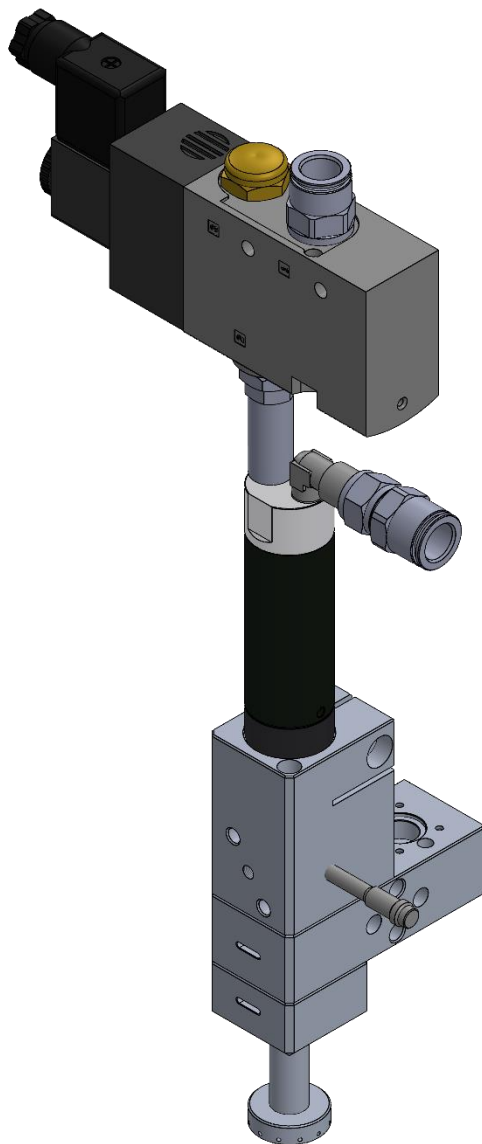


USE AND MAINTENANCE MANUAL

DAVR-CC CENTRIFUGAL SYSTEM



Summary

1	GENERAL INFORMATION	1
1.1	SYMBOLY	2
1.2	REFERENCE STANDARDS	3
1.3	DECLARATION OF INCORPORATION (ANNEX II B DIR. 2006/42/EC)	4
1.4	GLOSSARY	5
1.5	SERVICE AND MANUFACTURER CONTACT DETAILS	6
2	PRESENTATION AND OPERATION	7
2.1	EXPLODED	11
2.2	TECHNICAL DATA	13
3	SAFETY	15
3.1	MACHINE SAFETY DEVICES	16
3.2	FREE USEFUL SPACES	16
3.3	RISK AREAS AND RESIDUAL RISK	16
4	TRANSPORT AND HANDLING	16
5	INSTALLATION	17
5.1	POSITIONING	17
5.2	CONNECTIONS	17
5.2.1	<i>Electric</i>	18
5.2.2	<i>Pneumatic</i>	19
5.2.3	<i>Fluidic</i>	19
5.3	COMMISSIONING	20
6	SOFTWARE	20
7	PROCEDURE	20
7.1	INSTALLATION OF DOSING SYSTEMS	21
7.2	NOZZLE HOLDER INSTALLATION	22
7.3	ROTATION SENSOR INSTALLATION	23
7.4	FIRST START	23
8	MAINTENANCE	24
8.1	LEAKAGE CONTROL	26
8.2	NOZZLE REPLACEMENT/CLEANING	27
8.3	COMPONENT REVISION	28
9	TROUBLESHOOTING	29
10	END OF LIFE	29

1 GENERAL INFORMATION

This manual contains information regarding the installation, use, maintenance and end of life of the component and provides indications for the most suitable behavior for correct operation. This manual has been designed to be simple and as straightforward as possible, with a subdivision into chapters and sub-chapters that allows you to find any information you need quickly. In addition, the manual begins by giving a general description of the contents, then an overview of the component, to arrive at aspects of safety, transport, installation and use and finally to the end of life. If you have any doubts about the interpretation or reading of this document, please contact the manufacturer.



DAV Tech declines any responsibility relating to improper use of the component. Observe the specifications in this manual.



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



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

It is the task of the end user to optimize the functionality of the component, always considering the purpose for which it was built.



You are asked to keep this manual, together with the attached documentation, in good condition, legible and complete. In addition, it must be stored in the vicinity of the component or, in any case, in a place accessible and known to all personnel who use the component itself or who must perform maintenance or inspection interventions. If the manual deteriorates or is no longer complete, a copy must be requested from the manufacturer, indicating the code of the manual and the 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 liable for damage to the component caused by personnel who have not followed the instructions in the manual.

If you have any doubts about the correct interpretation of the information contained in this manual, please contact the manufacturer.

GUARANTEE

During the design phase, a careful choice 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 as to be able to withstand stresses greater than those of normal use.

The warranty is valid for a period of 12 months from the date of commissioning and in any case no longer than 15 months from the date of delivery. Work carried out during the warranty period does not extend the warranty period in any way.

The manufacturer is not liable for defects due to normal wear and tear of parts which, by their nature, decay.

1.1 Symbology

Below are the symbols that are used to give a greater impact to the importance of the concept you want to give.



ATTENTION!

Refers to a warning that could lead to minor damage (minor injuries, damage to the component requiring maintenance work).



DANGER!

It refers to a major event that could cause major damage (death, permanent injury, irreversible breakage of the component).



NOTE. Indicate relevant information or insight.



OBLIGATION. It indicates a task that must be performed, related to both the component and the manual.



REFERENCE. Links to an external document that is important to view

In addition, the list of symbols is integrated with that of the personnel responsible for using the component and its function, together with other symbols used within the manual.



Operator

A (qualified) person capable of operating the component, adjusting, cleaning, starting or resetting the component. The operator is not authorized to perform maintenance.



Mechanical maintenance technician

Qualified technician able to carry out mechanical, adjustment, maintenance and routine repair work described in this manual. He is not authorized to carry out interventions on electrical systems in the presence of voltage.



Electrical maintenance technician

Qualified technician able to carry out electrical, adjustment, maintenance and routine repair work described in this manual. It can work in the presence of voltage on electrical cabinets and junction boxes. He is not authorized to carry out interventions on the mechanical side.



