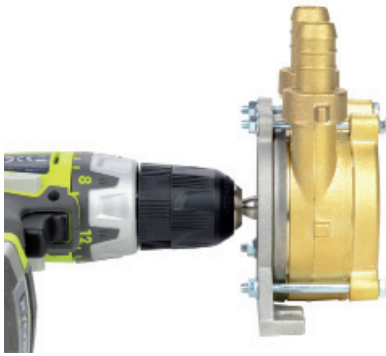


DRILL POWERED PUMP

Type TR



User's manual



TR

Self priming, drill powered pump

Important

The component described here must only be used by persons with appropriate knowledge of its use. It must not be left in place accessible to children or to persons that might use them in a potentially dangerous manner. The component must be used in compliance with all the safety rules indicated in this manual.

The manufacturer shall not be held responsible in cases of improper use of the component, use contrary to specific nations regulations, installation not in conformity with the declared specifications, faults in the power supply, unauthorized modifications and operations, use of non-original spare parts or parts not relative to the specific model, total or partial failure to comply with the instructions indicated here.

Description of the component

It is a self-priming pump of «side channel» type, made of bronze and AISI 304 stainless steel. This very efficient pump has been designed and manufactured specifically for transferring and handling many types of liquids. The pump can be activated in several different ways. For simplicity, in the rest of the manual, reference will be made to the activation by electric drill. The term «bronze» is used to describe Delta C type copper alloy, which is common practice in the self-priming pump sector.

Properties of pumped liquid awarning



The liquid to be pumped :

- must have no hard suspended particles (sand, gravel, etc.) which can cause rapid wear of internal parts; if there are such particles in the liquid to be pumped install a suitable filter in the suction hose.
- must not be aggressive towards the materials with which it comes into contact (bronze, AISI 304 stainless steel, bakelized canvas, NBR gum).
- must have a minimum temperature of : -15° C (in any case above the freezing temperature of the liquid to be pumped). Maximum temperature : 90° C
- maximum allowed density and viscosity depend on the power of the drill activating the pump..

Examples of use : water, sea water, oil, gas oil, soaps...

Specifications

Capacity at following conditions :

Water pumped at 20°, Short hoses (1-2 metres)

The level of the liquid to be sucked up is more or less equal to that of the tank to which the liquid is sent.

Drill speed	Capacity
1400 rpm	12 l/mn
1900 rpm	17 l/mn
2900 rpm	32 l/mn

If the hoses are long or the difference in height increases the capacity drops.

The pump is self-priming up to 6 metres (with water at 20° C); the time required for priming depends on suction height and rpm.

Pumping direction

Observing the pump from the side with the arrow next, if the drill rotates clockwise the direction of flow is from the left port to the right port.

The direction of flow is reversed by reversing the direction of rotation.

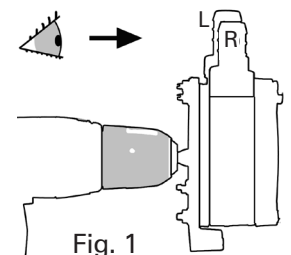
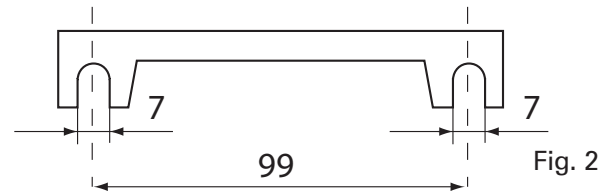


Fig. 1

Installation and use



- During installation the plug of the drill power cable must not be connected and the switch must be off.
- Do not start the pump before having completed installation.
- The drill chuck is extremely dangerous: it can get caught up in clothing, hair, body parts; contact with this moving part can cause wounds or abrasions; the user must carefully consider the risk and take suitable precautions.
- Do not exceed the maximum admissible speed of 2900 rpm.



1) Position the pump on a sufficiently sturdy horizontal surface, such as a wooden plank, fix it using 2 suitable screws; See the dimensions of the pump feet for fixing, Fig.2

2) Clamp the projecting part of the pump shaft (which has a diameter of 8 mm) in the drill chuck (as you can see on fig.1); fix the drill to the supporting surface.

3) Fill the pump with liquid to be pumped through one of the ports; as the pump is self-priming, this operation is only necessary the first time, or if the pump has been emptied; in fact, when it stops sufficient liquid remains inside for subsequent priming.



WARNING Do not operate the pump dry.

4) Screw the hose fittings to the pump ports (ref. R, L in fig. 1), after checking that the gaskets are present in the fittings.

5) Provide a pair of hoses of suitable length and with the same internal diameter as the external diameter of the fittings (14 mm for the TR 14, 20 mm for the TR 20). The hose must be flexible spiral, made of a material suitable for the type and temperature of the liquid to be pumped, resistant to the internal vacuum and with an operating pressure of at least pressure 3 bar. Insert the ends of the hoses into the hose fittings; secure the connection using a hose clamp; it is not necessary to install a check valve; if the liquid can contain hard suspended particles install a suitable filter in the suction hose to retain them; do not bend the hoses excessively to avoid kinks. Insert the free end of the suction hose into the receptacle from which liquid is to be drawn and the free end of the discharge hose into the receptacle to receive the liquid. The discharge hose must be fixed, to prevent it from escaping and wetting the surrounding environment.

6) Start-up



At start-up or during operation undesirable leakage or spraying of liquid may occur due to: installation procedure carried out incorrectly, wear and tear of pump parts or hoses, incorrect reassembly after maintenance. Risks related to these events must be carefully assessed and suitable precautions taken.

Start the pump by connecting the power supply plug of the drill and switching on; after the few seconds required for priming the pump starts to transfer the liquid. Check whether the suction hose bubbles air into the liquid to be sucked up; in this case the pump is pumping in the wrong direction: reverse connection of the hoses to the pump ports or reverse the pumping direction of the drill.



Operation must always be supervised to act promptly in the case of malfunctioning.

WARNING The pump must not run with the hoses completely closed for more than one minute.

7) Stopping the pump: stop the drill and disconnect the power supply plug; even after it is switched off the pump remains filled with liquid, to allow priming; if there is any chance of the outdoor temperature dropping below the freezing point of the liquid, empty the pump after use.

Safety regulations

Under no circumstances insert fingers or other body parts through the ports: the pump contains moving parts.

If the pump is to be disassembled (e.g. to replace the gaskets or carry out in-depth cleaning) always switch the drill off and disconnect the power supply plug, to prevent switching on accidentally with unprotected moving parts. Inner parts may have sharp edges and therefore handle with care.

The outer surface of the pumping body reach the temperature of the pumped liquid; therefore suitable precautions must be taken when pumping very hot or very cold liquids.

Washing

The pump can be washed very easily by pumping clean water.

