

INDUSTRIAL DAMPER

MR/MK RANGES

Industrial dampers series **MR** and **MK** are Fromvelopped to resist important aeraulic constraints (high pressure,high speed or high temperature).

They are suitable for industrial applications such as furnaces, chemical industries, tunnels,....



CODIFICATION

M	→	Range M - Industrie
X	→	R - Industrial Reinforced K - Industrial High pressure
Y	→	O - Not classified G - Class 1 S - Class 3

CONSTRUCTION

	Control	
Shaft	MR : Ø16	MK : Ø16 reinforced locking device
Manual	smooth shaft Ø16 - length 150 mm Lever and locking device	
Motorised	smooth shaft Ø16 - length 150 mm Option : actuator supplied and assembled in factory	



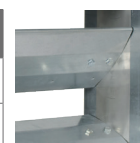
Frame
Width : 185 mm Metal sheet thickness: 3.0 mm
Galvanized steel Option : stainless steel 304 L or 316 L, or painted steel (RAL standard)
Drilling Ø12 mm in each angle Option : standard F2A drilling with a pitch of 165 mm (see catalogue p.102), or special drilling
BriFroms : 55 mm



Linkage
Zinc-coated-linkage with opposed blade operation In option : stainless steel 304 L or 316 L, parallel blade operation



Blades	
MR	MK
Galvanized steel Z275 In option : aluminium, stainless steel 304 L or 316 L or painted steel (RAL standard)	
Thickness : 2 x 1,5 mm	Thickness: 2 x 1,5 mm + reinforced tube
Pitch : 165 mm	
Bearings : Cast iron cage + high temperature grease In option : stainless steel, bronze insert, Teflon, Ertalyte	
Zinc-coated steel shafts In option : aluminium, stainless steel 304 L or 316 L or painted steel (RAL standard)	
Ø15 mm	Ø 20 mm



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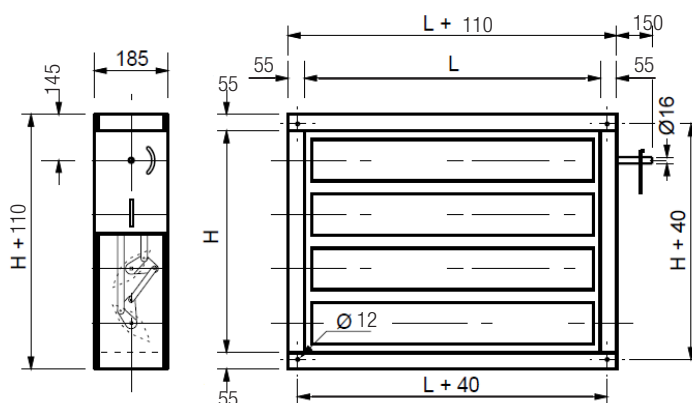
PERFORMANCES

	Volume control		Antifrost		Shut-off	
	MRO	MKO	MRG	MKG	MRS	MKS
Seals	None		Lateral stainless steel		Lateral stainless steels EPDM seal on the blades	
Upstream/downstream airtightness (EN 1751)	Not classified		Class 1 (EN 1751)		Class 3 (EN 1751)	
Frame airtightness (EN 1751)	Not classified <i>Option : class C (EN 1751)</i>		Not classified <i>Option : class C (EN 1751)</i>		Not classified <i>Option : class C (EN 1751)</i>	
Acceptable pressure (L = 1m)	4 000 Pa	6 000 Pa	4 000 Pa	6 000 Pa	4 000 Pa	6 000 Pa
Acceptable air velocity	20 m/s	25 m/s	20 m/s	25 m/s	20 m/s	25 m/s
Use temperatures	From -20 to +300°C		From -20 to +300°C		From -20°C to +100°C <i>Option : +250°C</i>	

DIMENSIONS

Height H from 180 to 2490 mm
Length L from 200 to 2500 mm

Other dimension on request



WEIGHT (KG)

H \ L	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2500
345	24	30	36	42	48	64	70	76	82	88	94	100	103
510	30	37	43	50	57	78	84	91	98	105	111	118	121
840	41	49	57	66	74	105	113	121	130	138	147	155	159
1170	51	61	72	82	92	131	142	152	162	172	182	192	197
1500	62	74	86	97	109	158	170	182	194	206	217	229	235
1830	73	86	100	113	127	185	199	212	226	239	253	266	273
2160	83	99	114	129	144	212	227	242	258	273	288	303	311
2325	89	105	121	137	153	225	241	258	274	290	306	322	330
2490	94	111	128	145	162	239	256	273	290	307	324	341	349

