

Mini FRL Series

								
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FRL Evo Series

								
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AIR TREATMENT UNIT



FRL Series



Mini technical instruction

The FRL components must be assembled in the following order: Filter, Regulator, Lubricator.

While connecting the components, be sure that the air flows towards the direction of the arrows located on the top of the components



Assembling and Setting pressure

- 1 To set up each component, follow these steps:
 - Line up the plates up with the bodies.
 - Assemble the parts together, making sure that the o-ring seals are in their proper seats.
 - Tighten the screws on the plates.
- 2 To regulate the pressure, follow these instructions:
 - Turn the knob to the desired pressure.
 - Rotate the knob to increase or decrease the pressure.
 - Press the knob to block into position.

The pressure Gauge has to be assembled manually with the addition of liquid sealant.

The mini quick exhaust regulator allows the circuit downstream to exhaust rapidly when upstream pressure is interrupted.



Mini technical instruction

- 1 The manual/semiautomatic condensation exhaust is normally in the open position; (i.e. it automatically exhausts the condensation when there is no pressure inside the bowl). Pressing the knob will exhaust the condensation even if there is pressure. Turning the knob counter-clockwise will close off the exhaust.
- 2 To add oil to the lubricator, unscrew the plug located on the top or disassemble the bowl). Make sure that there is no pressure in the system before adding oil or disassembling the bowl.
- 3 To remove the bowl, use CH3 caliper face spanners.



N010 MINI

FILTER



TECHNICAL CHARACTERISTICS



Reference standard

1907/2006
REACH

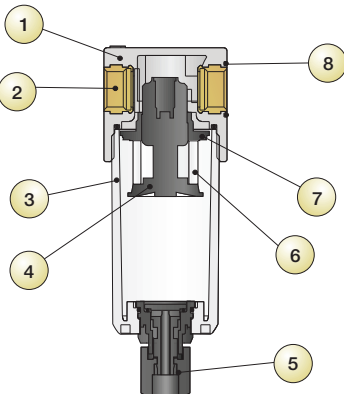
2011/65/CE
RoHS

PED
2014/68/UE



Component Parts and Materials

- 1 Technopolymeric Body
- 2 Brass Threaded insert
- 3 Technopolymeric Bowl
- 4 Technopolymeric Filter ring
- 5 Technopolymeric Condensate exhaust
- 6 PE Filtering cartridge
- 7 Technopolymeric Slinger
- 8 NBR O-Ring



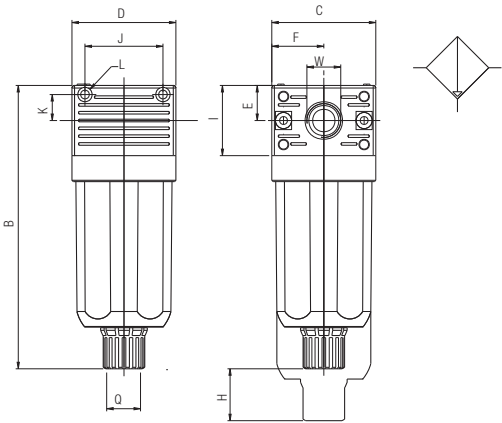
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	5 µm 20 µm STANDARD 50 µm
	6 bar FLOW RATE with Δp 1 bar	800 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	17.5 cm ³
	CONDENSATION EXHAUST	Manual Semi Automatic



Part Numbering System

Series	Thread	Filtration Grade	Condensate exhaust System
N 0 1 0	0 0 3	2	0 1 0 0 0
	02 = 1/8 NPTF 03 = 1/4" NPTF	1 = 5 µm 2 = 20 µm 3 = 50 µm	1 = Semiautomatic Manual

N010



Dimensions

B	C	D	E	F	H	I	J	K	L	W	Q
109	40	40	13.5	20	11	27	30	10	Ø X M3	1/8 - 1/4"	1/8

Part Number	Size	Thread (NPTF)	Filtration	Flow Rate (NPTF)
N010 002 201 000	FIL 0	1/8	20 µm	800 NI/min
N010 003 201 000	FIL 0	1/4"	20 µm	800 NI/min

