

# Series MX-PRO electronic proportional regulator

Ports: G1/2

Manifold ports: G1/2

Modular - Available with built-in pressure gauges or ports for gauges



- » High precision
- » Low electric consumption
- » High exhaust flow
- » Modular with Series MX2
- » Available also in the MANIFOLD and external servo pilot supply versions

Series MX-PRO electronic proportional pressure regulator is the result of combining advanced technology of Series K8P electronic proportional micro regulator, with reliability and high performance of Series MX2 modular regulators.

This new regulator ensures high precision in pressure regulation, high flow rate and low consumption. Moreover, it can take the most of Series MX ease of assembly to provide particularly compact Manifolds.

## GENERAL DATA

<b>Construction</b>	modular, compact, diaphragm type
<b>Materials</b>	see tables on the following pages
<b>Ports</b>	G1/2
<b>Mounting</b>	vertical in-line, wall-mounting (by means of clamps)
<b>Working temperature</b>	0°C + 50°C
<b>Max inlet pressure</b>	11 bar (10 bar), 4 bar (3 bar)
<b>Regulated pressure</b>	0.5 + 10 bar, 0.15 + 3 bar
<b>Overpressure exhaust</b>	with relieving (standard) without relieving
<b>Nominal flow</b>	see flow diagrams (following pages)
<b>Air specifications</b>	Filtered compressed air, non lubricated, class 3.4.3 according to ISO 8573.1 standard. If lubrication is necessary, please use only oils with maximum viscosity of 32 Cst and the version with external servo-pilot supply. The servo-pilot supply air quality class must be 3.4.3 according to ISO 8573.1 standard.
<b>Pressure gauge</b>	version with built-in pressure gauge (standard) version with G1/8 port
<b>Analogical input</b>	0-10 V DC Ripple ≤ 0.2% 4-20 mA
<b>Analogical output</b>	0.5-9.5 V DC [ Feedback ]
<b>Electrical supply</b>	24 V DC ± 10%
<b>Linearity</b>	≤ ± 1% FS
<b>Hysteresis</b>	±0.5% FS
<b>Repeatability</b>	±0.5% FS
<b>Sensibility</b>	0.3% FS
<b>Protection class</b>	IP51
<b>Electrical connection</b>	M8 4 Pin (Male)

**CODING EXAMPLE**

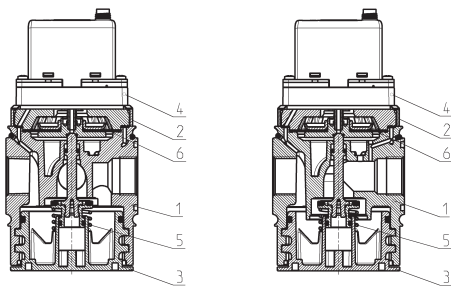
<b>MX</b>	<b>2</b>	<b>-</b>	<b>1/2</b>	<b>-</b>	<b>R</b>	<b>CV</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>-</b>	<b>LH</b>
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<b>MX</b>	SERIES
<b>2</b>	SIZE: 2 = G1/2
<b>1/2</b>	PORTS: 1/2 = G1/2
<b>R</b>	TYPE OF REGULATOR: R = pressure regulator M = Manifold pressure regulator (G1/2 only)
<b>CV</b>	COMMAND: CV = electrical command 0-10 V DC CA = electrical command 4-20 mA EV = electrical command 0-10 V DC with external servo pilot supply EA = electrical command 4-20 mA with external servo pilot supply
<b>2</b>	OPERATING PRESSURE (1 bar = 14,5 psi): 1 = 0.15 ÷ 3 bar 2 = 0.5 ÷ 10 bar (standard)
<b>0</b>	DESIGN TYPE: 0 = relieving (standard) 1 = without relieving
<b>4</b>	PRESSURE GAUGE: 0 = without pressure gauge (with threaded port for gauges) 2 = with built-in pressure gauge 0-6 and working pressure 0.15 ÷ 3 bar 4 = with built-in pressure gauge 0-12 and working pressure 0.5 ÷ 10 bar (standard)
<b>LH</b>	FLOW DIRECTION: = from left to right (standard) LH = from right to left

