

Evo

FRL



 AIGNEP





AIR TREATMENT UNIT



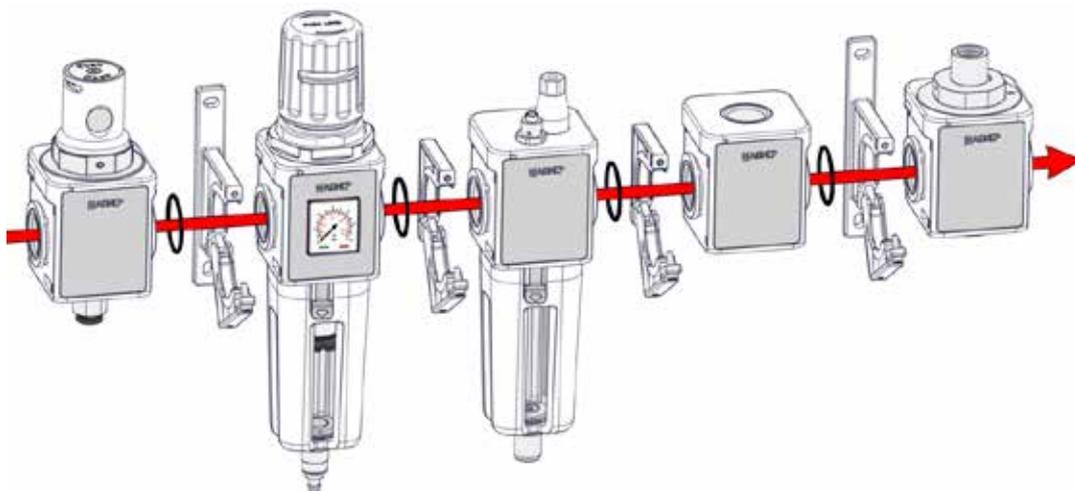
FRL Evo Series

TECHNICAL CHARACTERISTICS FRL 1-2



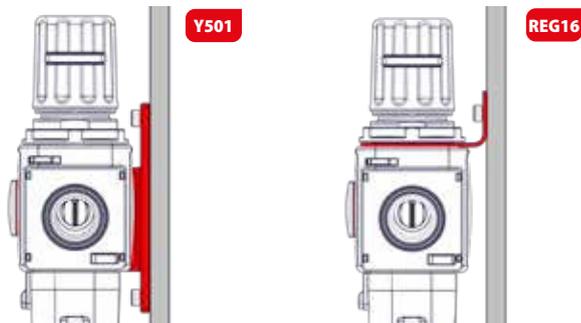
Basic Assembly

The "FRL Evo" line is modular and the connection between each unit is simplified thanks to the connection brackets. The assembly of the modules may change according to individual use. To operate, make sure the shut off valve is in the first position and the soft start valve is in the last. There is an arrow on every unit to indicate the correct direction of air flow.



Mounting Instructions

Two mounting brackets are available for the FRL Evo Series to give the end user 2 different mounting options.



Removing the Bowl

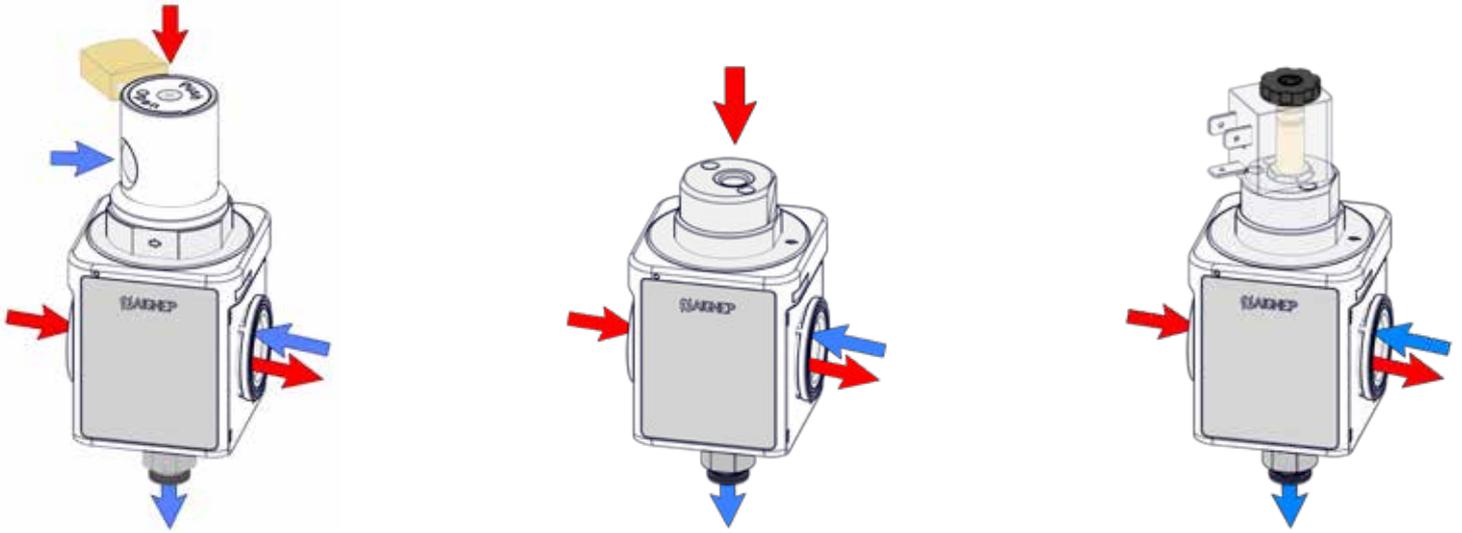
To release the bowl, press down the button with the arrow and rotate the bowl clockwise as shown in the drawing, then pull downward. The windows in the bowl allow you to view the level of condensation in the filter, or the amount of oil in the lubricator.





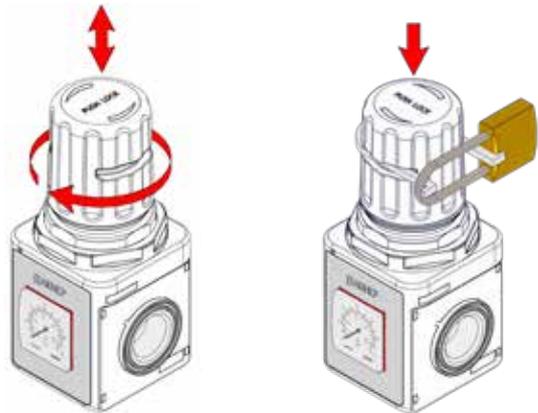
Shut Off Valves

3 versios of the Shut Off Valves are available: Manual with lock and anti-tampering system, pneumatic and electro-pneumatic.



Regulators

Regulators are available with a built-in manometer or without. The adjustor knobs can lock into place and come with an anti-tampering system. Assembly kits for 1/8" manometer are available upon request.



Regulators

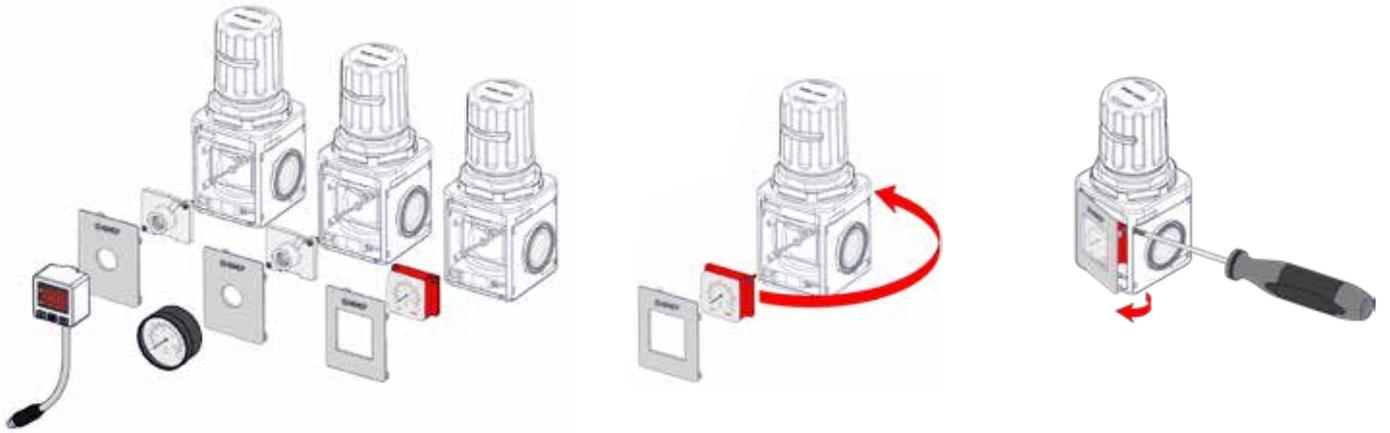
Regulators can be assebled together. Whether they have the built-in manometer or not, they all can be connected.





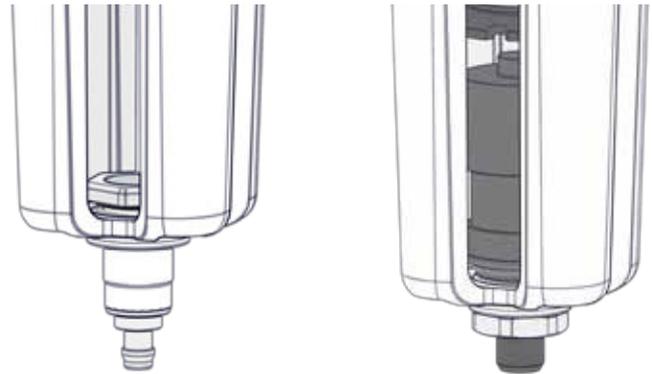
Regulators

Several options of manometers and pressure switches are available. Manometers and pressure switches can be inverted if desired.



