

## Non-Return/Pressure Relief Damper (NRD/PRD)

To maintain over pressure in areas or to avoid backflow in the system. These simple, efficient devices are offered with a weight kit.



## Non Return/Pressure Relief Damper

The NRD and PRD are high integrity dampers designed to meet the demanding requirements of the HVAC markets where corrosion resistance, mechanical integrity and performance are primary factors.

The PRD is used to relieve pressure and the NRD is used to prevent backflow through ventilation duct systems and openings.

They are suitable for use in horizontal ducts or wall mounted and, in addition, the NRD can be mounted in a vertical duct with upward airflow only.

### Technical Information

#### Minimum Size

200W x 200H x 200D / 300D mm

#### Maximum Size

2000W x 2000H x 300D mm

#### Explosive Atmosphere

ATEX/IECEX SGS Baseefa/SGS Fimko Oy

### 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 or 5.0 mm thick (at 300 mm deep)

Fully welded Stainless Steel and GAM or welded and riveted Stainless Steel and GSS

Flange drilling detail to ISO 15138  
Custom flanges as option

#### Blades:

##### Materials

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

##### Thickness

Single skin from 1.5 mm

Stitch welded to tubular shafts

#### Shafts:

Ø12.7 mm (1/2") continuous tubular 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

#### Linkage:

Stainless Steel 316L (1.4404)  
Link bars arranged to provide parallel blade motion

#### Blade Gasket:

EPDM (standard)  
Elastomeric foam flame retardant (option)

### Mechanical Options

The following options can be incorporated if required.

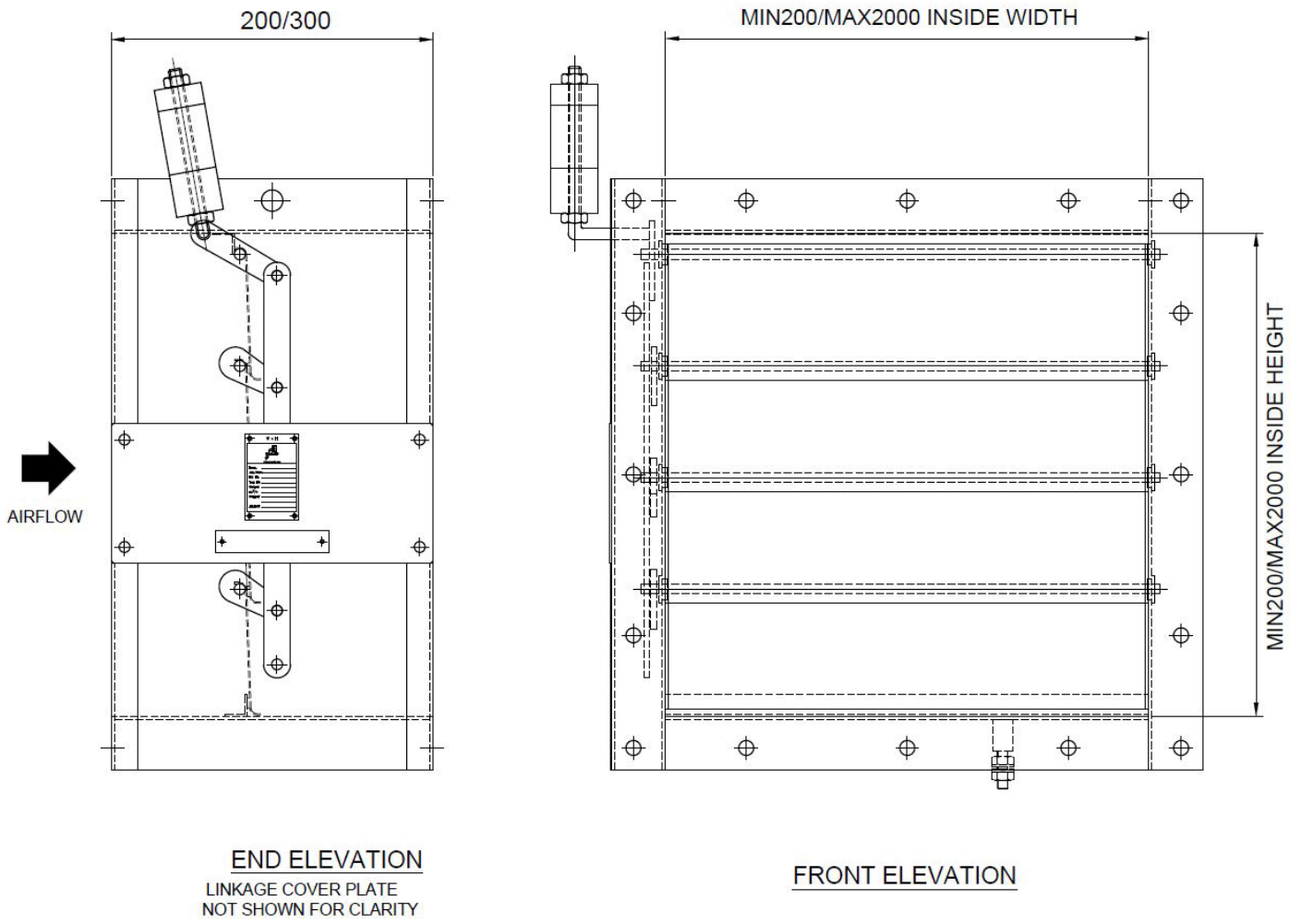
- Increased flange thickness
- Transitions; various options for fitting into circular ductwork
- Earth bosses
- Lifting lugs

### Control Options

Counterbalance weight kits are available for both the NRD and PRD. For the PRD these provide overpressure control between 50-300 Pa. These are simple mechanisms that have no closed loop control.



