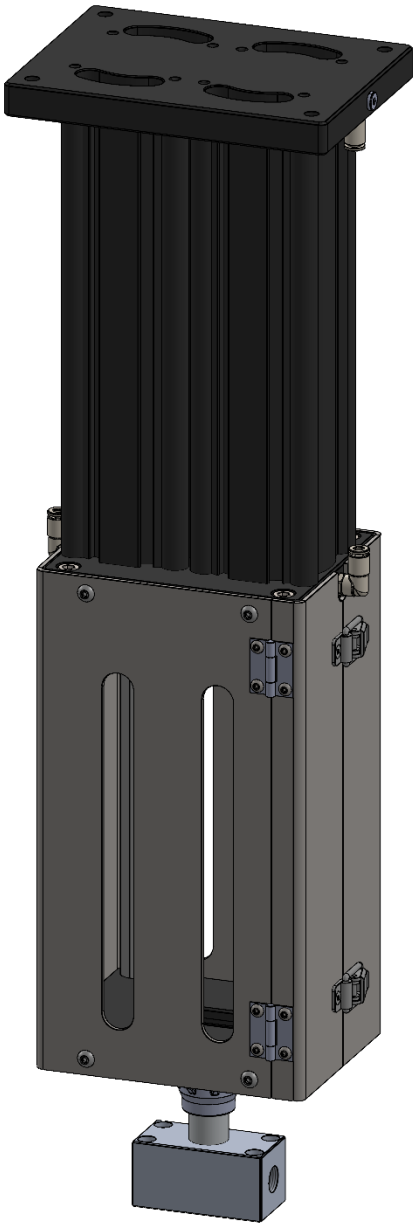
DAVtech

PARTS, SYSTEMS AND AUTOMATIONS FOR FLUID DISPENSING

USER AND MAINTENANCE MANUAL

P2K – 400 FEEDING SYSTEM



COD.: **DTVI_P2K400_2540**
REV.: **00**
DATE: **01/10/2025**

TRANSLATED FROM ORIGINAL
Read carefully before using the component!

EN

TABLE OF CONTENTS

1 GENERAL INFORMATION

This manual contains information regarding the installation, use, maintenance, and end of life of the component and provides guidelines for the most appropriate behavior for correct operation. This manual has been designed to be simple and as immediate as possible, with a division between chapters and sub-chapters that allows any desired information to be found quickly. Furthermore, the manual begins by providing a general description of the content, then an overview of the component, leading to safety aspects, transport, installation and use, and finally to end of life. Should there be any doubts regarding the interpretation or reading of this manual, please contact the manufacturer.

DAV Tech disclaims all liability for improper use of the component. Comply with what is specified in this manual.

Read this manual before handling the component or performing any action on it.

The manual constitutes an essential safety requirement and must accompany the component throughout its entire life cycle.

It is the responsibility of the end user to optimize the functionality of the component, always taking into account the purpose for which it was built.

This manual, together with the attached documentation, must be kept in good condition, legible and complete. Furthermore, it must be stored near the component or, in any case, in a location accessible and known to all personnel who use the component itself or who must perform maintenance or inspection work. Should the manual deteriorate or no longer be complete, a copy must be requested from the manufacturer, indicating the manual code and revision.

The manual is intended for personnel who use the component (operators), who perform maintenance on it (maintenance technicians), and for personnel who must perform checks or inspections. The manufacturer is not responsible for damage to the component caused by personnel who have not followed the instructions contained within the manual itself.

In case of doubts regarding the correct interpretation of the information contained in this manual, please contact the manufacturer.

WARRANTY

During the design phase, a careful selection of materials and components to be used in the project was made and they were subjected to regular testing before delivery. All elements have been designed and manufactured with an adequate degree of safety, such that they can withstand stresses greater than those of normal use.

The warranty is valid for a period of 12 months from the commissioning date and in any case not beyond 15 months from the delivery date. Work carried out during the warranty period does not in any way extend the validity period of the warranty itself.