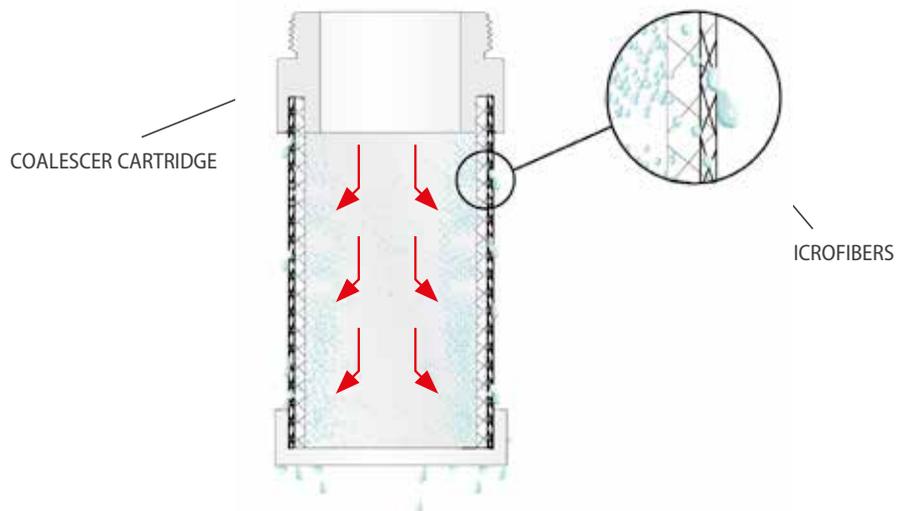
Condensation Drains

The condensation drain is available in 2 options, with vacuum or automatic with float.



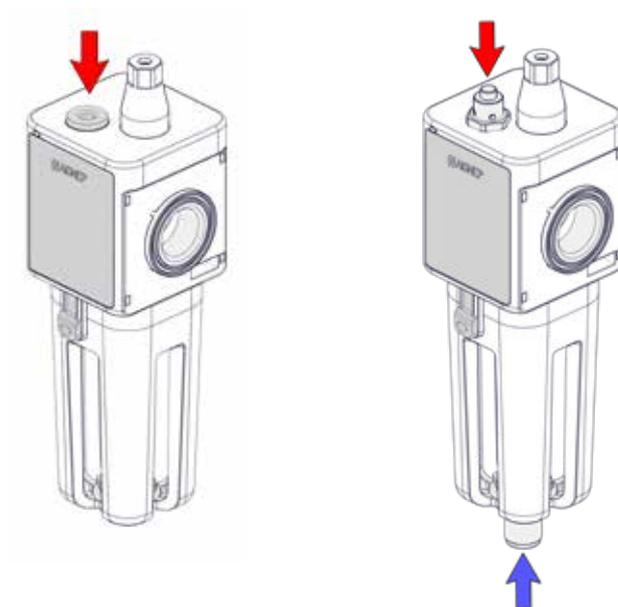
Coalescer Filter

20 μm, 5 μm filters and 0.01 μm coalescer filter.



**Lubricators**

The lubricator unit is available in 2 options, with manual loading or with automatic vacuum-operated loading.

**Soft Start Valve**

Soft start valve with adjustment screw.





TECHNICAL CHARACTERISTICS



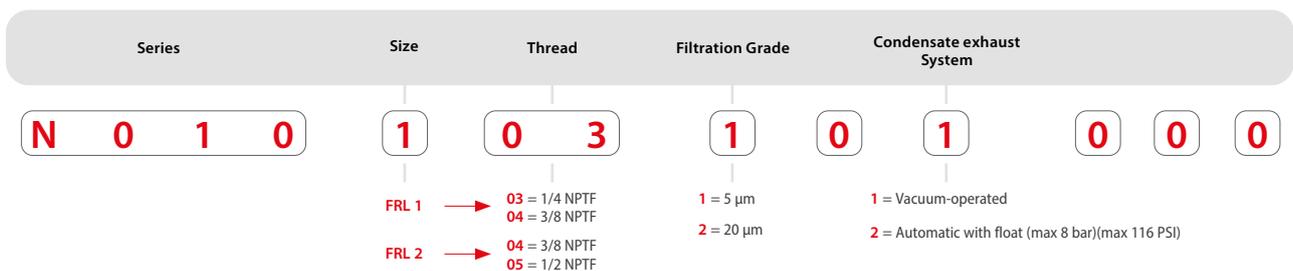
Reference standard



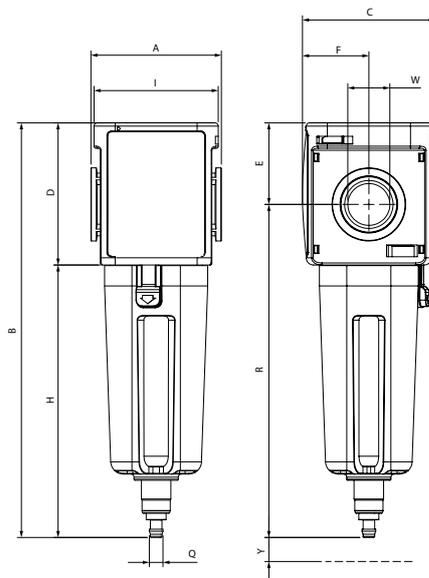
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2500 NI/min	4100 NI/min
MOUNTING SCREWS	M5 x 15	
BOWL CAPACITY	28 cm ³	37 cm ³
FILTRATION GRADE	5 μm 20 μm STANDARD	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



Part Numbering System



N010



Dimensions - FRL 1

A	B	C	D	W	E	F	H	I	Q	R	T
51	176	51	57	1/4 - 3/8	32.5	25.5	119	47.5	E.D .256 (6.5)	144	7

Dimensions - FRL 2

A	B	C	D	W	E	F	H	I	Q	R	T
62	197.5	63	68	3/8 - 1/2	39	31.5	129.5	59	E.D .256 (6.5)	158.5	9.5

DEP = Vacuum-operated

A = Automatic

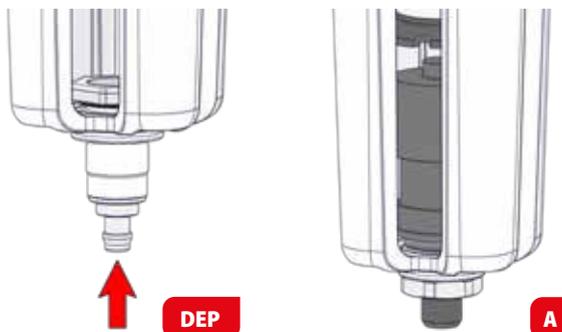
Part Number	Size	Thread (NPTF)	Filtration	Flow Rate	Exhaust
N010 103 201 000	FIL 1	1/4	20 µm	2500 NI/min	DEP
N010 104 201 000	FIL 1	3/8	20 µm	2500 NI/min	DEP
N010 104 202 000	FIL 1	3/8	20 µm	2500 NI/min	A
N010 204 201 000	FIL 2	3/8	20 µm	4100 NI/min	DEP
N010 205 201 000	FIL 2	1/2	20 µm	4100 NI/min	DEP
N010 205 202 000	FIL 2	1/2	20 µm	4100 NI/min	A



Condensation Drain

DEP: The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurize and will drain.

A: The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



N015

COALESCER FILTER



TECHNICAL CHARACTERISTICS



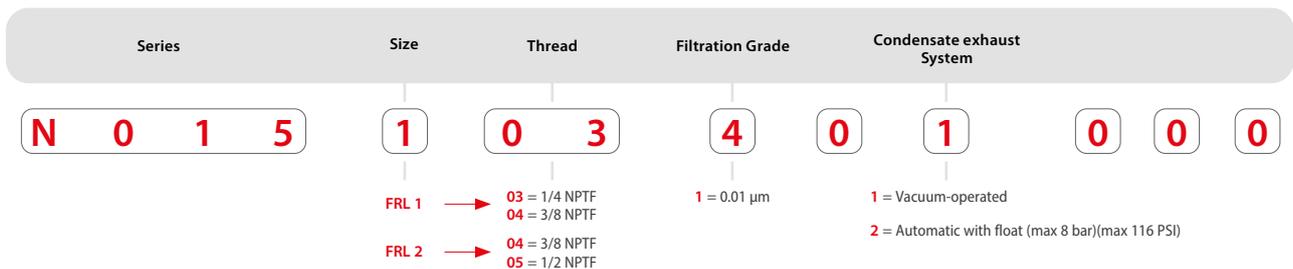
Reference standard



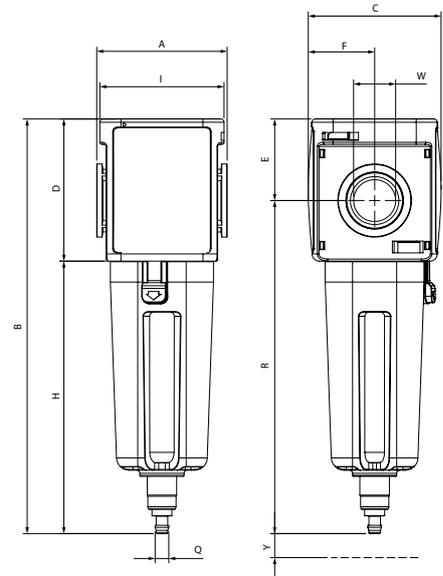
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	800 NI/min	850 NI/min
MOUNTING SCREWS	M5 x 15	
BOWL CAPACITY	28 cm ³	37 cm ³
FILTRATION GRADE	0.01 μm	
FLUID	5 μm filtered Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



Part Numbering System



N015



Dimensions - FRL 1

A	B	C	D	W	E	F	H	I	Q	R	Y
51	176	51	57	1/4 - 3/8	32.5	25.5	119	47.5	E.D .256 (6.5)	144	7

Dimensions - FRL 2

A	B	C	D	W	E	F	H	I	Q	R	Y
62	197.5	63	68	3/8 - 1/2	39	31.5	129.5	59	E.D .256 (6.5)	158.5	9.5

DEP = Vacuum-operated

NB: With Coalescer Filter Series N015, we recommend installing a 5 µm Filter upstream.

