

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



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



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

8"W x 8"H x 8"/12"D

### Maximum Size

79"W x 79"H x 12"D

### 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 14G (at 8" deep), 11G or 6G thick (at 12" 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 16G thick

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 -67°F 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

Spring or Weight kits are available for the PRD to control between 50-300 Pa (0.25" - 1.2" wg). Weight kits are available for the NRD to aid in counterbalancing the damper for the airflow. These are simple mechanisms that have no closed loop control.

Contact us to discuss your requirements.

## Ordering

<b>Type:</b>	PRD / NRD	<b>Duct Width:</b>	20"
<b>Duct Height:</b>	12"	<b>Case Depth:</b>	8"
<b>Type Wozair:</b> Pressure Relief / Non Return 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> 14G minimum			
<u>Controls Options</u>			
SP = Spring Kit			
WK = Weight Kit			
Nominal: Clear inside duct dimensions			
Duct Size: 'Quote' (Width x Height)			
<b>Order Code Example:</b>			
NRD/316L/14G/20W/12H/8D/SP			

## Weights

NRD / PRD Bare Shaft Damper Weight Matrix - 8"D (14G)

lb	H (in)													
	6	12	18	24	33	39	45	51	57	63	69	75	79	
W (in)	6	18	26	33	42	55	62	71	79	86	99	108	117	121
	12	24	35	44	55	71	79	90	101	110	128	137	148	154
	18	31	44	55	68	88	99	110	123	134	154	165	176	185
	24	37	53	68	82	104	117	130	146	159	181	194	207	218
	33	49	71	86	101	130	148	163	183	201	225	243	260	271
	39	55	79	97	115	148	165	183	205	225	254	271	289	304
	45	62	88	108	128	163	183	203	229	249	280	300	320	335
	51	75	110	139	168	216	245	273	306	335	375	403	432	454
	57	84	119	150	181	234	262	293	328	359	401	432	463	485
	63	106	146	179	212	267	300	333	370	403	437	470	500	525
	69	115	157	192	225	284	320	353	395	430	463	498	531	558
	75	123	168	203	240	302	340	375	419	454	492	527	564	591
	79	128	174	212	249	315	353	390	434	472	509	547	584	613

NRD / PRD Bare Shaft Damper Weight Matrix - 12"D (11G)

lb	H (in)													
	6	12	18	24	33	37	45	51	57	63	69	75	79	
W (in)	6	22	31	40	49	64	75	84	93	101	117	128	137	143
	12	31	42	51	64	82	93	101	115	126	143	154	165	172
	18	40	53	64	77	97	110	121	134	148	168	181	194	203
	24	49	64	75	90	115	128	141	157	172	192	207	223	231
	33	62	79	95	112	141	159	174	192	209	234	254	271	282
	39	71	90	106	128	157	176	194	214	234	260	280	300	311
	45	79	101	119	141	174	196	214	234	256	284	306	328	342
	51	95	126	150	181	227	258	282	313	342	379	410	41	459
	57	101	134	161	194	243	276	302	333	366	406	437	470	487
	63	128	163	192	225	278	313	340	375	408	437	472	505	525
	69	137	174	203	240	295	333	362	397	434	463	498	536	556
	75	148	187	216	256	313	351	381	421	459	489	527	564	584
	79	154	194	225	265	326	364	397	434	474	505	545	584	606