The manufacturer is not responsible for defects due to normal wear of parts that, by their nature, deteriorate.

1.1 Symbols

The following are the symbols used to give greater impact to the importance of the concept being conveyed.

WARNING!
Refers to a warning that could lead to minor damage (minor injuries, damage to the component requiring maintenance technician intervention).

DANGER!
Refers to an event of greater magnitude that could cause major damage (death, permanent injury, irreversible component failure).

NOTE. Indicates relevant information or detail.

OBLIGATION. Indicates an activity that must be performed, related to both the component and the manual.

REFERENCE. Refers to an external document that is important to review.

Furthermore, the list of symbols is supplemented with that of personnel assigned to use the component and its function, along with other symbols used within the manual.

Operator
Qualified person capable of operating the component, performing adjustment, cleaning, start-up or reset operations. The operator is not authorized to perform maintenance.

Mechanical Maintenance Technician
Qualified technician capable of performing mechanical work, adjustment, maintenance and ordinary repair described in this manual. Not authorized to perform work on electrical systems in the presence of voltage

Electrical Maintenance Technician
Qualified technician capable of performing electrical work, adjustment, maintenance and ordinary repair described in this manual. Capable of working in the presence of voltage on electrical cabinets and junction boxes. Not authorized to perform work on the mechanical side

Manufacturer Technician
Qualified technician made available by the manufacturer to perform complex operations in particular situations, or in any case according to what has been agreed with the customer.

1.2 Reference Standards

The reference regulations and directives of this manual are as follows:

Directive

- 2006/42/EC -- Machinery Directive;

1.3 Declaration of Incorporation (Annex II B DIR. 2006/42/EC)

Manufacturer name: **DAV Tech Srl**
Address: Via G. Ravizza, 30, .36075, Montecchio Maggiore (VI)

DECLARES THAT THE PARTLY COMPLETED MACHINERY

Component: P2K – 400
Model: 400ml bicomponent feed system
Year: 2025
Intended use: Feed of bicomponent fluid on separate circuits

COMPLIES WITH THE INCORPORATION PROVISIONS DICTATED BY DIRECTIVE 2006/42/EC

The technical documentation has been prepared in accordance with Annex VII B, as required by the following:

- Machinery Directive 2006/42/EC of the European Parliament and Council of 17 May 2006

FURTHER DECLARES THAT:

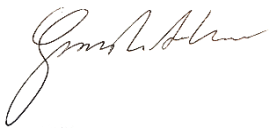
- The company undertakes to transmit, in response to a duly motivated request from national authorities, relevant information on this partly completed machinery;
- The technical file was prepared by Andrea Grazioli, via Ravizza, 30, Montecchio Maggiore (VI), IT.

This partly completed machinery cannot be used until the machinery on which it will be used is declared compliant with standard 2006/42/EC

Montecchio Maggiore, 01 october 2025

Legal representative

Andrea Grazioli



1.4 Glossary

The following are the most commonly used terms within this manual with their meaning.

TERM	DEFINITION
Enable	Term that defines the act of preparing (enabling) an action. The action will activate as soon as criteria are met which, as a consequence, lead to activation of the enabled action.
Activate	The action that occurs instantaneously upon actuation of the command.
Hold-to-run controls	Controls defined as those that, used for manual operations, must be kept activated for the action to be performed. When the control is released, the action stops.
Two-hand controls	Hold-to-run controls that require simultaneous actuation of two manual controls to perform an action.
PPE	Personal protective equipment. Includes all objects necessary to ensure protection of personnel from possible accidental damage (safety shoes, gloves, helmet, and others).
Display	Used to display information. Can be in any shape and size, including touch screen.
Manufacturer	Natural or legal person who designed and manufactured the component that is the subject of this manual.
Icon	Small image that symbolically represents a command, function, or even a document or operating program, which appears on a computer screen. When selected by the user, it initiates the function or program it symbolizes.
Joystick	Lever manipulator used in control push-button panels.
N/A	Not Applicable, indicating that it is a field that does not apply to this particular manual and cannot be integrated into the component.
Operator panel	Control station where the machine control instruments are located.
PI	Possible Implementation, meaning that at present it is absent from the component described in this manual, but it is possible to make an addition and implement it.
Screen	Interface system between man and component. Screens are defined as images displayed on the operator panel that allow the user to receive and provide information to the management software.
Push-button panel	Composition of buttons and selectors that allow direct action on component behavior.
Keyboard	Keyboard only (standalone element) or in addition to a display (keys only, no selectors or other).
Touch screen	Touch screen that allows the user to interact with a graphical interface using fingers or specific objects.