For the assembly of a single component with fixing flanges or wall-mounting, see the section "FRL Series MX Assembled" (pag. 3/1.50.01)

**Series MX-PRO electronic proportional regulators - materials**

R = pressure regulator  
M = Manifold pressure regulator



R

M

PARTS	MATERIALS
<b>1 = Body</b>	Aluminium
<b>2 = Covering</b>	Polyacetal
<b>3 = Valve holder plug</b>	Polyacetal
<b>4 = Upper base</b>	Polyamide
<b>5 = Lower spring</b>	Zinc-plated steel
<b>6 = Diaphragm</b>	NBR
<b>Seals</b>	NBR

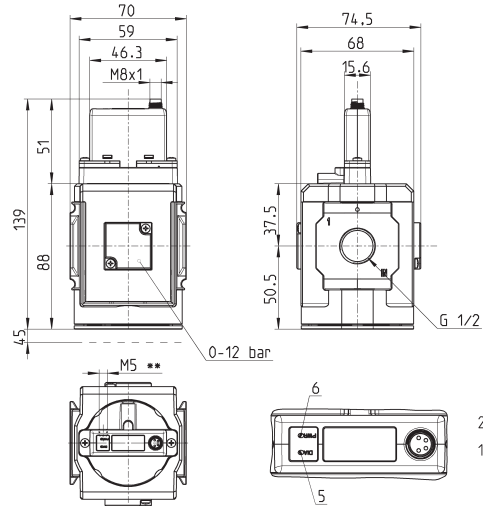
## Series MX-PRO electronic proportional regulators



- Male connector M8 4 poles
- Pin 1: +24 V DC (Power supply)
- Pin 2: Command analogical signal  
0-10 V DC or 4-20 mA
- Pin 3: 0 V (Ground) common also  
for the command signal
- Pin 4: Output analogical signal  
(according to the  
regulated pressure)
- 5 red LED
- 6 green LED

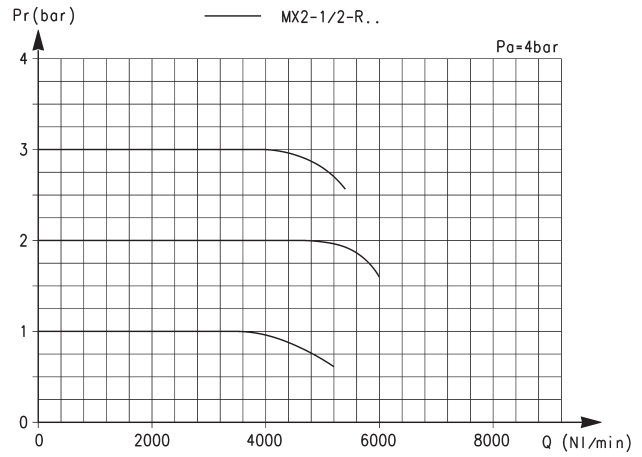
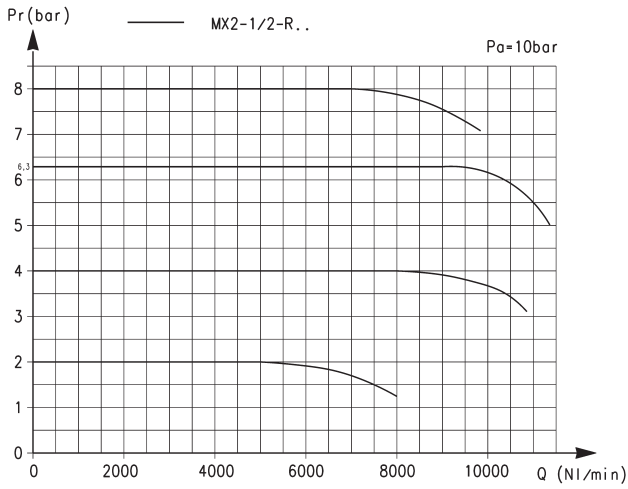
Accessories: see MX accessories (3/1.49)  
Assembled FRL: see Series MX (3/1.50)  
Connection cables: see Series K8P (2/15.37)

