



FRP DAMPER VALVE

CATALOGUE

Over **60** years world leading manufacturer
of high quality valves and actuators...

FRP Damper Info

General

FRP (Fiberglass Reinforced Plastic) Damper are widely used in industries such as chemical processing, wastewater treatment, electroplating, and exhaust gas treatment due to their corrosion resistance, lightweight design, and long service life.

Key Features:

1. Corrosion Resistance – Ideal for harsh chemical environments.
2. Lightweight – Easier to install and maintain compared to metal fans.
3. Durability– Long-lasting performance with minimal degradation.
4. High Efficiency – Optimized for energy-saving operations.

Common Applications:

- Chemical Industry – Handling corrosive gases and fumes.
- Wastewater Treatment – Resistant to moisture and chemical exposure.
- Electroplating & Metal Finishing – Withstands acidic/alkaline exhaust.
- Exhaust Gas Scrubbers – Effective in pollution control systems.

FRP Damper provide a cost-effective and reliable solution for aggressive industrial environments.

AFFCO focus on three key aspects, quality, precision and service.



Innovation

AFFCO insists in NPD every year to breakthrough the existing problems and create more value to customers.



Sustainability

AFFCO advocates sustainable development in products concept to build eco system.



Reliability

AFFCO has stable operation torque, the sealing performance remains stable with temperature changes and long life time.



AFFCO DAMPERS

AFFCO Dampers certifies that the Dampers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program.

The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance Ratings.

Test Information:

Air leakage is based on operation between 50°F and 104°F.

Tested for air leakage in accordance with ANSI/AMCA Standard 500-D, Figure 5.4

Tested for air performance in accordance with ANSI/AMCA 500-D, Figure 5.5

Torque

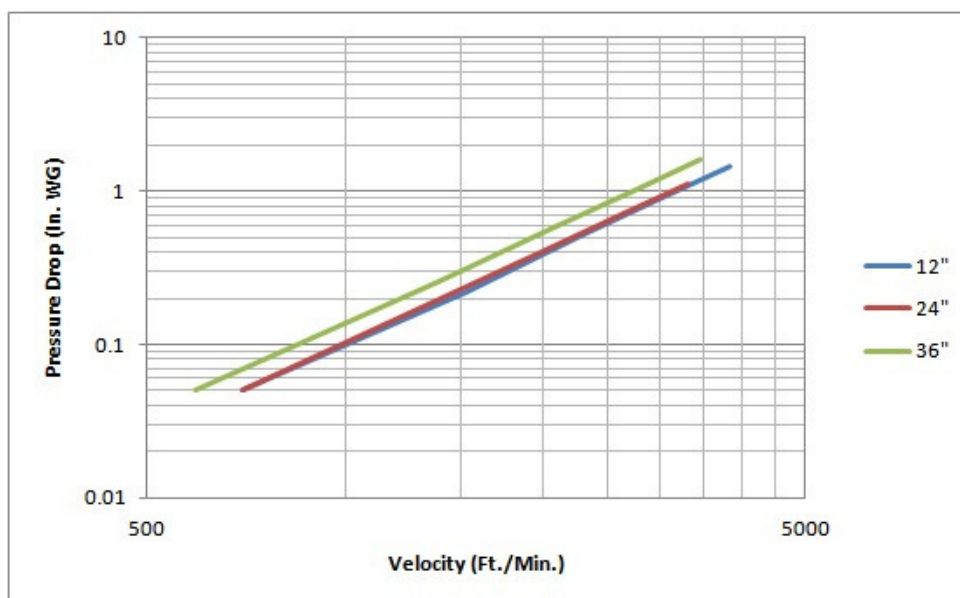
Data are based on maximum torque of 1000 in-lb/ft² applied to close and seat the 80" damper during the test.

Leakage Performance

Damper Dia.	Leakage Class			
	1" wg	4" wg	10" wg	30" wg
4"-80"	1A	1	1	1

AMCA Allowable Air Leakage To Achieve Leakage Classification (cfm/ft ²)				
Leakage Class	1" wg	4" wg	10" wg	30" wg
1A	3	N/A	N/A	N/A
1	4	8	12.6	21.9
2	10	20	31.6	54.8
3	40	80	126.5	219.1

Air Performance



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Furnish and install FRP control dampers at locations indicated on the drawings and as described herein.

