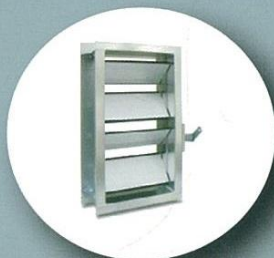


*Sangmi*

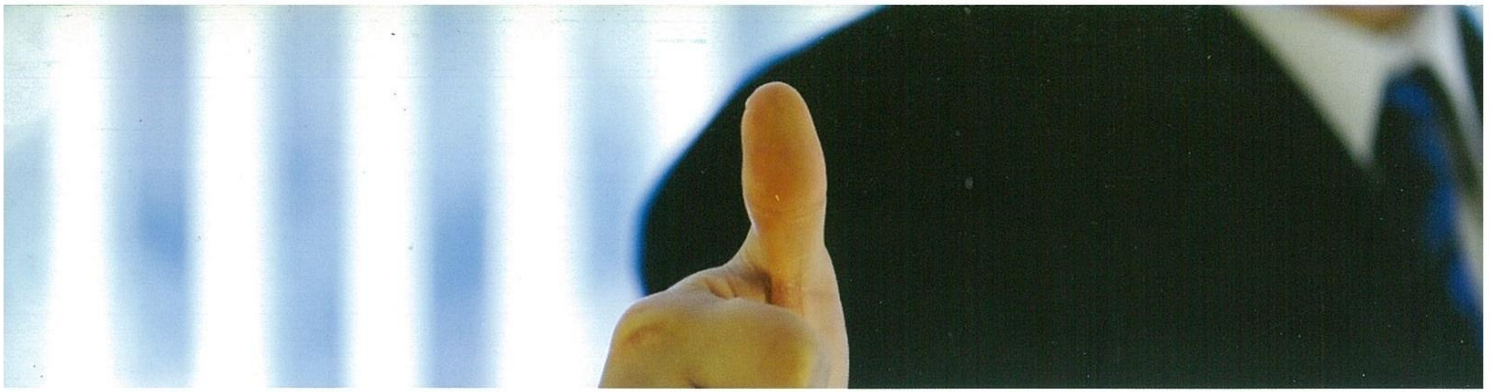
AIR TECH

**BACK DRAFT DAMPER (AL TYPE): MODEL CD-4166**

**TUNNEL DAMPER (FAN& BLAST DAMPER): MODEL: SMSB-P20**



September , 2018  
sangmi air tech co., ltd.

