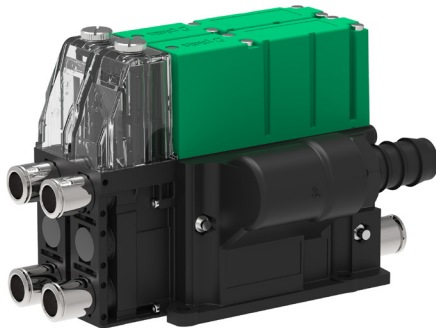


MANUAL

piPUMP 23



Original manual language is English.



CONTENTS

Features4

Indended use and misuse.....5

Overview.....6

Installation.....11

Mounting.....13

Maintenance.....14

Technical data.....18

FEATURES

- ▶ Flexible configuration options to perfectly match application needs.
- ▶ Configurable vacuum ejector based on COAX® technology with integrated controls.
- ▶ Optimized design for high reliability and fast cycle times.

INTENDED USE

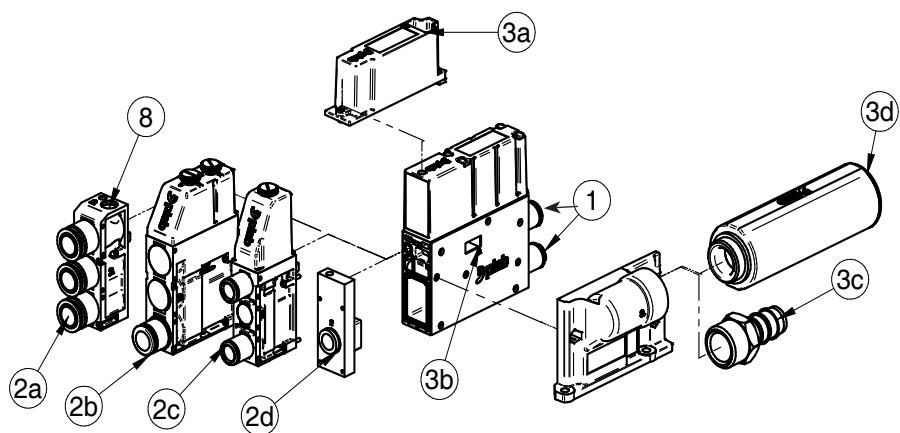
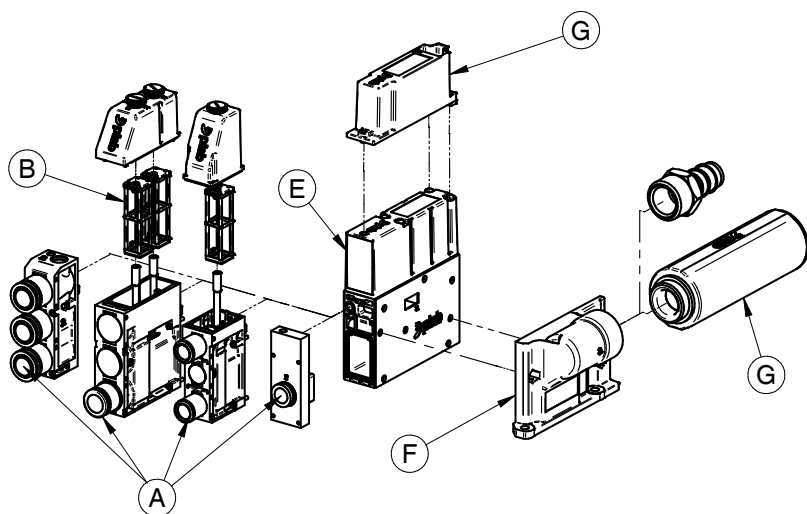
- ▶ The product shall be used to evacuate air (non liquids) from a volume to create vacuum for gripping, holding and processes
- ▶ The product can be used to blow air for surface cleaning and to remove vacuum from a volume
- ▶ The product shall be used in environments within the product's specifications and certifications
- ▶ The product shall be installed in accordance to installation instructions
- ▶ The product shall be maintained in accordance to maintenance instructions
- ▶ Troubleshooting shall be conducted in accordance to manual instructions
- ▶ The safety instructions shall be followed
- ▶ For professional use only.

