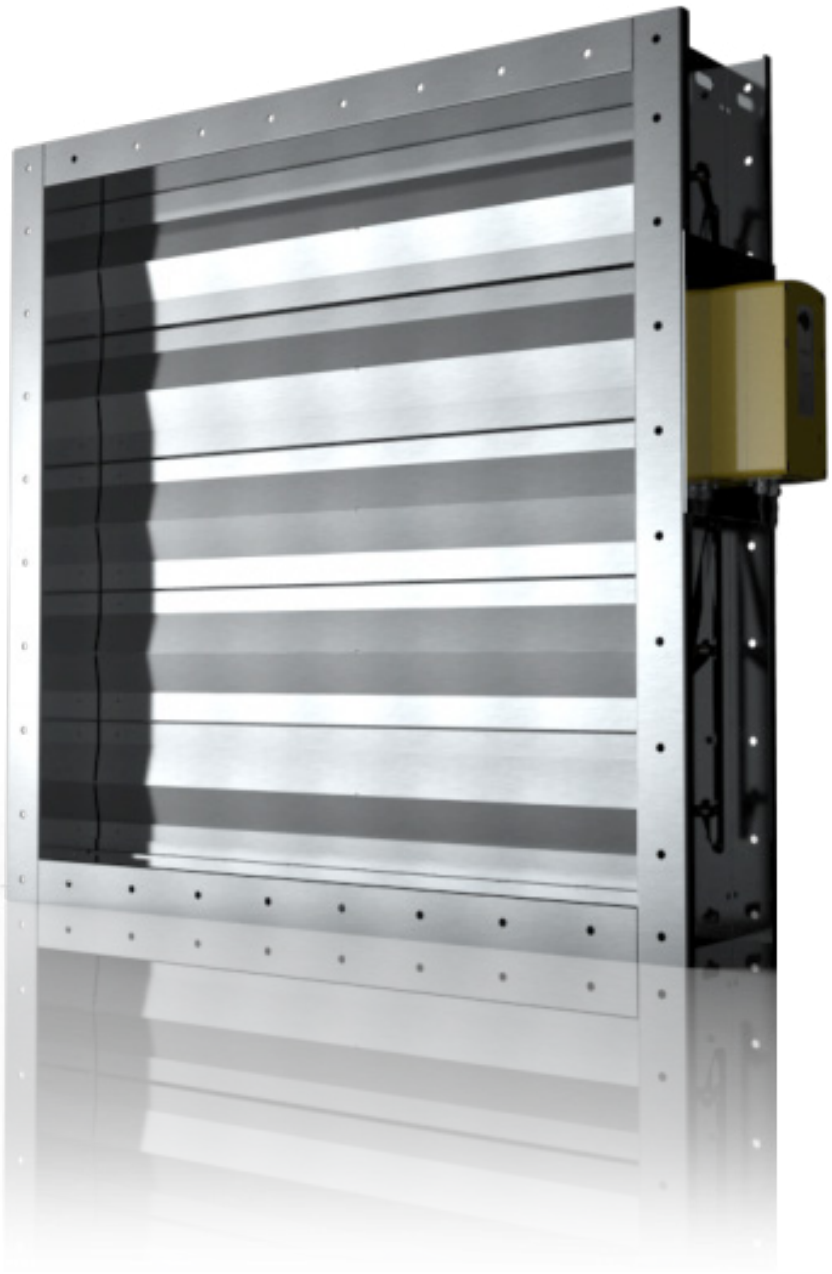
Marine Fire Damper (MFD)

Simplicity in design delivers long-life reliability with the Wozair MFD Marine Fire Damper / Fire and Gas Damper.



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Marine Fire Damper

The stainless steel isolation seals, oil impregnated bearings and low leakage bearing assemblies prevent fire, gas and smoke spread through ventilation systems, maintaining the integrity of that division, bulkhead or deck. For smoke clearance, the damper has been tested at 300°C for 1 hour.

Manufactured using modern CNC laser cutting and folding processes, with metal to metal blade tip and blade edge sealing arrangements to achieve exceptional performance without the aid of gasket materials.

The MFD holds Type Approval Certification with a number of Class Administrations for cellulosic fire conditions, from A-0 to A-60.

The MFD is a tried and tested design, which has been supplied on hundreds of projects since 2003. It can be used in both safe and hazardous areas, and has a fully customisable design from simple control layouts to SIL2 compliant assemblies.