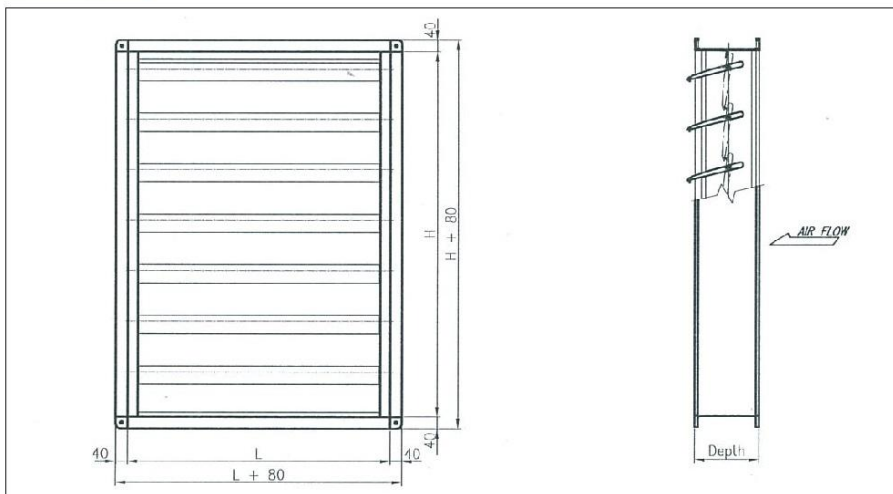


## BACK DRAFT DAMPER (AL TYPE)

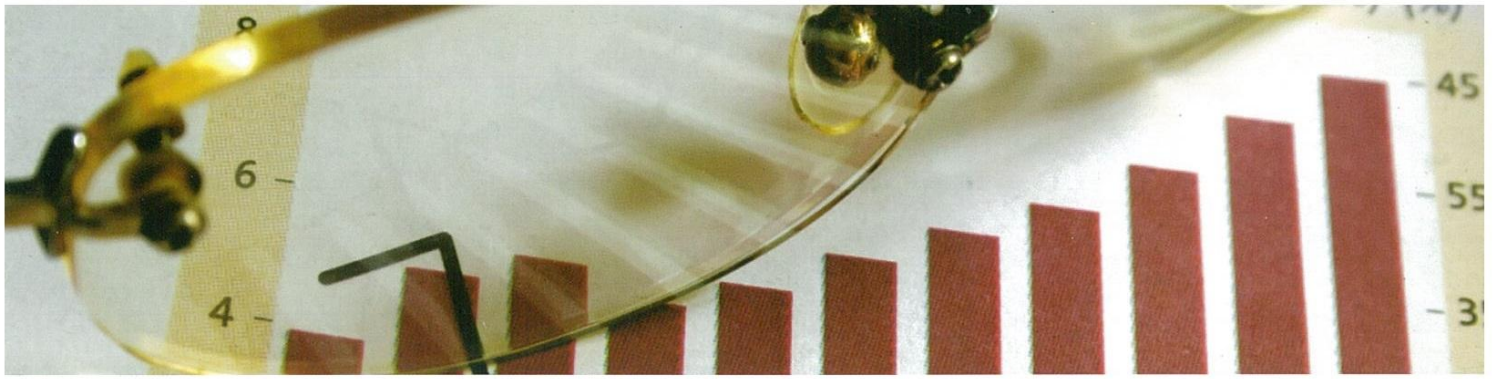
MODEL CD-4166



SANGMI AIR TECH CO. certifies that the CD4166 BACK DRAFT DAMPER shown herein is 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 performance only.



Back draft dampers are used where back draft air flow should be sealed. The parallel blades are automatically operated by positive air pressure with no need to have a separate actuator, free of maintenance. The light and sturdy aluminum enables the dampers to operate between 10mmAg to 150mmAg.



### STANDARD SPECIFICATIONS

PARTS	MATERIAL	REMARK
FRAME	A6063S-T5	2.0TH channel aluminum press molding
BLADE	A6063S-T5	1.2TH airfoil type aluminum press molding
LINKAGE	SS400	3.0TH plated steel
AXILE	SM15C	Ø 12 plated round bar
SEAL	BLADE SEAL	EPDM rubber
	JAMB SEAL	STS304 0.15TH
BEARING	NYLON	Synthetic resin

### FEATURES

- Has limited maximum air velocity; accurate data such air velocity and the air pressure should be checked before installation
- Airfoil type blades minimize air resistance
- Automatically operated by air pressure; maintenance free

### CUSTOMIZATION

- Can be manufactured with GALVA or SUS
- Can be custom built to withstand high static pressure or high air velocity
- Variable sizes can be customized. Please contact our representative.

### LEAKAGE PERFORMANCE CLASSIFICATION

Leakage ratings are obtained in accordance with AMCA Publication 500-D using Test Setup Apparatus Fig . 5.3-6.5/Fig5.4-6.3

Pressure/Class	Leakage ft <sup>3</sup> /min/ ft <sup>2</sup>		
	Required Ratings		
1	0.25kpa(1")	1.0kpa(4")	2.0kpa(8")
	4	8	11

1" in.wg PRESSURE DROP

Damper width (inch)	Damper Height (inch)				ft <sup>3</sup> /min
	12	24	36	48	
12	14.13	18.36	49.09	54.39	
24					
36					
48	34.61				

*The AMCA Certified Ratings Seal Does not apply to Air Leakage*

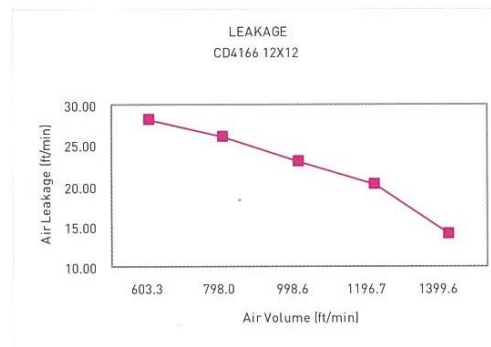
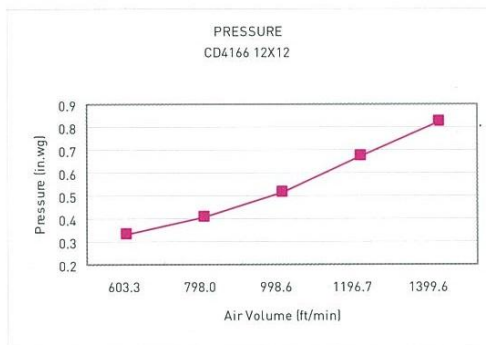


