

Fire & Gas Damper (FGD)

High quality engineering meets cost effectiveness with the high integrity Wozair Fire & Gas Damper, for hydro-carbon divisions preventing fire gas and smoke spread through ventilation systems.



Fire & Gas Damper

Wozair manufactures Fire Dampers for heavy duty, aggressive process environments where integrity, strength and corrosion resistance are of primary importance.

Tailored specifically for the Oil & Gas industry, where fire integrity and gas leakage are critical for maintaining a safe and secure working environment, the FGD continues to exhibit exceptional performance to multiple Type Approval Certification for hydrocarbon fire conditions H0 to H120 along with ATEX third party approval.

Our FGD is highly customisable and can be safely installed in a variety of environments. It has been successfully deployed for deck and bulkhead installation on Offshore Oil and Gas production platforms.

The FGD is a tried and tested design, which has been supplied on hundreds of projects since 1995.

Technical Information

Minimum Size

150W x 150H x 300D mm

Maximum Size

3950W x 2500H x 300D mm (H-0 / H-60 / H-120)

Fire Rating

Fully tested to SOLAS / IMO FTP Code A754 (18) and the UK Department of Energy/NPD hydrocarbon time/temperature relationship for H-0 to H-120 bulkhead and deck divisions with extended stability and integrity testing for 2 hours

Leakage

Closed blade leakage to Class 2 EN1751, Class 3 available on request
Case leakage to Class B EN1751, Class C available on request

Explosive Atmosphere

ATEX/IECEx SGS Baseefa/SGS Fimko Oy

Reliability Assessment

We can offer SIL2 reliability statement if required

Materials of Construction

Casing and Flanges:

Materials

Galvanised Carbon Steel (GAM)
Stainless Steel 304L/316L (1.4307/1.4404)
Other Stainless Steel grades available on request

Thickness

Minimum 3.0 mm

Thickness's following SOLAS (3.0-5.0 mm)

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 1.5 mm double skin

Each skin in same material as casing except Stainless Steel 304L for all GAM casing options

Plug welded to solid shafts

Shafts:

Ø19 mm (3/4") continuous solid shaft in Stainless Steel 316/316L (1.4401/1.4404)

Bearings:

Oil impregnated sintered bronze. Low temperature -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

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 close 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)

Weights

FGD Bare Shaft Damper Weight Matrix - 300D (2mm 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 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

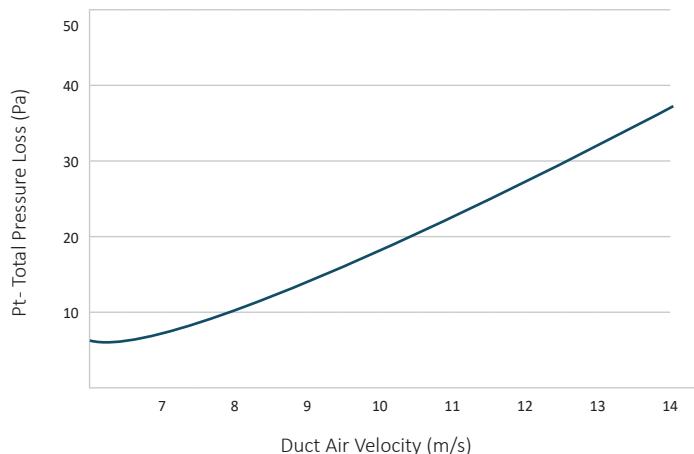
Wozair Controls Enclosure Nominal Size and Weight Estimates

Actuator Model ³	No. Blades ³	W ¹ (mm)	H ^{1,4} (mm)	D ¹ (mm)	Weight ^{3,5,6} (kg)	Lid Weight ^{3,5,6} (kg)
PT063	1 - 2	300	400	200	7.4	3.7
PT075/85	3 - 4	300	475	200	8.4	4.2
PT100/115	4 +	300	550	200	9.4	4.7

Please Note:

- ¹ Dimensions are nominal and exclude for, toggle latches, BHU's, JB's, hand valves etc.
- ² Weights are nominal and exclude actuator, components and labels.
- ³ Subject to EN 1751 blade leakage requirement.
- ⁴ Includes +25 mm on H dimension for a manual push/pull valve.
- ⁵ Weight estimates are for 1.5 mm thick 304L or 316L Controls Enclosures.
- ⁶ Additional controls such as filter regulators and black start facilities will add to the height dimensions above.

