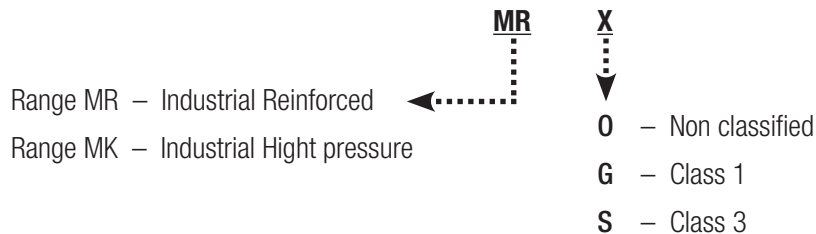


INDUSTRIAL DAMPER

MRO - MRG - MRS / MKO - MKG - MKS

Industrial dampers series MR and MK are developed to resist important aeraulic constraints (high pressure, high speed or high temperature). They are appropriate for industrial applications such as furnaces, chemical industries, tunnels,...

CODIFICATION



CONSTRUCTION

Frame	
MR	MK
Galvanized steel thickness: 3 mm Options: Stainless, painted steel or aluminium 4 mm	
Drilling Ø12 in each angle or standard drilling with a step of 165 mm Special drilling on request	
Width : 185 mm	
Flanges : 55 mm	

Control	
MR	MK
Manual : Smooth shaft - length 150 mm	
Shaft Ø16	Shaft Ø16 - reinforced locking device
Motorised : Smooth shaft - length 150 mm Electric or pneumatic actuator supplied on request	

Blade	
MR	MK
Galvanised steel Options : Stainless, painted steel or aluminium	
Thickness : 2 x 1,5 mm	Thickness : 2 x 1,5 mm + reinforced tube
Pitch: 165 mm	
Bearings: cast iron cage + high temperature grease Options: Stainless cage, Insert bronze, Teflon, Ertalyte	
Zinc-coated steel shafts Option : stainless steel	
Ø 15 mm	Ø 20 mm

Linkage
Zinc-coated-linkage with opposed blade operation Options : stainless steel, parrallel operation

INDUSTRIAL DAMPER

MRO - MRG - MRS / MKO - MKG - MKS

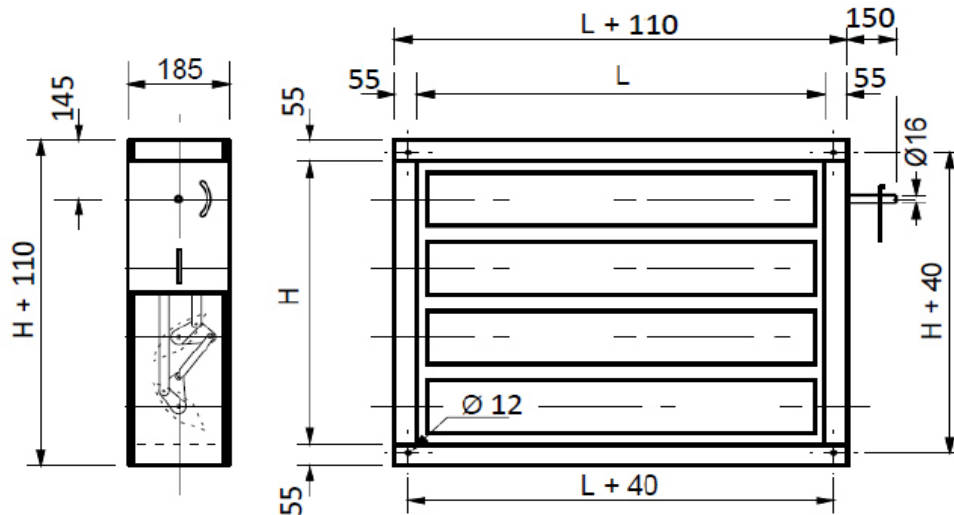
CONSTRUCTION

	Volume control		Antifrost		Shut-off	
	MRO	MKO	MRG	MKG	MRS	MKS
Seals	None		Lateral stainless steel seal	steel seal	lateral stainless steel EPDM seal on the blades	
Airtightness	Non classified		Class 1 according to EN 1751		Class 3 according to EN 1751	
	Option: frame's airtightness classe C according to EN 1751					
Acceptable pressure (L=1m)	4 000 Pa	6 000 Pa	4 000 Pa	6 000 Pa	4 000 Pa	6 000 Pa
Acceptable velocity	20 m/s	25 m/s	20 m/s	25 m/s	20 m/s	25 m/s
Temperature	- 20 to + 300°C		- 20 to + 300°C		- 20°C to + 100°C EPDM seal in standard version -20 to + 250°C with silicone seal in option	