N015 MINI

COALESCER FILTER

TECHNICAL CHARACTERISTICS



Reference standard

1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

- 
- Component Parts and Materials
- 1

Technopolymeric Body
- 2

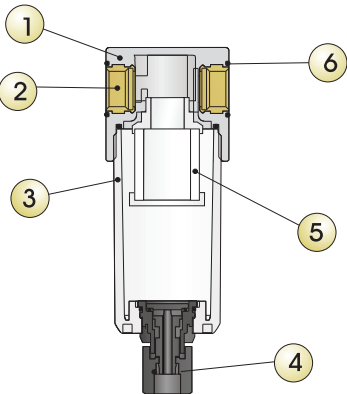
Brass Threaded insert
- 3

Technopolymeric Bowl
- 4

Technopolymeric Condensate exhaust
- 5

Coalescer cartridge
- 6

NBR O-Ring



	FLUID	5 µm Filtred Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0.01 µm
	6 bar FLOW RATE with Δp 1 bar	450 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	17.5 cm ³
	CONDENSATION EXHAUST	Manual Semi Automatic

Part Numbering System

Series

Thread

Filtration Grade

Condensate exhaust System

N015

003

4

01

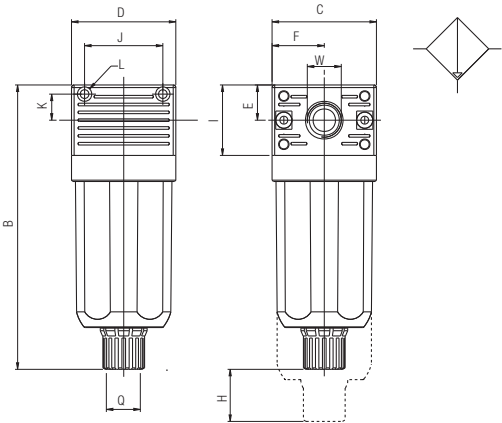
000

02 = 1/8 NPTF
03 = 1/4" NPTF

4 = 0.01 µm

1 = Semiautomatic Manual

N015 Mini



Dimensions

B	C	D	E	F	H	I	J	K	L	W	Q
109	40	40	13.5	20	11	27	30	10	Ø X M3	1/8 - 1/4"	1/8

NB: With Coalescer filter T015 we recommend to install a 5 µm Filter upstream..

Part Number	Size	Thread (NPTF)	Filtration	Flow Rate (NPTF)
N015 002 401 000	FC 0	1/8	0.01 µm	450 NI/min
N015 003 401 000	FC 0	1/4"	0.01 µm	450 NI/min

N020 MINI

REGULATOR

TECHNICAL CHARACTERISTICS



Reference standard

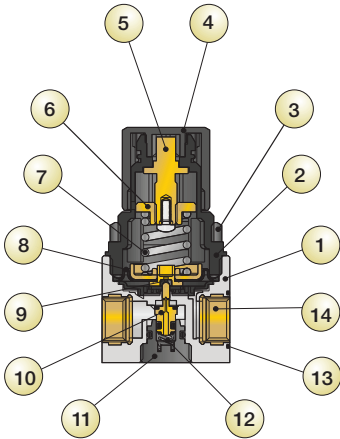
1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

Component Parts and Materials

- 1 Technopolymeric Body
- 2 Technopolymeric Bell
- 3 Technopolymeric Fixing nut
- 4 Technopolymeric Knob
- 5 Brass Register screw
- 6 Brass Female screw
- 7 Steel Register spring
- 8 Membrane Rolling
- 9 NBR Relieving diaphragm
- 10 Shutter with NBR vulcanized seal
- 11 Technopolymeric Plug
- 12 Stainless steel Push-shutter spring
- 13 NBR O-Ring
- 14 Brass Threaded insert



	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	6 bar FLOW RATE with Δp 1 bar	600 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	Gauge THREAD	G 1/8

