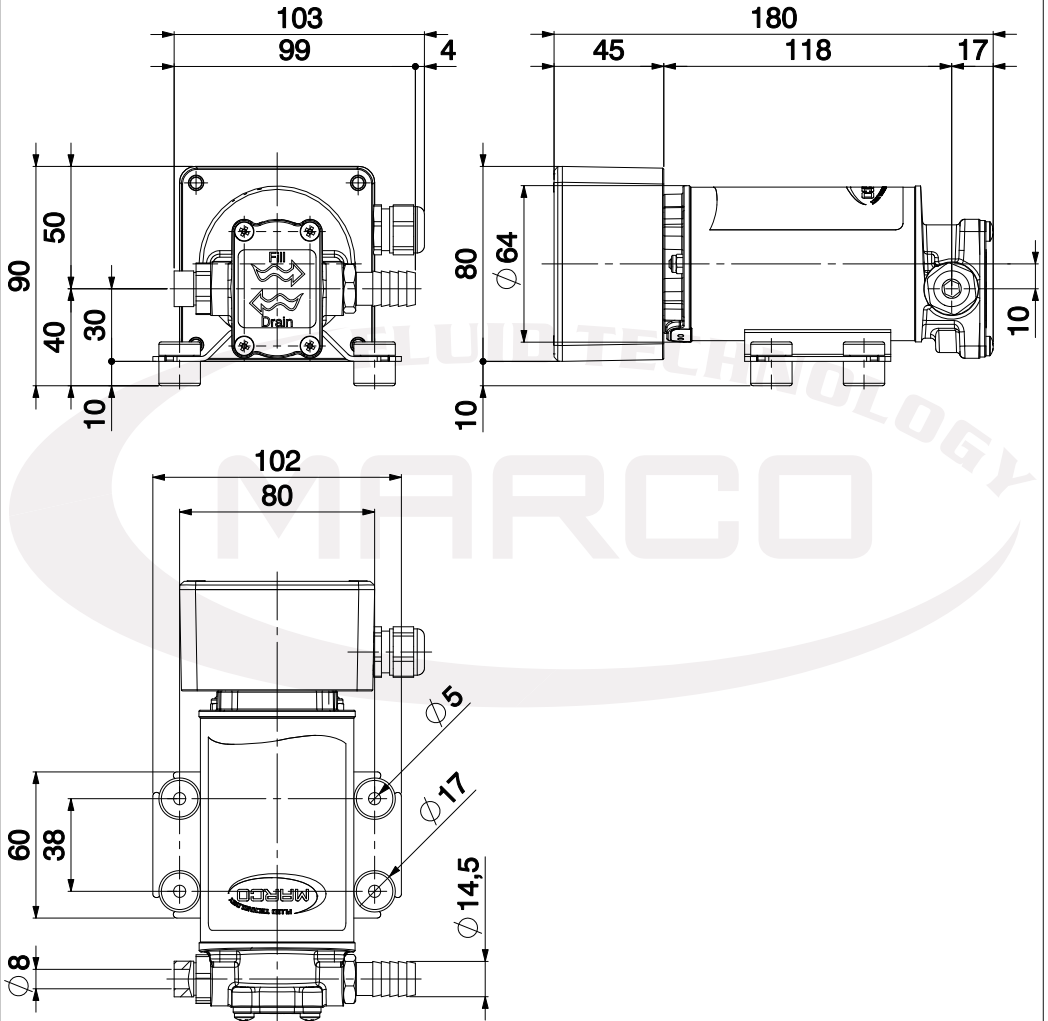


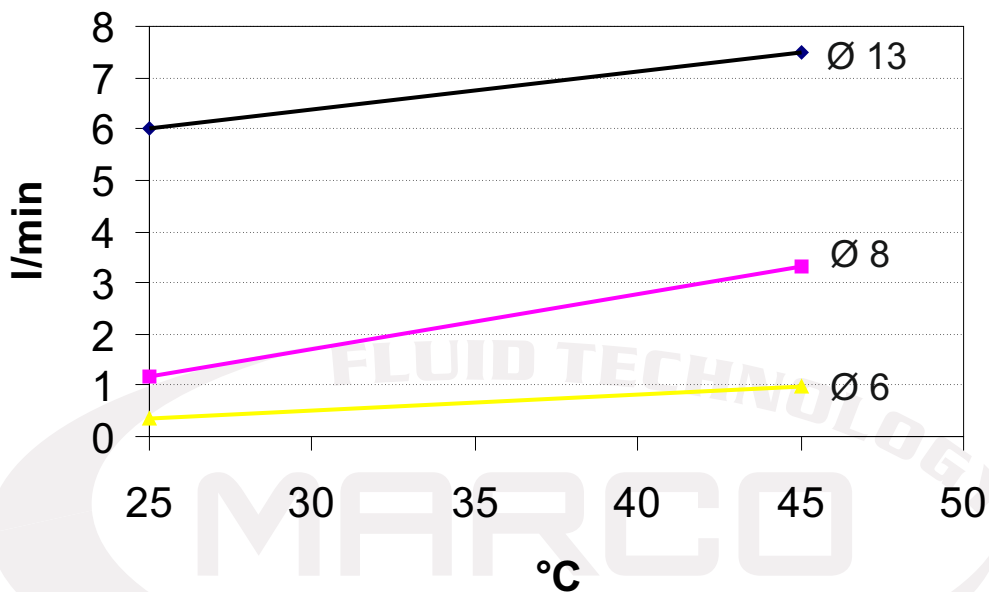
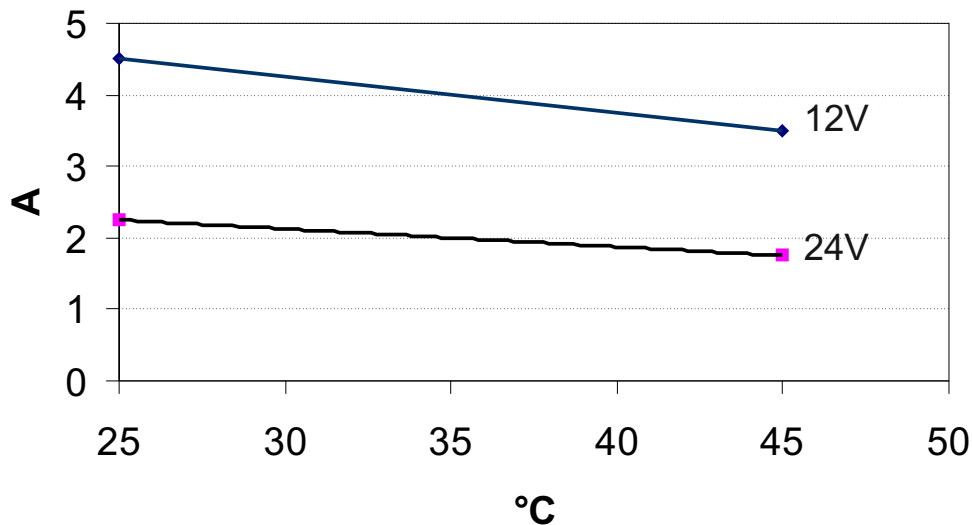
Pos.	Q.ty	Description
1	1	PUMP BODY
2	2	O-RING
3	2	ROD
4	1	PUMP FRAME
5	1	ARMATURE
6	2	O-RING
7	2	WASHER
8	2	NUT

Pos.	Q.ty	Description
9	1	BRUSH HOLDER
10	1	KEY
11	1	IDLE GEAR
12	1	DRIVING GEAR
13	1	O-RING
14	1	TOP PLATE
15	4	SCREW

# INGOMBRI / DIMENSIONS

S



DIAGRAMMI / *DIAGRAM*DIAGRAMMA PORTATA  
*FLOW RATES DIAGRAM*DIAGRAMMA ASSORBIMENTI  
*AMPERE-DRAW DIAGRAM*



Associazione AIB  
Associazione  
Industriale  
Bresciana

## DICHIARAZIONE DI CONFORMITA' C.E. E.C. DECLARATION OF CONFORMITY

Confermiamo che il prodotto:  
*We confirm that the product:*

**164 931 15 - OCK1-E 12/24V Kit cambio olio / Oil change kit**

E' conforme alla Direttiva 2004/108/CE (ex.89/336/CE) relativa alla Compatibilità Elettromagnetica.  
*Is in conformity with the Directive 2004/108/EC (ex.89/336/EC) relating to Electromagnetic Compatibility.*

Questa dichiarazione è valida per tutti gli articoli prodotti secondo la documentazione tecnica che è parte di questa dichiarazione. In caso di eventuali verifiche pertinenti alla Compatibilità Elettromagnetica sono state applicate le seguenti normative:

*This declaration is valid for all products which are produced in accordance with the technical documentation which is a part of this declaration. For verification of conformity with regard to Electromagnetic Compatibility the following standards are applied:*

