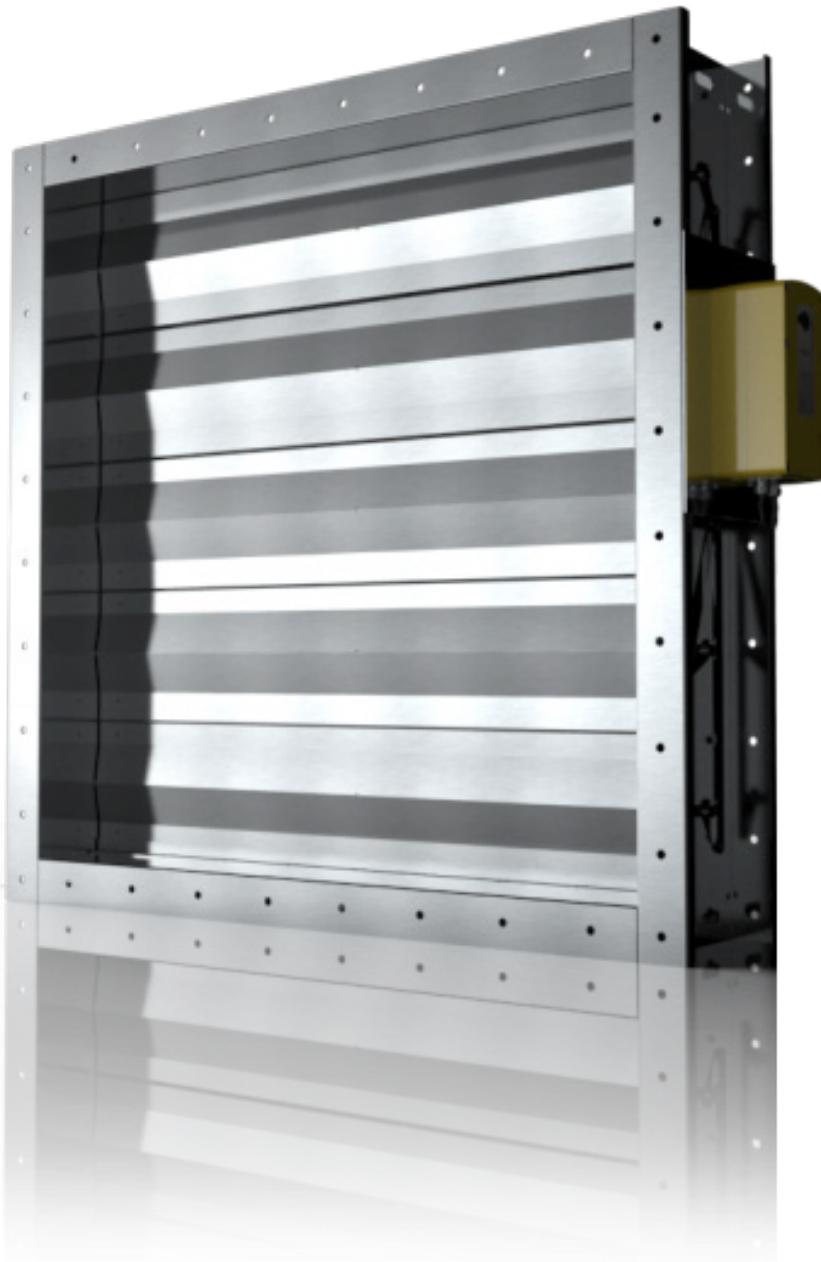


## Marine Fire Damper (MFD)

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 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 conforms to the requirements of the Marine Equipment Directive (MED) and Marine Equipment Regulation (MER).

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 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 as an option

### Explosive Atmosphere

ATEX/IECEx SGS UK Ltd /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

### Side Seals:

Stainless Steel 316 (1.4401)

### 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
- 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 are designed to fail closed when fitted with an electric or pneumatic actuator. Full open can be considered on request. The five actuator manufacturers options are Pi Safety Components (previously Petz Industries), Rotork Schischek, Belimo, Johnson Controls and Powertork.