1.5 Service and Manufacturer Contact Information

For any reason related to use, maintenance or request for spare parts, the customer must contact the manufacturer directly (or the service center if present), specifying the identification data of the component.

The customer can make use of the commercial technical support of area agents or importers, who are in direct contact with DAV Tech Srl.

Company name	**DAV Tech Srl**
Postal address	Via Ravizza, 30, 37065, Montecchio Maggiore (VI) – (IT)
Telephone	+39 0444 574510
Fax	+39 0444 574324
e-mail	davtech@davtech.it
Website	www.davtech.it

2 PRESENTATION AND OPERATION

This manual serves to explain the operation of the P2K -- 400 feed system, which is a feed system that draws fluid from cartridges and pushes it toward a distribution block that keeps the fluids separate, to deliver them to a bicomponent dosing system. Furthermore, another characteristic of this component is that it operates pneumatically, not electrically, except for the level sensor, if present.

In other words, the function of this component is:

FEED OF BICOMPONENT FLUID FROM 400ml CARTRIDGES IN SEPARATE MODE TO PUSH IT TOWARD A BICOMPONENT DOSING SYSTEM

The use described in the chapter below is considered intended use, while any other use not described within this manual, with products of different material and format from those for which it was built, is considered improper use.

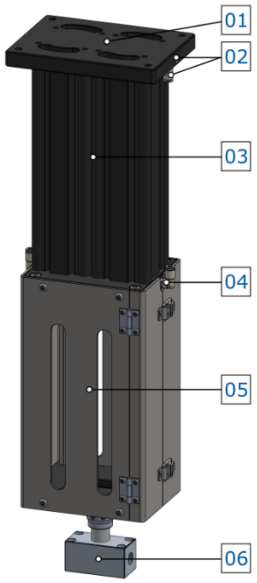


Figure 01 -- P2K -- 400 Detail

No.	DESCRIPTION
01	Support base
02	Dosing air inlet
03	Piston chamber
04	Refill air inlet
05	Cartridge chamber
06	Distribution block

Before using a particular type of fluid, verify that:

- The fluid viscosity is compatible with the system characteristics;
- The fluid characteristics meet the desired requirements;
- The fluid technical data sheet provided by the manufacturer contains all information regarding the product such as viscosity, applications, drying and storage times;
- The fluid storage time has not been exceeded;
- The fluid packages are hermetically sealed.

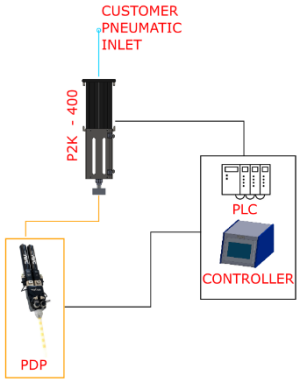
SPECIAL VERSIONS

N.A.

OPERATION

The component operates pneumatically, that is, by introducing air through the dosing air inlet, the pistons push plungers inside the cartridge (depending on the cartridge type and dosing ratio, the plungers may be of different sizes), which push the two fluids simultaneously toward the distribution block, which outputs the fluids from two different outlets. When the cartridge runs out, or when an out-of-fluid signal is sent to the control system in case there is a level sensor, air is introduced through the refill air inlet, which pushes the pistons upward, and therefore the plungers.

Figure 02 represents the most complete case. For minimum working pressures, refer to chapter 2.2.

