ENGLISH

VERNE
TECHNOLOGY

Customer product manual P/N 10131

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Low pressure dense phase conveying system

NEA 540 COMPACT

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Contact us

VERNE TECHNOLOGY welcomes requests for information, comments, and inquiries about its products.
General information about VERNE TECHNOLOGY can be found on the Internet using the following address:
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Safety

Read and follow these safety instructions. Task-and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Vere Technology equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of NEA 540 COMPACT equipment in ways other than those described in the documentation supplied with the equip-ment may result in injury to persons or damage to property.
Some examples of unintended use of equipment include
- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtai-ned for Verne Technology equipment will be voided if instructions for installation, operation, and service are not followed.

All phases of equipment installation must comply with all federal, state, and local codes.

Personal Safety

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.

- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.

- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.

- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.

- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection device Grounding inside and around the booth openings must comply with NFPA requirements for Class 2, Division 1 or 2 Hazardous Locations. Refer to NFPA 33, NFPA 70 (NEC articles 500, 502, and 516), and NFPA 77, latest conditions.

- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely elimi-nated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material MSDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment.
  Contact your Vere Technology representative for parts information and advice.

Grounding



WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected

- All electrically conductive objects in the spray areas shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a painted surface, such as an operator platform, or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures
- Identify the reason for the malfunction and correct it before restarting the equipment.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Description

See Figure 1

The NEA 540 COMPACT (Dense Phase Low Pressure) powder pump transports large amounts of powder from one location to another.
The pump design and the small diameter suction and delivery tubing used with the pump allow it to be purged quickly and thoroughly.
The pump is more efficient than traditional venturi-style pumps in that very little of the air that is used to operate the pump is mixed into the powder stream. Only the air that is used to move the powder out of the pump and into the delivery tubing enters the powder stream.

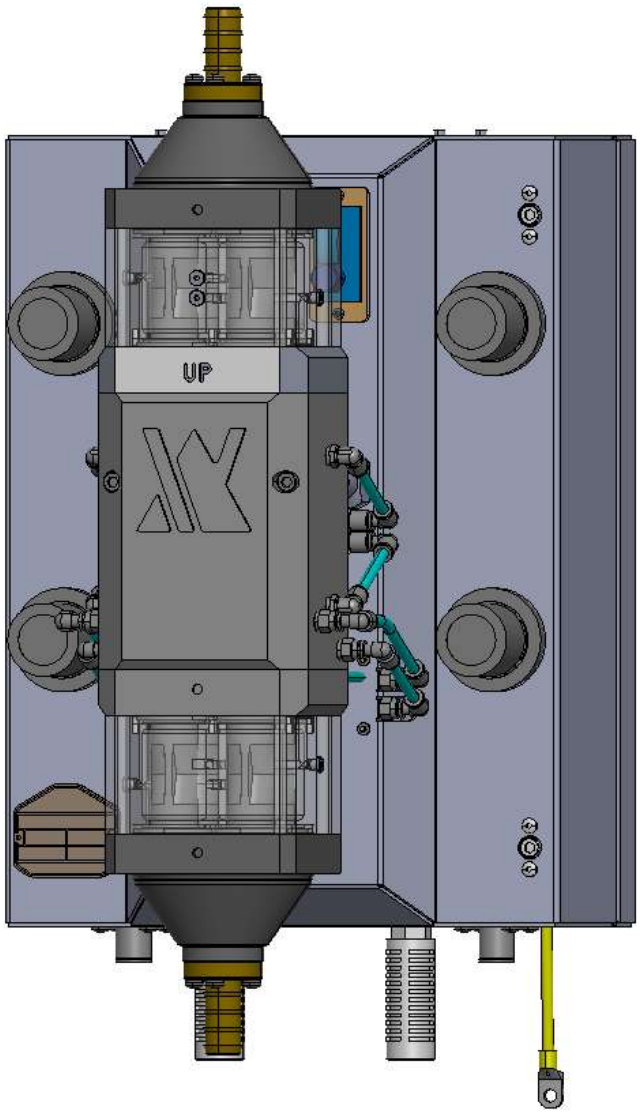


Figure 1
Dense phase pump

High capacity pump components NEA 540 COMPACT

See figure 2.

n° Item	Description	Function
Air control components		
01 - 02	Timer NEA COMPACT (01 left - 02 right)	Check the operating sequences of the following components: valves activation cycle control, valves control fluid tubes and valve control sleeve valves SEE PRODUCT pag.6
03	Regulator and pressure gauge (SUPPLY)	Adjust the closing pressure Max 0.6 Mpa (6 bar)
04	Regulator and pressure gauge (VACUUM)	Adjust the closing pressure Max 0.48 Mpa (4.8 bar)
05	Regulator and pressure gauge (PINCH VALVES)	Adjust the closing pressure of the sleeve valves to 0:24 to 0:27 Mpa (2.4- 2.7bar).
06	Regulator and pressure gauge (TRANSPORT)	Adjust the product transport pressure See product data sheet pag.6**
PV1	PV 1 : management valve cycle NEA PUMP	
PV2	PV 2: management valve pinch valve	
PV3	PV 3: management valve right tubes	
PV4	PV 4: management valve left tubes	
PV5	PV 5: management valve right self cleaning	
PV6	PV 6: management valve left self cleaning	
PV7	PV 7: management valve right muffler	
PV8	PV 8: management valve left muffler	
A-A1	NON RETURN VALVE ø6	
B-B1-B2	NON RETURN VALVE ø10	
C-C1	VACUUM GENERATORS	
D-D1	NON RETURN VALVE ø8	
E	ON/OFF SELF CLEANING	
F-F1	SILENCERS	It allows silent operating an air outlet of the pump.
G	ON/OFF TRANSPORT	

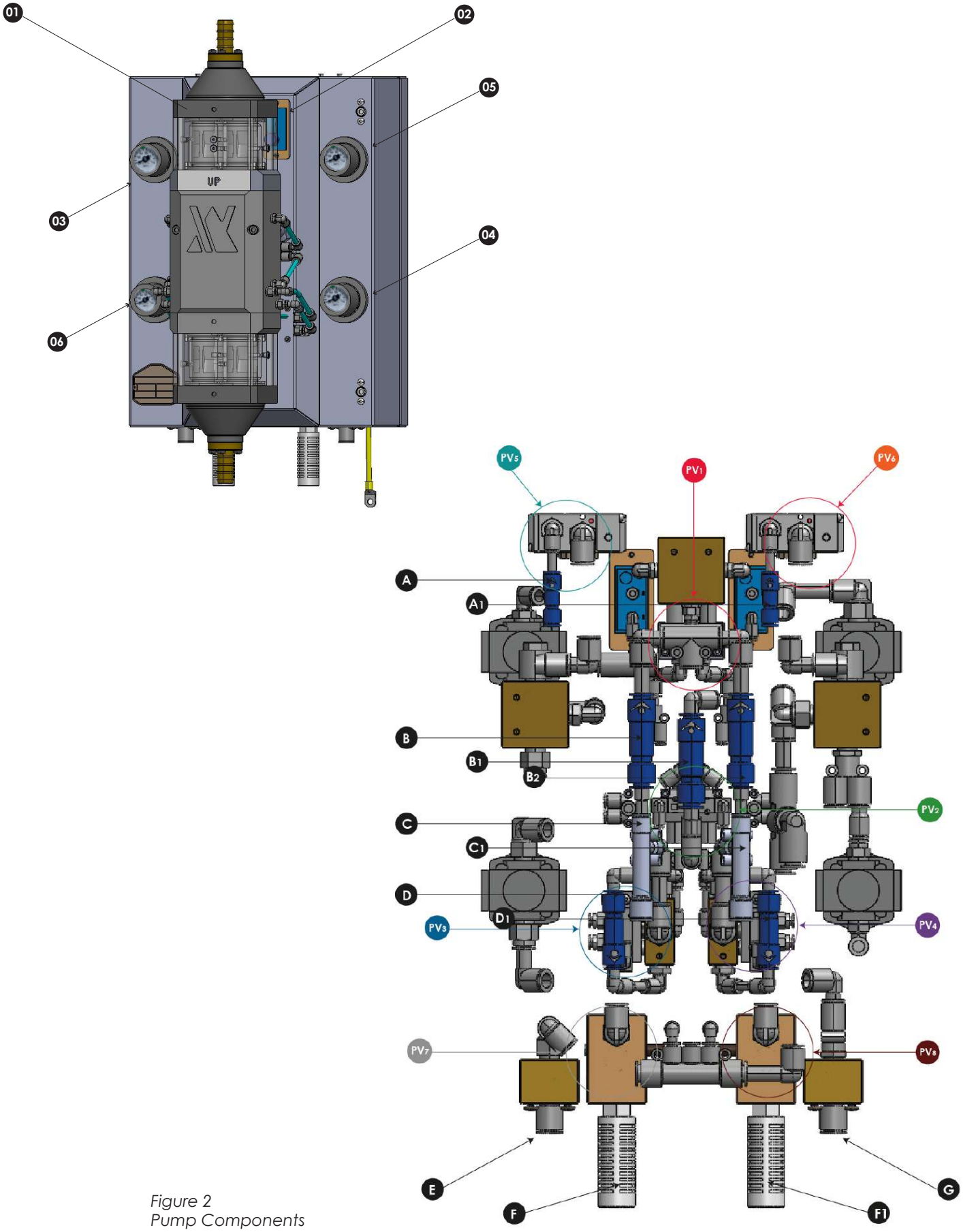


Figure 2
Pump Components
(Internal, cover removal, tubes removal)

Product data sheet

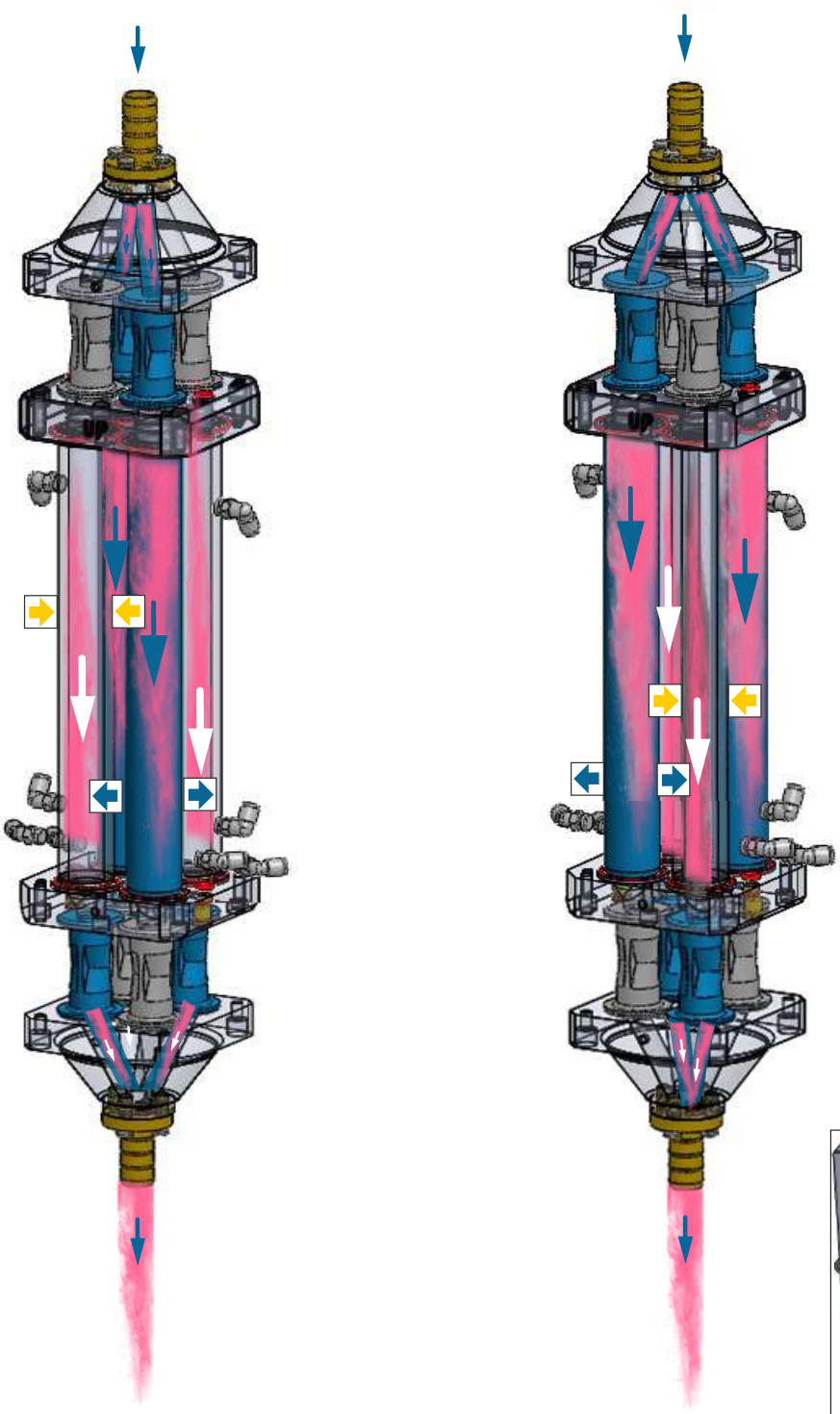
PARTICLE SIZE - MICRONS (um)	PARTICLE SPECIFIC WEIGHT	TIMER SETTING 01 LEFT - 02 RIGHT SEC.	TRANSPORT DISTANCE (m)	SET UP TRANSPORT PRESSURE (Mpa)
10 - 150	LOW	LEFT 0,5 - RIGHT 0,5	5	0.1 - 0.15
10 - 150	MEDIUM	LEFT 0,5 - RIGHT 0,5	10	0.1 - 0.2
10 - 150	HIGHT	LEFT 0,6 - RIGHT 0,6	20	0.1 - 0.25
150 - 400	LOW	LEFT 0,5 - RIGHT 0,5	30	0.1 - 0.3
150 - 400	MEDIUM	LEFT 0,6 - RIGHT 0,6	5	0.15 - 0.25
150 - 400	HIGHT	LEFT 0,7 - RIGHT 0,7	10	0.15 - 0.25
400 - 700	LOW	LEFT 0,6 - RIGHT 0,6	20	0.15 - 0.3
400 - 700	MEDIUM	LEFT 0,7 - RIGHT 0,7	30	0.15 - 0.35
400 - 700	HIGHT	LEFT 0,8 - RIGHT 0,8	5	0.15 - 0.25
700 - 1000	LOW	LEFT 0,7 - RIGHT 0,7	10	0.15 - 0.3
700 - 1000	MEDIUM	LEFT 0,8 - RIGHT 0,8	20	0.2 - 0.35
700 - 1000	HIGHT	LEFT 0,9 - RIGHT 0,9	30	0.2 - 0.4
			5	0.2 - 0.3
			10	0.2 - 0.3
			20	0.2 - 0.4
			30	0.2 - 0.4

Principle of operation

Before turning on the pump make sure that the CLAENING IS OFF

Pumping

The pump NEA 540 COMPACT is composed of four tanks that alternate in a continuous cycle 2+2 stroke collection and transport of the powder.



