

October-2024-DYH

DAMPER



DONG YANG AIR-CONDITIONING Co., Ltd.

APPLICATION

- For Volume Control and Low Leakage when shut-off
- For Sub-way, Tunnel, Power Plant and Other Heavy Duty Usage

FEATURES OF DYH

- **Low Pressure Resistant Blade Shape**
Diamond shaped blade reduces the pressure drop and sound level across the damper.
- **Soft and Contact-easy Blade Seal**
Soft and contact-easy blade seal gives good contact with adjacent blade seal and this reduces leakage rates.
- **Round Shaped Stainless Steel Jamb Seal**
Stainless steel material jamb seal is shaped round and has good elasticity. This gives smooth sliding and good contact between the blades and jamb seal.
- **Good Persistence**
Constructed with SGHC(Galvanized steel)and stainless materials. Special painting and coating are also available on option.
- **Air Performance and Leakage Rate AMCA Licensed**
Ratings of leakage and pressure drop shown results from the tests based on AMCA Publication 511.

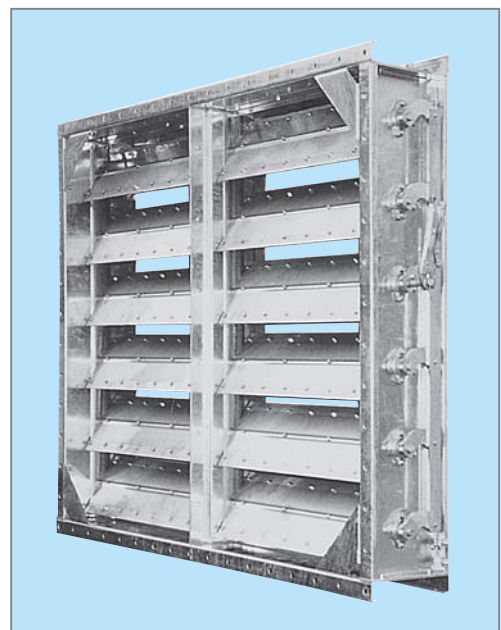
STANDARD CONSTRUCTION

- **Frame** Channel shaped steel, Galvanized steel
Stainless steel 304
- **Blade** Double skinned diamond shape, Galv steel
or stainless steel 304
- **Link** Stainless steel 304 or Galvanized steel
- **Shaft** Stainless steel 304 or Galvanized steel
- **Bearing** Brass sleeve bearing or ball bearing
- **Jamb seal** Stainless steel spring plate
- **Blade seal** STS or EPDM or Silicone
- **Others** Optional : STS 316 or STS 304 +
Teflon coating, Steel + PE (Polyethylene) coating

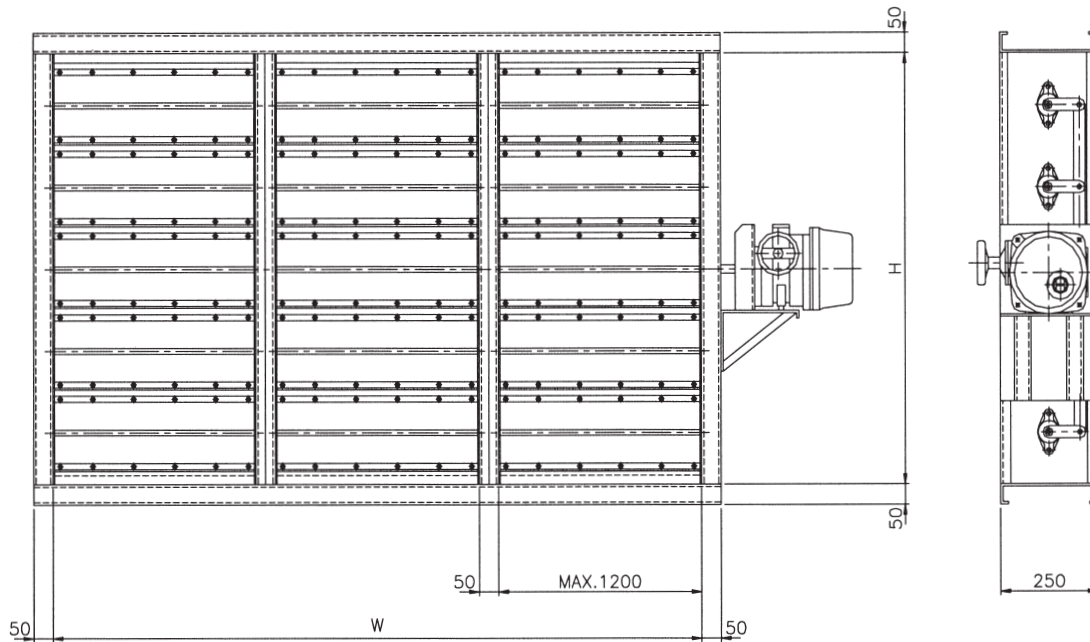


DONG YANG AIR-CONDITIONING Co., Ltd. certifies that DYH Model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and air leakage ratings only.