Manufacturer's technician

Qualified technician made available by the manufacturer to carry out operations of a complex nature in particular situations, or in any case as agreed with the customer.

1.2 Reference standards

The reference standards and directives of this manual are the following:

Directives

- 2006/42/EC – Machinery Directive;

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

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

DECLARES THAT THE ALMOST MACHINE

Component: DAVR-CC
Model: Coaxial centrifugal dosing system
Year: 2024
Intended use: Non-contact dispensing of a cylindrical curb

COMPLIES WITH THE INCORPORATION PROVISIONS OF DIRECTIVE 2006/42/EC

The technical documentation has been drawn up 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

IT ALSO DECLARES THAT:

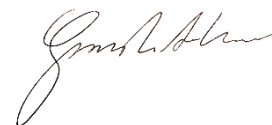
- Undertakings are undertaken to provide, in response to a properly substantiated request from the national authorities, relevant information on this partly completed machine;
- The technical file was prepared by Andrea Grazioli, via Ravizza, 30, Montecchio Maggiore (VI), IT.

This quasi-machine cannot be used until the machinery on which it will be used is declared compliant with regulation 2006/42/EC.

Montecchio Maggiore, 19 January 2024

The legal representative

Andrea Grazioli



1.4 Glossary

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

TERM	DEFINITION
Enable	Term that defines the act of preparing (enabling) an action. The action will be triggered as soon as the criteria are met, which consequently leads to the activation of the enabled action.
Active	The action that is performed instantaneously when the control is activated.
Human controls	This defines those commands that, used for manual operations, must be kept activated for the action to be performed. When the command is released, the action stops.
Two-hand controls	Human-controlled controls that require two manual controls to be operated simultaneously to perform an action.
D.P.I.	Personal protective equipment. They include all the items necessary to ensure the protection of personnel from possible accidental damage (safety shoes, gloves, helmet, and more).
Display	It is used to display information. It can be in any shape and size, even touch screen.
Manufacturer	Natural or legal person who designed and manufactured the component covered by this manual.
Icon	A small image that represents a command, a function or even a document or an 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 panels.
N.A.	Not Applicable, i.e. it indicates that it is a field that does not apply to this manual and that it cannot be integrated into the component.
Operator panel	A control station where the machine control instruments are located
P.I.	Possible Implementation, i.e. it is currently 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. Screenshots are the 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 you to act directly on the behavior of the component.
Keyboard	Keyboard only (stand-alone 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 graphic interface using their fingers or objects.

1.5 Service and manufacturer contact details

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

The customer can make use of the technical and commercial support of local agents or importers, who are in direct contact with the company 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
email	davtech@davtech.it
Website	www.davtech.it

2 PRESENTATION AND OPERATION

This component is based on a pneumatic and electric power system. The electrical connection is only used to power the 3/2-way solenoid valve that passes the air directly to the pneumatic motor which, in turn, transmits the motion to the nozzle. The latter, by performing a very rapid rotation, can dose the product at 360 °, covering the desired surface, also based on the dosing distance. The fluid, on the other hand, is brought inside by a DAV or PDP series volumetric valve, depending on the type of use.

In other words, the function of this component is:

RADIAL DISPENSING OF LOW AND MEDIUM VISCOSITY FLUID (SEE TECHNICAL DETAILS)

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

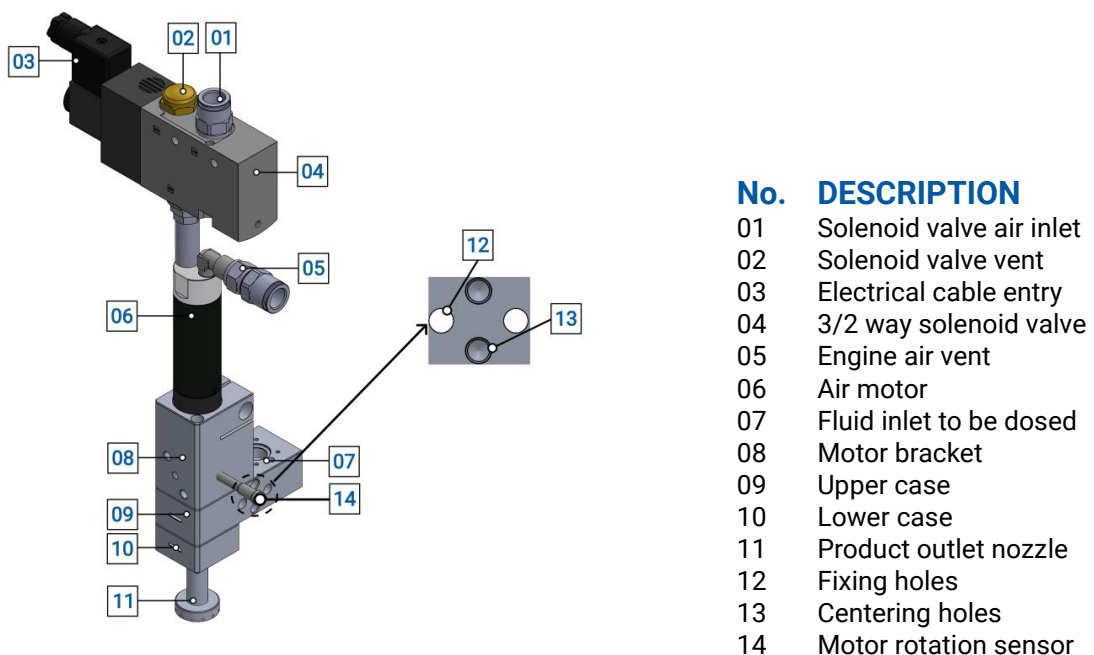


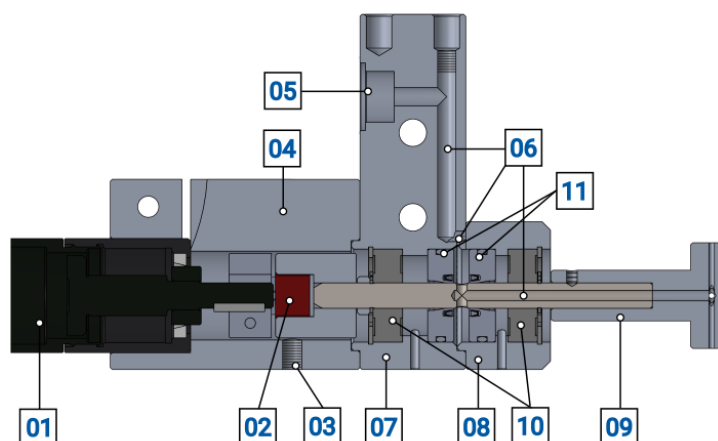
Figure 01 – Coaxial DAVR detail

Before using a certain type of fluid, it is necessary to check that:

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

If it is necessary to use several fluids with the same valve, it must be cleaned thoroughly to prevent residues from the previous processing from affecting the processing to be performed.