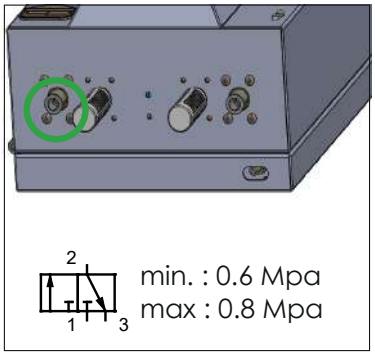


Figure 3
Operating principle - Pumping

Vacuum Pressure OPEN CLOSED

Principle of operation

TURN OFF THE PUMP BEFORE CLEANING

Pumping

The pump NEA 540 COMPACT is composed of four tanks that alternate in a continuous cycle 2+2 stroke collection and transport of the powder.

Cleaning

The cleaning process depends on the powder type and for which application type.
We recommend cleaning process for 30 seconds minimum

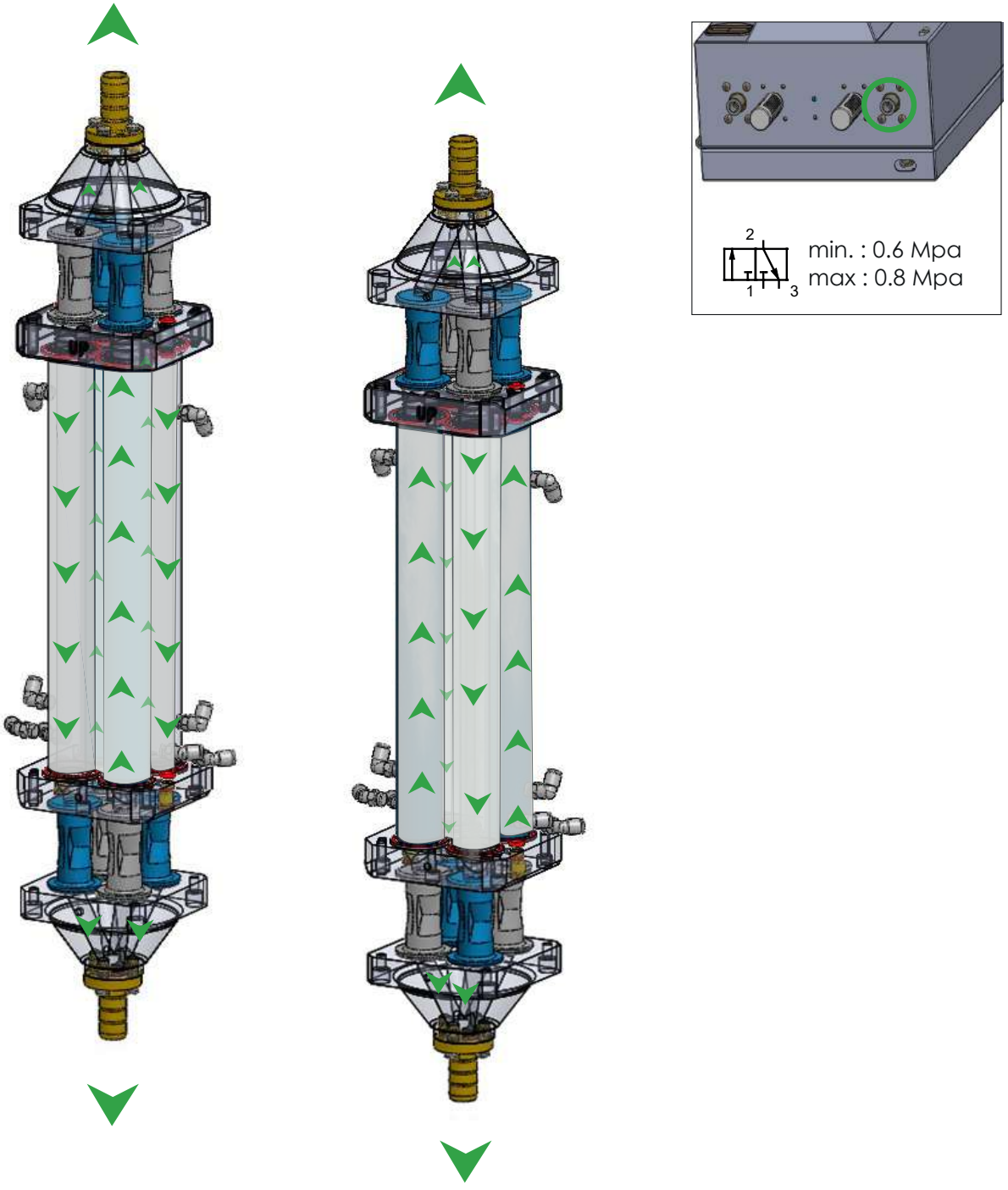
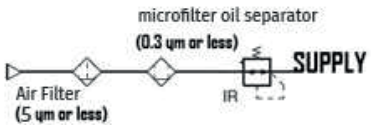


Figure 4
Operating principle - cleaning

Technical data

Flow rate (max)	UP TO: 4 kg/min.
TIMER LEFT - TIMER RIGHT	See product pag.6
General Supply pressure (min.) ON/OFF TRANSPORT	0.6 Mpa (6 bar)
General Supply pressure (max.) ON/OFF TRANSPORT	0.8 Mpa (8 bar)
General Supply pressure (min.) ON/OFF SELF CLEANING	0.6 Mpa (6 bar)
General Supply pressure (max.) ON/OFF SELF CLEANING	0.8 Mpa (8 bar)
Regulator supply - working pressure	0.6 Mpa (6 bar)
Regulator Pinch valve - working pressure	0.24 - 0.27 Mpa (2,4 -2,7 bar)
Regulator Vacuum - working pressure	100% - 0.48 Mpa (4,8 bar) to reduce the flow rate, decrease the pressure
Regulator Transport - working pressure	See product data sheet (Pag 6)
Total air consumption	450l /min
Filtered compressed air with the following properties Permissible humidity: 95% non-condensing Operating ambient temperature from +15 to +40	
Intake tube	POLYETHYLENE : D. INT. 16 mm (LONG MAX 6m) ANTISTATIC : D. INT. 16 mm (LONG MAX 6m) BEST RESULT OBTAINABLE USING THE SHORTEST POSSIBLE HOSE
Transporte tube	POLYETHYLENE : D. INT. 16 mm (LONG MAX 30 m) ANTISTATIC : D. INT. 16 mm (LONG MAX 30 m) BEST RESULT OBTAINABLE USING THE SHORTEST POSSIBLE HOSE
Hose management: ON/OFF TRANSPORT	polyurethane external ø 12mm
Hose management: ON/OFF CLEANING	polyurethane external ø 12mm
Weight/dimensions	Kg 18.5 - See figure 5

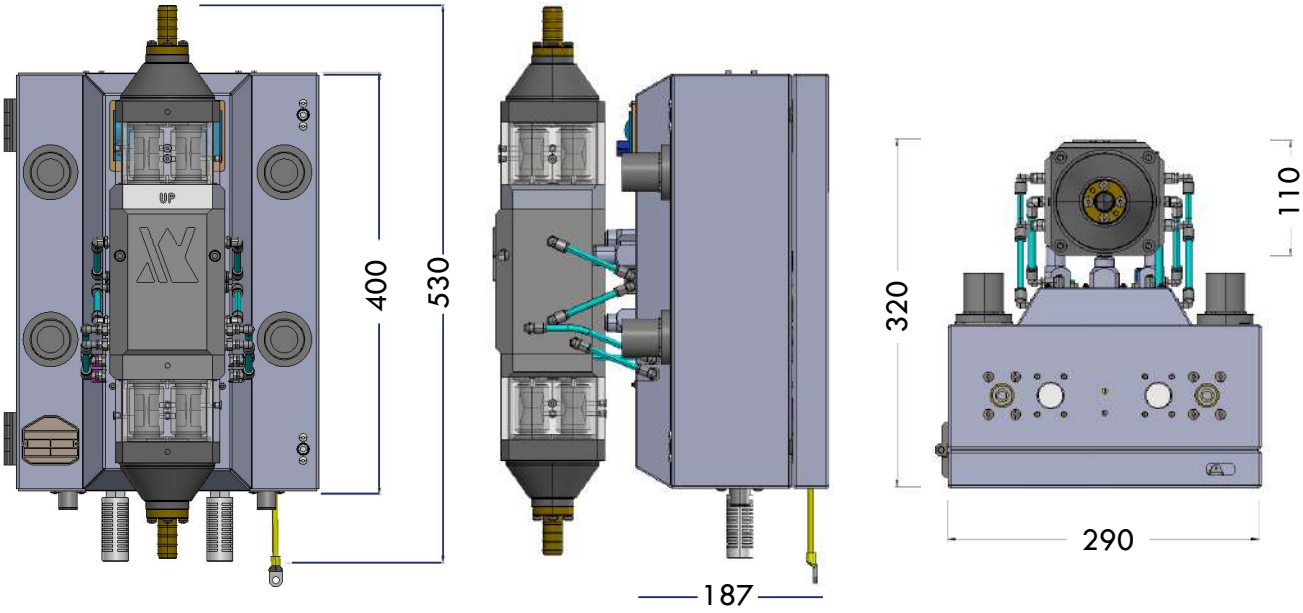
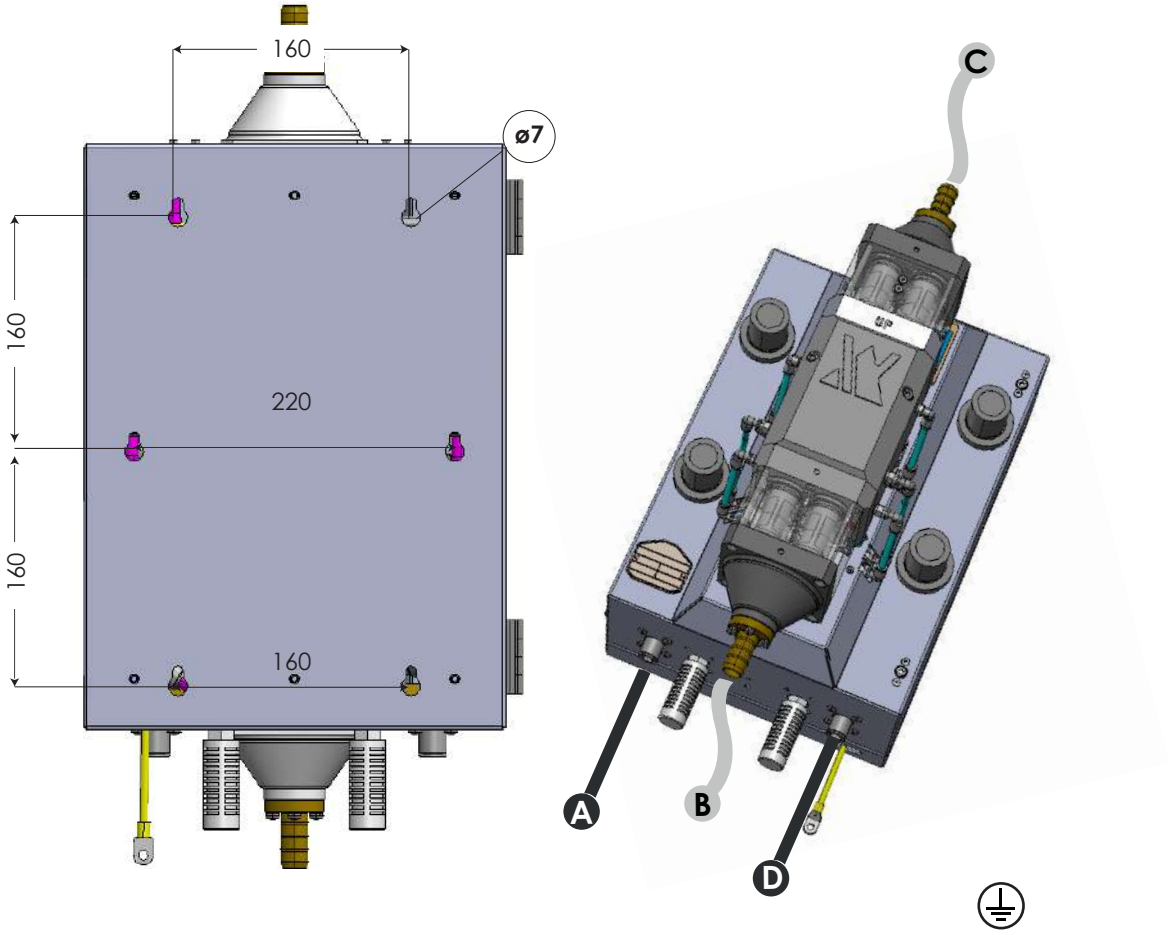


Figure 4 Pump dimensions

Installation

WARNING: The pump must be securely connected to a true earth ground. Failure to ground the pump could result in a fire or explosion.

NOTE: The pump is normally mounted on a panel that includes an operating air regulator, and a manual pushbutton and piloted-operated air valve for manual purging. The panel may also include an auxiliary regulator for fluidizing the powder source.



Panel Mounting Dimensions

Use the supplied M6 screws, washers, and nuts to mount the pump.

NOTE: Included are 6 mounting holes and 1 set of ø7 fasteners. Use the six mounting holes that best match your mounting surface.