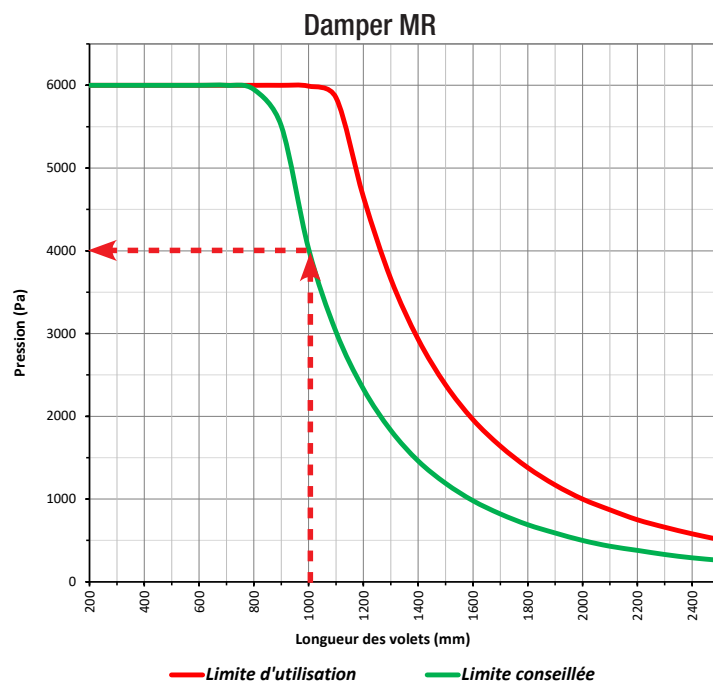
Weights given for dampers in galvanized steel.

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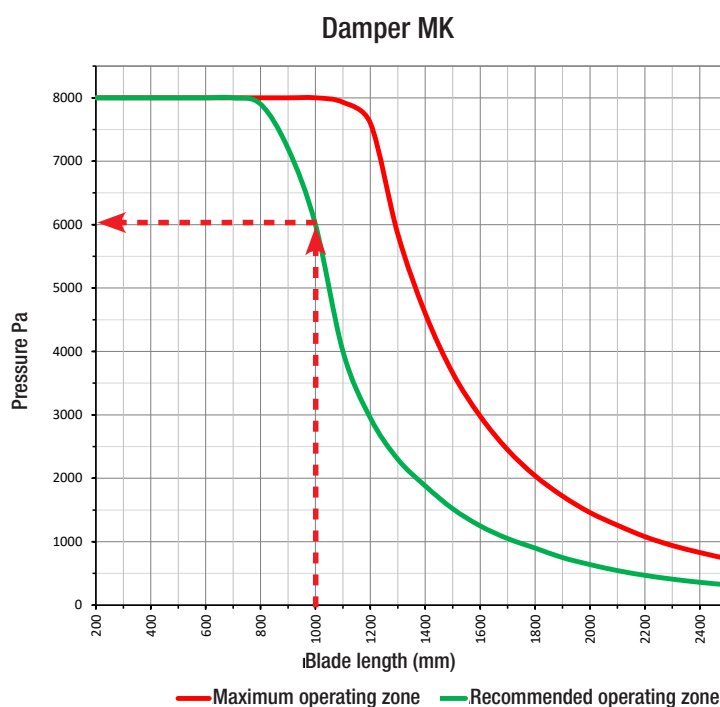
MR/MK RANGES

USE LIMITS

They correspond to the difference between the upstream and downstream pressure that dampers of the MR/MK ranges can withstand in closed position according to the blade length.



We recommend that the differential pressure does not exceed 4000Pa for a 1000 mm long MR damper. Beyond the limitation use, construction is possible with intermediate backing.



We recommend that the differential pressure does not exceed 6000Pa for a 1000-mm long MK damper. Beyond the limitation use, construction is possible with intermediate backing.

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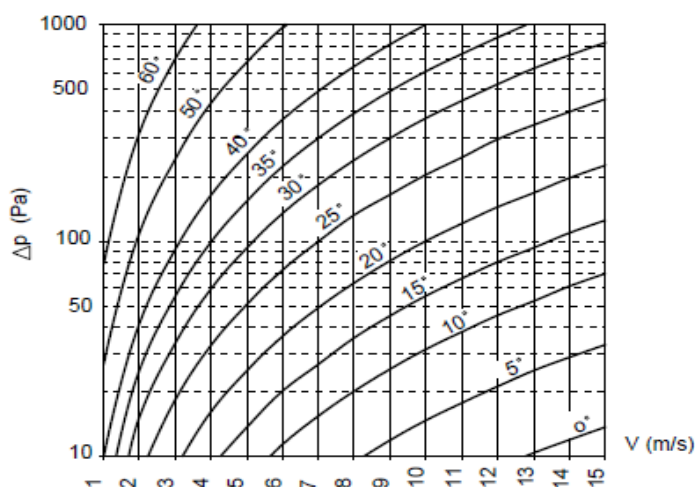
MR/MK RANGES