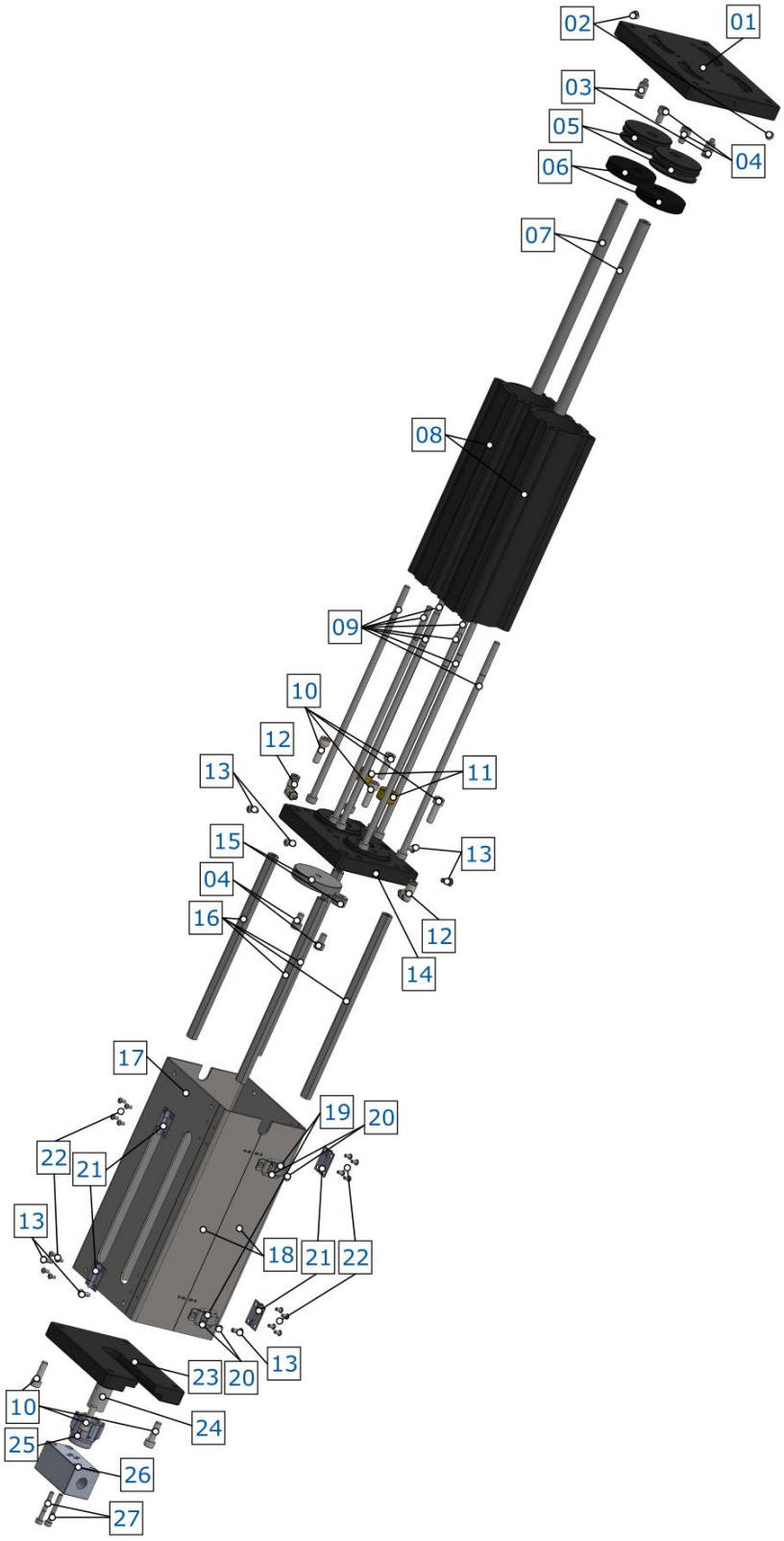


COLOR	MEANING
BLACK	Data
CYAN	Pneumatic line
ORANGE	Fluid line
RED	Notes

Figure 02 – Connection Example

2.1 Exploded view

The following is a list of the main valve components with spare part codes.