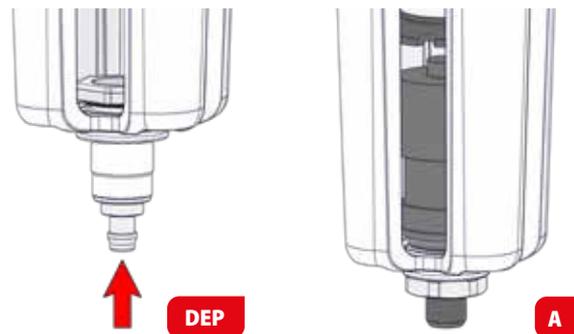
Part Number	Size	Thread (NPTF)	Filtration	Flow Rate	Exhaust
N015 103 401 000	FC 1	1/4	0.01 µm	800 NI/min	DEP
N015 104 401 000	FC 1	3/8	0.01 µm	800 NI/min	DEP
N015 104 402 000	FC 1	3/8	0.01 µm	800 NI/min	A
N015 204 401 000	FC 2	3/8	0.01 µm	850 NI/min	DEP
N015 205 401 000	FC 2	1/2	0.01 µm	850 NI/min	DEP
N015 205 402 000	FC 2	1/2	0.01 µm	850 NI/min	A



Condensation Drain

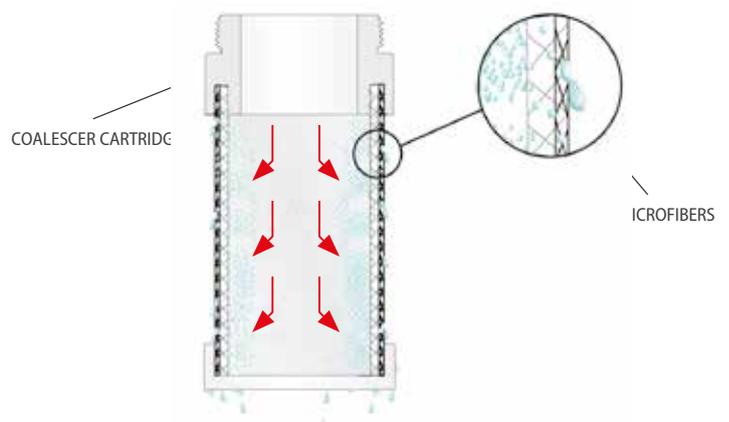
DEP: The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurize and will drain.

A: The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



Coalescer Cartridge

The coalescer cartridge is made of a microfiber layer with an external stainless steel structure. The coalescer cartridge uses inertial impact, interception and coalesce to form liquid particles into drops. These drops will fall into the bottom of the bowl. The coalescer filter is used as an oil separator which removes oil-vapours from the air output. We recommend installing a 5 µm filter upstream to protect the coalescing filter from choking the cartridge.



N020

REGULATOR

 **TECHNICAL CHARACTERISTICS**

 **Reference standard**

1907/2006
REACH ✓

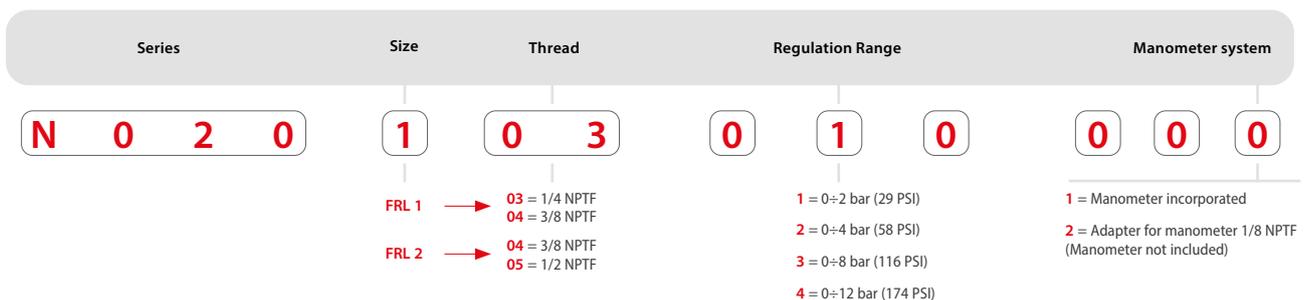
2011/65/CE
RoHS ✓

PED
2014/68/UE

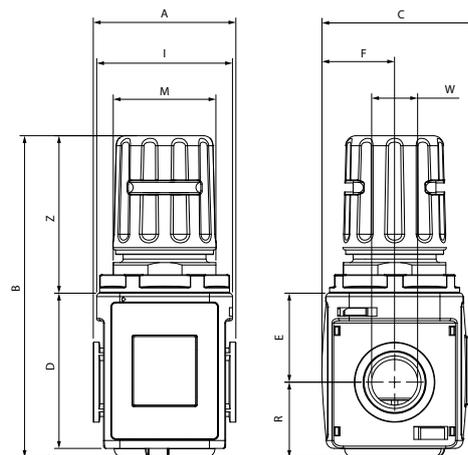
II 2GD Ex h TX


	FRL 1	FRL 2
 METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
 TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
 6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
 MOUNTING SCREWS	M5 x 15	
 REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
 FLUID	Compressed Air	
 MAX PRESSURE	18 bar (260 PSI)	
 TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
 MOUNTING POSITION	Vertical	

 **Part Numbering System**



N020



Dimensions - FRL 1

A	B	C	D	W	E	F	I	R	M	Z
51	117	57	57	1/4 - 3/8	32.5	25.5	47.5	28	M37 x 1.5	57

Dimensions - FRL 2

A	B	C	D	W	E	F	I	R	M	Z
62	141.5	67	68	3/8 - 1/2	39	31.5	59	33	M37 x 1.5	72.5

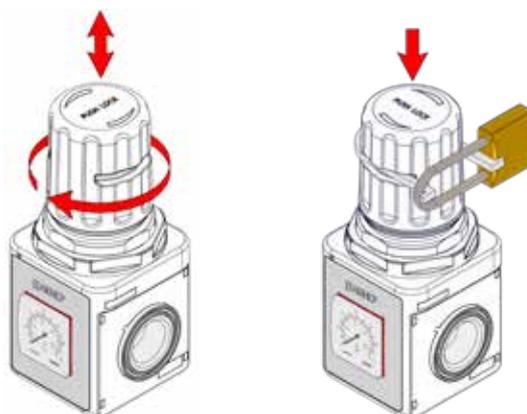
Part Number	Size	Thread (NPTF)	Regulation	Flow Rate
N020 103 030 000	REG 1	1/4	0 ÷ 8 bar (116 PSI)	2700 NI/min
N020 104 030 000	REG 1	3/8	0 ÷ 8 bar (116 PSI)	2700 NI/min
N020 204 030 000	REG 2	3/8	0 ÷ 8 bar (116 PSI)	3500 NI/min
N020 205 030 000	REG 2	1/2	0 ÷ 8 bar (116 PSI)	3500 NI/min



Regulating the Air Pressure

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position.
The knob can be padlocked to prevent tampering.



N025

FRONTAL REGULATOR



TECHNICAL CHARACTERISTICS



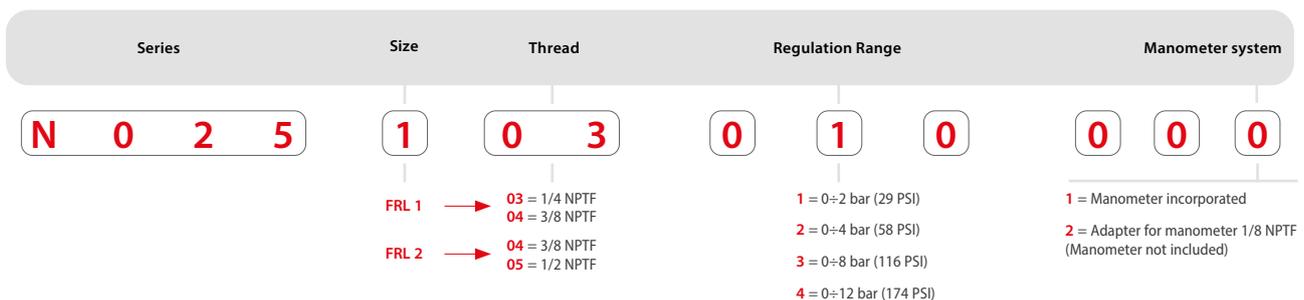
Reference standard



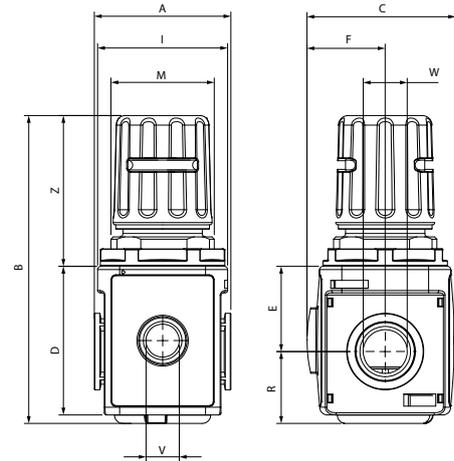
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
FLUID	Compressed Air	
MAX PRESSURE	18 bar	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	
FRONT THREADED	1/8" NPTF	3/8" NPTF



Part Numbering System



N025



Dimensions - FRL 1

A	B	C	D	W	E	F	I	R	M	Z	V
51	117	57	57	1/4 - 3/8	32.5	31	47.5	28	M37 x 1.5	57	1/8

Dimensions - FRL 2

A	B	C	D	W	E	F	I	R	M	Z	V
62	114.5	67	68	3/8 - 1/2	39	35.5	59	33	M37 x 1.5	72.5	3/8

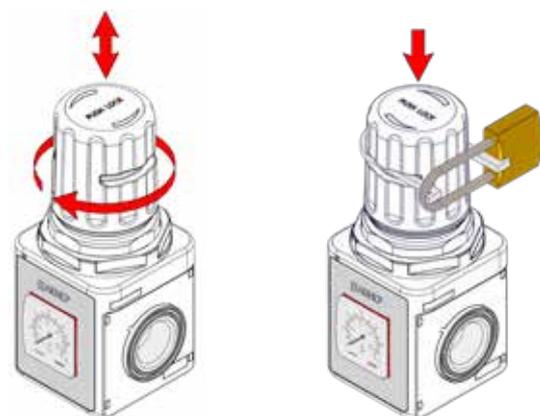
Part Number	Size	Thread (NPTF)	Regulation	Flow Rate
N025 103 030 000	REG F 1	1/4	0 ÷ 8 bar (116 PSI)	2700 NI/min
N025 104 030 000	REG F 1	3/8	0 ÷ 8 bar (116 PSI)	2700 NI/min
N025 204 030 000	REG F 2	3/8	0 ÷ 8 bar (116 PSI)	3500 NI/min
N025 205 030 000	REG F 2	1/2	0 ÷ 8 bar (116 PSI)	3500 NI/min



Regulating the Air Pressure

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position.
The knob can be padlocked to prevent tampering.



