Series MC filters

Ports G1/4, G3/8 and G1/2
Modular
Metal bowl and bayonet-type mounting

Series MC filters are available with ports G1/4, G3/8 and G1/2.
Bowls are made of metal with a transparent sight glass and have a condensate drain valve which can provide either a manual or semi-automatic function.

Filters with filtering elements which are different from the standard ones, as well as further drainings of condensate can be ordered on request (see the coding example).

GENERAL DATA

Construction	compact modular with filtering element in HDPE
Materials	zama, NBR, tecnopolymer
Ports	G1/4 G3/8 G1/2
Max condensate capacity	cm^3 28 cm^3 72 cm^3 72
Weight	kg 0,339 kg 0,718 kg 0,688
Mounting	vertical in-line or wall-mounting
Operating temperature	-5°C ÷ 50°C at 10 bar (with the dew point of the fluid lower than 2°C at the min. working temperature)
Porosity of filtering element	25 µm standard - 5 µm upon request
Draining of condensate	manual - semi automatic standard
Finishing	enamelled
Operating pressure	with standard drain and protected depressurisation 0,3 ÷ 16 bar with depressurisation 0,3 ÷ 10 bar with automatic drain 1,5 ÷12 bar for G3/8 and G1/2
Nominal flow	see graphs

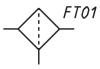
CODING EXAMPLE

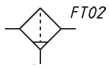
MC	2	02	-	F	0	0

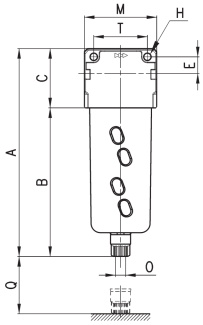
MC	SERIES
2	SIZE: 1 = G1/4 2 = G3/8 - G1/2
02	PORTS: 04 = G1/4 38 = G3/8 02 = G1/2
F	F = FILTER
0	FILTERING ELEMENT: 0 = 25µm (standard) 1 = 5µm
0	DRAINING OF CONDENSATE: 0 = normal - semiautomatic (standard) 3 = automatic drain (only for G3/8 and G1/2) 4 = depressurisation (only G1/4) 5 = depressurisation, protected 8 = no drain, port 1/8 For condensate drains see the section 3/5.10

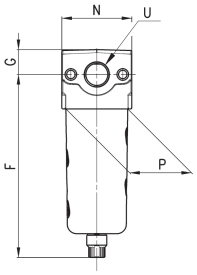
Filters Series MC

FT01 = filter without drain with threaded port
FT02 = filter with semiautomatic manual drain
FT03 = filter with automatic drain





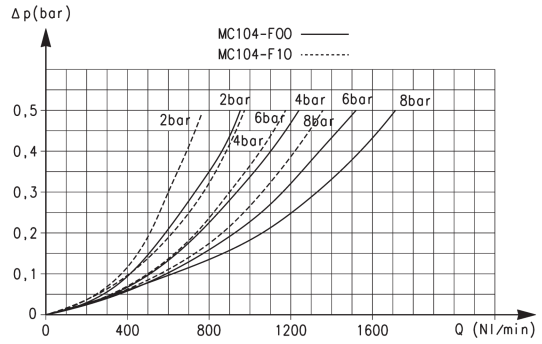




DIMENSIONS

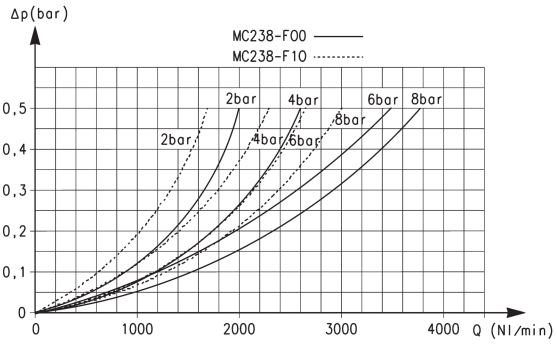
Mod.	A	B	C	E	F	G	H	M	N	O	P	Q	T	U
MC104-F00	143	102	41	11	126,5	16,5	4,5	45	45	G1/8	37	58	35	G1/4
MC238-F00	184	133	51	14	163	21	5,5	62	60	G1/8	53	72	46	G3/8
MC202-F00	184	133	51	14	163	21	5,5	62	60	G1/8	53	72	46	G1/2

FLOW DIAGRAMS FOR FILTERS SERIES MC, G1/4 - G3/8 PORTS



Flow diagram for models: MC238-F00 and MC238-F10

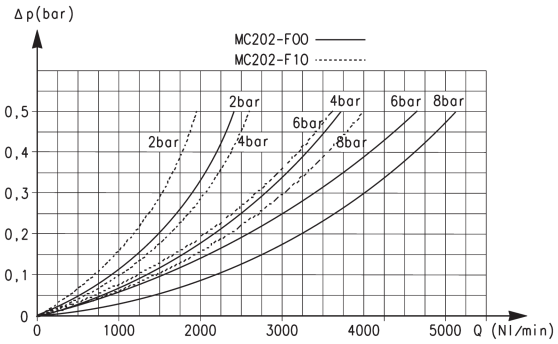
ΔP = Pressure drop
Q = Flow



Flow diagram for models: MC104-F00 and MC104-F10

ΔP = Pressure drop
Q = Flow

FLOW DIAGRAM FOR FILTERS SERIES MC, G1/2 PORTS



Flow diagram for models: MC202-F00 and MC202-F10

ΔP = Pressure drop
Q = Flow

Series MC coalescing filters

Ports G1/4, G3/8 and G1/2
Modular
Metal bowl and bayonet-type mounting

Series MC coalescing filters are available with G1/4, G3/8 and G1/2 ports. The bowls of these filters are made of metal with a transparent sight glass and may have a condensate drain valve which can provide either a manual or semi-automatic function.

A version with automatic draining of condensate is also available.

GENERAL DATA

Construction	modular, coalescing elements
Materials	zama, NBR, technopolymer
Ports	G1/4 G3/8 G1/2
Max. condensate capacity	cm³ 28 78 78
Weight	kg 0,342 0,718 0,688
Mounting	vertical in line or wall-mounting
Operating temperature	-5°C ÷ 50°C at 10 bar (with the dew point of the fluid lower than 2°C at the min. working temperature)
Porosity of filtering element	0,01µm
Draining of condensate	manual - semi-automatic standard
Finish	enamelled
Operating pressure	with standard drain and protected depressurisation 0,3 ÷ 16 bar with depressurisation 0,3 ÷ 10 bar with automatic drain 1,5 ÷ 12 bar for G3/8 and G1/2
Nominal flow	see graph

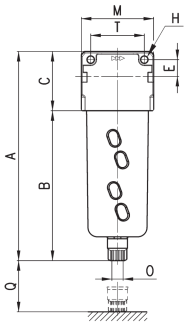
CODING EXAMPLE

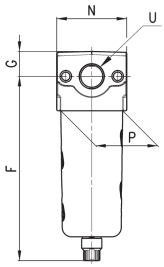
MC	2	02	-	F	B	0

MC	SERIES
2	SIZE: 1 = G1/4 2 = G3/8 - G1/2
02	PORTS: 04 = G1/4 38 = G3/8 02 = G1/2
F	F = FILTER
B	FILTERING ELEMENT: B = 0,01µm
0	DRAINING OF CONDENSATE: 0 = manual - semi-automatic 3 = automatic (only for G3/8 and G1/2) 4 = depressurisation (only G1/4) 5 = depressurisation, protected 8 = no drain, port 1/8 For condensate drains see the section 3/5.10

Coalescing filters Series MC

FA01 = coalescing filter without drain with threaded port
FA02 = coalescing filter with semi-automatic manual drain
FA03 = coalescing filter with automatic drain

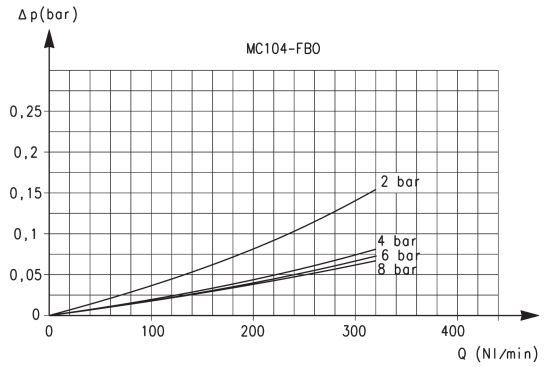




DIMENSIONS

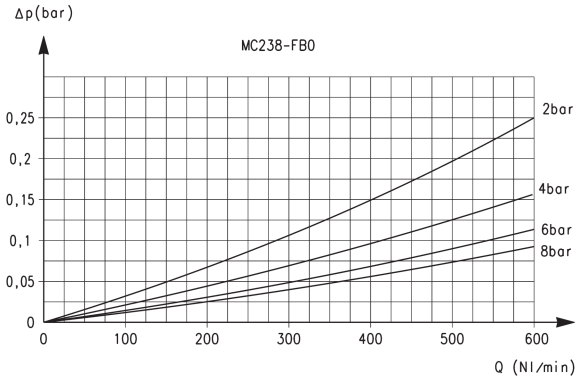
Mod.	A	B	C	E	F	G	H	M	N	O	P	Q	T	U
MC104-FB0	143	102	41	11	126,5	16,5	4,5	45	45	G1/8	37	54	35	G1/4
MC238-FB0	184	133	51	14	163	21	5,5	62	60	G1/8	53	73	46	G3/8
MC202-FB0	184	133	51	14	163	21	5,5	62	60	G1/8	53	73	46	G1/2

FLOW DIAGRAMS



Flow diagram for model: MC104-FB0
ΔP = Pressure drop
Q = Flow

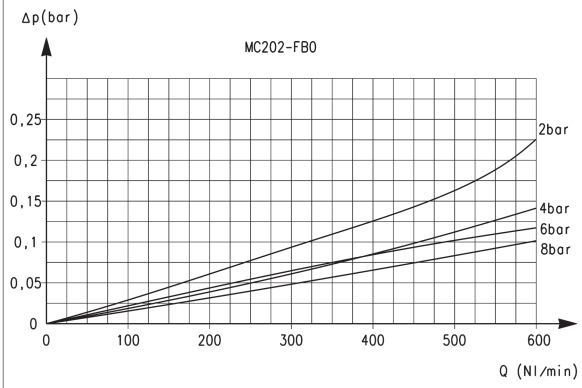
In order to guarantee the indicated performances, the maximum flow of the filter must be the one indicated in the graph. A higher flow rate is possible but the same performances are not guarenteed.