OPERATION



No.	DESCRIPTION
01	Air motor
02	Elastic coupling
03	Engine tachometer engagement
04	Motor body
05	Grafting dosing system
06	Smooth Path
07	Upper case
08	Lower case
09	Centrifugal nozzle
10	Bearings
11	Rotary seals

Figure 03 – DAVRCC internal section

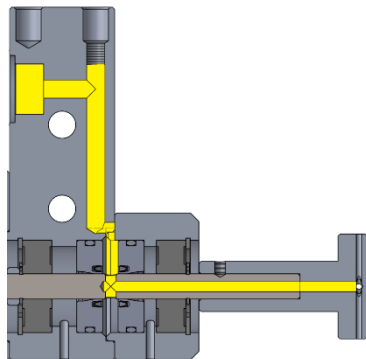
The component includes a 3/2-way solenoid valve that is connected directly to a control system (it can be a PLC or a controller) which is managed with a single air inlet and allows you to command a single state, i.e. when to open the valve to start the pneumatic control to the motor; So, this component works in a single-acting manner.

In addition, the component has been designed to perform only one type of dispensing, namely radial dispensing. Depending on the length of the drive shaft and nozzle, dosing can also be carried out in areas that would normally be inaccessible.

Figure 02 shows the most complete case. For minimum working pressures, please refer to [Chapter 2.2](#).

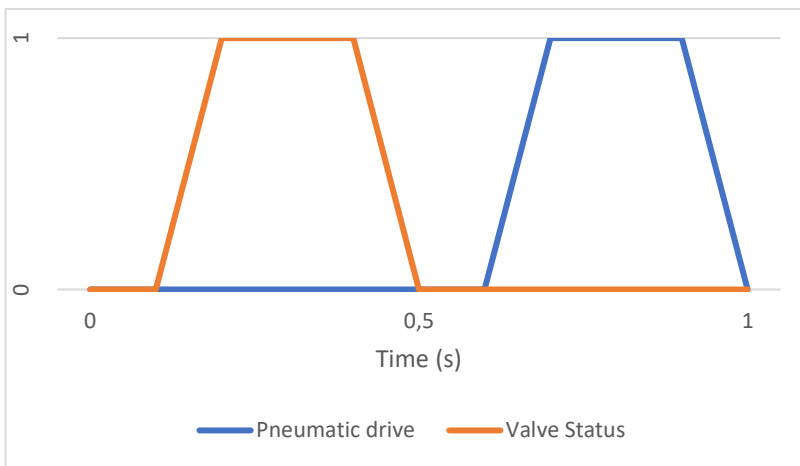
The component cannot operate autonomously. To ensure that it dispenses product, it must be connected to a dosing system (depending on the use, several types of valves or pumps are available) and the latter to a power source, which can be a tank, a pump or other, depending on the system and the customer's needs.

In the following, we want to explain how the component works by section. Note that the flow of the fluid is indicated in yellow.

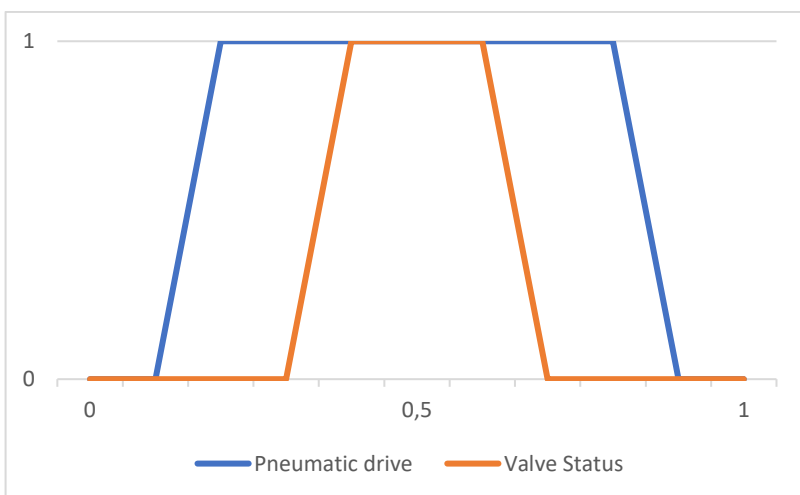


During the closing phase, i.e. while the solenoid valve does not receive any signal, the component does not allow air to pass inside it, preventing the fluid from being dosed to the desired surface; in the meantime, the chamber remains full of fluid, which does not leak thanks to its viscosity.

For the operation of the valve, there can be two cases, namely:



Case 1: Valve activates before the engine



Case 2: Engine Activates Before Valve

- The valve is activated before the motor, this is used to load the nozzle with fluid so that, when it starts to turn, it can dose directly;
- The motor activates before the valve, which is used for certain types of fluids to have a correct dosage.

In both cases, you may notice that there is a delay between the activation of the two components. This deviation, which ranges from 0.2s to 1s, depends on the viscosity of the fluid, the valve used and the nozzle used (ask the manufacturer for advice on optimal use).