## PERFORMANCE DATA

AIR PERFORMANCE GRAPH FOR FULL OPEN POSITION: CD4166

CD4166 12X12

AIR VOLUME (ft/min)	STATIC PRESSURE (in.wg)	PRESSURE DROP (in.wg)	AIR LEAKAGE (ft/min)
1,339.6	1.055	0.829	14.09
1,196.7	2.110	0.672	20.01
998.6	3.166	0.515	22.88
798.0	4.221	0.410	25.92
603.3	5.276	0.331	28.23



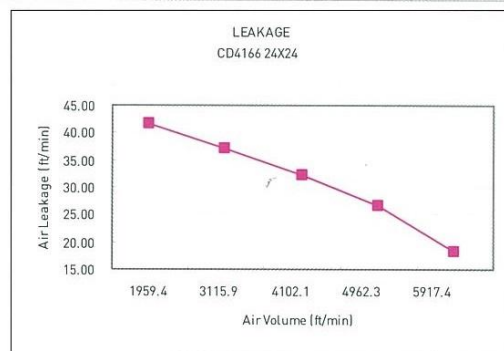
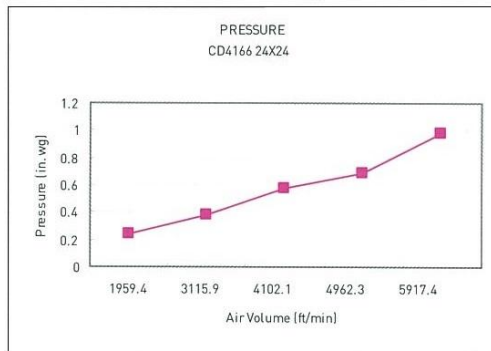
Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

*The AMCA Certified Ratings Seal Does not apply to Air Leakage*



#### CD4166 24X24

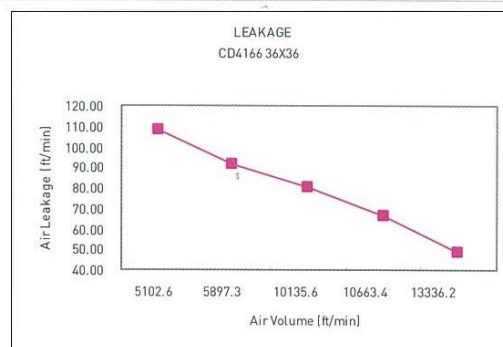
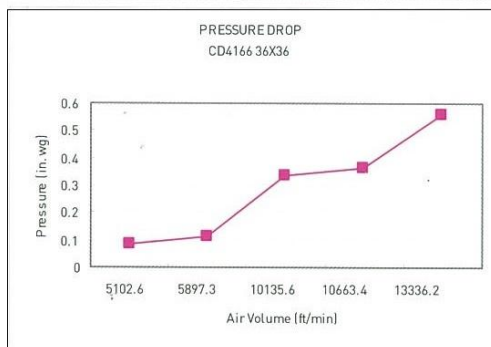
AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
5,917.4	1.055	0.980	18.15
4,962.3	2.110	0.682	26.43
4,102.1	3.166	0.571	32.15
3,115.9	4.221	0.371	37.07
1,959.4	5.276	0.238	41.36



Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

#### CD4166 36X36

AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
13,336.2	1.038	0.555	48.24
10,663.4	2.077	0.366	66.29
10,135.6	3.115	0.335	79.99
5,897.3	4.153	0.110	91.60
5,102.6	5.194	0.081	107.80