The FRP damper components shall be fabricated using contact molding techniques in accordance with ASTM C 582 and ASTM D 3982 standards. Resin used in all parts shall be a premium grade, flame retardant vinyl ester. Any parts exposed to the airstream will include a resin-rich corrosion barrier with 30 mil chemical resistant veil backed by two layers of glass mat saturated with resin. Resin-to-glass ratios of approximately 90% resin, 10% glass will be maintained throughout the corrosion barrier. The corrosion barrier shall be a minimum 100 mils thick and formulated to provide optimal chemical resistance to airstream constituents. The structural layer shall follow and will consist of consecutive layers of chopped strand glass mat and/or alternating layers of woven roving to meet pressure requirements of the duct system. Resin-to-glass ratios of approximately 65% resin, 35% glass shall be maintained throughout the structural layer. All exterior surfaces shall be finish coated with Viron medium gray gel coat containing UV inhibitors.

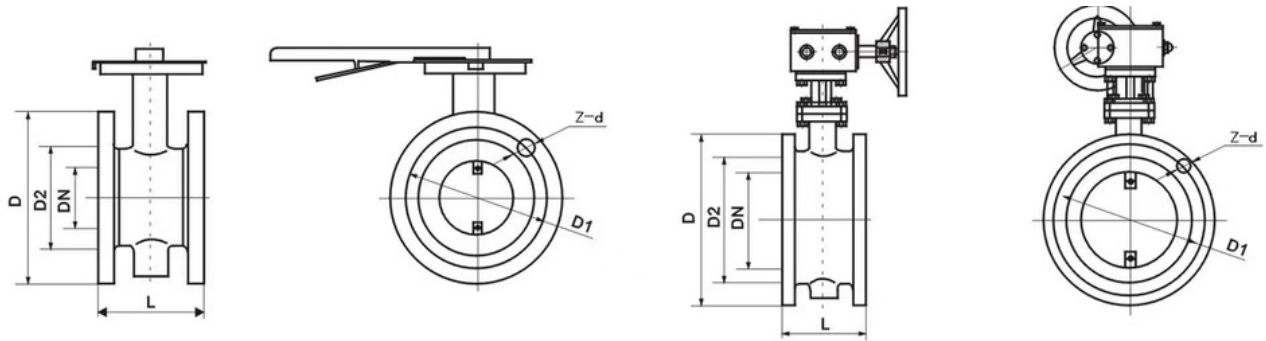
Damper housings shall be one-piece construction with integral flanges. Flanges applied by secondary bonding are not acceptable. Damper blades shall be one piece, center pivot design with a full length axle permanently fastened at the blade centerline and fully encapsulated in fiberglass. The blade shall be fabricated using the same materials as the housing and will include a corrosion barrier on both blade surfaces. The maximum blade deflection at 30" W.G. shall be no more than 1/180th of the blade's span. If necessary to limit blade deflection, blade stiffeners will be solid FRP fabricated of the same material as the blade. The axle is to be continuous through the damper and will be solid FRP pultruded round-bar conforming to ASTM D 4385.

Axle penetrations will include molded PTFE bearings to insure smooth blade rotation. Axle seals will be accessible for inspection and replacement. Seal material will be selected based on the airstream constituents and will be chosen to guarantee optimal chemical resistance. Blade seals will be EPDM continuous perimeter wiper type fastened to the blade with a FRP retaining ring and FRP encapsulated stainless steel hardware. When equipped with the EPDM blade seal the damper shall meet a minimum AMCA Class 1 Leakage. Leakage shall not exceed 4 cm per square foot. At 30" w.g. all dampers shall be licensed to bear the AMCA Seal for Leakage and Performance when tested in accordance with AMCA Publication 500. Dampers not bearing the AMCA Seal are not acceptable.

AFFCO dampers are designed and manufactured with respect to the following industry standards:

- *ASTM D 3982
- *ASTM C 582
- *ASTM C 581
- *ASTM D 4385
- *ASTM D 2583
- *ASTM D 2584
- *ASTM D 2563
- *ASTM D 4097
- *ASTM D 2996
- *ASTM E 84
- *ANSI/AMCA 500-D
- *ASME/ANSI RTP-1
- *NBS PS15-69
- *SMACNA Thermoset FRP Duct Construction Manual