No.	Description	Var.	Code	Variant Details
01	DOUBLE CYLINDER FEED HEAD	-	310823512313D	-
02	M5 PLUG	-	-	-
03	4XM5 FITTING	-	-	-
04	M6X14 SOCKET HEAD CAP SCREW	-	TCEI M6X14	-
05	PISTON	-	010923572313D	-
06	PISTON GUIDE	-	200324502313D	-
07	PISTON SHAFT	-	PSFGW12-210-MD6-N6	-
08	PISTON ROD	-	AIRTAC 50_P2K400	-
09	M6X230 SOCKET HEAD CAP SCREW	-	TCEI M6X230	-
10	M6X16 SOCKET HEAD CAP SCREW	-	SHCS M6X16	-
11	BUSHINGS	-	C-MPBZ12	-
12	90° PNEUMATIC FITTING 4XM5	-	-	-
13	M4X10 BUTTON HEAD SOCKET CAP SCREW	-	TBEI M4X10	-
14	ROD HEAD	-	310823522313D	-
15	PLUNGER	-	-	-
-	-	15.a	FWZAA-D50-V11.0-P6.5-H6.5-T9.0	Large plunger
-	-	15.b	FWZAA-D14-V11.0-P6.5-H6.5-T9.0	Small plunger
16	HEXAGONAL COLUMNS	-	ALSFB10-200	-
17	HOUSING	-	010923502313D	-
18	FRONT DOORS	-	-	-
-	-	18.a	040923502313D	Right door
-	-	18.b	010923512313D	Left door
19	DOOR CLOSURE	-	C-1075	-
20	M3X6 FLAT HEAD SOCKET CAP SCREW	-	TSPEI M3X6	-
21	HINGE	-	B-100-1	-
22	M3X6 BUTTON HEAD SOCKET CAP SCREW	-	TBEI M3X6	-
23	CARTRIDGE GUIDE PLATE	-	310823502313D	-
24	400ml CARTRIDGE FILL FITTING	-	370012313D	-
25	LOCK NUT	-	-	-
26	RESIN DISTRIBUTION BLOCK	-	3108225310522	-
27	M4X30 SOCKET HEAD CAP SCREW	-	TCEI M4X30	-

2.2 Technical data

The following indicates all technical characteristics regarding the component of this manual.

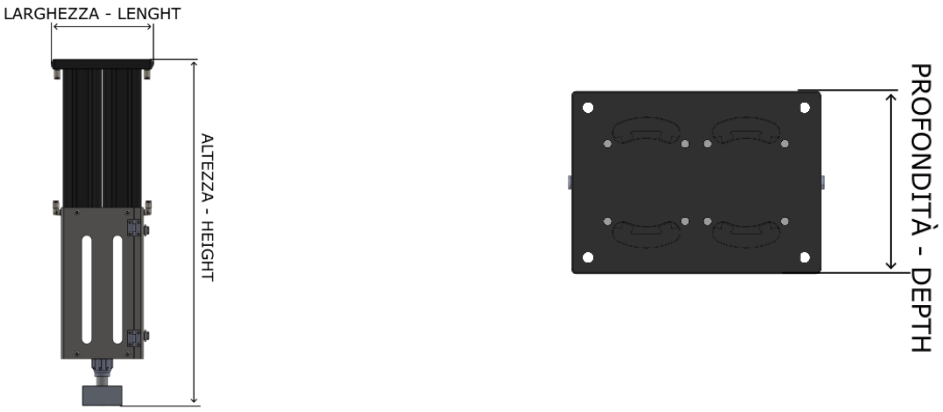
TECHNICAL CHARACTERISTICS		
Description	**UoM**	**Values**
Model	\	P2K -- 400
Actuation	\	Pneumatic
Working pressure range (up and down)	bar	1 ÷ 3

ENVIRONMENTAL CHARACTERISTICS		
Description	**UoM**	**Values**
Operating ambient temperature	°C	5 ÷ 45
Storage ambient temperature	°C	-20 ÷ 55
Allowable non-condensing humidity	%	5 ÷ 90

USABLE FLUIDS
2K cartridges of 400cc with various dosing ratios. Check fluid viscosity.