MISUSE

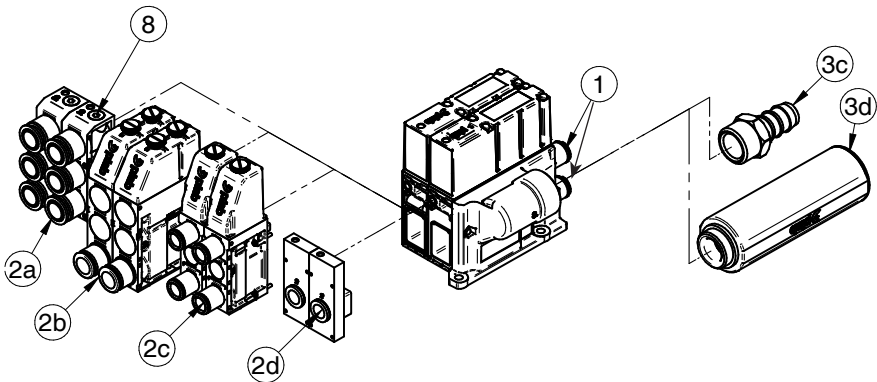
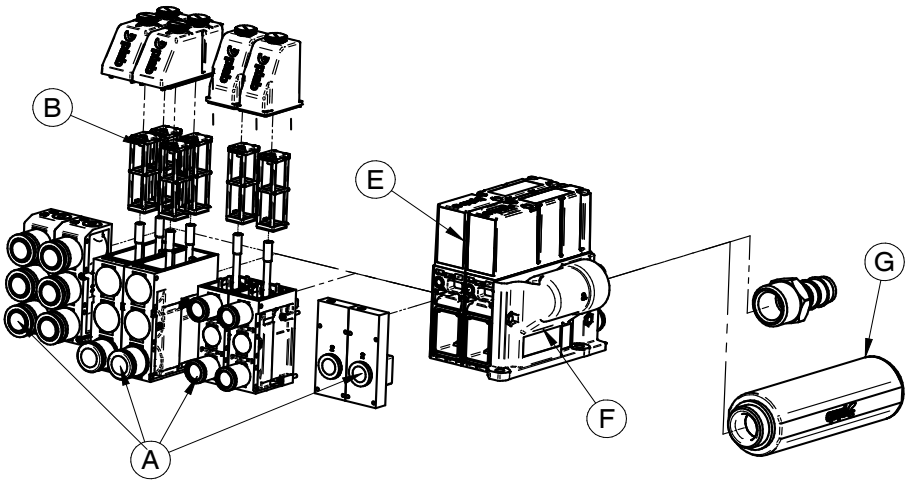
- ▶ Result from readily predictable human behavior.
- ▶ The product shall not be used to evacuate liquids.
- ▶ The product shall not be used to evacuate solid content without the use of filter.
- ▶ The product shall not be used in a fully closed compartment (non ventilated) if not exhaust is piped away.
- ▶ The product shall not be used as stand alone safety system to fulfill international lifting norms.
- ▶ The exhaust shall not be restricted or blocked.
- ▶ The vacuum and exhaust port shall not simultaneous be blocked when unit is generating vacuum.
- ▶ The product shall not be used to create vacuum or blow for other purposes than the intended use.
- ▶ Vacuum and exhaust air can cause severe injuries, keep hands, legs, hair and eyes away from vacuum inlets and exhausts.
- ▶ Do not install or operate you product if damaged.
- ▶ Do not operate the product if compressed air line is not properly secured, loose compressed air lines can cause severe injuries.
- ▶ Using compressed air pressure and/or electrical voltage outside specification can cause severe damage due to performance loss.
- ▶ Blow-off functions or ejector exhaust shall not be used to pressurize sealed compartments such as cylinders and/or tank-volumes.

