

Air Amplifiers

Chapter 9

M--C

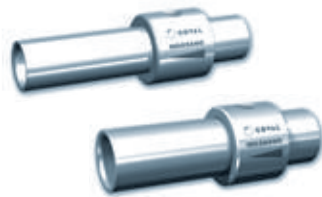


Air Amplifiers

- Operating principle based on the COANDA effect
- Bore diameter (Ø): 6, 10, 20, 30, 40 mm
- Flow rate: between 7.06 and 177 SCFM depending on the supply pressure (between 1.5 and 6 bar)
- Body material: aluminum
- Recommended for gripping lightweight, porous products: foam, carpet, cakes, leather, etc.
- Transport of powdery materials: powders, granules, etc.
- Transporting small, lightweight objects: paper clips, rice, coffee, etc.
- Smoke evacuation, depressurizing chambers

P_{9/2}

MD



Air Amplifiers

- Operating principle based on the COANDA effect
- Bore diameter (Ø): 26.6 and 38.1 mm
- Flow rate: between 71.1 and 154.2 SCFM depending on the supply pressure (between 3 and 5 bar)
- Body material: aluminum
- Recommended for gripping lightweight, porous products: foam, carpet, cakes, leather, etc.
- Transport of powdery materials: powders, granules, etc.
- Transporting small, lightweight objects: paper clips, rice, coffee, etc.
- Smoke evacuation, depressurizing chambers

P_{9/5}

TVM



Pipes for Air Amplifiers

- Flexible polyurethane hose with steel spiral reinforcement.
- 4 sizes available: Ø 25, 40, 50 and 60 mm
- Anti-static properties according to DIN 53486
- Commonly used with COVAL air amplifiers (M--C series)
- High resistance to abrasion, cutting lubricant and UV rays