Tubing Connections

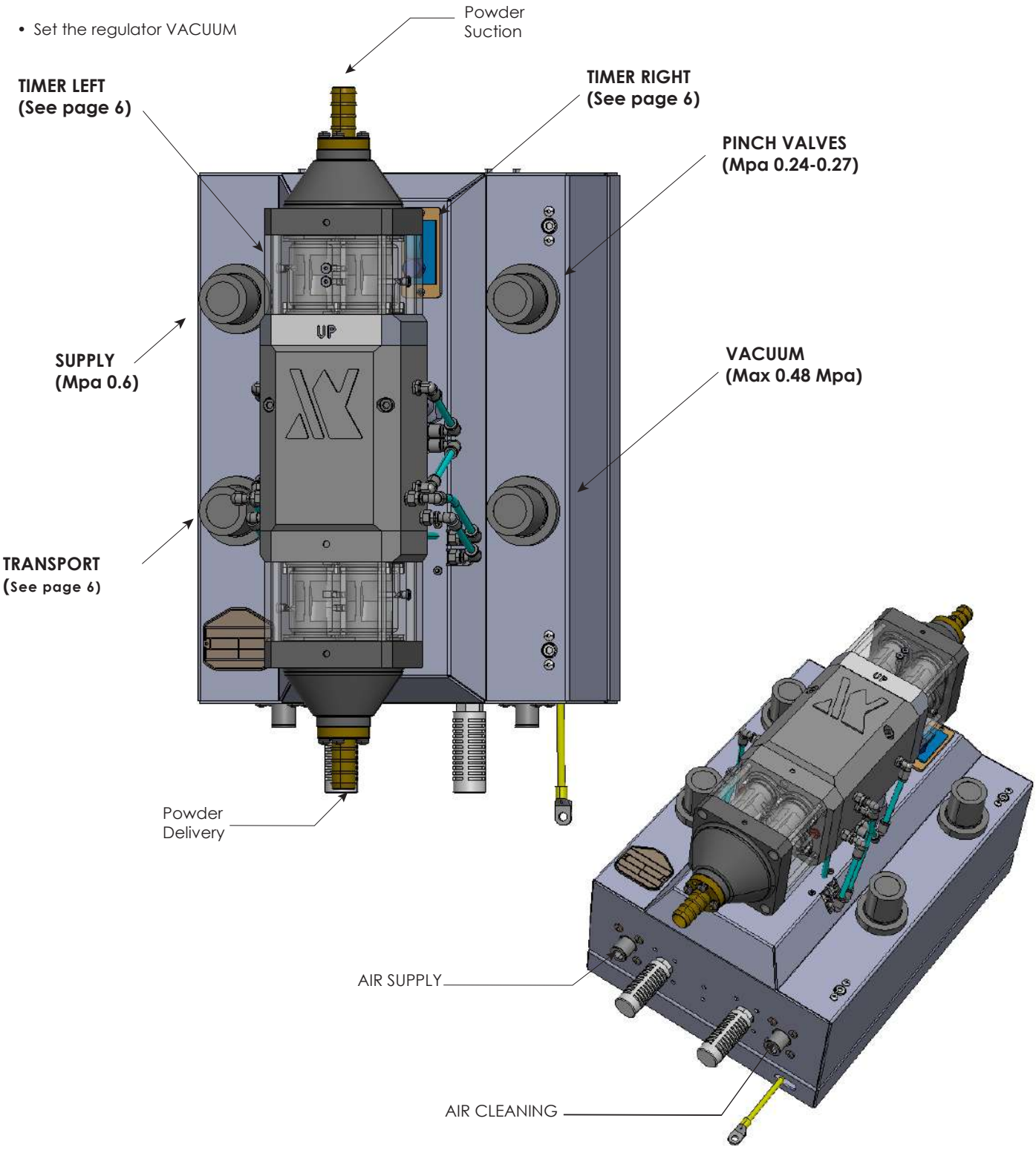
NOTE: For best results, keep the powder suction and delivery tubing as short as possible.

CONNECTION	TYPE	FUNCTION
A D	12 mm blue polyurethane tubing	From customer-supplied purge air source 7 bar (0.7 Mpa) max.
B	POLYETHYLENE : ø INT. 16 mm (LONG MAX 30m) ANTISTATIC : ø INT. 16 mm (LONG MAX 30m)	To powder destination
C	POLYETHYLENE : ø INT. 16 mm (LONG MAX 6m) ANTISTATIC : ø INT. 16 mm (LONG MAX 6m)	From powder source
⏚	Pump ground wire	To earth ground

Operation

See figure 8.

- Before turning on the pump, adjust the timer (LEFT+RIGHT) according to the product to be transported (See Page 6)
- To start the pump turn on the air supply operation (min 0.6 Mpa (6 bar). Set the regulator SUPPLY at 0.6Mpa (6 bar).
- Set the regulator TRANSPORT
- Set the regulator PINCH VALVES
- Set the regulator VACUUM

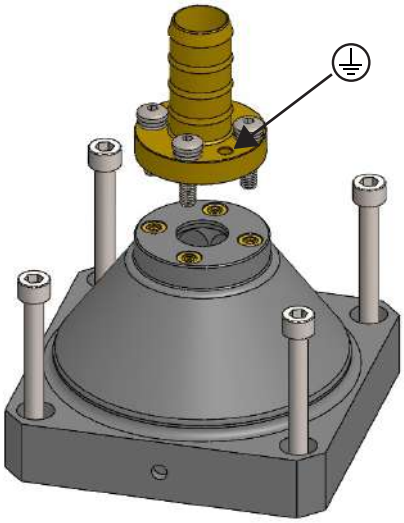
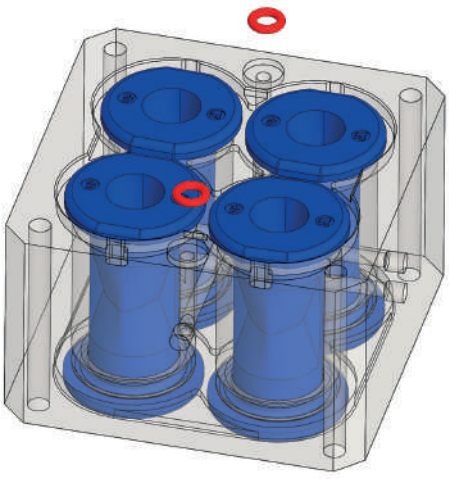


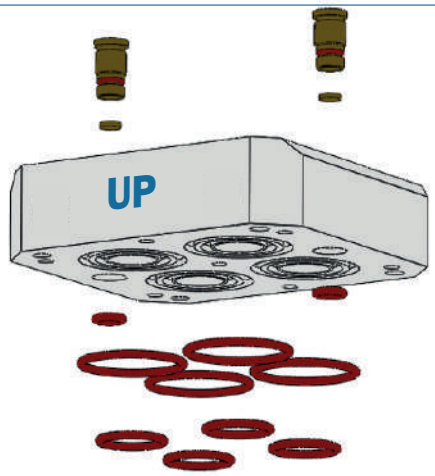
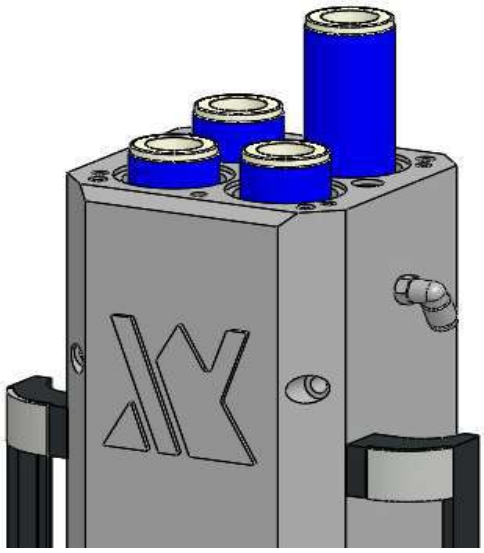
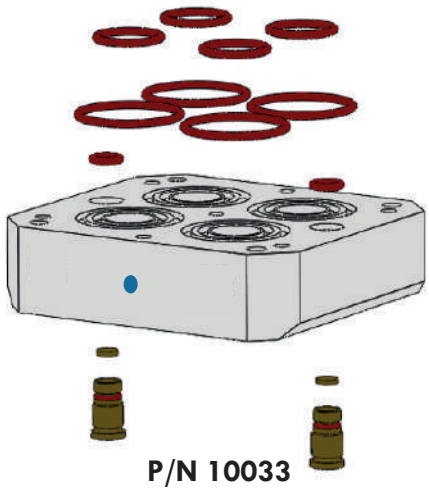
Maintenance

Perform these maintenance procedures to keep your pump operating at peak efficiency.

WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

NOTA: You may have to perform these procedures more or less frequently, depending on factors such as operator experience and type of powder used.

Frequency	P/N	Procedure
Every four Months or Each Time You Disassemble the Pump Perform maintenance on both NORD+SOUTH components	 **P/N 10084**	Remove the INLET-OUTLET BODY from the assembly pump and check if you show signs of wear or sintering. If necessary, clean these components with an apparatus for ultrasonic cleaning
Daily Perform maintenance on both NORD+SOUTH components	 **P/N 10005-XX**	Inspect the PINCH VALVES BODY for signs of powder leakage. If you see powder in the pinch valve body or stress cracks in the pinch valves, replace the pinch valves.

Frequency	P/N	Procedure
Every four Months or Each Time You Disassemble the Pump	 **P/N 10024**	Remove the body from the assembly INTERMEDIATE (INLET) pump and check if you show signs of wear or sintering. If necessary, clean these components with an apparatus for ultrasonic cleaning.
Every four Months or Each Time You Disassemble the Pump	 **P/N 10141**	Remove the fluidizing tubes and check structural conformity. In case of defects or damage, replace the pipes.
Every four Months or Each Time You Disassemble the Pump	 **P/N 10033**	Remove the body from the assembly INTERMEDIATE (OUTLET) pump and check if you show signs of wear or sintering. If necessary, clean these components with an apparatus for ultrasonic cleaning.

Diagnostics

Problem	Possible cause	Corrective action
1. Reduced powder output from the conveying tube (The pinch valves open and close)	*Blockage in pipe to destination Air transport settoo high*	Check the Transport tube for blockages. Remove the tube and purge with compressed air.
	Carrier air set too high	Decrease air pressure transport.
	Carrier air set too low	Increasing the air pressure transport.
	Dust extraction set	Decrease the Vacuum pressure (Max 0.48 Mpa).
	Dust extraction set	Increase the Vacuum pressure (Max 0.48 Mpa).
	Pinch valve defective or damaged	Replace the pinch valves
	Fluidizing tubes defective or damaged	Replace the fluidizing tubes
	PV3 carrier air valve not working	See Pipe Diagrams. Turn off the pump and unplug the pipes connected to the pump body. Turn on the pump and check if i pipes exhibit pressure alternation of positive and negative air. regulator/pressure gauge: Transport Reg. + Vacuum Reg. If there is no pressure, replace the valve. If the valve works, but you can't hear it positive or negative air pressure in the pipes, check if they are blockages in the air lines that They go in and out of the valve.
	PV4 carrier air valve not working	See Pipe Diagrams. Turn off the pump and unplug the pipes connected to the pump body. Turn on the pump and check if i pipes exhibit pressure alternation of positive and negative air. regulator/pressure gauge: Transport Reg. + Vacuum Reg. If there is no pressure, replace the valve. If the valve works, but you can't hear it positive or negative air pressure in the pipes, check if they are blockages in the air lines that They go in and out of the valve.

Diagnostics

Problem	Possible cause	Corrective action
2. Reduced powder output from the conveying tube (the pinch valves DO NOT open and close)	*Pinch valve defective or damaged*	Replace the pinch valves
	PV 1 valve transport cycle activation not working	See Pipe Diagrams. If the valve works, but you can't hear it positive pressure from outlets 2|4, check pressure regulator/gauge (Reg. Supply). Turn off the pump and unplug the valve feed tube. Turn on the pump and check that there is positive pressure at 0.6 Mpa. If there is pressure, replace the valve.
	Supply pressure No valve PV1	See Pipe Diagrams. Turn off the pump and unplug the valve feed tube. Turn on the pump and check that there is pressure positive. If there is no pressure, replace the reg-ulator with pressure gauge (Reg. Supply).
	Pinch Valves cycle activation PV 2 valve not working	See Pipe Diagrams. If the valve works, but you can't hear it positive pressure from outlets 2|4, check pressure regulator/pressure gauge (Reg. Pinch Valves). Turn off the pump and unplug the pipes connected to the pump body. Turn on the pump and check if i pipes exhibit pressure alternation positive. If there is no pressure, replace the valve.
	Supply pressure PV2 valve absent	See Pipe Diagrams. Turn off the pump and unplug the valve feed tube. Turn on the pump and check that there is pressure positive. If there is no pressure, replace the regulator with pressure gauge (Reg. Pinch Valves)
	TIMER (RIGHT) Does not respect times	See Pipe Diagrams. Turn off the pump and unplug the tube from the outlet (2) of the timer. Turn on the pump and check if pressure comes out alternately. Check for correct operation of the display and the respect of the time PRE-SET. If there is no pressure, replace the TIMER.
	TIMER (LEFT) Does not respect times	See Pipe Diagrams. Turn off the pump and unplug the tube from the outlet (2) of the timer. Turn on the pump and check if pressure comes out alternately. Check for correct operation of the display and the respect of the time PRE-SET. If there is no pressure, replace the TIMER.

Diagnostics

Problem	Possible cause	Corrective action
3. Transport ON | OFF not working	*PV5 valve does not activate (ON)*	See Piping Diagrams. Replace valve
	PV 5 valve does not stop (OFF)	See Piping Diagrams. Replace valve
	PV 6 valve does not activate (ON)	See Piping Diagrams. Replace valve
	PV 6 valve does not stop (OFF)	See Piping Diagrams. Replace valve
4. SELF CLEANING not working	*PV7 valve does not activate (ON)*	See Piping Diagrams. Replace valve
	PV7 valve does not stop (OFF)	See Piping Diagrams. Replace valve
	PV8 valve does not activate (ON)	See Piping Diagrams. Replace valve
	PV8 valve does not stop (OFF)	See Piping Diagrams. Replace valve
5. Low dust entry	*Blockage in the powder collection tube*	Check if the tube has blocks. Remove the tube and purge with compressed air
	Vacuum leak from generators	Check if the vacuum generators are contaminated. In case of contamination or wear, replace both vacuum generators. Check the exhaust silencers. If the exhaust silencers turn out clogged, replace them.
	Damaged O rings in the powder path	Check all o-rings in the dust path. Replace damaged or worn o-rings
	Clogged fluidization pipes	Replace the fluidizing tubes
6. Pinch valves failing quickly, with cracks around the flange	*The powder tribo loads into the pump*	Install kit P/n 10034 black sleeve valves - NON CONDUCTIVE. Check that the device is properly grounded

Repair

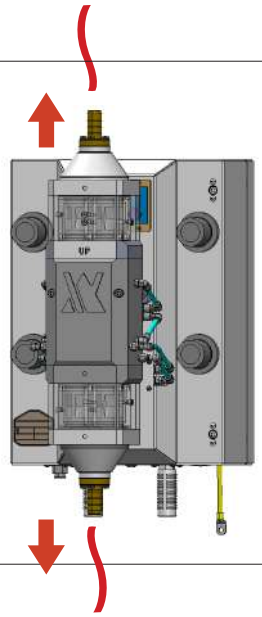
WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

WARNING: Shut off and relieve system air pressure before performing the following tasks. Failure to relieve air pressure may result in personal injury.

Fluidizing Tube Replacement

NOTE: In the fluidization tube kits I am including four O-rings. Replace O-rings if they are worn. It is not necessary to replace the o-ring every time you replace the fluidizing tubes.

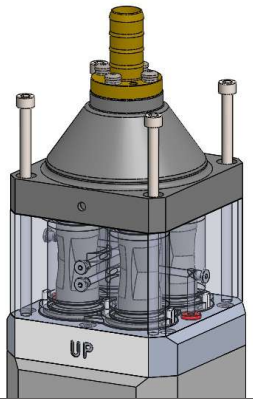
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Shut off and relieve purge air pressure. Disconnect the purge air tubing.