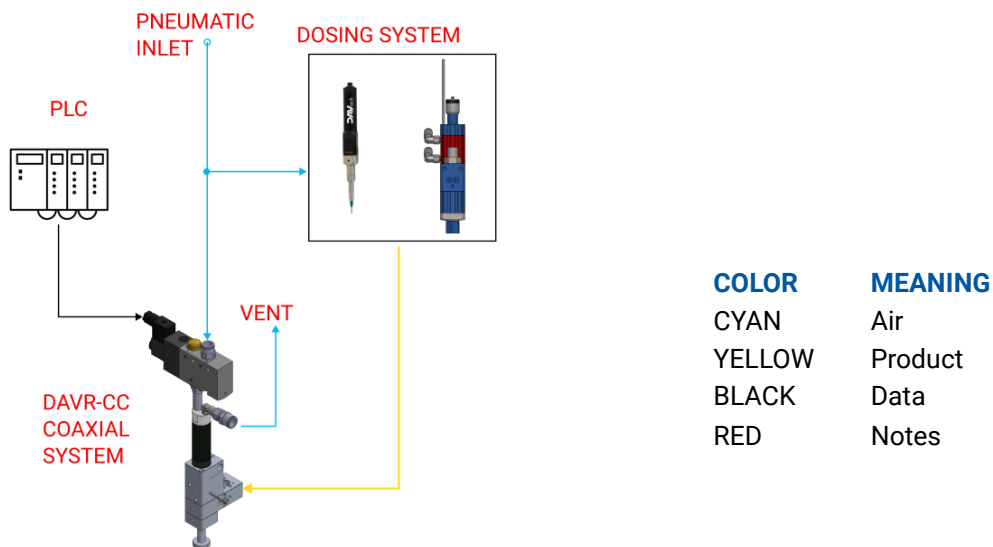


Figure 02 – Connection Example



ATTENTION!

The dosing system must be connected directly (via fittings) to the component without additional hoses; this is because they would affect the dosage of the component itself.

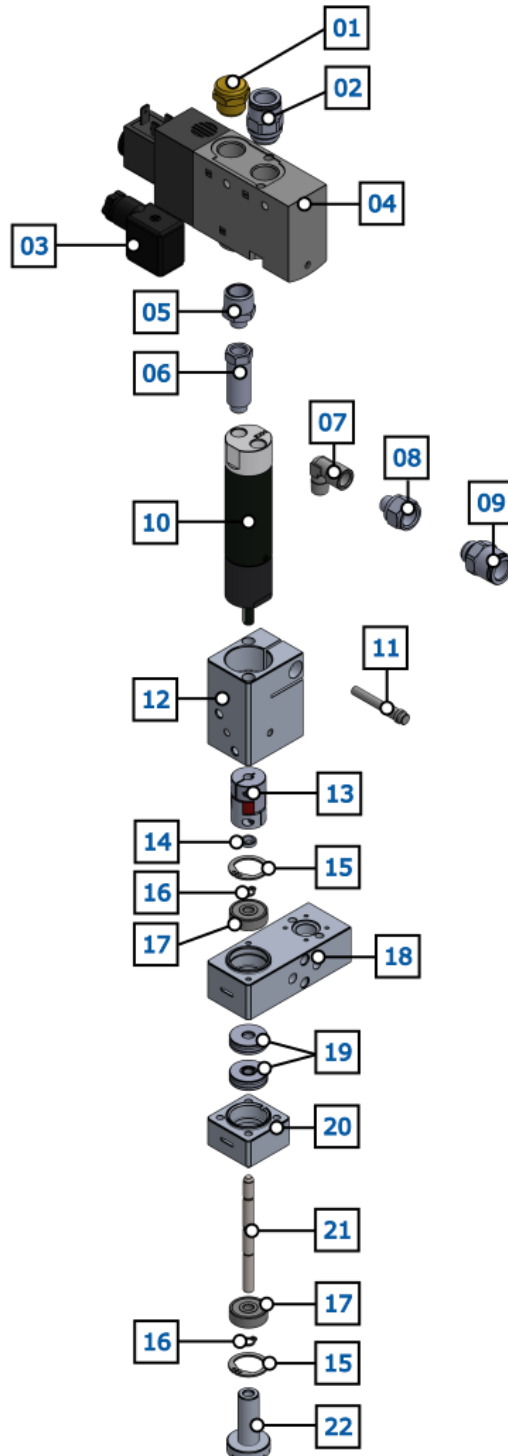


ATTENTION!

The air entering the valve must be filtered and without water (dried), otherwise it risks forming rust inside the engine and wearing it out more quickly. For better performance, it is also recommended to oil the incoming air.

2.1 Exploded

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



No.	Description	Var.	Code	Variant details
01	SILENCER		SFE3/8	
02	QUICK COUPLER		MA12 12 38	
03	SOLENOID VALVE CONNECTOR		34431 MSSD-F	
04	3/2 PNEUMATIC VALVE		VUVS-L30-M32C-AD-G38-F8-1B2	
05	REDUCED NIPPLE		RA12 18 38	
06	EXTENSION M-F		RA39 18 42	
07	M-F CURVE		RA22 18 18	
08	REDUCTION		RA16 18 14	
09	QUICK COUPLER		MA12 12 14	
10	PNEUMATIC DRIVE		8411011300	
11	SPEED SENSOR		IS-05-A1-S1	
12	PNEUMATIC DRIVE CONNECTION		300321042114D	
13	ELASTIC COUPLING		CPJC20-RD-6-6	
14	SPACERS		CLBP6-9-3	
15	SEEGER RING		47222	
16	SEEGER RING		47106	
17	BEARING		B636ZZ	
18	UPPER CASE		300321032114D	
19	LIP SEAL		REX055 6,0x22,0x6,2	
20	LOWER CASE		300321022114D	
21	DRIVE SHAFT		300321052114D	
22	AXIAL CENTRIFUGAL NOZZLE		300321082114D	

2.2 Technical data

All the technical characteristics concerning the component of this manual are indicated below.