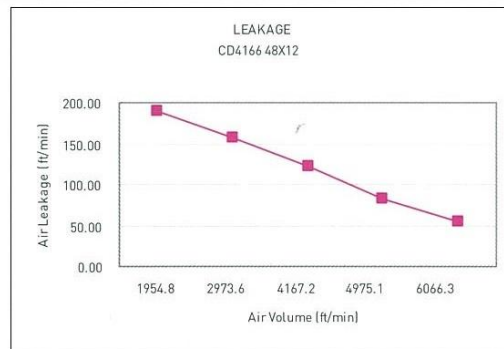
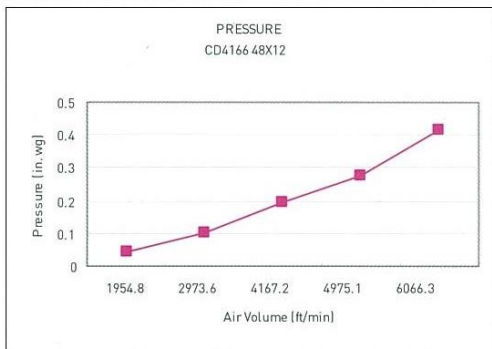
Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

*The AMCA Certified Ratings Seal Does not apply to Air Leakage*



#### CD4166 48X12

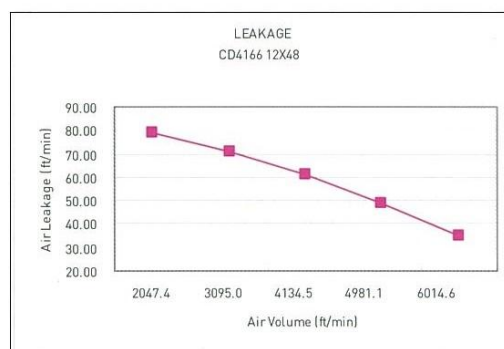
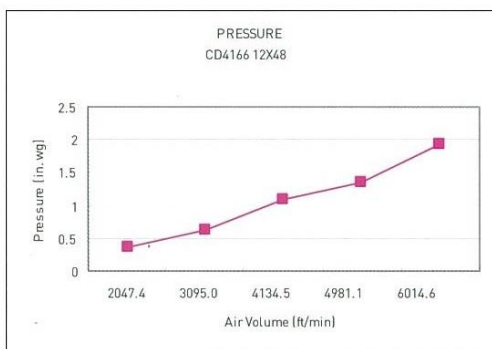
AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
6,066.3	1.037	0.411	53.43
4,975.1	2.075	0.276	81.10
4,167.2	3.112	0.193	120.46
2,973.6	4.149	0.098	155.93
1,954.8	5.186	0.039	189.15



Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

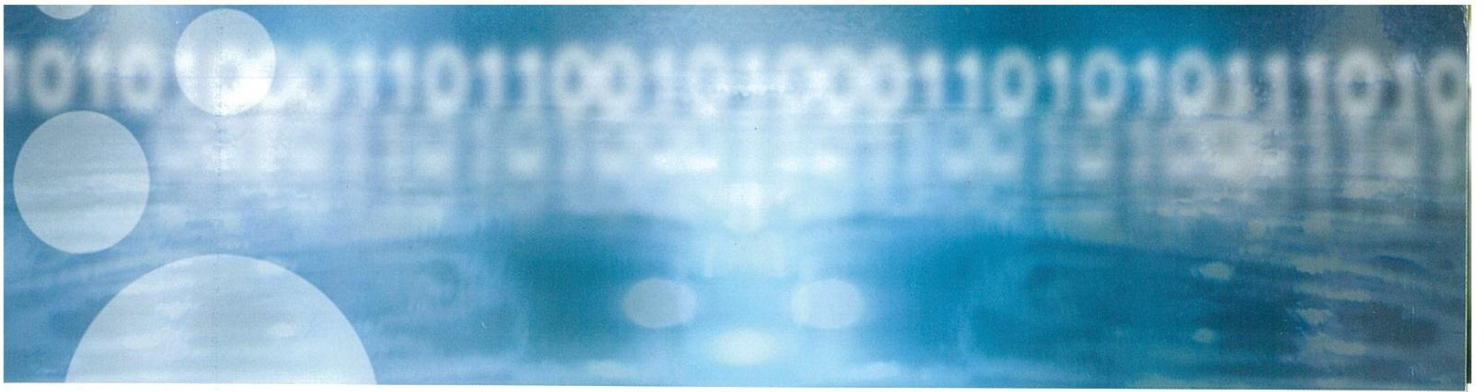
#### CD4166 12X48

AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
6,014.6	1.037	1.910	34.73
4,981.1	2.074	1.330	48.75
4,134.5	3.112	1.078	61.03
3,095.0	4.149	0.618	70.37
2,047.4	5.186	0.336	78.21



Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

The AMCA Certified Ratings Seal Does not apply to Air Leakage



## TUNNEL DAMPER (FAN& BLAST DAMPER)

### MODEL: SMSB-P20



SANGMI AIR TECH CO. certifies that the SMSB-P20 Fan& Blast Damper shown herein is 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 performance only.