Regulators

Regulators can be assebled together. Whether they have the built-in manometer or not, they all can be connected.



N030

FILTER REGULATOR



TECHNICAL CHARACTERISTICS



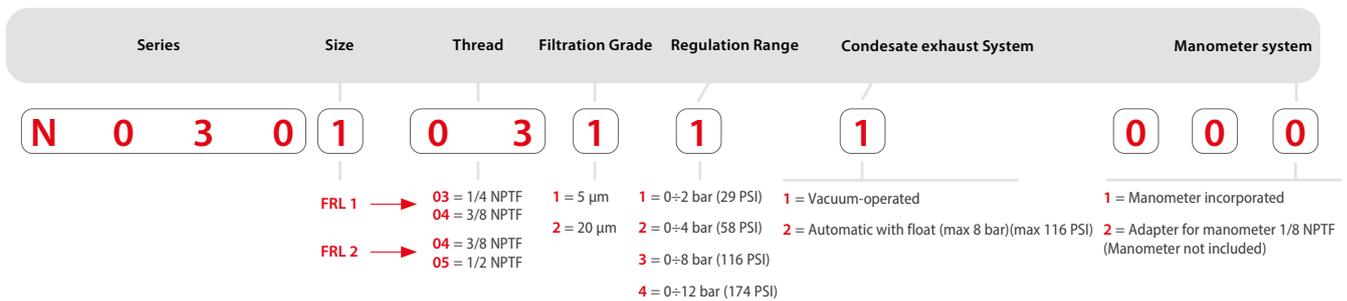
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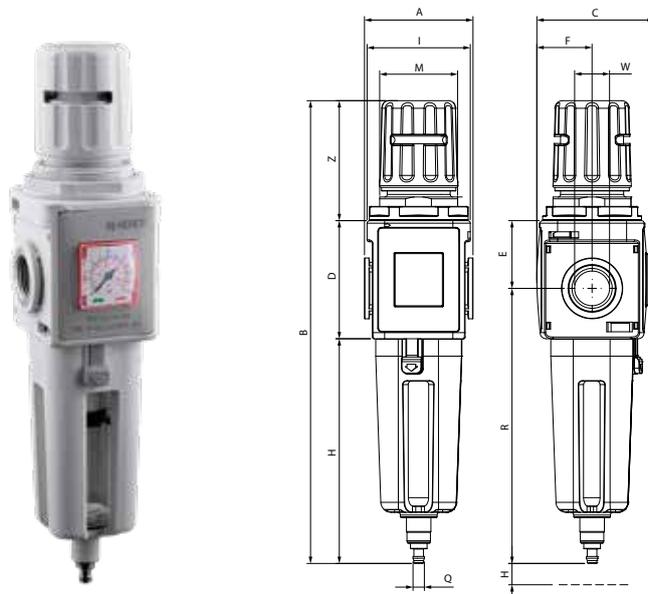
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2200 NI/min	3300 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm³	37 cm³
FILTRATION GRADE	5 μm 20 μm STANDARD	
REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



Part Numbering System



N030



Dimensions - FRL 1

A	B	C	D	W	E	F	H	I	M	R	Q	Z	Y
51	233	57	57	1/4 - 3/8	32.5	25.5	119	47.5	M37 x 1.5	144	E.D.256 (6.5)	57	7

Dimensions - FRL 2

A	B	C	D	W	E	F	H	I	M	R	Q	Z	Y
62	270	67	68	3/8 - 1/2	39	31.5	129.5	59	M47 x 1.5	158.5	E.D.256 (6.5)	72.5	9.5

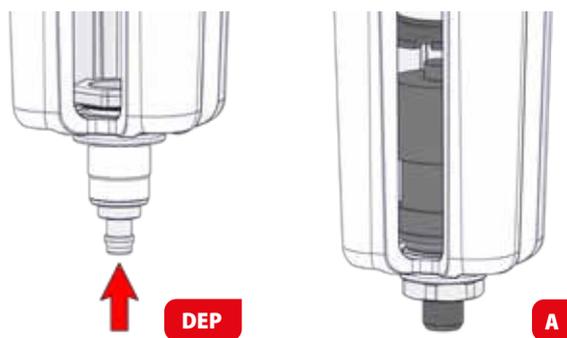
DEP = Vacuum-operated A = Automatic

Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate	Exhaust
N030 103 231 000	FR 1	1/4	20 µm	0 ÷ 8 bar (116 PSI)	2200 NI/min	DEP
N030 104 231 000	FR 1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	2200 NI/min	DEP
N030 104 232 000	FR 1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	2200 NI/min	A
N030 204 231 000	FR 2	3/8	20 µm	0 ÷ 8 bar (116 PSI)	3300 NI/min	DEP
N030 205 231 000	FR 2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	3300 NI/min	DEP
N030 205 232 000	FR 2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	3300 NI/min	A

i **Condensation Drain**

DEP: The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurized and will drain.

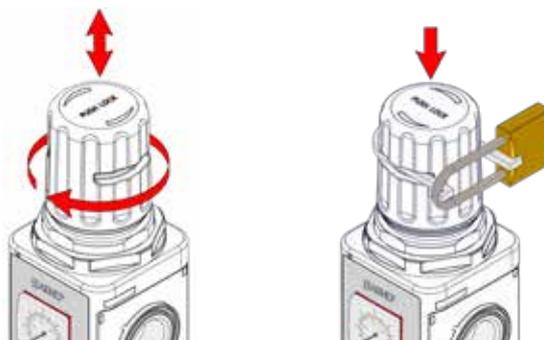
A: The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



i **Regulating the Air Pressure**

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position. The knob can be padlocked to prevent tampering.



N040

LUBRICATOR



TECHNICAL CHARACTERISTICS



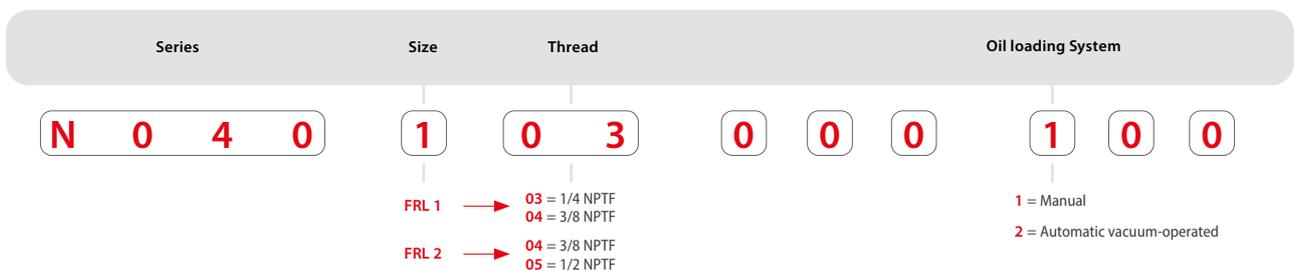
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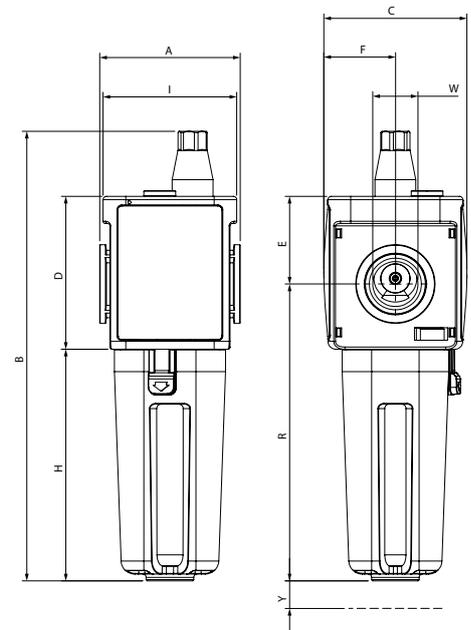
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	3400 NI/min	6100 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm³	37 cm³
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	
RECOMMENDED OILS	CLASS ISO 22 ISO 3448 NORMA	



Part Numbering System



N040



Dimensions - FRL 1

A	B	C	D	W	E	F	H	I	R	Y
51	178.5	51	57	1/4 - 3/8	32.5	25.5	92.5	47.5	117.5	7

Dimensions - FRL 2

A	B	C	D	W	E	F	H	I	R	Y
62	200	63	68	3/8 - 1/2	39	31.5	103	59	132	9.5

DEP = Manual

A = Automatic vacuum-operated

Part Number	Size	Thread (NPTF)	Flow Rate	Oil loading System
N040 103 000 100	LUB 1	1/4	3400 NI/min	M
N040 104 000 100	LUB 1	3/8	3400 NI/min	M
N040 104 000 200	LUB 1	3/8	3400 NI/min	A
N040 204 000 100	LUB 2	3/8	6100 NI/min	M
N040 205 000 100	LUB 2	1/2	6100 NI/min	M
N040 205 000 200	LUB 2	1/2	6100 NI/min	A



Lubricators

M

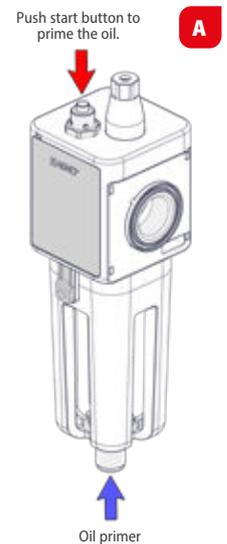
The oil is added to the lubricator unit by unscrewing the cap on the top or by removing the bowl. Make sure that there is no pressure running to the unit. You can adjust the oil by using screwdriver. We recommend adding one drop of oil every 300-600 NI/min.