SPECIFICATIONS		
Description	UdM	Values
Model	\	COAXIAL CENTRIFUGAL DAVR
Activation	\	Single Effect
Solenoid valve power supply	VDC	24
Solenoid valve power consumption	In	2
Minimum electrical cable cross-section	mm	0.35
Maximum fluid pressure	bar	35
Minimum air pressure for the drive	bar	- 5.5 ÷ 6.5
Minimum engine rpm (nozzle Ø25)	rpm	10.000
Maximum motor activation time	sec	3
Motor/valve activation delay	sec	0.2 – 1
Air motor air outlet thread	\	1/8"
Air inlet hose	mm	12x10
Dosing system connection thread	\	1/8" GAS
Passage adjustment	\	N.A.
Maximum nozzle length ⁽²⁾	mm	50
Materials used in contact with the fluid	\	Ergal
		Stainless
		PTFE
		Viton


ATTENTION!

The engine must not remain active for more than the maximum time, otherwise it risks breaking or breaking other components.

ENVIRONMENTAL CHARACTERISTICS

Description	UdM	Values
Working Ambient Temperature	°C	5 ÷ 45
Storage Ambient Temperature	°C	-20 ÷ 55
Permissible non-condensing humidity	%	5 ÷ 90

USABLE FLUIDS

Low and medium viscosity greases (NLGI 0 ÷ 2) ⁽¹⁾

(1) Some products may undergo a heating process to decrease their viscosity. This is included in the final machinery.

(2) In the case of lengths greater than 50mm, the use of a support provided by the manufacturer is required


ATTENTION!

To assess whether the specific grease is suitable for the customer's application, it is recommended to carry out verification tests first, as there may be variables that affect the operation of the system. It may also be that fats with a viscosity higher than those indicated are fine, but it is always to be verified by tests.

USABLE VALVES

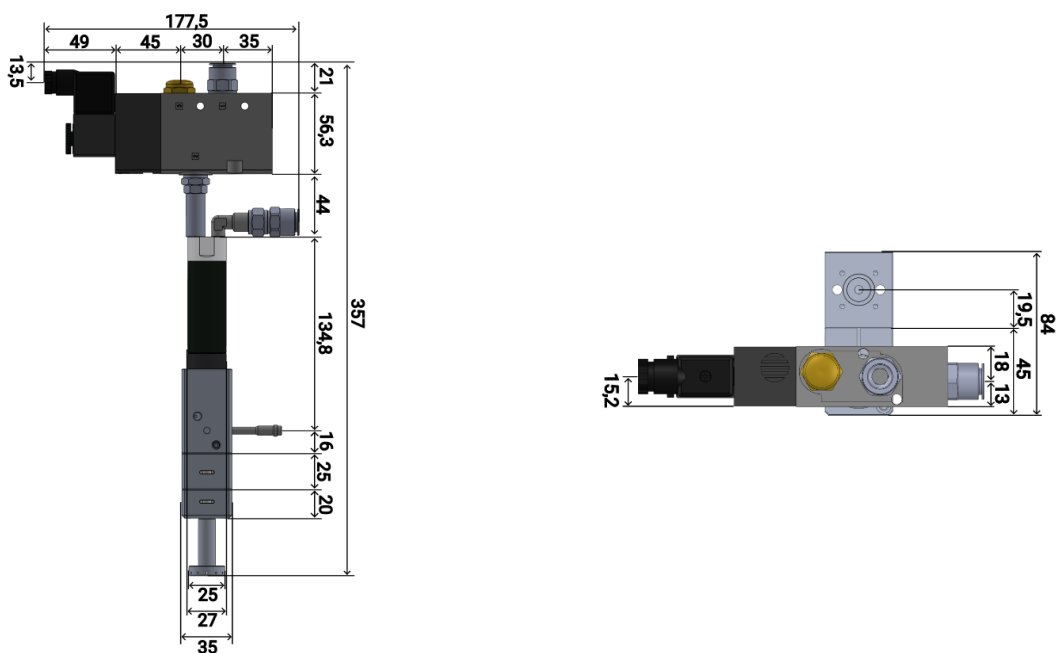
DAV Series

PCP Series

DIMENSIONAL AND WEIGHT CHARACTERISTICS

Description	UdM	Value
Component length (min ÷ max)	mm	~177.5 ⁽³⁾
Component depth (min ÷ max)	mm	84 ⁽³⁾
Component height (min ÷ max)	mm	~357 ⁽³⁾
Component weight	kg	1.5

Component



(3) Dimensions vary depending on the configuration used (nozzle, type of air bleed, position of the engine rpm sensor).



You can request the 3D of the component in the desired version from the manufacturer without any obligation.

3 SAFETY

The following is a list of warnings regarding the component covered by this manual. Please read carefully before proceeding to the next chapters.



DANGER!

Before operating the component or performing any action on it, read this manual carefully.



DANGER!

Do not use the component while under the influence of drugs or other substances that may impair attention and reaction ability.



DANGER!

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



FIRE/EXPLOSION HAZARD!

This component is not designed to work in an ATEX environment.



DANGER!

Be very careful when servicing the component, especially when disassembling components that have pressure springs inside.



ATTENTION!

Modifications to the component must not be made to achieve performance other than that for which it was designed and built, unless authorized by the manufacturer.



ATTENTION!

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



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



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

3.1 Machine safety devices

N.A.

3.2 Free useful spaces

N.A.

3.3 Risk areas and residual risk

There are the following residual risks on the component:

- **Dangers due to electricity:** the passage of pressurized fluid generates static electricity which, if touched by personnel who are not properly isolated, can be dangerous;
- **Hazards due to inhalation of hazardous vapors:** The component is not designed to have insulation from any toxic and/or hazardous vapors; personnel working with this device should be aware of this during its use;
- **Fire hazard due to vapors:** Personnel working near this component must not have any heat sources that could start a fire;
- **Risk due to fluid projection under pressure:** Due to incorrect maintenance of the component, it can lead to the expulsion of some parts of the component and consequent expulsion of fluid.

4 TRANSPORT AND HANDLING

Once you have received the goods, you must check that the packaging is intact and that there is an exact correspondence with the material ordered.



ATTENTION!

The original configuration of the component must not be changed. The manufacturer is not liable for damage caused by inappropriate use of the component.



ATTENTION!

If the packaging is not intact, contact the manufacturer immediately, also sending photos of the condition of the packaging. Do not open it until you have notified the manufacturer.

5 INSTALLATION



The installation of the component is carried out by the customer. If necessary, you can contact the manufacturer to have a specialist technician help you.

