

AIRTIGHT DAMPER

2.1.15

CLEAN ROOMS - CLASS 4C - RI

VOLUME CONTROL

RI airtight damper is designed to shut off the cross sections of a ventilation ductwork. It is suitable for clean room applications and biosafety level 4 laboratory.



CODIFICATION

Range R – Clean room **R** **X** **I** – High airtightness - small dimensions

CONSTRUCTION

		Characteristics	Options
Frame	Material	Galvanized steel Z275	Stainless steel AISI 304L or 316L
	Sheet thickness	2 mm	
	Drilling	Ø10 mm in each angle	Standard F2A drilling with a pitch of 165 mm (see FT_2-4-5) or specific drilling
	Width	185 mm	
	Flanges	36 mm	
	Bearings	Teflon	Bronze
Blades	Material	Galvanized steel Z275	Stainless steel AISI 304L or 316L
	Thickness	1 x 2 mm and 1 x 1.5 mm	
	Shaft	Ø 15 mm	
	Pitch	175 mm	
	Seals	EPDM	Silicone or Viton
Linkage		Opposed blade operation Zinc-coated steel	Stainless steel AISI 304L or 316L
Control		Manual: Control shaft Ø16 mm effective length 84 mm equipped with lever Motorized: Control shaft Ø16 mm effective length 125mm	
Airtightness - Leakage rate (EN 1751)		Upstream/downstream airtightness class 4 Frame airtightness class C	
Acceptable pressure		1 200 Pa for a length of L = 1 m	
Operating temperatures		From -20°C to +80°C	From -30°C to +200°C
Dimensions		Height from 180 to 695 mm Length from 200 to 700 mm	

AIRTIGHT DAMPER

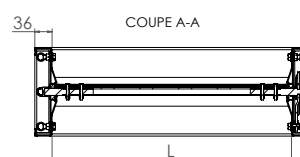
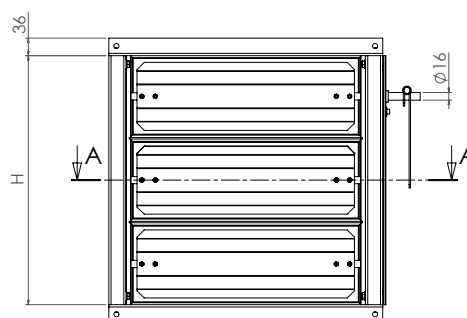
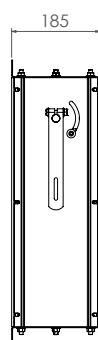
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DIMENSION (mm)

4 heights available :

- 180 mm
- 345 mm
- 520 mm
- 695 mm

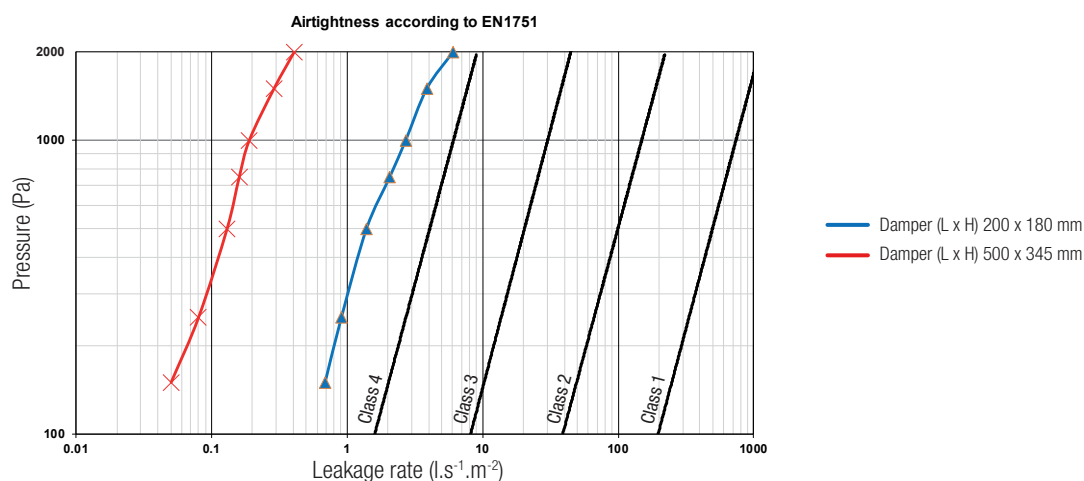
In option: other dimensions on request.