P_{9/6}

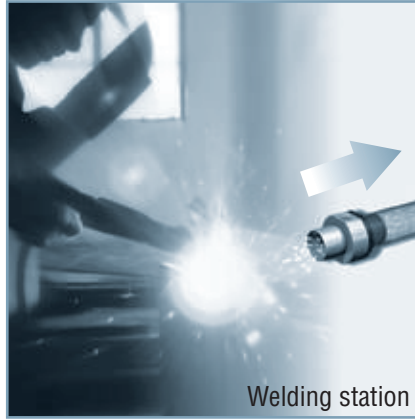
M--C - MD

Air Amplifiers

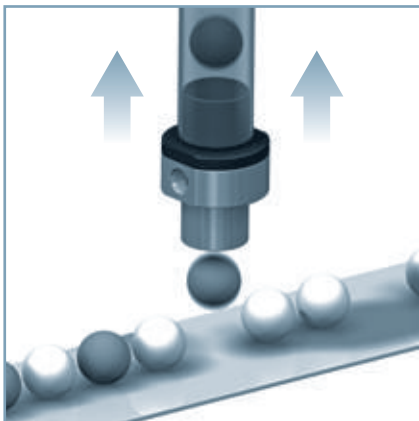
Applications



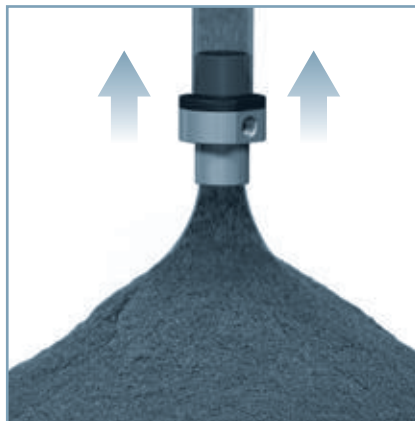
BLOW-OFF, CLEANING, WASTE SUCTION



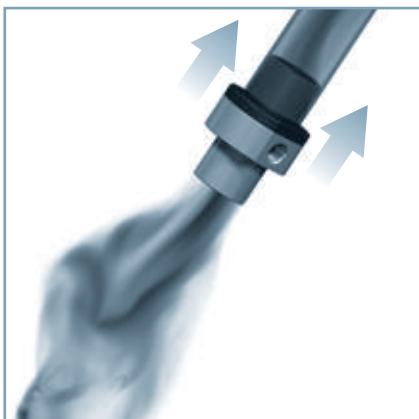
SORTING BY WEIGHT



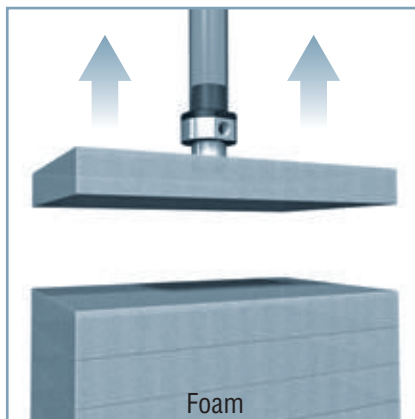
TRANSPORT OF GRANULES (rice, grains of wheat or coffee, etc.)



DEGASSING, SMOKE EVACUATION



GRIPPING AND / OR UNSTACKING VERY POROUS LOADS



M--C

Air Amplifiers



By virtue of the COANDA effect, the motor flux draws in air at room temperature. This physical phenomenon greatly amplifies the flow which results in very high suction produced with low consumption.

- Gripping of very porous, lightweight products: foam, carpet, cakes, leather, etc.
- Transport of powdery materials: powders, granules, etc.
- Transporting small, lightweight objects: paper clips, rice, coffee, etc.
- Smoke evacuation, chamber depressurization, etc.

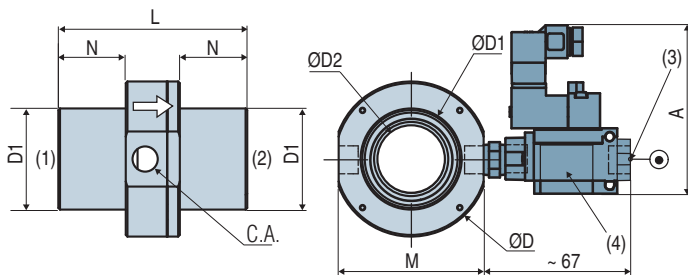
Operation requirement

Compressed air filtration at 5 microns for the M6C model and 20 microns for the other models.

Characteristics

	L	N	M	C.A.	ØD	ØD1	ØD2	⚖ (g)
M 6 C	77	27.5	37	G1/8"-F	39	20	6	100
M 10 C	60	20	36	G1/8"-F	40	25	10	100
M 20 C	90	30	55	G1/4"-F	60	40	20	295
M 30 CV	105	35	72	G1/4"-F	77	50	30	495
M 40 CV	112	40	86	G3/8"-F	92	60	40	600

Note: all dimensions are shown in (mm).



- (1) Suction
 - (2) Discharge
 - (3) G1/4"-F
 - (4) Control valve, optional. Note: the valve is incompatible with the M40C model.
- A = 77 mm for an AP2 valve + DIN connection (connector supplied)

Specifications

Compressed air	Dry non-lubricated 1.5 to 5 bar
Maximum pressure drop	see table page 9/4
Materials	Aluminum body
Temperature	32 to 176°F

Additional information

- Stainless steel versions are available on request.
- The 5 products present the best amplification ratio (consumption/suction). COVAL can study smaller amplification ratios (higher consumption) but higher maximum vacuum for transporting heavy objects.



For all orders, please specify:

Model + bore Ø + C.A. control + C.A. fitting + valve controls
Example : M30CVAP214E1

1: Model	2: Bore Ø	3: C.A. controls	4: Valve controls	
M	6 C	6 mm	-	
	10 C	10 mm		Without control valve
	20 C	20 mm	AP214	C.A. control valve
	30 CV	30 mm		
	40 CV	40 mm		
			P1 Pneumatic E1 24 V DC DIN	

