



## Fire & Gas Damper (FGD)

High quality engineering meets cost effectiveness with the high integrity Wozair Fire & Gas Damper, for hydrocarbon 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

6"W x 6"H x 12"D

### Maximum Size

156"W x 98"H x 12"D (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

### Functional Safety

Functional safety certificate to SIL2 issued by CSA Sira available for specific configurations. Contact us to discuss your requirement.

## 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 11G  
Thickness's following SOLAS (11G-6G)

### Blades:

#### Materials

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

### Thickness

Minimum 16G 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 -67°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 parallel 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

## Type Approval Certification

DNV GL, Lloyd's Register, ABS and Bureau Veritas



## 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 and Schischek, 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 subject to actuator selection)
- NEMA / IP rating
- Environment (High corrosion resistance)

## Ordering

<b>Type:</b> FGD	<b>Duct Width:</b> 20"
<b>Duct Height:</b> 12"	<b>Case Depth:</b> 12"
<b>Type Wozair:</b> High Integrity Fire & Gas Damper	
<b>Case Material:</b> <u>Stainless Steel</u> Low Carbon 1.4307 = 304L Low Carbon 1.4404 = 316L	
<u>Mild Steel Sheet</u> Galvanised after Manufacture = GAM	
<b>Case Thickness:</b> 11G to ¾G	
<u>Controls Options</u> P = Pneumatic E = Electric	
Nominal: Clear inside duct dimensions Duct Size: 'Quote' (Width x Height)	
<b>Order Code Example:</b> FGD/316L/11G/20W/12H/12D/E	

## Weights

### FGD Bare Shaft Damper Weight Matrix 14G Thick Case - 12"D

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

Petz or Schischek actuator with junction box 11lb

Pneumatic actuator and components with controls enclosure 33lb

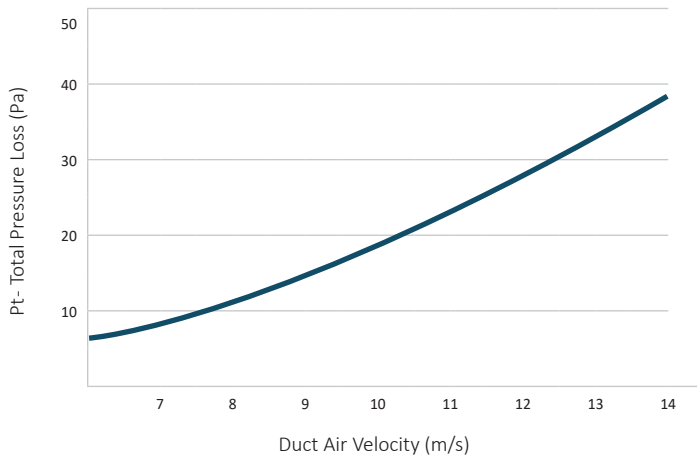
### Wozair Controls Enclosure Nominal Size and Weight Estimates

Actuator Model <sup>1</sup>	No. Blades <sup>3</sup>	W <sup>2</sup> (in)	H <sup>1,4</sup> (in)	D <sup>1</sup> (in)	Weight <sup>2,5,6</sup> (lb)	Lid Weight <sup>2,5,6</sup> (lb)
PT063	1 - 2	11.8	15.7	7.9	16.3	8.2
PT075/85	3 - 4	11.8	18.7	7.9	18.5	9.3
PT100/115	4 +	11.8	21.7	7.9	20.7	10.4

### Please Note:

- <sup>1</sup> Dimensions are nominal and exclude for, toggle latches, BHU's, JB's, hand valves etc.
- <sup>2</sup> Weights are nominal and exclude actuator, components and labels.
- <sup>3</sup> Subject to EN 1751 blade leakage requirement.
- <sup>4</sup> Includes +1" on H dimension for a manual push/pull valve.
- <sup>5</sup> Weight estimates are for 16G thick 304L or 316L Controls Enclosures.
- <sup>6</sup> Additional controls such as filter regulators and black start facilities will add to the height dimensions above.