WEIGHT (kg)

H \ L	200	300	400	500	600	700
180	4	5	7	9	11	13
345	6	8	10	12	14	16
520	9	11	13	15	17	19
695	12	14	16	18	20	22

UPSTREAM / DOWNSTREAM AIRTIGHTNESS



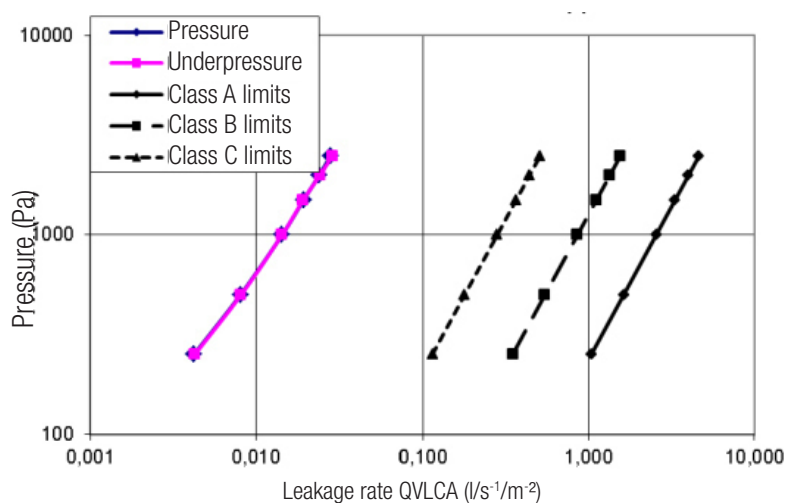
Pressure (Pa)	Leakage rate (l.s ⁻¹ .m ⁻²)		Class 4 requirements (EN1751)
	Damper (L x H) 500 x 345 mm	Damper (L x H) 200 x 180 mm	
250	0.08	0.91	2.7
500	0.13	1.39	4.0
1000	0.19	2.7	6.0
2000	0.41	6.02	9.0

Tests carried out according to the specifications of **EN 1751** standard.

FRAME'S AIRTIGHTNESS

Pressure (Pa)	Leakage rate ($\text{l.s}^{-1}.\text{m}^{-2}$)	Class C requirements (EN 1751) ($\text{l.s}^{-1}.\text{m}^{-2}$)
250	0.004	0.1
500	0.008	0.2
1000	0.014	0.3

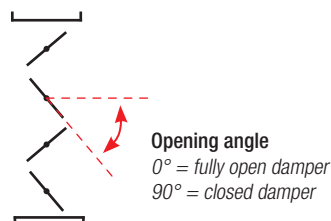
Tests carried out according to the specifications of **EN 1751** standard.



LEAKAGE RATE

The following pressure losses (Pa) are given according to the blades opening angle (in °) and air velocity (in m/s).

Air velocity (m/s)	Opening angle		
	0°	30°	60°
2	0.8	9.9	332.2
4	3.1	39.5	1329
6	6.9	88.9	
8	12.3	158	
10	19.2	246.8	
12	27.7	355.4	
15	43.2	555.3	

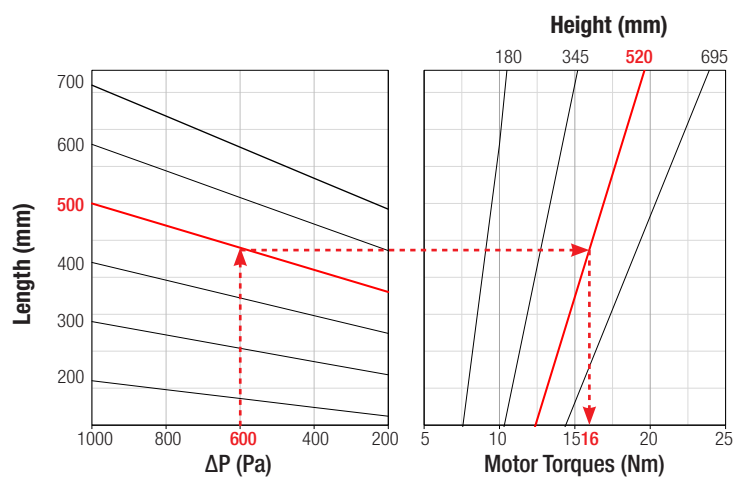


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MOTOR TORQUES

The following motor torques are given in Nm for an airtight damper type RI.



Example :

$\Delta P = 600 \text{ Pa}$

Damper RI – L = 500 mm x H = 520 mm $\Rightarrow$ motor torques = **16 Nm**