**DRAWING NOTE**  
\*\* = in the versions with external servo pilot supply only (MX2-1/2-REV... and MX2-1/2-REA...)



Mod.	Ports	Electrical command	Operating pressure (1 bar = 14,5 psi)	Relieving	Pressure gauge
MX2-1/2-RCV102	G1/2	0-10 V DC	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-RCV112	G1/2	0-10 V DC	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-RCV204	G1/2	0-10 V DC	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-RCV214	G1/2	0-10 V DC	0.5 + 10 bar	no	with built-in pressure gauge 0-12
MX2-1/2-RCA102	G1/2	4-20 mA	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-RCA112	G1/2	4-20 mA	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-RCA204	G1/2	4-20 mA	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-RCA214	G1/2	4-20 mA	0.5 + 10 bar	no	with built-in pressure gauge 0-12
MX2-1/2-RCV100	G1/2	0-10 V DC	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-RCV110	G1/2	0-10 V DC	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-RCV200	G1/2	0-10 V DC	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-RCV210	G1/2	0-10 V DC	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-RCA100	G1/2	4-20 mA	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-RCA110	G1/2	4-20 mA	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-RCA200	G1/2	4-20 mA	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-RCA210	G1/2	4-20 mA	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-REV100	G1/2	0-10 V DC	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-REV102	G1/2	0-10 V DC	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-REV110	G1/2	0-10 V DC	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-REV112	G1/2	0-10 V DC	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-REV200	G1/2	0-10 V DC	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-REV204	G1/2	0-10 V DC	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-REV210	G1/2	0-10 V DC	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-REV214	G1/2	0-10 V DC	0.5 + 10 bar	no	with built-in pressure gauge 0-12
MX2-1/2-REA100	G1/2	4-20 mA	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-REA102	G1/2	4-20 mA	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-REA110	G1/2	4-20 mA	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-REA112	G1/2	4-20 mA	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-REA200	G1/2	4-20 mA	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-REA204	G1/2	4-20 mA	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-REA210	G1/2	4-20 mA	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-REA214	G1/2	4-20 mA	0.5 + 10 bar	no	with built-in pressure gauge 0-12

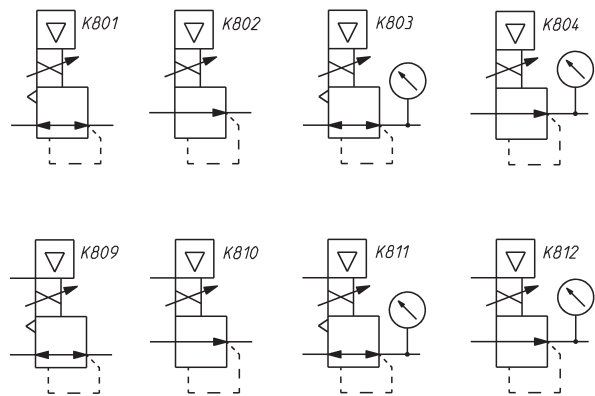
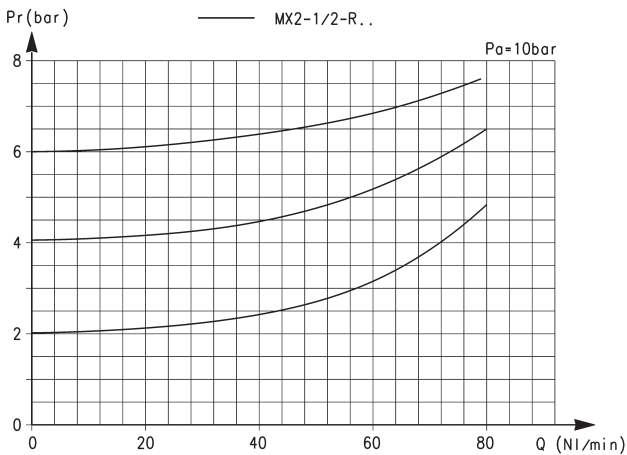
FLOW DIAGRAMS - STANDARD VERSION