Less than 2% Air Leakage is Guaranteed!

Sangmi Tunnel Dampers are specially manufactured for the basements, tunnels, and subway stations where a wide range of temperature variation and a high level of humidity are expected.

### STANDARD SPECIFICATION

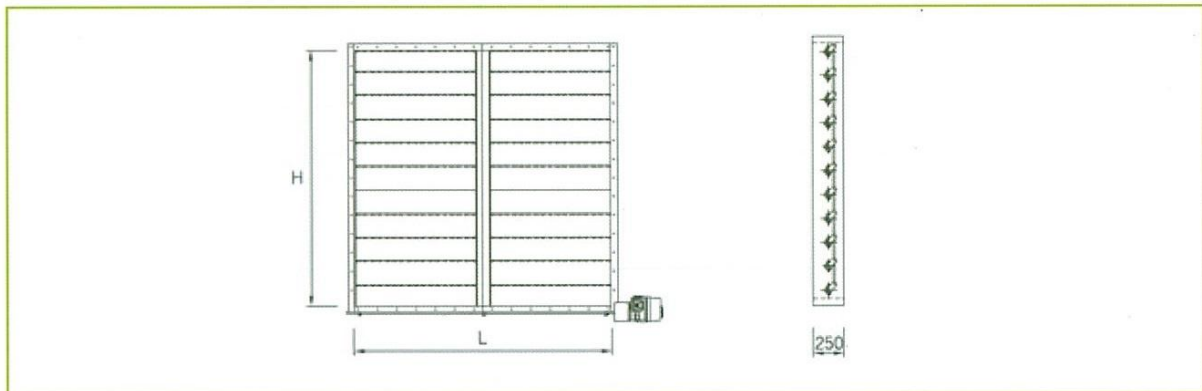
Standard Specification			
Parts	Types		Remarks
Frame	13GA	Galvanized Channel	250mm Depth, 50mm Flange
Blade	16GA	Galvanized Channel	Airfoil, Double Skin 194mm width
Mullion	13GA	Galvanized Channel	250mm Depth, 100mm Width
Jack Shaft	STS 304		Minimum 25mm
Blade Shaft	STS 304		13-25mm
Drive Shaft	STS 304		Minimum 25mm
Linkage	STS 316		
Bearing	STS 316		Sleeve Type, Steel Housing
Blade Seal	Glass Cloth		Silicon Coated
Jamb Seal	STS		0.25mm Thick
Tie Bar	STS		Foldover, 25X25X4.7
Bolts and Nuts	STS		

## FABRICATED SIZES

Minimum: Parallel Action-150X150, Opposed Action- 150X300

Maximum: Single Section-1500X2400, Complex Section-Unlimited

## DIMENSION



## PERFORMANCE DATA

### LEAKAGE PERFORMANCE CLASSIFICATION

Leakage ratings are obtained in accordance with AMCA Publication 500-D using Test Setup Apparatus Fig. 5.5.

Pressure/Class	Leakage $\text{ft}^3/\text{min}/\text{ft}^2$			
	Required Ratings			
1A	0.25kpa(1")	1.0kpa(4")	2.0kpa(8")	3.0kpa(12")
	3	8	11	14

## LEAKAGE CORRECTION FACTOR

DMPR. WIDTH (Inch)	STATIC PRESSURE (Inches Water Gage)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
12"	1.0	1.5	1.8	2.1	2.4	2.6	2.8	2.8	2.8	2.9	2.9	3.2	3.7
24"	1.0	1.5	1.8	2.1	2.4	2.6	2.8	2.8	2.8	2.9	2.9	3.2	3.7
36"	1.0	1.5	1.8	2.1	2.4	2.6	2.8	2.8	2.8	2.9	2.9	3.2	3.7
48"	1.0	1.6	2.0	2.3	2.6	3.0	MAX DESIGN PRESSURE 6.5						
60"	1.0	1.5	2.5	MAX DESIGN PRESSURE 3.5									