Flow diagram for model: MC238-FB0
ΔP = Pressure drop
Q = Flow

In order to guarantee the indicated performances, the maximum flow of the filter must be the one indicated in the graph. A higher flow rate is possible but the same performances are not guarenteed.

FLOW DIAGRAMS



Flow diagram for model: MC202-FB0
ΔP = Pressure drop
Q = Flow

In order to guarantee the indicated performances, the maximum flow of the filter must be the one indicated in the graph. A higher flow rate is possible but the same performances are not guarenteed.

Series MC pressure regulators

Ports G1/4, G3/8 and G1/2
Modular

Series MC pressure regulators are available with ports G1/4, G3/8 and G1/2. Versions with secondary pressure relieving are usually available and all regulators can be panel mounted.

GENERAL DATA

Construction	modular, compact, diaphragm type			
Materials	zama, brass, NBR, technopolymer			
Ports		G1/4	G3/8	G1/2
Weight	kg	0,323	0,644	0,624
Pressure gauge ports	G1/8			
Mounting	in-line, wall or console mounting (in any position)			
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)			
Finishing	enamelled			
Inlet pressure	0 ÷ 16 bar			
Outlet pressure	0.5 ÷ 10 bar or 0 ÷ 4 bar			
Nominal flow	see graph			
Secondary pressure relieving	standard			

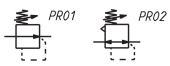
CODING EXAMPLE

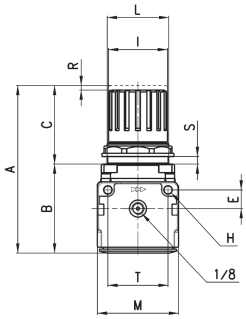
MC	2	02	-	R	T	0	-	■	-	●

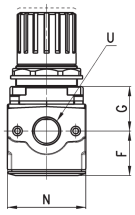
MC	SERIES
2	SIZE: 1 = G1/4 2 = G3/8 - G1/2
02	PORTS 04 = G1/4 38 = G3/8 02 = G1/2
R	R = REGULATOR
T	OPERATING PRESSURE: 0 = 0.5 ÷ 10 (standard) 1 = 0 ÷ 4 2 = 0 ÷ 2 (only G1/4) 7 = 0,5 ÷ 7 (only G1/4) T = calibrated * B = locked *
0	DESIGN TYPE: 0 = self-relieving (standard) 1 = non-relieving 5 = precise relieving
	* NOTE: IF THE REGULATOR IS CALIBRATED OR LOCKED, AFTER THE DESIGN TYPE ADD THE INLET PRESSURE "■" AND THE OUTLET PRESSURE "●" INLET PRESSURE: ■ = enter the SUPPLY pressure value OUTLET PRESSURE: ● = enter the OUTLET pressure value for the LOCKED regulator or the maximum value of the ADJUSTABLE pressure for the CALIBRATED regulator Example of a calibrated regulator with Inlet Pressure = 6.3 bar and Outlet Pressure = 4.5 bar Complete part number: MC202-RT0-6.3-4.5

Pressure regulators Series MC

PR01 = regulator without relieving
PR02 = regulator with relieving



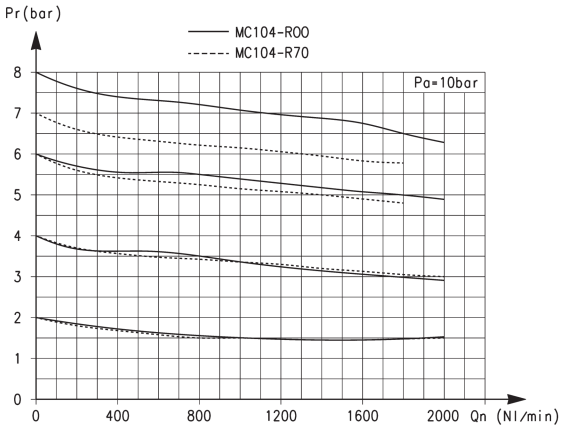




DIMENSIONS

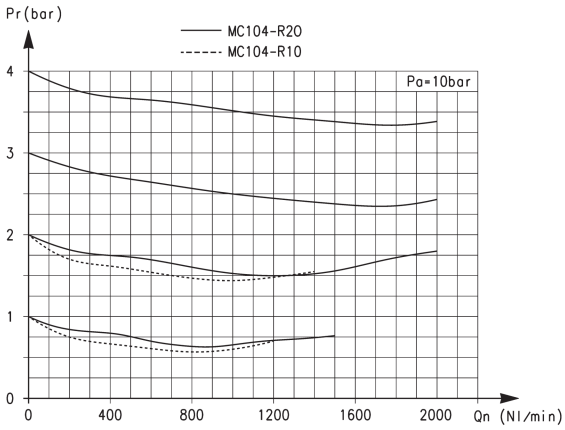
Mod.	A	B	C	E	F	G	H	I	L	M	N	R	S	T	U
MC104-R00	94	56	38	11	28,5	27,5	4,5	28	30X1,5	45	45	3	0÷6	35	G1/4
MC238-R00	127	67	60	14	34	35	5,5	45	47X1,5	62	60	3,5	0÷9	46	G3/8
MC202-R00	127	67	60	14	34	35	5,5	45	47X1,5	62	60	3,5	0÷9	46	G1/2

FLOW DIAGRAMS



Flow diagrams for models: MC104-R00 and MC104-R70

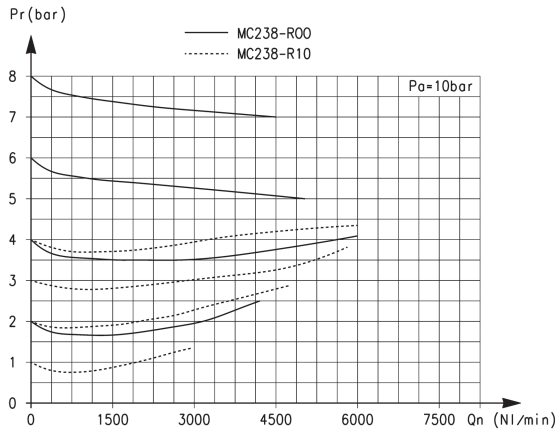
Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow



Flow diagrams for models: MC104-R10 and MC104-R20

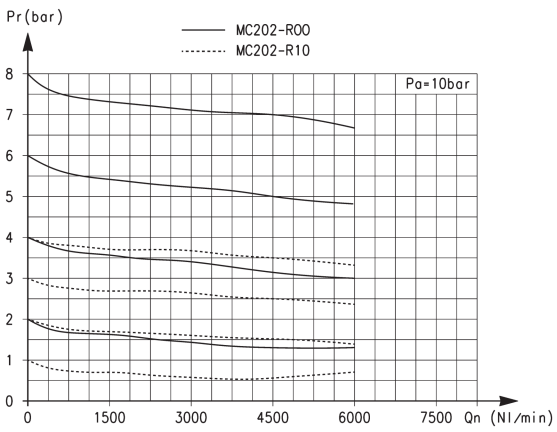
Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow

FLOW DIAGRAMS



Flow diagrams for models: MC238-R00 and MC238-R10

Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow



Flow diagrams for models: MC202-R00 and MC202-R10

Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow

Series MC lubricators

Ports G1/4, G3/8 and G1/2
Modular
with metal bowl and bayonet-type mounting

Series MC lubricators are available with ports G1/4, G3/8 and G1/2. The bowls of these lubricators are made of metal and are equipped with a transparent viewer. The oil flow can be monitored through the small transparent cap and regulated by means of the proper adjusting screw.

GENERAL DATA

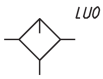
Construction	modular compact
Materials	zama, NBR, technopolymer
Ports	G1/4 G3/8 G1/2
Oil capacity	cm^3 37 170 170
Weight	kg 0,338 0,712 0,674
Mounting	vertical in-line or wall-mounting
Operating temperature	-5°C ÷ 50°C at 10 bar (with the dew point of the fluid lower than 2°C at the min. working temperature)
Oil refilling	without pressure (G1/4) also during use (G3/8 - G1/2)
Oil for lubrication	use ISO VG32 oils. Once applied, the lubrication should never be interrupted.
Finishing	enamelled
Operating pressure	0 ÷ 16 bar
Nominal flow	see graphs
Min. air consumption for lubr (Nl/min) **at 1 bar** **at 6 bar**	G1/4 - G3/8 - G1/2 8 - 8 - 8,5 15 - 17,5 - 15,5

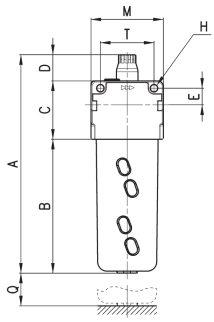
CODING EXAMPLE

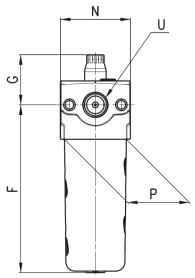
MC	2	02	-	L	00

M	SERIES
2	SIZE 1 = G1/4 2 = G3/8 - G1/2
02	PORTS 04 = G1/4 38 = G3/8 02 = G1/2
L	L = LUBRICATOR
00	DESIGN TYPE 00 = atomized oil

Lubricators Series MC



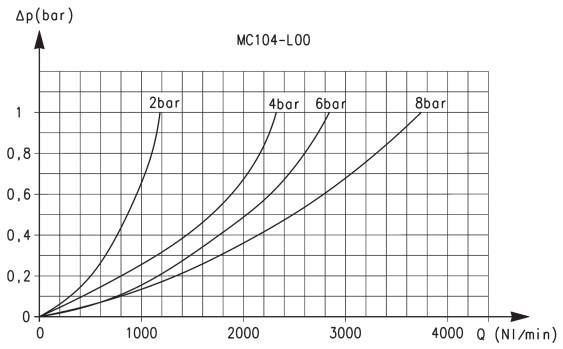




DIMENSIONS

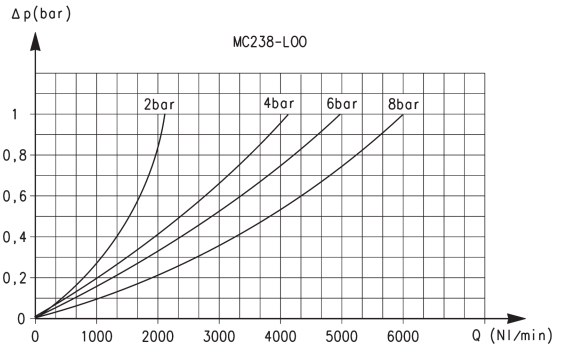
Mod.	A	B	C	D	E	F	G	H	M	N	P	Q	T	U
MC104-L00	148	83	40	25	11	107	41	4,5	45	45	37	84	35	G1/4
MC238-L00	187	115	50	22	14	144	43	5,5	62	60	53	117	46	G3/8
MC202-L00	187	115	50	22	14	144	43	5,5	62	60	53	117	46	G1/2

FLOW DIAGRAMS



Flow diagram for model: MC104-L00

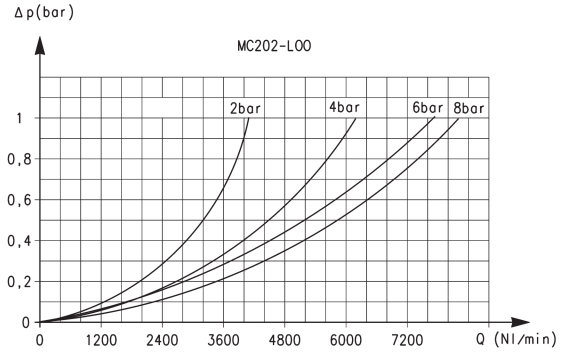
ΔP = Pressure drop
Q = Flow



Flow diagram for model: MC238-L00

ΔP = Pressure drop
Q = Flow

FLOW DIAGRAM



Flow diagram for model: MC202-L00

ΔP = Pressure drop
Q = Flow

Series MC filter-regulators

Ports G1/4, G3/8 and G1/2
Modular
Metal bowl and bayonet-type mounting

Series MC filter regulators are available with ports G1/4, G3/8 and G1/2. They combine the features of the filters and regulators and have smaller overall dimensions than the two separate components.