DIMENSIONS

- Height H from 180 to 2 490 mm with a pitch of 165 mm
- Length L from 200 to 2 500 mm with a pitch of 100 mm

Other dimension on request

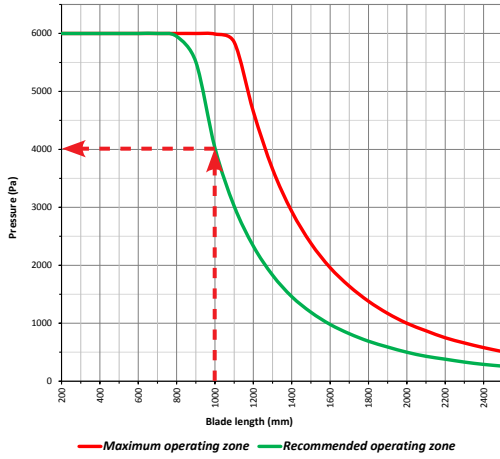


WEIGHT (kg)

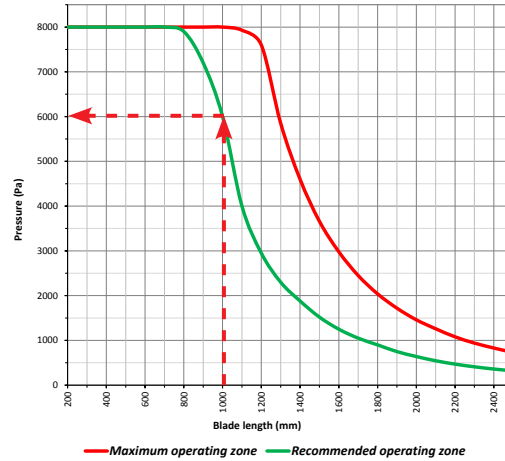
H \ L	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2500
345	24	30	36	42	48	64	70	76	82	88	94	100	103
510	30	37	43	50	57	78	84	91	98	105	111	118	121
840	41	49	57	66	74	105	113	121	130	138	147	155	159
1170	51	61	72	82	92	131	142	152	162	172	182	192	197
1500	62	74	86	97	109	158	170	182	194	206	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

USE LIMITS

MRO / MRS Dampers



MKO / MKS Dampers



We recommend that the differential pressure does not exceed 6000Pa for a 1000mm long MRO/MRS damper and 6000Pa for a 1000mm long MKO/MKS damper.

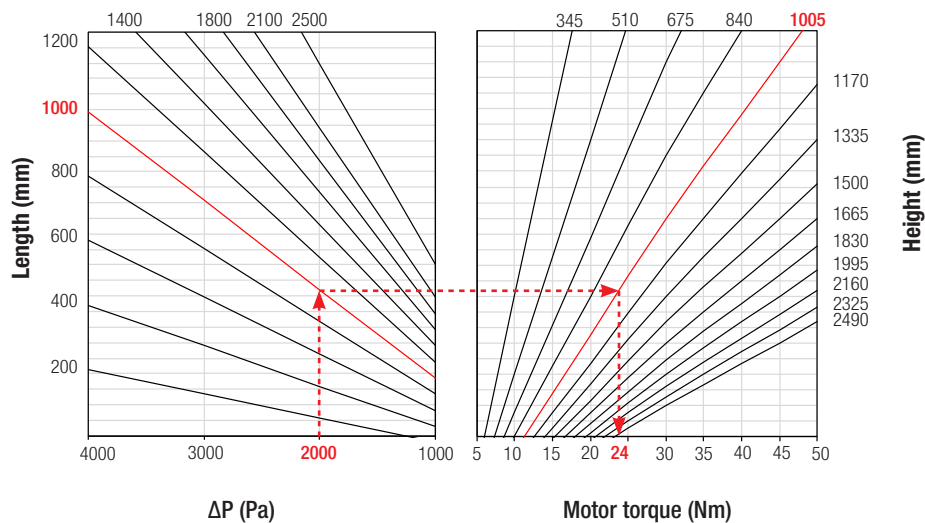
Beyond the limitation use, construction is possible with intermediate backing.

