

FLAT DISH DAMPER FOR LOW LEAKAGE APPLICATIONS

We redefined the meaning of Low Leakage



EB AIR CONTROL INC.
MANUFACTURERS OF INNOVATIVE HVAC PRODUCTS

www.ebaircontrol.com



Butterfly Flat Dish Damper - EB Air Series

EB Air series Flat dish Airtight Damper is designed for isolation applications. This damper is designed for strict leakage under de contamination applications. The damper had leakage performance up to 10 in wg (2.5KPa). The frame is flanged for easy mounting and the seal is mechanically fastened to the flat dish. Both the silicone seal and Tandem axle's seals provide the Airtight performance.

Construction details.

Frame:

The body can be made of galvanized/Satin Coat or 304/316L SS finish. The flange is available with optional mounting holes, which can be customized to match the opposite flange.

Tandem Seal:

Tandem seals in steel housing shall be provided where the damper drive shaft penetrates the damper casing to prevent the leakage of air. The seal housing shall be made to provide easy access to the seals for maintenance.

Flat Dish:

Round, butterfly style dish is engineered and robustly built for high pressure and zero leakage seal.

Flat Dish Seal:

Silicone rubber dish seal is standard and eliminates leakage around the dish. The seal is replaceable, if required at site for maintenance.

Bearings:

Ball Bearings with grease are mounted external to the damper for easy movement of the shaft with less torque. Bearings are self lubricating and require no maintenance during the life of the operation.

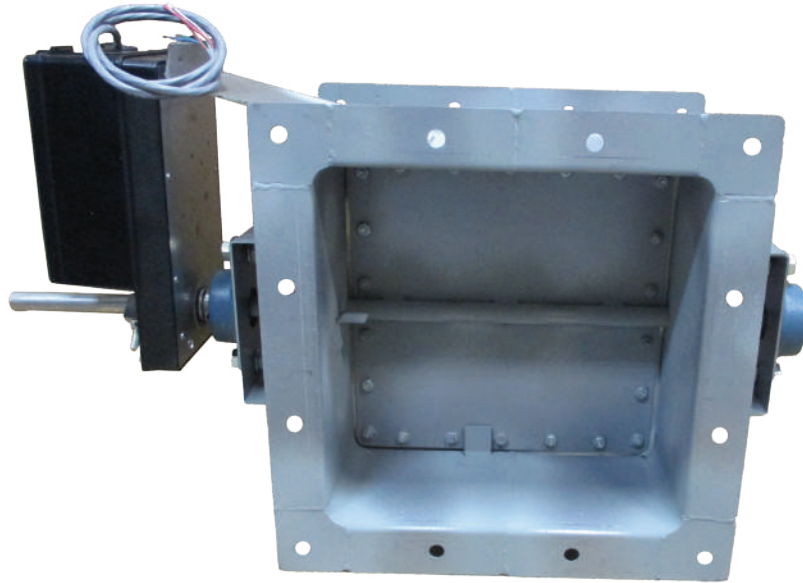
Coatings:

The Damper can be supplied with special coating like TEFLON™, which is a fluoropolymer coating with a broad range of properties including water, oil, heat resistance, nonstick etc. EB Air Flat Dish Damper with Teflon special coating can bear following characteristics.

- **Heat resistance:**
Industrial coating helps the damper to operate up to 400deg F
- **Chemical resistance:**
Provides greater permeation resistance from seepage or contact with external chemical or corrosive substances.
- **Abrasion resistance:**
Excellent durability and toughness helps to prevent scratches with greater operating stability.

Actuators

Actuators can be wide ranging and are factory mounted. Pneumatic / Electric Spring return, fast acting actuators are recommended for most applications. Manual Gear/ Hand wheel/ Pneumatic can also be used in cases where damper blade requires to be maintained at a certain position.