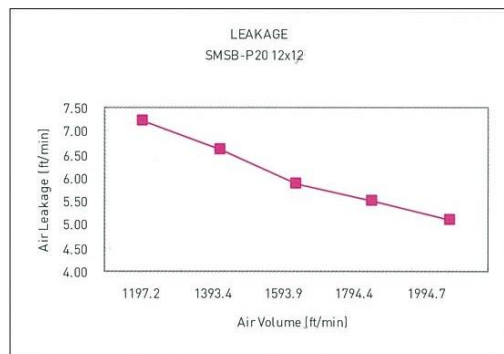
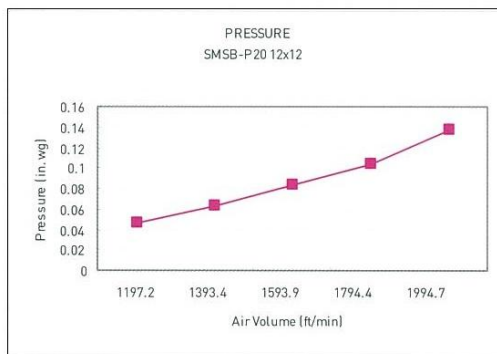
The AMCA Certified Ratings Seal Does not apply to Air Leakage



## AIR PERFORMANCE GRAPH FOR FULL OPEN POSITION: SMSB-P20

### SMSB-P20 12X12

AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
1,994.7	4.155	0.137	5.09
1,794.4	5.194	0.105	5.51
1,593.9	6.232	0.084	5.89
1,393.4	7.271	0.063	6.59
1,197.2	8.310	0.047	7.23

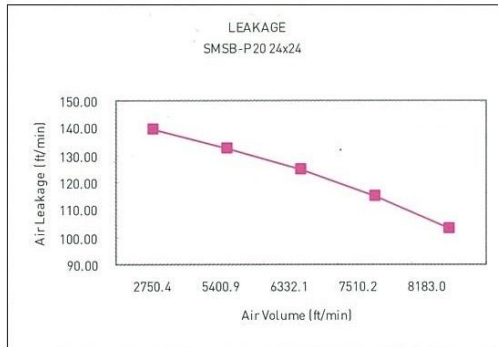
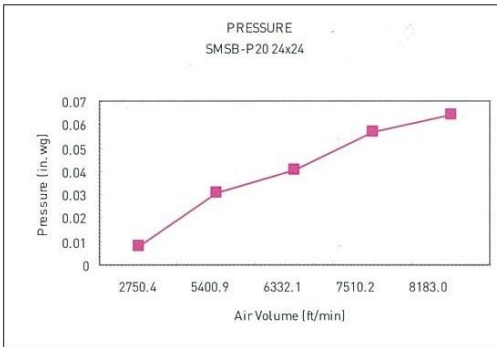
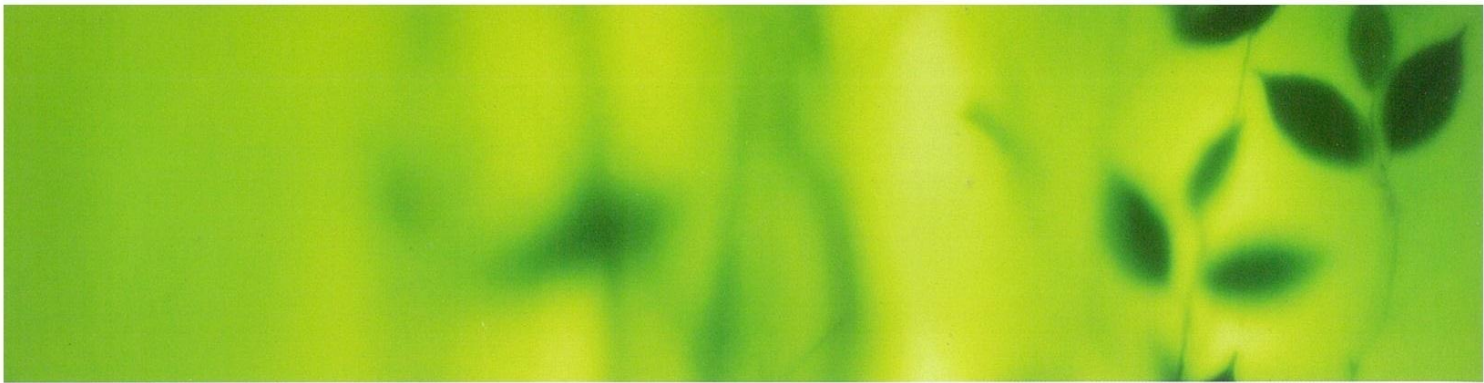