Part Numbering System

Series

Thread

Regulation range

N 0 2 0

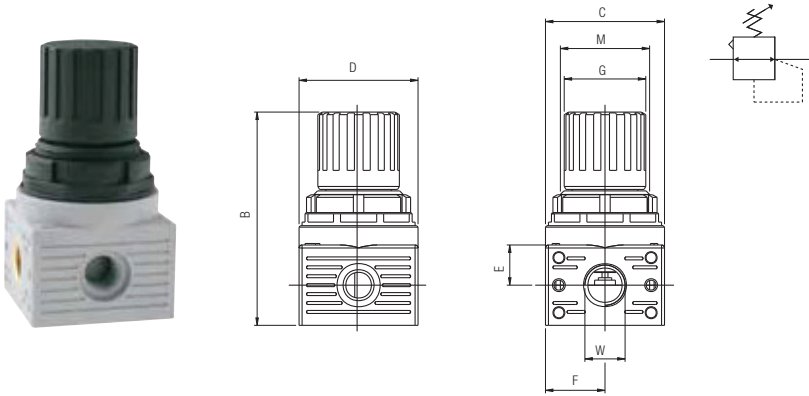
0 0 3

0 3 0 0 0 0

02 = 1/8 NPTF
03 = 1/4" NPTF

1 =0-29 psi
2 =0-58 psi
3 =0-116 psi (standard)
4 =0-174 psi

N020 Mini



Dimensions

B	C	D	E	F	G	I	M	W
74	40	40	13.5	20	27.5	27	M30X1.5	1/8 - 1/4"

Part Number	Size	Thread (NPTF)	Regulation	Flow Rate (NPTF)
N020 002 030 000	REG 0	1/8	0-116 psi	600 NI/min
N020 003 030 000	REG 0	1/4"	0-116 psi	600 NI/min

N070 MINI

QUICK EXHAUST REGULATOR

TECHNICAL CHARACTERISTICS



Reference standard

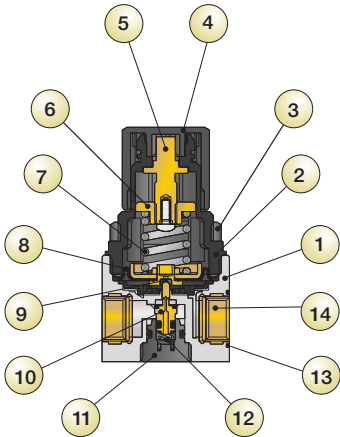
1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

Component Parts and Materials

- 1 Technopolymeric Body
- 2 Technopolymeric Bell
- 3 Technopolymeric Fixing nut
- 4 Technopolymeric Knob
- 5 Brass Register screw
- 6 Brass Female screw
- 7 Steel Register spring
- 8 Membrane Rolling
- 9 NBR Relieving diaphragm
- 10 Shutter with NBR vulcanized seal
- 11 Technopolymeric Plug
- 12 Stainless steel Push-shutter spring
- 13 NBR O-Ring
- 14 Brass Threaded insert



	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	6 bar FLOW RATE with Δp 1 bar	600 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	Gauge THREAD	G 1/8

Part Numbering System

Series

Thread

Regulation range

N 0 7 0

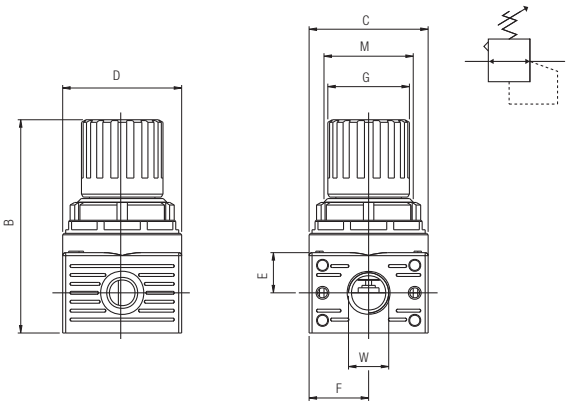
0 0 3

0 3 0 0 0 0

02 = 1/8 NPTF
03 = 1/4" NPTF

1 =0-29 psi
2 =0-58 psi
3 =0-116 psi (standard)
4 =0-174 psi

N070 Mini



Dimensions

B	C	D	E	F	G	I	M	W
74	40	40	13.5	20	27.5	27	M30X1.5	1/8 - 1/4"