DATA RATING

Pressure:

10 in wg (2.5KPa) – 4.0” wg

Velocity:

1000- 3500 fpm

Temperature:

-50F – 270F (up to 140 C)

CONSTRUCTION DETAILS

Frame/ Body:

Galvanized / Satin Coated
or 304/ 316L SS) (10-14ga)

Blade (Flat Dish):

Painted or 304/316SS

Blade thickness:

10- 14 ga

Blade Seal/gasket:

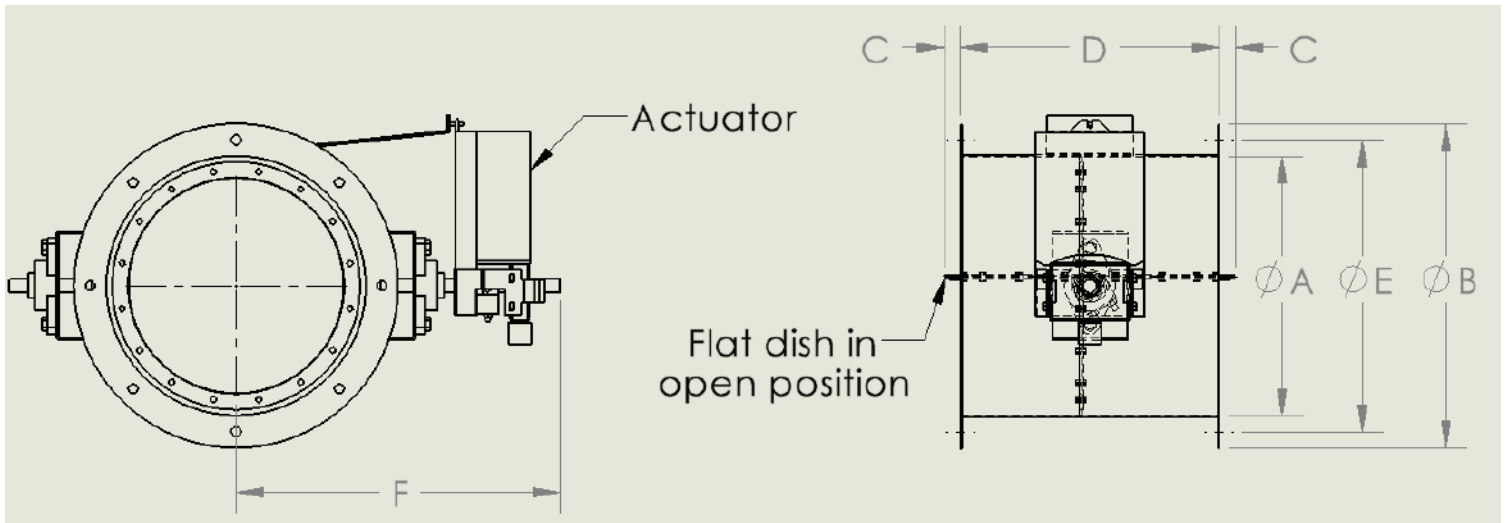
Neoprene Silicon rubber mechanically
fastened

Axle Seal:

Tandem Seal

Bearing:

