

New Series

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MODULAR FRL SERIES MD

Filters Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm.

Modular assembly

Bayonet style bowl with technopolymer guard



- » Removal of impurities and condensate
- » Element replacement, visual indicator option
- » Semi-automatic manual or depressurizing condensate drain
- » Version with open drain and 1/8 port
- » Bowl locking system reducing the risk of accidents
- » Additional 1/8" ports on the front and back of each unit provide filtered air

The Series MD air treatment product line is characterized by a clean and modern design as well as high performance. The technopolymer construction enables efficient manufacturing and a lightweight, yet durable product.

The innovative cartridge fitting design of the Series MD facilitates interchangeable port connection. The port cartridges may be female threaded or push-in fittings in various sizes from 1/8" to 3/8". Each module also features additional 1/8" air outlets on the front and back sides. This inlet can be used by components with limited consumption requirements.

GENERAL DATA

Construction	modular, compact with filtering element in HDPE
Materials	see following page
Ports	with interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Condensate capacity	24 cc
Mounting	vertical in-line; wall-mounting by means of through holes in the body or with a support bracket
Operating temperature	23°F - 122°F / -5°C - 50°C
Condensate drain	semi-automatic manual (standard); depressurization, protected; without drain with G1/8 port
Delivered air quality (ISO 8573-1: 2010)	Class 6.8.4 with 5 μ m filtering element Class 7.8.4 with 25 μ m filtering element
Operating pressure	4 - 232 psi / 0.3 - 16 bar
Nominal flow	see FLOW DIAGRAMS on the following pages
Fluid	compressed air

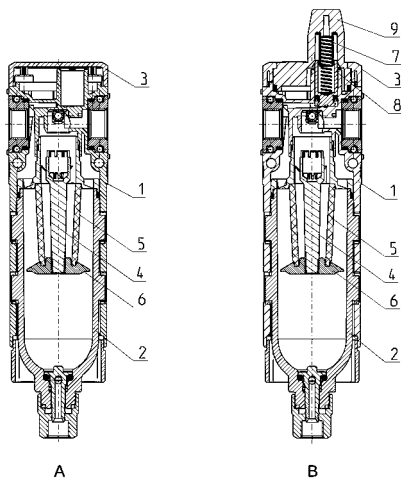
CODING EXAMPLE

MD	1	-	F	0	0	0	-	1/8TF
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MD	SERIES
1	DIMENSION: 1 = 42 mm
F	FILTER
0	FILTERING ELEMENT: 0 = 25 µm 1 = 5 µm
0	CONDENSATE DRAIN: 0 = semiautomatic-manual 5 = depressurization, protected 8 = with open drain, with G1/8 port
0	ELEMENT REPLACEMENT VISUAL INDICATOR: 0 = not present 1 = present
1/8	PORTS (IN - OUT)*: = without ports 6 = tube Ø6 04TF = tube Ø1/4" 8 = tube Ø8 05TF = tube Ø5/16" 10 = tube Ø10 06TF = tube Ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF * NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-F000-1/8-1/4

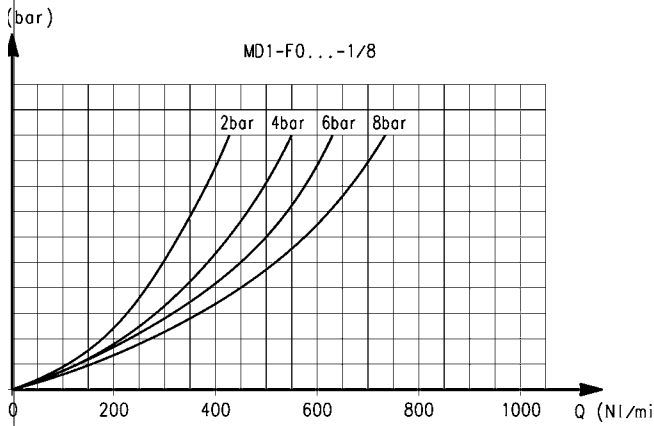
Filters Series MD - materials

A = filter
B = filter with element replacement visual indicator



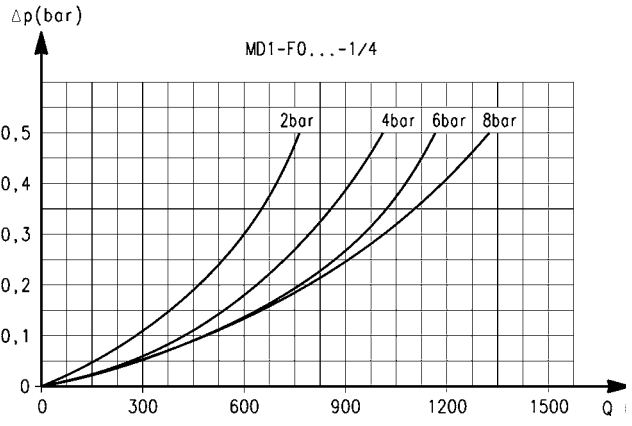
PARTS	MATERIALS
1 = Body	Polyamide
2 = Guide	Polycarbonate
3 = Guard	Polyamide
4 = Valve-guide	Polyacetal
5 = Filtering element	Polyethylene
6 = Separation deflector	Polyacetal
7 = Upper spring	Stainless steel
8 = Piston	Anodized aluminium
9 = Element replacement visual indicator	Polycarbonate
Seals	NBR

FLOW DIAGRAMS for models with 25 µm filtering element



Ports with interchangeable 1/8 threaded cartridges

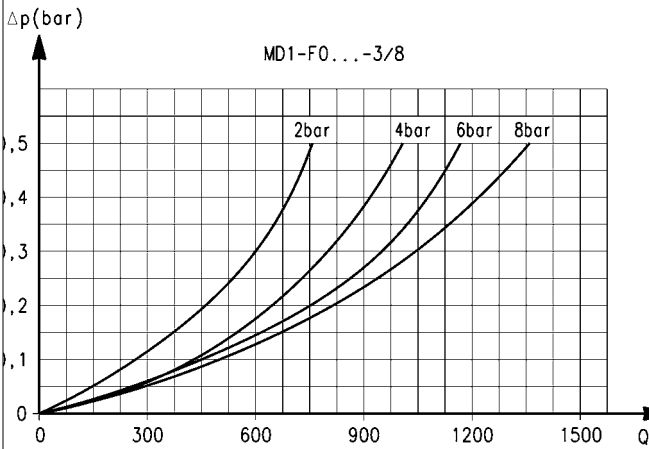
Δp = Pressure drop
Q = Flow



Ports with interchangeable 1/4 threaded cartridges

Δp = Pressure drop
Q = Flow

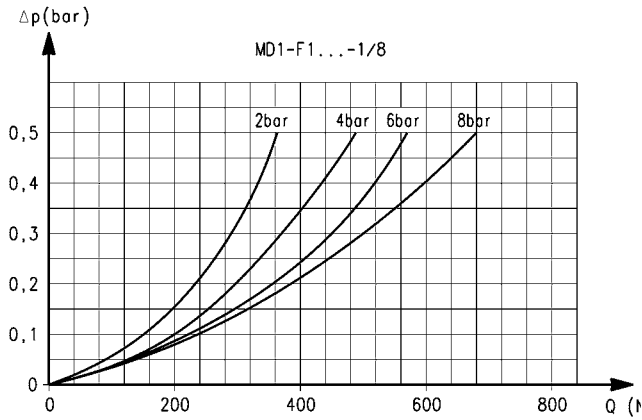
FLOW DIAGRAMS for models with 25 µm filtering element



Ports with interchangeable 3/8 threaded cartridges

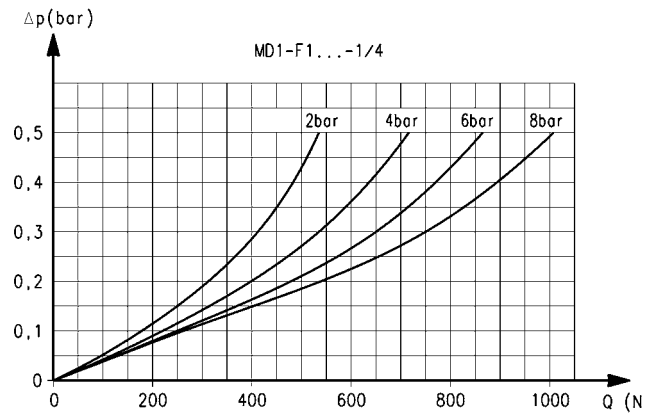
Δp = Pressure drop
Q = Flow

FLOW DIAGRAMS for models with 5 µm filtering element



Ports with interchangeable 1/8 threaded cartridges

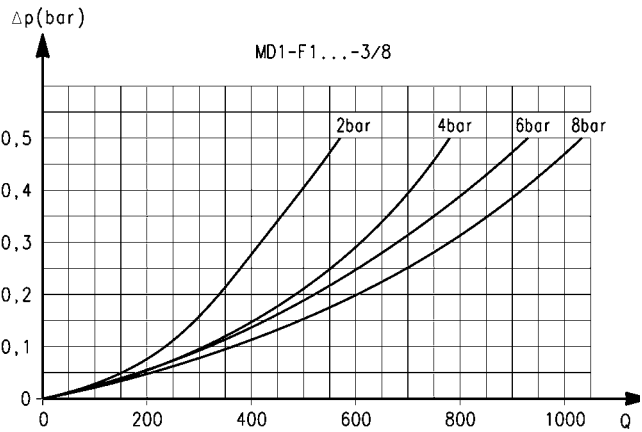
Δp = Pressure drop
Q = Flow



Ports with interchangeable 1/4 threaded cartridges

Δp = Pressure drop
Q = Flow

FLOW DIAGRAMS for models with 5 µm filtering element



Ports with interchangeable 3/8 threaded cartridges

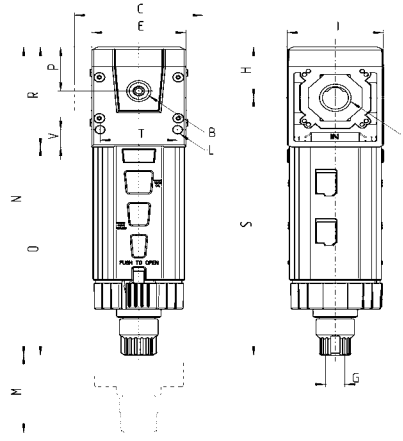
Δp = Pressure drop
Q = Flow

MODULAR FRL SERIES MD

Series MD filters - dimensions



FT01 = filter with open drain and threaded port
 FT02 = filter with semiautomatic manual drain
 FT03 = filter with automatic or depressurizing drain



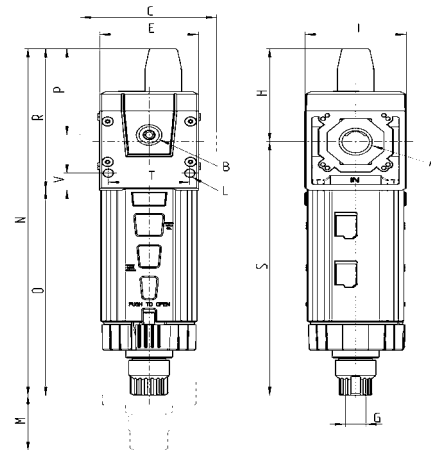
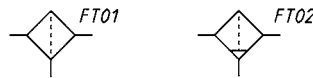
DIMENSIONS

Mod.	A	B	C	E	G	H	I	L	M	N	O	P	R	S	T	V	Weight (Kg)
MD1-F000	-	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-1/8TF	1/8 NPTF	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-1/4TF	1/4 NPTF	G1/8	49	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-3/8TF	3/8 NPTF	G1/8	49	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-Ø4TF	Ø1/4"	G1/8	59	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-Ø5TF	Ø5/16"	G1/8	62	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-Ø6TF	Ø3/8"	G1/8	67	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-1/8	G1/8	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-1/4	G1/4	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-3/8	G3/8	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-6	Ø6	G1/8	59	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-8	Ø8	G1/8	62	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-F000-10	Ø10	G1/8	67	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2

Series MD filters with element replacement visual indicator - dimensions



FT01 = filter with open drain and threaded port
 FT02 = filter with semiautomatic manual drain
 FT03 = filter with automatic or depressurizing drain



DIMENSIONS

Mod.	A	B	C	E	G	H	I	L	M	N	O	P	R	S	T	V	Weight (Kg)
MD1-F001	-	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-1/8TF	1/8 NPTF	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-1/4TF	1/4 NPTF	G1/8	49	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-3/8TF	3/8 NPTF	G1/8	49	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-Ø4TF	Ø1/4"	G1/8	59	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-Ø5TF	Ø5/16"	G1/8	62	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-Ø6TF	Ø3/8"	G1/8	67	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-1/8	G1/8	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-1/4	G1/4	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-3/8	G3/8	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-6	Ø6	G1/8	59	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-8	Ø8	G1/8	62	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-F001-10	Ø10	G1/8	67	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2

Coalescing Filters Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm.

Modular assembly

Bayonet style bowl with technopolymer guard



The coalescing filter is a fine oil separator filter that removes the solids with dimensions from 0.1 to 5 μm and oil vapors with a concentration from 0.01 to 0.1 mg/m^3 . For a proper functioning they require a pre-filtering. It is recommended that filter element be replaced at least every 12 months or 8000 working hours.

The innovative cartridge fitting design of the Series MD facilitates interchangeable port connection. The port cartridges may be female threaded or push-in fittings in various sizes from 1/8" to 3/8". Each module also features additional 1/8" air outlets on the front and back sides.

- » High performance and high purity compressed air
- » Air quality according to ISO 8573-1:2010 standard, Class 1.8.1 and Class 2.8.2
- » Element replacement, visual indicator option
- » Semi-automatic manual or depressurizing condensate drain
- » Version with open drain and 1/8 port
- » Bowl locking system reducing the risk of accidents
- » Additional 1/8" ports on the front and back of each unit provide filtered air.

