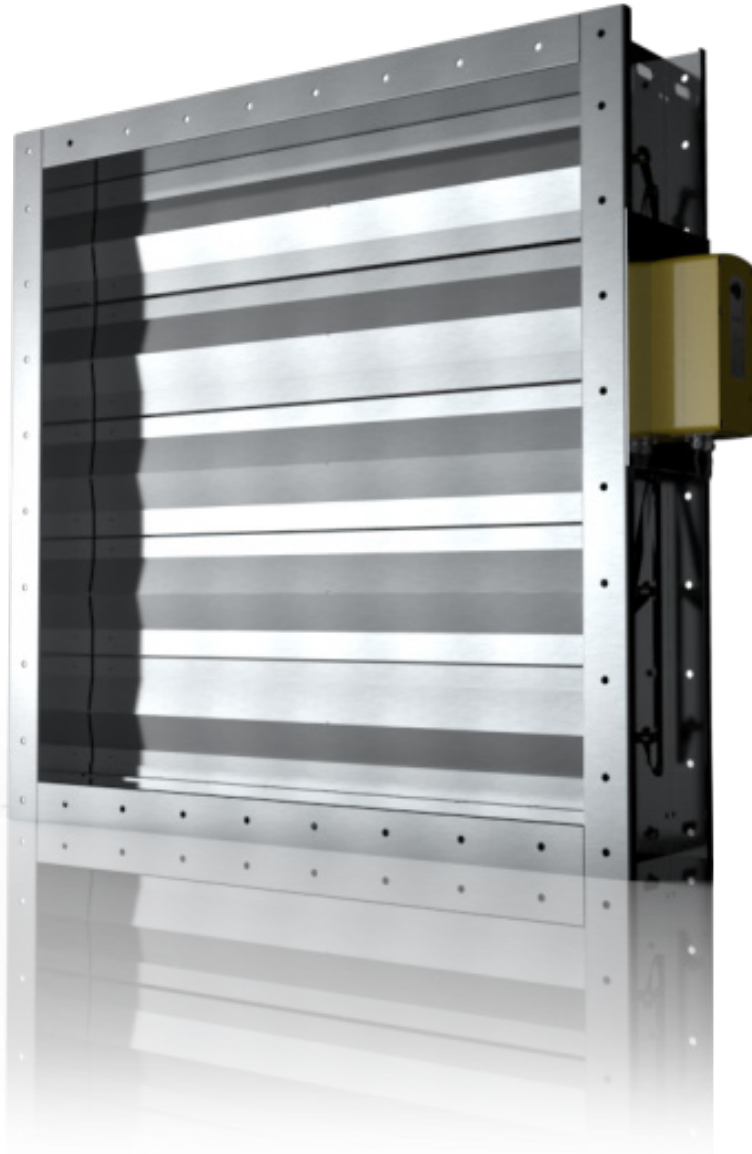




Marine Fire Damper (MFD)

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



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 572°F 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

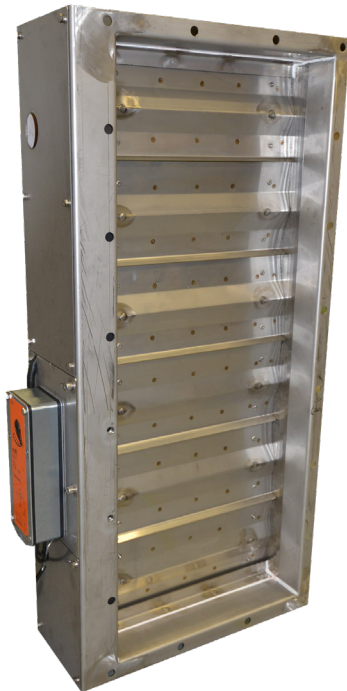
6"W x 6"H x 8"D
6"W x 6"H x 12"D

Maximum Size

98"W x 83"H x 8"D / 12"D mm A-0 / A-30 – bulkhead and deck
98"W x 48"H x 8"D / 12"D mm A-60 – bulkhead and deck

Fire Rating

Fully tested to SOLAS / IMO 2010 FTP Code and A754 (18) for A-0 to A-60 bulkhead and deck divisions with extended stability and integrity testing for 4 hours



Leakage

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

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 14G (at 8" deep) 11G - 6G thick (at 12" 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 18G double skin
Plug welded to solid shafts

Shafts:

Ø3/4" continuous solid shaft in Stainless Steel 316/316L (1.4401/1.4404)

Bearings:

Oil impregnated sintered bronze. Low temperature option to -76°F and low leakage bearing assembly option available

Side Seals:

Stainless Steel 316L (1.4404)

Linkage:

Stainless Steel 316L (1.4404)
6G 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

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 DNV GL 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).