Pr = Regulated pressure  
Q = Flow  
Pa = Inlet pressure

Pr = Regulated pressure  
Q = Flow  
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FLOW DIAGRAM AND PNEUMATIC SYMBOLS - STANDARD VERSION



Exhaust flow diagram

Pr = Regulated pressure  
Q = Flow  
Pa = Inlet pressure

- K801 = relieving, electrical command
- K802 = NO relieving, electrical command
- K803 = relieving, electrical command, built-in pressure gauge
- K804 = NO relieving, electrical command, built-in pressure gauge
- K809 = relieving, electrical command, ext. servo pilot supply
- K810 = NO reliev., electrical command, ext. servo pilot supply
- K811 = reliev., el. com., built-in pr. gauge, ext. servo pilot supply
- K812 = NO reliev., el. com., built-in pr. gauge, ext. servo pilot sup.

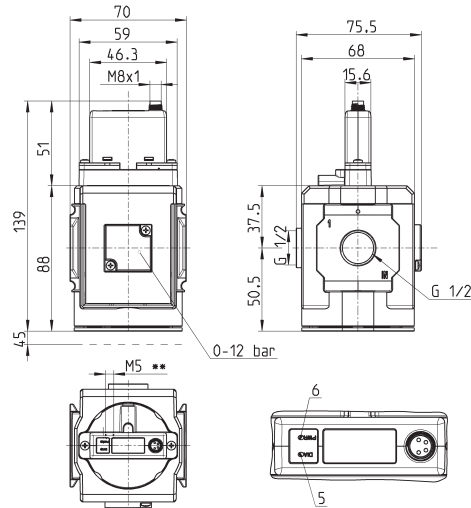
## Series MX-PRO Manifold regulators - dimensions



- Male connector M8 4 poles
- Pin 1: +24 V DC (Power supply)
- Pin 2: Command analogical signal  
0-10 V DC or 4-20 mA
- Pin 3: 0 V (Ground) common also  
for the command signal
- Pin 4: Output analogical signal  
(according to the  
regulated pressure)
- 5 red LED
- 6 green LED

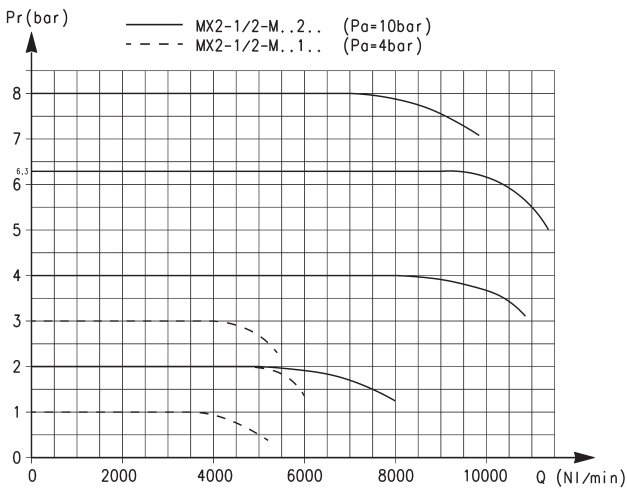
Accessories: see MX accessories (3/1.49)  
Assembled FRL: see Series MX (3/1.50)  
Connection cables: see Series K8P (2/15.37)