PRESSURE LOSS

Pressure loss generated by a damper according to its blades opening:

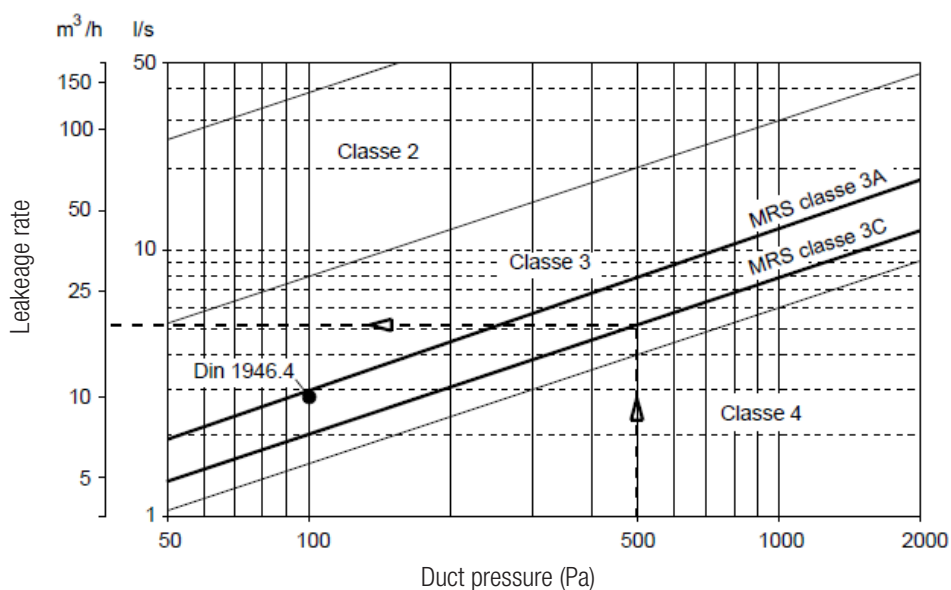
0° = fully open damper

90° = fully closed damper



LEAKAGE RATE (MRS / MKS VERSION)

The upstream-downstream leakage rate is proportional to the damper section and the pressure level. Tests have been carried out according to EN 1751 standard.

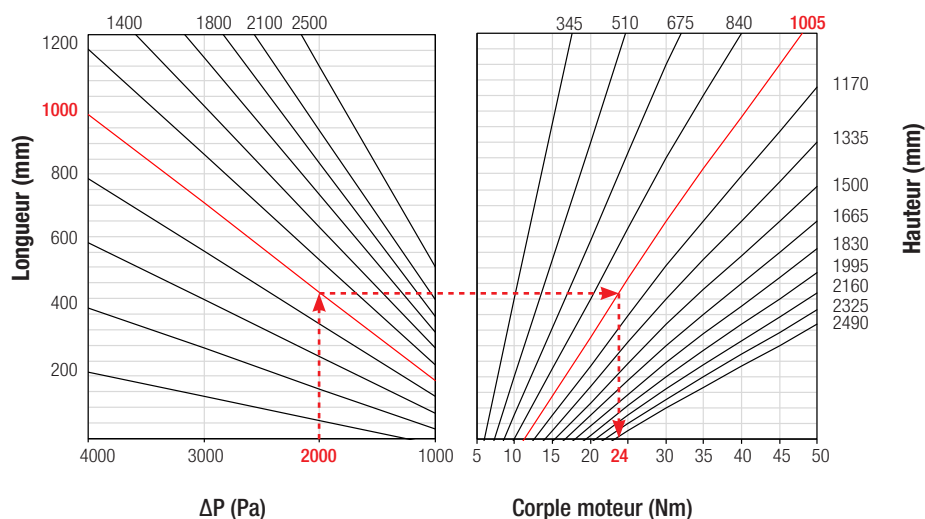


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MOTOR TORQUES

Les corps moteurs ci-dessous sont donnés en Nm pour un damper From dosage From type MRO-MKO. Pour un damper antigel (MRG-MKG) ou d'isolement (MRS-MKS), un coefficient From 1,3 Fromvra être appliqué sur le résultat mentionné.



Example :

$\Delta P = 2000 \text{ Pa}$

Damper MRO-MKO – L = 1000 mm x H = 1 005 mm => motor torque = **24 Nm**