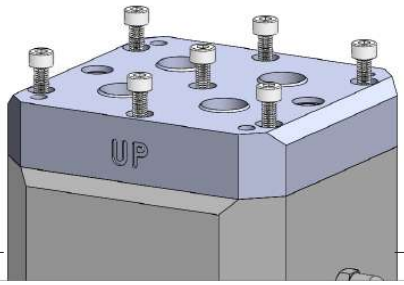
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Unscrew the 4 M6x120 screws, remove PN 10084 and PN10005-XX



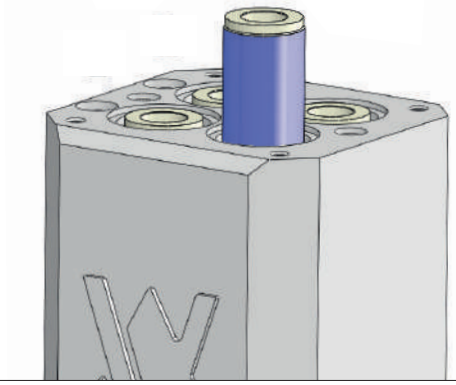
3

Unscrew the 7 M5x45 screws to remove the PN10024 and thus access the body for replacing the fluidisation tubes



4

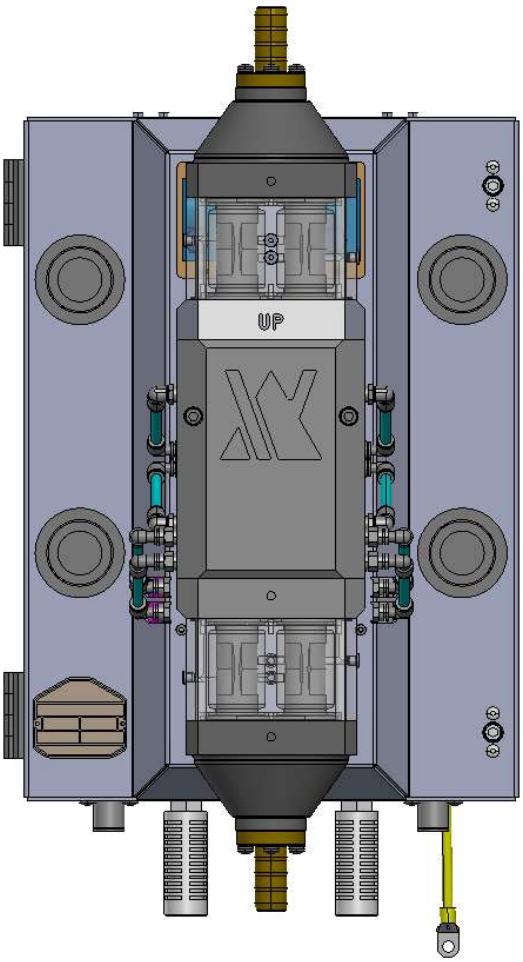
Remove the tubes and replace them with new ones, also change the *O-rings present in the replacement kit, reassembly.



*In the fluidization tube kits, there are included O-rings. Replace O-rings if they are worn.

Pump Disassembly

WARNING: Shut off and relieve system air pressure before performing the following tasks. Failure to relieve air pressure may result in personal injury.



1. See figure 9. Disconnect the purge air lines from the top of the pump.
2. Disconnect the inlet and outlet powder tubing from the bottom of the pump.
3. Remove the two screws (A) from the pump.
4. See figure 9. Disconnect one end of each of the air tubes indicated.
5. See figure 10. Remove the tubes securing the pump assembly to the base.
6. See Figure 11. Starting with the fluidizing tubes, disassemble the pump as shown.

NOTE: Tag all air and powder tubing before disconnecting from the pump.

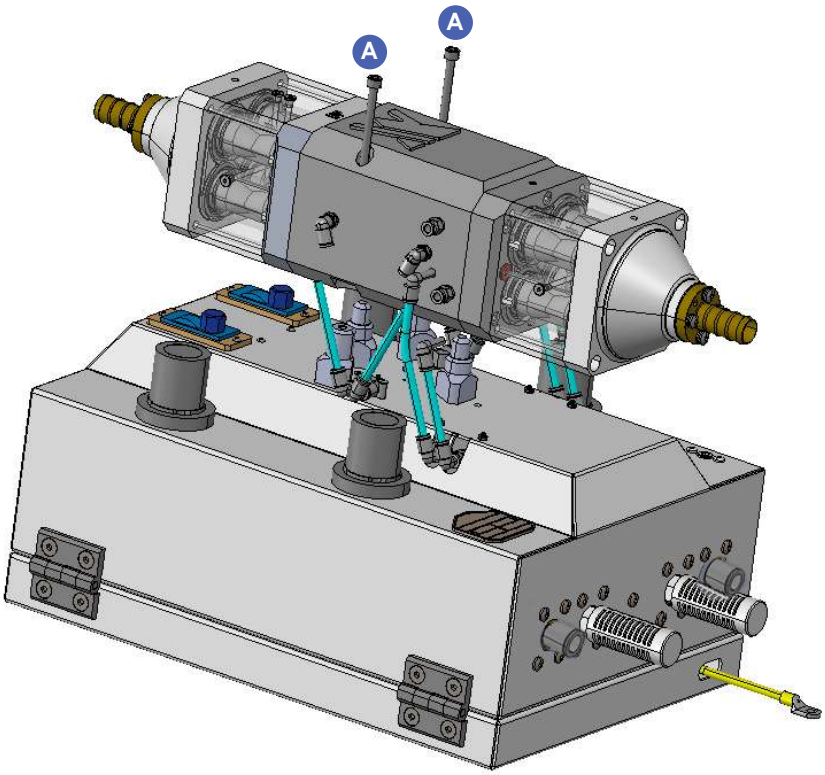


Figure 10

NOTE: Refer to Pinch Valve Replacement on page 21 for instructions on pulling the pinch valves out of the pinch valve body.

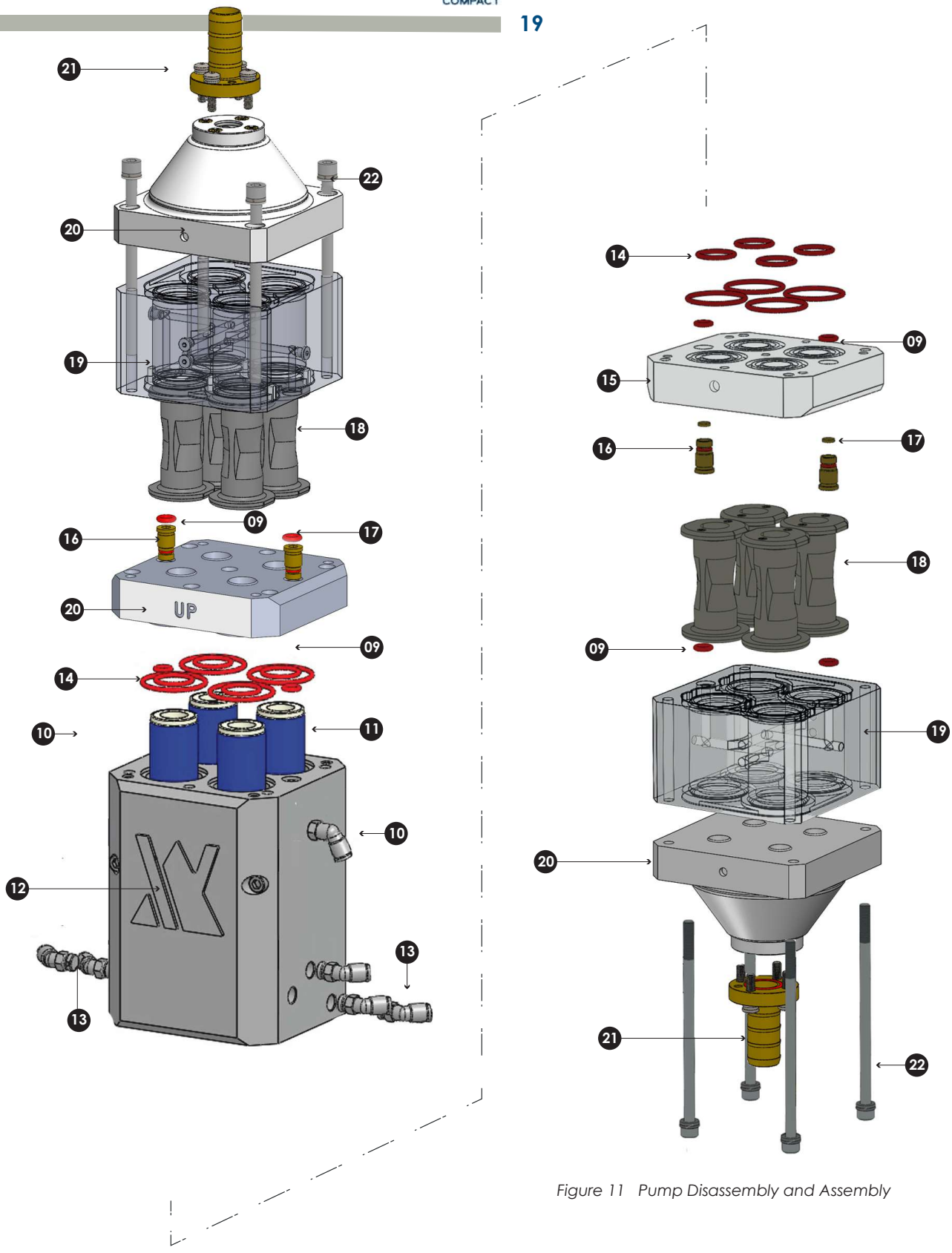


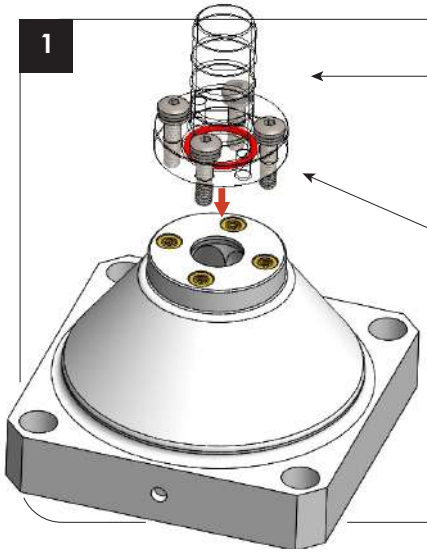
Figure 11 Pump Disassembly and Assembly

8. INTERMEDIATE BODY - INLET
9. O-Ring Silicone 3024
10. Elbow 90° G1/8"-6
11. Fluidizing Tubes
12. Fluidizing Tubes Body
13. Elbow G1/8"-6
14. O-Ring Silicone 3131
15. INTERMEDIATE BODY - OUTLET
16 Compass Filter Brass
17. Filter Brass
18. Pinch Valves
19. Pinch Valves Body
20. Inlet - Outlet Body
21. Brass adapter d.int.16mm
22. Screw assembly 120mm M6 INOX

Pump Assembly

CAUTION: Follow the assembly order and specifications shown. Pump damage may occur if you do not carefully follow the assembly instructions.

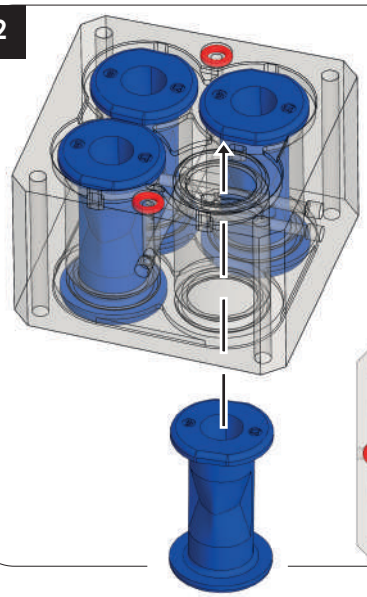
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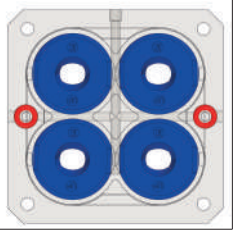
WARNING: Tighten the stop connections to prevent air leakage and product.

nr°4 M5x25

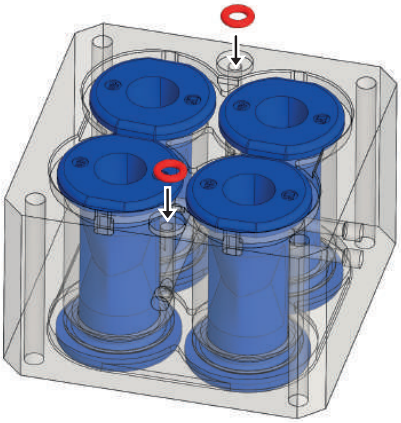
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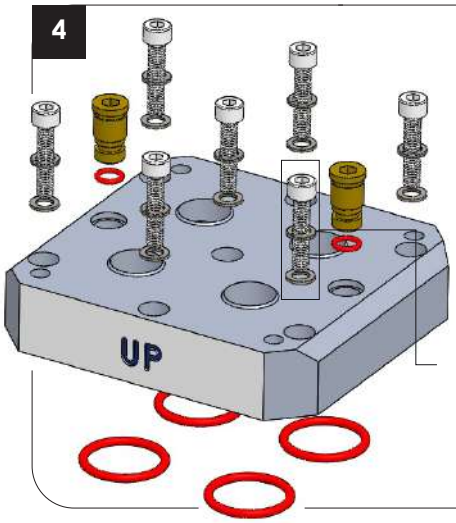
See *Replacing the PINCH VALVE* on page 21 for specific instructions.



3



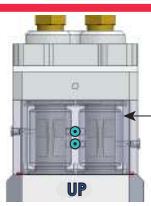
4



WARNING: Insert before ALL O-RING then tighten the screws 7 M5 on the central aluminum body

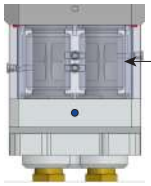
nr°7 M5x35
nr°7 grover ø5
nr°7 washer ø5

5



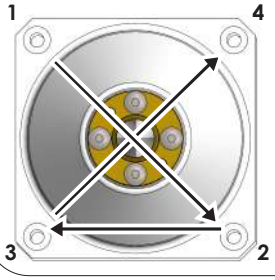
TOP: caps must **BE IN FRONT**

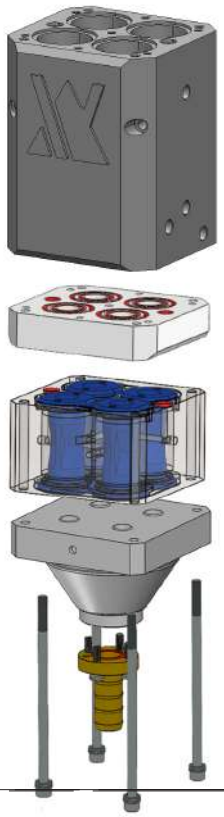
WARNING: Be careful when mounting pinch bodies!



