

(OBS) Opposed Blade Sealed Damper

Low Leakage Control Damper

Description:

The OBS sealed control damper offers a sturdy steel construction. The damper frame is a 16ga galvanized welded design to keep the damper square and true to form. The blades are formed 16ga galvanized with linkage in the airstream for better blade operation. The blades seal tightly against the frame with the use of spring stainless steel side jambs and BES vinyl blade seals. Bronze oilite bushings offer low maintenance and ease of operation. Dampers of the same height can easily operate sectioned together by linking the blade with a connecting rod from one damper section to the blade of the next damper section. Please consult factory for best options and sizes. Belimo actuators are available upon request.

Standard Construction:

List dampers duct size (WxH) width x height. All dampers will be 1/4" smaller both ways.

Frame:	16ga galvanized formed hat channel welded construction
Frame Dimension:	3-7/8" Hat channel (11/16 x 5/8 x 2-1/2 x 5/8 x 11/16)
Blades:	16ga galvanized rib formed (3V), 8" maximum blade width
Finish:	Mill
Bushings:	Bronze 1/2" round oilite
Control rod:	1/2" round CRS plated 9" long
Axles:	1/2" round x 2-1/2" long CRS plated
Hardware:	Plated steel - brass pivots - 1/4" round linkage rods
Side seals:	304 spring stainless steel
Blade seals:	BES self sealing vinyl blade seals



Mfg. Options

- Stainless steel - all stainless steel
- Aluminum-aluminum with st. stl set screws, bronze bushings/pivots

Max. single section width: 48" **Max. single section size:** 48"x48"

Multiple section assembly: Yes - Call factory for best options.

Minimum size: 6"x6" **Minimum multi-blade size:** 6"x12"

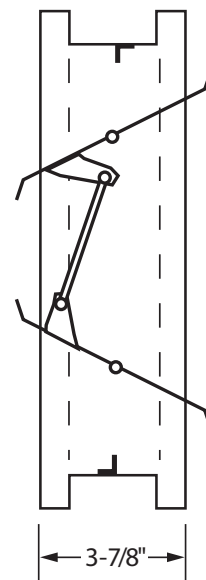
Maximum velocity: 2000 fpm

Damper height	Number of blades
11" and under	1 blade
12"-18"	2 blades
19"-24"	3 blades
25"-32"	4 blades
33"-40"	5 blades
41"-48"	6 blades

Options

- Nylon bushings installed upon request
- Quadrants 1/2" round-galvanized or stainless steel (both with cast handle)
- Above quadrants with 2" standoff on galvanized, stainless steel or aluminum.
- Belimo electric actuators (See PDF - Belimo actuators)
- Direct coupled or with an actuator mount for in the airstream
- Damper proving switch with switch mount for in the airstream
- Face/By-pass

Model: OBS
Opposed Blade Sealed Damper



Opposed Blade Sealed Damper – Test Data

This pressure drop testing was conducted in accordance with AMCA Standard 500-D using the two configurations shown. All data has been corrected to represent standard air density of .075 lb/ft³ (1.201 Kg/m³)

Leakage is CFM per Sq/Ft

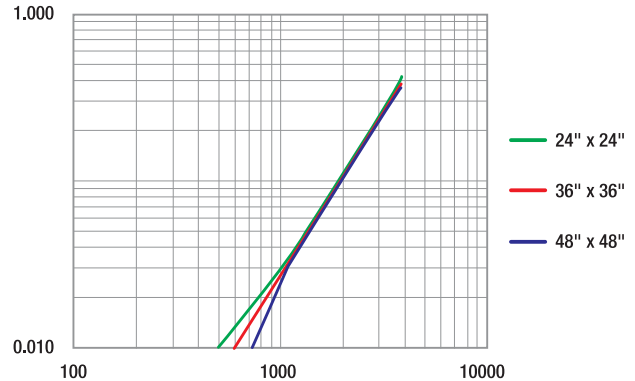
Damper Size	1"SP	2"SP	3"SP	4"SP
14" x 48"	1.8	2.8	3.4	4.1
48" x 14"	1.0	1.8	3.8	8.0
48" x 48"	2.0	3.1	4.8	8.2