AFFCO DAMPERS



0.5

S363S - 2.5 FRP Series Connection dimensions

6

DN Nominal diameter	Structure length (standard)	Coonection dimension(standard)							
		0.05MPa and 0.25MPa				0.6MPa			
mm	L	D	D1	D2	Z-d	D	D1	D2	Z-d
50	108	140	110	88	4-14	140	110	88	4-14
65	112	160	130	108	4-14	160	130	108	4-14
80	114	190	150	124	4-18	190	150	124	4-18
100	127	210	170	144	4-18	210	170	144	4-18
125	140	240	200	174	8-18	240	200	174	8-18
150	140	265	225	199	8-18	265	225	199	8-18

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S363 - 2.5 FRP Series Connection dimensions

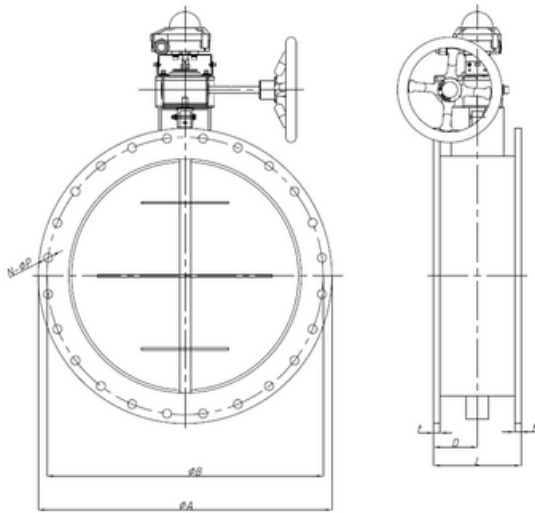
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DN Nominal diameter	Structure length (standard)	Coonection dimension(standard)							
		0.05MPa and 0.25MPa				1.6MPa			
mm	L	D	D1	D2	Z-d	D	D1	D2	Z-d
100	120	210	170	144	4-18	210	170	144	4-18
125	120	240	200	174	8-18	240	200	174	8-18
150	120	265	225	199	8-18	265	225	199	8-18
200	140	320	280	254	8-18	320	280	254	8-18
250	140	375	335	309	12-18	375	335	309	12-18
300	170	440	395	363	12-22	440	395	363	12-22
350	170	490	445	413	12-22	490	445	413	12-22
400	190	540	495	463	16-22	540	495	463	16-22
450	190	595	550	518	16-22	595	550	518	16-22
500	190	645	600	568	20-22	645	600	568	20-22
600	210	755	705	667	20-26	755	705	667	20-26
700	210	860	810	772	24-26	860	810	772	24-26
800	210	975	920	878	24-30	975	920	878	24-30
900	250	1075	1020	978	24-30	1075	1020	978	24-30
1000	250	1175	1120	1078	28-30	1175	1120	1078	28-30
1200	250	1375	1320	1280	32-30	1405	1340	1295	32-33
1400	300	1575	1520	1480	36-30	1630	1560	1510	36-36
1600	300	1790	1730	1690	40-30	1830	1760	1710	40-36
1800	300	1990	1930	1890	44-30	2045	1970	1919	44-39
2000	300	2190	2130	2090	48-30	2265	2180	2125	48-42

Note: The structural length is for reference only, please refer to the final drawings for confirmation.

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DN100-DN3000



Technical Requirements:

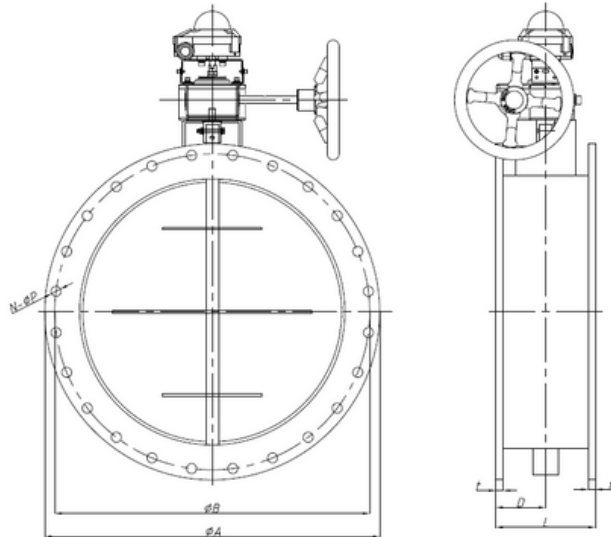
- 1、 Valve: Damper Valve(DN100~3000) ;
- 2、 Design STD: MFR;
- 3、 Face To Face: MFR;
- 4、 Flange Drilled to BS EN1092 PN6;
- 5、 Work Operating pressure: 7000Pa;
- 6、 Top Flange: ISO 5211.