Air Leakage is based on operation between 10°C-40°C [50°F-104°F].

### SMSB-P20 24X24

AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
8,183.0	4.161	0.064	102.94
7,510.2	5.201	0.057	115.29
6,332.1	6.241	0.041	124.54
5,400.9	7.281	0.031	132.78
2,750.4	8.321	0.008	139.71

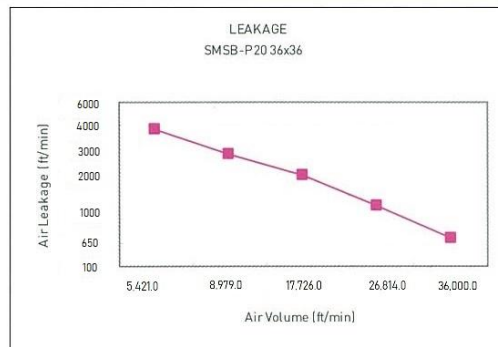
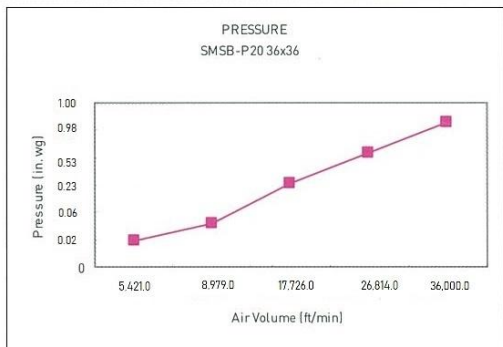
*The AMCA Certified Ratings Seal Does not apply to Air Leakage*



Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

#### SMSB-P20 36X36

AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
36,000.0	1.081	0.985	602
26,814.0	0.594	0.536	998
17,726.0	0.256	0.232	1,970
8,979.0	0.066	0.061	2,979
5,421.0	0.023	0.021	4,000

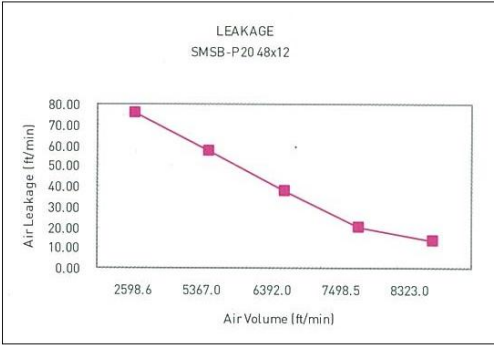
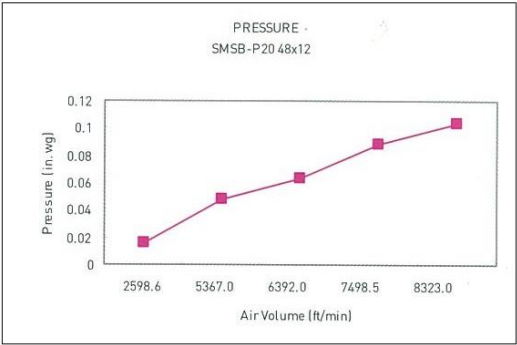
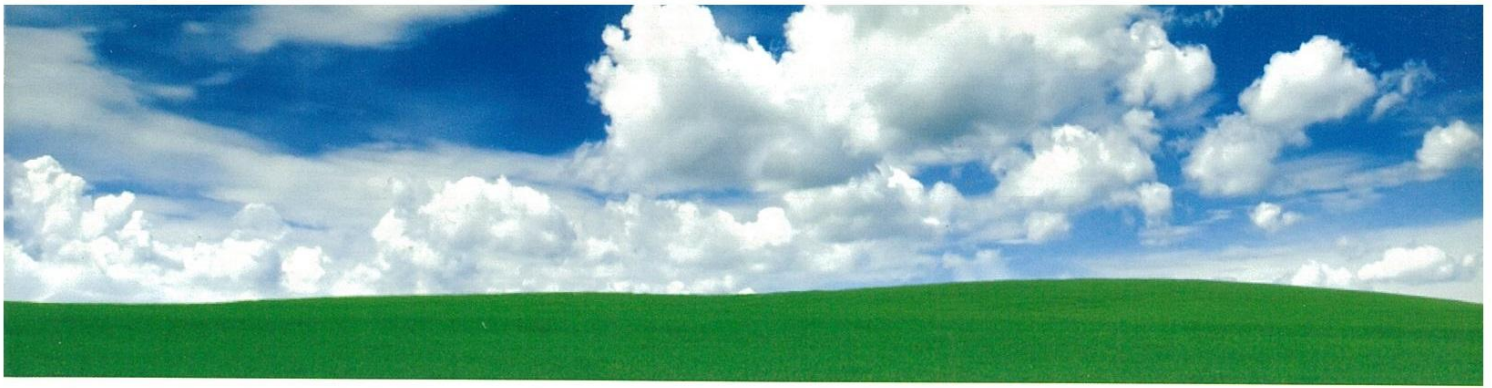


Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

#### SMSB-P20 48X12

AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
8,323.0	4.161	0.103	13.08
7,498.5	5.201	0.088	19.92
6,392.0	6.241	0.063	37.24
5,367.0	7.281	0.047	57.07
2,598.6	8.321	0.015	75.41

The AMCA Certified Ratings Seal Does not apply to Air Leakage

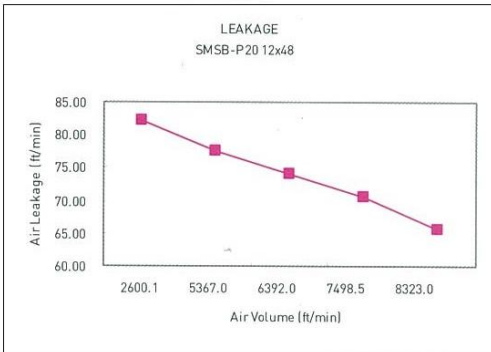
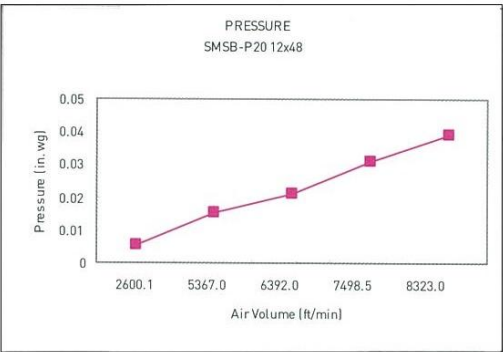


Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

#### SMSB-P20 12X48

AIR VOLUME	STATIC PRESSURE	PRESSURE DROP	AIR LEAKAGE
(ft/min)	(in.wg)	(in.wg)	(ft/min)
8,323.0	4.161	0.039	65.65
7,498.5	5.201	0.031	70.34
6,392.0	6.241	0.021	73.92
5,367.0	7.281	0.015	77.31
2,600.1	8.321	0.005	81.99

Air Leakage is based on operation between 10°C-40°C (50°F-104°F).



Air Leakage is based on operation between 10°C-40°C (50°F-104°F).

#### ● CLOSING TORQUE

SIZE	TORQUE
12x12	28.64 in. lbs
24x24	57.3 in. lbs
36x36	85.6 in. lbs
12x48	97.21 in. lbs
48x12	45.13 in. lbs

The AMCA Certified Ratings Seal Does not apply to Air Leakage

# **SANGMI AIR TECH**

- Air Tight Damper
- General Damper
- Linear Control Damper
- Anti Freezing Damper
- Back Draft Damper
- Gear Damper
- Fan & Blast Damper
- Isolation Damper
- Fire Damper
- Industrial Damper
- Tunnel Damper
- Louver Ass'y
- Sound Louver Ass'y (LV-110)
- Supply Grille Ass'y
- Hepa Filter Unit
- Eliminator Ass'y
- Relief Damper



sangmi air tech co., ltd.

CATALOG SD06  
(September 2018)

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