GENERAL DATA

Construction	compact modular with filtering element in HDPE - diaphragm type			
Materials	zama, NBR, technopolymer			
Ports		G1/4	G3/8	G1/2
Condensate capacity	cm^3	28	72	72
Weight	kg	0,443	0,948	0,928
Pressure gauge ports	G1/8			
Mounting	vertical in-line or wall-mounting			
Operating temperature	-5°C ÷ 50°C at 10 bar (with the dew point of the fluid lower than 2°C at the min. working temperature)			
Porosity of filtering element	25 µm standard - 5 µm upon request			
Draining of condensate	manual - semi-automatic standard			
Finishing	enamelled			
Inlet pressure	with standard drain and protected depressurisation 0,3 ÷ 16 bar with depressurisation 0,3 ÷ 10 bar with automatic drain 1,5 ÷ 12 bar for G3/8 and G1/2			

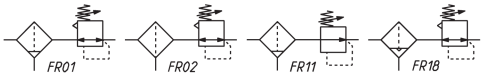
CODING EXAMPLE

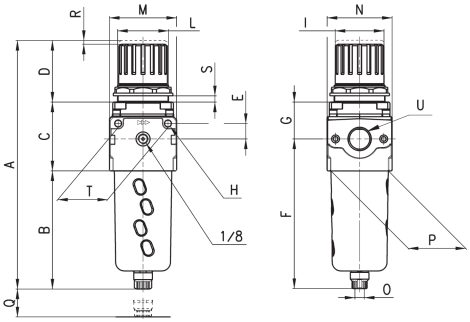
MC	2	02	-	D	0	0	-	4

MC	SERIES
2	SIZE: 1 = G1/4 2 = G3/8 - G1/2
02	PORTS: 04 = G1/4 38 = G3/8 02 = G1/2
D	D = FILTER-REGULATOR
0	FILTERING ELEMENT: 0 = 25µm (standard) 1 = 5µm
0	DRAINING OF CONDENSATE: 0 = manual semiautomatic, self-relieving 1 = manual semiautomatic, non relieving 3 = automatic, self-relieving (only for G3/8 and G1/2) 4 = depressurisation, self-relieving (only G1/4) 5 = depressurisation, protected, self-relieving 8 = no drain, port G1/8, self-relieving For condensate drains see the section 3/5.10
4	WORKING PRESSURE = 0,5 ÷ 10 2 = 0 ÷ 2 (only G1/4) 4 = 0 ÷ 4 7 = 0,5 ÷ 7 (only G1/4)

Filter-regulators Series MC

FR01 = filter-regulator with relieving and manual drain
FR02 = FR with relieving and without drain
FR11 = FR with manual drain and wiithout relieving
FR18 = FR with relieving and automatic drain

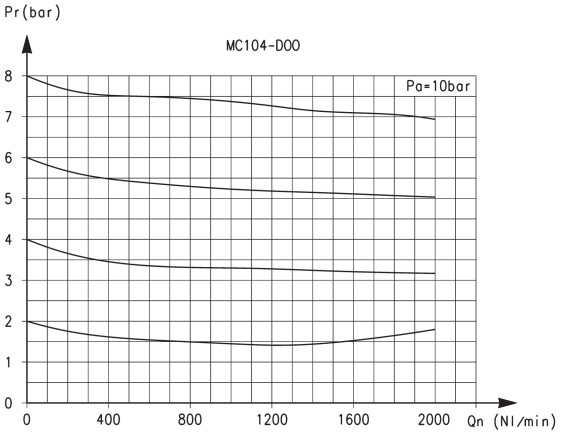




DIMENSIONS

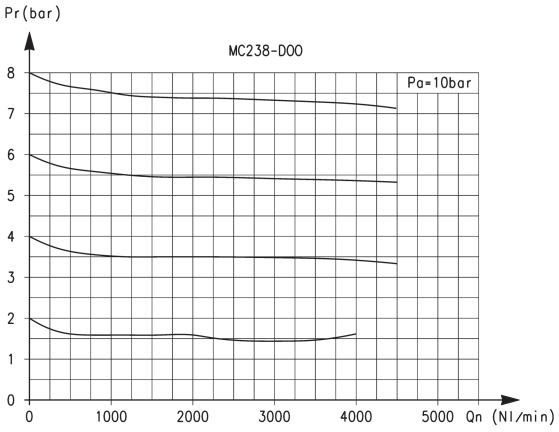
Mod.	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	U
MC104-D00	190,5	102	52	38	11	126,5	27,5	4,5	28	M30x1,5	45	45	G1/8	37	58	3	0 ÷ 6	35	G1/4
MC238-D00	256,5	133	64	59	14	162	35	5,5	45	M47x1,5	62	59	G1/8	53	72	3,5	0 ÷ 9	46	G3/8
MC202-D00	256,5	133	64	59	14	162	35	5,5	45	M47x1,5	62	59	G1/8	53	72	3,5	0 ÷ 9	46	G1/2

FLOW DIAGRAMS



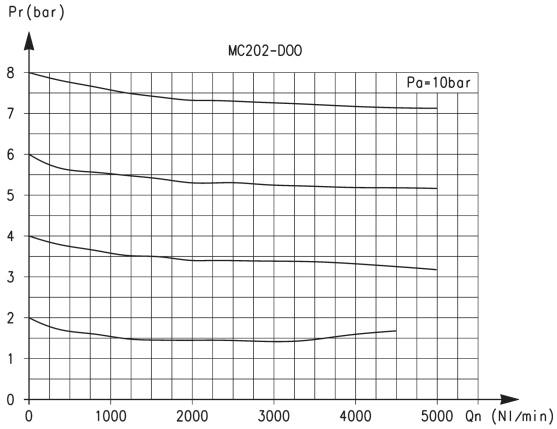
Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow

NOTE: on the filter-regulator the different air quality characteristics that can be reached through the filtering elements options don't affect the flow values shown in the diagram.



Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow

FLOW DIAGRAM



Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow

NOTE: on the filter-regulator the different air quality characteristics that can be reached through the filtering elements options don't affect the flow values shown in the diagram.

Series MC
lockable isolation 3/2-way valves

Electropneumatic, pneumatic and manual version
Ports G1/4, G3/8 and G1/2
Modular

Positioning of these valves is often before the FRL unit.
The lockable isolation valves are available with ports G1/4, G3/8 and G1/2 and can be panel mounted.

The 3-way lockable isolation valves are available in the electropneumatic, pneumatic and manual version and are designed to block the air inlet of the FRL group and so pressurise and depressurise the equipment.

GENERAL DATA

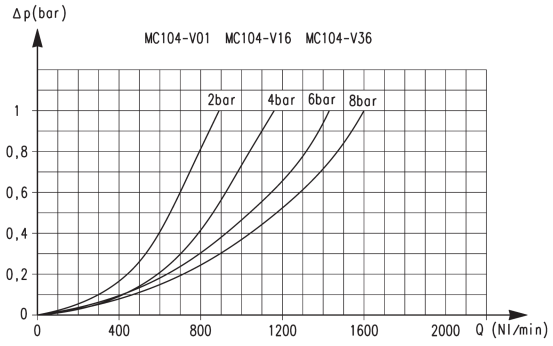
Construction	modular compact, poppet-type
Materials	zama, NBR, technopolymer
Ports	G1/4 G3/8 G1/2
Weight	kg 0,277 kg 0,536 kg 0,514
Mounting	in- line, wall or panel mounting (in any position)
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Finishing	enamelled
Operating pressure	2 ÷ 10 bar (-0,8 ÷ 10 bar in the pneumatic version)
Nominal flow	see graphs
Nominal exhaust flow	G1/4 = 1080 Nl/min G3/8 = 2380 Nl/min G1/2 = 2380 Nl/min
Flow determined	at 6 bar with Δp = 1 bar

CODING EXAMPLE

MC	2	02	-	V	16

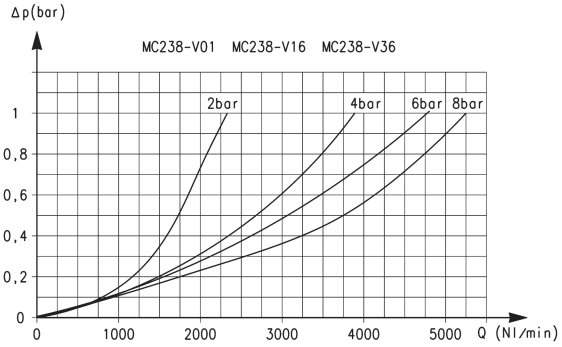
MC	SERIES
2	SIZE: 1 = G1/4 2 = G3/8 - G1/2
02	PORTS: 04 = G1/4 38 = G3/8 02 = G1/2
V	V = 3/2-WAY VALVE
16	DESIGN TYPE: 16 = electropneumatic 36 = pneumatic 01 = padlock valve (manual command)