Part Number	Size	Thread (NPTF)	Regulation	Flow Rate (NPTF)
N070 002 030 000	REG. 0	1/8	0-116 psi	600 NI/min
N070 003 030 000	REG. 0	1/4"	0-116 psi	600 NI/min

N080 MINI

WATER REGULATOR



TECHNICAL CHARACTERISTICS



Reference standard

1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

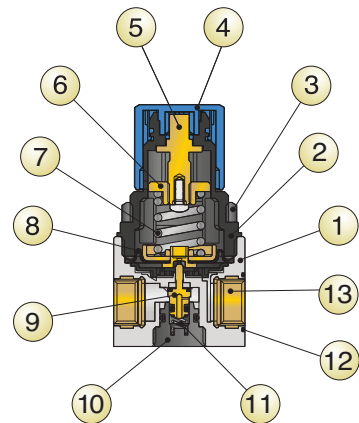


Food grade approved version also available.



Component Parts and Materials

- 1 Technopolymeric Body
- 2 Technopolymeric Bell
- 3 Technopolymeric Fixing nut
- 4 Technopolymeric Knob
- 5 Brass Register screw
- 6 Brass Female screw
- 7 Steel Register spring
- 8 Membrane Rolling
- 9 Shutter with vulcanized NBR seal
- 10 Technopolymeric Plug
- 11 Stainless steel Push-shutter spring
- 12 NBR O-Ring
- 13 Brass Threaded insert



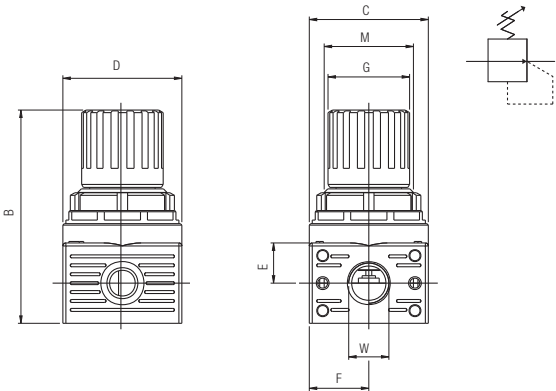
	FLUID	Water
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	+ 5 °C (41 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	Gauge THREAD	G 1/8



Part Numbering System

Series				Thread		Regulation range						
N	0	8	0	0	0 3	0	3	0	0	0	0	

N080 Mini



Dimensions

B	C	D	E	F	G	I	M	W
74	40	40	13.5	20	27.5	27	M30X1.5	1/8 - 1/4"

Part Number	Size	Thread (NPTF)	Regulation
N080 002 030 000	WATER REG. 0	1/8	0-116 psi
N080 003 030 000	WATER REG. 0	1/4"	0-116 psi

N030 MINI

FILTER REGULATOR

TECHNICAL CHARACTERISTICS



Reference standard

1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

- 
- Component Parts and Materials

1

Technopolymeric Body

2

Technopolymeric Bell

3

Technopolymeric Fixing nut

4

Technopolymeric Knob

5

Brass Register screw

6

Brass Female screw

7

Register spring made in steel

8

Rolling membrane

9

NBR Relieving diaphragm

10

Shutter with vulcanized NBR seal

11

Technopolymeric Filter ring

12

Technopolymeric Bowl

13

Technopolymeric Condensate exhaust

14

PE Filtering cartridge

15

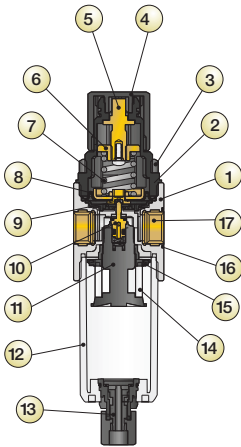
Technopolymeric Slinger

16

NBR O-Ring

17

Brass Threaded insert



	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	REGULATION RANGE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	FILTRATION GRADE	5 µm 20 µm STANDARD 50 µm
	6 bar FLOW RATE with Δp 1 bar	600 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	+ 5 °C (41 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	17.5 cm ³
	CONDENSATION EXHAUST	Manual Semi Automatic
	Gauge THREAD	G 1/8