Performance



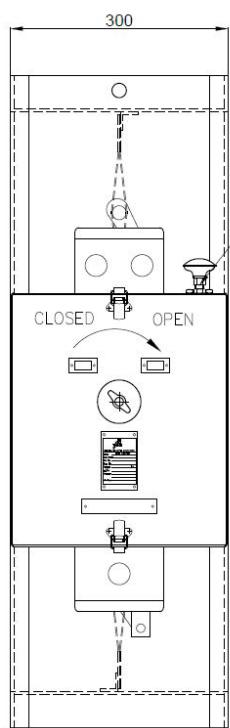
Full aerodynamic performance data is presented above and is based on conclusive tests.

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

Ordering

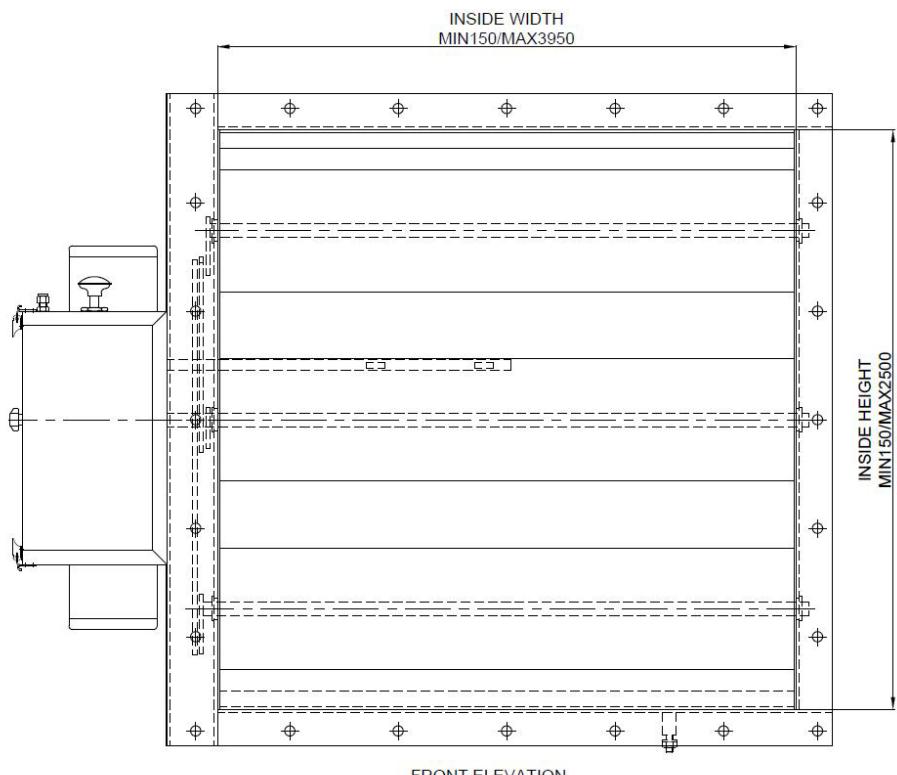
Type: FGD	Duct Width: 500
Duct Height: 300	Case Depth: 300
Type Wozair: High Integrity Fire & Gas Damper	
Case Material:	
<u>Stainless Steel</u>	
Low Carbon	1.4307 = 304L
Low Carbon	1.4404 = 316L
<u>Mild Steel Sheet</u>	
Pre-Galvanised FePO2 nac	= GSS
Galvanised after Manufacture = GAM	
Case Thickness: 3.0 to 10.0 mm	
<u>Controls Options</u>	
P = Pneumatic	
E = Electric	
Nominal: Clear inside duct dimensions	
Duct Size: 'Quote' (Width x Height)	
Order Code Example:	
FGD/316L/3.0/500W/300H/300D/P	

Dimension Drawing (Certified to A0 Fire Conditions)



END ELEVATION

LINKAGE COVER PLATES
OMITTED FOR CLARITY



FRONT ELEVATION



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