**DRAWING NOTE**  
\*\* = in the versions with external servo pilot supply only (MX2-1/2-REV... and MX2-1/2-REA...)



Mod.	Ports	Electrical command	Operating pressure (1 bar = 14,5 psi)	Relieving	Pressure gauge
MX2-1/2-MCV102	G1/2	0-10 V DC	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-MCV112	G1/2	0-10 V DC	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-MCV204	G1/2	0-10 V DC	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-MCV214	G1/2	0-10 V DC	0.5 + 10 bar	no	with built-in pressure gauge 0-12
MX2-1/2-MCA102	G1/2	4-20 mA	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-MCA112	G1/2	4-20 mA	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-MCA204	G1/2	4-20 mA	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-MCA214	G1/2	4-20 mA	0.5 + 10 bar	no	with built-in pressure gauge 0-12
MX2-1/2-MCV100	G1/2	0-10 V DC	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-MCV110	G1/2	0-10 V DC	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-MCV200	G1/2	0-10 V DC	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-MCV210	G1/2	0-10 V DC	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-MCA100	G1/2	4-20 mA	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-MCA110	G1/2	4-20 mA	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-MCA200	G1/2	4-20 mA	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-MCA210	G1/2	4-20 mA	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-MEV100	G1/2	0-10 V DC	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-MEV102	G1/2	0-10 V DC	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-MEV110	G1/2	0-10 V DC	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-MEV112	G1/2	0-10 V DC	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-MEV200	G1/2	0-10 V DC	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-MEV204	G1/2	0-10 V DC	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-MEV210	G1/2	0-10 V DC	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-MEV214	G1/2	0-10 V DC	0.5 + 10 bar	no	with built-in pressure gauge 0-12
MX2-1/2-MEA100	G1/2	4-20 mA	0.15 + 3 bar	yes	without pressure gauge
MX2-1/2-MEA102	G1/2	4-20 mA	0.15 + 3 bar	yes	with built-in pressure gauge 0-6
MX2-1/2-MEA110	G1/2	4-20 mA	0.15 + 3 bar	no	without pressure gauge
MX2-1/2-MEA112	G1/2	4-20 mA	0.15 + 3 bar	no	with built-in pressure gauge 0-6
MX2-1/2-MEA200	G1/2	4-20 mA	0.5 + 10 bar	yes	without pressure gauge
MX2-1/2-MEA204	G1/2	4-20 mA	0.5 + 10 bar	yes	with built-in pressure gauge 0-12
MX2-1/2-MEA210	G1/2	4-20 mA	0.5 + 10 bar	no	without pressure gauge
MX2-1/2-MEA214	G1/2	4-20 mA	0.5 + 10 bar	no	with built-in pressure gauge 0-12

**FLOW DIAGRAMS - MANIFOLD VERSION**

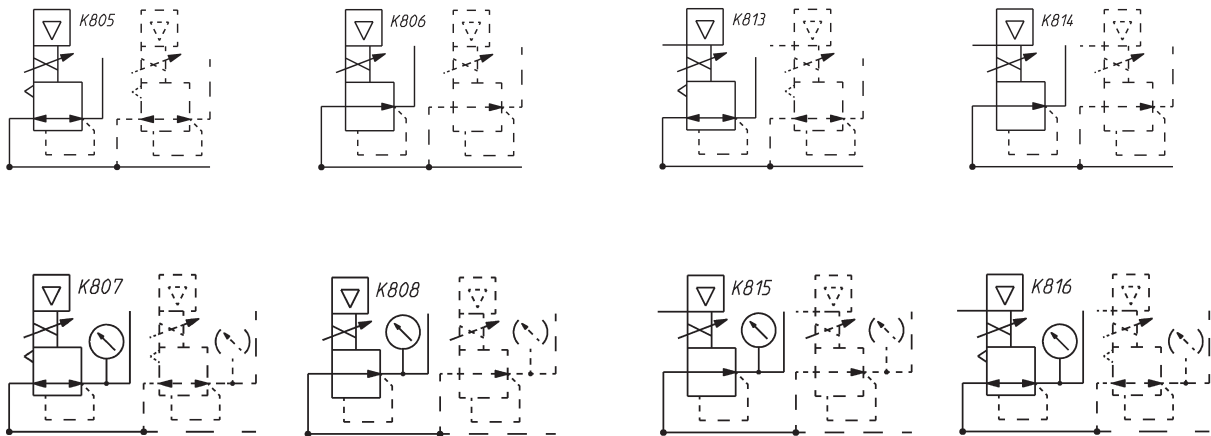


Pr = Regulated pressure

Q = Flow

Pa = Inlet pressure

**PNEUMATIC SYMBOLS - MANIFOLD VERSION**



- K805 = MANIFOLD reg., relieving, electrical command
- K806 = MANIFOLD reg., NO relieving, electrical command
- K807 = MANIFOLD reg., relieving, electrical command and built-in pressure gauge
- K808 = MANIFOLD reg., NO relieving, electrical command and built-in pressure gauge