MODULAR FRL SERIES MD

GENERAL DATA

Construction	modular, compact with filtering element in borosilicate	
Materials	see following page	
Ports	with interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"	
Condensate capacity	24 cc	
Mounting	vertical in-line; wall-mounting by means of through holes in the body or with a support bracket	
Operating temperature	23°F - 122°F / -5°C - 50°C	
Condensate drain	semi-automatic manual (standard); depressurization, protected; without drain with G1/8 port	
Delivered air quality (ISO 8573-1: 2010)	Class 2.8.2 with 1 μm filtering element (pre-filtering with Class 6.8.4 is recommended) Class 1.8.1 with 0.01 μm filtering element (pre-filtering with Class 2.8.2 is recommended)	
Operating pressure	4 - 232 psi / 0.3 - 16 bar	
Nominal flow	see FLOW DIAGRAMS on the following pages	
Oil retain efficiency	99,80% (0.01 μm)	97% (1 μm)
Particles retain efficiency	99,99999% (0.01 μm)	99,999% (1 μm)
Fluid	compressed air	

CODING EXAMPLE

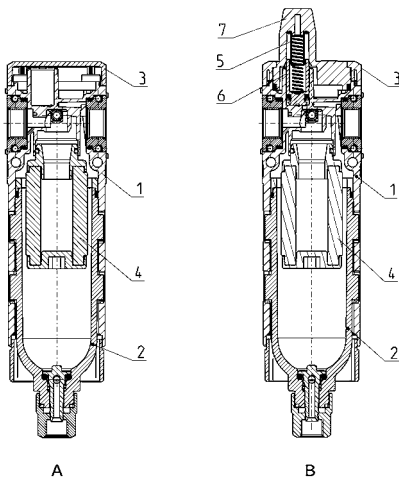
MD	1	-	FC	0	0	0	-	1/8TF
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MD	SERIES
1	DIMENSION: 1 = 42 mm
FC	COALESCING FILTER
0	FILTERING ELEMENT: 0 = 0,01 µm 1 = 1 µm
0	CONDENSATE DRAIN: 0 = semiautomatic-manual 5 = depressurization, protected 8 = with open drain and G1/8 port
0	ELEMENT REPLACEMENT VISUAL INDICATOR: 0 = not present 1 = present
1/8	PORTS (IN - OUT)*: = without ports 6 = tube Ø6 04TF = tube Ø1/4" 8 = tube Ø8 05TF = tube Ø5/16" 10 = tube Ø10 06TF = tube Ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF * NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-FCA0-1/8-1/4

MODULAR FRL SERIES MD

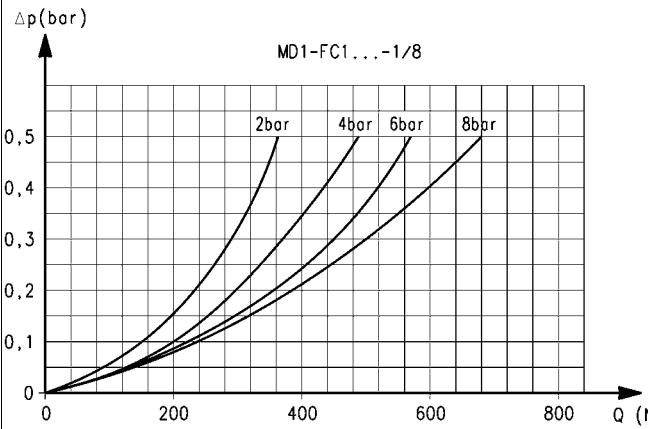
Series MD coalescing filters - materials

A = filter
B = filter with element replacement visual indicator



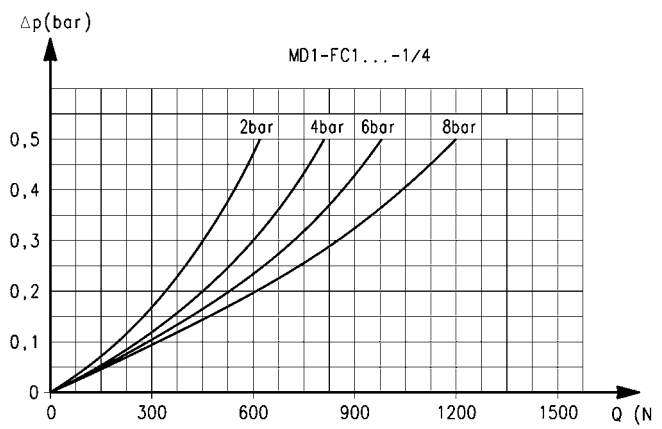
PARTS	MATERIALS
1 = Body	Polyamide
2 = Guide	Polycarbonate
3 = Guard	Polyamide
4 = Filtering element	Borosilicate
5 = Upper spring	Stainless steel
6 = Piston	Anodized aluminium
7 = Element replacement, visual indicator	Polycarbonate
Seals	NBR

FLOW DIAGRAMS for models with 1 µm filtering element



Ports with interchangeable 1/8 threaded cartridges

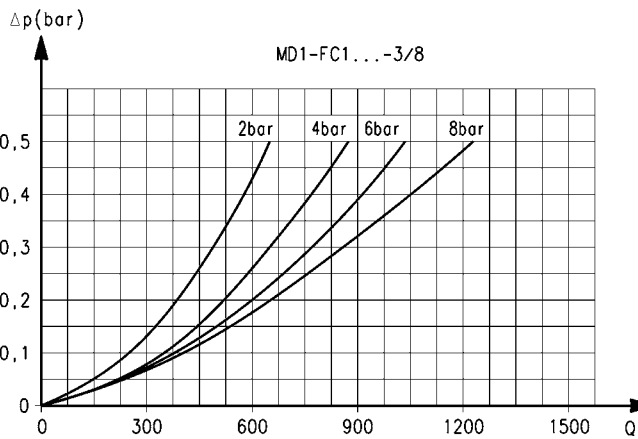
Δp = Pressure drop
Q = Flow



Ports with interchangeable 1/4 threaded cartridges

Δp = Pressure drop
Q = Flow

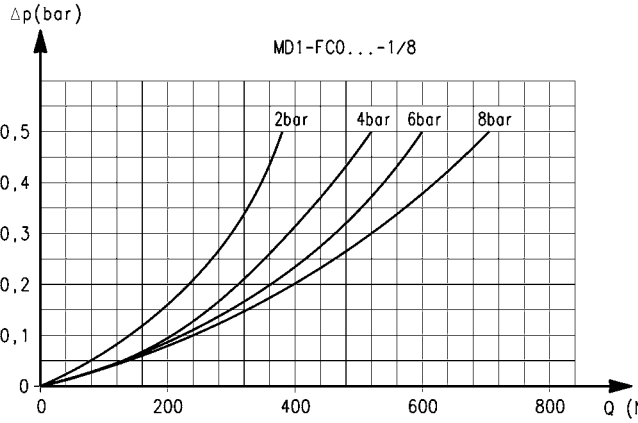
FLOW DIAGRAMS for models with 1 µm filtering element



Ports with interchangeable 3/8 threaded cartridges

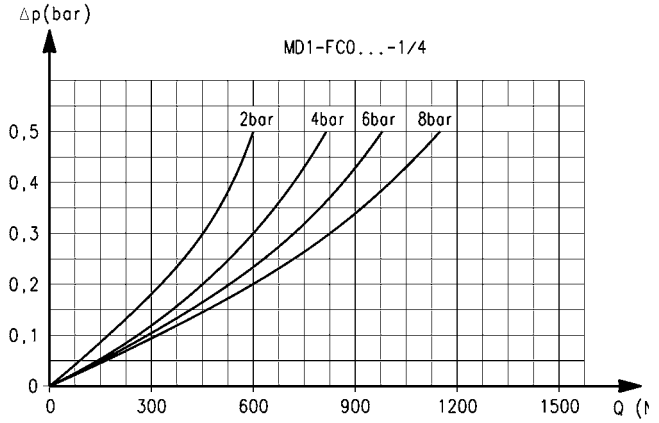
Δp = Pressure drop
Q = Flow

FLOW DIAGRAMS for models with 0.01 µm filtering element



Ports with interchangeable 1/8 threaded cartridges

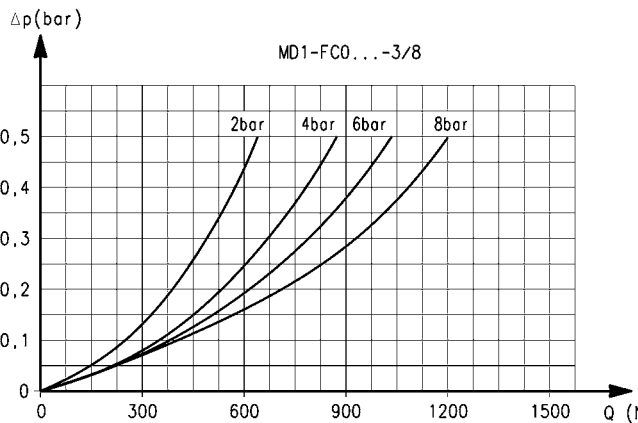
Δp = Pressure drop
Q = Flow



Ports with interchangeable 1/4 threaded cartridges

Δp = Pressure drop
Q = Flow

FLOW DIAGRAMS for models with 0.01 µm filtering element



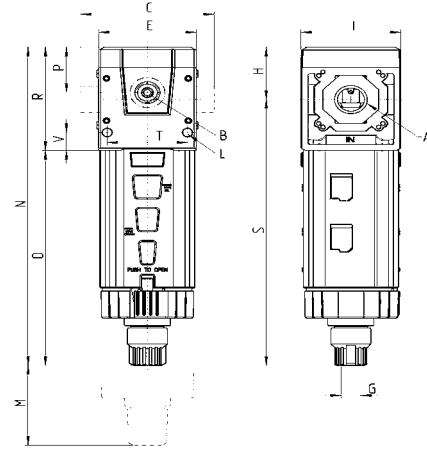
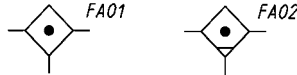
Ports with interchangeable 3/8 threaded cartridges

Δp = Pressure drop
Q = Flow

Series MD coalescing filters - dimensions



FA01 = coalescing filter with open drain and threaded port
 FA02 = coalescing filter with semi-automatic manual drain
 FA03 = coalescing filter with automatic or depressurizing drain



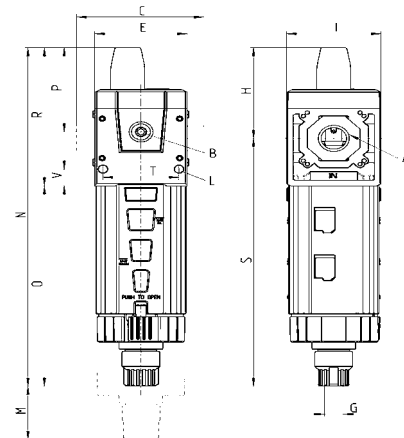
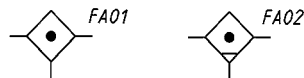
DIMENSIONS

Mod.	A	B	C	E	G	H	I	L	M	N	O	P	R	S	T	V	Weight (Kg)
MD1-FC000	-	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-1/8TF	1/8 NPTF	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-1/4TF	1/4 NPTF	G1/8	49	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-3/8TF	3/8 NPTF	G1/8	49	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-04TF	Ø1/4"	G1/8	59	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-05TF	Ø5/16"	G1/8	62	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-06TF	Ø3/8"	G1/8	67	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-1/8	G1/8	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-1/4	G1/4	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-3/8	G3/8	G1/8	42	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-6	Ø6	G1/8	59	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-8	Ø8	G1/8	62	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2
MD1-FC000-10	Ø10	G1/8	67	42	G1/8	26.2	43	Ø4	90	159.4	107.7	22.7	51.7	133.2	34.6	9	0.2

Series MD coalescing filters with element replacement visual indicator dimensions



FA01 = coalescing filter with open drain and threaded port
 FA02 = coalescing filter with semi-automatic manual drain
 FA03 = coalescing filter with automatic or depressurizing drain



DIMENSIONS

Mod.	A	B	C	E	G	H	I	L	M	N	O	P	R	S	T	V	Weight (Kg)
MD1-FC001	-	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-1/8TF	1/8 NPTF	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-1/4TF	1/4 NPTF	G1/8	49	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-3/8TF	3/8 NPTF	G1/8	49	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-04TF	Ø1/4"	G1/8	59	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-05TF	Ø5/16"	G1/8	62	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-06TF	Ø3/8"	G1/8	67	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-1/8	G1/8	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-1/4	G1/4	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-3/8	G3/8	G1/8	42	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-6	Ø6	G1/8	59	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-8	Ø8	G1/8	62	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2
MD1-FC001-10	Ø10	G1/8	67	42	G1/8	48.7	43	Ø4	90	181.9	107.7	45.2	74.2	133.2	34.6	9	0.2

Activated Carbon Filters Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm.

Modular assembly

Bayonet style bowl with technopolymer guard



- » Removal of oil, liquid and gas components from compressed air through active carbon
- » Air quality in compliance with ISO 8573-1 standard, Class 1.7.1
- » Visual filter element replacement indicator option
- » Bowl locking system reducing the risk of accidents
- » Additional 1/8" ports on the front and back of each unit provide filtered air

Placement of activated carbon filters downstream of mechanical filters is critical to retain carbon filter performance. Given the characteristics of this filter, it is recommended to replace the filter element every 6 months or 1000 working hours at minimum.

The operating principle is based on the adsorption characteristic of activated carbon which is composed of extremely porous fibers placed on different layers. These fibers create a cross-linked matrix which are able to adsorb contaminants in the air, for example oil vapors/smoke, as well as odors generated from these contaminants.