M-C

Air Amplifiers

Performance Curves

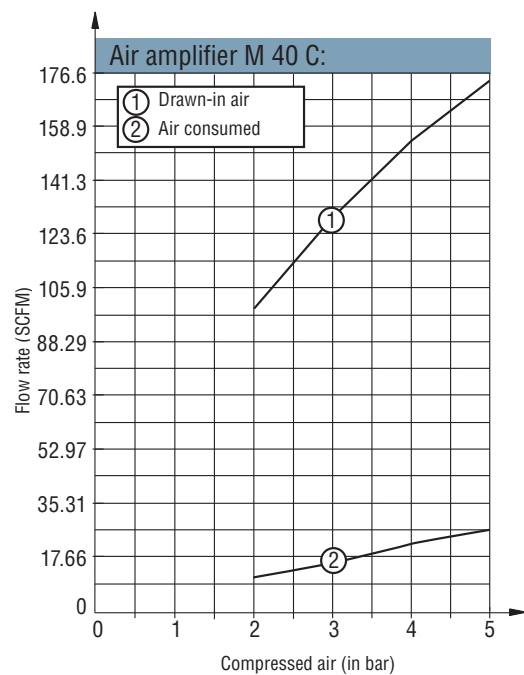
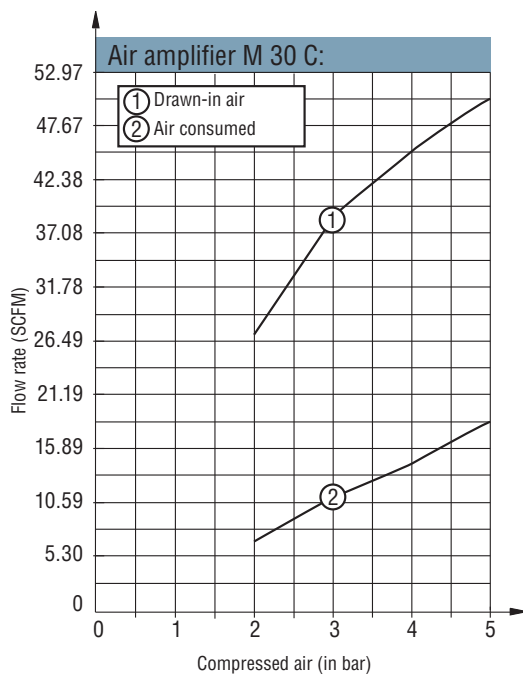
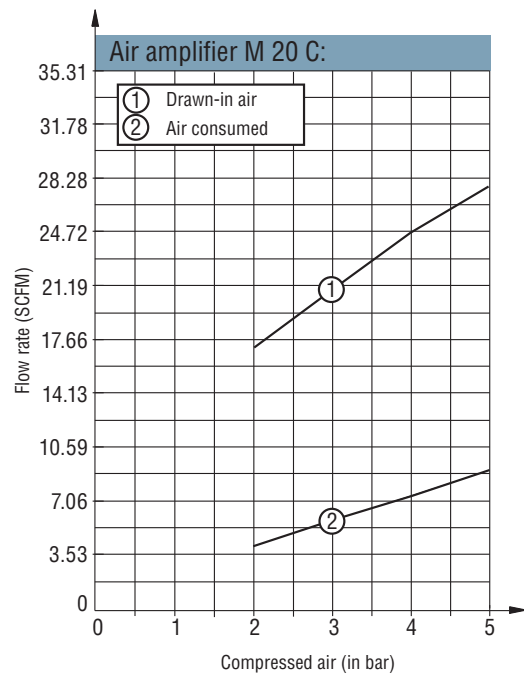
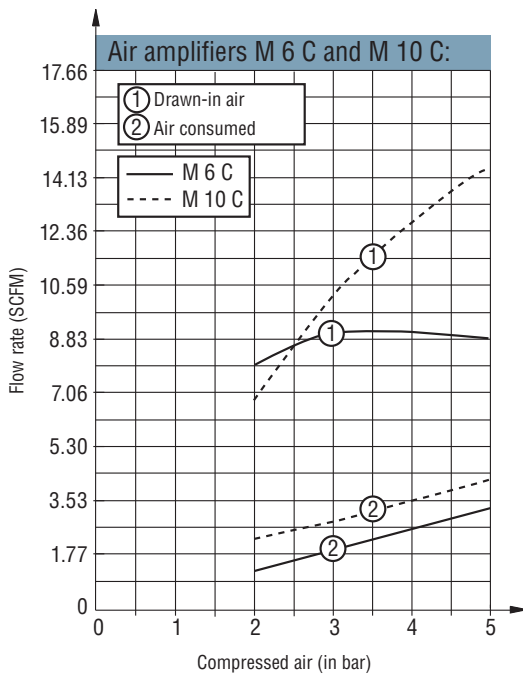