FLOW DIAGRAMS



Flow diagram for models:
MC104-V01
MC104-V16
MC104-V36

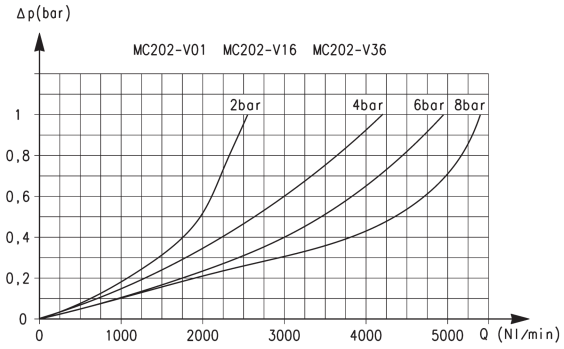
ΔP = Pressure drop
Q = Flow



Flow diagram for models:
MC238-V01
MC238-V16
MC238-V36

ΔP = Pressure drop
Q = Flow

FLOW DIAGRAM



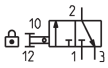
Flow diagram for models:
MC202-V01
MC202-V16
MC202-V36

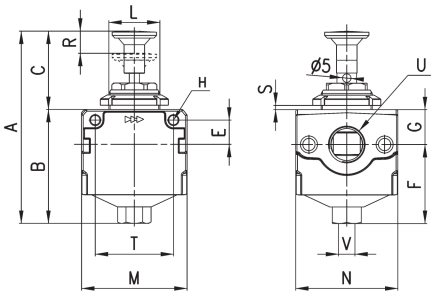
ΔP = Pressure drop
Q = Flow

Lockable isolation valves Series MC - manual version

Actuating force at 6 bar :
- MC104-V01 = 29N
- MC238-V01 = 31N
- MC202-V01 = 31N

VN27





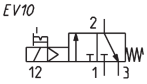
DIMENSIONS

Mod.	A	B	C	E	F	G	H	L	M	N	R	S	T	U	V
MC104-V01	96,5	54,5	42	11	38,5	16	4,5	M30x1,5	45	45	9	0 ÷ 6	35	G1/4	G1/8
MC238-V01	113	67	46	14	46,5	20,5	5,5	M30x1,5	62	60	13	0 ÷ 6	46	G3/8	G1/4
MC202-V01	113	67	46	14	46,5	20,5	5,5	M30x1,5	62	60	13	0 ÷ 6	46	G1/2	G1/4

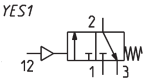
Lockable isolation valves Series MC - electro-/pneumatic version

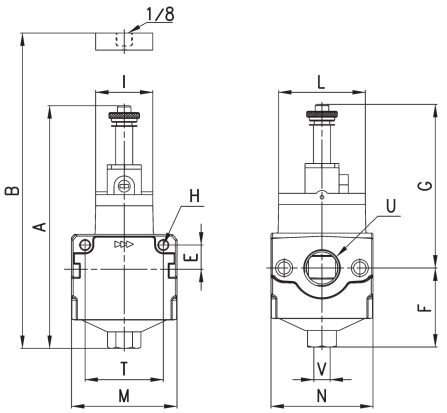
EV10 = solenoid valve, 3/2 NC, monostable, with bistable manual override
YES1 = pneumatically operated valve, 3/2, monostable, mechanical spring

EV10



YES1





DIMENSIONS

Mod.	A	B	E	F	G	H	I	L	M	N	T	U	V	Symbol
MC104-V16	120	-	11	38,5	81,5	4,5	22	32	45	45	35	G1/4	G1/8	EV10
MC238-V16	142,5	-	14	46,5	96	5,5	33,5	51	62	60	46	G3/8	G1/4	EV10
MC202-V16	142,5	-	14	46,5	96	5,5	33,5	51	62	60	46	G1/2	G1/4	EV10
MC104-V36	-	77,5	11	38,5	-	4,5	22	32	45	45	35	G1/4	G1/8	VP01
MC238-V36	-	93,5	14	46,5	-	5,5	33,5	51	62	60	46	G3/8	G1/4	VP01
MC202-V36	-	93,5	14	46,5	-	5,5	33,5	51	62	60	46	G1/2	G1/4	VP01

Series MC soft start valves

Ports G1/4, G3/8 and G1/2
Modular

Series MC soft start valves are used to avoid damages to people or equipment when pressurising pneumatic systems containing cylinders.
The features of these components allow to pressurise an equipment up to 50% of the indicated pressure, after which 100% is reached rapidly.
The usual location of the soft start valve is after the FRL unit; in fact the modular design allows for perfect adaptability with all Series MC.

A pressure switch can be mounted into the upper part of the unit after removal of the S2610 G1/8 plug.
An electrical or pneumatic 3 way valve should be installed at the bottom of the unit to allow depressurisation.

GENERAL DATA

Construction	modular, compact, poppet type			
Materials	zama, NBR, technopolymer			
Ports		G1/4	G3/8	G1/2
Weight	Kg	0,275	0,566	0,544
Mounting	in-line wall or panel mounting (in any position)			
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)			
Finishing	enamelled			
Operating pressure	2 ÷ 10 bar			
Nominal flow (determined at 6 bar with ΔP1)	G1/4 = 1850 Nl/min, G3/8 = 4000 Nl/min, G1/2 = 4350 Nl/min			

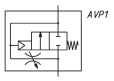
CODING EXAMPLE

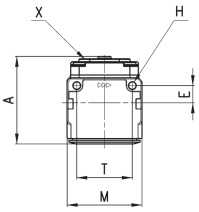
MC	2	02	-	AV

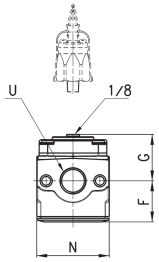
MC	SERIES
2	SIZE: 1 = G1/4 2 = G3/8 - G1/2
02	PORTS: 04 = G1/4 38 = G3/8 02 = G1/2
AV	AV = SOFT START VALVE

Soft start valve Series MC

X = adjustment screw



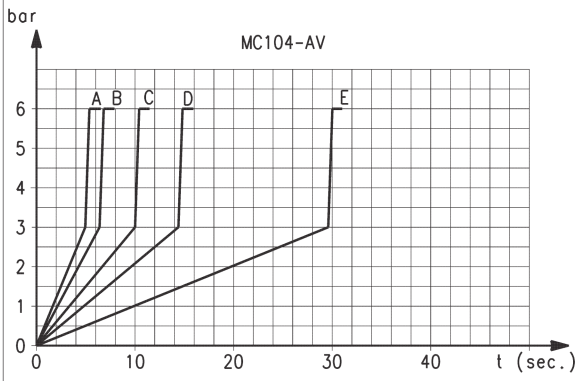


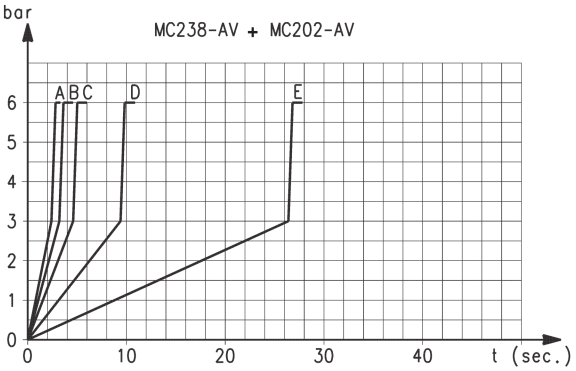


DIMENSIONS

Mod.	A	E	F	G	H	M	N	T	U
MC104-AV	59,5	11	28,5	31	4,5	45	45	35	G1/4
MC238-AV	72,5	14	34	38,5	5,5	62	60	46	G3/8
MC202-AV	72,5	14	34	38,5	5,5	62	60	46	G1/2

DIAGRAMS FOR PRESSURISATION TIMES

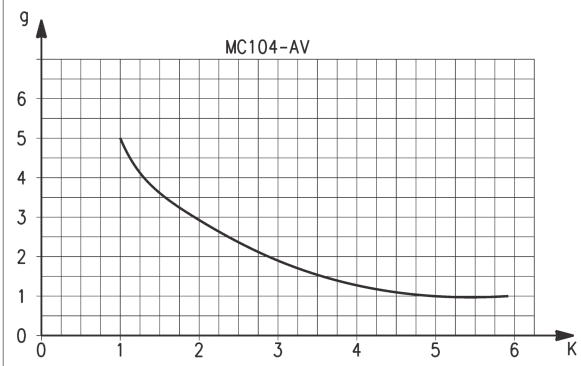


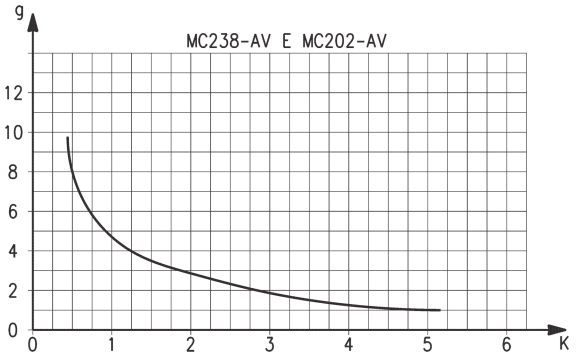


Pressurisation times as to the n° of turns of the regulation screw, with downstream volume of 5 litres. A = 5 turns - B = 4 turns - C = 3 turns - D = 2 turns - E = 1 turn. “K” = n° of turns of the regulation screw required to obtain the required pressurisation time with an inlet pressure of 6 bar. Variations 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 pressuring time in seconds.

Pressurisation times as to the n° of turns of the regulation screw, with downstream volume of 5 litres. A = 9 turns - B = 7 turns - C = 5 turns - D = 3 turns - E = 1 turn. “K” = n° 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 pressuring time in seconds.

VARIATION IN PRESSURISATION - Example





Example: MC104-AV
V = 5 litres
t = 16 seconds
K = 16/5 = 3,2
g = number of turns
Using in the graph this value K, the number of turns of the regulation screw will be approx. 1,8.

Example: MC238-AV - MC202-AV
V = 5 litres
t = 16 seconds
K = 16/5 = 3,2
g = number of turns
Using in the graph this value K, the number of turns of the regulation screw will be approx. 1,8.

Series MC take-off blocks

Ports G1/4 and G1/2
Modular

The take-off blocks, when equipped with a no return valve, allow the use of non lubricated air and should be inserted between the regulator and the lubricator.
If mounted as last element, they should be assembled with terminal flanges.