- **Use Temperature** 120°C
(For higher temperature, please contact us.)
- **Max. Pressure**
250mmAq when damper shut-off
(For higher pressure, please contact us.)



STANDARD DIMENSIONS



- Intermediate support frame will be placed at every maximum width of 1,200mm for strength.
- 50mm or different frame height for flange is available as a standard.

■ Standard Manufacturing Size

Description	Standard Dimensions	Max. Size	Min. Size
Height (H)	150 × Number of Blade + 30	2,430mm	150mm
Width (W)	150mm ~ 2,997mm	2,997mm	150mm

- The largest face area of this damper is 4.5m² per set.
- Two or more dampers are assembled on the job site for dampers larger than the standard size.
For larger dampers than upper standard size, please contact us.

■ Standard Height per Number of Blades (H mm)

No. of Blade	3	4	5	6	7	8	9	10	11	12
Height (H)	630	830	1,030	1,230	1,430	1,630	1,830	2,030	2,230	2,430

- For non-standard height, we use one or two eccentric blade(s) to avoid big air blockage.

■ For Installation of Actuator

- Installation method and accessories for actuator vary with type and model of actuator.
Please contact us for installation of actuator.
- We also supply dampers with installation work of actuators.

■ Shaft for Driving

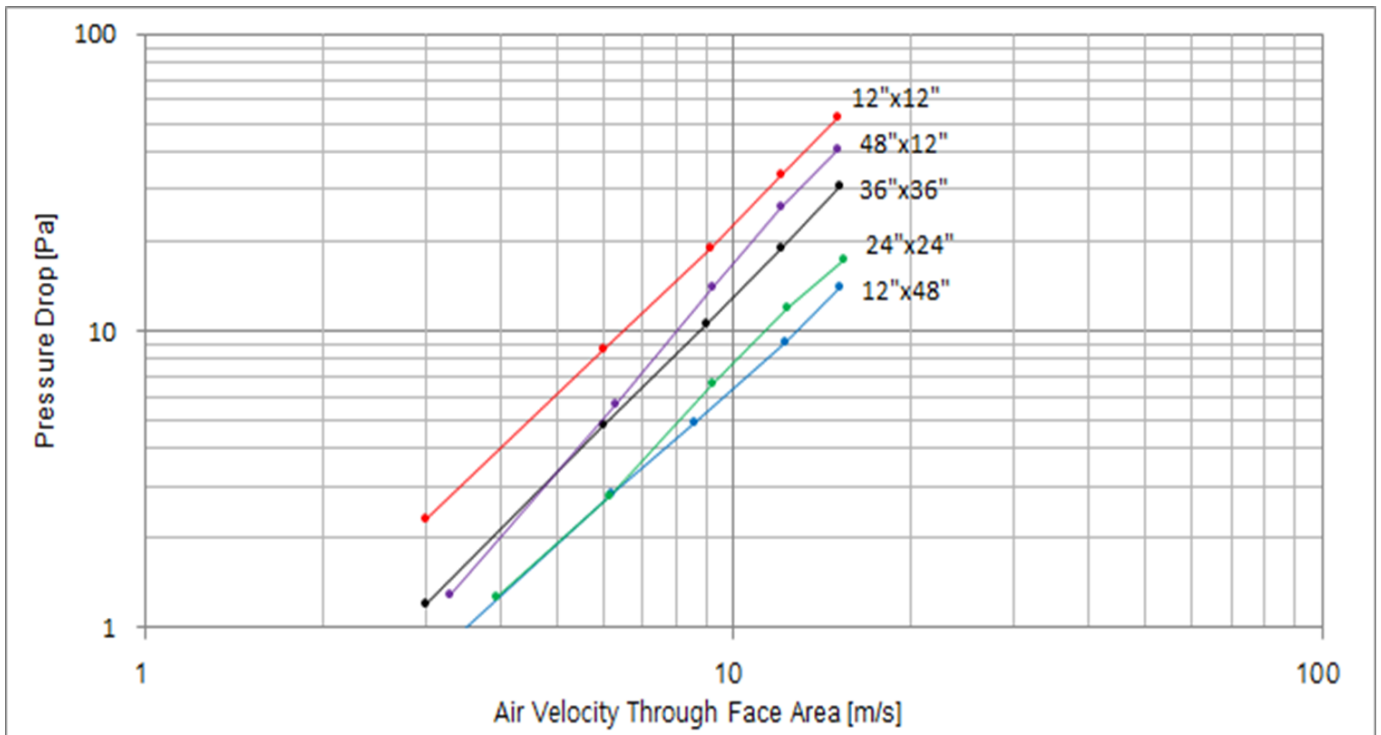
- Shaft size $\phi 20$
- Protruded length Length of shaft varies with the type and model of actuator.
Please contact us for installation of actuator.

