



CONTROL DAMPER

ROUND • STEEL
LOW LEAKAGE
MODEL: 1090

Model 1090 is an ultra-low leakage steel butterfly control damper which has been designed for all types of round ductwork applications. Suitable for use in low to medium pressure and velocity commercial HVAC systems, the 1090 installs quickly and easily, saving money on installation costs.

Design features a sturdy beaded casing for superior rigidity, a 14 ga. (2.0) equivalent laminated blade double bolted to the drive shaft for maximum strength, long life corrosion resistant synthetic bearings and blade seals for low leakage requirements. The damper can be used for two position or modulating control using electric or pneumatic actuators and can also be used as a manual balancing damper or when positive shut-off is required by utilizing an optional hand locking quadrant. A variety of options are available to meet specific installation requirements and a comprehensive selection of electric or pneumatic actuators are available for factory or field mounting.

STANDARD CONSTRUCTION:

- Frame:** 20 ga. (1.0) corrosion-resistant steel with stiffening beads.
- Blade:** 2 x 20 ga. (1.0) corrosion-resistant steel laminated together, equivalent to 14 ga. (2.0). Open and close end stops. 90 degree rotation. CCW to open.
- Bearings:** 1/2" (13) dia. Celcon®.
- Drive Shaft/Axle:** 1/2" (13) dia. plated steel double bolted to blade. Axle extends approx. 6" (152) beyond frame.
- Blade Seal:** Cross-linked polyethylene.

Sizes (Duct W x H):

Minimum	Maximum
Single Section	Single Section
4" (102) dia.	24" (610) dia.

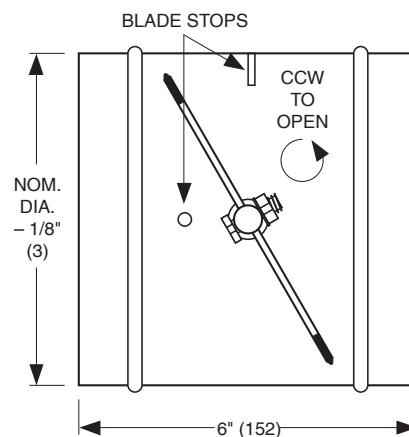
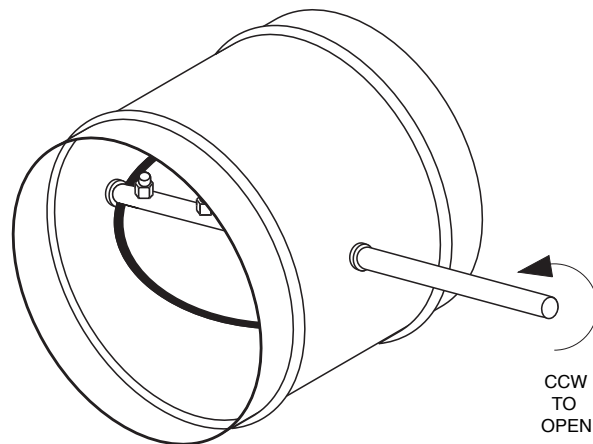
Temperature Range: -50°F to 180°F (-46°C to 82°C)

OPTIONS:

- ☐ **BSS** Silicone blade seals (-50°F to 250°F)
- ☐ **BO** Oilite bearings
- ☐ **BS** Stainless steel bearings
- ☐ **AMB** Actuator mounting bracket
- ☐ **HLQ** Hand locking quadrant
- ☐ **HLQ2** Hand locking quadrant with 2" (51) stand-off bracket
- ☐ **304** Type 304 Stainless steel construction
- ☐ Special features _____.

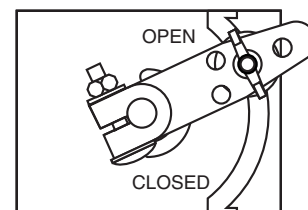
ACTUATORS:

Nailor offers a comprehensive selection of electric and pneumatic actuators for factory or field installation.