GENERAL DATA

Construction	modular, compact with activated carbon filtering element
Materials	see following page
Ports	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Mounting	vertical in-line; wall-mounting by means of through holes in the body or with a support bracket
Operating temperature	10°F - 104°F / 10°C - 40°C (t max = 140°F / 60°C)
Condensate drain	NOT PRESENT
Delivered air quality (ISO 8573-1: 2010)	Class 1.7.1 (pre-filtering in Class 1.8.1 is recommended)
Operating pressure	4 - 232 psi / 0.3 - 16 bar
Nominal flow	see FLOW DIAGRAMS on the following pages
Filtering element	active carbon
Residual oil content	< 0.003 mg/m ³
Fluid	compressed air

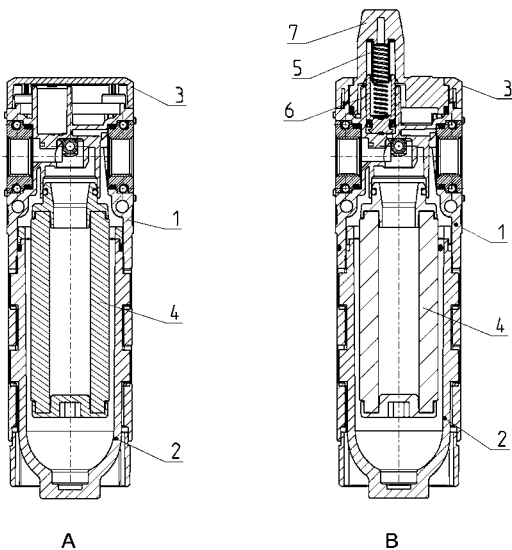
CODING EXAMPLE

MD	1	-	FCA	0	-	1/8TF	
----	---	---	-----	---	---	-------	--

MD	SERIES
1	DIMENSION: 1 = 42 mm
FCA	ACTIVATED CARBON FILTER
0	ELEMENT REPLACEMENT VISUAL INDICATOR: 0 = not present 1 = present
1/8	PORTS (IN - OUT)*: = without ports 6 = tube Ø6 04TF = tube Ø1/4" 8 = tube Ø8 05TF = tube Ø5/16" 10 = tube Ø10 06TF = tube Ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF * NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-FCA0-1/8-1/4

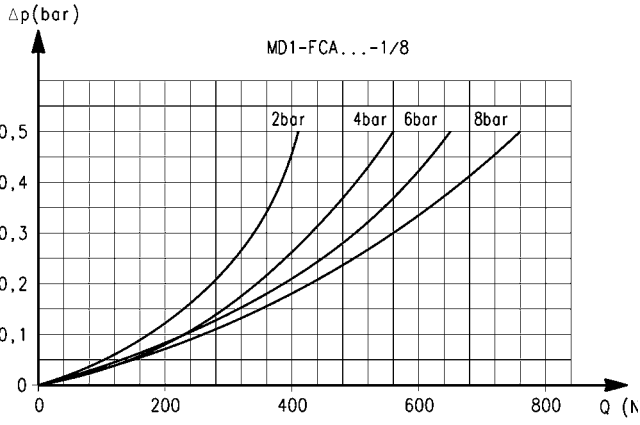
Series MD activated carbon filters - materials

A = filter
B = filter with element replacement visual indicator



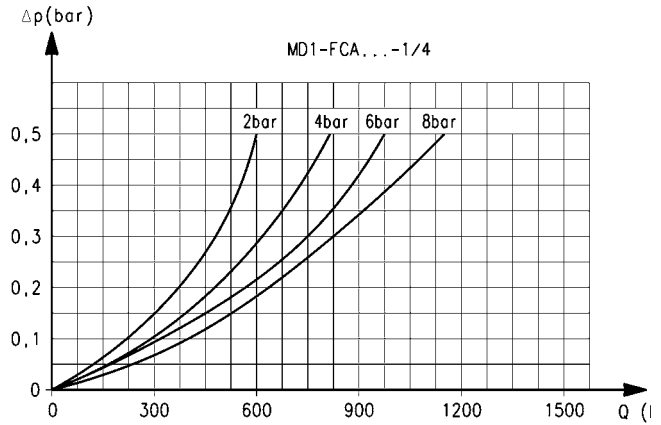
PARTS	MATERIALS
1 = Body	Polyamide
2 = Guide	Polycarbonate
3 = Guard	Polyamide
4 = Filtering element	Active carbons
5 = Upper spring	Stainless steel
6 = Piston	Anodized aluminium
7 = Element replacement visual indicator	Polycarbonate
Seals	NBR

FLOW DIAGRAMS



Ports with interchangeable 1/8 threaded cartridges

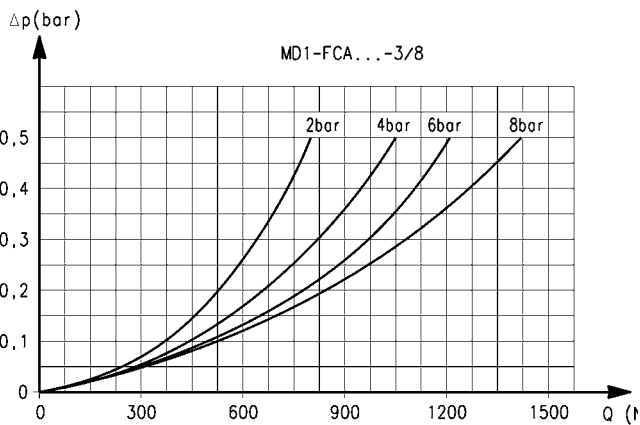
Δp = Pressure drop
 Q = Flow



Ports with interchangeable 1/4 threaded cartridges

Δp = Pressure drop
 Q = Flow

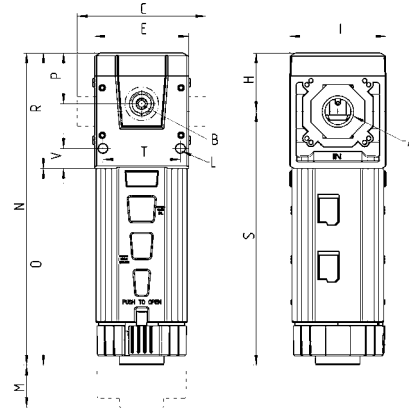
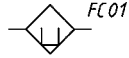
FLOW DIAGRAMS



Ports with interchangeable 3/8 threaded cartridges

Δp = Pressure drop
 Q = Flow

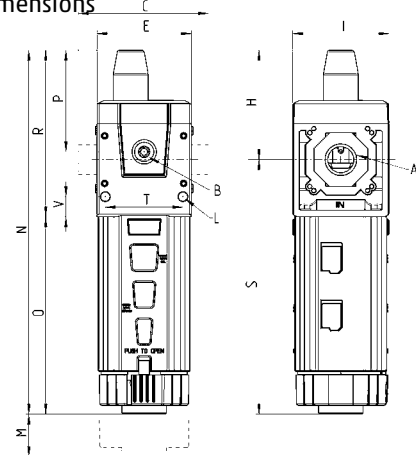
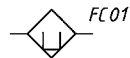
Series MD activated carbon filters - dimensions



DIMENSIONS

Mod.	A	B	C	E	H	I	L	M	N	O	P	R	S	T	V	Weight (Kg)
MD1-FCA0	-	G1/8	42	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-1/8TF	1/8 NPTF	G1/8	42	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-1/4TF	1/4 NPTF	G1/8	49	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-3/8TF	3/8 NPTF	G1/8	49	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-04TF	Ø1/4"	G1/8	59	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-05TF	Ø5/16"	G1/8	62	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-06TF	Ø3/8"	G1/8	67	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-1/8	G1/8	G1/8	42	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-1/4	G1/4	G1/8	42	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-3/8	G3/8	G1/8	42	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-6	Ø6	G1/8	47	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-8	Ø8	G1/8	62	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2
MD1-FCA0-10	Ø10	G1/8	67	42	26.2	43	Ø4	90	139.7	88	22.7	51.7	113.5	34.6	9	0.2

Series MD activated carbon filters with visual indicator - dimensions



DIMENSIONS

Mod.	A	B	C	E	H	I	L	M	N	O	P	R	S	T	V	Weight (Kg)
MD1-FCA1	-	G1/8	42	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-1/8TF	1/8 NPTF	G1/8	42	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-1/4TF	1/4 NPTF	G1/8	49	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-3/8TF	3/8 NPTF	G1/8	49	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-04TF	Ø1/4"	G1/8	59	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-05TF	Ø5/16"	G1/8	62	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-06TF	Ø3/8"	G1/8	67	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-1/8	G1/8	G1/8	42	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-1/4	G1/4	G1/8	42	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-3/8	G3/8	G1/8	42	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-6	Ø6	G1/8	59	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-8	Ø8	G1/8	62	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-FCA1-10	Ø10	G1/8	67	42	48.7	43	Ø4	90	162.2	88	45.2	74.2	113.5	34.6	9	0.2

Pressure Regulators Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm. .

Versions: single, combined with other functions, Manifold



- » Minimal pressure decrease
- » Knob with position lock
- » Tamper-proof system (lockable regulator)
- » With or without overpressure exhaust (relieving)
- » MANIFOLD version available
- » Version with rapid backflow available
- » Calibrated or locked versions available

The cartridge fitting connections allow for the regulators to be oriented up, down or straight out. Once the regulator knob is locked by pushing down, it is possible to insert as many security locks through the 4 holes. An optional rapid backflow valve allows backflow of downstream air. The choice of four different springs enable a more accurate adjustment of the pressure.

The Series MD offers a solution that ensures savings in terms of installation time, space and costs. The innovative cartridge fitting design of the Series MD facilitates interchangeable port connections. The port cartridges may be female threaded or push-in fittings in various sizes from 1/8" to 3/8". Each module also features additional 1/8" air outlets on the front and back sides.

GENERAL DATA

Construction	modular, compact with pre-formed diaphragm
Materials	see following page
Ports	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Mounting	in-line; wall-mounting by means of through holes in the body or with a support bracket; panel mounting
Operating temperature	23°F - 122°F / -5°C - 50°C
Inlet pressure	0 - 232 psi / 0 - 16 bar
Outlet pressure	0 - 29 psi / 0 - 2 bar 0 - 58 psi / 0 - 4 bar 7 - 101 psi / 0.5 - 7 bar 7 - 145 psi / 0.5 - 10 bar
Overpressure exhaust	with relieving (standard) without relieving
Nominal flow	see FLOW DIAGRAMS on the following pages
Fluid	compressed air

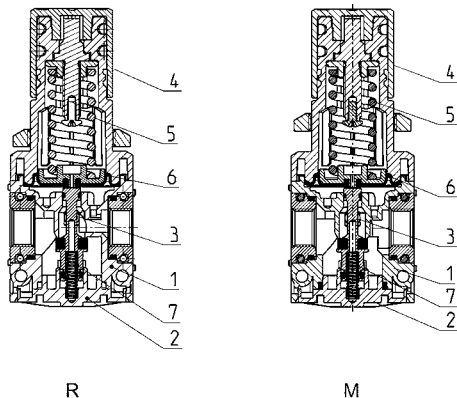
CODING EXAMPLE

MD 1 - R T 0 0 - 1/4 - ■ - - ●

MD	SERIES
1	DIMENSION: 1 = 42 mm
R	TYPER OF REGULATOR: R = pressure regulator M = Manifold pressure regulator
T	OPERATING PRESSURE (1 bar = 14.5 psi): 0 = 7.25 - 145 psi / 0.5 - 10 bar 2 = 0 - 29 psi / 0 - 2 bar 4 = 0 - 58 psi / 0 - 4 bar 7 = 7.25 - 101 psi / 0.5 - 7 bar T = calibrated (adjustable to a maximum pressure) ** B = fixed pressure **
0	DESIGN TYPE: 0 = with relieving 1 = without relieving 2 = with relieving / rapid backflow, VS version 3 = without relieving / rapid backflow, VS version
0	PRESSURE GAUGE: 0 = without pressure gauge (with 1/8 port)
1/4	PORTS (IN - OUT)*: = without ports 6 = tube Ø6 04TF = tube Ø1/4" 8 = tube Ø8 05TF = tube Ø5/16" 10 = tube Ø10 06TF = tube Ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF * NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-FCA0-1/8-1/4
<p>**IF THE REGULATOR IS CALIBRATED OR FIXED, AFTER THE PORTS ADD THE INLET PRESSURE "■" AND THE OUTLET PRESSURE "●", AFTER THE PORTS</p> <p>INLET PRESSURE: ■ = enter the SUPPLY pressure value</p> <p>OUTLET PRESSURE: ● = enter the OUTLET pressure value for the FIXED regulator or the maximum value of the ADJUSTABLE pressure for the CALIBRATED regulator</p> <p>Example of a calibrated regulator with Inlet Pressure = 6.3 bar and Outlet Pressure = 4.5 bar Complete part number: MD1-RT00-1/4-6.3-4.5</p>	

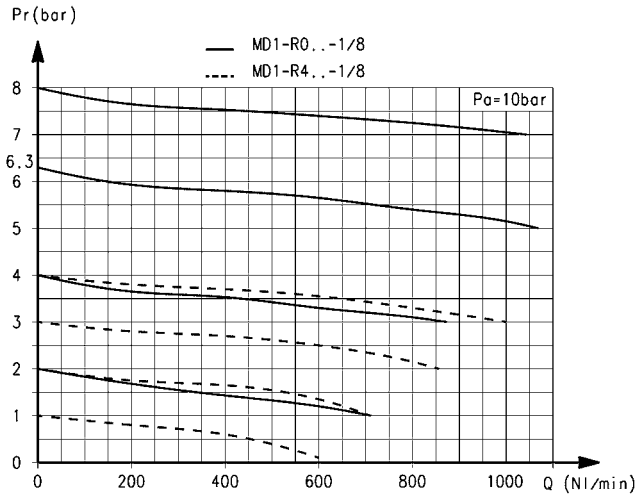
Pressure regulators Series MD - materials

R = pressure regulator
M = Manifold pressure regulator



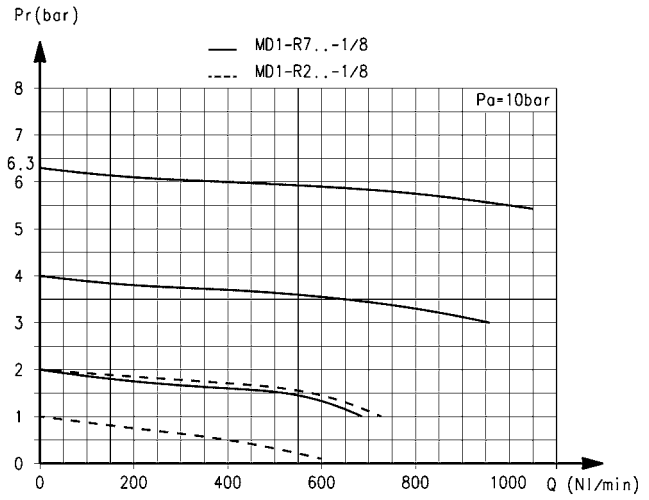
PARTS	MATERIALS
1 = Body	Polyamide
2 = Valve holder plug	Polyamide
3 = Poppet	Brass
4 = Knob	Polyamide
5 = Upper spring	Zinc-plated steel
6 = Diaphragm	NBR
7 = Lower spring	Stainless steel
Seals	NBR