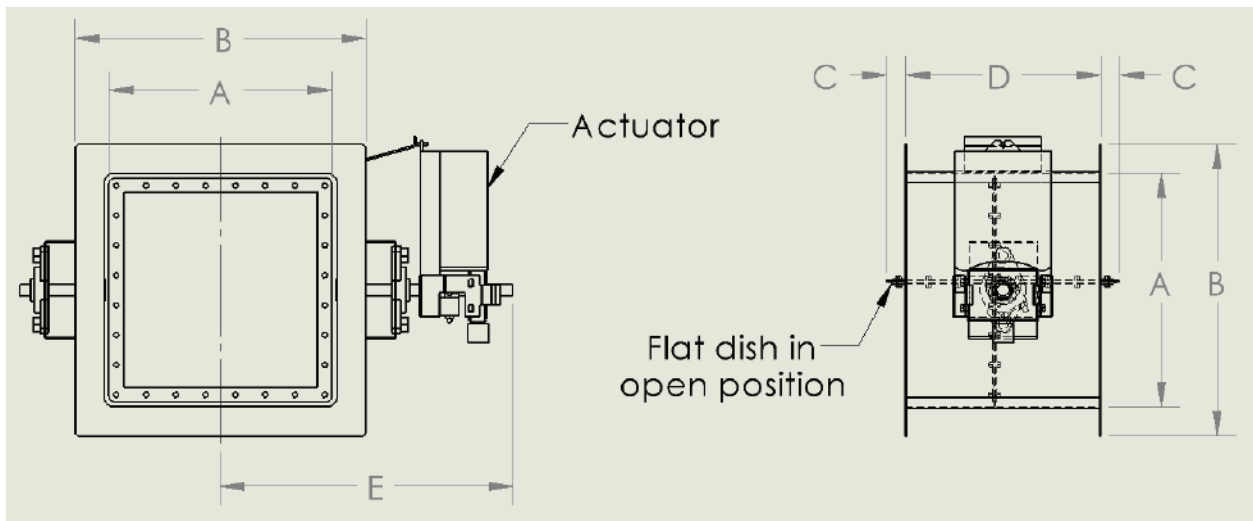
Lubricated, Ball



Butterfly Flat Dish Circular Damper (BFCD) Dimensional Data Imperial Units

Damper Model (CIRCULAR)	Dimensions (Inches)								
	A	B	C	D	E	F (APPROX.)	Hole Size	# Holes	Weight (Lbs)
BFCD-8	8	11	-	9	9 ^{1/2}	13	7/16	8	21
BFCD-10	10	13	0.5	9	11 ^{1/2}	14	7/16	8	25
BFCD-12	12	15	-	12	13 ^{1/2}	15	7/16	12	31
BFCD-14	14	17	1	12	15 ^{1/2}	16	7/16	12	36
BFCD-16	16	19	2	12	17 ^{1/2}	17	7/16	12	39
BFCD-18	18	21	3	12	19 ^{1/2}	18	7/16	16	45
BFCD-20	20	23	4	12	21 ^{1/2}	19	7/16	18	50
BFCD-24	24	27	6	12	25 ^{1/2}	21	7/16	20	58
BFCD-30	30	33	9	12	31 ^{1/2}	24	7/16	26	75

Maximum size: 36 in (914 mm) diameter (For Custom Damper sizes matching to the duct dimension please contact Factory)



Butterfly Flat Dish Square Damper (BFSD) Dimensional Data Imperial Units

Damper Model (SQUARE)	SIZE (Inches)					Weight (Lbs)
	A	B	C	D	F (APPROX.)	
BFSD-8	8	11	-	9	13	21
BFSD-10	10	13	0.5	9	14	25
BFSD-12	12	15	-	12	15	31
BFSD-14	14	17	1	12	16	36
BFSD-16	16	19	2	12	17	40
BFSD-18	18	21	3	12	18	47
BFSD-20	20	23	4	12	19	52
BFSD-24	24	27	6	12	21	60
BFSD-30	30	33	9	12	24	78

Basis of design: EB Air model - BFSD sizes: 8, 10, 12, 16, 20, 24, 28, 36 (Butterfly Flat Square Damper)

Specifications:

Industrial grade Airtight isolation dampers meeting following specifications shall be furnished and installed where shown on the plan/specifications as described on schedules.

Airtight damper shall consist of round body, flat blade fastened to a mechanical shaft capable of rotating merged on full length with tandem seal both side and outboard ball bearings. Blade can be serviced at the field. Bearing shall be bolted to outboard mounting plates and will have grease fitting for self lubrication. Tandem seal shall prevent leakage around the axle. Damper shall be tested according to AMCA standard 500D in congruence to 10 in wg (2.5 Kpa) prior to shipping. Damper manufacturer shall provide pressure and velocity details/ limitations prior to application and shall be submitted for approval showing damper operation parameters.