Maximum Vacuum / Supply Pressure

	Supply pressure / Maximum vacuum (in Bar) (in mm CE)			
	2	3	4	5
M 6 C	900	1500	2000	2600
M 10 C	200	500	700	1000
M 20 C	207	310	400	510
M 30 CV	90	130	220	280
M 40 CV	140	200	284	360

Maximum Overpressure / Supply Pressure

	Supply pressure / Maximum Overpressure (in Bar) (in mm CE)			
	2	3	4	5
M 6 C	100	550	1300	2000
M 10 C	400	700	1500	2000
M 20 C	220	340	500	600
M 30 CV	45	70	100	160
M 40 CV	96	145	199	290



M-C 9

MD

Air Amplifiers



By virtue of the COANDA effect, the motor flux draws in air at room temperature. This physical phenomenon greatly amplifies the flow which results in very high suction produced with low consumption.

- Gripping of very porous, lightweight products: foam, carpet, cakes, leather, etc.
- Transport of powdery materials: powders, granules, etc.
- Transporting small, lightweight objects: paper clips, rice, coffee, etc.
- Smoke evacuation, chamber depressurization, etc.

Characteristics MD25X6C

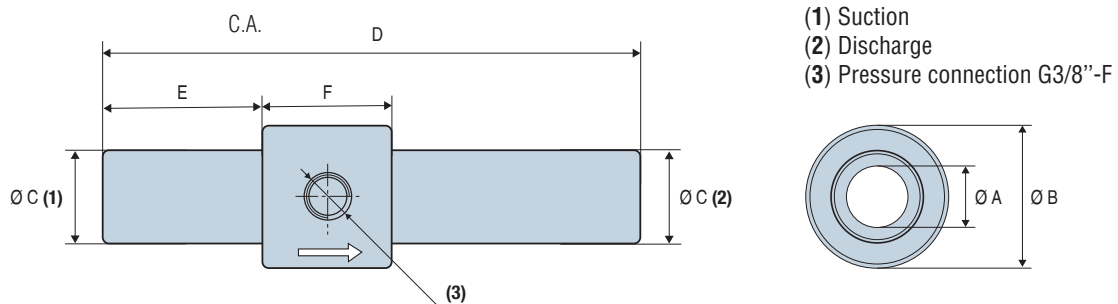
Pressure (bar)	Level of vacuum (%)	Suction rate: (SCFM)	Consumption (SCFM)
3	6.1	71.16	16.88
4	8.7	77.69	21.68
5	10.9	83.69	25.92

Characteristics MD38X6C

Pressure (bar)	Level of vacuum (%)	Suction rate: (SCFM)	Consumption (SCFM)
3	2.7	123.60	16.88
4	4	140.38	21.68
5	5	154.33	25.92

Dimensions

	Ø A	Ø B	Ø C	D	E	F	(3)	(g)
MD25X6C	25.6	56.5	37.7	191	38.5	50.8	G3/8"-F	470
MD38X6C	38.1	69.9	50.8	191	38.1	50.8	G3/8"-F	640



Specifications

Supply	Non-lubricated air filtered to 5 microns according to standard ISO 8573-1:2010 [4:5:4]
Operating pressure:	3 to 5 bar
Materials	Aluminum body
Temperature	32 to 212°F

Note: all dimensions are shown in (mm).



For all orders, please specify:
Model + bore Ø + version
Example : MD25X6C

1: Model	2: Bore Ø	3: Version
MD	25 25.6 mm 38 38.1 mm	X6C

Performance Curves