OVERVIEW

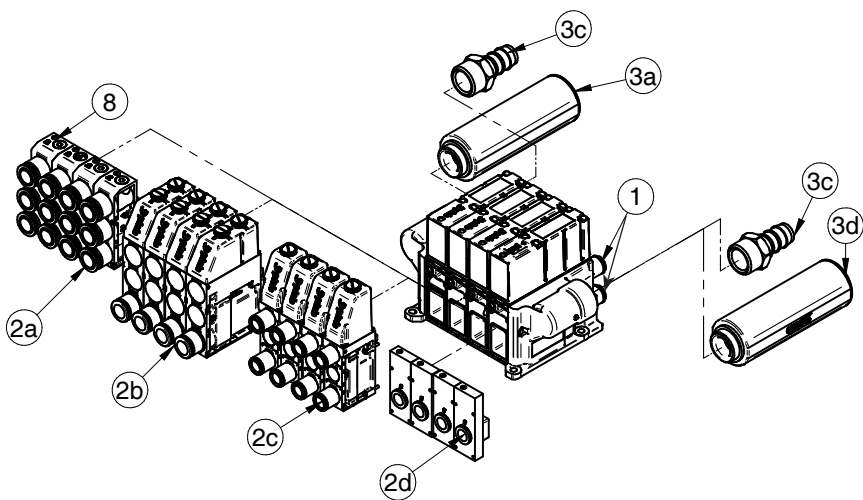
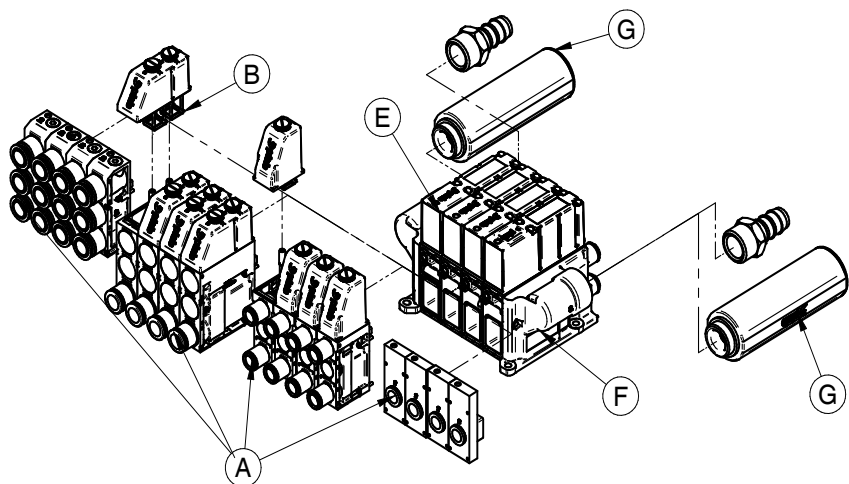
1 channel



2 channels



3-4 channel



Pos.	Description	Note
A	Vacuum connection block	
B	Vacuum filter	
E	1x COAX® cartridge / 2x COAX® cartridge	
F	Gable	Exhaust on the side, G 3/4" threads
G	Side mounted silencer/ Top mounted silencer	

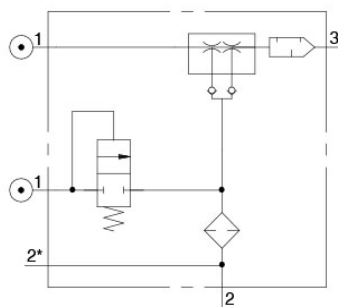
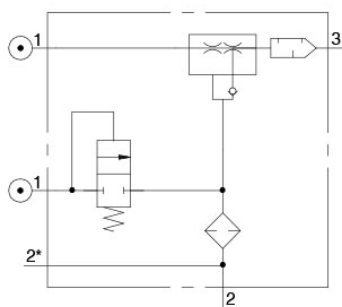
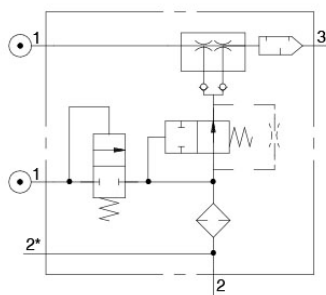
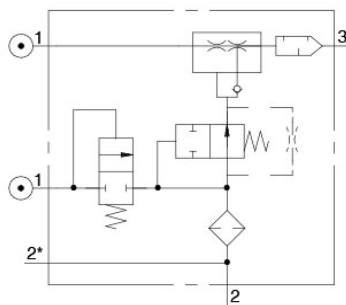
Connections

Pos.	Description	Size
1	Compressed air	Push-in: Ø6 / Ø1/4" / Ø8 (Ø5/16") / Ø10 / Ø3/8"
2a	Vacuum port (1-3 ports)	Push-in: Ø10 / Ø3/8" / Ø12 / Ø1/2" Barb: Ø12 / Ø1/2"
2b	Vacuum port (1-3 ports)	Push-in: Ø10 / Ø3/8" / Ø12 / Ø1/2" Barb: Ø12 / Ø1/2"
2c	Vacuum port (1-3 ports)	Push-in: Ø8 (Ø5/16") / Ø10 / Ø3/8"
2d	Vacuum port	Push-in: Ø10
3a	Exhaust on top (top mounted silencer)	
3b	Exhaust on the side (integrated silencer/ topmounted silencer)	
3c	Central exhaust (no side mounted silencer)	
3d	Central exhaust, side mounted central silencer	
8	Sensing port	Plugged / G1/8

Pneumatic diagrams

Note: Filter is optional

1. Compressed air, 2. Vacuum, 3. Exhaust



INSTALLATION



WARNING! Do not install or operate your piPUMP 23 if damaged during transport, handling or use. Damage may result in bursting and cause injury or property damage.