S363系列PN6 连接尺寸 (Connection dimensions)

DN	A	B	D	L	N-ØP	t
100	210	170	60	120	4-Ø18	10
125	240	200	60	120	8-Ø18	10
150	265	225	60	120	8-Ø18	10
200	320	280	70	140	8-Ø18	16
250	375	335	70	140	12-Ø18	16
300	440	395	85	170	12-Ø22	16
350	490	445	85	170	12-Ø22	20
400	540	495	95	190	16-Ø22	20
450	595	550	95	190	16-Ø22	20
500	645	600	95	190	20-Ø22	20
600	755	705	105	210	20-Ø26	22
700	860	810	105	210	24-Ø26	22
800	975	920	150	300	24-Ø30	22
900	1075	1020	150	300	24-Ø30	22
1000	1175	1120	150	300	28-Ø30	25
1200	1405	1340	200	400	32-Ø33	25
1400	1630	1560	200	400	36-Ø36	25
1600	1830	1760	200	400	40-Ø36	25
1800	2045	1970	200	400	44-Ø39	30
2000	2265	2180	200	400	48-Ø42	30
2400	2685	2600	200	400	56-Ø42	30
2500	2860	2750	250	500	56-Ø42	30
2600	2905	2810	250	500	60-Ø48	30
2800	3115	3020	250	500	64-Ø48	30
3000	3315	3220	250	500	68-Ø48	30

AFFCO DAMPERS

DN100-DN3000



Technical Requirements:

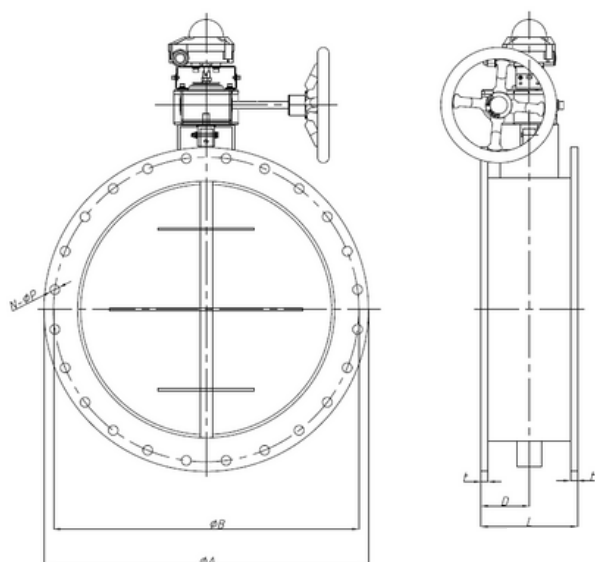
- 1、 Valve: Damper Valve(DN100~3000) ;
- 2、 Design STD: MFR;
- 3、 Face To Face: MFR;
- 4、 Flange Drilled to BS EN1092 PN10;
- 5、 Work Operating pressure: 7000Pa;
- 6、 Top Flange: ISO 5211.

S363系列PN10 连接尺寸(Connection dimensions)

DN(PN10)	A	B	D	L	N-øP	t
100	220	180	60	120	8-ø18	10
125	250	210	60	120	8-ø18	10
150	285	240	60	120	8-ø22	10
200	340	295	70	140	8-ø22	16
250	395	350	70	140	12-ø22	16
300	445	400	85	170	12-ø22	16
350	505	460	85	170	16-ø22	20
400	565	515	95	190	16-ø26	20
450	615	565	95	190	20-ø26	20
500	670	620	95	190	20-ø26	20
600	780	725	105	210	20-ø30	22
700	895	840	105	210	24-ø30	22
800	1015	950	150	300	24-ø33	22
900	1115	1050	150	300	28-ø33	22
1000	1230	1160	150	300	28-ø36	25
1200	1455	1380	200	400	32-ø39	25
1400	1675	1590	200	400	36-ø42	25
1600	1915	1820	200	400	40-ø48	25
1800	2115	2020	200	400	44-ø48	30
2000	2325	2230	200	400	48-ø48	30
2400	2760	2650	200	400	56-ø56	30
2500	2860	2750	250	500	56-ø56	30
2600	2960	2850	250	500	60-ø56	30
2800	3180	3070	250	500	64-ø56	30
3000	3405	3290	250	500	68-ø56	30

AFFCO DAMPERS

DN100-DN3000



Technical Requirements:

- 1、 Valve: Damper Valve(DN100~3000) ;
- 2、 Design STD: MFR;
- 3、 Face To Face: MFR;
- 4、 Flange Drilled to BS EN1092 PN16;
- 5、 Work Operating pressure: 7000Pa;
- 6、 Top Flange: ISO 5211.