FLOW DIAGRAMS FOR MD1 PRESSURE REGULATORS - 1/8 ports



Pr = Regulated pressure
Q = Flow

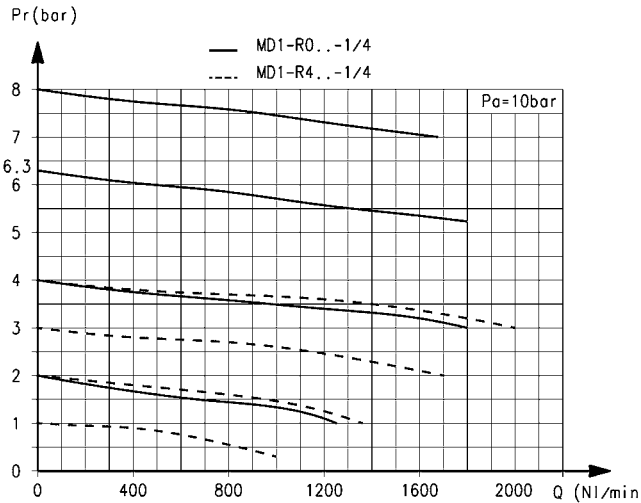
Pa = Inlet pressure



Pr = Regulated pressure
Q = Flow

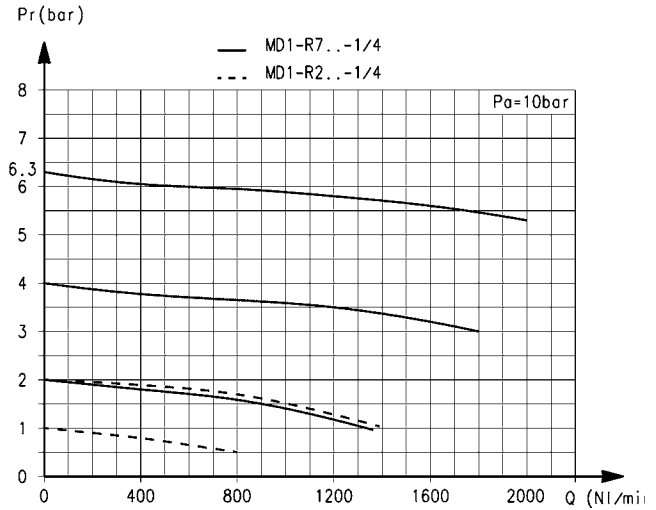
Pa = Inlet pressure

FLOW DIAGRAMS FOR MD1 PRESSURE REGULATORS - 1/4 ports



Pr = Regulated pressure
Q = Flow

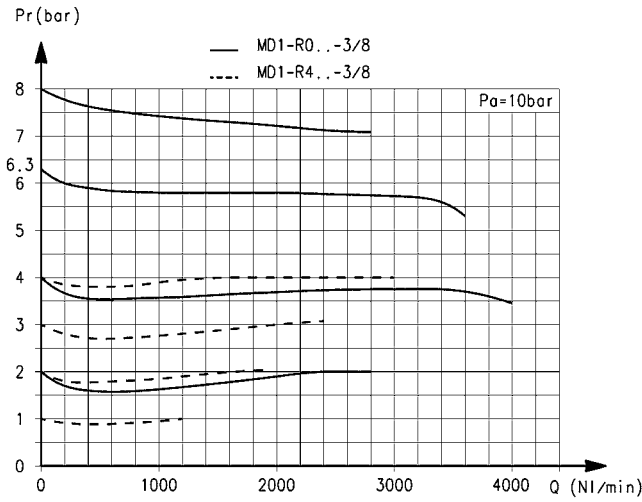
Pa = Inlet pressure



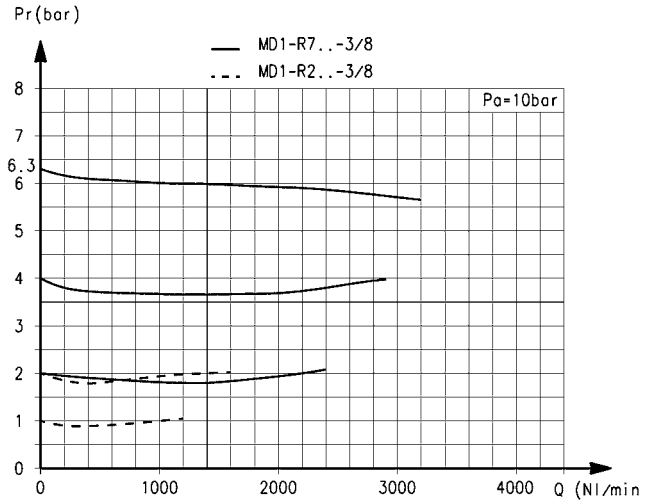
Pr = Regulated pressure
Q = Flow

Pa = Inlet pressure

FLOW DIAGRAMS FOR MD1 PRESSURE REGULATORS - 3/8 ports



Pr = Regulated pressure
Q = Flow
Pa = Inlet pressure

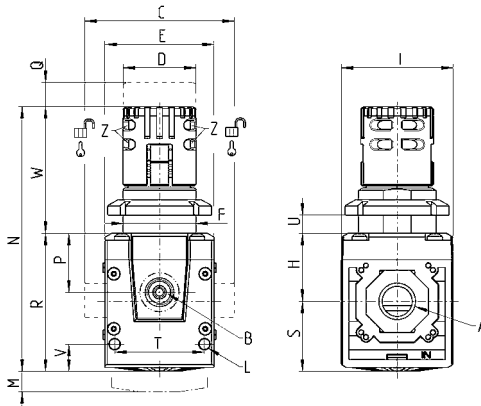
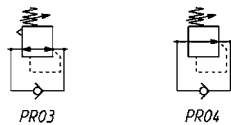


Pr = Regulated pressure
Q = Flow
Pa = Inlet pressure

Series MD pressure regulators - dimensions

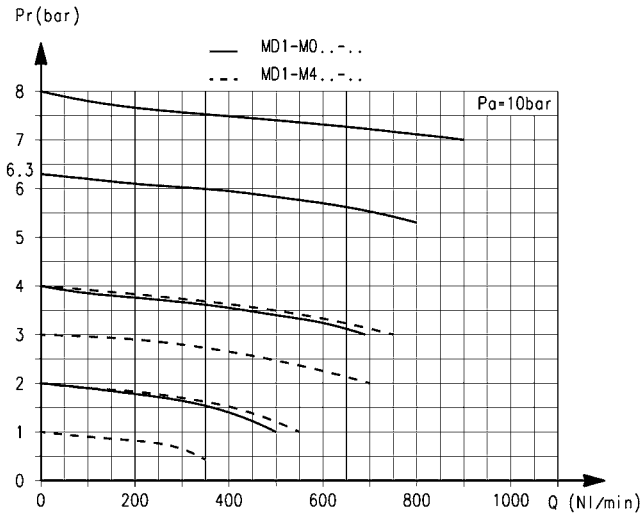


PR03 = regulator with relieving and rapid backflow valve
PR04 = regulator without relieving and with rapid backflow valve

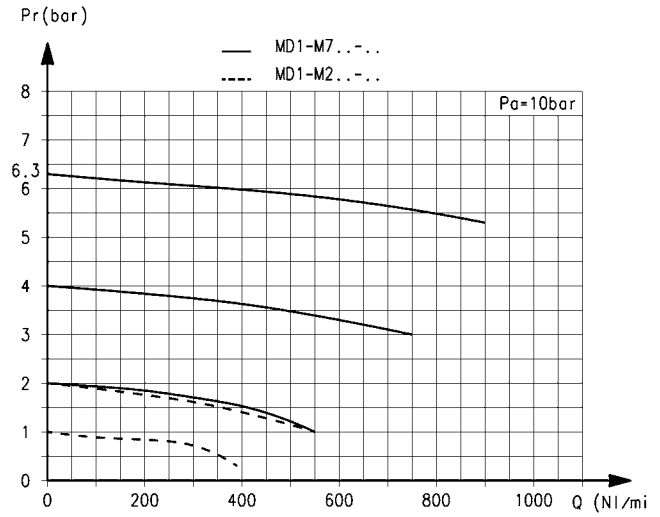


Mod.	A	B	C	D	E	F	H	I	L	M	N	P	Q	R	S	T	U	V	W	Z	Weight (Kg)
MD1-R000	-	G1/8	42	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-1/8TF	1/8 NPTF	G1/8	42	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-1/4TF	1/4 NPTF	G1/8	49	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-3/8TF	3/8 NPTF	G1/8	49	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-Ø4TF	Ø1/4"	G1/8	59	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-Ø5TF	Ø5/16"	G1/8	62	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-Ø6TF	Ø3/8"	G1/8	67	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-1/8	G1/8	G1/8	42	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-1/4	G1/4	G1/8	42	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-3/8	G3/8	G1/8	42	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-6	Ø6	G1/8	59	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-8	Ø8	G1/8	62	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2
MD1-R000-10	Ø10	G1/8	67	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0 - 11	10.5	48.8	Ø3.2	0.2

FLOW DIAGRAMS FOR MD1 PRESSURE REGULATORS - MANIFOLD



Pr = Regulated pressure
Q = Flow
Pa = Inlet pressure



Pr = Regulated pressure
Q = Flow
Pa = Inlet pressure

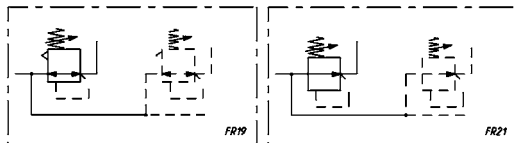
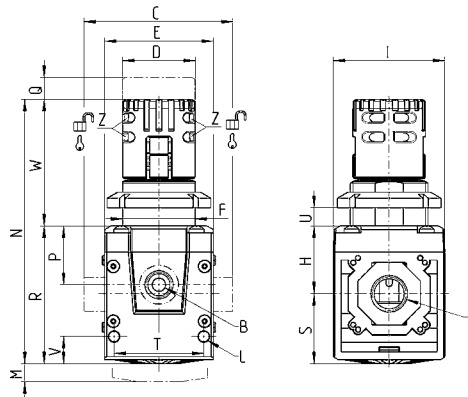
Series MD pressure regulators - dimensions



FR19 = Manifold regulator with relieving and without pressure gauge
FR21 = Manifold regulator without relieving and without pressure gauge

With the Manifold version it is possible to realize a battery of regulators which are fed by a single source of inlet pressure. Each regulator can be set up at any pressure (lower than the inlet pressure). The front and rear connection of each regulator are regulated pressure ports.

There is no limit to the number of regulators that can be connected.



Mod.	A	B	C	D	E	F	H	I	L	M	N	P	Q	R	S	T	U	V	W	Z	Weight (Kg)
MD1-M000	-	G1/8	42	Ø28	42	M28X1,5	26.2	43	Ø4	16	102	22.7	4	53.2	27	34.6	0-11	10.5	48.8	Ø3.2	0.2

Lubricators Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm.

Modular assembly

Bayonet style bowl with technopolymer guard



- » Oil injection adjustment screw
- » Ability to refill the oil even with system under pressure
- » High flow
- » Visual oil level indication through plastic cover openings
- » Bowl locking system reducing the risk of accidents
- » Additional 1/8" ports on the front and back of each unit provide lubricated air.

The lubricator allows the atomization and incorporation of lubricating oil with incoming air by way of an adjustable venturi. This conditioned air improves the function and extends the life of all components.

Oil injection can be adjusted by way of accessible adjustment screws to prevent over-oiling of system.

GENERAL DATA

Construction	modular, compact
Materials	see following page
Ports	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Oil capacity	40 cc
Oil refilling	even during use
Mounting	in vertical position by means of through holes in the body
Operating temperature	23°F - 122°F / -5°C - 50°C
Oil for lubrication	use ISO VG32 oils. Once applied, the lubrication should never be interrupted.
Operating pressure	4 - 232 psi / 0.3 - 16 bar
Min. air consumption for lubrication at 1 bar	.52 SCFM / 15 NL/min
Min. air consumption for lubrication at 6 bar	.88 SCFM / 25 NL/min
Nominal flow	see FLOW DIAGRAMS on the following pages

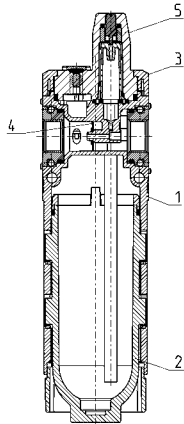
MODULAR FRL SERIES MD

CODING EXAMPLE

MD	1	-	L	0	0	-	1/8TF
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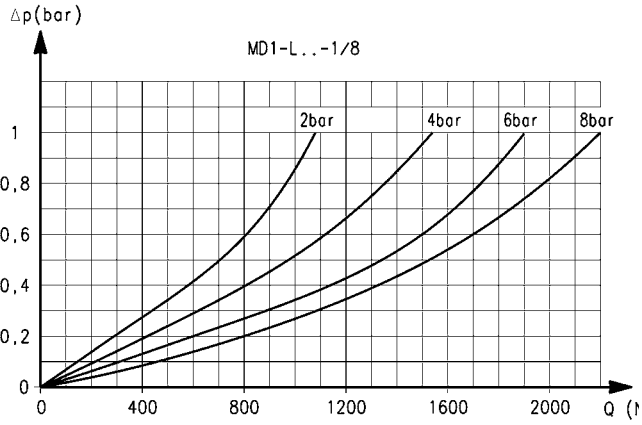
MD	SERIES
1	DIMENSION: 1 = 42 mm
L	LUBRICATOR
00	DESIGN TYPE: 00 = oil mist with refill valve 10 = oil mist WITHOUT refill valve
1/8	PORTS (IN - OUT)*: = without ports 6 = tube Ø6 04TF = tube Ø1/4" 8 = tube Ø8 05TF = tube Ø5/16" 10 = tube Ø10 06TF = tube Ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF * NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-L00-1/8-1/4