Pneumatic installation

piPUMP23 can be installed in any orientation. Ensure that the exhaust from the ejector is not blocked. When connecting oil free compressed air and vacuum hoses to the unit, it is important to choose proper pipe dimensions to prevent pressure drops. Avoid restrictive inner diameters, long piping distances, sharp bends and small sized connections.

Pneumatic technical information (per channel)

		Unit	COAX®			
			SX12		SX42	
			x1	x2	x1	x2
Feed pressure, pump at opt.		MPa [psi]	0.504 [73.2]	0.515 [74.7]	0.47 [68.2]	0.54 [78.3]
Feed pressure, nozzle at opt.		MPa [psi]	0.5 [72.5]		0.43 [62.4]	
Max vacuum at opt. pressure		-kPa [-inHg]	85 [25]		90 [26.6]	
Air consumption at opt. pressure		NI/s [scfm]	0.72 [1.52]	1.44 [3.05]	2.21 [4.68]	4.42 [9.36]
Max vacuum flow at opt. pressure		NI/s [scfm]	1.22 [2.58]	2.44 [5.16]	3.46 [7.33]	6.92 [14.7]
Flow, blow off at 0.5 MPa [72.5 psi] No counter pressure / Counter pressure 0.1 MPa [14.5 psi]	Without hatch	NI/s [scfm]	0-4.8/0 [0-0.16/0]		0-5.6/0 [0-0.2/0]	
	With hatch, ABO		0-6.1/4.4 [0-0.21/0.16]		0-6.7/4.3 [0-0.24/0.15]	
	With hatch, PVH					

Compressed air quality

Quality of the compressed air shall fulfil the requirements in DIN ISO 8573-1 class 4.

Minimum recommended hose diameter, outer/inner diameter

Cartridge	Vacuum		Compressed air 1 channel		Compressed air 2 channel		Compressed air 3-4 channel	
	mm	Inches	mm	Inches	mm	Inches	mm	Inches
SX12	8/6	5/16 / 1/4	6/4	1/4 / 5/32	8/6	5/16 / 1/4	2x 8/6	2x 3/8 / 5/16
SX12 x2	10/8 *	3/8 / 5/16 *	8/6	5/16 / 1/4	10/8	3/8 / 5/16	2x 10/8	2x 3/8 / 5/16
SX42	12/10	1/2 / 3/8	8/6	5/16 / 1/4	10/8	3/8 / 5/16	2x 10/8	2x 3/8 / 5/16
SX42 x2	12/10 *	1/2 / 3/8 *	10/8	3/8 / 5/16	12/10	1/2 / 3/8	2x 12/10	2x 1/2 / 3/8

*Recommended minimum dual fittings.

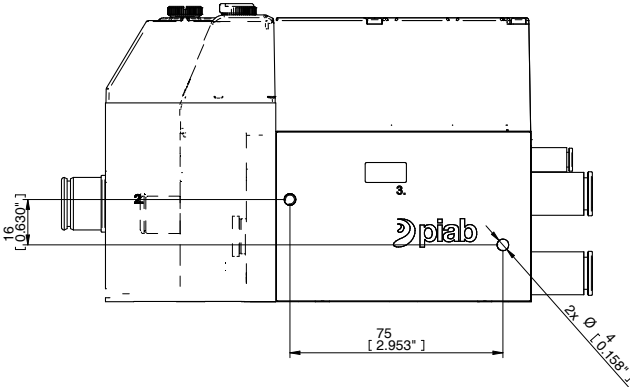
Minimum recommended hose diameters are valid for hose lengths up to 2m (6 ft). For longer lengths, use larger hose diameters or multiple hoses to avoid reduced vacuum flow performance and the risk for false vacuum signals from sensors/switches.