DIMENSIONAL AND WEIGHT CHARACTERISTICS		
Description	**UoM**	**Values**
Component length (min ÷ max)	mm	150
Component depth (min ÷ max)	mm	110
Component height (min ÷ max)	mm	527
Component weight	kg	4

Component



It is possible to request the component 3D from the manufacturer in the desired version without any commitment.

3 SAFETY

The following presents the list of warnings regarding the component that is the subject of this manual. Please read carefully before proceeding with the next chapters.

DANGER!
Before putting the component into operation or performing any action on it, read this manual carefully.

DANGER!
Do not use the component under the influence of drugs or other substances that may alter attention and reaction capacity.

DANGER!
Operators must perform only operations or interventions that are within the competence of their assigned role and qualification.

DANGER OF FIRE/EXPLOSION!
This component is not designed to work in ATEX environments.

DANGER!
Pay close attention during the component maintenance phase, especially when disassembling components that have springs under pressure inside them.

WARNING!
Modifications to the component must not be made in order to obtain performance different from that for which it was designed and built, unless authorized by the manufacturer.

WARNING!
Avoid introducing foreign bodies into the pneumatic system, even small ones, which could cause system malfunction and compromise machine safety.

The component may only be used by trained and authorized operators and only for the purpose for which it was designed and built..

The component is built in compliance with the technical safety standards in force at the time of its construction.

3.1 Component safety device

N.A.

3.2 Required free space

N.A.

3.3 Risk and residual risk zones

N.A.

4 TRANSPORT AND HANDLING

Once the goods are received, verify that the packaging is intact and that there is an exact correspondence with the ordered material.

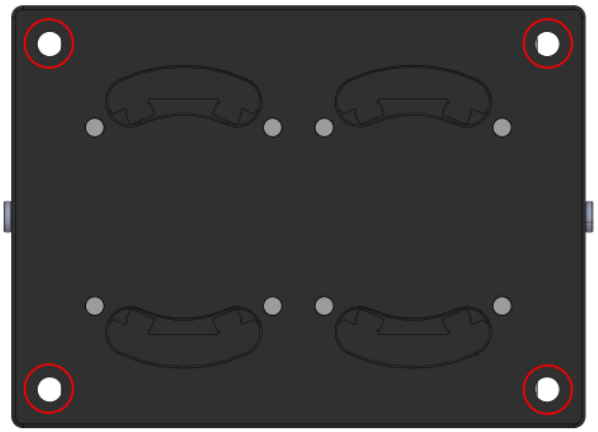
WARNING!
The original configuration of the component must not be modified. The manufacturer is not responsible for damage caused by inappropriate use of the component.

WARNING!
If the packaging is not intact, immediately contact the manufacturer, also sending photos of the packaging condition. Do not open it before notifying the manufacturer.

5 INSTALLATION

Installation of the component is performed by the customer. If necessary, they can contact the manufacturer to have a specialized technician assist them.

This component has been designed to work perpendicular to the ground, specifically there are 4 holes on the double cylinder feed head (as shown in the figure) for M6X16 socket head cap screws. The component has not been designed for other installations.



It is recommended to inspect the component before starting installation. If it shows obvious damage, please contact the manufacturer.

WARNING!
Please remove the packaging with maximum care. Should damage be caused to the component, the manufacturer is not responsible.

Dispose of packaging correctly, taking into account the different nature of the components and following the regulations in force in the Country.

5.1 Positioning

Vertical, as shown in the following image:

5.2 Connections

This chapter explains the connection method to be used for the component. The following types of connections are provided:

- Fluid connection;
- Pneumatic connection.

