SMOKE DAMPER

MO-D/MS-D 400°C/2H

The MO-D/MS-D dampers have been designed to withstand pressure up to 3 000 Pa and are suitable for smoke exhaust application in road tunnels, commercial or industrial buildings.

The dampers have been tested by independent laboratories.
These tests confirmed the withstanding of the smoke dampers at temperatures of 400°C for 2h with manoeuverability.

These tests have been carried out by Exova Warringtonfire laboratory for dampers in horizontal and vertical position *(Test reports n° 353550 and n° 345508)*.

CODIFICATION

M X D ⇢ Smoke exhaust application

Range M – Industrial

X ⇢ 0 - Class 1

X ⇢ S - Class 3

Exova Warringtonfire

CONSTRUCTION

		MO-D	MS-D
Lateral seals		Stainless steel AISI 304 - 1.4301 foil gasket between blades and frame.	Stainless steel AISI 304 - 1.4301 foil gasket between blades and frame. **+ Silicone seals on the edge of blades**
Airtightness (upstream-downstream)		Class 1 according to EN 1751	Class 3 according to EN 1751
Frame	**Material**	Galvanized steel Z275 *In option: Stainless steel AISI 304L - 1.4307 or AISI 316L - 1.4404*	
	Thickness	2 mm	
	Drilling	In each corner and to a pitch of 165 mm *In option: Special flange drilling*	
Blades	**Material**	Galvanized steel Z275 *In option: Stainless steel AISI 304L - 1.4307 or AISI 316L - 1.4404*	
	Thickness	2 x 0.8 mm	
	Pitch	165 mm	
Bearings		Bronze	
Shafts	**Material**	Zinc-coated steel *In option: Stainless steel AISI 304L - 1.4307 or AISI 316L - 1.4404*	
	Diameter	12 mm	
Linkage		Galvanized steel Z275 and zinc-coated steel *In option: Stainless steel AISI 304L - 1.4307 or AISI 316L - 1.4404*	
		Opposed blade operation	
Control		Manual or motorized *In option: actuator can be provided + fireproof enclosure*	

F2A also manufactures fireproof enclosure dedicated to actuator protection.

2019/07

ISO 9001 14001 Certified

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F2A Manufacturer Air handling components

SMOKE DAMPER
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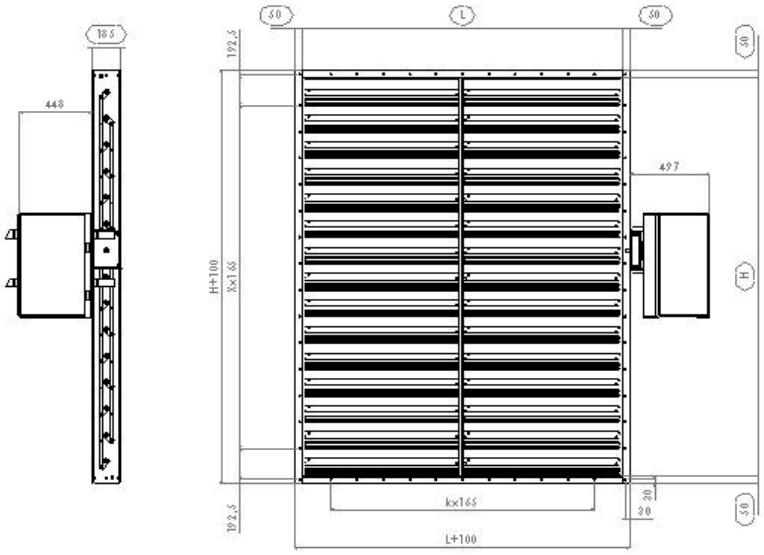
DIMENSIONS

- Height H from 180 to 2490 mm with a pitch of 165 mm
- Length L from 200 to 2000 mm



Optimised vertical intermediate stiffener when blade's length is above 1000 mm.
Intermediate dimensions on request.
Larger sizes with vertical / horizontal coupling of several dampers.

Multi-module of 6 MO-D dampers on a road tunnel application.
The total section = 4300 x 6200 mm.

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WEIGHT (kg)

H \ L	200	400	600	800	1000	1200	1400	1600	1800	2000
180	12	15	18	21	24	27	30	32	35	38
510	22	26	30	34	38	44	48	52	56	60
840	31	37	42	47	52	61	67	71	77	82
1170	41	47	54	60	67	76	86	91	98	105
1500	51	59	66	73	82	96	104	111	119	127
1830	61	70	78	87	96	114	123	130	140	149
2160	70	81	91	100	111	131	141	150	161	171
2490	80	92	103	114	125	149	160	170	181	193

PRESSURE LOSS

Our MO-D/MS-D dampers pressure loss was tested in an independent laboratory (CETIAT).
For single-module dampers or multiple-modules dampers with flange-to-flange areas equipped with V-shaped inlet and outlet profiles, when the dampers are in the fully-open position and air is flowing across the damper at a uniform velocity of 10 m/s the static pressure drop across the damper is less than 15 Pa.