- K813 = MANIFOLD reg., relieving, electrical command, and external servo pilot supply
- K814 = MANIFOLD reg., NO relieving, electrical command, and external servo pilot supply
- K815 = MANIFOLD reg., relieving, electrical command, built-in pressure gauge and external servo pilot supply
- K816 = MANIFOLD reg., NO relieving, electrical command, built-in pressure gauge and external servo pilot supply

### Rapid clamp kit Mod. MX2-...

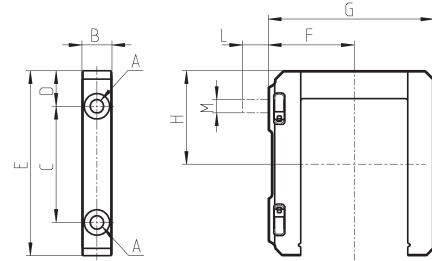


The kit MX2-X is supplied with:  
 1 rapid clamp, 1 O-ring OR 3125 \*,  
 2 exagonal nuts M5, 2 screws M5x69.

The kit MX2-Z is supplied with:  
 1 rapid clamp, 1 O-ring OR 3125 \*,  
 1 exagonal nut M5, 1 screw M5x69,  
 1 screw M5x85 for wall fixing.

\* it can be ordered separately (cod. 160-39-11/19)

Materials: technopolymer clamp, NBR O-ring,  
 zinc-plated steel nuts and screws.



#### DIMENSIONS

Mod.	A	B	C	D	E	F	G	H	L	M	Notes
<b>MX2-X</b>	5.2	12	46	14	73.5	37.5	70.5	37	-	-	
<b>MX2-Z</b>	5.2	12	46	14	73.5	37.5	70.5	37	14	M5	kit with wall fixing screw

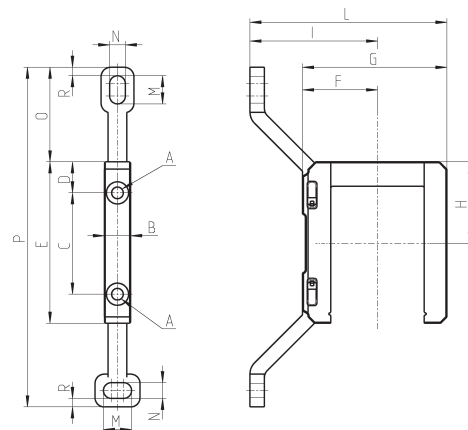
### Rapid clamp kit with wall fixing brackets



The kit MX2-Y is supplied with:  
 1 wall rapid clamp, 1 O-ring OR 3125 \*\*, 2 exagonal  
 nuts, 2 screws M5x69.

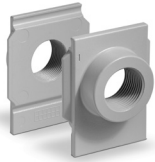
\*\* it can be separately ordered (cod. 160-39-11/19)

Materials: technopolymer clamp, NBR O-ring,  
 zinc-plated steel nuts and screws.



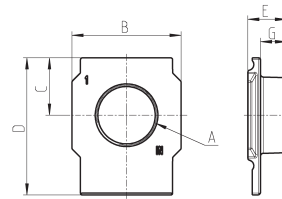
Mod.	A	B	C	D	E	F	G	H	I	L	M	N	O	P	R
<b>MX2-Y</b>	5,2	12	46	14	73,5	32,5	70,5	37	70,5	103	12	6,5	42	152	4

### Terminal flanges (IN/OUT)



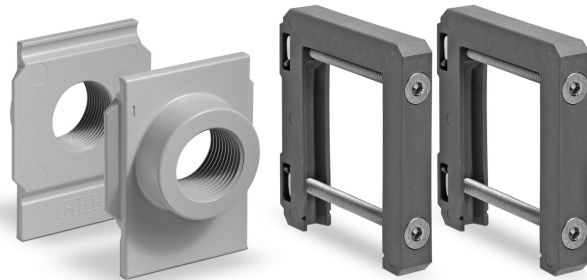
The kit is supplied with:  
 - 1 flange INLET side  
 - 1 flange OUTLET side

Materials: painted aluminium flanges.