Technical Information

Minimum Size
150W x 150H x 200D mm
150W x 150H x 300D mm

Maximum Size
2500W x 2100H x 200D / 300D mm A-0 / A-30 – bulkhead and deck
2500W x 1220H x 200D / 300D mm A-60 – bulkhead and deck

Fire Rating
IMO FTP Code Part 3 and IMO 2010 FTP Code Part 3, A0 - A60.

Leakage
Closed blade leakage to Class 2 EN1751 / Class 3 as an option
Case leakage to Class B EN1751 / Class C

Explosive Atmosphere
ATEX/IECEx SGS Baseefa/SGS Fimko Oy

Reliability Assessment
Functional Safety SIL 2 CSA SIra Certificate

Materials of Construction

Casing and Flanges:

Materials
Stainless Steel 304L/316L (1.4307/1.4404); Galvanised Sheet Steel (GSS), carbon steel (GAM)
Other Stainless Steel grades available on request

Thickness
Minimum 2.0 mm (at 200 mm deep) 3.0-5.0 mm thick (at 300 mm deep)
Thickness following SOLAS
Fully welded

Flange drilling detail to ISO 15138 standard
Custom flanges as option

Blades:

Materials
Stainless Steel 304L/316L (1.4307/1.4404)
Other Stainless Steel grades available on request

Thickness
Minimum 1.2 mm double skin
Plug welded to solid shafts

Shafts:
Ø19.0 mm (3/4”) continuous solid shaft in Stainless Steel 316/316L (1.4401/1.4404)

Bearings:
Oil impregnated sintered bronze. Low temperature option to -55°C and low leakage bearing assembly option available

Side Seals:
Stainless Steel 316L (1.4404)

Linkage:
Stainless Steel 316L (1.4404)
5.0 mm thick link bars arranged to provide opposed blade motion

Blade Gasket:
N/A; metal to metal forms the seal

Mechanical Options

The following options can be incorporated if required.

- Increased flange thickness
- Stainless Steel bearings in place of sintered bronze (as standard)
- Transitions; various options for fitting into circular ductwork
- Earth bosses
- Lifting lugs
- Switch boxes for local testing either side of bulkhead

Control Options

Wozair dampers can be operated manually or with electric or pneumatic actuators. The pneumatic and electric controls will be selected based on your exacting requirements.

Dampers can be designed to close, open, or stay put on loss of power when fitted with an electric or pneumatic actuator. The four in-house actuators manufacturers options are Petz, Schischek, Belimo and Powertork.

The actuator will be selected following your technical needs:

- Electric or pneumatic actuation system
- Requested closing time (1, 2 or 3 seconds closing time or longer
- ATEX Zone 1, 21 (II 2GD) and 2, 22 (II 3GD) or non-hazardous area, IECEX
- Design Temperature (from -60°C to + 70°C)
- IP level
- Environment (High corrosion resistance)

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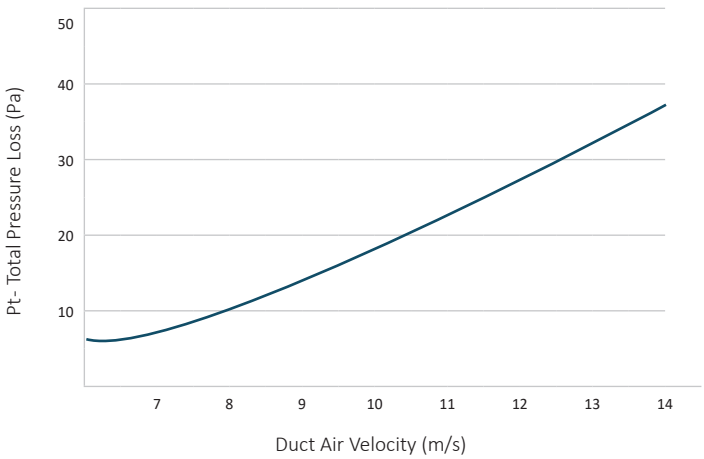
Type Approval Certification

DNV GL, ABS and Bureau Veritas
CE Marking Construction Products Regulation EN15650
USCG (Mutual Recognition Agreement with MED)

MED

Module B Type Examination with Lloyd's Register Verification
Module D Conformity to Type based on quality assurance of the production process with DNV GL (UK / Houston)
Module F Conformity to Type based on product verification available at other locations (Singapore).