## Dimension Drawing Example



## Weights

NRD / PRD Bare Shaft Damper Weight Matrix - 200D (2mm)

Kg	H (mm)													
	150	300	450	600	850	1000	1150	1300	1450	1600	1750	1900	2000	
W (mm)	150	8	12	15	19	25	28	32	36	39	45	49	53	55
	300	11	16	20	25	32	36	41	46	50	58	62	67	70
	450	14	20	25	31	40	45	50	56	61	70	75	80	84
	600	17	24	31	37	47	53	59	66	72	82	88	94	99
	850	22	32	39	46	59	67	74	83	91	102	110	118	123
	1000	25	36	44	52	67	75	83	93	102	115	123	131	138
	1150	28	40	49	58	74	83	92	104	113	127	136	145	152
	1300	34	50	63	76	98	111	124	139	152	170	183	196	206
	1450	38	54	68	82	106	119	133	149	163	182	196	210	220
	1600	48	66	81	96	121	136	151	168	183	198	213	227	238
	1750	52	71	87	102	129	145	160	179	195	210	226	241	253
	1900	56	76	92	109	137	154	170	190	206	223	239	256	268
2000	58	79	96	113	143	160	177	197	214	231	248	265	278	

**Please Note:**

For a Weight Kit add 2.5kg nominally (per 0.5m<sup>2</sup> damper face area)

## Ordering

Type:	NRD/PRD	Duct Width:	500
Duct Height:	300	Case Depth:	200
Type Wozair: Non Return/Pressure Relief Damper			
<b>Case Material:</b>			
<u>Stainless Steel</u>			
Low Carbon	1.4307 = 304L		
Low Carbon	1.4404 = 316L		
<u>Mild Steel Sheet</u>			
Pre-Galvanised	FeP02 nac	=	GSS
<b>Case Thickness:</b> 2.0 mm			
<u>Controls Options</u>			
WK = Weight Kit			
Nominal: Clear inside duct dimensions			
Duct Size: 'Quote' (Width x Height)			
<b>Order Code Example:</b>			
NRD/316L/2.0/500W/300H/200D/WK			

## Weights

NRD / PRD Bare Shaft Damper Weight Matrix - 300D (3mm)

Kg	H (mm)													
	150	300	450	600	850	1000	1150	1300	1450	1600	1750	1900	2000	
W (mm)	150	10	14	18	22	29	34	38	42	46	53	58	62	65
	300	14	19	23	29	37	42	46	52	57	65	70	75	78
	450	18	24	29	35	44	50	55	61	67	76	82	88	92
	600	22	29	34	41	52	58	64	71	78	87	94	101	105
	850	28	36	43	51	64	72	79	87	95	106	115	123	128
	1000	32	41	48	58	71	80	88	97	106	118	127	136	141
	1150	36	46	54	64	79	89	97	106	116	129	139	149	155
	1300	43	57	68	82	103	117	128	142	155	172	186	200	208
	1450	46	61	73	88	110	125	137	151	166	184	198	213	221
	1600	58	74	87	102	126	142	154	170	185	195	214	229	238
	1750	62	79	92	109	134	151	164	180	197	210	226	243	252
	1900	67	85	98	116	142	159	173	191	208	222	239	256	265
2000	70	88	102	120	148	165	180	197	215	229	247	265	275	

**Please Note:**

For a Weight Kit add 2.5kg nominally (per 0.5m<sup>2</sup> damper face area)



## Wozair Limited

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

**Phone** +44 (0)1634 790 336

**Email** [hvac@wozair.com](mailto:hvac@wozair.com)

## Wozair (USA) Ltd

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

**Phone** +1 936 521 5990

**Email** [houstonhvac@wozair.com](mailto:houstonhvac@wozair.com)

## Wozair (Asia) Pte Ltd

2 Venture Drive  
8-23 Vision Exchange  
608526  
Singapore

**Phone** +65 6890 6506

**Email** [hvac@wozair.com.sg](mailto:hvac@wozair.com.sg)

## Wozair Middle East

JAFZA One  
Tower B, Office 1316  
Jebel Ali Free Zone  
Dubai, UAE  
P.O. Box 262404

**Phone** +971 (0) 4 887 0147

**Email** [dubaihvac@wozair.com](mailto:dubaihvac@wozair.com)