Series MD lubricators - materials



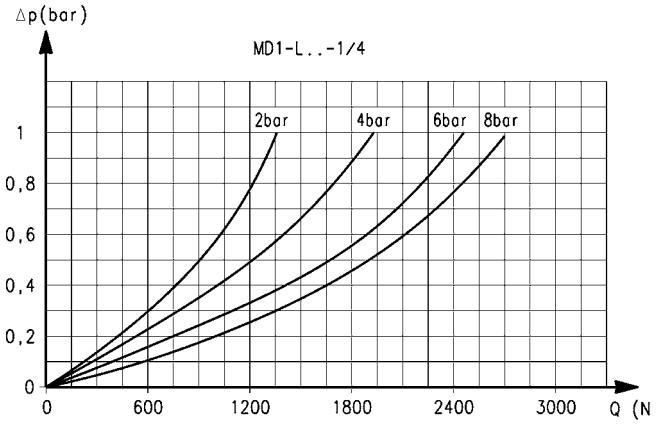
PARTS	MATERIALS
1 = Body	Polyamide
2 = Guide	Polycarbonate
3 = Guard	Polyamide
4 = Diaphragm	NBR
5 = Visual indicator	Polycarbonate
Seals	NBR

FLOW DIAGRAMS



Ports with interchangeable 1/8 threaded cartridges

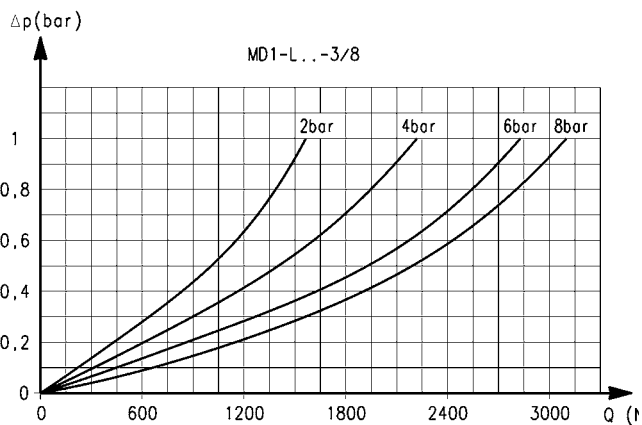
Δp = Pressure drop
Q = Flow



Ports with interchangeable 1/4 threaded cartridges

Δp = Pressure drop
Q = Flow

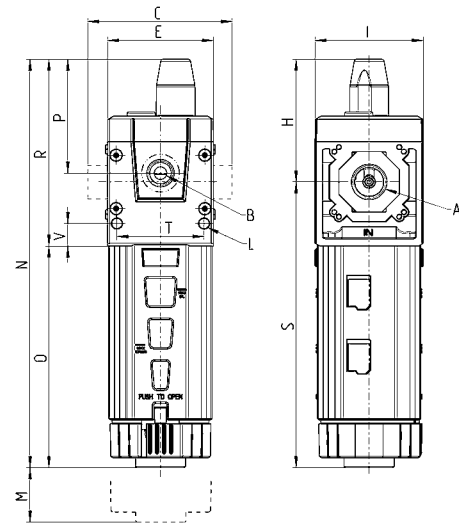
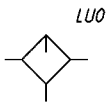
FLOW DIAGRAMS



Ports with interchangeable 3/8 threaded cartridges

Δp = Pressure drop
Q = Flow

Series MD lubricators - dimensions



DIMENSIONS

Mod.	A	B	C	E	H	I	L	M	N	O	P	R	S	T	V	Weight (Kg)
MD1-L00	-	G1/8	42	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-1/8TF	1/8 NPTF	G1/8	42	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-1/4TF	1/4 NPTF	G1/8	49	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-3/8TF	3/8 NPTF	G1/8	49	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-04TF	Ø1/4"	G1/8	59	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-05TF	Ø5/16"	G1/8	62	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-06TF	Ø3/8"	G1/8	67	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-1/8	G1/8	G1/8	42	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-1/4	G1/4	G1/8	42	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-3/8	G3/8	G1/8	42	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-6	Ø6	G1/8	59	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-8	Ø8	G1/8	62	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2
MD1-L00-10	Ø10	G1/8	67	42	48.7	43	Ø4	75	162.2	88	45.2	74.2	113.5	34.6	9	0.2

Pressure Filter-Regulators Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm.

Modular assembly

Bayonet style bowl with technopolymer guard



- » Filtering between 25 μ m or 5 μ m
- » Minimum pressure drops
- » Knob with position lock
- » Tamper-proof system (lockable regulator)
- » Bowl locking system reducing the risk of accidents

Series MD filter-regulators integrate filter and pressure regulators into a single unit reducing overall dimensions. The optional rapid backflow valve allows the rapid exhaust of the backflow of downstream air. The choice of four different springs enable a more accurate adjustment of the pressure.

The innovative cartridge fitting design of the Series MD facilitates interchangeable port connection. The port cartridges may be female threaded or push-in fittings in various sizes from 1/8" to 3/8". Each module also features additional 1/8" air outlets on the front and back sides.

GENERAL DATA

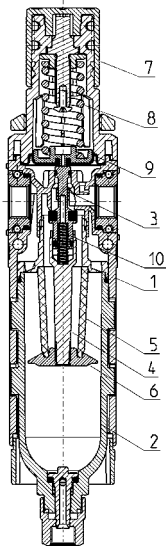
Construction	modular, compact with filtering element in HDPE
Materials	see following page
Ports	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Condensate capacity	24 cc
Mounting	in-line; wall-mounting by means of through holes in the body or with a support bracket; panel mounting
Operating temperature	23°F - 122°F / -5°C - 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Porosity of the filtering element	25 μ m (standard) 5 μ m
Condensate drain	semi-automatic manual (standard); depressurization, protected; with open drain and G1/8 port
Delivered air quality (ISO 8573-1: 2010)	According to ISO 8573-1: 2010 standard Class 6.8.4 with 5 μ m filtering element Class 7.8.4 with 25 μ m filtering element
Outlet Pressure	0 - 29 psi / 0 - 2 bar 0 - 58 psi / 0 - 4 bar 7 - 101 psi / 0.5 - 7 bar 7 - 145 psi / 0.5 - 10 bar
Nominal flow	see FLOW DIAGRAMS on the following pages
Fluid	compressed air

CODING EXAMPLE

MD	1	-	FR	0	0	0	0	-	1/8TF
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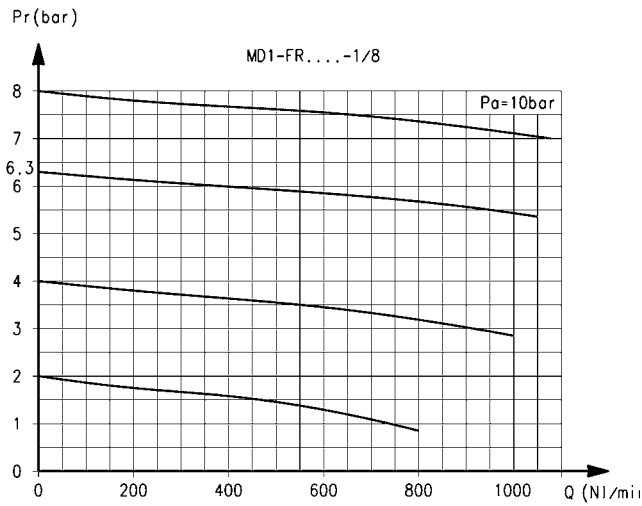
MD	SERIES
1	DIMENSION: 1 = 42 mm
FR	FILTER-REGULATOR
0	FILTERING ELEMENT WITH DESIGN TYPE: 0 = 25 µm with relieving 1 = 5 µm with relieving 2 = 25 µm without relieving (with semiautomatic-manual drain only) 3 = 5 µm without relieving (with semiautomatic-manual drain only) 4 = 25 µm with relieving and bypass valve 5 = 5 µm with relieving and bypass valve 6 = 25 µm without relieving with bypass valve (with semiautomatic-manual drain only) 7 = 5 µm without relieving with bypass valve (with semiautomatic-manual drain only)
0	CONDENSATE DRAIN: 0 = semiautomatic-manual 5 = depressurization, protected 8 = with open drain, with G1/8 port
0	OPERATING PRESSURE (1 bar = 14.5 psi): 0 = 7.25 - 145 psi / 0.5 - 10 bar 2 = 0 - 29 psi / 0 - 2 bar 4 = 0 - 58 psi / 0 - 4 bar 7 = 7.25 - 101 psi / 0.5 - 7 bar
0	PRESSURE GAUGE: 0 = without pressure gauge (with 1/8 port)
1/8	PORTS (IN - OUT)*: = without ports 6 = tube ø6 04TF = tube ø1/4" 8 = tube ø8 05TF = tube ø5/16" 10 = tube ø10 06TF = tube ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF * NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-FR0000-1/8-1/4

Series MD filter-regulators - materials



PARTS	MATERIALS
1 = Body	Polyamide
2 = Guide	Polycarbonate
3 = Poppet	Brass
4 = Valve guide	Polyacetal
5 = Filtering element	Polyethylene
6 = Separation deflector	Polyacetal
7 = Knob	Polyamide
8 = Upper spring	Zinc-plated steel
9 = Diaphragm	NBR
10 = Lower spring	Stainless steel
Seals	NBR

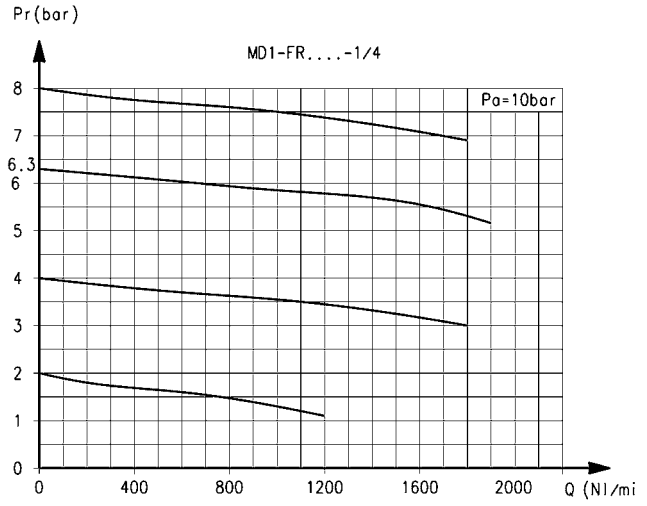
FLOW DIAGRAMS



Ports with interchangeable G1/8 threaded cartridges

Pr = Regulated pressure
Q = Flow

Pa = Inlet pressure

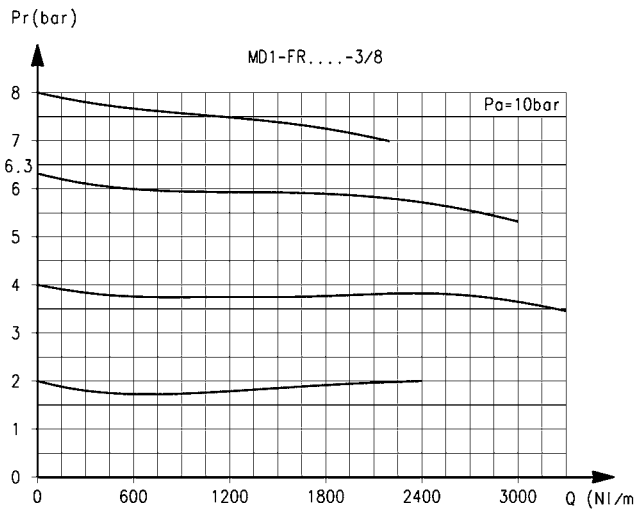


Ports with interchangeable G1/4 threaded cartridges

Pr = Regulated pressure
Q = Flow

Pa = Inlet pressure

FLOW DIAGRAMS

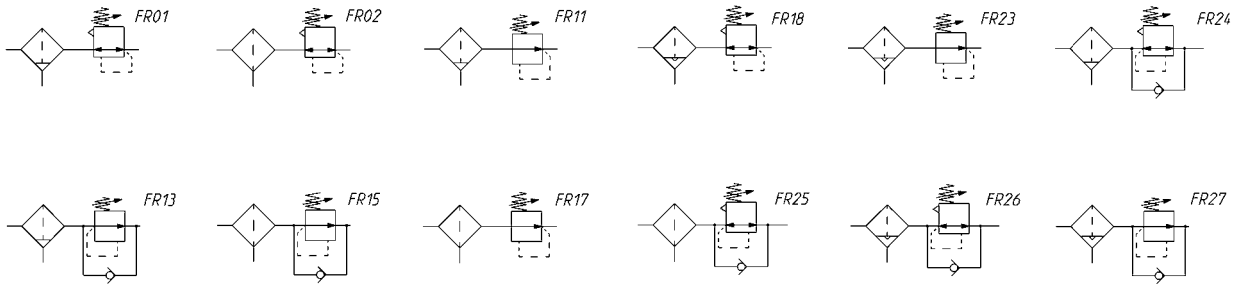


Ports with interchangeable G3/8 threaded cartridges

Pr = Regulated pressure
Q = Flow

Pa = Inlet pressure

PNEUMATIC SYMBOLS

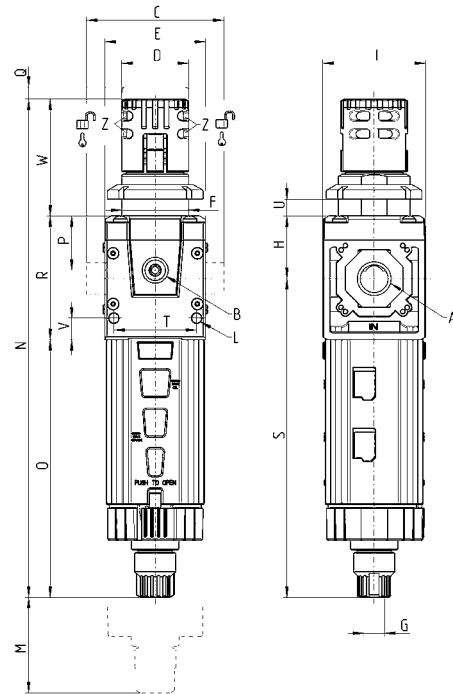


FR01 = filter-regulator with relieving and manual drain
 FR02 = filter-regulator with relieving, without drain
 FR11 = filter-regulator no relieving, with manual drain
 FR13 = filter-regulator no relieving and rapid backflow valve, with manual drain
 FR15 = filter-regulator without relieving, rapid backflow valve and manual drain
 FR17 = filter-regulator without relieving and drain

FR18 = filter-reg. with relieving and automatic drain
 FR23 = filter-reg. no relieving, with automatic drain
 FR24 = filter-reg. with relieving, rapid backflow valve and manual drain
 FR25 = filter-reg. with relieving and rapid backflow valve, no drain
 FR26 = filter-reg. with relieving, rapid backflow valve, automatic drain
 FR27 = filter-reg. without relieving and rapid backflow valve, with automatic drain

MODULAR FRL SERIES MD

Series MD filter-regulators - dimensions



Mod.	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	U	V	W	Z	Weight (Kg)
MD1-FR000	-	G1/8	42	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-1/8TF	1/8 NPTF	G1/8	42	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-1/4TF	1/4 NPTF	G1/8	49	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-3/8TF	3/8 NPTF	G1/8	49	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-04TF	Ø1/4"	G1/8	59	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-05TF	Ø5/16"	G1/8	62	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-06TF	Ø3/8"	G1/8	67	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-1/8	G1/8	G1/8	42	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-1/4	G1/4	G1/8	42	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-3/8	G3/8	G1/8	42	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-6	Ø6	G1/8	59	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-8	Ø8	G1/8	62	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2
MD1-FR000-10	Ø10	G1/8	67	Ø28	42	M28X1,5	G1/8	26.2	43	Ø4	110	208.2	107.7	22.7	4	51.7	133.2	34.6	0 - 11	9	48.8	Ø3.2	0.2

Lockable Isolation 3/2-way Valves Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm.