If 3-4 units are used in a manifold with a push-in, please use both compressed air supply ports for optimum performance

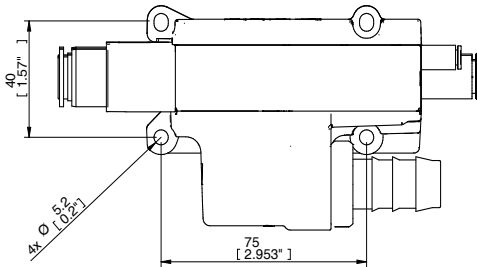
Use hose clamps and or cable ties to avoid tension and damage to the hose and hose connectors

MOUNTING

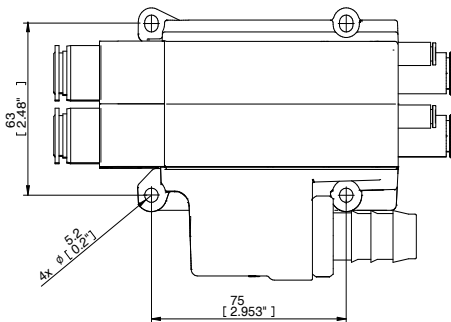
Side mounting 1 channel



1 channel

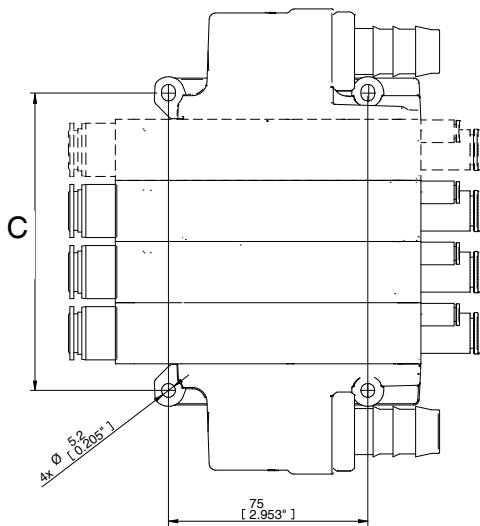


2 channels



MOUNTING

3-4 channels

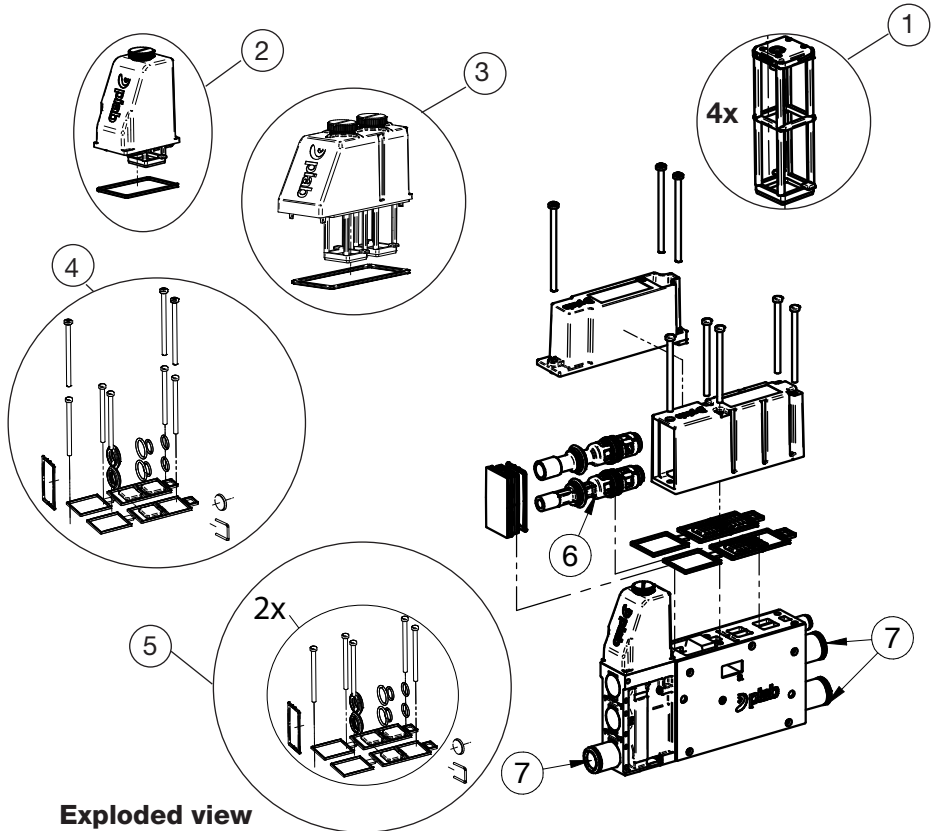


	Unit	3 channels	4 channels
C	mm [in]	89 [3.50"]	112 [4,4"]

MAINTENANCE

Before installation and when maintaining the piPUMP23 check the product and attachment for damages or wear (such as hoses, hose clamps, clips etc) and replace the damage or worn parts as described in the maintenance section.