5.2.1 Fluidic

Authorized personnel		**PPE to wear**						
Component status	Positioned in the work area							
Supply values	See chapter 2.2							
Necessary preparations	N/A							
Required material	N/A							
Required equipment	N/A							

Fluid connection is the Customer's responsibility

The fluid connection must be made on the resin distribution block, which has two 1/4" GAS threads. The two outlets then carry the two fluids to different inlets of the dosing system.

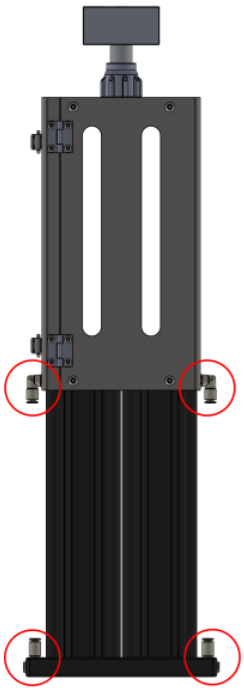
WARNING!
It is important that, once it has been decided which outlet goes to the appropriate inlet of the dosing system, the outlets are not interchanged, otherwise the product will dry inside and the system must be disassembled for cleaning

5.2.2 Pneumatic

Authorized personnel		**PPE to wear**						
Component status	Positioned in the work area							
Supply values	See chapter 2.2							
Necessary preparations	N/A							
Required material	N/A							
Required equipment	N/A							

Pneumatic connection is the Customer's responsibility

Four M4X2.5 tubes must be connected to the areas indicated in the figure. Note that the component, on the support base, may have the connection either straight in the flat area (as shown in the image), or at 90° in the vertical area (where the plug is present). A plug is placed in the hole that is not used to close it.



WARNING!
Verify that the incoming pressures are as indicated in chapter 2.2

5.3 Commissioning

Commissioning of the component is performed once the positioning and connection operations are completed. Before performing component commissioning, the following checks must be performed:

- Verify that the connections have been made correctly;
- Verify that the component is free of dirt or various types of residue;
- Verify that the dosing system is securely connected to the component;

WARNING!
If even just one of the points listed above is not compliant, commissioning must not proceed. Commissioning must only proceed when all points are successfully completed.

6 SOFTWARE

N.A.

7 PROCEDURES

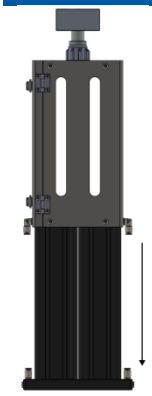
This chapter explains the main configurations that can be used on the component that is the subject of this manual. Specifically, it explains in detail:

- How to perform cartridge replacement;

7.1 Cartridge replacement

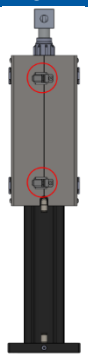
This procedure must be performed when the cartridge reaches the end of the product, or when the level sensor detects that the product inside has reached a level requiring cartridge replacement. To do this:

01



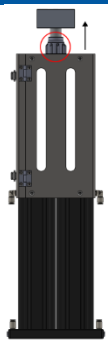
Bring the pistons to rest mode

02



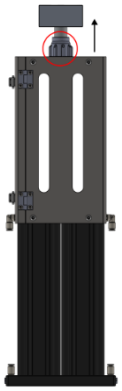
Open the side doors

03



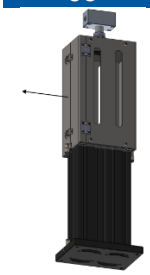
Unscrew the fluid lock nut and lift the fluid block, thus freeing the fluid area

04



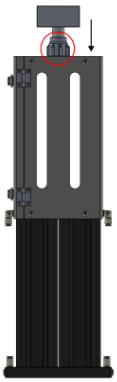
Unscrew the fluid lock nut and lift the fluid block, thus freeing the fluid area

05



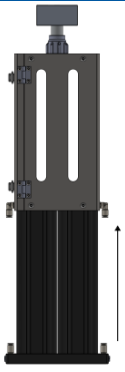
Remove the cartridge present inside the component and position another cartridge, paying attention to the direction in which it is inserted, which must be the same direction as the cartridge just removed

06



Position the fluid block in position, paying attention to the direction in which the cartridge fill fitting and distribution block are inserted, and lock everything with the appropriate lock nut.

