

# Series MD soft start valves

Ports with interchangeable cartridges: threaded (1/8, 1/4, 3/8) or integrated with super-rapid fitting for tube with Ø 6, 8 and 10 mm  
Modular assembly



- » Security function to maintain the command sequence
- » Opening of the main air path at about 50% of the value of the inlet pressure
- » Upper air intake to connect a pressure switch or to extend switching time
- » Additional air intakes with the same characteristics of the outlet air (line)

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 blanked 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

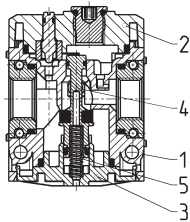
<b>Construction</b>	modular, compact, poppet-type
<b>Materials</b>	see TABLE OF MATERIALS (pag. 3/0.40.02)
<b>Ports</b>	with interchangeable cartridges: 1/8, 1/4 and 3/8 threaded, integrated with super-rapid fitting for tube with Ø 6, 8 and 10 mm
<b>Fixing</b>	in-line; wall-mounting by means of through hole in the body or with a support bracket
<b>Operating temperature</b>	-5°C + 50°C
<b>Operating pressure</b>	2 + 10 bar
<b>Nominal flow at 6 bar with ΔP 1 bar</b>	MD1-AV-1/8 = 1000 NI/min MD1-AV-1/4 = 1350 NI/min MD1-AV-3/8 = 1500 NI/min
<b>Fluid</b>	compressed air

**CODING EXAMPLE**

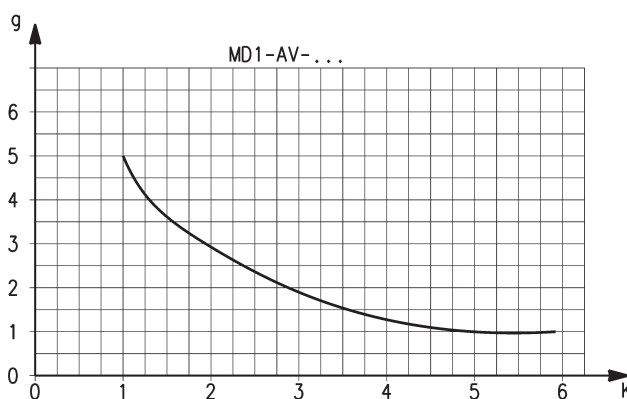
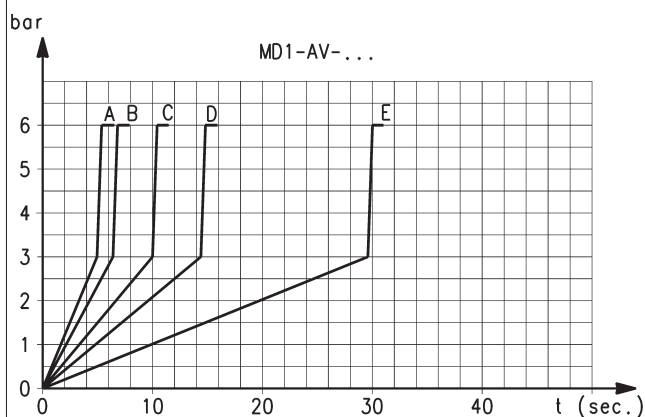
<b>MD</b>	<b>1</b>	<b>-</b>	<b>AV</b>	<b>-</b>	<b>1/8</b>
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<b>MD</b>	SERIES
<b>1</b>	DIMENSION: 1 = 42 mm
<b>AV</b>	SOFT START VALVE
<b>1/8</b>	PORTS (IN - OUT)*: = without cartridges 1/8 = G1/8 1/4 = G1/4 3/8 = G3/8 6 = tube Ø6 8 = tube Ø8 10 = tube Ø10  * NOTE: if the inlet (IN) cartridge is different from the outlet (OUT) cartridge, both dimensions shall be indicated. Example: MD1-AV-1/4-1/8

**Series MD soft start valves - materials**



PARTS	MATERIALS
<b>1 = Body</b>	Polyamide
<b>2 = Covering</b>	Polyamide
<b>3 = Plug</b>	Polyamide
<b>4 = Poppet</b>	Brass
<b>5 = Spring</b>	Stainless steel
<b>Seals</b>	NBR

**MD1 DIAGRAMS FOR PRESSURISATION TIMES**


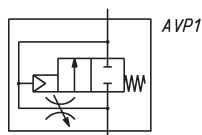
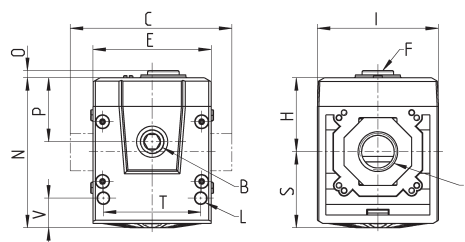
Pressurisation times as to the number of turns of the regulation screw, with downstream volume of 5 litres. A = 5 turns - B = 4 turns - C = 3 turns - D = 2 turns - E = 1 turn. K = number of turns of the regulation screw required to obtain the required pressurisation time with an inlet pressure of 6 bar.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

**3**

TREATMENT

**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-1/8	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	47	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