MAINTENANCE



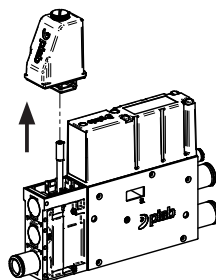
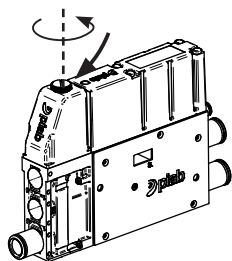
Exploded view

Spare parts

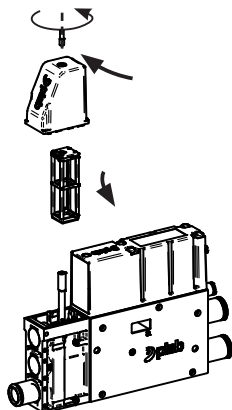
Pos	Art. No	Description
1	0205487	Filter element FM23-50, 4 pcs-piCOMPACT®23/piPUMP 23
2	0205572	Filter holder kit FM23-50-piCOMPACT®23/piPUMP 23
3	0205573	Filter holder kit FM23L-50-piCOMPACT®23/piPUMP 23
4	0205484	Spare Part Kit-piCOMPACT®23/piPUMP 23
5	0207377	Spare Part Kit stacked-piCOMPACT®23/piPUMP 23
7	0209028	Push-in connector 6 mm, EC20, 5 pcs
7	0209029	Push-in connector 1/4", EC20, 5 pcs
7	0209030	Push-in connector 8 mm EC20, 5 pcs
7	0209031	Push-in connector 10 mm, EC20, 3 pcs
7	0209032	Push-in connector 3/8", EC20, 3 pcs
7	0209033	Push-in connector 10 mm, EC30, 5 pcs
7	0209034	Push-in connector 3/8", EC30, 5 pcs
7	0209035	Push-in connector 12 mm, EC30, 5 pcs
7	0209036	Push-in connector 1/2", EC30, 5 pcs
6	0205575	COAX® cartridge SX12
6	0205724	COAX® cartridge SX42

Replacement of piPUMP 23 filter(s)

1. Release screw on top of filter to release filter holder and filter.
2. Lift up filter holder and filter.

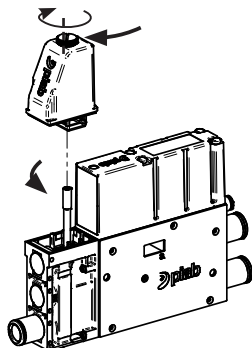


3. Release the screw completely to remove old filter from filter holder.
4. When the filter is out, check that no powder or dust is stuck inside filter base.



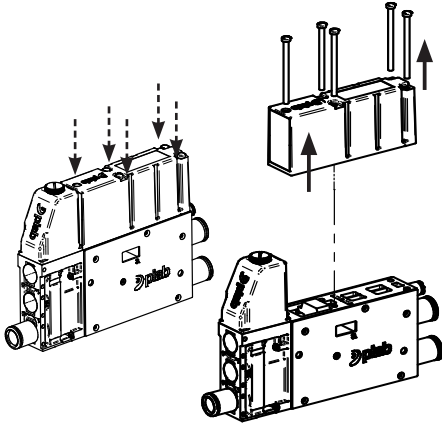
Note: If you have a piPUMP23 comprising two filters, remove the two screws on top of filter holder before changing filter.

5. Place the new filter in the filter holder and place the filter holder in its position on the pump and tighten the screw again.