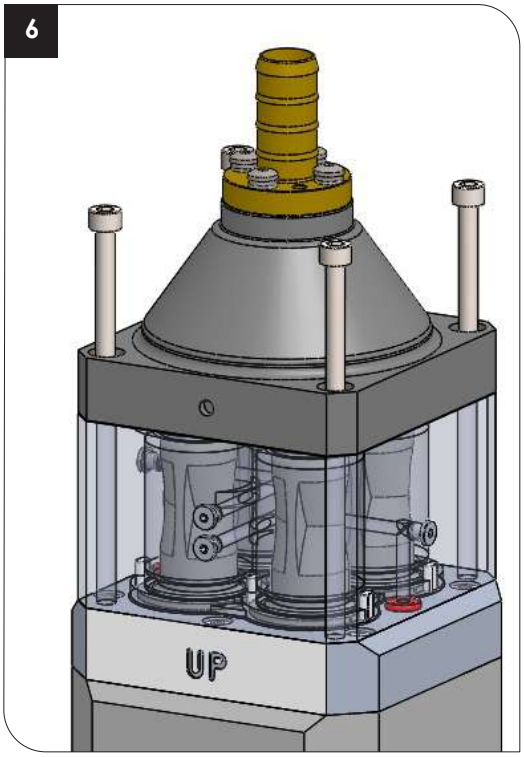
BOTTOM: caps must **BE BEHIND**

Tighten screws two turns at a time to 7–10 in. lb using an alternating pattern.

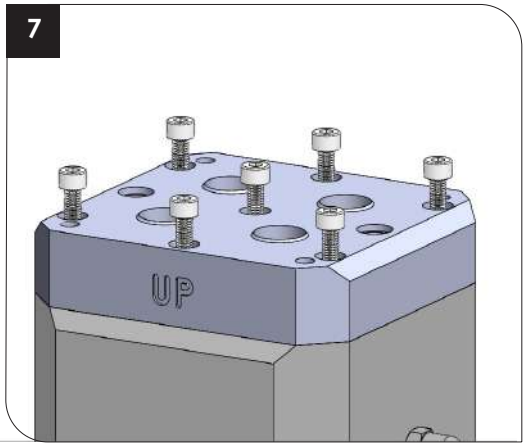




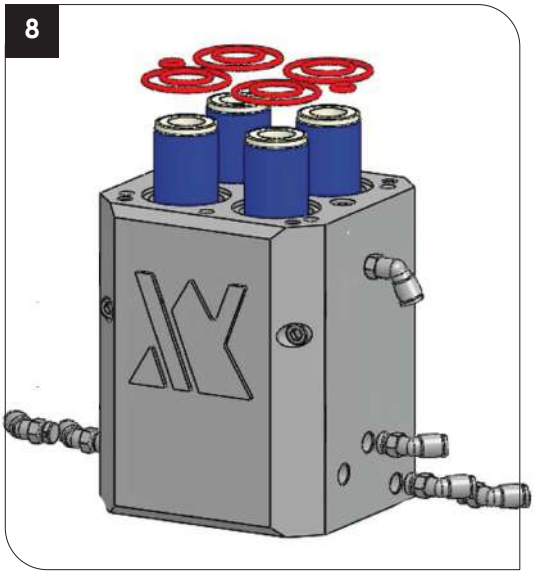
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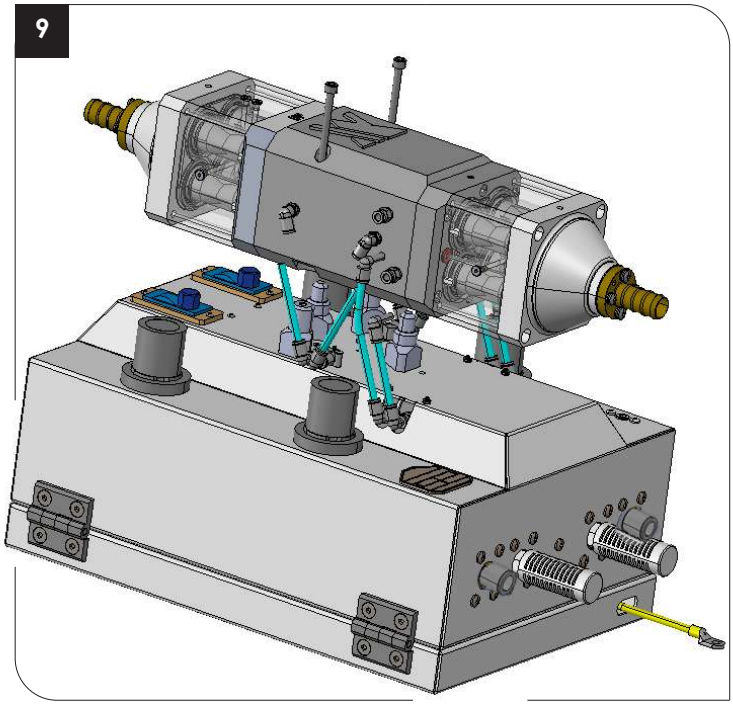
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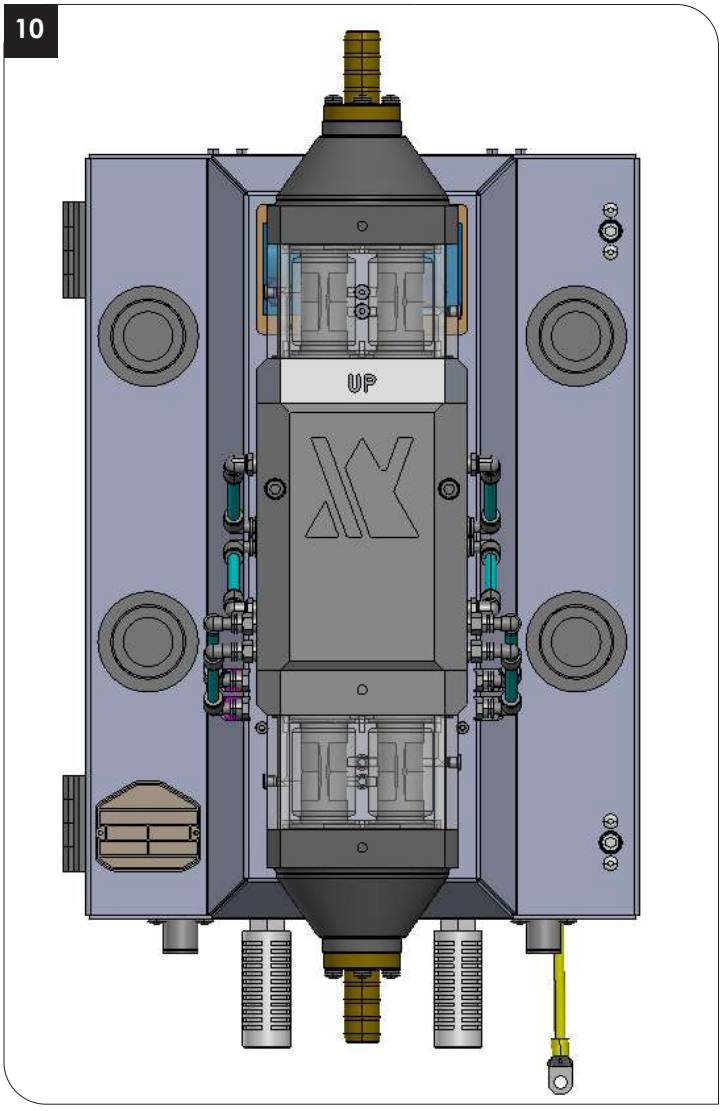
8



9



10



Substitution of the PINCH VALVES

WARNING: Wear eye protection while performing this procedure. The pinch valves will quickly snap back to their normal shape when you pull them out of the pinch valve body.

NOTE: In the upper flanges of the sleeve valves is modeled after the word UP

NOTE: Replace the filter discs (included in the pinch valves kit) when replacing the valves

Pinch Valve Removal

1



Place the pinch valve body in a padded vise with the bottom end facing you. Grasp and pull the bottom end of the pinch valve with one hand.

2

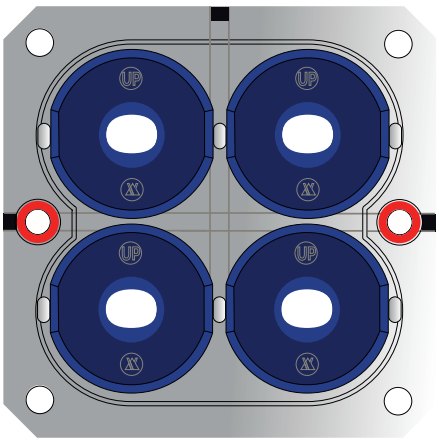


Use your other hand to pinch the flange on the opposite end of the pinch valve.

3



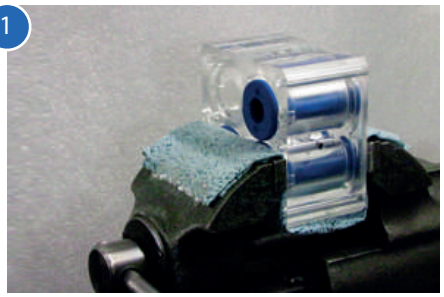
Pull the pinch valve firmly until it comes out of the pinch valve body.



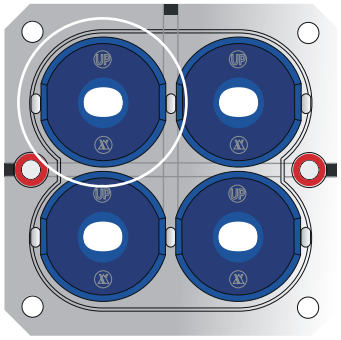
Installing the pinch valves

NOTE: All pinch valves intended for repeated contact with food must be cleaned thoroughly prior to their first use.

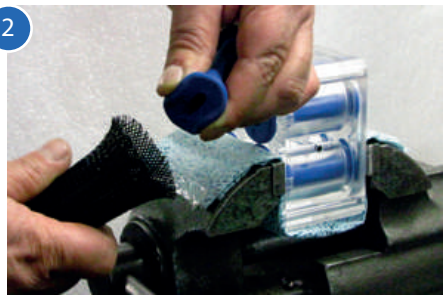
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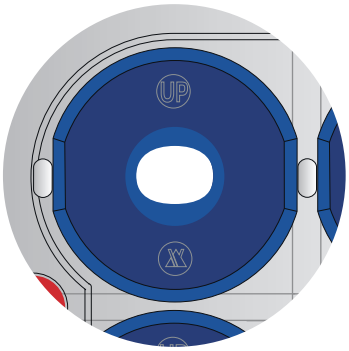
Turn the body of the pinch valves so as to have in front of the upper side.



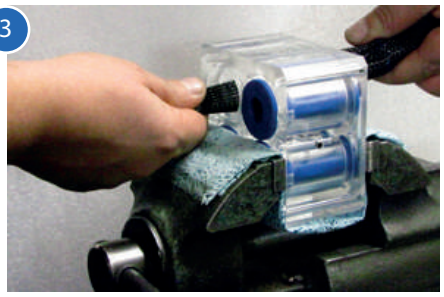
2



After putting the valve in the tool insertion, flatten the flange on the end of the valve UP.



3



Insert the end of the valve in the tool HIGHER for the insertion of the pinch valves.
Compress the UP end of the flange and introduce the small end into the flattened flange, inside the pinch valves.

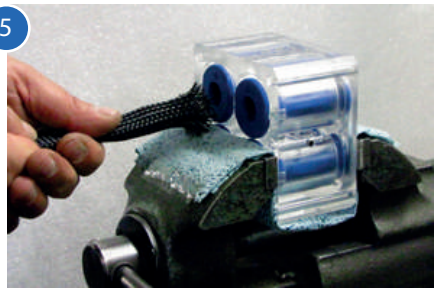
NOTES: Observe the straight side of the valve as in the figure or the pinch valves NOT RUN '.

4



While it compresses the UP end of the flange, pull the tool itself.

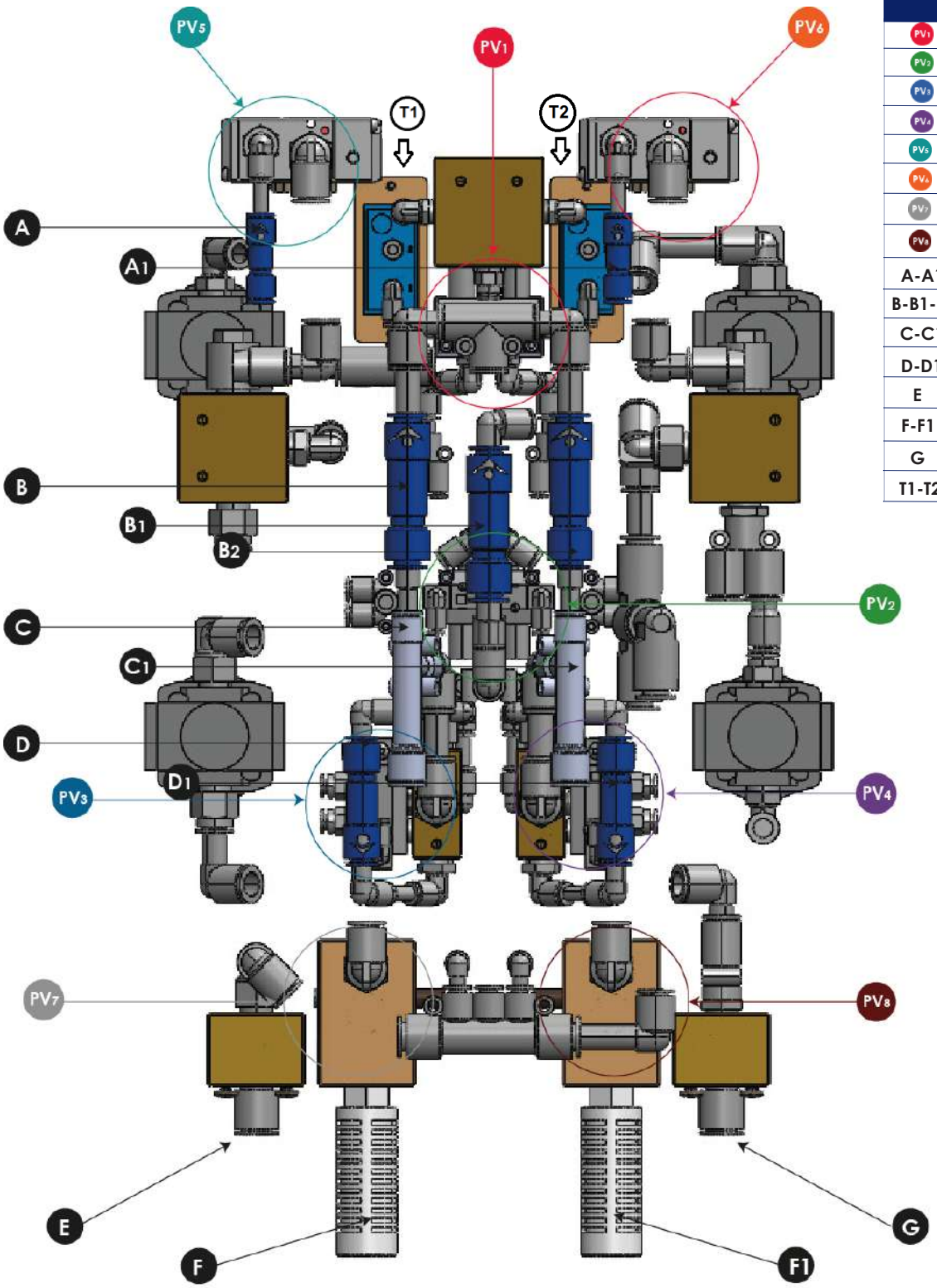
5



Pull the insertion tool through the valve body, until the end of the valve UP and the insertion tool out of the upper side of the body of the pinch valves.