Lubricators

A

The vacuum-operated oil loading enables the bowl to be filled with oil automatically. The system is activated by a button on top. The newly added oil, also positioned at a lower height with respect to the lubricator unit, flows into the bowl thanks to a G1/8" attachment positioned on the bottom side of the unit. Stop adding oil once the oil reaches the maximum level, shown by the windows in the side of the bowl.



N050 **MANUAL SHUT OFF VALVE**

 **TECHNICAL CHARACTERISTICS**

 **Reference standard**

1907/2006
REACH ✓

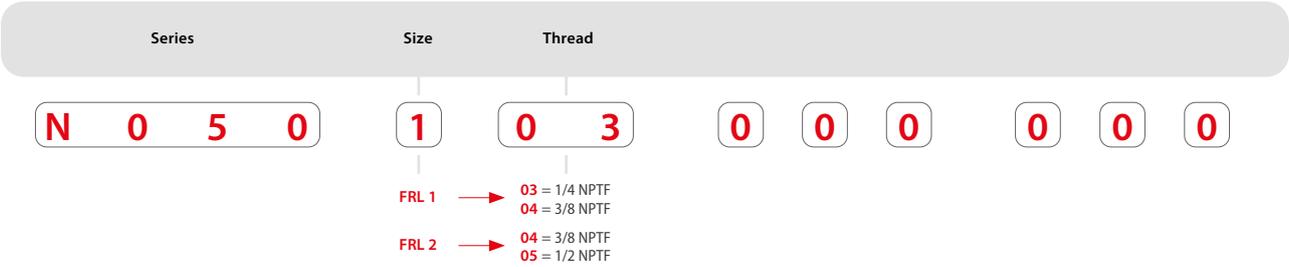
2011/65/CE
RoHS ✓

PED
2014/68/UE

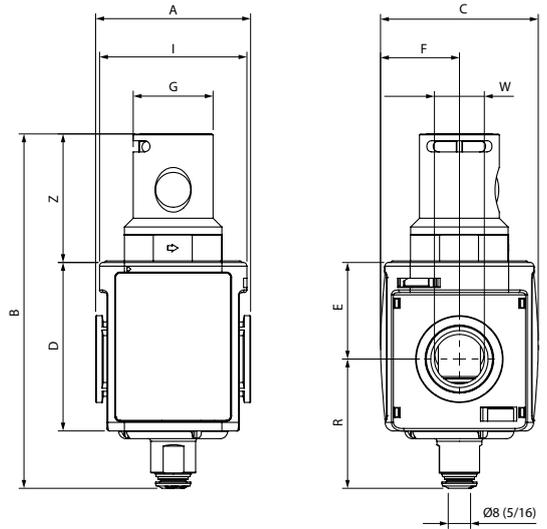
II 2GD Ex h TX


		FRL 1	FRL 2
	METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
	TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
	6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
	MOUNTING SCREWS	M5 x 15	
	FLUID	Compressed Air	
	MAX PRESSURE	18 bar (260 PSI)	
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
	MOUNTING POSITION	Vertical	

 **Part Numbering System**



N050



Dimensions - FRL 1

A	B	C	D	W	E	F	G	I	R	Y
51	134	51	57	1/4 - 3/8	32.5	25.5	32	47.5	46	56

Dimensions - FRL 2

A	B	C	D	W	E	F	G	I	R	Y
62	143	63	68	3/8 - 1/2	39	31.5	32	59	52	51

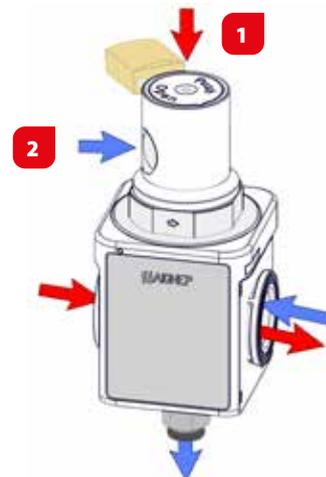
Part Number	Size	Thread (NPTF)	Flow Rate	Function	Oil loading System
N050 103 000 000	V3V 1	1/4	2700 NI/min	NC	M
N050 104 000 000	V3V 1	3/8	2700 NI/min	NC	M
N050 204 000 000	V3V 2	3/8	3500 NI/min	NC	M
N050 205 000 000	V3V 2	1/2	3500 NI/min	NC	M



Shut Off Valves

The shut off valve is activated in the following phases:

1. By pressing the trigger switch 1, the primary circuit opens.
2. By pressing button 2, the primary circuit closes and the secondary circuit drains.
This latter position can be padlocked.



N051

PNEUMATIC SHUT OFF VALVE



TECHNICAL CHARACTERISTICS



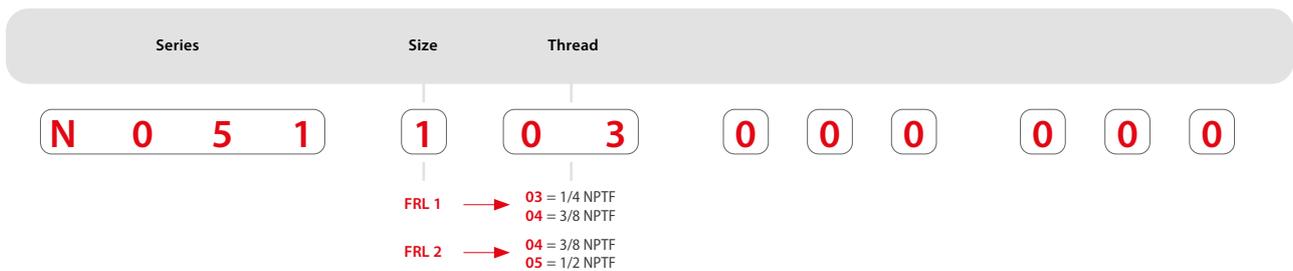
Reference standard



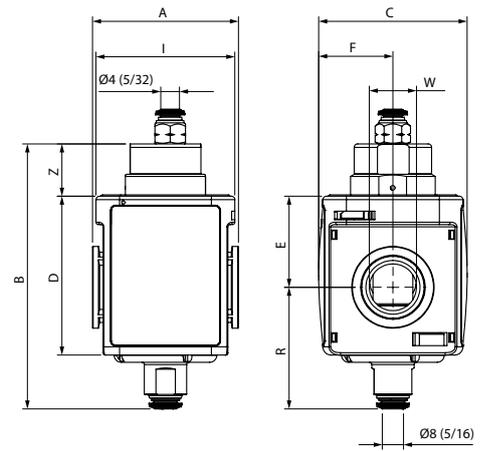
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
FLUID	Compressed Air	
MAX PRESSURE	from 2.5 bar (36 PSI) to 10 bar (145 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



Part Numbering System



N051



Dimensions - FRL 1

A	B	C	D	W	E	F	I	R	Z
51	98	51	57	1/4 - 3/8	32.5	25.5	47.5	46	19.5

Dimensions - FRL 2

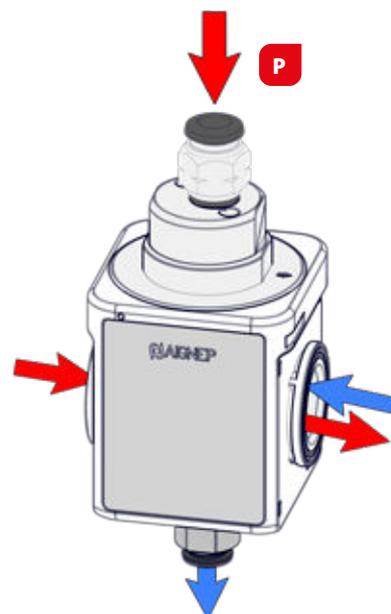
A	B	C	D	W	E	F	I	R	Z
62	113.5	63	68	3/8 - 1/2	39	31.5	59	52	22

P = Pneumatic

Part Number	Size	Thread (NPTF)	Flow Rate	Function	Oil loading System
N051 104 000 000	V3V 1	3/8	2700 NI/min	NC	P
N051 205 000 000	V3V 2	1/2	3500 NI/min	NC	P

i Shut Off Valves

- The pneumatic shut off valve functions in the following phases:
1. By pressurising the pilot "P", the primary circuit opens.
 2. By removing pressure from the operator "P", the primary circuit closes and the secondary circuit drains.



N052

MANUAL/ELECTRO-PNEUMATIC SHUT OFF VALVE



TECHNICAL CHARACTERISTICS



Reference standard

1907/2006
REACH

2011/65/CE
RoHS

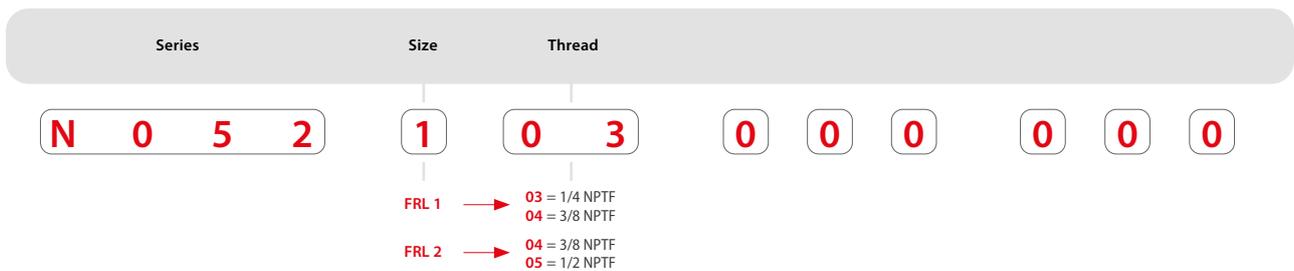
PED
2014/68/UE

II 2GD Ex h TX
Ex

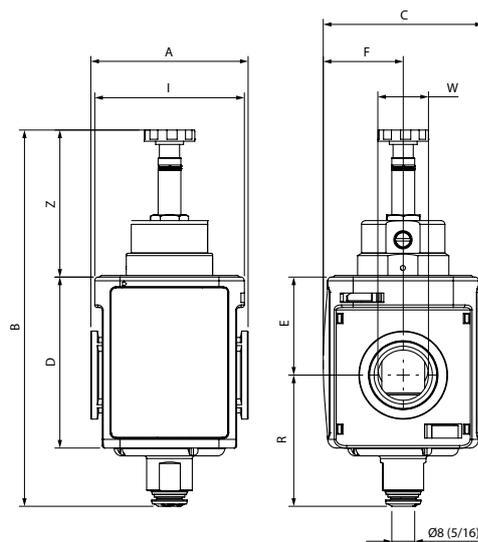
		FRL 1	FRL 2
	METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
	TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
	6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
	MOUNTING SCREWS	M5 x 15	
	FLUID	Compressed Air	
	MAX PRESSURE	from 2.5 bar (36 PSI) to 10 bar (145 PSI)	
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
	MOUNTING POSITION	Vertical	
	SOLENOID	See Chapter 18 - page 18.24 - 18.25	



