

Tank Release MANUAL

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1 INTRODUCTION

1.1 WARNINGS

Warnings is important remember that:

To ensure correct and safe operation of the equipment is absolutely necessary installation and assembly conform to current standards and use an accurate and proper maintenance. The commission and any intervention on the equipment must be carried out by qualified personnel.

Qualified personnel under the security is that:

- Is familiar with the safety concepts of automation technology.
- He has the skills necessary to work on the equipment in question.

A careful reading of the manual is necessary for the proper use and proper maintenance plant.

Disclaimer:

We have reviewed the contents of this document describes the hardware. Since deviations can not be excluded, we can not guarantee full agreement. This manual is designed as a "quick" reference for the operator who intends to general information about the operation of the equipment. For specific questions or information about courses, personal instruction (training), please contact the Our service representative. Any addition, alteration, repair, replacement of one or more parts of the void all validity of this document.

1.2 SYSTEM DESCRIPTION

The plant in question is generally used for the correct dosage of moulds release products in water for lubrication of moulds used for casting and putting them under pressure. To proper operation must be coupled to distribution systems, such as manual lubrication or automatic.

2 INSTALLATION

2.1 Connections and adjustments

Before making any connection you must ensure that all taps are closed. Having made this check you can connect the water and power supply. Done that, the dispenser begin to mix water and release allowing the tank to fill. Before making the air connection is necessary to reduce the output pressure by the regulators unscrewing to the limit the knobs located at the top of the two groups **FRL** and **RP**. Ones connected the air it is possible increase the pressure at the outlet of the **FRL** tightening the knobs until the required pressure displayed on the gauge (see below values) and moderately open the tap **R1** (see Following the function). Now, you can turn on the tap **R4** (supply water to the pump) and **R2** (Supply air to the pump). **A lack of water to the pump suction during his operation due to damage it, so you must pay attention in these operations. To prevent this situation from occurring slowly open the ring until reaching the desired pressure.** The regulation of **RP** must be done following the criteria described for the regulation of **FRL**. As pressure is increased in output **RP** also the pump will increase its internal pressure and line pressure. Following these operations you can turn on the tap **R5** and the taps on the output filters. Taps **R7** and **R8** will be opened only when connecting a lubricator device.

3 OPERATING TANK (190 LITERS TANK)

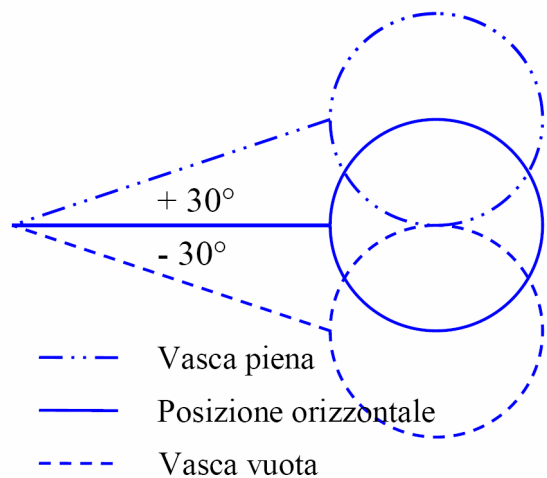
3.1 Release dosage

The liquid (water) that will be transferred to the tank is filtered through the upstream **F3** filter. The fluid flow is controlled by the solenoid **YV1D6** directly controlled by the float **LI1B6** site inside the tank. In the absence of water inside the tank, the valve is powered and allows the filling of the reservoir.

The release agent passes through the mixer **ML1** that, depending on the adjustment made, picks release agent and dilute it with rates ranging from 0 to 4%.

3.2 Operating float

As mentioned previously the float **LI1B6** allows power to the valve **YV1D6**, and consequently, the filling of the tank. The float has a limit of $+ / - 30^\circ$ from its horizontal position (As shown in the drawing). Where does the water reach the float at an angle of greater than 30° the horizontal axis it will take away the power to **YV1D6** valve that will prevent the flow of liquid in the tank, on the contrary, if the float will reach an angle less than 30° from its horizontal position it **YV1D6** feed valve that will allow the tank fill.



4 AIR SUPPLY

4.1 Description

In this plant, the air is necessary to maintain properly mixed the liquid contents from the tank, to control the pump **P** and for a possible pilot line.

4.2 Supply and distribution

The air supply pressure is limited by the stage **FRL** (we recommend setting approximately 6 bar). Following this stage there are two taps, **R1** and **R2**. By **R1** we adjust the amount of air to be sent into the tank to maintain proper mixing and water release. Following **R1** it is placed the check valve **VR2** that prevents the liquid into the tank pass into the pneumatic line. Through **R2** feeds the pump **P**. At the bottom of **R2** is installed a second pressure regulator **RP** through which you can reduce the pressure of the pump. You need to adjust this controller based on the need for system pressure distribution. The maximum pressure we can get will be equal to that set by the **FRL**, the pressure at the pump outlet at point **B** will be equal to the pressure of air which feeds the pump.

4.3 Optional lines

You can request the installation of the **RA** controller for a possible line of optional blowing and **R3** installation of the tap through which we can feed a possible line of optional piloting.

5 PRESSURE LIQUID

5.1 Liquid cycle

By opening the tap **R4** it is allow the pump **P** to take the mixture of water release from the tank and put under pressure downstream. The liquid passed through the check valve **VR2** will put under pressure the preloaded accumulator tank **VE** that will send it to the filters through the tap **R5**. The tap **R6** is used to discharge the preloaded accumulator tank **VE**, so under normal working conditions it will remain closed. The final stage of filter is composed of the filters **F1** and **F2** and the taps **R9** and **R10** and **R11** and **R12**. Opening the taps **R9** and **R10** and closing the taps **R11** and **R12** are going to use the filter **F1** and Instead, closing **R9** and opening **R10** and **R11** and **R12**, we will use the filter **F2**. Downstream of this stage you can get out the liquid from the taps **R7** and **R8**.

5.2 Pump cycle

As mentioned above, the pump **P** begins to work and send the liquid under pressure from the time when supplied with air. It can reach the pressure of the air if is not taken fluid from the taps **R7** and **R8**. The liquid pumped from the pump passes through **VR2** and goes to load **VE**. The moment we begin to remove the mixture from one of two valves (**R7** or **R8**) the pressure inside the accumulator tank circuit starts to drop to compensate for this loss keeps constant. The liquid discharged from the preloaded accumulator tank is constrained in the direction of **R5** through the check valve **VR2**. Aware of this pressure drop the pump will resume work by sending more liquid in the circuit trying to bring the condition of equality between the air pressure and the circuit liquid pressure. In doing so we will have again a sharp increase in pressure within the circuit to be limited by the preloaded accumulator tank **VE**. This cycle continues until the pressure inside the system reaches an equilibrium condition, so the pump will continue to work. This condition occurs when we stop to pick up liquid from one of two valves (**R7** or **R8**).

6 MAINTENANCE

For proper operation of the plant is recommended monthly cleaning of the tank. In order to avoid damage to the pump we advise to check periodically the status and Operation of the-float.

Important: to work with components under pressure can be dangerous, is required before performing any maintenance on the system, disconnect the air and download the preloaded accumulator tank through the tap R6, it is also necessary, disconnect water and electric power.