PNEUMATIC DIAGRAM

BEHIND VIEW OF PUMP BODY



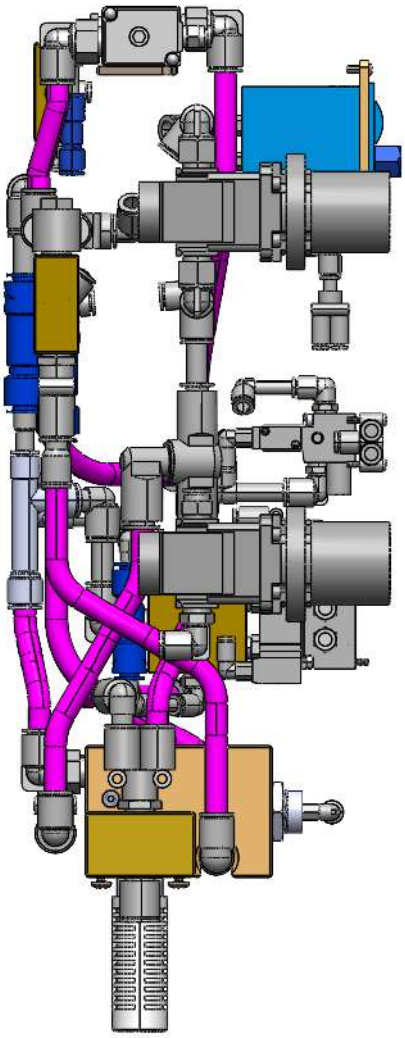
ITEM	
PV1	PV1
PV2	PV2
PV3	PV3
PV4	PV4
PV5	PV5
PV6	PV6
PV7	PV7
PV8	PV8
A-A1	NON RETURN VALVE ø6
B-B1-B2	NON RETURN VALVE ø10
C-C1	VACUUM RIGHT & LEFT
D-D1	NON RETURN VALVE ø8
E	ON/OFF SELF CLEANING
F-F1	SILENCERS
G	ON/OFF TRANSPORT
T1-T2	TIMER RIGHT - TIMER LEFT

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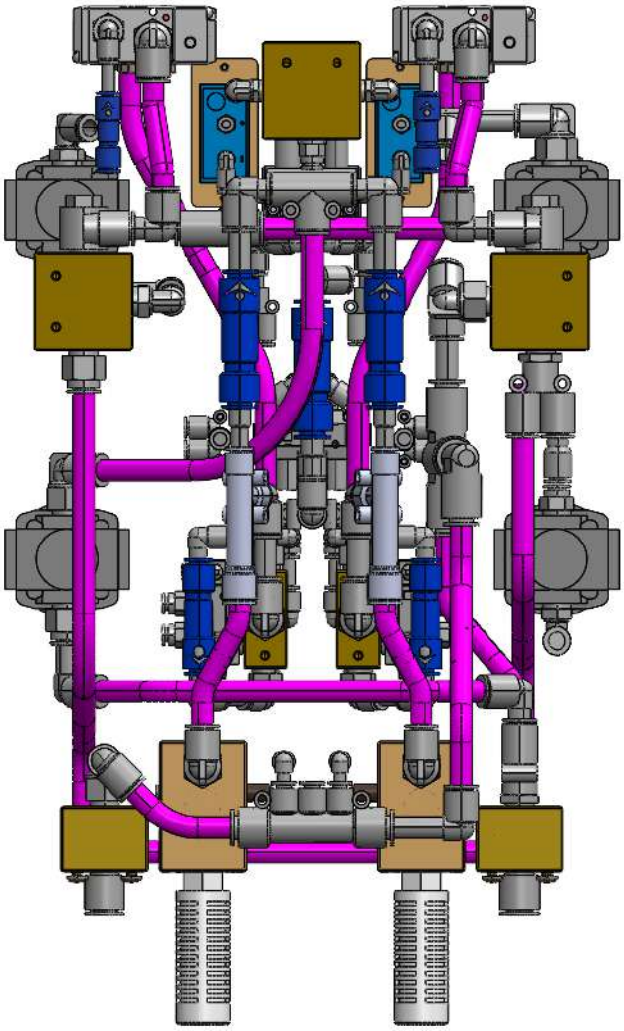
PNEUMATIC DIAGRAM