Modular assembly

Manual, electro-pneumatic, servo-pilot and pneumatic control



- » Standard tamperproof lock-out (manual valve)
- » 24 V, 110 V or 230 V coils (see the section 2.2.35)
- » Solenoid valve with or without manual override available in different types
- » Additional 1/8" ports on the front and back of each unit provide air from inlet port

The Series MD offers multi-sector solutions that ensure saving in terms of installation time, space and costs. Series MD lockable isolation valves allow the inlet and exhaust of compressed air from the plant and can meet several application requirements.

The electric version can be equipped with different types of manual override (Push & Turn, Push-in, retaining lever). Moreover, a version without override is also available. The manually operated valve can be locked thanks to the use of padlocks.

GENERAL DATA

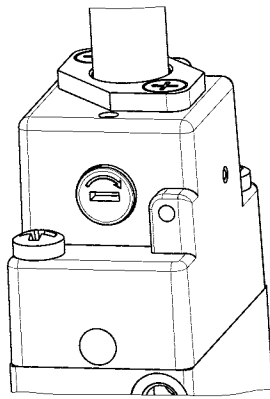
Construction	modular, compact, spool-type
Materials	see following page
Ports	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Mounting	in-line; wall-mounting by means of through holes in the body or with a support bracket; panel-mounting (for manually operated version only)
Operating temperature	23°F - 122°F / -5°C - 50°C
Operating pressure	Manual valve: -11.6 - 145 psi / -0.8 - 10 bar Electro-pneumatic valve: 29 - 145 psi / 2 - 10 bar Servopilot or pneumatic valve: -11.6 - 145 psi / 0.8 - 10 bar (with pilot 29 - 145 psi / 2 - 10 bar)
Nominal flow	see FLOW DIAGRAMS on the following pages
Nominal exhaust flow at 6 bar with $\Delta p = 1$ bar	30 SCFM / 850 NI/min
Fluid	compressed air

CODING EXAMPLE

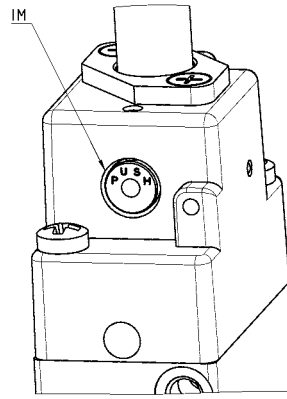
MD	1	-	V	01	-	1/8TF	
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MD	SERIES						
1	DIMENSION: 1 = 42 mm						
V	3/2-WAY VALVE						
01	DESIGN TYPE: 01 = lockable manual control 16 = electro-pneumatic control, Push & Turn manual override 16IL = electro-pneumatic control, bistable manual override, lever type				16IM = electro-pneumatic control, monostable manual override 16IT = electro-pneumatic control without manual override 36 = pneumatic control		
1/8	PORTS (IN - OUT)*: = without ports 1/8 = G1/8 6 = tube ø6 04TF = tube ø1/4" 1/8TF = 1/8 NPTF 1/4 = G1/4 8 = tube ø8 05TF = tube ø5/16" 1/4TF = 1/4 NPTF 3/8 = G3/8 10 = tube ø10 06TF = tube ø3/8" 3/8TF = 3/8 NPTF						
* NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-V01-1/8-1/4							

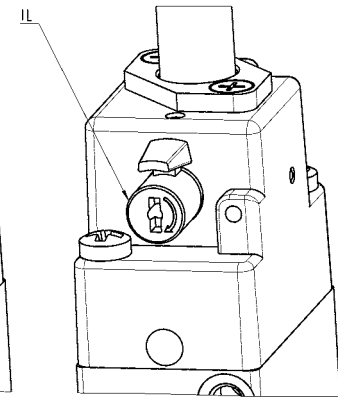
TYPES OF MANUAL OVERRIDE



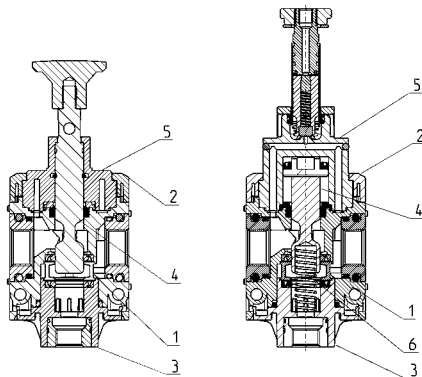
Push & Turn manual override



IL = bistable manual override, lever type
IM = monostable manual override



Series MD lockable isolation 3/2-way valves - materials

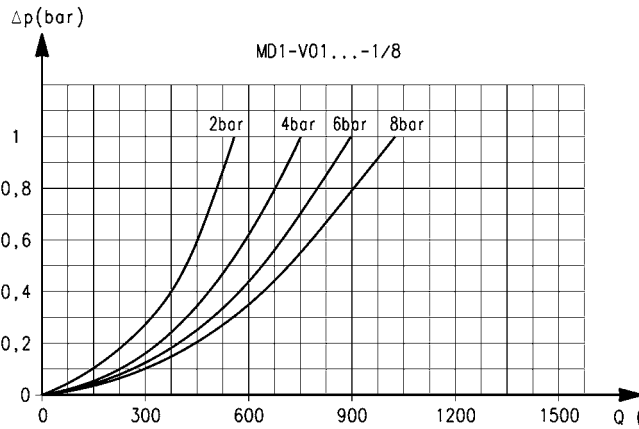


MD...-V01

MD...-V16

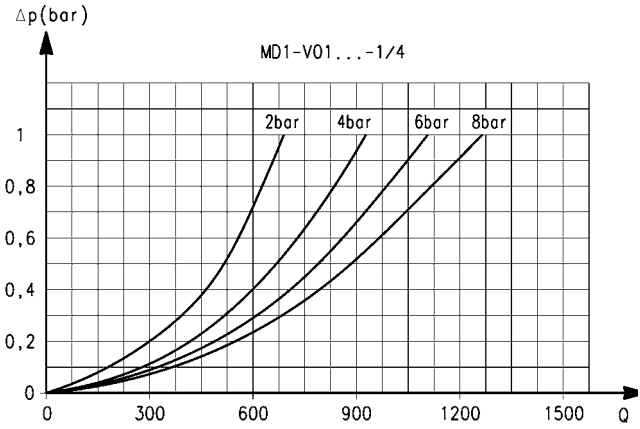
PARTS	MATERIALS
1 = Body	Polyamide
2 = Guard	Polyamide
3 = Plug	Polyamide
4 = Spool	Anodized aluminium
5 = End-cover	Polyamide
6 = Lower spring	Stainless steel
Seals	NBR

FLOW DIAGRAMS for manually operated models



Ports with interchangeable G1/8 threaded cartridges

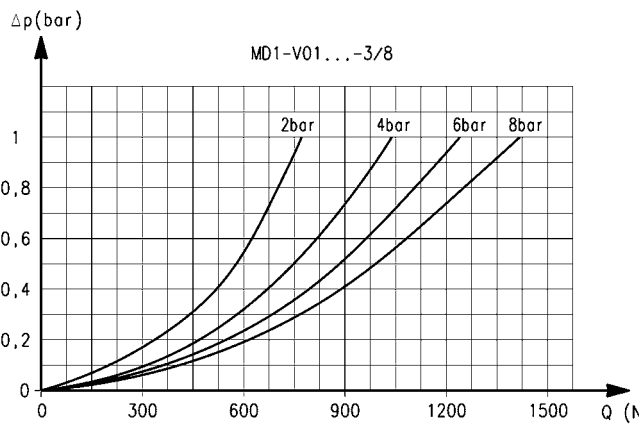
Δp = Pressure drop
 Q = Flow



Ports with interchangeable G1/4 threaded cartridges

Δp = Pressure drop
 Q = Flow

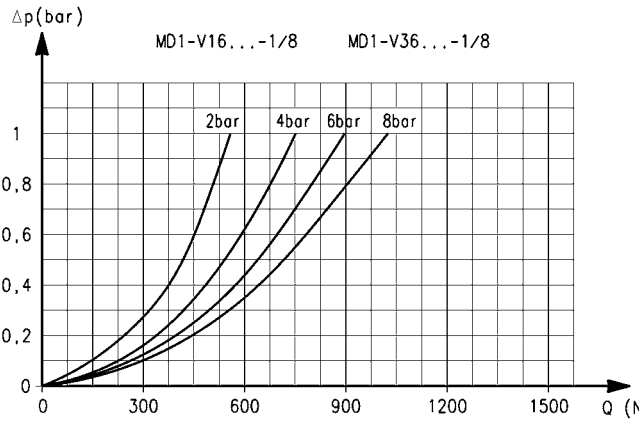
FLOW DIAGRAM for manually operated models



Ports with interchangeable G3/8 threaded cartridges

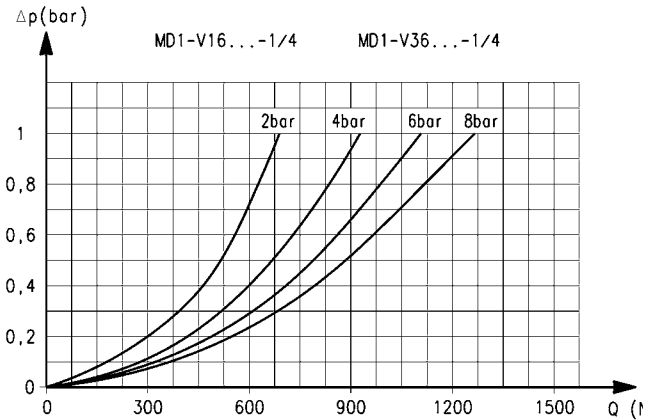
Δp = Pressure drop
 Q = Flow

FLOW DIAGRAMS for electro-pneumatically or pneumatically operated models



Ports with interchangeable G1/8 threaded cartridges

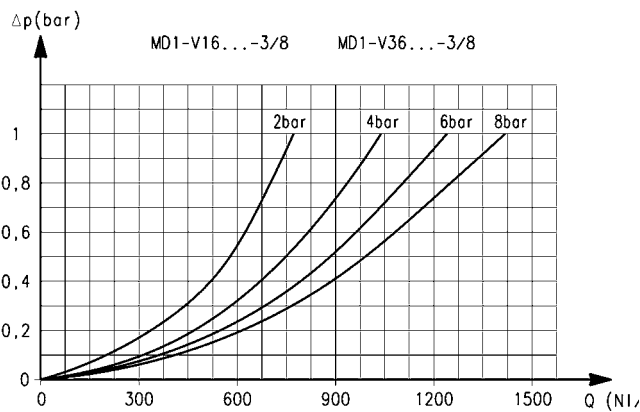
Δp = Pressure drop
Q = Flow



Ports with interchangeable G1/4 threaded cartridges

Δp = Pressure drop
Q = Flow

FLOW DIAGRAM for electro-pneumatically or pneumatically operated models



Ports with interchangeable G3/8 threaded cartridges

Δp = Pressure drop
Q = Flow

Manually operated valves - dimensions

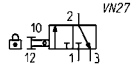


Fig. 1 = closed valve
Fig. 2 = open valve

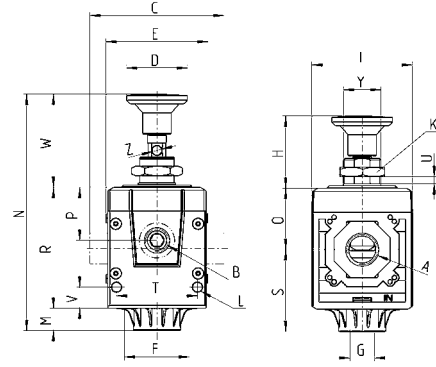
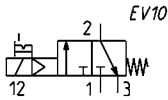