07



Close the side doors and restore air to the system, purging any air that has accumulated inside the circuit during cartridge replacement with the appropriate method (depending on the system, this method may vary).

8 MAINTENANCE

Maintenance interventions are all those activities that must be performed on the component which, if performed correctly, allow it to have a longer life. In general, maintenance is divided into two groups:

- **Ordinary maintenance**, which are interventions at regular intervals or that can be performed by the Customer's personnel, are the most important activities as they allow the component to be maintained in good operating conditions;

WARNING!
Ordinary maintenance interventions must be performed with the methods and timing indicated in the following chapters.

- **Extraordinary maintenance**, namely all those interventions that are not at regular intervals or that were not planned, or interventions that cannot be performed by the Customer. They may also result from the lack of ordinary maintenance interventions.

WARNING!
Extraordinary maintenance interventions must be performed together with the manufacturer's specialized technicians.

Regarding frequency, consider that:

- **When necessary:** Operation to be performed when the need to perform it is seen;
- **Every machine start or end of work:** Indicates a daily time period, in general. This may mean every 24 hours (therefore at the start of every day's shift, or end of every day's shift), or even more frequently, depending on applications;
- **Long pause:** Indicates a time period greater than approximately one hour;
- **Every drum change:** Indicates every time the feed system (tank, drum, cartridge or other) is changed;
- **Every mixer disassembly:** Indicates that every time the mixer is replaced, a certain operation must be performed;
- **Weekly:** Indicates a time span equal to seven calendar days;
- **Monthly:** Indicates a time span equal to one calendar month;
- **Semi-annual:** Indicates a time span equal to six calendar months;
- **Annual:** Indicates a time span equal to one calendar year.

WARNING!
The times indicated below are indicative as they depend on how the component is used. Follow the variations suggested by technicians.

Assigned person	Description	Frequency	Chapter
	Eseguire una pulizia superficiale	Ogni avvio macchina o fine lavoro	\
	Controllo impianto pneumatico e fluidico	Ogni avvio macchina o fine lavoro	\

WARNING!
For cleaning the dosing system, use only soft brushes or cotton cloths.

9 TROUBLESHOOTING

This chapter addresses the most common problems that could arise when using the component of this manual.

WARNING!
Once the operator has found a problem or suspects there is a problem, they must call the technician assigned for maintenance. Maintenance must always be performed by a specialized and qualified technician.

DEFECT	CAUSE	SOLUTION
Fluid does not exit from the distribution block	Fluid has dried inside the block and/or in the pipes leading to the dosing system	Disassemble the block and clean it. Also check the tubes to clean those as well, along with the dosing system. Check that the cartridge is positioned in the correct direction.
		Check, and if necessary replace, the seals of the two circuit inlets
Air leaks from one of the piston rod parts	Worn seal	Check, and replace, the seals.
Leaks from the distribution block	Worn seals	Check, and replace, the seal.

10 END OF LIFE

End of life refers to all those activities that put the component out of service. End of life activities can be:

- **Warehousing**, namely when the component is temporarily placed inside the warehouse for future use;
- **Storage,** namely when the component is placed inside the warehouse for an unspecified period awaiting a third party to purchase the component;
- **Dismantling,** namely when the component has reached the end of work period, whether due to age, obsolescence or malfunctions that cannot be repaired, or that can be repaired but it is more convenient to purchase a new component.

If installation is not planned in the short term, the component can remain packaged and must be stored in a sheltered and preferably enclosed location. The ambient temperatures to be observed are reported in chapter 2.2.

However, for dismantling and subsequent scrapping of the component or its parts, the different nature of the various components must be considered and differentiated scrapping must be performed. It is recommended to assign specialized companies for this purpose and the laws in force regarding waste disposal must always be observed.