Part Numbering System

Series

Thread

Filtration Grade

Regulation Range

Condensate exhaust System

N030

0

02

3

1

0

0

0

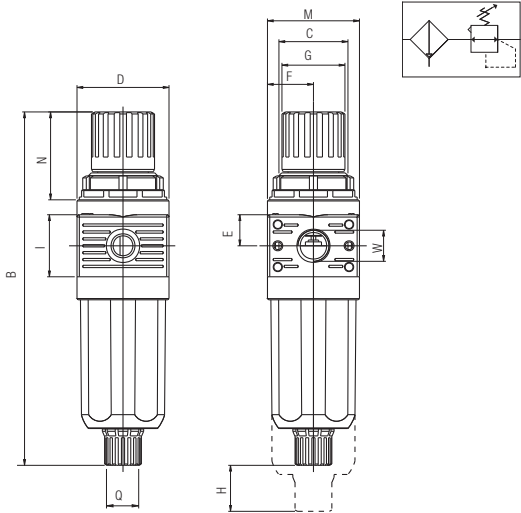
02 = 1/8" NPTF
03 = 1/4" NPTF

1 = 5 µm
2 = 20 µm
3 = 50 µm

1 = 0-29 psi
2 = 0-58 psi
3 = 0-116 psi (standard)
4 = 0-174 psi

1 = Manual

N030 Mini



Dimensions

B	C	D	E	F	G	H	I	M	N	W
156	M30X1.5	40	13.5	20	27.5	11	27	40	40	1/8 - 1/4"

Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate (NPTF)
N030 002 231 000	FR 0	1/8	20µm	0-116 psi	600 NI/min
N030 003 231 000	FR 0	1/4"	20µm	0-116 psi	600 NI/min

N040 MINI

LUBRICATOR

TECHNICAL CHARACTERISTICS



Reference standard

1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

- 
- Component Parts and Materials

1

Technopolymeric Body

2

Technopolymeric Bowl

3

Brass Threaded insert

4

Venturi Membrane device

5

Oil aspiration tube made in PA11

6

Small filter

7

Transparent technopolymeric Visual dome

8

Brass Oil regulating capacity pin

9

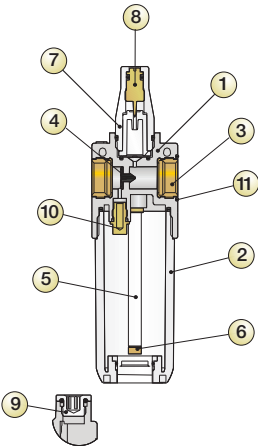
Brass Oil loading plug

10

Brass Air diffuser

11

NBR O-Ring



	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	6 bar FLOW RATE with Δp 1 bar	700 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	WALL CLAMPING SCREWS	M3
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	28 cm³
	RECOMMENDED OILS	ISO VG 22A CLASS ISO 3448 NORMA

Part Numbering System

Series

Thread

Oil loading System

N040

002

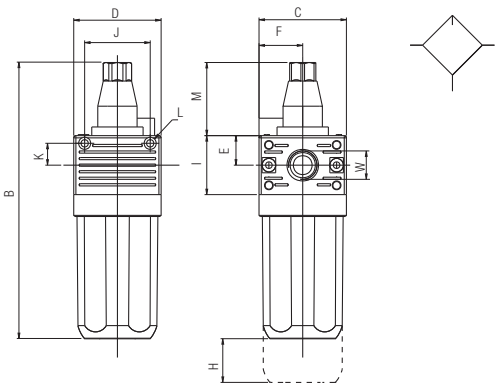
000100

02 = 1/8 NPTF

03 = 1/4" NPTF

1 = Manual

N040 Mini



Dimensions

B	C	D	E	F	H	I	J	K	L	M	W
130	40	40	13.5	20	11	27	30	10	Ø X M3	33.5	1/8 - 1/4"