S363系列PN16 连接尺寸(Connection dimensions)

DN(PN16)	A	B	D	L	N-ØP	t
100	220	180	60	120	8-Ø18	10
125	250	210	60	120	8-Ø18	10
150	285	240	60	120	8-Ø22	10
200	340	295	70	140	12-Ø22	16
250	405	355	70	140	12-Ø26	16
300	460	410	85	170	12-Ø26	16
350	520	470	85	170	16-Ø26	20
400	580	525	95	190	16-Ø30	20
450	640	585	95	190	20-Ø30	20
500	715	650	95	190	20-Ø33	20
600	840	770	105	210	20-Ø36	22
700	910	840	105	210	24-Ø36	22
800	1025	950	150	300	24-Ø39	22
900	1125	1050	150	300	28-Ø39	22
1000	1255	1170	150	300	28-Ø42	25
1200	1485	1390	200	400	32-Ø48	25
1400	1685	1590	200	400	36-Ø48	25
1600	1930	1820	200	400	40-Ø56	25
1800	2130	2020	200	400	44-Ø56	30
2000	2345	2230	200	400	48-Ø56	30
2400	2760	2650	200	400	56-Ø56	30
2500	2860	2750	250	500	56-Ø56	30
2600	2960	2850	250	500	60-Ø56	30
2800	3180	3070	250	500	64-Ø56	30
3000	3405	3290	250	500	68-Ø56	30

AFFCO DAMPERS

Installation, Operation and Storage

- Damper valve storage should avoid moist environment;
- No heavy stack allowed above the damper valve
- The valve should be in close position when install it.
- Pressure and sealing test are necessary when the working pressure is over 1.0 MPa before operation.
- AFFCO damper valve series can be installed vertically and horizontally.

OPERATION		
	Disc to pipe clearance	Operate the valve manually. If the valve open without touching the pipe, then it is ok.
	Electrical components	Check IP marking
	Actuator	Connecting according to manufacturer's instructions.
	Valve with actuator	Don't touch the disc during operation 
	Flushing the pipe	Choose the suitable rinsing fluid.
	System pressure test at P> PN	Valves always open
	For normally closed valve	Use the actuator to operate it one time a month, avoiding jamming.

Installation		
	Vale Closed to open clockwise & Valve Opened to close counterclockwise	 
	If the fluid is hazardous	Avoid any contacting!  
	In case of external fire	Air tightness is not guaranteed.  
	In the case of explosive gas	Periodical ground conductivity check required. 
	Direction of flow	According to the direction indication on the valve body
	Shaft position	Horizontal or vertical
	Flange gaskets	Circlip or ring gasket with inner and outer locating 
	Centering	Installation in the center of the pipe
	Tightening of bolts	Crisscross fashion 
	Tightening moment	Follow flange gasket sealing requirements
	Flange welding	Avoid overheating



Website

www.affco-flowcontrol.com

AFFCO Flow Control (Shanghai) Co., Ltd

No. 99 Desheng Road, Economic and Technological Development Area, Feng Xian, Shanghai 201411

Tel: +86 (21) 5814 7016

Fax: +86 (21) 5814 7885

Email: sales@affco-flowcontrol.com

AFFCO Flow Control Europe B.V.

Opweg 90a

2871 NG Schoonhoven

The Netherlands

Tel: +31 (0) 85 877 27 56

Fax: +31 (0) 85 782 51 01

Email: europe@affco-flowcontrol.com

AFFCO Flow Control Pte Ltd

237, Pandan Loop, #05-04, Westech Building
Singapore 128424

Tel : +65 65709920

Fax : +65 65709923

Email: info@affco.com.sg

AFFCO Flow Control Mideast FZE

A2-117 Warehouse, SAIF Zone

P.O. BOX 123612 Sharjah – U.A.E.

Tel: +971 6 5220879

Email: infoME@affco-flowcontrol.com

AFFCO Flow Control UK Ltd

Unit 7, Stafford Park 12, Telford,

Shropshire, TF3 3BJ, England

Tel : +44 (0)1952 459 338

Email: sales@affco-flowcontrol.co.uk