Control Options

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

Dampers can be designed to close or open on loss of power when fitted with an electric or pneumatic actuator. The electric actuators options are Petz, Schischek, Belimo and Johnson Controls and pneumatic actuator by 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)
- Class I, II, III Division 1 BCDEFG T6 and zone 1, 2, 21, 22
- Class I, II, III Division 2 ABCDEFG T6 and zone 2, 22
- ATEX and IECEx Zone 1, 21 (II 2GD) and 2, 22 (II 3GD) or non hazardous area, based on actuator selection
- Design Temperature (from -76°F/-60°C to +158°F/+70°C)
- NEMA / IP rating
- Environment (High corrosion resistance)

Weights

MFD Bare Shaft Damper Weight Matrix - 8"D (14G thick)

lb	H (in)											
	6	12	18	24	30	35	41	47	61	75	83	
W (in)	6	20	29	37	46	55	62	71	77	110	132	146
	12	29	44	53	64	73	82	90	101	146	172	185
	18	40	53	68	79	93	101	112	123	183	212	227
	24	49	66	84	97	110	121	134	146	218	251	269
	30	57	79	99	115	130	143	157	170	256	291	309
	35	68	93	115	130	148	163	176	192	291	331	351
	41	77	104	130	148	168	183	198	214	328	370	392
	47	86	117	146	165	185	203	220	238	364	410	432
	61	123	168	212	243	276	304	333	364	520	593	631
	75	157	207	258	291	331	362	392	425	613	692	736
	89	183	240	298	335	377	412	448	483	699	787	833
98	201	262	324	366	410	448	485	522	761	853	904	

Additional nominal weights:

Manual handle 7lb

Belimo or Johnson Controls actuator with junction box 7lb

Petz or Schischek actuator with junction box 11lb

Pneumatic actuator and components with controls enclosure 33lb

MFD Bare Shaft Damper Weight Matrix - 12"D (11G thick)

lb	H (in)											
	6	12	18	24	30	35	41	47	61	75	83	
W (in)	6	24	35	46	57	66	75	84	93	132	159	172
	12	35	49	62	75	88	97	108	119	172	201	216
	18	46	64	79	95	110	119	132	143	212	243	262
	24	57	77	95	115	132	143	157	170	254	287	306
	30	71	93	112	134	154	165	183	194	293	328	353
	35	82	108	130	154	174	187	207	220	333	370	397
	41	93	121	146	172	196	209	231	245	373	412	441
	47	104	137	163	192	218	231	256	269	414	456	487
	61	146	192	231	276	315	340	373	399	575	644	690
	75	181	236	280	331	375	401	441	467	679	750	802
	89	212	273	324	379	430	456	500	529	774	851	911
98	231	300	353	414	467	496	545	573	842	922	985	

Additional nominal weights:

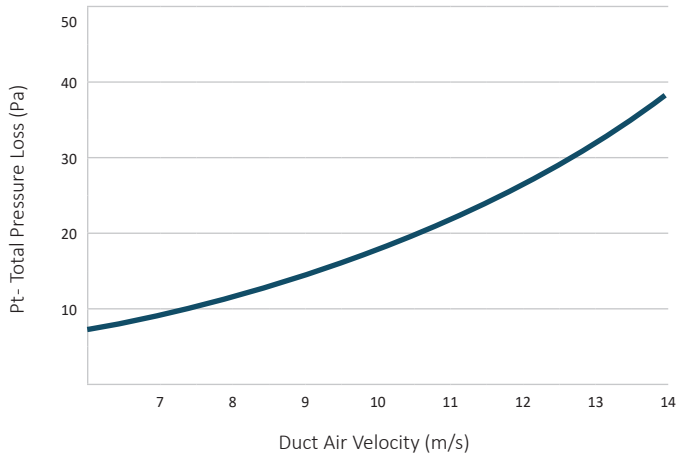
Manual handle 7lb

Belimo or Johnson Controls actuator with junction box 7lb

Petz or Schischek actuator with junction box 11lb

Pneumatic actuator and components with controls enclosure 33lb

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.