Part Numbering System



N052



Dimensions - FRL 1

A	B	C	D	W	E	F	I	R	Z
51	98	51	57	1/4 - 3/8	32.5	25.5	47.5	46	19.5

Dimensions - FRL 2

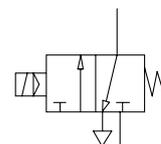
A	B	C	D	W	E	F	I	R	Z
62	113.5	63	68	3/8 - 1/2	39	31.5	59	52	22

*NB: Standard without solenoid

EP = Electro-pneumatic

NB: According to the ATEX Directive, shut off solenoid pilot valves should NOT be used in a potentially explosive environment.

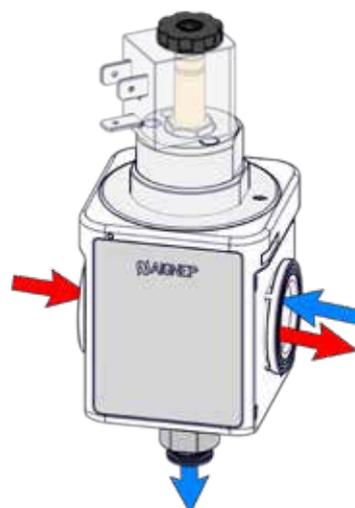
Part Number	Size	Thread (NPTF)	Flow Rate	Function	Oil loading System
N052 104 000 000	V3V 1	3/8	2700 NI/min	NC	EP
N052 205 000 000	V3V 2	1/2	3500 NI/min	NC	EP



Shut Off Valves

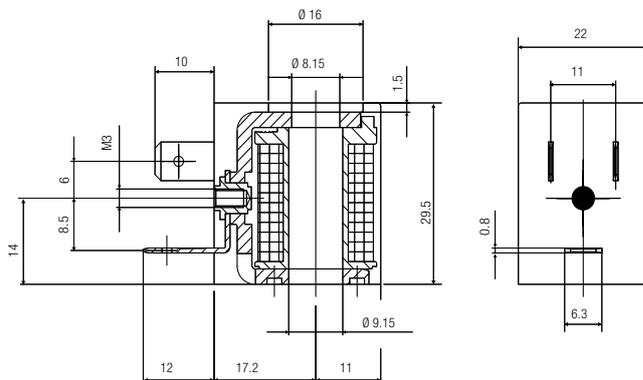
The electro-pneumatic shut off valve functions in the following phases:

1. By activating the electric impulse, the primary circuit opens.
2. By removing the electric impulse, the primary circuit closes and the secondary circuit drains.



SOLENOIDS AND CONNECTORS

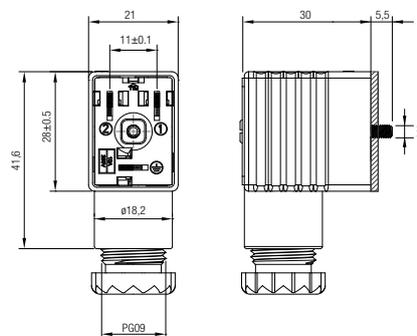
Solenoid 22 mm



Part No.	Solenoid Voltage	Power	Pack.
SOLU01 012 C 1 000	12V DC	3W	1
SOLU01 024 C 1 000	24V DC	3W	1
SOLU01 024 A 2 000	24V AC	5VA	1
SOLU01 110 A 2 000	110V AC	5VA	1
SOLU01 220 A 2 000	220V AC	5VA	1

VOLTAGE TOLERANCE	±10 %	CLASS OF ISOLATION	F CEI EN 60085	DUTY RATE (ED)	100 %
DEGREE OF PROTECTION	IP65 IEC 60529 with connector	TERMINALS	INDUSTRIAL AMP		

Connectors 22 mm

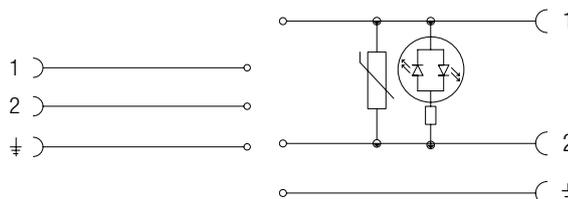


Part No.	Color	Characteristics	Pack.
CONU01 000 01	■	STANDARD 2 PIN	1
CONU02 024 00	□	LED + VDR 0 - 24V	1
CONU02 110 00	□	LED + VDR 110V	1
CONU02 250 00	□	LED + VDR 220V	1

■ Black □ Transparent
VDR: Fitted with varistors as surge protection device.



Wiring



CON01 000 01	CON02 024 00 CON02 110 00 CON02 250 00
---------------------	---

DEGREE OF PROTECTION	IP65 IEC 60529	CABLE DIAMETER	6 ÷ 8 mm	TERMINALS	INDUSTRIAL AMP
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N060

SOFT START VALVE



TECHNICAL CHARACTERISTICS



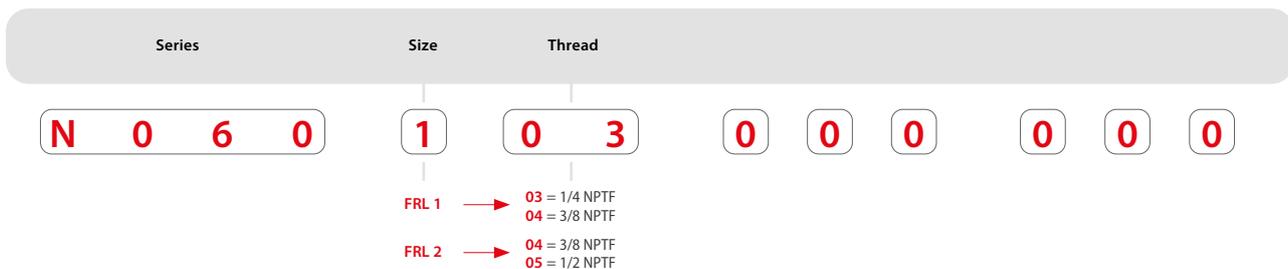
Reference standard



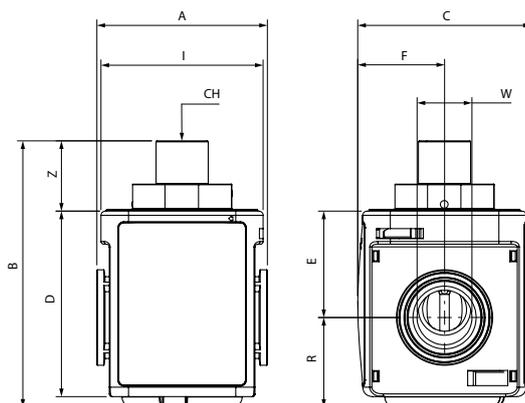
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
MAXIMUM INLET PRESSURE	10 bar (145 PSI)	
FLUID	Compressed Air	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
ASSEMBLY POSITION	Vertical	
MOUNTING POSITION	End of all FRL components	



Part Numbering System



N060



Dimensions - FRL 1

A	B	C	D	W	E	F	I	R	Z	CH
51	84.5	51	57	1/4 - 3/8	32.5	25.5	47.5	28	23.5	5

Dimensions - FRL 2

A	B	C	D	W	E	F	I	R	Z	CH
62	97.5	63	68	3/8 - 1/2	39	31.5	59	33	25	5

Part Number	Size	Thread (NPTF)	Flow Rate
N060 103 000 000	APE 1	1/4	2700 NI/min
N060 104 000 000	APE 1	3/8	2700 NI/min
N060 204 000 000	APE 2	3/8	3500 NI/min
N060 205 000 000	APE 2	1/2	3500 NI/min



Soft Start Valve

Our soft start valve is a pneumatic device that allows a pneumatic circuit to be pressurised gradually. With the adjustment screw shown in the drawing to the right, you can progressively increase or decrease the air flow introduced to your pneumatic circuit. This valve is designed to completely open the air flow of your circuit at 50% of the inlet pressure.