This component has been designed as a support for the operation of other components, i.e. it cannot work alone (given the absence of valves and / or dosing systems) but must be connected to an external power supply, to allow the power supply itself to perform a function that, on its own, it could not perform, namely radial dosing.

Since it has been designed as a support system, it provides for a multiple fixing system, depending on the position it has to use; that is, it is provided with two fixing holes (No. 12 [chapter 2](#)) and two centering holes (No. 13 [chapter 2](#)) On three sides of the upper chamber. On the sides there are two Ø6.5mm through holes, which must be fixed on a provided thread support, while on the front there are two M6 threaded holes; the centering holes instead are two 6H7 barbed holes.

It is also possible to change the position of the motor rotation sensor (No. 14 [chapter 2](#)) pneumatic through the special housings located on 3 sides of the engine connection chamber (No. 08 [chapter 2](#))



It is recommended that you perform a component check before beginning the installation. If it is evidently damaged, please contact the manufacturer.



ATTENTION!

Please remove the packaging with the utmost care. If damage is caused to the component, the manufacturer is not liable.



Dispose of the packaging correctly, considering the different nature of the components and following the regulations in force in the country.

5.1 Positioning

N.A.

5.2 Connections

In this chapter, we want to explain the connection method that must be used for the component. The following types of connection are provided:

- Electrical connection;
- Pneumatic connection;
- Fluidic connection.

5.2.1 Electric

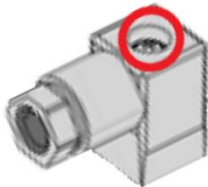
Authorized personnel	PPE to wear
Component status	PLC installed, with outgoing communication cable
Power Values	See chapter 2.2
Necessary preparations	Two-pole electrical cable with correct power supply
Materials needed	N.A.
Equipment needed	N.A.



The electricity connection is at the expense of the customer.

To make the electrical connection, the electric cable (which must comply with the specifications given in [chapter 2.2](#)) must be connected to the appropriate socket, which can be reached in this way:

01



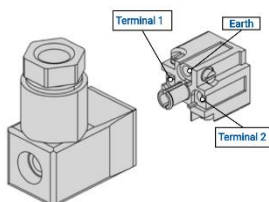
- Unscrew the screw that holds the entrance of the electrical connection wires in place. Make sure the screw comes out completely.



ATTENTION!

You must make sure that the screw comes out completely, otherwise it risks keeping the connection block blocked. Also, pay attention to the presence of a gasket.

02



- Using a flat screwdriver, lift the connection block, bringing the connections to light as shown in the figure;
- Unscrew the cable locking ring;
- Insert the cable inside the block;
- Make the electrical connections.



There is a coil inside, so terminal 1 and terminal 2 can be connected freely.

Once you have performed the steps above, close everything and lock the cable with the appropriate lock.

5.2.2 Pneumatic

Authorized personnel	
Component status	Component installed and turned off
Power Values	See chapter 2.2
Necessary preparations	Working pneumatic air system
Materials needed	Tube Ø12x10 mm
Equipment needed	-

The pneumatic connection is the responsibility of the customer.

To make the pneumatic connection, an air hose must be connected to the 3/2 solenoid valve located above the component (No.01, Figure 01, [chap. 2](#)) with the hose indicated in [chap. 2.2](#).

5.2.3 Fluidic

Authorized personnel	
Component status	Component installed and turned off
Power Values	See chapter 2.2
Necessary preparations	Dosing system to be connected
Materials needed	Intermediate block or adaptation valves
Equipment needed	Screws, fixing wrench

The fluidic connection is the responsibility of the customer.

To make the fluidic connection, the volumetric valve must be connected to the body of the component by means of a special housing (No. 07, Figure 01, [chap. 2](#)). To perform this, there are two possible cases:

- Direct connection between valve and component;
- Connection via an intermediate block.

To carry out these two procedures, please refer to [chapter 7](#)

5.3 Commissioning

The commissioning of the component is carried out once the positioning and connection of the connections has been completed. Before commissioning the component, the following checks must be carried out:

- Check that the connections have been connected correctly;
- Check that the component is free of dirt or residues of various kinds;
- Check that the dispensing system is securely connected to the component;



ATTENTION!

If even one of the above points does not comply, commissioning must not be carried out. Commissioning should only be carried out when all points have been successfully completed.

6 SOFTWARE

N.A.

7 PROCEDURE

In this chapter we want to explain the main configurations that can be used on the component covered by this manual. Will be explained in detail:

- How to install valves using reducers;
- How to perform the installation of valves using intermediate block;
- How to install the nozzle extension (for dosages over 100mm)

7.1 Installation of dosing systems

In this chapter we want to explain how to install any dosing system (compatible with the DAVR-CC block, see [chapter 2.2](#)). There are various types of installation that can be used. For this reason, it is advisable to talk to the manufacturer of your project to have the ideal solution for your use.

VALVE WITH DIRECT CONNECTION

In this case, no additional components are required, but components must be removed from the tubes (specific for DAV tubes).

ATTENTION!



Although it is feasible to do on DAV 100 or DAV 200 valves, it is not recommended because the fixing holes between the valve and the component are M2.5, which offers a relative seal and risk losing the thread. However, it is advisable to ask the manufacturer for more information about the best fastening method.

- Remove the valve nozzle;
- Loosen the 4 valve fixing screws. They must not be removed from their seat, otherwise the valve may open;
- Remove the steel component of the valve;
- Insert an O-ring between the valve and the point where you want to fix it (No.07 [chap.2](#));
- Place the valve on its component seat;
- Tighten the 4 fixing screws.

ATTENTION!



They don't need to be pulled a lot. The body must be joined, but if you pull the screws a lot you risk ruining the thread of the component, breaking it.

ATTENTION!



To have a greater solidity of the assembly, the valve must in turn be fixed to an external support, by means of special fixings, which can be studied on a case-by-case basis.

DOSING SYSTEM WITH THREE-PIECE JOINT

In this case, a gearbox must be used for the connection between the dosing system and the holder. This gearbox is used to support the system from any vibrations and hold it securely in place. To carry out the assembly, you must:

- Disassemble the three-piece joint;
- Insert one piece into the valve and the other component into the block (No.07 [chap.2](#)), paying attention that the bolt-shaped component must screw into the component that has the thread;
- Join the two components together and pull the bolt.