GENERAL DATA

Construction	modular, compact, diaphragm type
Materials	zama, NBR, technopolymer
Ports	G1/4 G1/2
Weight	kg 0,232 kg 0,379
Take off ports	G1/4 G1/2
Mounting	in- line or wall mounting (in any position)
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Finishing	enamelled
Operating pressure	0 ÷ 16 bar
Nominal flow (6 bar ΔP 1bar)	MC1-B = 4080 Nl/min MC1-B-VNR = 2350 Nl/min MC2-B = 8400 Nl/min MC2-B-VNR = 5600 Nl/min

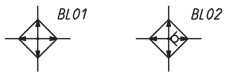
CODING EXAMPLE

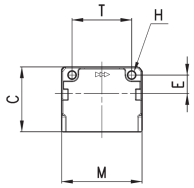
MC	2	-	B	-	VNR

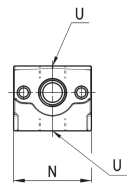
MC	SERIES
2	SIZE: 1 = G1/4 2 = G1/2
B	B = TAKE OFF BLOCK
VNR	VERSION: = standard VNR = with no return valve

Take off blocks Series MC

BL01 = take-off block
BL02 = take-off block with VNR







DIMENSIONS

Mod.	C	H	E	M	N	T	U		Symbol
MC1-B	43	4,5	11	45	45	35	G1/4	1	BL01
MC1-B-VNR	43	4,5	11	45	45	35	G1/4	1	BL02
MC2-B	50	5,5	14	62	60	46	G1/2	2	BL01
MC2-B-VNR	50	5,5	14	62	60	46	G1/2	2	BL02

ACCESSORIES FOR SERIES MC

Terminal flanges
(kit A)

Mounting brackets
(kit B)

Mounting bracket
Mod. C114-ST

Mounting bracket
Mod. C114-ST/1

Mounting bracket
Mod. C114-ST/2

Mounting bracket
Mod. C238-ST/1

Mounting bracket
Mod. MX2-S

Tie-rods for assembling
(kit C)

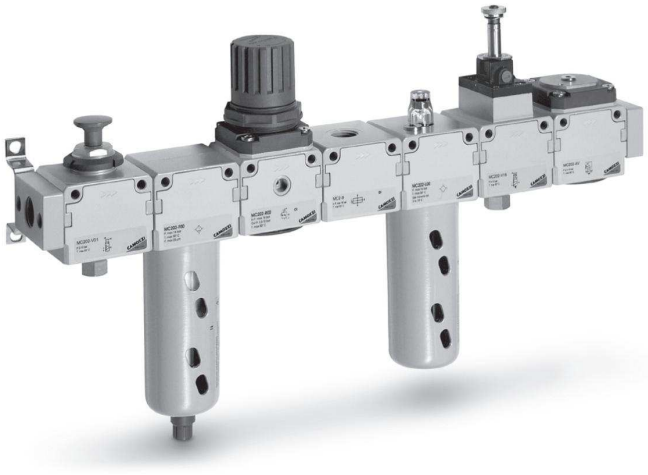
Tie-rods for assembling
(kit D)

Screws for assembling
(kit E)

Screws for assembling
(kit F)

Screws for assembling
(kit G)

Assembly O-ring

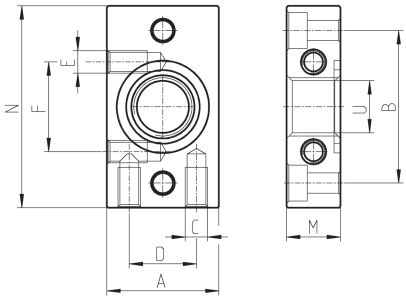


Systems of rapid connections designed to make mounting easier.

Terminal flanges (kit A)

The kit MC104-FL is supplied with: 1x left flange; 1x right flange; 4x screws M4x14; 2x O-Ring 2068. Each of the kits MC202-FL and MC238-FL is supplied with: 1x left flange; 1x right flange; 4x screws M5x14; 2x O-Ring 3100.

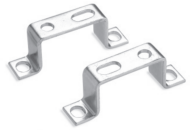
Materials: painted aluminium flanges, zinc-plated steel screws and NBR O-ring.



DIMENSIONS

Mod.	A	B	C	D	E	F	N	M	U	size
MC104-FL	25	34	M5	15	M5	20	45	12	G1/4	1
MC238-FL	35	44,5	M5	20	-	-	60	14	G3/8	2
MC202-FL	35	44,5	M5	20	-	-	60	14	G1/2	2

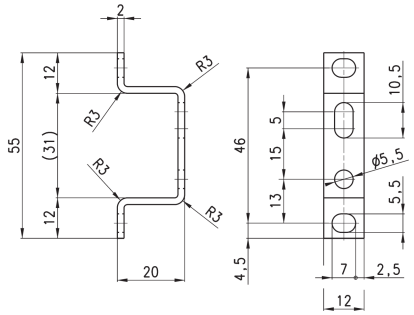
Mounting bracket for (kit B)



Mounting bracket for terminals 1/4, 3/8, 1/2.

The kit MC104-ST is supplied with:
- 2x terminal brackets
- 4x screws M5x10

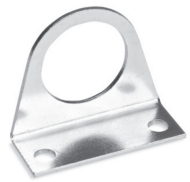
Materials: zinc-plated steel brackets and screws.



DIMENSIONS

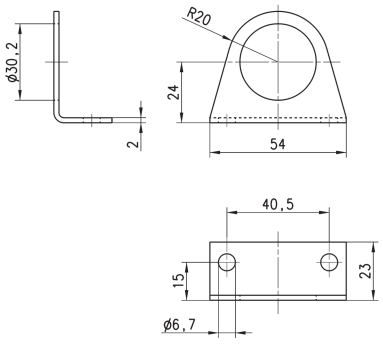
Mod.
MC104-ST

Mounting bracket Mod. C114-ST



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

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

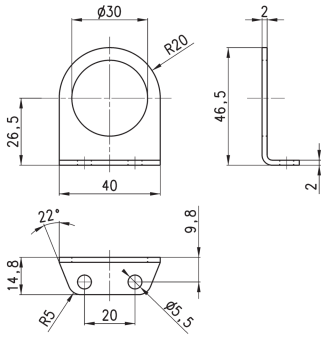


Mod.
C114-ST

Mounting bracket Mod. C114-ST/1

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

The kit is supplied with 1 zinc-plated steel bracket.

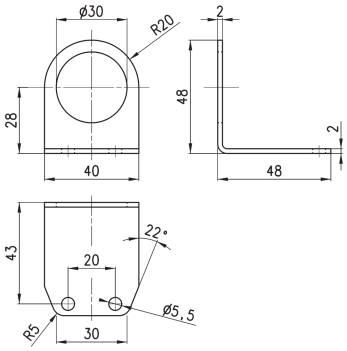


Mod.
C114-ST/1

Mounting bracket Mod. C114-ST/2

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

The kit is supplied with 1 zinc-plated steel bracket.



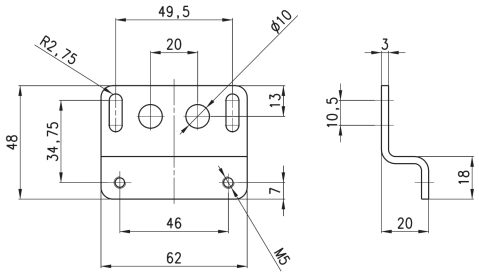
Mod.
C114-ST/2

Mounting bracket Mod. C238-ST/1

for MC238 and MC202

The kit is supplied with:
1 bracket; 2 screws M5X65

Materials: zinc-plated steel bracket and screws.

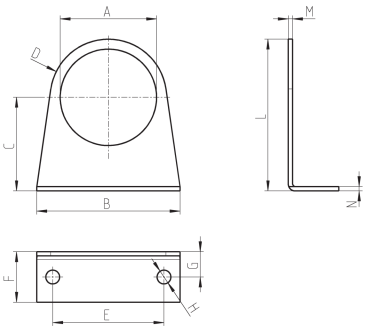


Mod.
C238-ST/1

Fixing bracket Mod. MX2-S

for regulators Mod. MC238 and MC202

The kit is supplied with 1 zinc-plated steel bracket

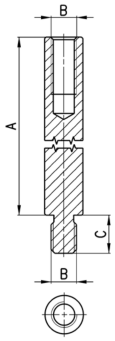


Mod.	A	B	C	D	E	F	G	H	L	M	N
MX2-S	Ø 47,2	73	60,5	R29,5	54	25	15	Ø 6,2	90	2,5	2,5

Tie-rods for assembling (kit C)

The kit MC1-TMF is supplied with:
2 male/female tie-rods; 1 O-ring 2068.
The kit MC2-TMF is supplied with:
2 male/female tie-rods; 1 O-ring 3100.

Materials: nickel-plated steel tie-rods and NBR O-ring.



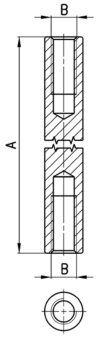
DIMENSIONS				
Mod.	A	B	SW	size
MC1-TMF	45	M4	6	1
MC2-TMF	62	M5	6	2

Tie-rods for assembling (kit D)

The kit MC1-TFF is supplied with 2 female tie-rods.

The kit MC2-TFF is supplied with 2 female tie-rods.

Materials: nickel-plated steel tie-rods.

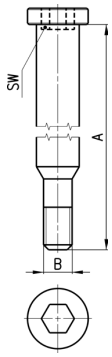


DIMENSIONS			
Mod.	A	B	size
MC1-TFF	44	M4	1
MC2-TFF	61	M5	2

Screws for assembling (kit E)

The kit MC1-VM is supplied with:
2 male screws; 1 O-ring 2068.
The kit MC2-VM is supplied with:
2 male screws; 1 O-ring 3100

Materials: zinc-plated steel screws and NBR O-ring.

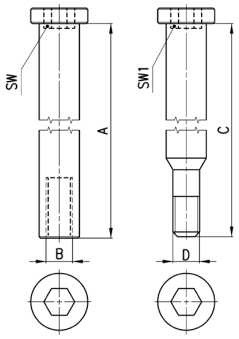


Mod.	A	B	SW	size
MC1-VM	48,5	M4	4	1
MC2-VM	65,5	M5	4	2

Screws for assembling (kit F)

The kit is supplied with: 2 male screws; 2 female screws; 1 O-ring (OR 2068 for MC1-VMF; OR 3100 for MC2-VMF).

Materials: zinc-plated steel male screws, nickel-plated steel female screws and NBR O-ring.



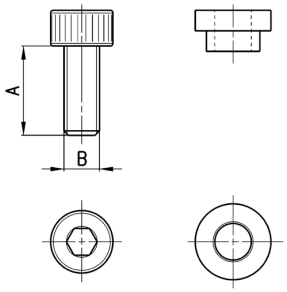
DIMENSIONS

Mod.	A	B	C	D	SW	SW1	size
MC1-VMF	48,5	M4	42,5	M4	4	4	1
MC2-VMF	65,5	M5	59,5	M5	4	4	2

Screws (kit G) to assemble 2 bodies type “M”

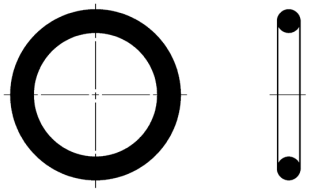
The kit MC1-VMD is supplied with:
4 screws M4X10; 4 spacers; 2 O-ring 2068.
The kit MC2-VMD is supplied with:
4 screws M5X12; 4 spacers; 2 O-ring 3100.