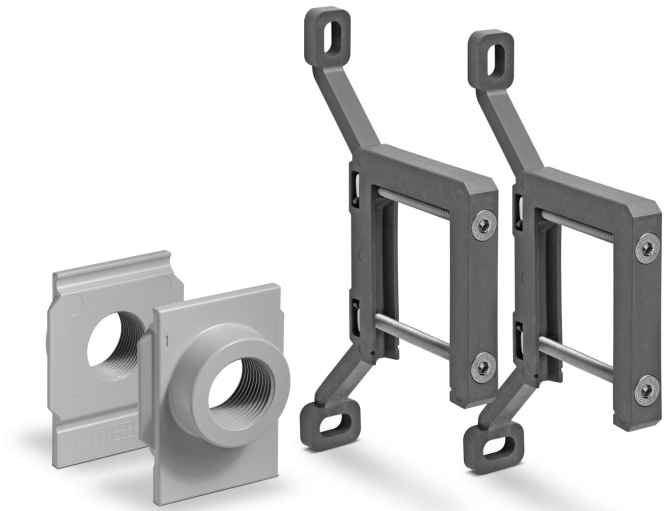
Mod.	A	B	C	D	E	G
<b>MX2-3/8-FL</b>	G3/8	50	26,5	63,5	17	11
<b>MX2-1/2-FL</b>	G1/2	50	26,5	63,5	17	11
<b>MX2-3/4-FL</b>	G3/4	50	26,5	63,5	17	11

### Rapid clamps kit + flanges



Mod.	The kit is supplied with:
<b>MX2-3/8-HH</b>	1x MX2-3/8-FL + 2x MX2-X
<b>MX2-1/2-HH</b>	1x MX2-1/2-FL + 2x MX2-X
<b>MX2-3/4-HH</b>	1x MX2-3/4-FL + 2x MX2-X
<b>MX2-3/8-JJ</b>	1x MX2-3/8-FL + 2x MX2-Z
<b>MX2-1/2-JJ</b>	1x MX2-1/2-FL + 2x MX2-Z
<b>MX2-3/4-JJ</b>	1x MX2-3/4-FL + 2x MX2-Z

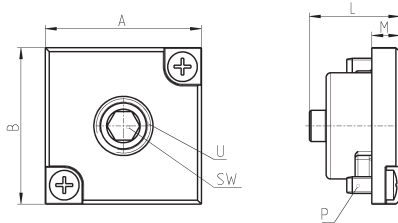


**Rapid clamps kit with wall fixing brackets + flanges**


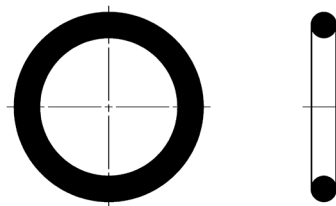
Mod.	The kit is supplied with:
<b>MX2-3/8-KK</b>	1x MX2-3/8-FL + 2x MX2-Y
<b>MX2-1/2-KK</b>	1x MX2-1/2-FL + 2x MX2-Y
<b>MX2-3/4-KK</b>	1x MX2-3/4-FL + 2x MX2-Y

**Block for pressure gauge fixing**


The kit is supplied with:  
 1 block  
 1 grain  
 2 screws  
 1 seal



DIMENSIONS							
Mod.	A	B	L	M	P	U	SW
<b>MX2-R26-P</b>	28	28	16.5	5	M3X7	1/8	5

**O-ring for assembling**


Mod.	O-ring	For assembly
<b>160-39-11/19</b>	OR 3125	MX2