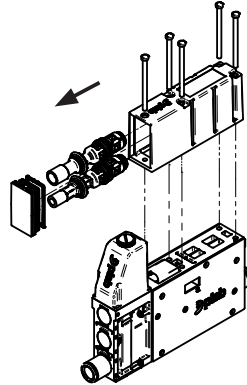


Replacement of COAX® cartridge

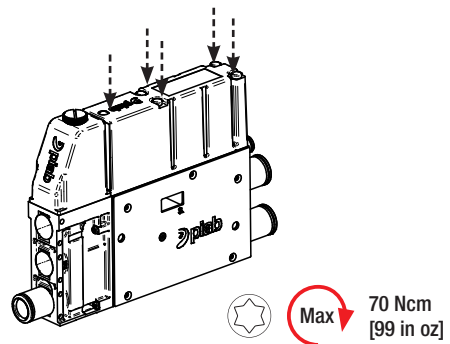
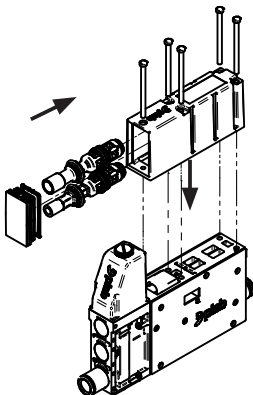
1. Release screws on top of the chip house and lift up the chip house.



2. Remove screws completely and remove the chip plug and take out the COAX® cartridges. Remove COAX® by carefully using a small screwdriver or a pliers. Avoid using any tool **inside** the COAX® cartridge in order to remove it.



3. Replace the COAX® cartridges with new COAX® cartridges and remount the chip plug. Ensure COAX® o-rings are greased before mounting of COAX®. Use Klüber-synth UH1 14-151 or similar grease.
4. Remount the chip house and tighten the screws.



Note: when your piPUMP 23 is configured with a top mounted silencer, remove the top mounted silencer (three screws) before demounting the chip house.

TECHNICAL DATA

Pneumatic technical information

		Unit	COAX®			
			SX12		SX42	
			x1	x2	x1	x2
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Max vacuum flow at opt. pressure		NI/s [scfm]	1.22 [2.58]	2.44 [5.16]	3.46 [7.33]	6.92 [14.7]
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	With hatch, ABO		0-6.1/4.4 [0-0.21/0.16]		0-6.7/4.3 [0-0.24/0.15]	
	With hatch, PVH					

Other data / environmental data

Temperature range	-10 - 50°C [14-122°F]
Air humidity	% RH 35-85
Materials	PA, NBR, SS, PP, PU, Brass, Al

Values specified are tested at:

Room temperature (20°C [68°F] ± 3°C [5.5°F]).
 Standard atmosphere (101.3 [29.9 inHg] ± 1.0 kPa [0.3 inHg]).
 Relative humidity 0-100%.
 Compressed air quality, DIN ISO 8573-1 class 4.



WARNING! Do not install or operate your piPUMP 23 if damaged during transport, handling or use. Damage may result in bursting and cause injury or property damage.

(GB) Safety
(DK) Advarselsymboler
(DE) Warnsymbole
(ES) Señales de advertencia
(FR) Sécurité

(IT) Segnali di avvertenza
(NL) Waarschuwingsymbolen
(NO) Sikkerhet
(PT) Sinais Avisadores

(SE) Säkerhet
(FI) Varoitusmerkit
(ZH) 安全
(PL) Bezpieczeństwo
(RU) Безопасность



- Vacuum force
- Vakuumkraft
- Vakuumkraft
- Fuerza de vacío
- Force d'aspiration
- Potenza di aspirazione
- Vacuumkracht
- Vakuumkraft
- Vácuo ligado
- Vakuumkraft
- Siła ssania
- Voimakas imu
- Сила вакуума
- 真空吸力



- Exhaust
- Udblæs
- Abluft
- Aire procedente
- Evacuation de l'air
- Aria di scarico
- Uitlaatlucht
- Eksos
- Saida de ar
- Utblås
- Poistoilma
- Wylot
- Выхлоп
- 排气



- Unrestricted exhaust
- Forbudt blokere udblæsningen
- Abluft nicht blockieren
- Prohibido bloquear la salida del aire
- Interdit de bloquer l'évacuation de l'air
- Lo scarico della pompa non deve
- essere ostruito
- Pomputlaat vrijhouden
- Forbudt å blokkere eksos
- O escape da bomba deve ser livre
- Förbjudet blockera utblås
- Ulospuhalluksen esto kielletty
- Nieograniczony wylot
- Неограниченный выхлоп
- 自由排气



- Wear ear protection if you are working closer than 2-3m from the vacuum ejector in operation.



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No need to compromise

Original manual language is English.

www.piab.com