Materials: zinc-plated steel screws, brass spacers and NBR O-ring.



Mod.	A	B	size	
MC1-VMD	10	M4	1	*
MC2-VMD	12	M5	2	*

O-ring for assembling



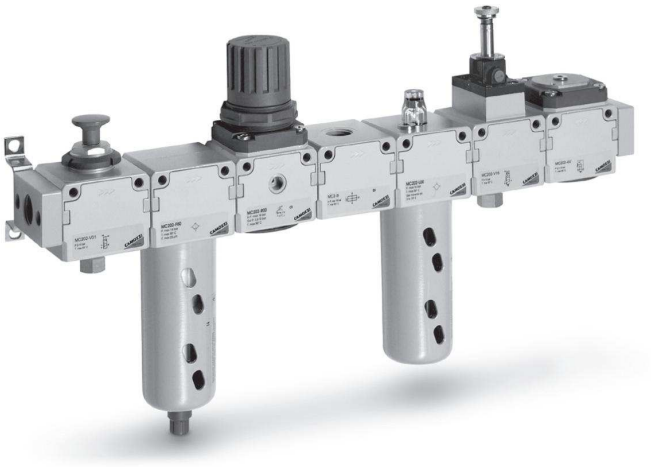
Mod.	O-ring	For assembly	
458-33/1	OR 2068	MC104	
80-26-11/4T	OR 3100	MC238, MC202	*

* spare parts only

Series MC assembled FRL

Ports G1/4, G3/8 and G1/2

- Clean design
- Great modularity
- Easy maintenance



The FRL Series MC in the assembled version can be easily assembled by means of modular tie rods on which it is possible to mount the single elements without any limits in the composition. The FRL groups Series MC are available already mounted (with a single code).

The connections can be made directly on the elements or on the terminal flanges (Kit A) with the advantage that in case of maintenance the group can be extracted without disconnecting the tubing.
The version with flanges is supplied without tie-rods.

GENERAL DATA

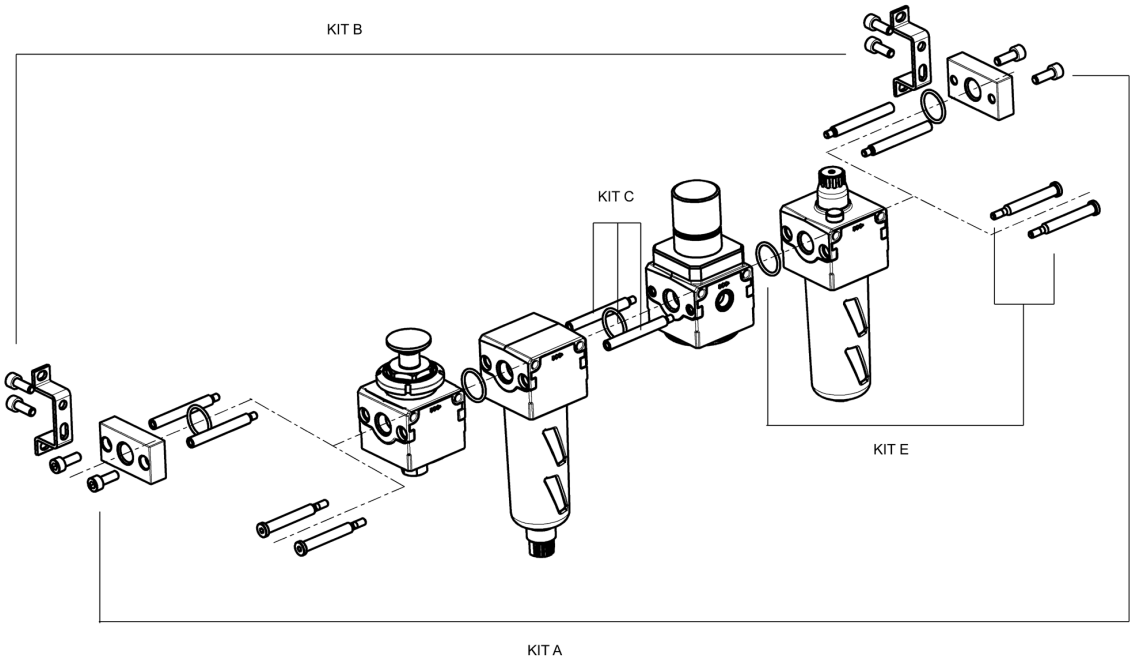
Construction	modular, compact
Materials	zama, NBR, technopolymer
Ports	G1/4 - G3/8 - G1/2
Mounting	vertical, in-line or wall-mounting
Operating temperature	-5°C ÷ 50°C at 10 bar (with the dew point of the fluid lower than 2°C at the min. working temperature)
Finish	enamelled
Flow	determined at 6 bar inlet supply with ΔP 1 bar (ΔP 0,5 only for FRL)

COMPOSITION OF THE KITS

- EXAMPLE BODY TYPE [M] with female no through threads: - regulator - filter-regulator - Manifold regulator group, an assembly of more manifold regulators counts as a body type “M”.

- EXAMPLE BODY TYPE [P] with through holes: - filter - lubricator - soft start valve - take off block - isolation valve

The “x” in the codes in the following table refer to the size, see MC Accessories in the section 3/2.44.

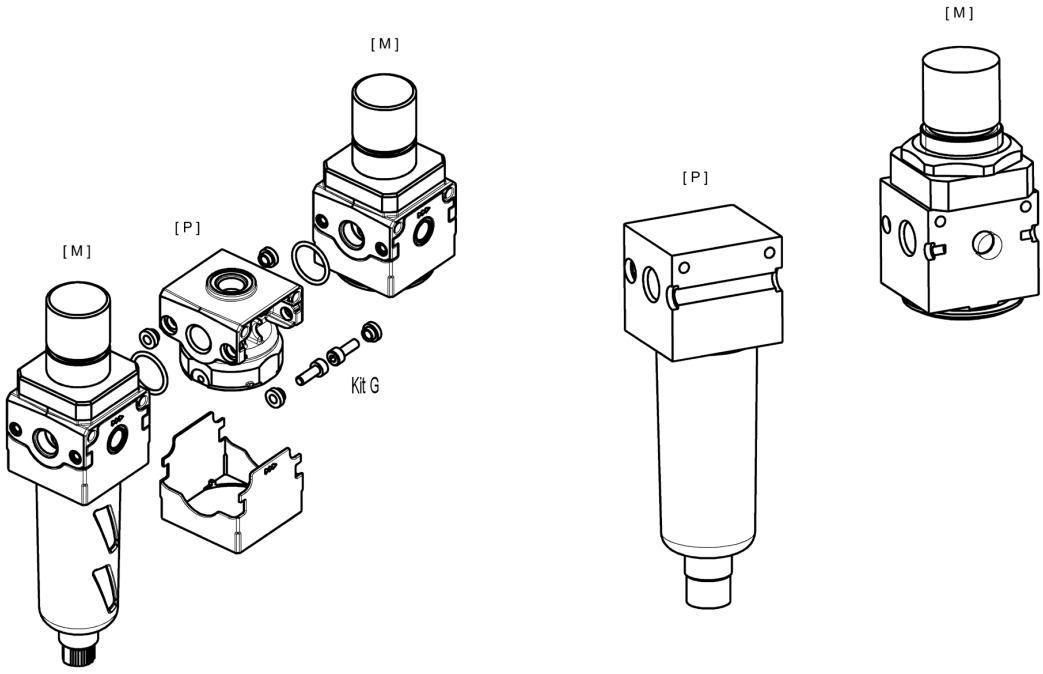


Mod.	Description	Supplied with:
MCxxx-FL	Kit A	1 right flange 1 left flange 4 screws - 2 O-ring
MCxxx-ST	Kit B	2 brackets + 4 screws
MCx-TMF	Kit C	2 tie rods male-female 1 O-ring
MCx-TFF	Kit D	2 tie rods female-female
MCx-VM	Kit E	2 male screws 1 O-ring
MCx-VMF	Kit F	2 male screws 2 female screws 1 O-ring
MCx-VMD	Kit G	4 screws 4 spacers + 2 O-ring To be used on a body type “P” positioned in between two body types “M”.

3 TREATMENT

ASSEMBLY EXAMPLE WITH AND WITHOUT TERMINAL FLANGES

- the body types [M] are with female no through threads
- the body types [P] are with through holes



Assembly between types P and M	KIT for ass. without terminal flanges	KIT for ass. with terminal flanges
P + M	1 kit E	1 Kit A + 1 Kit C
M + P	1 kit E	1 Kit A + 1 Kit C
P + P	1 Kit F	1 Kit A + 1 Kit C + 1 Kit D
P + M + P	2 Kit E	1 Kit A + 2 Kit C
P + P + P	1 Kit F + 1 Kit C	1 Kit A + 2 Kit C + 1 Kit D
M + P + P	1 Kit E + 1 Kit C	1 Kit A + 2 Kit C
M + P + M	1 Kit G	1 Kit A + 1 Kit G
P + M + P + P	2 Kit E + 1 Kit C	1 Kit A + 3 Kit C
P + P + M + P + P	2 Kit E + 2 Kit C	1 Kit A + 4 Kit C

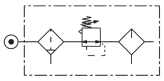
CODING EXAMPLE

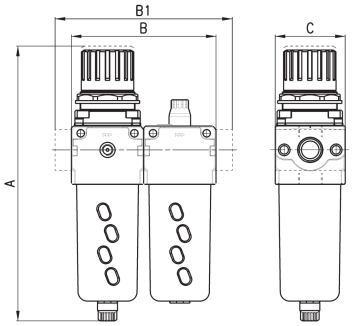
MC	2	02	-	C	-	5	-	FL

MC	MC = SERIES
2	SIZE 1 = G1/4 2 = G3/8 - G1/2
02	PORT 04 = G1/4 38 = G3/8 02 = G1/2
C	ASSEMBLY GROUP C = D + L E = V01 + D + L FRL = F + R + L GN = D + L + V16 + AV HNA = V01 + D + L + V16 + AV + PRESS NO HNC = V01 + D + L + V16 + AV + PRESS NC N = V01 + D PN = D + V16 + AV QN = V01 + D + V16 + AV TN = V01 + D + L + V16 + AV U = F13 + FB3 (only for 3/8 - 1/2) ZNA = V01 + D + V16 + AV + PRESS NO ZNC = V01 + D + V16 + AV + PRESS NC
5	FILTERING ELEMENT 5 = 5 µm (standard) 25 = 25 µm (upon request)
FL	VERSION FL = with terminal flanges (without brackets)
	LEGEND: D = Filter-regulator 0.5-10 bar, semi-automatic-manual drain with relieving, filtering element 5 µm or 25 µm L = Lubricator V01 = 3/2-way manually operated valve F = Filter 5 µm or 25 µm R = Regulator 0.5-10 bar with relieving V16 = 3/2-way electropneumatically operated valve AV = Soft start valve PRESS NO = Pressure switch, Normally Open PRESS NC = Pressure switch, Normally Closed F13 = Filter 5 µm with automatic drain FB3 = Coalescing filter 0.01 µm with automatic drain