ATTENTION!



To have a greater solidity of the assembly, the valve must in turn be fixed to an external support, by means of special fixings, which can be studied on a case-by-case basis.

**ATTENTION!**

This method involves threading the fluid inlet port of the centrifugal body. This procedure is very risky as it risks releasing chips inside the system which, if not removed, break the entire centrifugal system. It is recommended to proceed with the third system.

DOSING SYSTEM WITH INTERMEDIATE BLOCK

There may be various cases where you want to use an intermediate block, and it can be either in the case of a single valve or in the case of a double valve or any other dosing system. Below are the instructions for mounting the intermediate block:

- Insert an O-ring on the block support (No.07 [chap.2](#));
- Place the lock on the stand;
- Insert the screws from below so that, by moving the block a little, they enter the appropriate housings;
- Screw them on until they reach the stop;

From the block, the dosing systems can be screwed with the three-piece coupling, depending on the best application for the customer.



If a PCP volumetric pump is installed, it must be considered that there is also an additional block that serves to support the valve itself and that hooks onto the DAVRCC block.

7.2 Nozzle Holder Installation

The nozzle holder is used in case you need a nozzle longer than 50mm, otherwise the nozzle itself starts to vibrate, leading to inaccurate dosing. To mount the stand, you must:

- If it is mounted, disassemble the nozzle;
- Remove the 4 screws that hold the lower chamber (No.10 [chap.2](#)) without removing the chamber itself;
- Insert the holder onto the nozzle;

**ATTENTION!**

Inside the support there are pads to hold the nozzle itself in position; therefore, it may be that it is slightly hard to insert the nozzle into the holder.

- Insert the assembly (nozzle + support) onto the drive shaft (No.21 [chap.2.1](#));
- Fix the nozzle using a special grub screw;
- Secure the mount with the 4 screws on the bottom chamber.

**ATTENTION!**

Longer screws (35mm) must be used to reach the stop, otherwise the block cannot be fixed in place.

7.3 Rotation Sensor Installation

To install the sensor, or to change the position of the sensor, you need to:

- Check the position of the joint by looking through the sensor fixing holes;
- If the joint is full, i.e. the joint is close to the sensor hole, then screw the sensor and, when it reaches the stop, unscrew it for about 1/2 of a turn, to keep it at a certain distance from the joint. If it does not read values, screw it in very slowly;
- If the joint is empty, i.e. it is further away from the hole, then turn the nozzle until you see the solid joint and follow the point above.

ATTENTION!



If the sensor is screwed with the joint on the machined side, there is a risk that the sensor itself will be in the middle of the joint path during rotation, breaking the entire assembly and the sensor itself. Be very careful when installing the sensor.

7.4 First start

This procedure must be followed every time the centrifugal block is overhauled, or if it arrives without fluid inside it.

- Connect the dosing system;
- Carry out dosing WITHOUT ACTIVATING the centrifugal system until the fluid comes out of the nozzle;
- Clean the nozzle of residues and activate the centrifugal system.

8 MAINTENANCE

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

- **Ordinary maintenance**, which are interventions on a regular basis or that can be carried out by the customer's staff, are the most important activities as they allow the component to be kept in good working condition;



ATTENTION!

Ordinary maintenance must be carried out in the manner and timing indicated in the following chapters.

- **Extraordinary maintenance**, i.e. all those interventions that are not regularly carried out or that have not been planned, or interventions that cannot be carried out by the Customer. They can also arise from the lack of routine maintenance.



ATTENTION!

Extraordinary maintenance work must be carried out together with the manufacturer's specialized technicians.



Regarding attendance, it must be considered that:

- **When necessary:** Operation to be carried out when the need to be carried out is seen;
- **Every machine start or job end:** Indicates a daily time, in general. This can imply every 24 hours (i.e. at the beginning of the shift of every day, or the end of the shift of every day), or even more frequently, depending on the application;
- **Long pause:** Indicates a period approximately greater than an hour;
- **Each drum change:** Indicates each time the fuel system (tank, drum, cartridge or other) is changed;
- **Each mixer disassembly:** Indicates that each time the mixer is replaced, a certain operation must be performed;
- **Weekly:** Indicates a period equal to seven calendar days;
- **Monthly:** Indicates a period equal to one calendar month;
- **Semi-annual:** Indicates a period equal to six calendar months;
- **Yearly:** Indicates a period equal to one calendar year.



ATTENTION!

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

Assigned	Description	Frequency ⁽¹⁾	Chapter
	Leakage control	Every component start-up or end of work	8.1
	Pneumatic and fluidic system control	Every component start-up or end of work	\
	Perform a surface cleaning of the dosing system	Every component start-up or end of work	\
	Nozzle replacement/cleaning	When needed	8.2
	Component revision	Every 200,000 cycles ⁽²⁾	8.3

(1) This figure may vary depending on the type of fluid used and the cycle of use of the dosing system itself.

(2) If there are leaks, the component must be overhauled quickly. However, the times depend on application to application, ask the manufacturer to get an estimate for your specific case.



ATTENTION!

Only use soft brushes or cotton cloths to clean the dosing system.

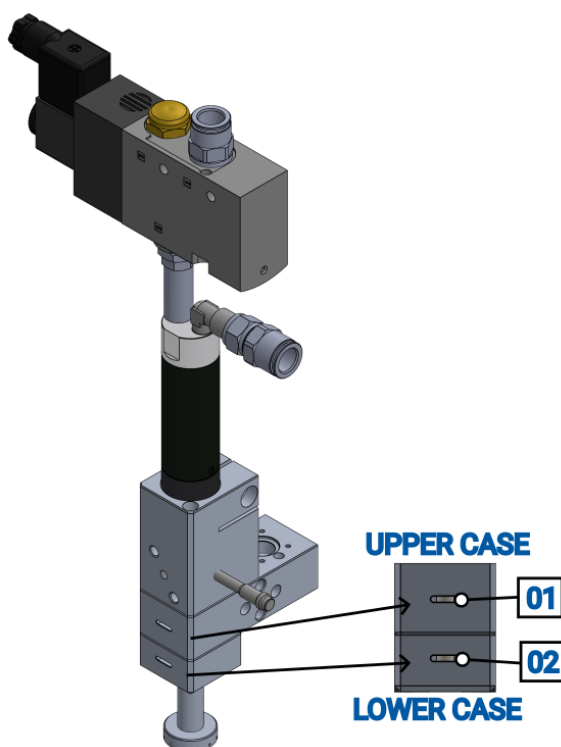
8.1 Leakage control

Assigned	Periodicity	Materials and equipment
	Every component start-up or end of work	N.A.