The ratings shown are based on tests made in accordance with AMCA Standard 500

Ducted Mounted Damper



Ducted Pressure Drop



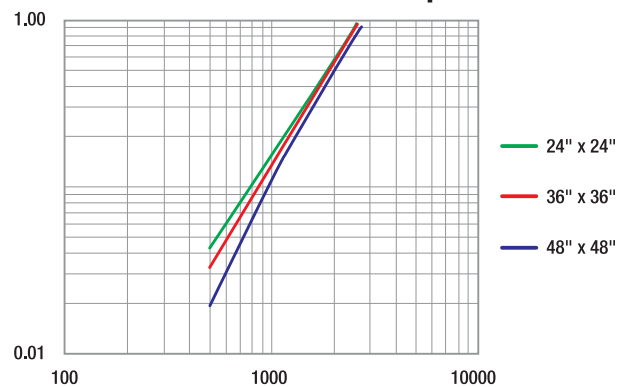
Ducted Pressure Drop

Size	500	1000	1500	2000	2500	3000	3500	4000
24" x 24"	0.010	0.030	0.064	0.114	0.178	0.257	0.350	0.458
36" x 36"	0.007	0.028	0.062	0.110	0.171	0.246	0.334	0.436
48" x 48"	0.003	0.026	0.059	0.104	0.161	0.232	0.312	0.406

Plenum Mounted Damper



Plenum Pressure Drop



Plenum Pressure Drop

Size	500	1000	1500	2000	2500	3000	3500	4000
24" x 24"	0.04	0.15	0.33	0.59	0.91	1.31	1.78	2.32
36" x 36"	0.03	0.14	0.31	0.55	0.86	1.23	1.67	2.18
48" x 48"	0.02	0.12	0.28	0.49	0.77	1.11	1.52	1.98



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Belimo Electric Actuators

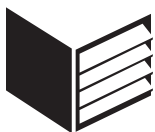
Power open – Spring return actuators

Style	Voltage	VA rating	Motor time	Spring ret	Switch	Torque	OBS	PBS	OBN	PBN
LF24	24v	7	<40-75	<25		35 in-lbs	7sf	5sf	11.5sf	8.6sf
LF24-S	24v	7	<40-75	<25	*	35 in-lbs	7sf	5sf	11.5sf	8.6sf
LF120	120v	7.5	<40-75	<25		35 in-lbs	7sf	5sf	11.5sf	8.6sf
LF120-S	120v	7.5	<40-75	<25	*	35 in-lbs	7sf	5sf	11.5sf	8.6sf
NFBUP	24,120,240	6.5	<75	20		90 in-lbs	18sf	12sf	30sf	22sf
NFBUP-S	24,120,240	6.5	<75	20	*	90 in-lbs	18sf	12sf	30sf	22sf
AFBUP	24,120,240	8.5	<75	20		180 in-lbs	36sf	26sf	60sf	45sf
AFBUP-S	24,120,240	8.5	<75	20	*	180 in-lbs	36sf	26sf	60sf	45sf

Modulating actuators

LF24SR	24v	5	150	<25		35 in-lbs	7sf	5sf	11.5sf	8.6sf
LF24SR-S	24v	5	150	<25	*	35 in-lbs	7sf	5sf	11.5sf	8.6sf
NFB24SR	24v	3.5	95	<20		90 in-lbs	18sf	12sf	30sf	22sf
NFB24SR-S	24v	3.5	95	<20	*	90 in-lbs	18sf	12sf	30sf	22sf
NFB24MFT-S	24v	9	40...220	<20	*	90 in-lbs	18sf	12sf	30sf	22sf
AFB24MFT	24v	10	70...220	<20		180 in-lbs	36sf	26sf	60sf	45sf
AFB24MFT-S	24v	10	70...220	<20	*	180 in-lbs	36sf	26sf	60sf	45sf

*Other Belimo actuator styles and accessories are available – please consult the factory.



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