**Additional nominal weights:**

For Spring Kit add 2lb nominally

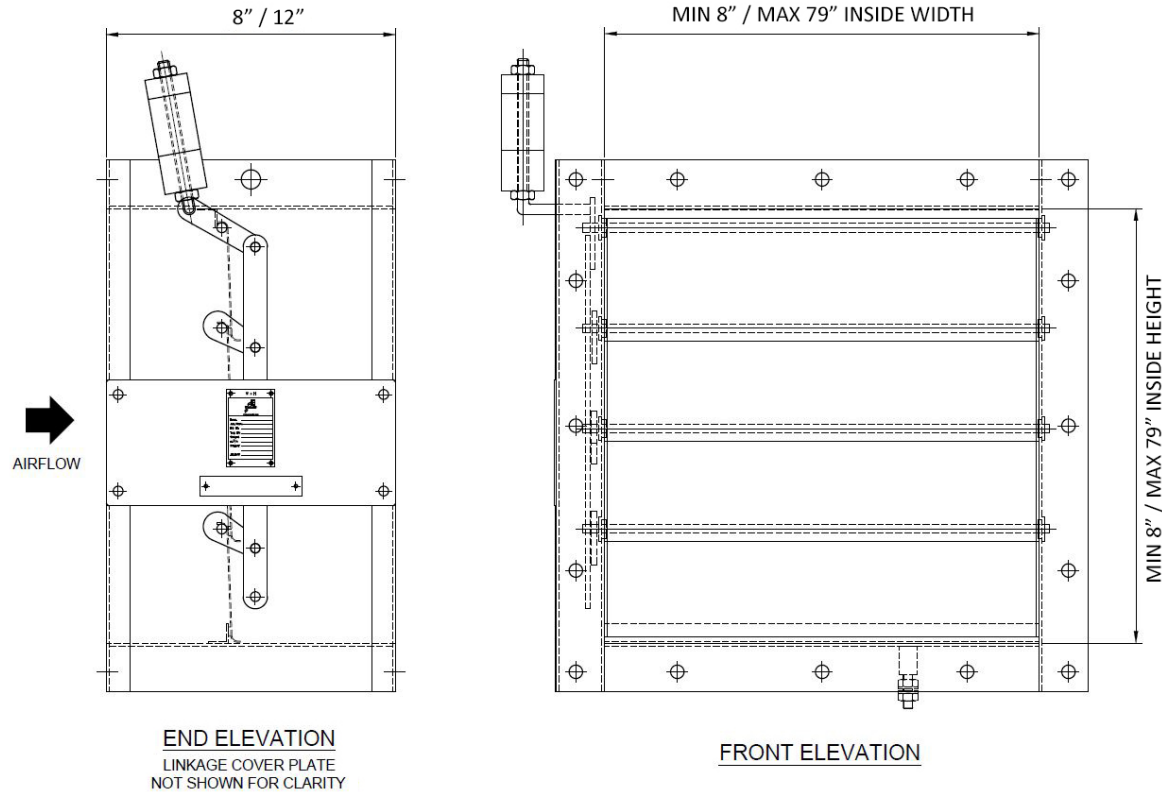
For a Weight Kit add 6lb nominally (per 5.4ft<sup>2</sup> damper face area)

**Additional nominal weights:**

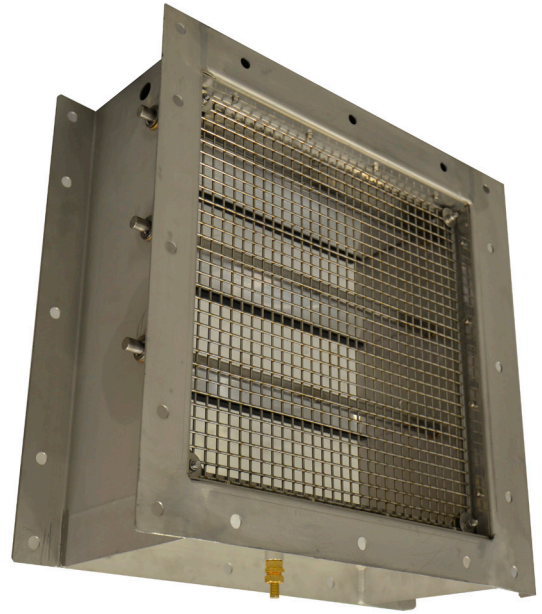
For Spring Kit add 2lb nominally

For a Weight Kit add 6lb nominally (per 5.4ft<sup>2</sup> damper face area)

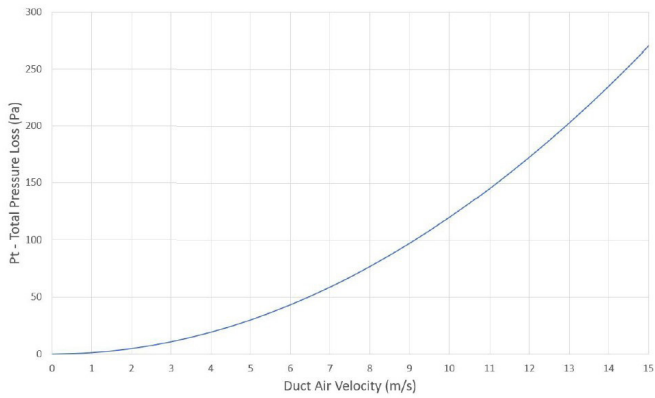
**Dimension Drawing (example with weight kit)**



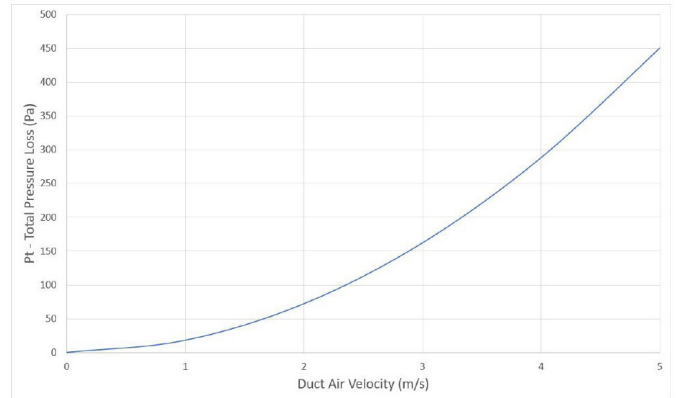
## Additional Images



## NRD Performance



## PRD Performance



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