PPE to wear



To check for leaks, i.e. if there is product coming out of areas where it should not, the two slits located on the upper chamber and lower chamber must be checked, as in the figure. If leaks are found, even small ones, the mechanical manager must be called to carry out the overhaul of the component.



8.2 Nozzle replacement/cleaning

Assigned	Periodicity	Materials and equipment
	When needed	N.A.

PPE to wear

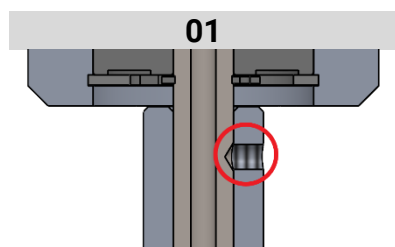


This procedure is used to explain to technicians how to perform the nozzle replacement of the component covered by this manual.



ATTENTION!

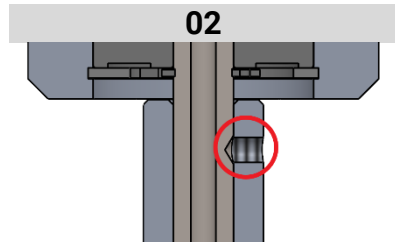
Cut off the air and fluidic supply to the component while performing this procedure



01

NOZZLE WITHOUT SUPPORT

- Remove the grub screw fixing the nozzle;
- Remove the nozzle from its seat and perform the necessary maintenance (cleaning and/or nozzle change);
- Insert the nozzle into its seat;
- Screw on the fixing grub screw.



02

NOZZLE WITH SUPPORT

- Remove the 4 screws that hold the support to the lower case;
- Lower the extension slightly so that you can see the nozzle blocking grub screw;
- Remove the grub screw fixing the nozzle;
- Remove the nozzle from its seat and perform the necessary maintenance (cleaning and/or nozzle change);
- Insert the holder into the nozzle;
- Insert the assembly into the drive shaft;
- Screw on the fixing grub screw;
- Lock the standby inserting the 4 fixing screws to the bottom case.

8.3 Component revision

Assigned	Periodicity	Materials and equipment
	Every 150,000 cycles	<ul style="list-style-type: none"> Professional cleaner Loctite 638 – Cylindrical Coupling Clamping Pneusynth 550 HP Copper hammer

PPE to wear



This procedure is used to explain to technicians how to perform the overhaul of the component, which can be due to expiration of the number of cycles or due to leakage of one of the two bodies (upper or lower).



ATTENTION!

Cut off the air and fluidic supply to the component while performing this procedure

01

- Remove the dosing system, depending on the fixing method used (see [chapter 7.1](#));
- Remove the two screws that hold the upper chamber in place (No.09 [chapter 2](#))



To remove the two screws mentioned above, go to the engine connection chamber (No.08 [chapter 2](#)) and unscrew them on the motor side

N.A.

- Slide the engine block out to the joint connected to the engine itself;
- Unscrew the elastic coupling from the side of the drive shaft;
- Remove the shim (No.14 [chap. 2.1](#)) and remove the upper seeger (No.16 [chap. 2.1](#));
- Slide the drive shaft off the nozzle side;
- Remove the 4 screws that hold the lower chamber locked (No.10 [chap. 2](#));
- Separate the lower chamber from the upper one;
- Check the integrity of the seals and, if necessary, replace them;
- Check that there are no marks on the drive shaft near the center hole;
- Reassemble the component following the steps above in reverse order.



ATTENTION!

If there have been leaks, it is possible that some of the fluid has also reached the bearings of the component. It is advisable to check the status of the latter as well and, if necessary, replace them.

9 TROUBLESHOOTING

This chapter deals with the most common problems that may arise when using the component of this manual.



ATTENTION!

Once the operator has found a problem or assumes that there is a problem, they must call the technician in charge of maintenance. Maintenance should always be performed by a specialized and qualified technician.

DEFECT	CAUSE	SOLUTION
Not very fluent or not very fluid	Malfunction of the dosing system	Consult the dosing system manual
	Solidified fluid in the dispense tract	Perform a component review Contact the manufacturer
Nozzle does not rotate or rotates slowly	Engine inlet pressure too low	Bring the inlet pressure as specified (chapter 2.2)
	Solenoid valve not working	Check the connections
	Possible leakage of product up to the bearings	Bearing replacement
Fluid leakage from upper block	Valve connection – unstable block	Check the connection between the valve and the upper block
The component moves during dosing	Fixing screws not pulled correctly	Check that the screws have been correctly positioned and properly fastened
Nozzle moves during dosing	Nozzle body too long	Contact manufacturer for nozzle support
	Nozzle not fixed correctly	Fasten the screws correctly
Engine rpm not detected	Sensor malfunction	Adjust sensor
		Replace sensor

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:

- **Storage**, i.e. when the component is placed inside the warehouse for an unspecified period waiting for a third party to buy the component;
- **Dismantling**, i.e. when the component has reached the end of work period, whether it is due to age, obsolescence or faults that cannot be repaired, or that it is possible to repair but it is worth buying a new component.

If installation is not planned soon, the component can remain packaged and must be stored in a sheltered and preferably closed place. The ambient temperatures to be observed are given in [chapter 2.2](#).

On the other hand, for the dismantling and consequent scrapping of the component or its parts, the different nature of the various components must be considered and a differentiated scrapping must be carried out. We recommend that you commission specialist companies for this purpose and must always observe the applicable laws on waste disposal.