The actuator will be selected following your technical needs:

- Electric or pneumatic actuation system or manual latch
- 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 Ambient Temperature (from -40°C to + 50°C).
- Contact Wozair for operation outside this temperature range.
- IP level
- Environment (High corrosion resistance)

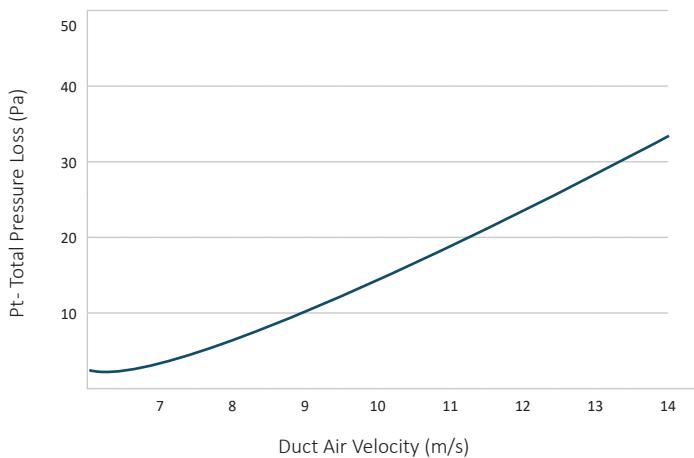
## Type Approval Certification

DNV, ABS and Bureau Veritas  
USCG (Mutual Recognition Agreement with MED)

## MED / MER

Module B Type Examination with MED  
Module D Certificate of Assessment based on quality assurance of the production process with DNV (UK / Houston / Singapore)  
MER Module D Certificate of Assessment based on quality assurance of the production process with DNV (UK).

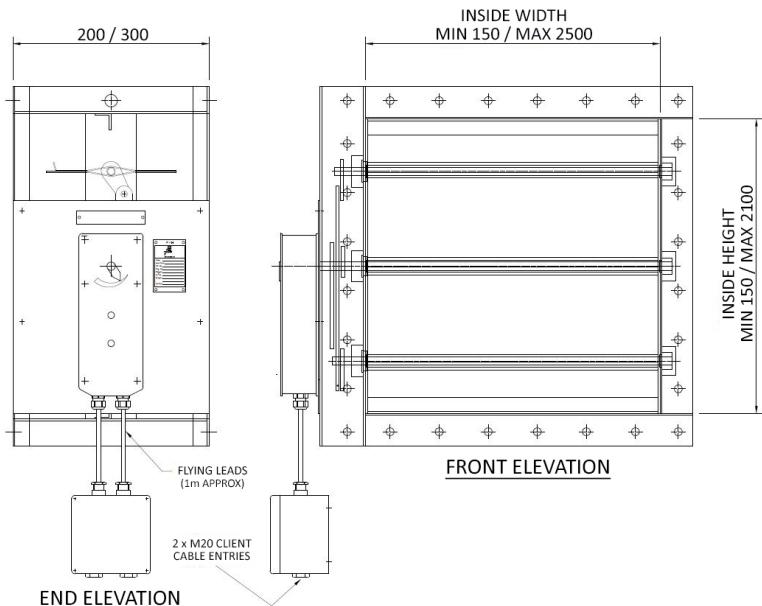
## Performance



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 |
| <b>Type Wozair:</b> Marine Fire Damper                                |     |             |     |
| <b>Case Material:</b>   |     |             |     |
| <u>Stainless Steel</u>  |     |             |     |
| Low Carbon 1.4307 = <b>304L</b>                                       |     |             |     |
| Low Carbon 1.4404 = <b>316L</b>                                       |     |             |     |
| <b>Mild Steel Sheet</b>   |     |             |     |
| Pre-Galvanised FeP02 nac = GSS  |     |             |     |
| Galvanised after Manufacture = GAM                                    |     |             |     |
| <b>Case Thickness:</b> 2.0 to 10.0 mm with various case depth options |     |             |     |
| <b>Controls Options</b>   |     |             |     |
| <b>P</b> = Pneumatic  |     |             |     |
| <b>E</b> = Electric   |     |             |     |
| <b>M</b> = Manual   |     |             |     |
| Nominal: Clear inside duct dimensions                                 |     |             |     |
| <b>Order Code Example:</b>  |     |             |     |
| MFD/316L/2.0/500W/300H/200D/P   |     |             |     |

## 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 Pi Safety Components 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:**

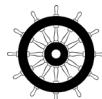
For Manual handle add 3kg nominally

For Belimo actuator with junction box add 3.5kg nominally

For Pi Safety Components 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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