MOTOR TORQUE

Consider the accidental maximal pressure to determine the minimum motor torque. The design must include a safety coefficient.

Motor torque for a type of damper MRO or MKO.

For the dampers MRS and MKS, apply a 1.3-coefficient to the result.

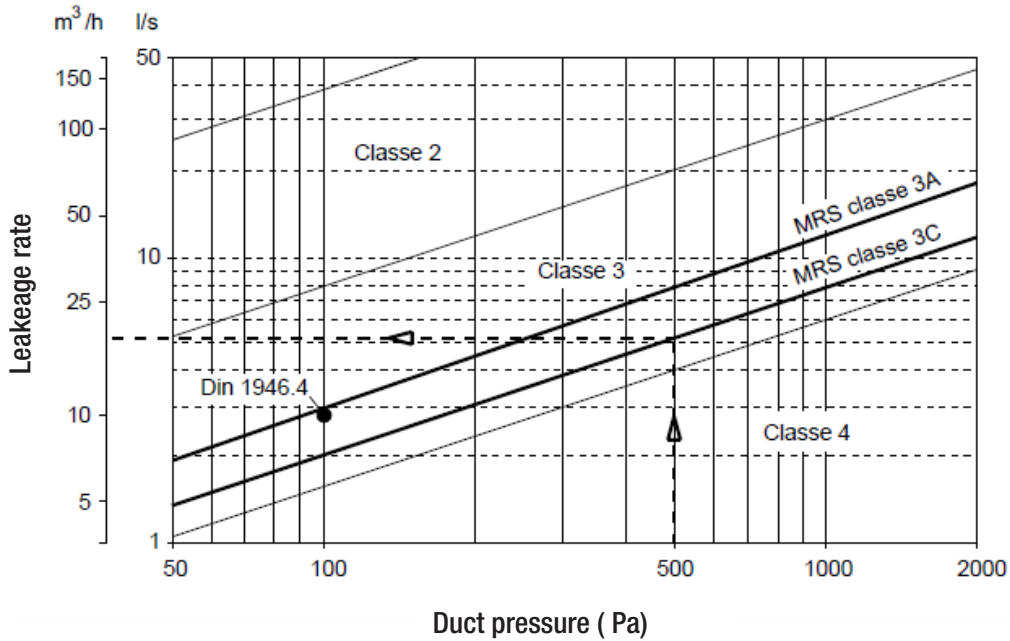


INDUSTRIAL DAMPER

MRO - MRG - MRS / MKO - MKG - MKS

LEAKAGE RATE (MRS / MKS version)

The upstream-downstream leakage rate is proportional to the damper section and the pressure level.

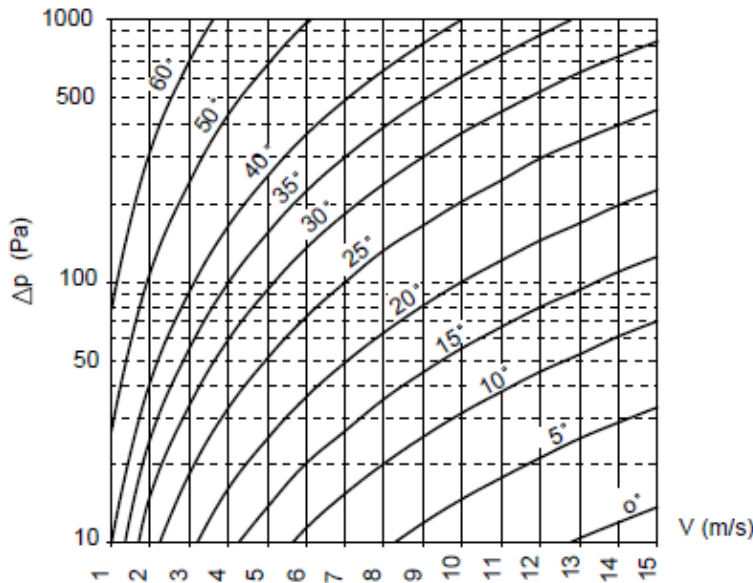


Tests carried out according to EN 1751 standard.

PRESSURE LOSS

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

- 0° = fully open
- 90° = fully closed



Information and data can not be considered as contractual. Design and data changes may occur without notice during F2A's continuous product development.