PRESSURE DROP OF DYH

- Articles Related to the Test
 - Tested for air performance in accordance with ANSI / AMCA Standard 500-D, Figure 5.3
 - Tested Damper Size 305 × 305, 305 × 1,220, 610 × 610,
 914 × 914, 1220x305



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- The Trend of Pressure Drop Across the Damper
 - Dampers with higher face velocity have bigger pressure drop.
 - Dampers with larger face area at a certain velocity have smaller pressure drop.
 - Bigger difference between width and height makes bigger pressure drop in the dampers with same face velocity and area.

LEAKAGE PERFORMANCE OF DYH

- Articles Related to the Test
 - Test Standard AMCA Standard 500
 - Test Set-up Figure 5.4 Alternate
 - Air Flow Measurement Figure 6.5
 - Torque Data are based on a torque of 142.4Nm/m²(117in-lb/ft²) applied to close and seat the damper during the test
 - Applied to Dampers
 - Temp. when Testing 0°C ~ 49°C
 - Tested Damper Size 305x1,220, 914x914, 2,997x914 (3sets)
 - Ratings Selected Maximum value of two times leakage tests in each direction of air flow and back pressure



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■ Leakage Class (The AMCA Certified Ratings Seal applies only to the following leakage class for the volume control dampers.)

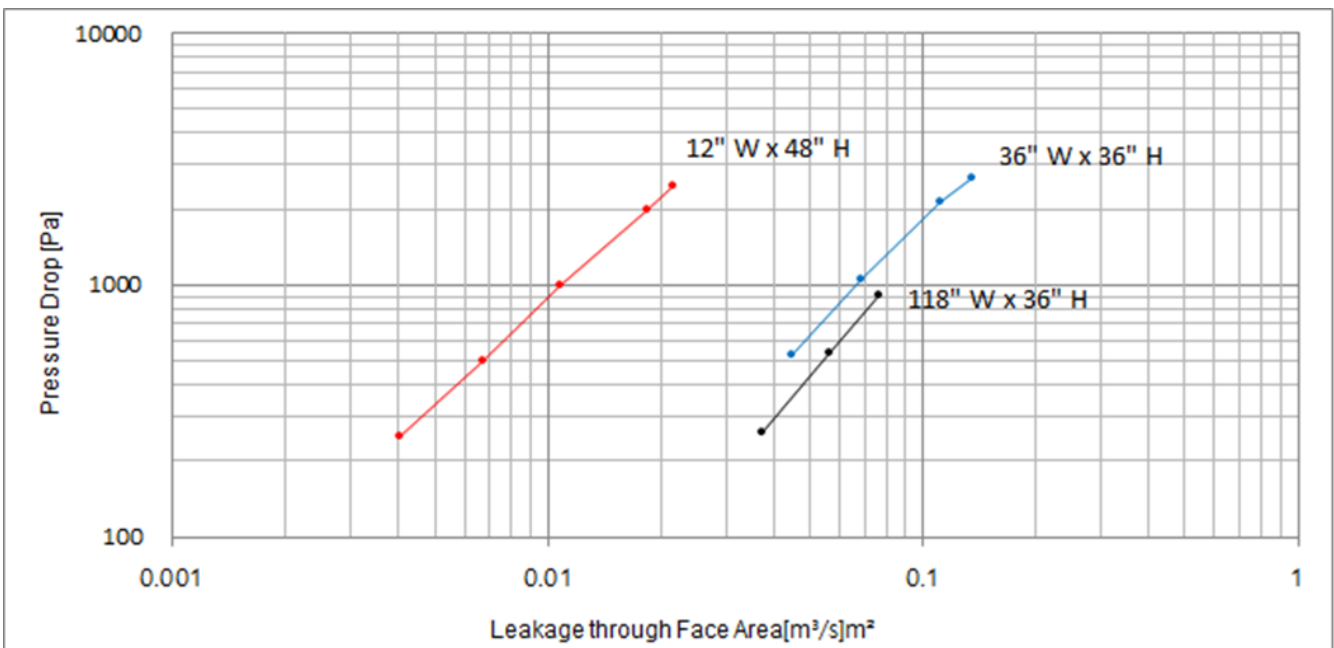
• Leakage Class of DYH by AMCA Leakage Class

Damper size	25mmAq ΔP	100mmAq ΔP	200mmAq ΔP
12" x 48"	1A	1	1
36" x 36"	N/A	2	2
118" x 36"	2	2	N/A

• AMCA Leakage Classification

SI Class	Maximum Allowable Leakage, L/s/m ²		
	at 0.25 kPa	at 1.0 kPa	at X kPa
1A	15.2	N/A	N/A
1	20	41	2√X × 20
2	51	102	2√X × 51
3	203	406	2√X × 203

■ Leakage Rate



■ The Trend of Leakage Rate Across the Damper

- Higher pressure difference across the damper gives more air leakage.
- Smaller damper at certain pressure difference across the damper has more air leakage per unit area.