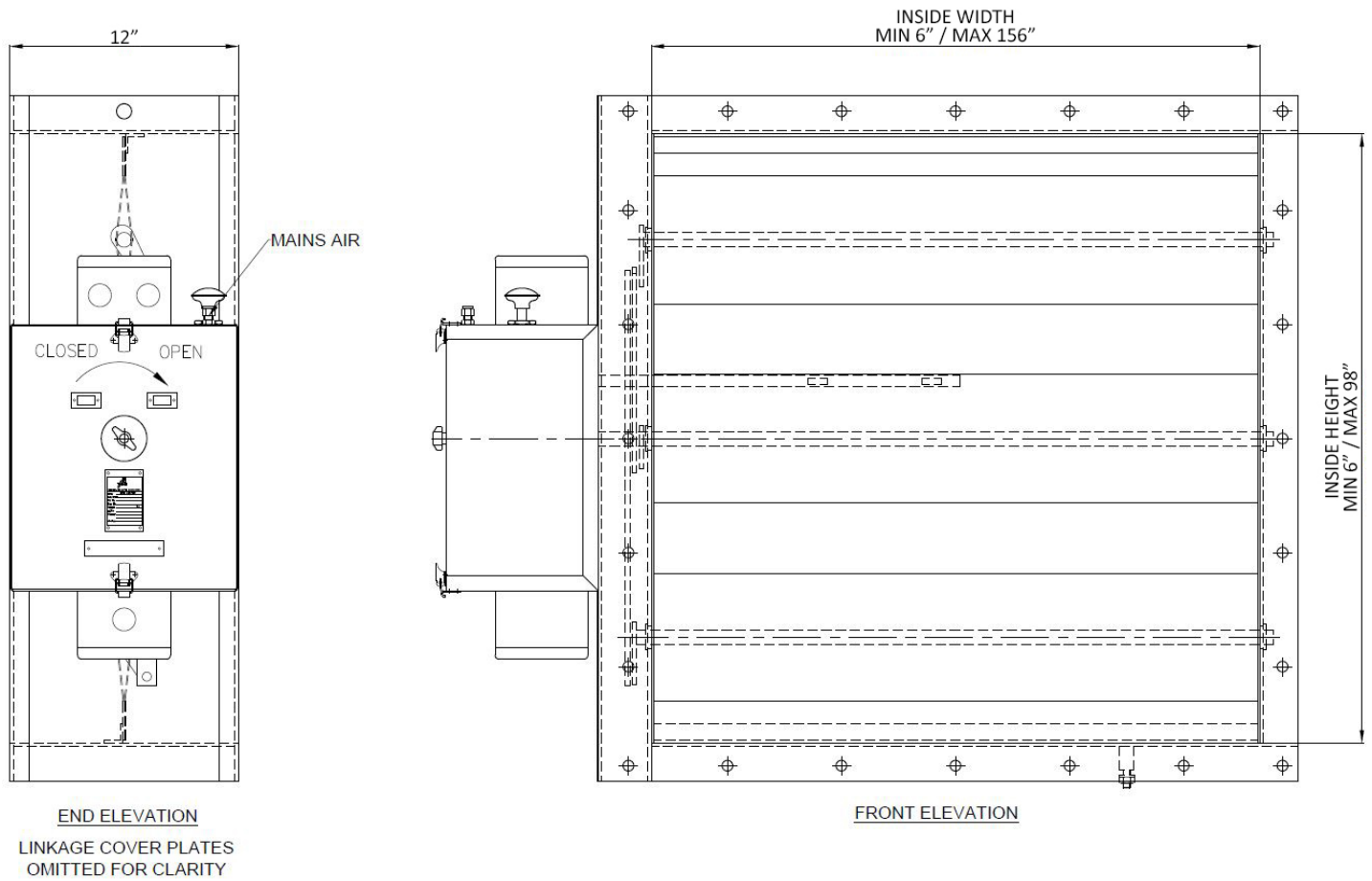
## Performance



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.

## Dimension Drawing (example with pneumatic controls)



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