N090

AIR DISTRIBUTOR



TECHNICAL CHARACTERISTICS



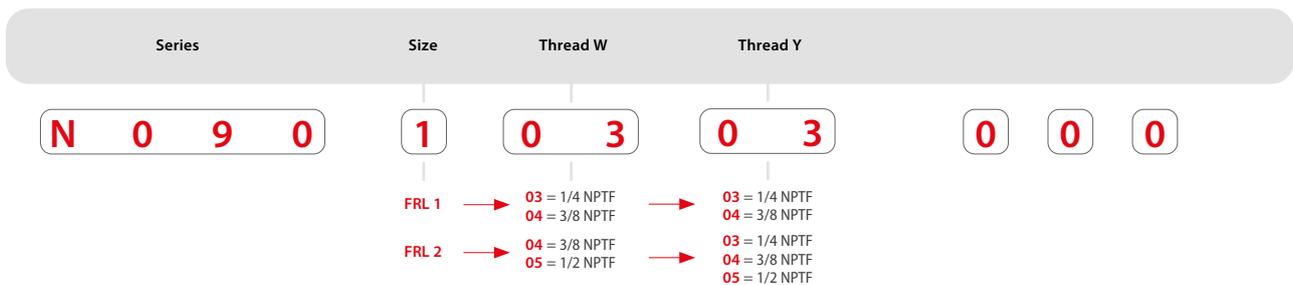
Reference standard



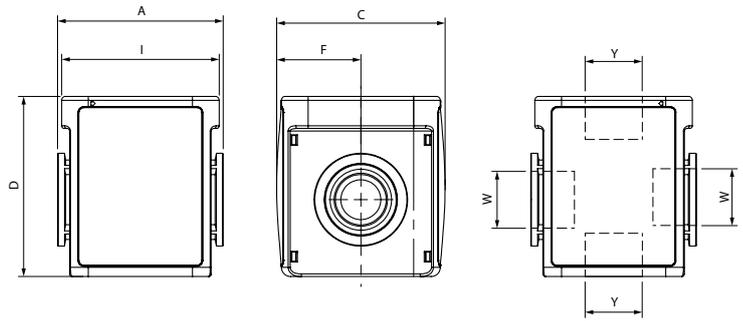
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	3400 NI/min	6100 NI/min
MOUNTING SCREWS	M5 x 15	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



Part Numbering System



N090



Dimensions - FRL 1

A	C	D	W	F	I	Y
51	51	57	1/4 - 3/8	25.5	47.5	1/4 - 3/8

Dimensions - FRL 2

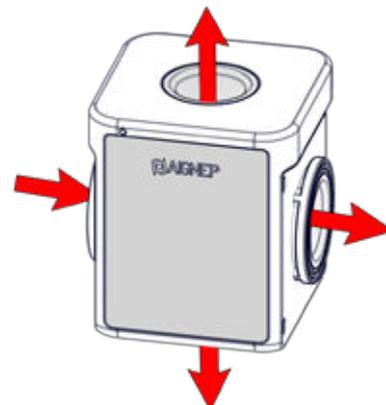
A	C	D	W	F	I	Y
62	63	68	3/8 - 1/2	31.5	59	1/4 - 3/8 - 1/2

Part Number	Size	Thread (NPTF)	Flow Rate
N090 103 030 000	DIS 1	1/4 - 1/4	3400 NI/min
N090 104 030 000	DIS 1	3/8 - 1/4	3400 NI/min
N090 104 040 000	DIS 1	3/8 - 3/8	3400 NI/min
N090 204 030 000	DIS 2	3/8 - 1/4	6100 NI/min
N090 204 040 000	DIS 2	3/8 - 3/8	6100 NI/min
N090 205 030 000	DIS 2	1/2 - 1/4	6100 NI/min
N090 205 050 000	DIS 2	1/2 - 1/2	6100 NI/min



Air Distributor

The air distributor allows you to branch off your air flow to several components such as pressure switches and other units. The air distributor can be placed anywhere in your air treatment unit.



N100

FR + L



TECHNICAL CHARACTERISTICS



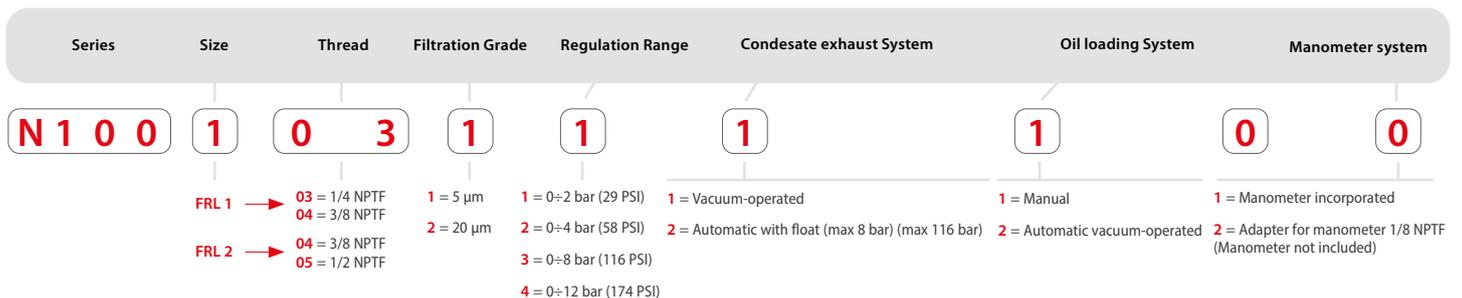
Reference standard



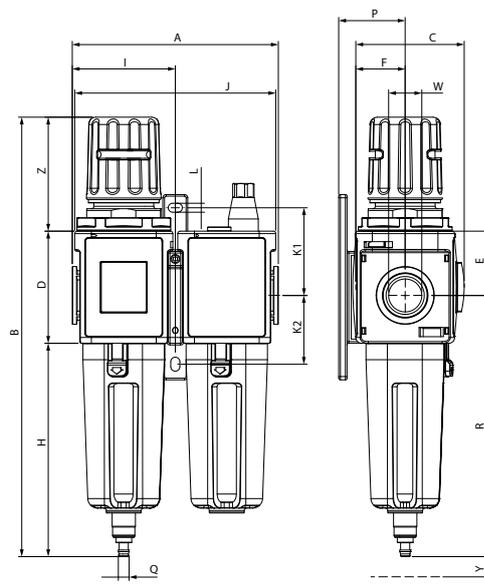
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	1500 NI/min	2700 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm³	37 cm³
FILTRATION GRADE	5 μm 20 μm STANDARD	
REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



Part Numbering System



N100



Dimensions - FRL 1

A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
102	233	57	57	32.5	25.5	119	47.5	98.5	45	35.5	5.5	34.5	ED.256 (6.5)	144	1/4-3/8	7	57

Dimensions - FRL 2

A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
124	270	67	68	39	31.5	129.5	59	121	53	41.5	5.5	40	ED.256 (6.5)	158.5	3/8-1/2	9.5	72.5

DEP = Vacuum-operated

A = Automatic

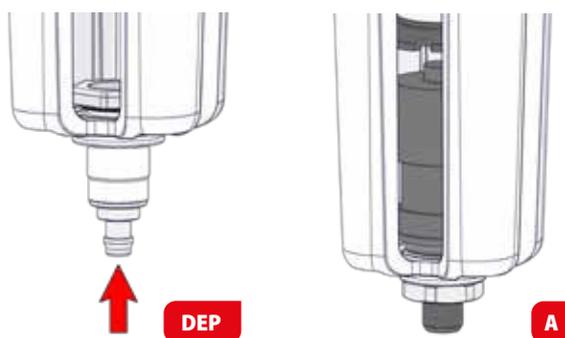
Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate	Exhaust
N100 103 231 100	FR+L1	1/4	20 µm	0 ÷ 8 bar (116 PSI)	1500 NI/min	DEP
N100 104 231 100	FR+L1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	1500 NI/min	DEP
N100 104 232 100	FR+L1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	1500 NI/min	A
N100 204 231 100	FR+L2	3/8	20 µm	0 ÷ 8 bar (116 PSI)	2700 NI/min	DEP
N100 205 231 100	FR+L2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	2700 NI/min	DEP
N100 205 232 100	FR+L2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	2700 NI/min	A



Condensation Drain

DEP: The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurized and will drain.

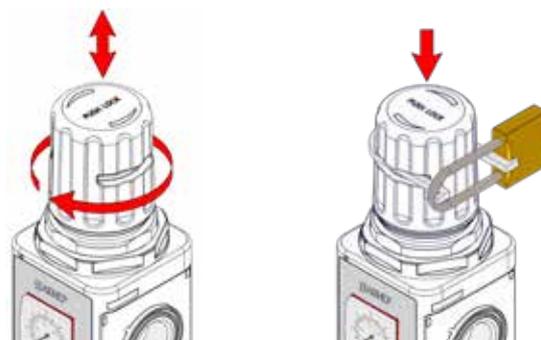
A: The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



Regulating the Air Pressure

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position.
The knob can be padlocked to prevent tampering.



N400

FIL + FC



TECHNICAL CHARACTERISTICS



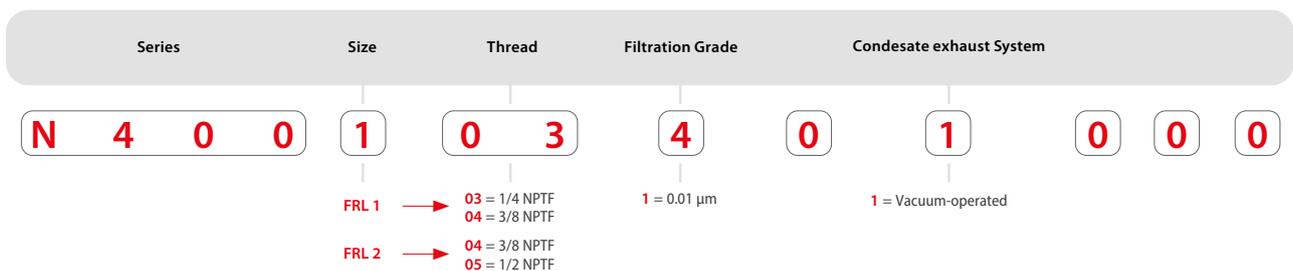
Reference standard



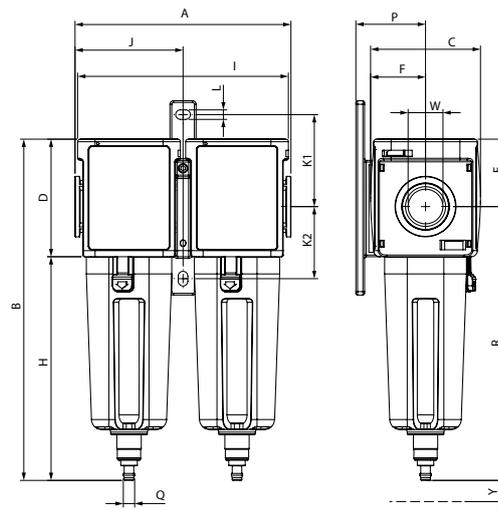
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	1800 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm³	37 cm³
FILTRATION GRADE	5 μm + 0.01 μm	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
CONDENSATION EXHAUST	Vacuum-operated	
MOUNTING POSITION	Vertical	



Part Numbering System



N400



Dimensions - FRL 1

A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
102	176	57	57	32.5	25.5	119	47.5	98.5	45	35.5	5.5	34.5	ED.256 (6.5)	144	1/4-3/8	7	57

Dimensions - FRL 2

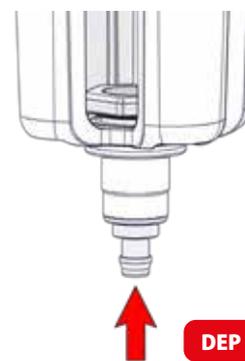
A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
124	197.5	67	68	39	31.5	129.5	59	121	53	41.5	5.5	40	ED.256 (6.5)	158.5	3/8-1/2	9.5	72.5

Part Number	Size	Thread (NPTF)	Filtration	Flow Rate
N400 103 401 000	FIL+FC 1	1/4	5 µm + 0.01 µm	1800 NI/min
N400 104 401 000	FIL+FC 1	3/8	5 µm + 0.01 µm	1800 NI/min
N400 204 401 000	FIL+FC 2	3/8	5 µm + 0.01 µm	3500 NI/min
N400 205 401 000	FIL+FC 2	1/2	5 µm + 0.01 µm	3500 NI/min



Condensation Drain

DEP: The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurized and will drain.