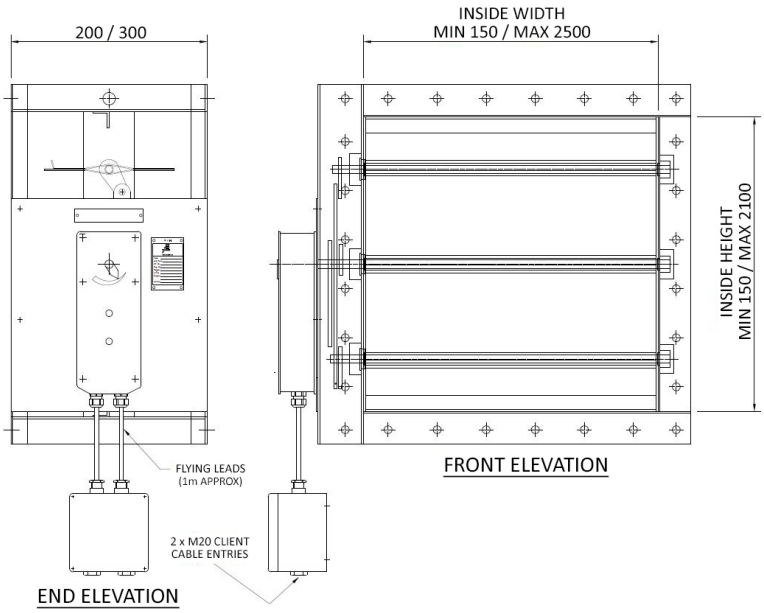
Performance



Full aerodynamic performance data is presented above and is based on conclusive tests.

Total Pressure Loss - the difference in pressure measured across the Fire Damper when the blades are fully open.

Dimension Drawing (Certified to A0 Fire Conditions)



Ordering

Type: MFD	**Duct Width:** 500
Duct Height: 300	**Case Depth:** 200
Type Wozair: Marine Fire Damper	

Case Material:
Stainless Steel
Low Carbon 1.4307 = 304L
Low Carbon 1.4404 = 316L

Mild Steel Sheet
Pre-Galvanised FeP02 nac = GSS
Galvanised after Manufacture = GAM

Case Thickness: 2.0 to 10.0 mm with various case depth options

Controls Options
P = Pneumatic
E = Electric

Nominal: Clear inside duct dimensions
Duct Size: 'Quote' (Width x Height)

Order Code Example:
MFD/316L/2.0/500W/300H/200D/P

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Weights

MFD Bare Shaft Damper Weight Matrix - 200D (2mm thick)

Kg		H (mm)										
		150	300	450	600	750	900	1050	1200	1550	1900	2100
W (mm)	150	9	13	17	21	25	28	32	35	50	60	66
	300	13	19	24	29	33	37	41	46	66	78	84
	450	18	24	31	36	42	46	51	56	83	96	103
	600	22	30	38	44	50	55	61	66	99	114	122
	750	26	36	45	52	59	65	71	77	116	132	140
	900	31	42	52	59	67	74	80	87	132	150	159
	1050	35	47	59	67	76	83	90	97	149	168	178
	1200	39	53	66	75	84	92	100	108	165	186	196
	1550	56	76	96	110	125	138	151	165	236	269	286
	1900	71	94	117	132	150	164	178	193	278	314	334
	2250	83	109	135	152	171	187	203	219	317	357	378
	2500	91	119	147	166	186	203	220	237	345	387	410

Please Note:
For Manual handle add 3kg nominally
For Belimo actuator with junction box add 3.5kg nominally
For Petz or Schischek actuator with junction box add 5kg nominally
For Pneumatic actuator and components with controls enclosure add 15kg nominally

MFD Bare Shaft Damper Weight Matrix - 300D (3mm thick)

Kg		H (mm)										
		150	300	450	600	750	900	1050	1200	1550	1900	2100
W (mm)	150	11	16	21	26	30	34	38	42	60	72	78
	300	16	22	28	34	40	44	49	54	78	91	98
	450	21	29	36	43	50	54	60	65	96	110	119
	600	26	35	43	52	60	65	71	77	115	130	139
	750	32	42	51	61	70	75	83	88	133	149	160
	900	37	49	59	70	79	85	94	100	151	168	180
	1050	42	55	66	78	89	95	105	111	169	187	200
	1200	47	62	74	87	99	105	116	122	188	207	221
	1550	66	87	105	125	143	154	169	181	261	292	313
	1900	82	107	127	150	170	182	200	212	308	340	364
	2250	96	124	147	172	195	207	227	240	351	386	413
	2500	105	136	160	188	212	225	247	260	382	418	447

Please Note:
For Manual handle add 3kg nominally
For Belimo actuator with junction box add 3.5kg nominally
For Petz or Schischek actuator with junction box add 5kg nominally
For Pneumatic actuator and components with controls enclosure add 15kg nominally

Additional Images

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