The pressure loss coefficient is lower than 0.25.

FREE AREA

H \ L	500	700	900	1100	1300	1500	1700	1800	1900	2000
840	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
1005	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
1170	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
1335	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
1500	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
1665	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
1830	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
1995	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
2160	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
2325	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%
2490	83%	83%	83%	80%	81%	81%	81%	81%	81%	81%

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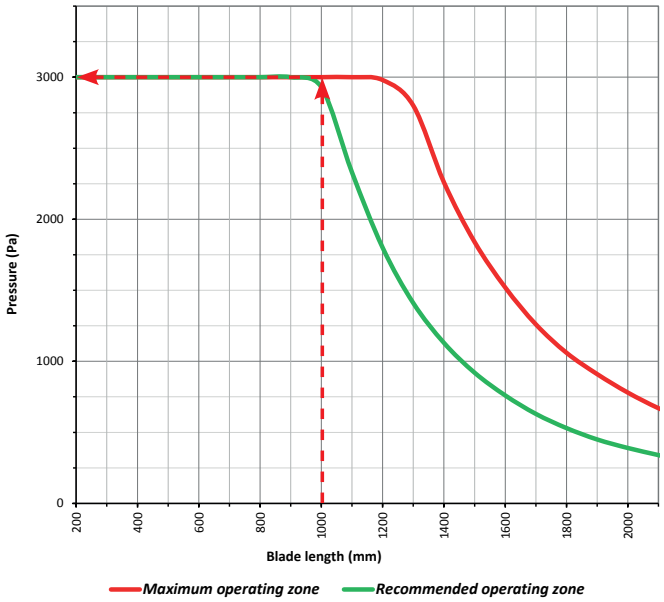
USE LIMITS

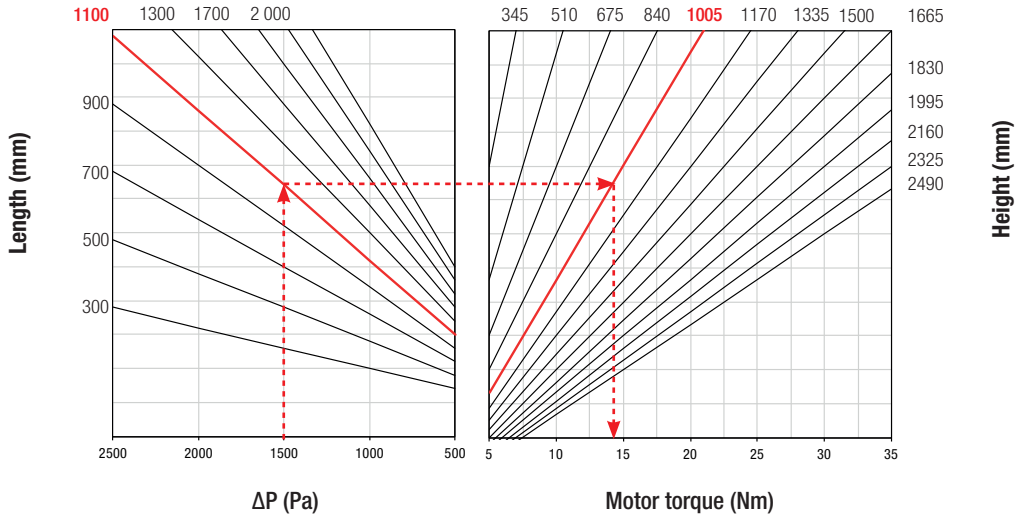
They correspond to the difference between the upstream and downstream pressure that dampers of the MO-D/MS-D range can withstand in closed position according to the blade length.



We recommend that the differential pressure does not exceed 3000Pa for a 1000-mm long MO-D/MS-D damper
Beyond the limitation use, construction is possible with intermediate backing.

MOTOR TORQUE

The following torques are given in Nm for a MS-D type damper.
Note : for a length L > 1000mm, a coefficient of 1.5 must be applied to the result (see example below).



Example :
ΔP = 1500 Pa
Damper MSD – L = 1100 mm x H = 1005 mm => motor torque x1.5 = 14 x 1.5 = **21 Nm**