Part Number	Size	Thread (NPTF)	Flow Rate (NPTF)
N040 002 000 100	LUB 0	1/8	700 NI/min
N040 003 000 100	LUB 0	1/4"	700 NI/min

N100 MINI

FILTER REGULATOR + LUBRICATOR



TECHNICAL CHARACTERISTICS



Reference standard

1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

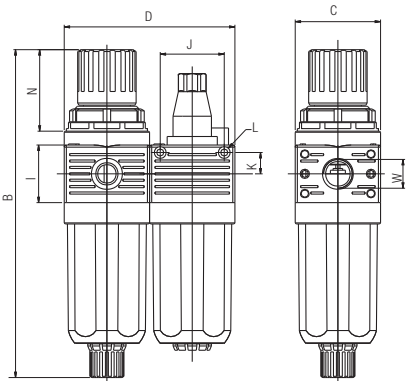
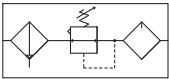
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	5 µm 20 µm STANDARD 50 µm
	REGULATION RANGE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	6 bar FLOW RATE with Δp 1 bar	260 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	WALL CLAMPING SCREWS	M3
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	28 cm³
	RECOMMENDED OILS	ISO VG 22A CLASS ISO 3448 NORMA



Part Numbering System

Series	Thread	Filtration Grade	Regulation Range	Condensate exhaust System	Oil loading System
N 1 0 0	0 0 3	2	3	1	1 0 0
	02 = 1/8 NPTF 03 = 1/4" NPTF	1 = 5 µm 2 = 20 µm 3 = 50 µm	1 = 0-29 psi 2 = 0-58 psi 3 = 0-116 psi (standard) 4 = 0-174 psi	1 = Semiautomatic Manual	1 = Manual

N100 Mini



Dimensions

B	C	D	I	J	K	L	N	W
156	40	80	27	30	10	Ø X M3	40	1/8 - 1/4"

Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate (NPTF)
N100 002 231 100	FR+L 0	1/8	20µm	0-116 psi	260 NI/min
N100 003 231 100	FR+L 0	1/4"	20µm	0-116 psi	260 NI/min

N400 MINI

FILTER + FILTER COALESSER

TECHNICAL CHARACTERISTICS



Reference standard

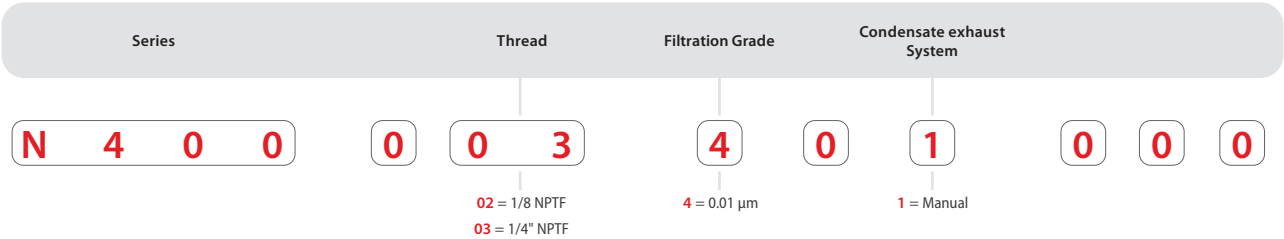
1907/2006
REACH

2011/65/CE
RoHS

PED
2014/68/UE

	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	5 µm + 0.01 µm
	6 bar FLOW RATE with Δp 1 bar	370 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	WALL CLAMPING SCREWS	M3
	ASSEMBLY POSITION	Vertical