REG16

CLAMP BRACKET



Part Number

REG16 1Y 50 00 ZI	FRL 1
REG16 2Y 50 00 ZI	FRL 2

Y501

WALL MOUNT BRACKET



Part Number

Y501 100 000 000	FRL 1
Y501 200 000 000	FRL 2

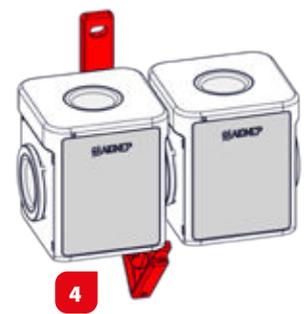
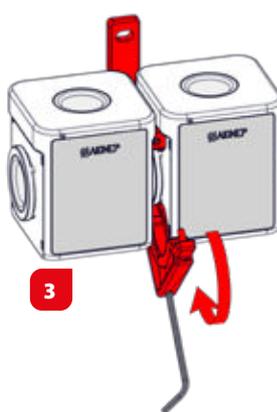
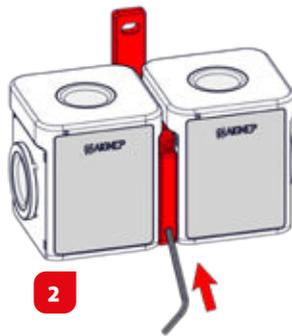
Y502

CONNECTION BRACKET



Part Number

Y502 100 000 000	FRL 1
Y502 200 000 000	FRL 2



FIL04

SINTERED FILTER



Part Number

FIL04 1Y3 805 SC	FRL 1	5 µm
FIL04 1Y3 820 SC	FRL 2	5 µm
FIL04 2Y3 805 SC	FRL 1	20 µm
FIL04 2Y3 820 SC	FRL 2	20 µm

Y520

BOWL FOR FILTER UNIT



Part Number		
Y520 100 001 000	FRL 1	DEP
Y520 100 002 000	FRL 1	A
Y520 200 001 000	FRL 2	DEP
Y520 200 002 000	FRL 2	A

*DEP: Vacuum-operated *A: Automatic with float

Y530

BOWL FOR LUBRICATOR UNIT



Part Number		
Y530 100 000 100	FRL 1	MAN
Y530 100 000 200	FRL 1	A
Y530 200 000 100	FRL 2	MAN
Y530 200 000 200	FRL 2	A

*MAN: Manual oil loading system *A: Automatic oil loading system

MAS1

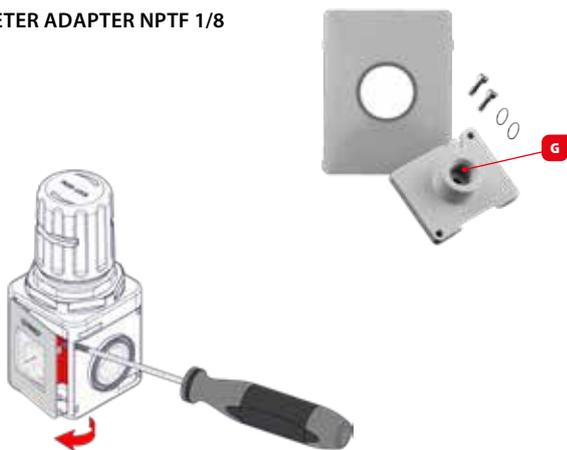
MANOMETER



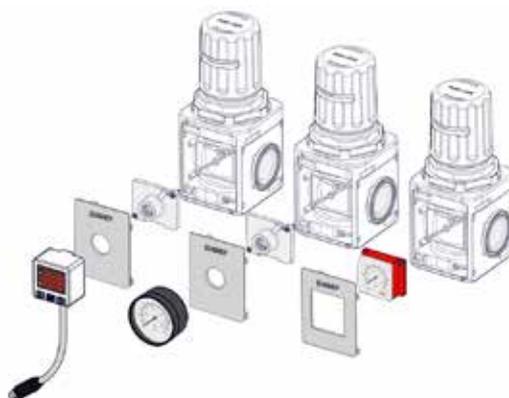
Part Number		Bar
MAS1 1N0 020 000	FRL 1	0 - 4
MAS1 1N0 040 000	FRL 1	0 - 12
MAS1 2N0 020 000	FRL 2	0 - 4
MAS1 2N0 040 000	FRL 2	0 - 12

MAS0

MANOMETER ADAPTER NPTF 1/8



Part Number		NPTF
MAS0 112 000 000	FRL 1	1/8
MAS0 212 000 000	FRL 2	1/8



Y503

PADLOCK FOR ADJUSTER AND ADJUSTER FILTER KIT



Part Number	
Y503 100 000 000	FRL 1
Y503 200 000 000	FRL 2





Reference Standard

EN 837-1

IP31
EN 60 529

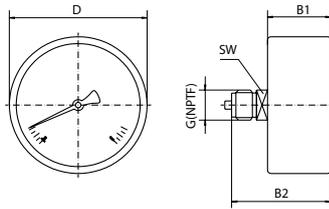


Media

- Compressed Air
- Inert gases
- Steam
- Non-highly viscose and non-crystallizing liquids

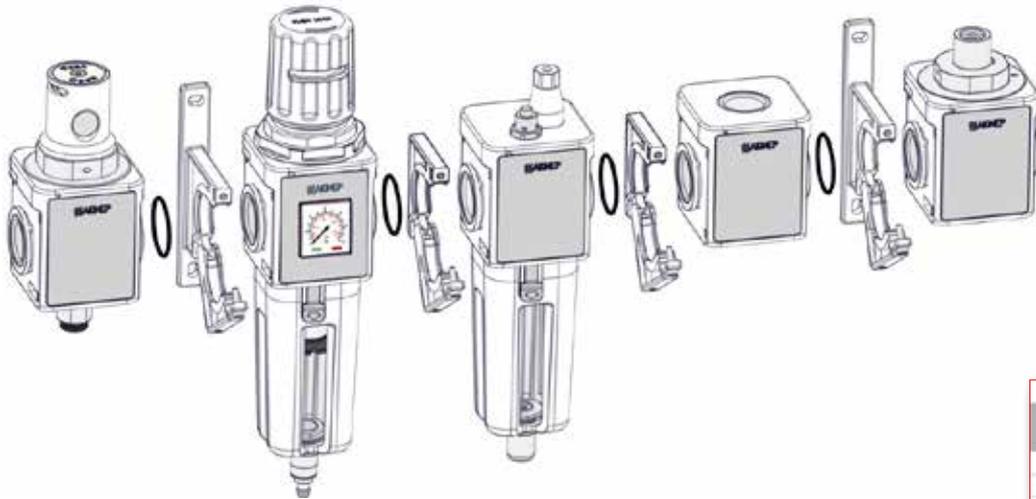
MAN09

MANOMETER BACK CONNECTION -



Code	bar	D	B1	B2	SW	G (NPTF)
MAN09 N2 040 000	0 ÷ 12	40	25	41.5	12	1/8
			min			max
Temperature			- 20 °C			+ 60 °C

SET YOUR FRL EVO



Y501	Y502
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Enter your part number and accessory part number in the table below to configure your FRL Evo system

	Part Numbers		
1° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
2° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
3° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
4° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
5° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
6° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
7° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
8° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
9° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
10° POS	-----		



TECHNICKÁ INŠPEKCIA, a.s.

SLOVENSKÁ REPUBLIKA



ACKNOWLEDGEMENT OF RECEIPT

no. 1586/1/2020

Technická inšpekcia, a. s.,

Trnavská cesta 56, 821 01 Bratislava

Notified body: 1354,

confirms, that Technical File Documentation

prepared by

Aignep S.p.A

Via Don G. Bazzoli 34, 25070 Bione (BS), Italy

has been received and stored according to the Article 13,1(b) (ii) of Directive no. 2014/34/EU on equipment and protective systems intended for use in potentially explosive atmospheres

Scope of Ex Equipment:

**FILTRI REGOLATORI LUBRIFICATORI PER IL TRATTAMENTO DELL'ARIA COMPRESSA
LUBRICATOR REGULATING FILTERS FOR COMPRESSED AIR TREATMENT**

Type: serie FRL / FRL series

Marking:  II 2GD Ex h TX

Technical File Documentation according to the Annex VIII Article 2 of Directive 2014/34/EU

Doc. no.	Issue
Technical file as per ATEX Directive 2014/34/EU	Doc. No. AIGNEP Rev.2 Date: 13/05/2020

Technical documentation will be stored for 10 years until May 26th, 2030.

Bratislava, May 26th, 2020



On behalf of Technická inšpekcia, a.s.

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