**Basis of design: EB Air model -BFCD/BFSD sizes: 6, 8, 10, 12, 16, 20, 24, 28, 36
(Butterfly Flat Circular Damper / Butterfly Flat Square Damper)**

1. Energy Efficiency:

Building Pressurization:

In HVAC systems, these dampers are used to control airflow and maintain specific pressure levels within different zones. A tight seal helps ensure that conditioned air stays within the designated area and prevents energy loss.

Airflow Control:

In systems where precise control of air movement is necessary (e.g., hospitals, laboratories), the flat dish tight seal helps ensure air is only directed to specific areas when required.

2. Zoning Systems:

Multiple Zones in HVAC:

These dampers are used in zoning systems to control air distribution to different areas of a building. When the damper closes, the tight seal prevents air from entering or exiting the zone, ensuring effective control of temperature and airflow.

3. Airflow Balancing:

Pressure Relief Dampers:

These dampers are used in systems where balanced airflow is critical, and the damper ensures that excess air pressure is released or airflow is regulated to keep the system functioning efficiently.

4. Industrial Applications:

Dust or Pollutant Control:

In certain industrial settings, these dampers are used to control the flow of particulate-laden air or exhaust gases, ensuring pollutants are kept at bay and do not enter other parts of a building or system.

Process Airflow Regulation:

In manufacturing or chemical processing plants, tight-seal dampers control airflow in specific process areas, ensuring the right amount of air is delivered where needed.

5. Outdoor Air Intake Control:

Venting Systems:

These dampers can be used to control outdoor air intake in systems requiring fresh air. They ensure that no outside air flows into the system unless it is desired, providing a tight seal when not in use.

6. Ventilation Systems:

Noise and Vibration Control:

In commercial or residential settings, flat dish tight seal dampers are also used in ventilation systems to reduce noise and vibration, as a tight seal helps maintain smooth airflow.

Flat dish tight seal HVAC dampers are specialized devices used in heating, ventilation, and air conditioning (HVAC) systems to regulate and control airflow. They are particularly designed to provide a tight seal, preventing the passage of air when the damper is closed. Here's a breakdown of the applications and uses for these dampers:

Why Choose EB Air Control for High-Performance Butterfly Flat Dish Dampers?

Selecting EB Air Control guarantees that you will get premium Flat Dish butterfly dampers with exceptional performance and longevity. Our specialty is providing high-performance solutions that follow stringent industry regulations. Our butterfly dampers are constructed from sturdy materials that are resistant to damage and offer efficient airflow control. The dampers offered by EB Air Control are easy to install, operate, and maintain, with an emphasis on innovation and durability.

Benefits of Butterfly Flat Dish Damper

Durability:

Flat dish dampers are designed to withstand the pressures and conditions of HVAC systems, offering long-term reliability.

Leakage Prevention:

The tight seal design ensures minimal air leakage, improving system efficiency and reducing energy loss.

Automation Compatibility:

These dampers can be integrated with automated control systems, allowing for real-time adjustments based on airflow requirements.

Others:

- Butterfly Flat Dish damper as made by EB Air can operate under various environments which have chemicals or high temperature exposures.
- Low Torque requirement allows Flat Dish Damper to operate with smaller gear/ actuator, which is less expensive
- Limited moving parts allows less maintenance with no failure downtime

Overall, flat dish tight seal HVAC dampers play a critical role in improving the performance, energy efficiency, and safety of HVAC systems. They are applied across a wide range of settings, from commercial to industrial, to ensure precise airflow management, pressure regulation, and air flow control.

Benefits of Butterfly Flat Dish Damper

- Effective Airflow Control & Low Leakage
- Energy Savings
- Cost Effective Commercial Design and Construction
- Low Maintenance
- Available with fast acting Actuator
- ETL Lab Tested



For details and information on design assist,
contact EB Air Control - info@ebaircontrol.com