○Tube ø10

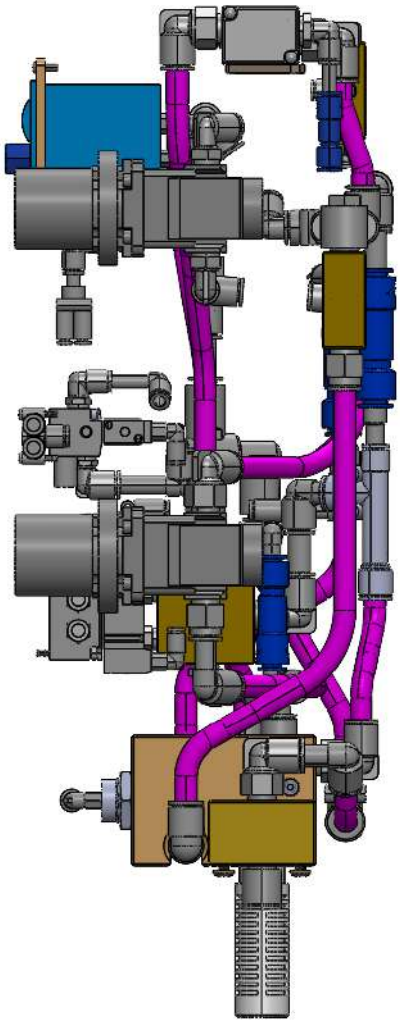
BEHIND VIEW OF PUMP BODY-LEFT

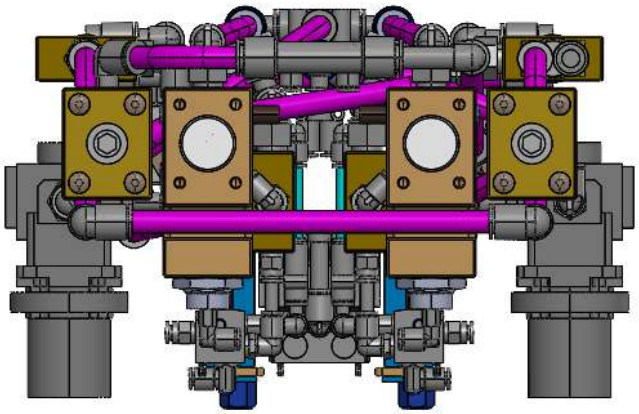


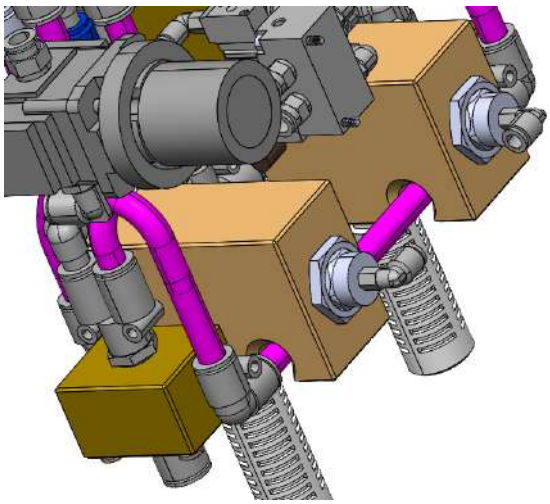
BEHIND VIEW OF PUMP BODY



BEHIND VIEW OF PUMP BODY-RIGHT



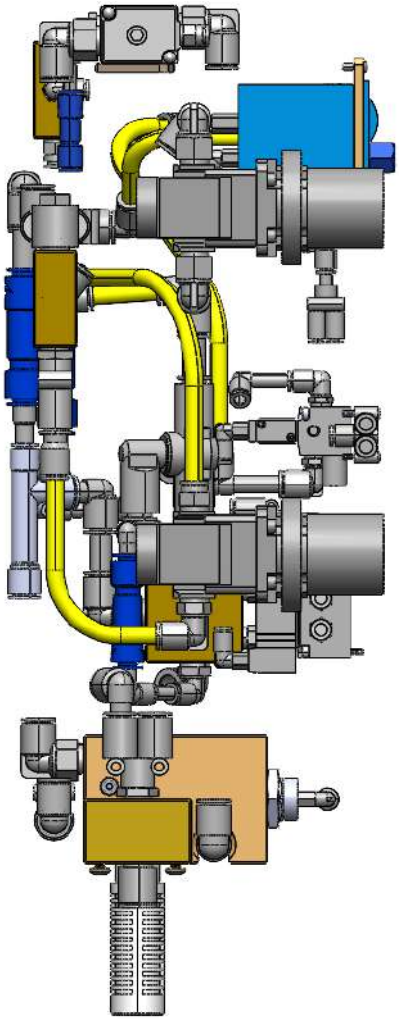




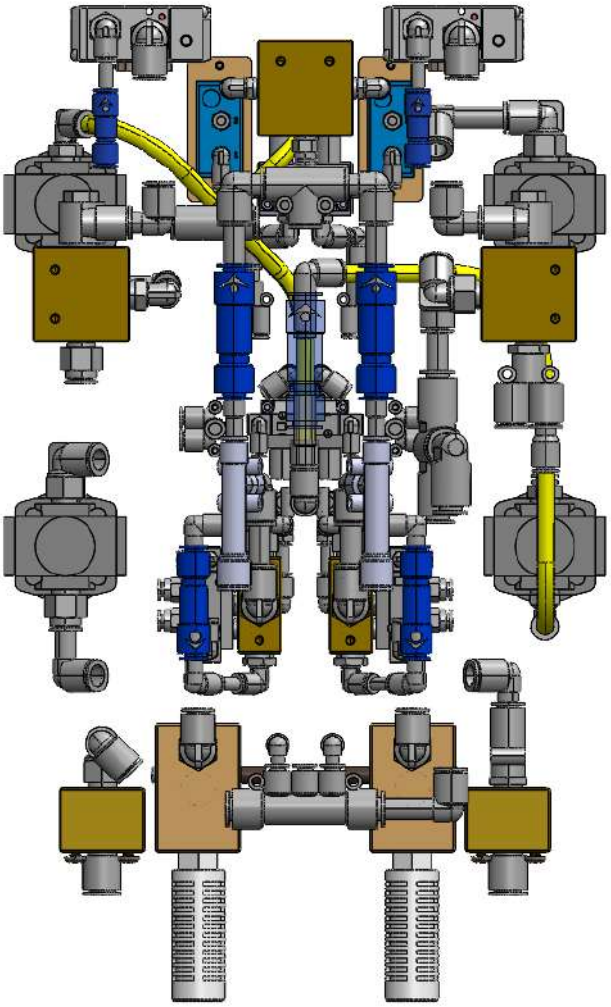
PNEUMATIC DIAGRAM

Tube ø8

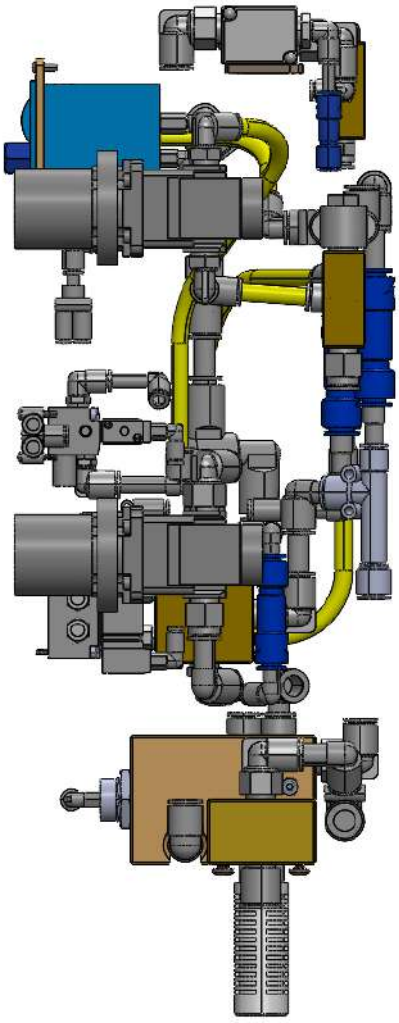
BEHIND VIEW OF PUMP BODY-LEFT



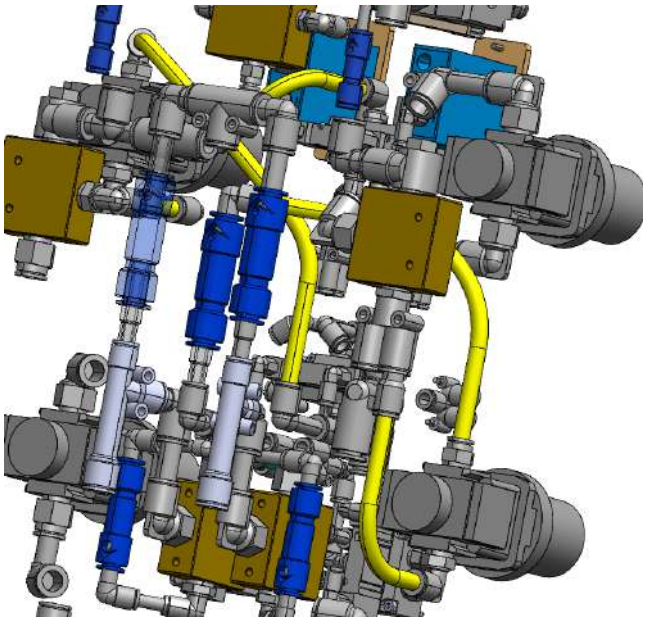
BEHIND VIEW OF PUMP BODY



BEHIND VIEW OF PUMP BODY-RIGHT

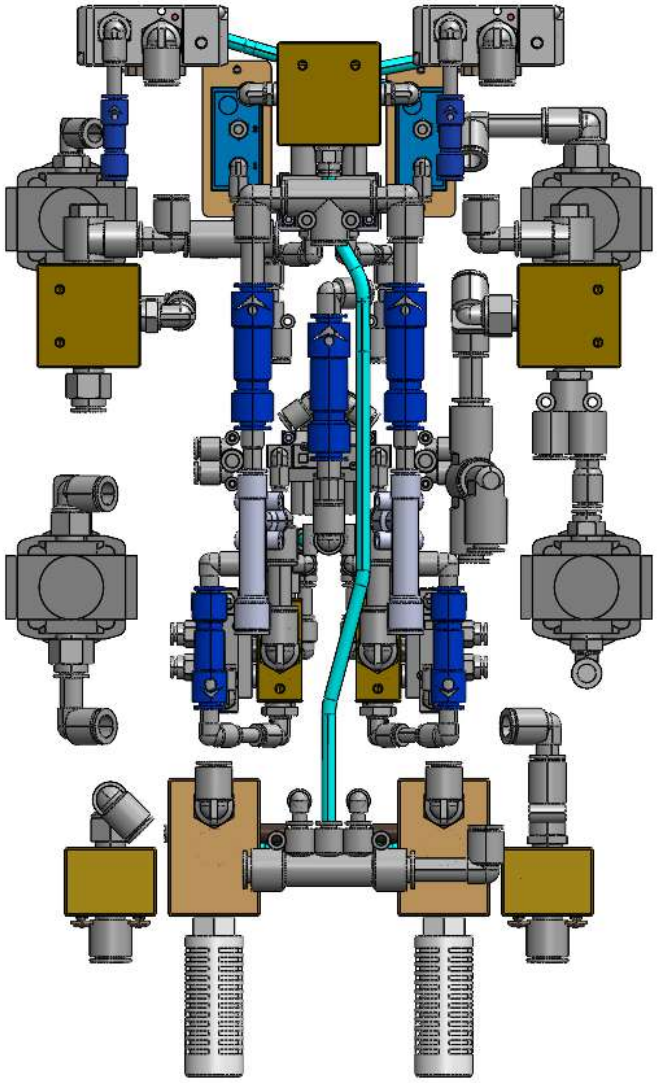


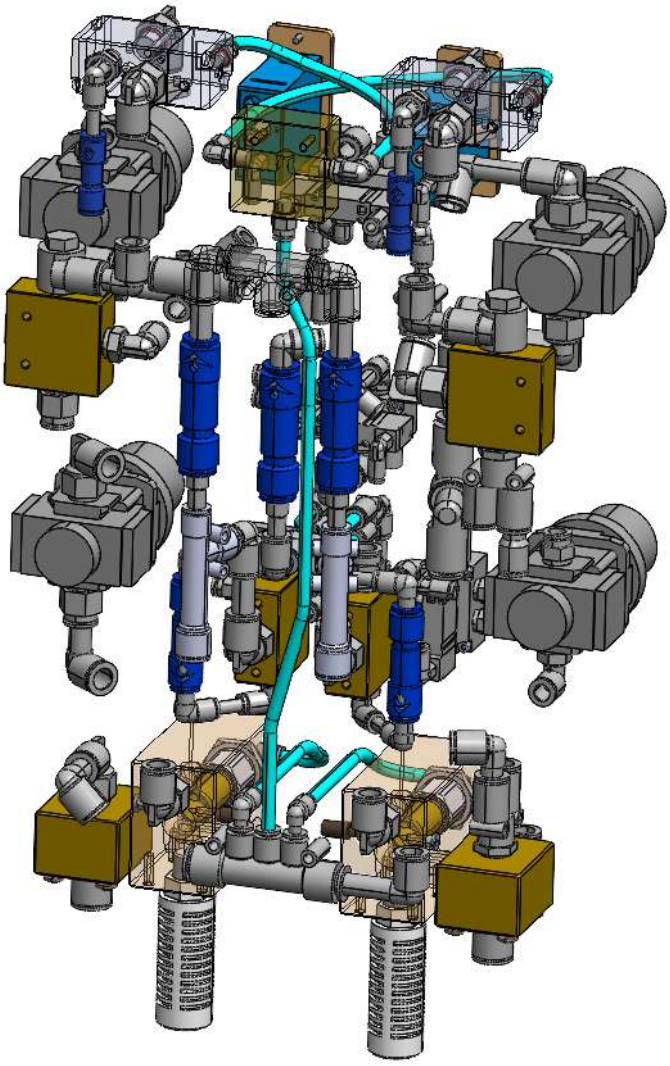
FRONT OF PUMP BODY

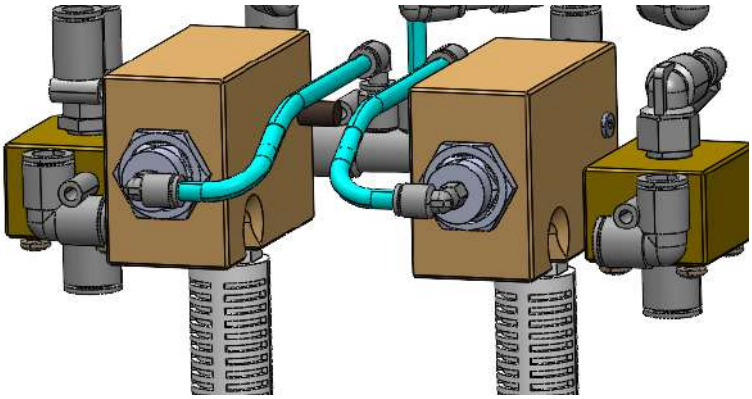


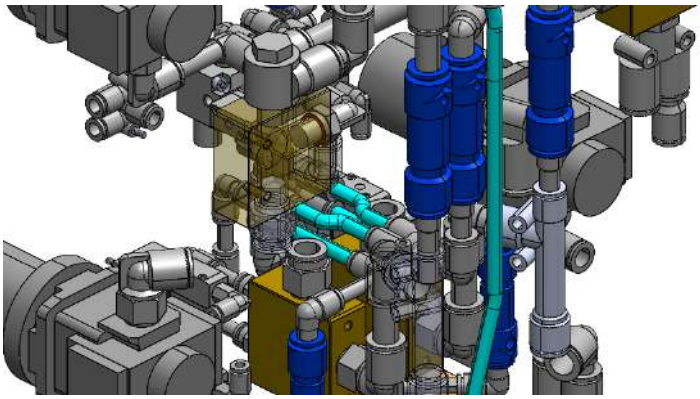
PNEUMATIC DIAGRAM
OTube ø6

BEHIND VIEW OF PUMP BODY



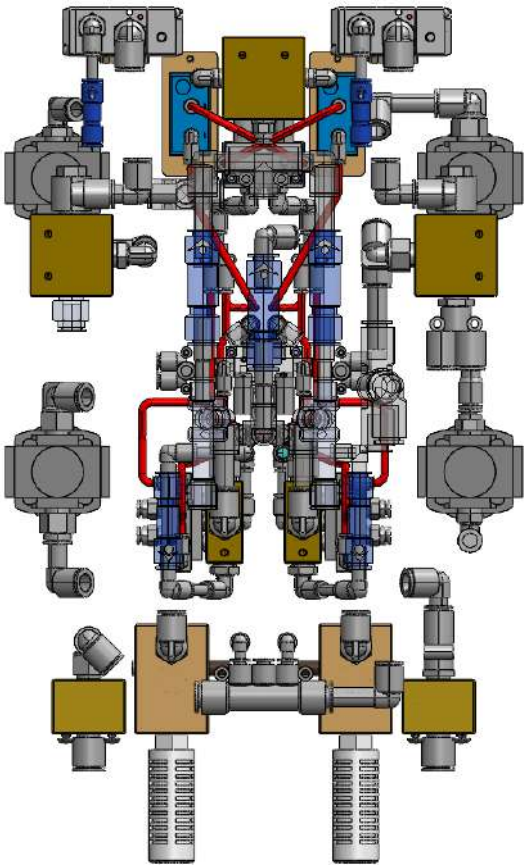


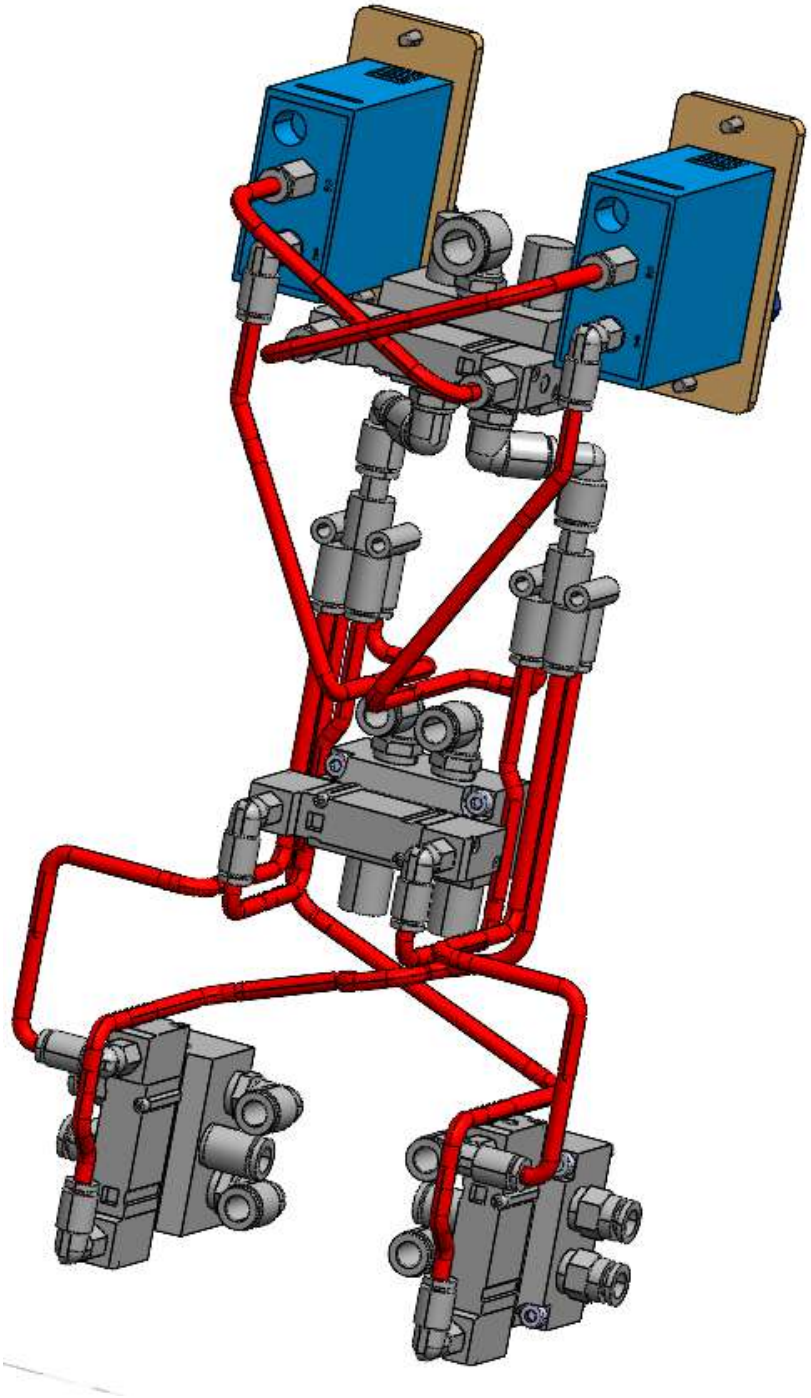




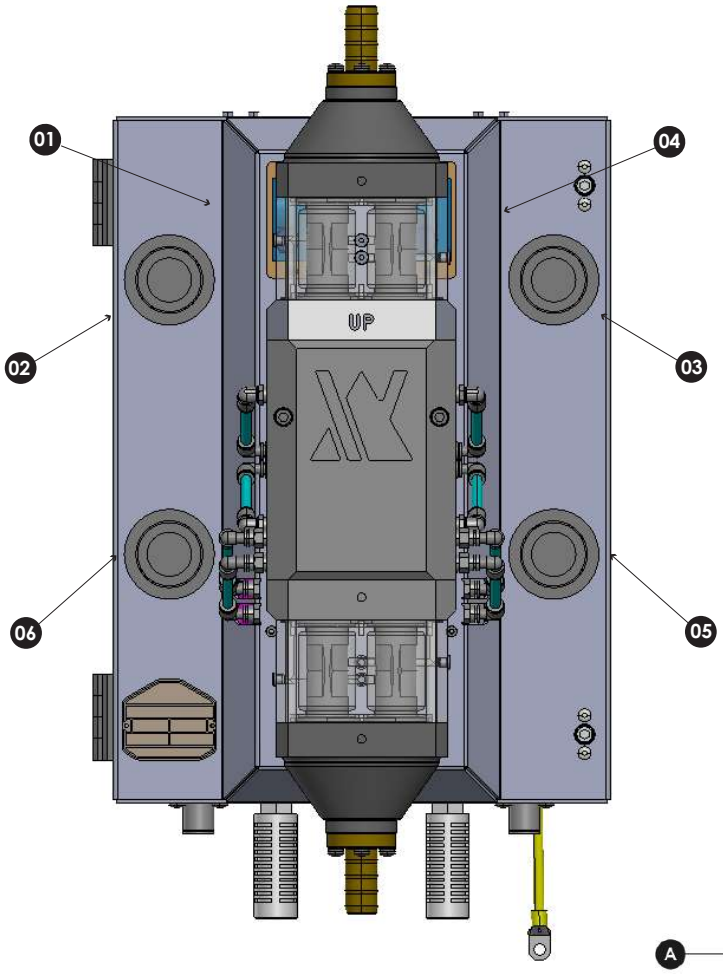
PNEUMATIC DIAGRAM
OTube ø4

BEHIND VIEW OF PUMP BODY

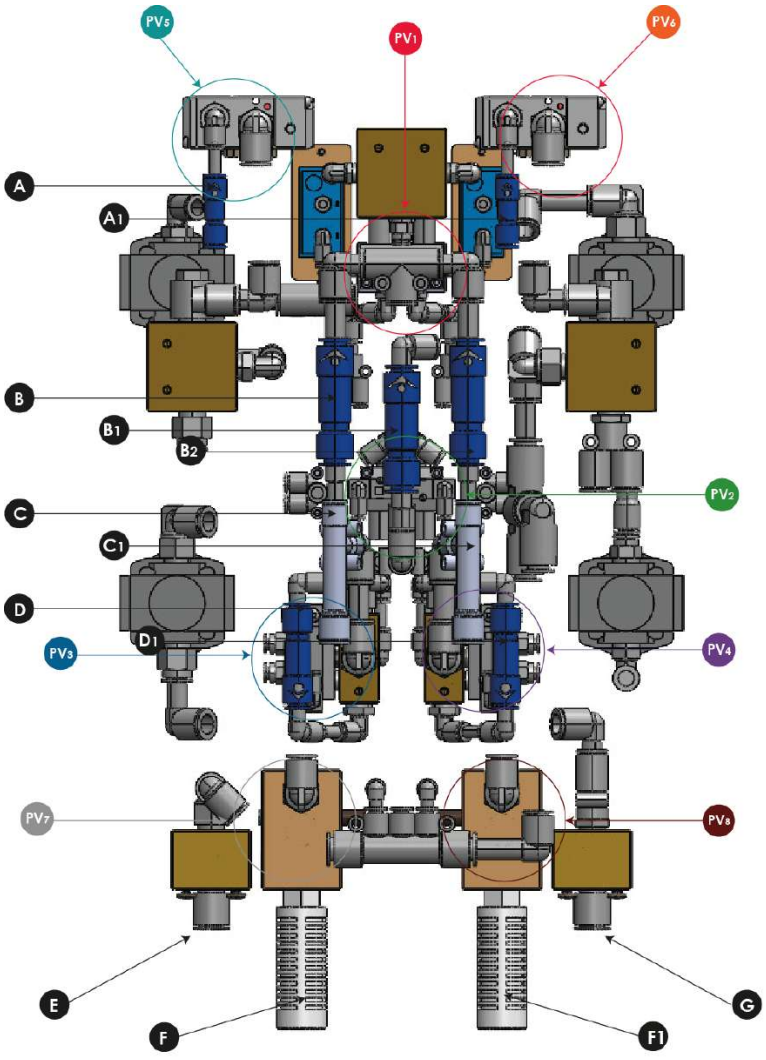




29 PNEUMATIC SPARE PARTS

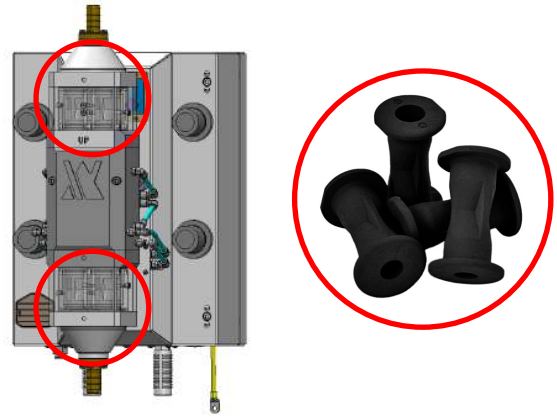
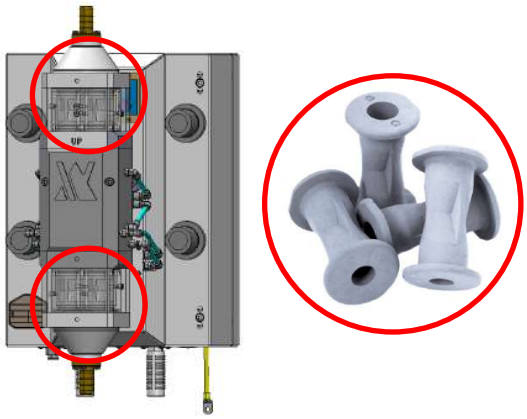
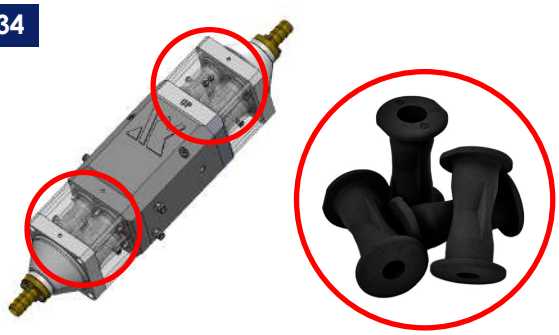
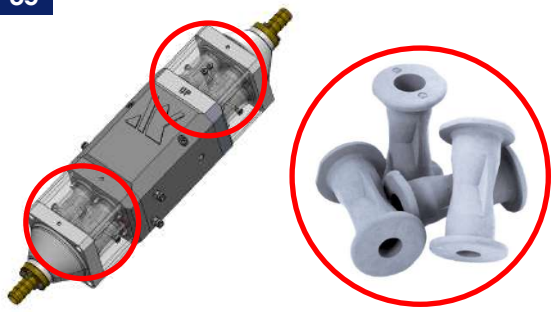


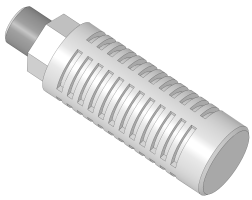
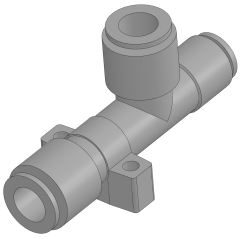
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01	Timer NEA COMPACT	10119
02	Regulator SUPPLY 1/4" | 1 Mpa_L10-L10	10025
03	Regulator PINCH VALVES 1/4" | 1 Mpa_L8 - L8	10100
04	Timer NEA COMPACT	10119
05	Regulator VACUUM 1/4" | 1 Mpa_D10 - L10	10147
06	Regulator TRANSPORT 1/4" | 1Mpa_L8-D8	10149



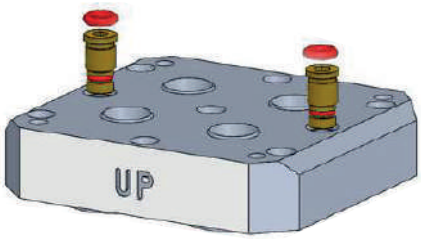
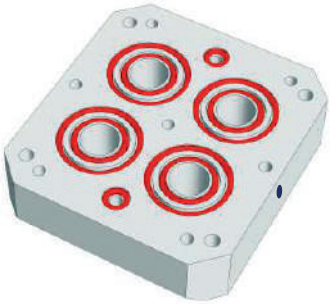
ACRONYM		Part Number (PN)
PV1	PV1	10144
PV2	PV2	10145
PV3	PV3	10150
PV4	PV4	10151
PV5	PV5	10152
PV6	PV6	10152
PV7	PV7	10153
PV8	PV8	10153
A-A1	NON RETURN VALVE ø6	SMC | AKH06-00
B-B1-B2	NON RETURN VALVE ø10	SMC | AKH10-00
C-C1	VACUUM RIGHT & LEFT	10023
D-D1	NON RETURN VALVE ø8	SMC | AKH08-00
E	ON/OFF SELF CLEANING	
F-F1	SILENCERS	10021
G	ON/OFF TRANSPORT	

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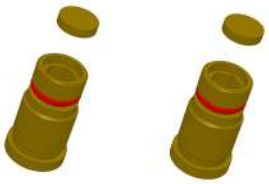
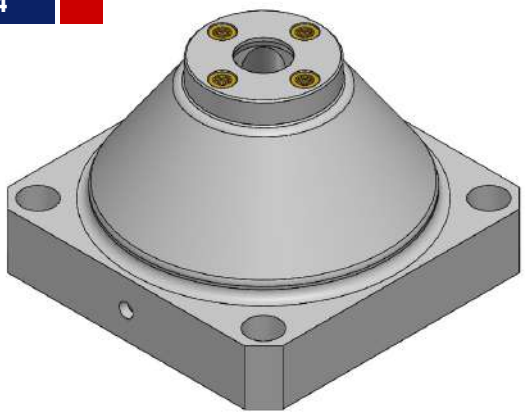
ITEM P/N:	Pcs	Description
10131-34 	1	NEA 540 COMPACT (ASSEMBLED) SELF CLEANING WITH P/N 10034
10131-35 	1	NEA 540 COMPACT - PUMP BODY_FDA COMPLIANT (ASSEMBLED) SELF CLEANING WITH P/N 10035
10138-34 	1	PUMP BODY ASSEMBLED NEA 540 COMPACT -WITH P/N 10034
10138-35 	1	PUMP BODY ASSEMBLED NEA 540 COMPACT - FDA COMPLIANT WITH P/N 10035

ITEM P/N:		Pcs	Description
10005		1	PINCH VALVES HOUSING BODY - NEA 430 ***INCLUDED:***
10005-34		1	PINCH VALVES HOUSING BODY - NEA 430 - WITH PN 10034 ***INCLUDED:*** 4pcs O-Ring Silicone 3024
10005-35		1	PINCH VALVES HOUSING BODY - NEA 430-WITH PN 10035 ***INCLUDED:*** 4pcs O-Ring Silicone 3024
10021		2	MUFFLER - NEA 430
10023		2	VACUUM GENERATOR- NEA 430

Inside of NEA pump, there are installed No 2 PN_ _ _ _ _.

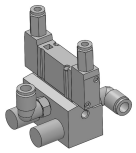
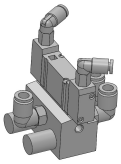
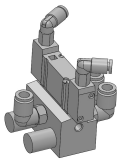
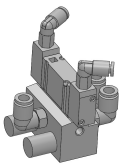
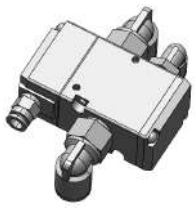
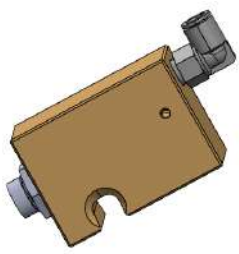
ITEM P/N:		Pcs	Description
10024		1	INTERMEDIATE BODY - INLET NEA440 ***INCLUDED:*** 2 pcs O-Ring 3024 4 pcs O-Ring 130 4 pcs O-Ring 3131 2 pcs Compass Filter Brass P/N 10007