Fig.1

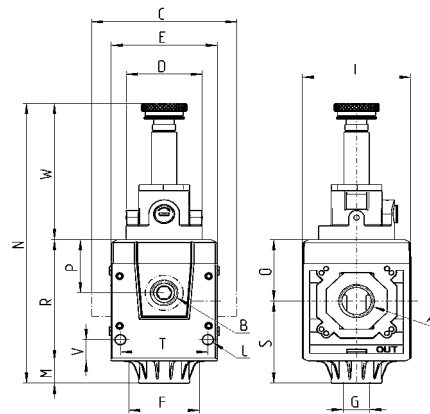
Fig.2

Mod.	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	R	S	T	U	V	W	Y	Z	Weight (Kg)
MD1-V01	-	G1/8	42	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-1/8TF	1/8 NPTF	G1/8	42	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-1/4TF	1/4 NPTF	G1/8	49	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-3/8TF	3/8 NPTF	G1/8	49	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-04TF	Ø1/4"	G1/8	59	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-05TF	Ø1/8"	G1/8	62	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-06TF	Ø3/8"	G1/8	67	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-1/8	G1/8	G1/8	42	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-1/4	G1/4	G1/8	42	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-3/8	G3/8	G1/8	42	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-6	Ø6	G1/8	59	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-8	Ø8	G1/8	62	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2
MD1-V01-10	Ø10	G1/8	67	Ø26	42	28.5	G1/8	31	43	19	Ø4	9.5	101	26.2	22.7	51.7	35.1	34.6	0-8	9	39.8	M16X1	Ø4	0.2

Electro-pneumatically operated valves - dimensions

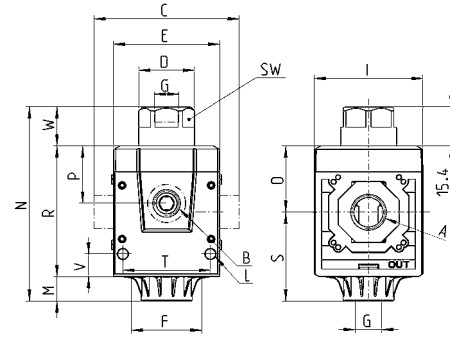
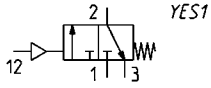


- * = add:
- II for the version with bistable manual override, lever type
- IM for the version with monostable manual override
- IT for the version without manual override



Mod.	A	B	C	D	E	F	G	I	L	M	N	O	P	R	S	T	V	W	Weight (Kg)
MD1-V16*	-	G1/8	42	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16*-1/8TF	1/8 NPTF	G1/8	42	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16*-1/4TF	1/4 NPTF	G1/8	49	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16*-3/8TF	3/8 NPTF	G1/8	49	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16-04TF	Ø1/4"	G1/8	59	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16-05TF	Ø5/16"	G1/8	62	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16-06TF	Ø3/8"	G1/8	67	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16-1/8	G1/8	G1/8	42	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16-1/4	G1/4	G1/8	42	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16-3/8	G3/8	G1/8	42	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16*-6	Ø6	G1/8	59	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16*-8	Ø8	G1/8	62	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2
MD1-V16*-10	Ø10	G1/8	67	Ø50	42	28.5	G1/8	43	Ø4	9.5	119.4	26.2	22.7	51.7	35.1	34.6	9	58.2	0.2

Pneumatically operated valves - dimensions



Mod.	A	B	C	D	E	F	G	I	L	M	N	O	P	R	S	T	V	W	SW	Weight (Kg)
MD1-V36	-	G1/8	42	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-1/8TF	1/8 NPTF	G1/8	42	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-1/4TF	1/4 NPTF	G1/8	49	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-3/8TF	3/8 NPTF	G1/8	49	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-04TF	ø1/4"	G1/8	59	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-05TF	ø5/16"	G1/8	62	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-06TF	ø3/8"	G1/8	67	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-1/8	G1/8	G1/8	42	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-1/4	G1/4	G1/8	42	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-3/8	G3/8	G1/8	42	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-6	ø6	G1/8	59	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-8	ø8	G1/8	62	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2
MD1-V36-10	ø10	G1/8	67	Ø22	42	28.5	G1/8	43	Ø4	9.5	76.6	26.2	22.7	51.7	35.1	34.6	9	15.4	20	0.2

Soft Start Valves Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm.

Modular assembly



- » Allows **Safe, Gradual Pressurization** of the pneumatic system from start-up
- » **Screw Adjustment** of timing delay
- » Pressure switches available
- » **Additional 1/8" Ports** on the front and back provide air from inlet port

The soft start valves are used to avoid the sudden movement of pneumatic actuators. Feeding them pneumatically is enough to begin the phase of the pressure gradual increase in the system. By means of a regulation screw, it is possible to determine the time the valve needs to reach the 50% of the inlet pressure. Once this value is reached, the valve opens completely the passage.

The plugged connection on the upper side allows either the time increase to fill the system through a small additional volume or the connection of a pressure switch.

GENERAL DATA

Construction	modular, compact, poppet-type
Materials	see following page
Ports	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Mounting	in-line; wall-mounting by means of through hole in the body or with a support bracket
Operating temperature	23°F - 122°F / -5°C - 50°C
Operating pressure	29 - 145 psi / 2 - 10 bar
Nominal flow at 6 bar with ΔP 1 bar	MD1-AV-1/8 = 35.3 SCFM / 1000 NL/min MD1-AV-1/4 = 47.7 SCFM / 1350 NL/min MD1-AV-3/8 = 52.9 SCFM / 1500 NL/min
Fluid	compressed air

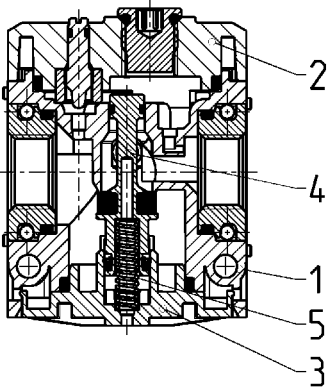
CODING EXAMPLE

MD	1	-	AV	-	1/8TF
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MD	SERIES
1	DIMENSION: 1 = 42 mm
AV	SOFT START VALVE
1/8	<p>PORTS (IN - OUT)*:</p> <p>= without ports</p> <p>6 = tube Ø6 04TF = tube Ø1/4"</p> <p>8 = tube Ø8 05TF = tube Ø5/16"</p> <p>10 = tube Ø10 06TF = tube Ø3/8"</p> <p>1/8 = G1/8 Thread 1/8TF = 1/8 NPTF</p> <p>1/4 = G1/4 Thread 1/4TF = 1/4 NPTF</p> <p>3/8 = G3/8 Thread 3/8TF = 3/8 NPTF</p> <p>* NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-AV-1/8-1/4</p>

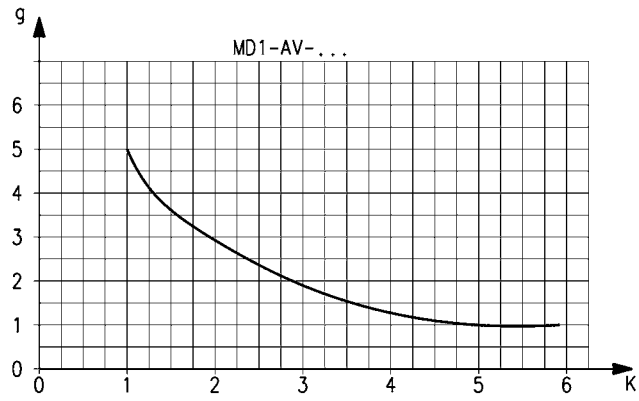
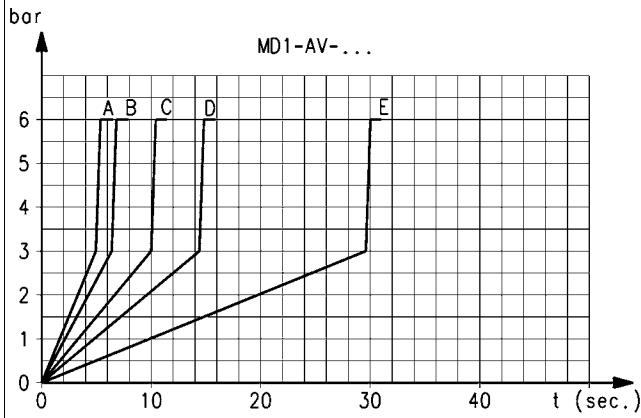
MODULAR FRL SERIES MD

Series MD soft start valves - materials



PARTS	MATERIALS
1 = Body	Polyamide
2 = Guard	Polyamide
3 = Plug	Polyamide
4 = Poppet	Brass
5 = Spring	Stainless steel
Seals	NBR

MD1 DIAGRAMS FOR PRESSURISATION TIMES



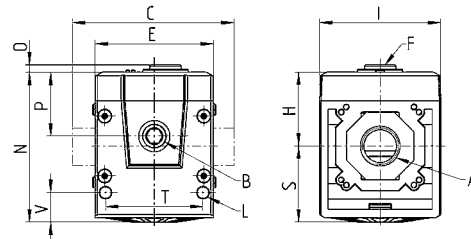
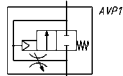
Pressurisation times as to the number of turns of the regulation screw, with downstream volume of 5 litres. A = 5 turns - B = 4 turns - C = 3 turns - D = 2 turns - E = 1 turn. K = number of turns of the regulation screw required to obtain the required pressurisation time with an inlet pressure of 6 bar. Variations of the inlet pressure can cause deviations of the pressure time by ± 20%. $K = t/V$ where: V = volume of the downstream system in litres; t = desired pressurising time in seconds.

EXAMPLE:
V = 5 litres
t = 16 seconds
K = 16/5 = 3,2

Using in the graph this value K, the number of turns of the regulation screw will be approx. 0,8.

MODULAR FRL SERIES MD

Series MD soft start valves - dimensions



Mod.	A	B	C	E	F	H	I	L	N	O	P	S	T	V	Weight (Kg)
MD1-AV	-	G1/8	42	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-1/8TF	1/8 NPTF	G1/8	42	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-1/4TF	1/4 NPTF	G1/8	49	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-3/8TF	3/8 NPTF	G1/8	49	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-04TF	Ø1/4"	G1/8	59	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-05TF	Ø5/16"	G1/8	62	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-06TF	Ø3/8"	G1/8	67	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-1/8	G1/8	G1/8	42	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-1/4	G1/4	G1/8	42	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-3/8	G3/8	G1/8	42	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-6	Ø6	G1/8	59	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-8	Ø8	G1/8	62	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2
MD1-AV-10	Ø10	G1/8	67	42	G1/8	26.2	43	Ø4	53.2	2.5	22.7	27	34.6	10.5	0.2

Take-off Blocks Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm. (5-way version)
Intermediate joining cartridge (3-way version)



- » Fully Orientatable Ports
- » 4 individual 1/8" outlets (5 outlets if used on the end)
- » Space and Cost Efficient Cartridge option
- » Cartridge with integrated check valve
- » Cartridge is half the width of take-off block

The take-off module enables to draw air from the air treatment group, both in the middle and end position. The same operation, although in a more limited way, can be carried out with the intermediate cartridge.

GENERAL DATA

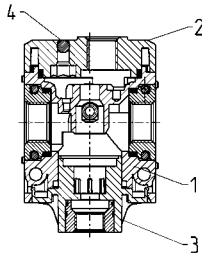
Construction	modular, compact
Materials	see following page
Ports - Take-off block	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Ports - Joining cartridge with port	3/8
Derivations - Take-off block	4x 1/8
Derivations - Joining cartridge	2x 1/8
Mounting	in-line; wall-mounting by means of through holes in the body or with a support bracket
Operating temperature	23°F - 122°F / -5°C - 50°C
Operating pressure	4 - 232 psi / 0.3 - 16 bar
Nominal flow at 6 bar with $\Delta p = 1$ bar	MD1-B00-1/8 = 45.9 SCFM / 1300 NL/min MD1-B00-1/4 = 81.2 SCFM / 2300 NL/min MD1-B00-3/8 = 120 SCFM / 3400 NL/min
Fluid	compressed air

CODING EXAMPLE

MD	1	-	B	00	-	1/8TF	
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MD	SERIES
1	DIMENSION: 1 = 42 mm
B	TAKE-OFF BLOCK
00	DESIGN TYPE: 00 = standard derivation 02 = with integrated check valve
1/8	PORTS (IN - OUT)*: = without ports 6 = tube Ø6 04TF = tube Ø1/4" 8 = tube Ø8 05TF = tube Ø5/16" 10 = tube Ø10 06TF = tube Ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF
* NOTE: if the inlet port is different from the outlet port, both values shall be indicated. Example: MD1-B00-1/8-1/4	

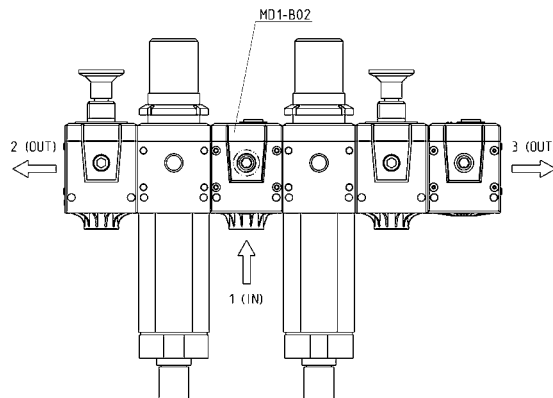
Series MD take-off block - materials



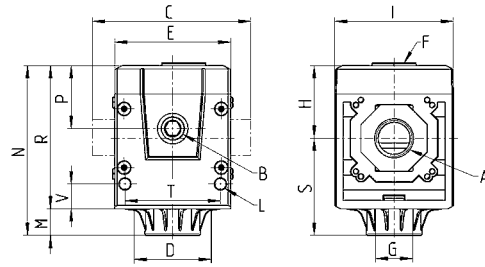
PARTS	MATERIALS
1 = Body	Polyamide
2 = Guard	Polyamide
3 = Plug	Polyamide
4 = Sphere	Stainless steel
Seals	NBR

Use of the take-off block MD1-B02

The take-off block MD1-B02 is particularly suitable when Series MD1 modules have to be supplied through the same pressure source. The modules which are connected to the left side are of LH kind.