Assembly group C

Components:
Filter-regulator
Lubricator





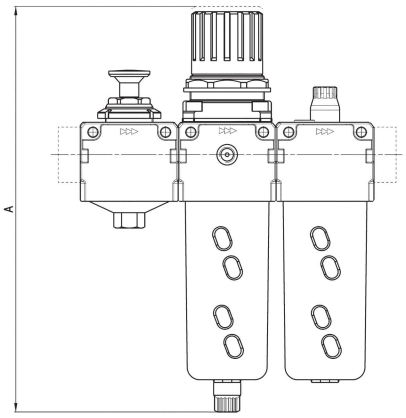
DIMENSIONS

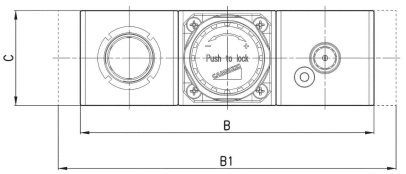
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-C-5	193,5	90	-	45	1450
MC238-C-5	256,5	124	-	60	4800
MC202-C-5	256,5	124	-	60	4900
MC104-C-5-FL	193,5	-	114	45	1450
MC238-C-5-FL	256,5	-	152	60	4800
MC202-C-5-FL	256,5	-	152	60	4900

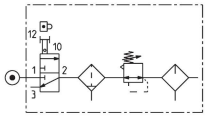
3 TREATMENT

Assembly group E

Components:
Lockable isolation 3/2-way valve
Filter-regulator
Lubricator



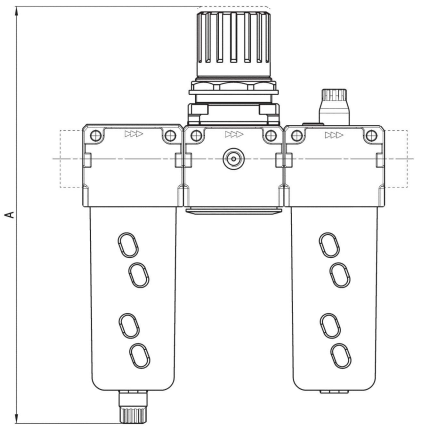


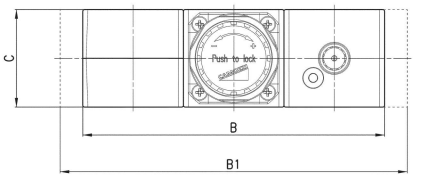


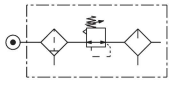
DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-E-5	193,5	135	-	45	1450
MC238-E-5	256,5	186	-	60	4800
MC202-E-5	256,5	186	-	60	4950
MC104-E-5-FL	193,5	-	159	45	1450
MC238-E-5-FL	256,5	-	214	60	4800
MC202-E-5-FL	256,5	-	214	60	4950

Assembly group FRL

Components:
Filter
Regulator
Lubricator



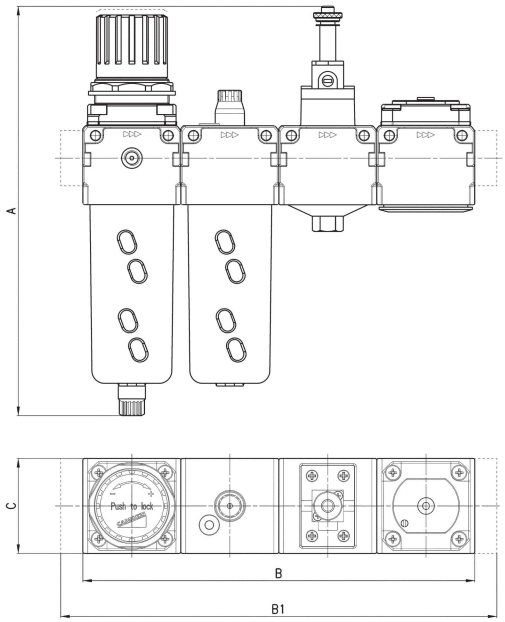


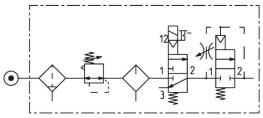


DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-FRL-5	193	135	-	45	1450
MC238-FRL-5	256,5	186	-	60	4800
MC202-FRL-5	256,5	186	-	60	4900
MC104-FRL-5-FL	193,5	-	159	45	1450
MC238-FRL-5-FL	256,5	-	214	60	4800
MC202-FRL-5-FL	256,5	-	214	60	4900

Assembly group GN

Components:
Filter-regulator
Lubricator
Lockable isolation 3/2-way valve
Soft start valve



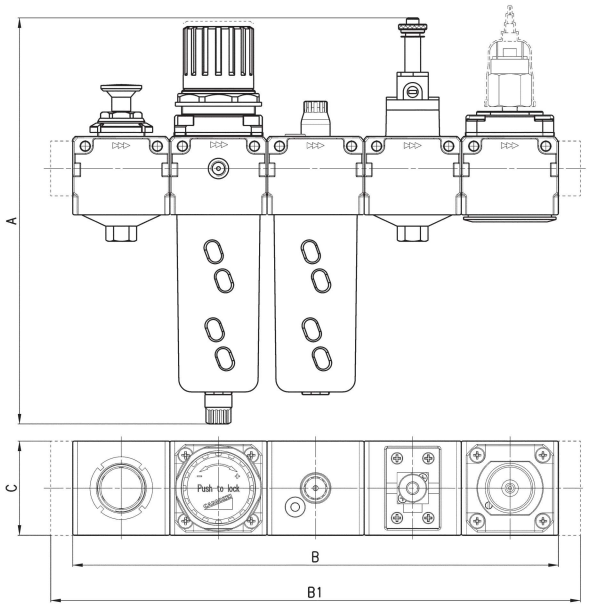


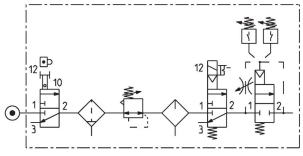
DIMENSIONS

Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-GN-5	208	180	-	45	1450
MC238-GN-5	259	248	-	60	4800
MC202-GN-5	259	248	-	60	4900
MC104-GN-5-FL	208	-	204	45	1450
MC238-GN-5-FL	259	-	276	60	4800
MC202-GN-5-FL	259	-	276	60	4950

Assembly group HN...

Components:
Lockable isolation 3/2-way valve
Filter-regulator
Lubricator
Lockable isolation 3/2-way valve
Soft start valve + pressure switch (NC)



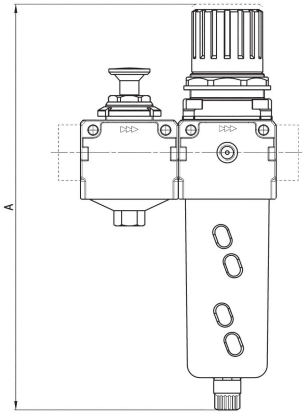


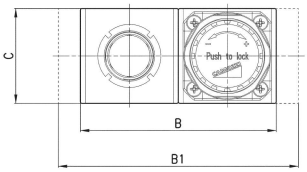
DIMENSIONS

Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-HN...-5	208	225	-	45	1450
MC238-HN...-5	259	310	-	60	4800
MC202-HN...-5	259	310	-	60	4950
MC104-HN...-5-FL	208	-	249	45	1450
MC238-HN...-5-FL	259	-	338	60	4800
MC202-HN...-5-FL	259	-	338	60	4950

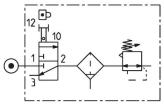
Assembly group N

Components:
Lockable isolation 3/2-way valve
Filter-regulator



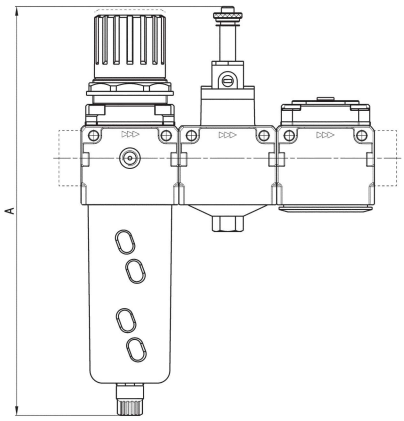


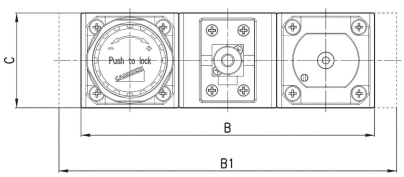
DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-N-5	193,5	90	-	45	1450
MC238-N-5	256,5	124	-	60	4800
MC202-N-5	256,5	124	-	60	4950
MC104-N-5-FL	193,5	-	114	45	1450
MC238-N-5-FL	256,5	-	152	60	4800
MC202-N-5-FL	256,5	-	152	60	4950



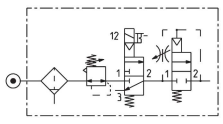
Assembly group PN

Components:
Filter-regulator
Lockable isolation 3/2-way valve
Soft start valve



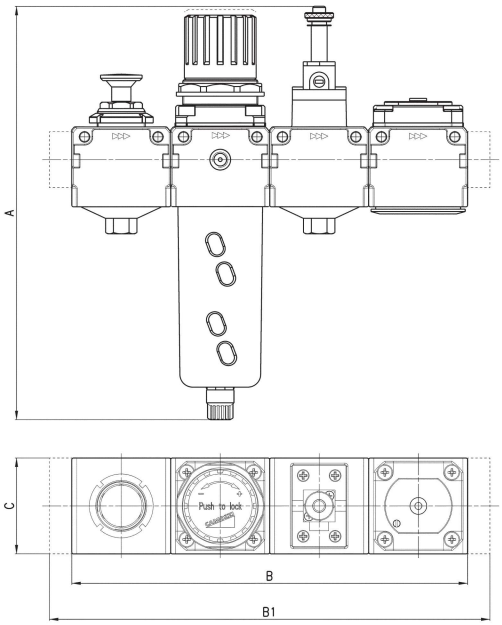


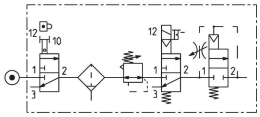
DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-PN-5	208	135	-	45	1450
MC238-PN-5	259	186	-	60	4800
MC202-PN-5	259	186	-	60	4950
MC104-PN-5-FL	208	-	159	45	1450
MC238-PN-5-FL	259	-	214	60	4800
MC202-PN-5-FL	259	-	214	60	4950