10025		1	REGULATOR 1/4" - 1Mpa_L10|L10 ***REF: SUPPLY*** ***INCLUDED:*** All Fittings
10100		1	REGULATOR 1/4" - 1Mpa_L8|L8 ***REF: PINCH VALVES*** ***INCLUDED:*** All Fittings
10033		1	INTERMEDIATE BODY - OUTLET NEA440 ***INCLUDED:*** 2 pcs O-Ring 3024 4 pcs O-Ring 130 4 pcs O-Ring 3131 2 pcs Compass Filter Brass P/N 10007
10034		4	PINCH VALVES BLACK NO CONDUCTION - NEA 430 ***INCLUDED:*** 2pcs O-Ring Silicone 3024 2pcs Filter brass Sinterized 1pcs Sheath's mounting

Inside of NEA pump, there are installed No 2 PN_ _ _ _ _.

ITEM P/N:		Pcs	Description
10035		4	PINCH VALVES GREY - FOOD & PHARMA USE - NEA 430 ***INCLUDED:*** 2pcs O-Ring Silicone 3024 2pcs Filter brass Sinterized 1pcs Sheath's mounting
10007		2	COMPASS FILTER BRASS - NEA 430 ***INCLUDED:*** 2 pcs in sinterized brass for COMPASS 2 pcs O-Ring 3024 2 pcs O-Ring 6x1,5
10082		2	BRASS ADAPTER d.int.16 mm ***INCLUDED:*** 2 pcs brass adapter 2 pcs O-Ring
10083		2	INOX ADAPTER d.int.16 mm ***INCLUDED:*** 2 pcs inox adapter 2 pcs O-Ring
10084		1	INLET-OUTLET BODY - NEA 440

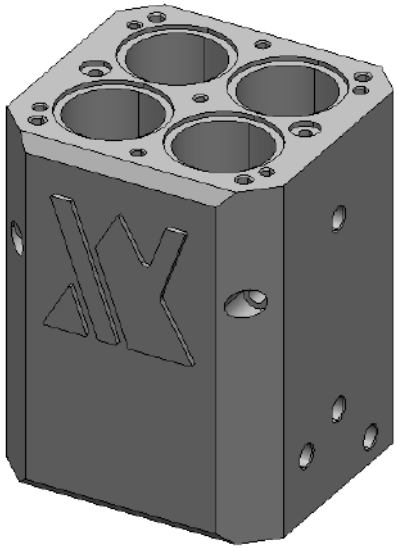
Inside of NEA pump, there are installed No 2 PN_ _ _ _ _.

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ITEM P/N:		Pcs	Description
10147		1	REGULATOR 1/4" - 1 Mpa_D10|L10 ***REF: VACUUM*** ***INCLUDED:*** All Fittings
10149		1	REGULATOR 1/4" - 1Mpa_L8|D8 ***Ref: TRANSPORT*** ***INCLUDED:*** All Fittings
10144		1	PV1 - CYCLE VALVE - NEA COMPACT ***INCLUDED:*** All Fittings
10145		1	PV2-PINCH VALVES - NEA COMPACT ***INCLUDED:*** All Fittings
10150		1	PV3_ RIGHT TUBES VALVE NEA 500 COMPACT ***INCLUDED:*** All Fittings
10151		1	PV4_LEFT TUBES VALVE NEA 500 COMPACT ***INCLUDED:*** All Fittings
10152		1	PV5|PV6 _ CLEANING VALVE NEA 500 COMPACT ***INCLUDED:*** All Fittings
10153		1	PV7|PV8 _ MUFFLER VALVE NEA 500 COMPACT ***INCLUDED:*** All Fittings

Inside of NEA pump, there are installed No 2 PN_ _ _ _ _.

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ITEM P/N:		Pcs	Description
10141		1	FLUIDIZING TUBES HOUSING BODY NEA 540 COMPACT ***INCLUDED:*** 8 pcs O-Ring Silicone 3131 4 pcs O-Ring Silicone 3024 ALL fittings
10120		4	FLUIDIZING TUBES - NEA 140 ***INCLUDED:*** All O-Ring
10097		1	GASKET KIT/O-RINGS-PUMP BODY NEA 440 ***INCLUDED:*** ALL O-Rings
10119		1	TIMER NEA COMPACT ***INCLUDED:*** 2 pcs Fittings

Inside of NEA pump, there are installed No 2 PN_ _ _ _ _.

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ITEM P/N:	Pcs	Description
	2	CLOSING ZIPPER ELESA 425611-1-3

DECLARATION OF CONFORMITY

Model: Dust pump NEA 540 COMPACT, Dense phase transfer pump (DPLP : Dense Phase Low Pressure)

Applicable directives:

94/9 / EC (ATEX equipment for use in potentially explosive atmospheres)
98/37 / EEC (Machinery)

Standards used for Compliance:

EN13463-1 EN1127-1
EN12100-1 EN13463-5

Principles:

This product was manufactured in accordance with good engineering practice.
The specified product complies with the directives and standards described above.

Mark flammable atmosphere: Ex II 3 D c T6

Note: The year of equipment manufacture appear in the serial number. "PL20-03"
it means the product was manufactured in 2020, "03" at the end indicate the production lot of the year.

Date: March 03, 2026

Verne Technology S.r.l.
CEO
Carlo Perillo



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