Part Numbering System



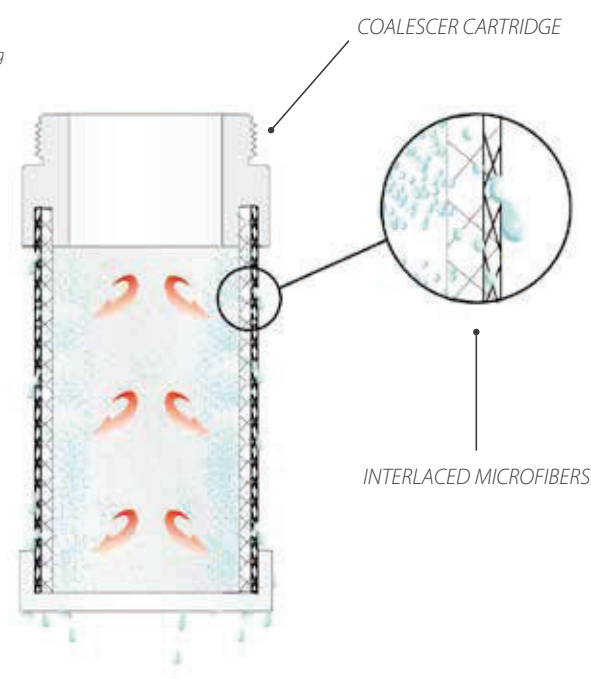

Information

The coalescer cartridge is made of a microfiber inner layer with an external stainless steel structure.

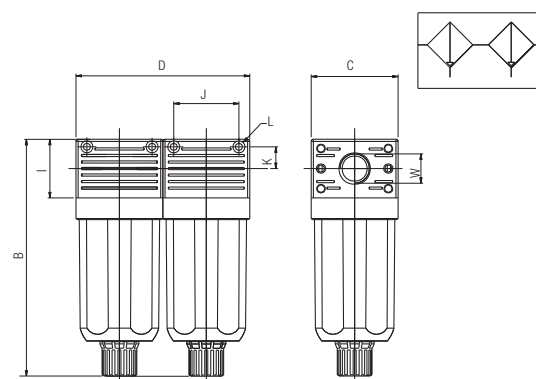
The coalescing cartridge uses inertial impact, interception and coalescence to collect excess liquid. This liquid will then drain into the bottom of the bowl.

The coalescing filter is used as 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.



N400 Mini


Dimensions

B	C	D	I	J	K	L	W
109	40	80	27	30	10	Ø X M3	1/8 - 1/4"

Part Number	Size	Thread (NPTF)	Filtration	Flow Rate (NPTF)
N400 002 401 000	FIL+FC 0	1/8	5µm + 0.01µm	370 NI/min
N400 003 401 000	FIL+FC 0	1/4"	5µm + 0.01µm	370 NI/min

FRL ACCESSORIES

T500

CONNECTION PLATE



Part Number	
T500 000 000 000	FRL 0

T520

BOWL FOR FILTER UNIT



Part Number	
T520 000 001 000	FRL 0

T530

BOWL FOR LUBRICATOR UNIT



Part Number	
T530 000 000 100	FRL 0

T545

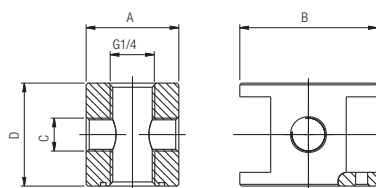
COALESCER FILTER



Part Number	
T545 000 000 000	FRL 0

DIS00

AIR DISTRIBUTOR



Part Number		A	B	C	D
DIS00 001 100 NE	FRL 0	27	40	1/8	30

FIL04

SINTERED FILTER



Part Number		
FIL04 003 805 SC	FRL 0	5 µm
FIL04 003 820 SC	FRL 0	20 µm
FIL04 003 850 SC	FRL 0	50 µm

REG06

REGISTER SPRING



Part Number		
REG06 005 401 SC	FRL 0	0-29 psi
REG06 005 402 SC	FRL 0	0-58 psi
REG06 005 403 SC	FRL 0	0-116 psi (standard)
REG06 005 404 SC	FRL 0	0-174 psi

REG09

MEMBRANE



Part Number	
REG09 001 700 SC	FRL 0

REG16

CLAMP BRACKET

Part Number		A	B	C	D	F
REG16 005 000 NE	FRL 0	21.5	5.5	12	15	31