EN 55014-1

Compatibilità elettromagnetica.  
Requisiti per gli elettrodomestici,  
gli utensili elettrici ed apparecchi similari.  
Parte 1: Emissione.

*Electromagnetic compatibility.  
Requirements for household appliances,  
electric tools, and similar apparatus.  
Part 1: Emission.*

EN 55014-2

Compatibilità elettromagnetica.  
Requisiti per gli elettrodomestici,  
gli utensili elettrici ed apparecchi similari.  
Parte 2: Immunità.

*Electromagnetic compatibility.  
Requirements for household appliances,  
electric tools, and similar apparatus.  
Part 2: Immunity.*

Questa dichiarazione è rilasciata sotto la responsabilità esclusiva di:  
*This declaration is given under the sole responsibility of:*

**MARCO S.P.A.**  
**Via Mameli 10 - 25014 Castenedolo - Brescia - Italy**  
**Tel. 030/2134.1 Fax 030/2134.300**

Questo documento e' proprieta' di Marco S.p.A la riproduzione e l'uso sono vietati.

Tutti i diritti sono riservati.

Per ulteriori informazioni vedere nostro sito internet - [www.marco.it](http://www.marco.it)

Marco S.p.A Via Mameli 10 - 25014 Castenedolo (Brescia) – Italia

tel. +39 030 2134.1 / Fax +39 030 2134.300

Property of MARCO S.p.A reproduction prohibited. All rights reserved.

For further information visit our web site - [www.marco.it](http://www.marco.it)

Marco S.p.A Via Mameli 10 - 25014 Castenedolo (Brescia) – Italy

tel. +39 030 2134.1 / Fax +39 030 2134.300