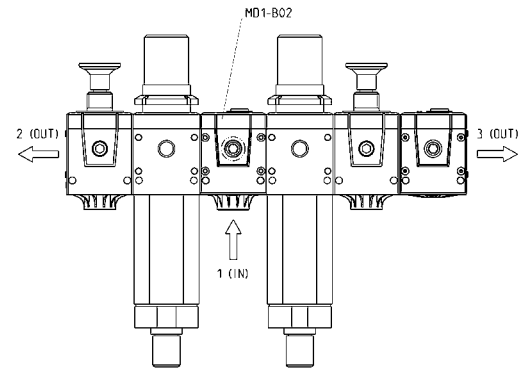
Series MD take-off block - dimensions



DIMENSIONS																		
Mod.	A	B	C	D	E	F	G	H	I	L	M	N	P	R	S	T	V	Weight (Kg)
MD1-B00	-	G1/8	42	28.5	42	G1/8	G1/8	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00TF	-	G1/8	42	28.5	42	1/8 NPTF	1/8 NPTF	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-1/8TF	1/8 NPTF	G1/8	42	28.5	42	G1/8	1/8 NPTF	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-1/4TF	1/4 NPTF	G1/8	49	28.5	42	G1/8	1/8 NPTF	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-3/8TF	3/8 NPTF	G1/8	49	28.5	42	G1/8	1/8 NPTF	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-04TF	Ø1/4"	G1/8	59	28.5	42	G1/8	1/8 NPTF	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-05TF	Ø5/16"	G1/8	62	28.5	42	G1/8	1/8 NPTF	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-06TF	Ø3/8"	G1/8	67	28.5	42	G1/8	1/8 NPTF	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-1/8	G1/8	G1/8	42	28.5	42	G1/8	G1/8	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-1/4	G1/4	G1/8	42	28.5	42	G1/8	G1/8	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-3/8	G3/8	G1/8	42	28.5	42	G1/8	G1/8	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-6	Ø6	G1/8	59	28.5	42	G1/8	G1/8	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-8	Ø8	G1/8	62	28.5	42	G1/8	G1/8	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2
MD1-B00-10	Ø10	G1/8	67	28.5	42	G1/8	G1/8	26.2	43	Ø4	9.5	61.2	22.7	51.7	35.1	34.6	9	0.2

Use of the take-off block MD1-B02

The take-off block MD1-B02 is particularly suitable when Series MD1 modules have to be supplied through the same pressure source. The modules which are connected to the left side are of LH kind.

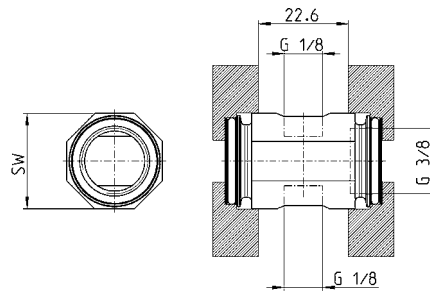


Intermediate joining cartridge with derivation Mod. MD1-B

The kit is supplied with:
 1x intermediate joining cartridge with derivation
 4x zinc-plated white special screws Ø4,5 TC/RC



Dimensions (mm)					
Mod.	A	B	C	SW	Weight (Kg)
MD1-BTF	1/8 NPTF	G3/8	22.6	24	.076
MD1-B	G1/8	G3/8	22.6	24	.076

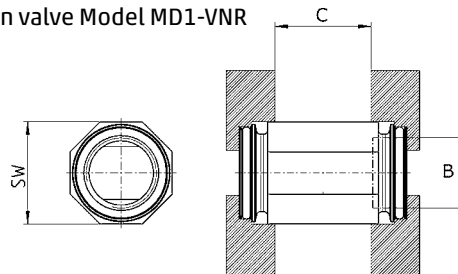


Intermediate joining cartridge with non-return valve Model MD1-VNR

The kit is supplied with:
 1x intermediate joining cartridge with derivation
 4x zinc-plated white special screws Ø4,5 TC/RC



Dimensions (mm)			
Model	B	C	SW
MD1-VNR	G 3/8	22.6	24



ACCESSORIES FOR SERIES MD



Threaded cartridges



Integrated cartridges with push-in fitting



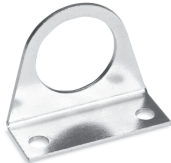
Intermediate joining cartridge Mod. MD1-C



Screws for wall mounting Mod. MD1-D



Rear bracket Mod. MD1-ST/1



Mounting bracket Mod. C114-ST



Mounting bracket Mod. C114-ST/1



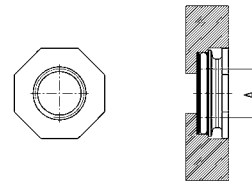
Mounting bracket Mod. C114-ST/2



MODULAR FRL SERIES MD

Threaded cartridges Mod. MD1-A-...

The kit is supplied with:
 2x nickel-plated threaded cartridges
 4x special white zinc-plated screws $\varnothing 4,5$ TC/RC

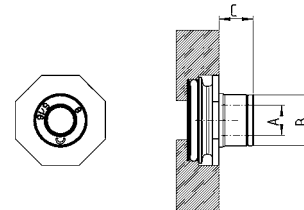


DIMENSIONS

Mod.	A	C
MD1-A-1/8TF	1/8 NPTF	0
MD1-A-1/4TF	1/4 NPTF	3.5
MD1-A-3/8TF	3/8 NPTF	3.5
MD1-A-1/8	G1/8	0
MD1-A-1/4	G1/4	0
MD1-A-3/8	G3/8	0

Integrated cartridges with push-in fitting Mod. MD1-A-...

The kit is supplied with:
 2x integrated nickel-plated cartridges with push-in fitting
 4x special white zinc-plated screws $\varnothing 4,5$ TC/RC

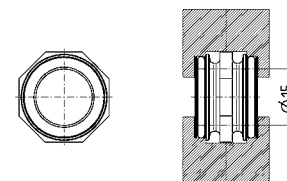


DIMENSIONS

Mod.	A	B	C
MD1-A-04TF	$\varnothing 1/4"$	11.9	8.5
MD1-A-05TF	$\varnothing 5/16"$		10
MD1-A-06TF	$\varnothing 3/8"$	15.3	12.5
MD1-A-6	$\varnothing 6$	12.7	8.5
MD1-A-8	$\varnothing 8$	14.2	10
MD1-A-10	$\varnothing 10$	16.5	12.5

Intermediate joining cartridge Mod. MD1-C

The kit is supplied with:
 1x intermediate joining cartridge
 4x special white zinc-plated screws $\varnothing 4,5$ TC/RC



Mod.

MD1-C

Screws for wall mounting Mod. MD1-D

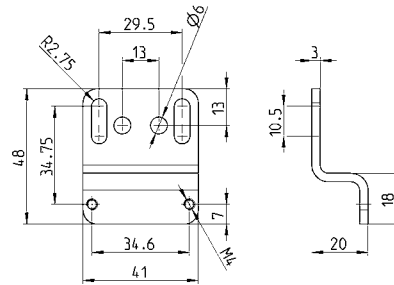
The kit is supplied with:
2x white zinc-plated screws M4x50



Mod.
MD1-D

Mounting bracket Mod. MD1-ST/1

The kit is supplied with:
1x zinc-plated bracket
2x white zinc-plated screws M4x50

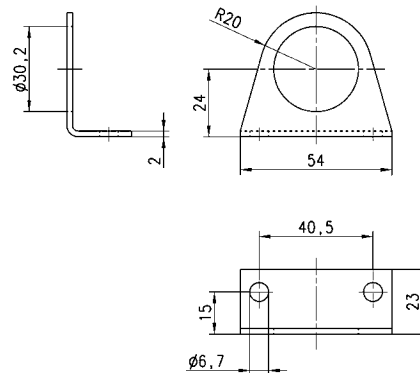
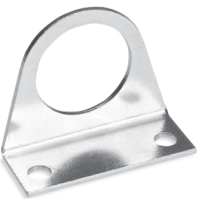


Mod.
MD1-ST/1

Mounting bracket Mod. C114-ST

For regulators and filter-regulators (G1/4 - G1/8)

The kit is supplied with:
1x zinc-plated steel bracket



Mod.
C114-ST

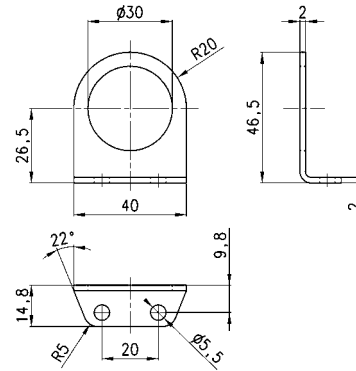
MODULAR FRL SERIES MD



Mounting bracket Mod. C114-ST/1

For regulators and filter-regulators
(1/4 - 1/8)

The kit is supplied with:
1x zinc-plated steel bracket



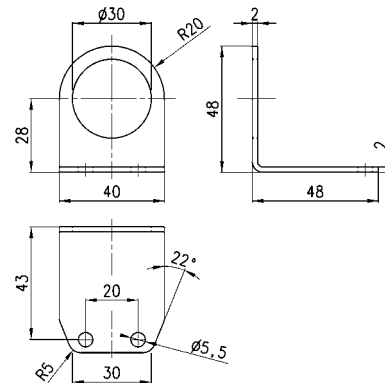
Mod.
C114-ST/1



Mounting bracket Mod. C114-ST/2

For regulators and filter-regulators
(1/4 - 1/8)

The kit is supplied with:
1x zinc-plated steel bracket



Mod.
C114-ST/2

Assembled FRL Series MD

New Series

Ports with Interchangeable cartridges: Threaded (1/8, 1/4, 3/8 NPTF or BSPP) or with push-in fitting for tube sizes \varnothing 1/4", 5/16", 3/8", 6mm, 8mm, or 10mm..

Modular assembly



- » Compact design
- » Optimized dimensions
- » Great reliability
- » Easy and quick maintenance
- » Reduced weight
- » Quick mounting
- » Wide range of functions
- » Additional air outlets

The various components can be connected with the innovative cartridge fittings. The regulator and the valves can be adjusted so as to have the regulation devices or the actuation in front or lower position. Available with multiple wall mounting options.

The innovative cartridge fitting design of the Series MD facilitates interchangeable port connection. The port cartridges may be female threaded or push-in fittings in various sizes from 1/8" to 3/8". Each module also features additional 1/8" air outlets on the front and back sides.

GENERAL DATA

Construction	modular, compact
Materials	see catalogue pages referring to the single component
Ports	With interchangeable cartridges: 1/8, 1/4 and 3/8 NPTF or BSP threaded or integrated with push-in fitting for tube with \varnothing 6mm, 8mm, 10mm, 1/4", 5/16" and 3/8"
Mounting	vertical in-line; wall-mounting by means of through holes in the body or with a support bracket; panel mounting
Operating temperature	23°F - 122°F / -5°C - 50°C (according to the single component characteristics)

MODULAR FRL SERIES MD

CONFIGURATOR OF SERIES MD ASSEMBLED GROUPS										
MD	1	-	V01	F000	R004	L00	V16	-	8	-
MD	SERIES									
1	(1)	DIMENSION: 1 = 42 mm								
-										
V01	(2)	MODULE + [*] (to configure the modules, see the single components pages): F... = Filter FC... = Coalescing filter FCA... = Activated carbons filter R... = Pressure regulator L... = Lubricator FR... = Filter-Regulator V... = Lockable isolation valve AV... = Soft start valve B... = Take-off block [*] The following ACCESSORIES can be added after every single module: REGULATOR, FILTER-REGULATOR AND MANIFOLD REGULATOR +A01 = M043-P04 (pressure gauge) +A02 = M043-P06 (pressure gauge) +A03 = M043-P10 (pressure gauge) +A04 = M043-P12 (pressure gauge) +A05 = SWCN-P10-P3-2 (pressure switch) +A06 = SWCN-P10-P4-2 (pressure switch) +A07 = SWCN-P10-P4-M (pressure switch) +A08 = PG010-PB-1/8 (pressure gauge) LOCKABLE ISOLATION VALVE ...V01 / V16 / V36 +A25 = 2901 1/8 (silencier) +A26 = 2921 1/8 (silencier) - recommended choice +A27 = 2931 1/8 (silencier) +A28 = 2938 1/8 (silencier) +A01 = M043-P04 (pressure gauge) +A02 = M043-P06 (pressure gauge) +A03 = M043-P10 (pressure gauge) +A04 = M043-P12 (pressure gauge) +A05 = SWCN-P10-P3-2 (pressure switch) +A06 = SWCN-P10-P4-2 (pressure switch) +A07 = SWCN-P10-P4-M (pressure switch) +A08 = PG010-PB-1/8 (pressure gauge) INTERMEDIATE JOINING CARTRIDGE WITH DERIVATION (MD1-B) +A17 = PM681-1 (pressure switch mounted on top) +A18 = PM681-3 (pressure switch mounted on top) SOFT START VALVE AND 5-WAY TAKE-OFF BLOCK +A15 = PM11-NC (pressure switch mounted on top) +A16 = PM11-NA (pressure switch mounted on top) +A17 = PM681-1 (pressure switch mounted on top) +A18 = PM681-3 (pressure switch mounted on top) +A19 = PM11-SC + S2520 1/8-1/4 (pressure switch with fitting mounted on top) +A05 = SWCN-P10-P3-2 (front mounted pressure switch) +A06 = SWCN-P10-P4-2 (front mounted pressure switch) +A07 = SWCN-P10-P4-M (front mounted pressure switch) +A08 = PG010-PB-1/8 (front mounted pressure switch) LOCKABLE ISOLATION VALVE...V16 +A35 = U7H (coils 12V DC) +A36 = U77 (coils 24V DC) +A37 = U79 (coils 48V DC) +A38 = U7K (coils 110V AC) +A39 = U7J (coils 230V AC) +A40 = G7H (coils 12V DC) +A41 = G77 (coils 24V DC) +A42 = G79 (coils 48V DC) +A43 = G7K (coils 110V AC) +A44 = G7J (coils 230V AC)								
F000	(3)	see MODULE (2) + [*]								
R004	(3)	see MODULE (2) + [*]								
L00	(3)	see MODULE (2) + [*]								
V16	(3)	see MODULE (2) + [*]								
-										
8	(4)	PORTS (IN - OUT)*: = without ports 6 = tube Ø6 04TF = tube Ø1/4" 8 = tube Ø8 05TF = tube Ø5/16" 10 = tube Ø10 06TF = tube Ø3/8" 1/8 = G1/8 Thread 1/8TF = 1/8 NPTF 1/4 = G1/4 Thread 1/4TF = 1/4 NPTF 3/8 = G3/8 Thread 3/8TF = 3/8 NPTF								
-										
LH	(5)	FLOW DIRECTION: = from left to right (standard) LH = from right to left								
(2) + (3) + [*]	REPEATABLE COMBINATION for a "n" number of times									