Assembly group QN

Components:
Lockable isolation 3/2-way valve
Filter-regulator
Lockable isolation 3/2-way valve
Soft start valve

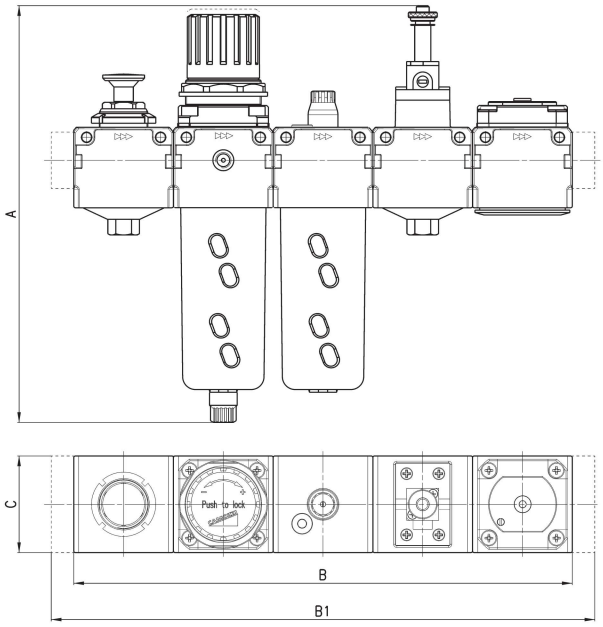


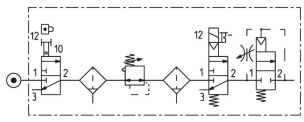


DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-QN-5	208	180	-	45	1450
MC238-QN-5	259	248	-	60	4800
MC202-QN-5	259	248	-	60	4950
MC104-QN-5-FL	208	-	204	45	1450
MC238-QN-5-FL	259	-	276	60	4800
MC202-QN-5-FL	259	-	276	60	4950

Assembly group TN

Components:
Lockable isolation 3/2-way valve
Filter-regulator
Lubricator
Lockable isolation 3/2-way valve
Soft start valve

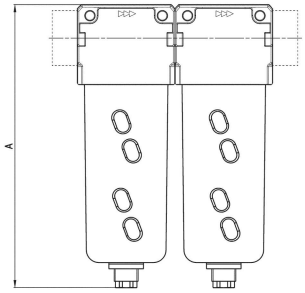


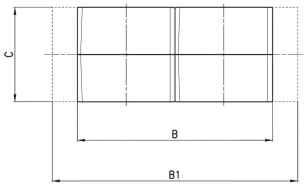


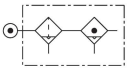
DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-TN-5	208	225	-	45	1450
MC238-TN-5	259	310	-	60	4800
MC202-TN-5	259	310	-	60	4950
MC104-TN-5-FL	208	-	249	45	1450
MC238-TN-5-FL	259	-	338	60	4800
MC202-TN-5-FL	259	-	338	60	4950

Assembly group U

Components:
Filter
Coalescing filter



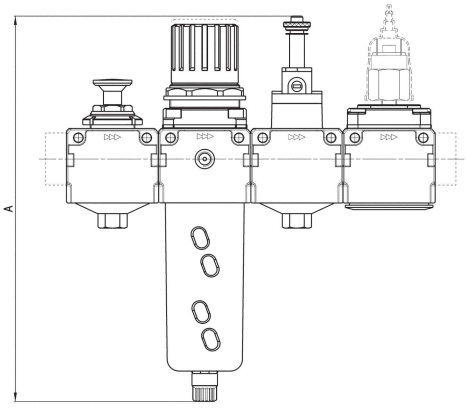


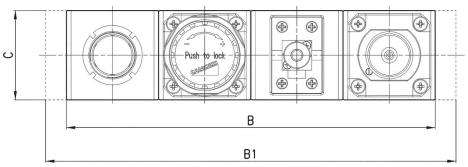


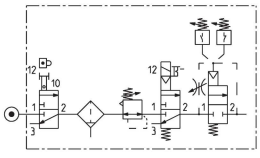
DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC238- U-5	180	124	-	60	2050
MC202- U-5	180	124	-	60	2300
MC238-U-5-FL	180	-	152	60	2050
MC202-U-5-FL	180	-	152	60	2300

Assembly group ZN...

Components:
Lockable isolation 3/2-way valve
Filter-regulator
Lockable isolation 3/2-way valve
Soft start valve + pressure switch
(NO or NC)







DIMENSIONS					
Mod.	A	B	B1	C	Flow rate (Nl/min)
MC104-ZN...-5	208	180	-	45	1450
MC238-ZN...-5	259	248	-	60	4800
MC202-ZN...-5	259	248	-	60	4950
MC104-ZN...-5-FL	208	-	204	45	1450
MC238-ZN...-5-FL	259	-	276	60	4800
MC202-ZN...-5-FL	259	-	276	60	4950

Series MC
manifold pressure regulators

Ports G1/4
Modular

The manifold pressure regulators with ports G1/4 are available with a second pressure relieving and can be in-line or panel mounted.

GENERAL DATA

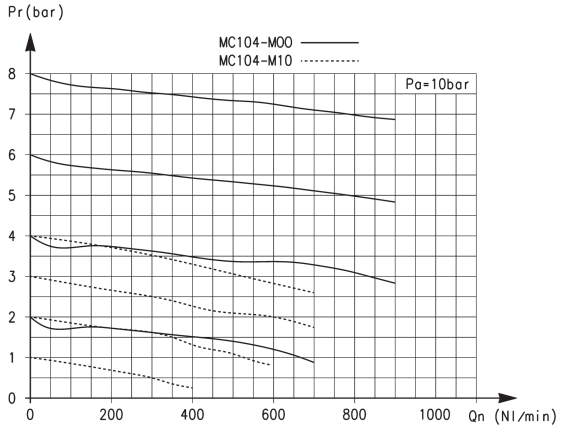
Construction	compact modular, diaphragm type
Materials	zama, NBR, technopolymer
Port	G1/4
Weight	kg 0,320
Pressure gauge ports / outlet	G1/8
Mounting	in-line, wall or panel mounting (in any position)
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Finishing	enamelled
Inlet pressure	0 ÷ 16 bar
Outlet pressure	0.5 ÷ 10 bar or 0 ÷ 4 bar
Flow	see graph
Secondary pressure relieving	standard

CODING EXAMPLE

MC	1	04	-	M	0	0

MC	SERIES
1	SIZE: 1 = G1/4
04	PORT: 04 = G1/4
M	MANIFOLD REGULATOR
0	OPERATING PRESSURE: 0 = 0,5 ÷ 10 (standard) 1 = 0 ÷ 4 2 = 0,5 ÷ 2 7 = 0,5 ÷ 7
0	CONSTRUCTION: 0 = self-relieving (standard) 1 = non-relieving 5 = precise relieving

FLOW DIAGRAM



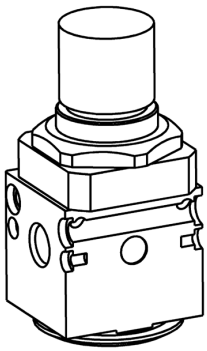
Flow diagram for model: MC104-M00
Pa = Inlet pressure
Pr = Regulated pressure
Qn = Flow

Assembly

EXAMPLE BODY TYPE [H] :
Manifold regulator with through holes on top (used to mount the manifold regulators to each other).

N.B.: Once a group of manifolds has been assembled, it can be inserted in a FRL group. In this case the manifold regulator assembly alone would be defined as body type M.

"H"



Assembly kits

- Kit A: 1 right flange + 1 left flange + 4 screws + 2 O-ring.

- Kit B: 2 brackets + 4 screws.

- Kit C: 2 tie rods male-female + 1 O-ring.

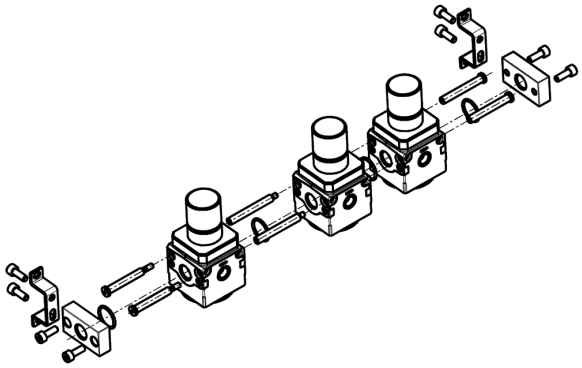
- Kit D: 2 tie rods female-female.

- Kit E: 2 male screws + 1 O-ring.

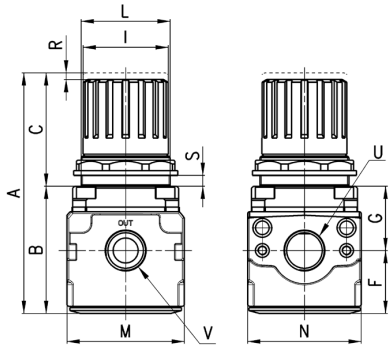
- Kit F: 2 male screws + 2 female screws + 1 O-ring.

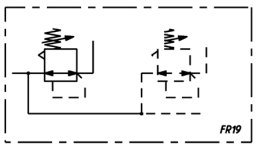
- Kit G: 4 screws + 4 spacers + 2 O-ring, to be used on a body type “P” positioned between two body types “M”.

N.B. for configurations which differ from the ones described, you can only add only bodies type “H” and for every part added you should add a Kit “C”.

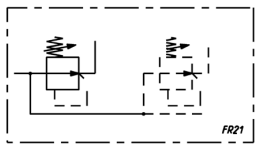


Manifold pressure regulators Series MC





FR19 = Manifold regulator with relieving without pressure gauge



FR21 = Manifold regulator without relieving and without pressure gauge

DIMENSIONS

Mod.	A	B	C	F	G	I	L	M	N	R	S	U	V
MC104-M00	94	55	39	28	28	28	30X1,5	45	45	3	0 ÷ 6	G1/4	G1/8