OPTIONAL HAND LOCKING QUADRANT

7/8" (22) stand-off



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm)

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 3 - 26

1000

4 - 28 - 14

1000-6



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PERFORMANCE DATA

MODEL: 1090

MAXIMUM SYSTEM PRESSURE

Maximum Damper Diameter	Maximum System Pressure
24" (610)	6" w.g. (1.5 kPa)
18" (457)	6" w.g. (1.5 kPa)
12" (305)	8" w.g. (2 kPa)
6" (152)	10" w.g. (2.5 kPa)

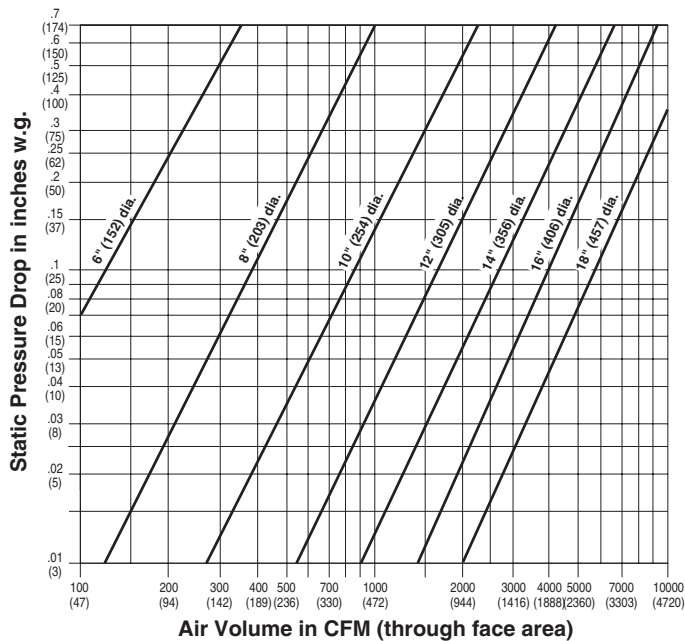
Note: Maximum Face Velocity = 4000 fpm (20 m/s).

LEAKAGE: CLASS I

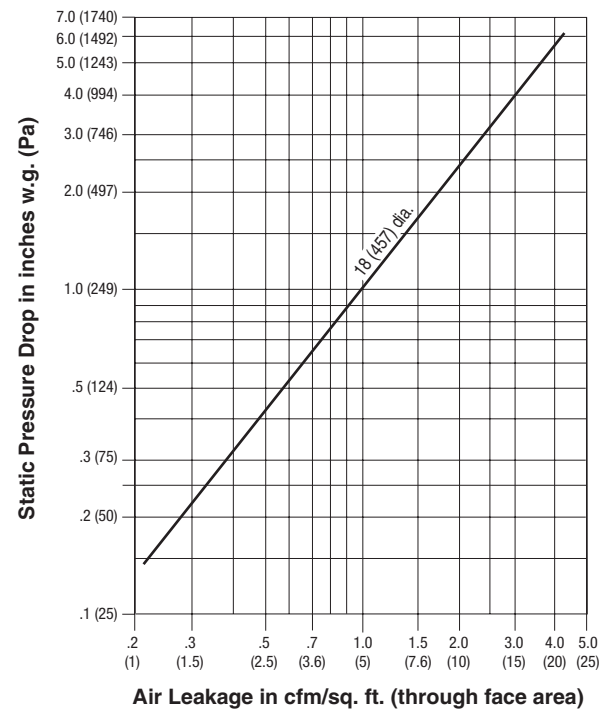
Less than 4 cfm/sq. ft. @ 1" w.g. (0.02 m³/s/m² @ 250 kPa).

Less than 8 cfm/sq. ft. @ 4" w.g. (0.04 m³/s/m² @ 1 kPa).

PRESSURE DROP (damper fully open)



AIR LEAKAGE (damper fully closed):



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm)

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