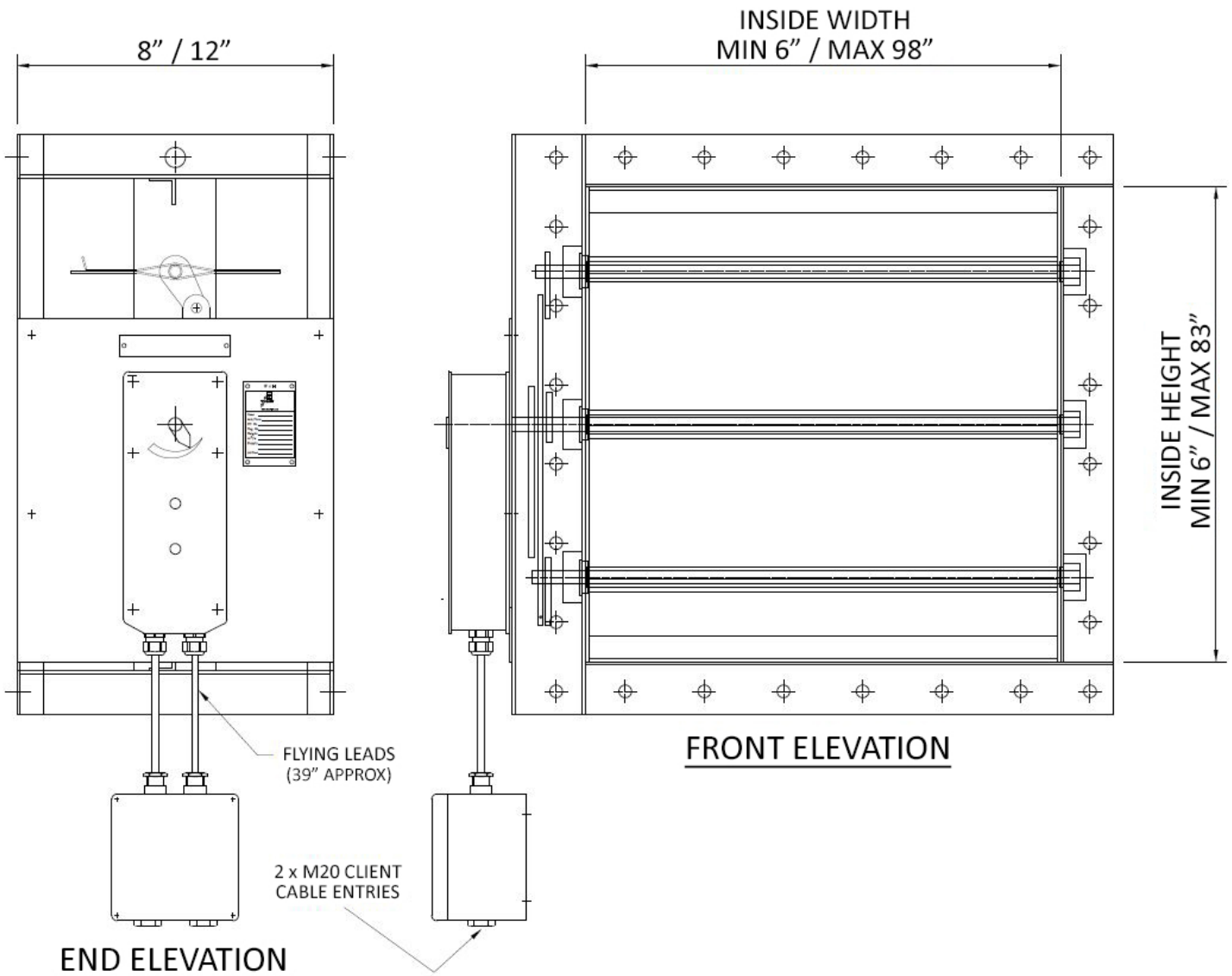
Ordering

Type: MFD	Duct Width: 20"
Duct Height: 12"	Case Depth: 8"
Type Wozair: Marine Fire Damper	
Case Material:	
<u>Stainless Steel</u>	
Low Carbon	1.4307 = 304L
Low Carbon	1.4404 = 316L
<u>Mild Steel Sheet</u>	
Pre-Galvanised FeP02 nac = GSS	
Galvanised after Manufacture = GAM	
Case Thickness: 14G to 3/8" with various case depth options	
<u>Controls Options</u>	
P = Pneumatic	
E = Electric	
Nominal: Clear inside duct dimensions	
Duct Size: 'Quote' (Width x Height)	
Order Code Example:	
MFD/316L/14G/20W/12H/8D/P	

Additional Images



Dimension Drawing (Example with Electric Actuator)



Wozair (USA) Ltd

3601 North Loop
336 West
Conroe
Texas
77304
United States of America

Phone +1 936 521 5990

Email houstonhvac@wozair.com

Wozair Limited

Grosvenor Road
Gillingham Business Park
Gillingham
Kent
ME8 0SA
United Kingdom

Phone +44 (0)1634 790 336

Email hvac@wozair.com

Wozair (Asia) Pte Ltd

2 Venture Drive
8-23 Vision Exchange
608526
Singapore

Phone +65 6890 6506

Email hvac@wozair.com.sg

Wozair Middle East

Office 202
LOB 17 Building JAFZA
Next to Gate 4
Dubai
P.O. Box 262404
United Arab Emirates

Phone +971 (0) 4 887 0147

Email dubaihvac@wozair.com