AMERICAN AUTO-MATRIX®
A Cylon Energy Inc. Company

AF-DPR-AP

# AF-DPR-AP Precision Damper Assembly with Cross Pitot Primary

## DESCRIPTION

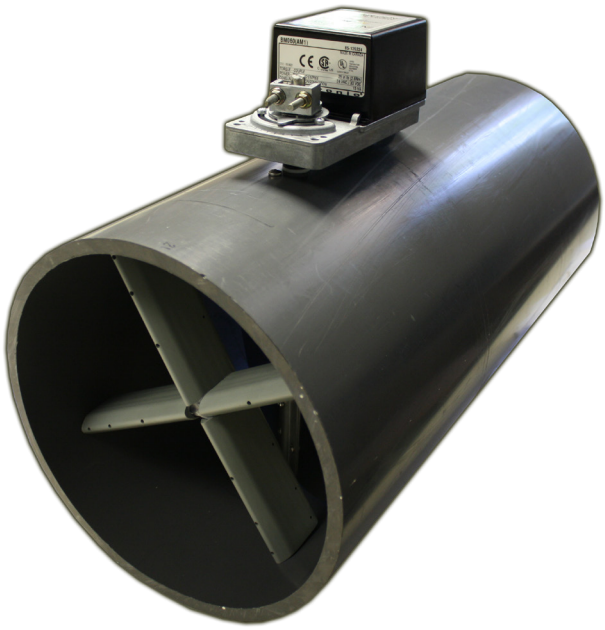
The AF-DPR-AP is a precision PVC damper with an AF-ACT-1 actuator and AF-XPP cross pitot. The DPR-AP is best suited to applications where both measurement and control are required in one integrated unit. By combining devices for measurement and control into one unit, the overall length can be held to a nominal 2 diameters because the orientation between the damper and the pitot can be controlled.

If the devices were installed separately, the recommended overall assembly length would increase by 2 diameters. With a nominal length of 2 diameters, in-line actuator mounting is recommended.

**The AF-DPR-AP is comprised of the AF-XPP™ (Cross Pitot Primary) and the AF-DPR-XX-A (Precision Damper Assembly). Please refer to the respective datasheets for specific information on these components.**

## APPLICATIONS

- Continuous measurement and control of air or compatible gas
- Mass flow measurement (with temperature correction) and control
- Laboratory exhaust flow control
- Room supply and exhaust flow control
- Replace VAV boxes for critical applications
- Volumetric synchronization of laboratories and buildings
- Ensure required room air changes
- Measurement for regulatory compliance



## ADVANTAGES

- Accuracy can be improved with in place calibration
- Measurement and control in one integrated unit
- Low unrecovered pressure loss
- Resists plugging
- “Low Noise” operation
- All materials in contact with the flowing stream made of chemically inert PVC or Stainless Steel

## OPERATION

Due to the velocity averaging aspect of the specially ported total pressure sensing holes, the DPR only requires two straight duct-runs upstream, and one straight duct-run downstream.

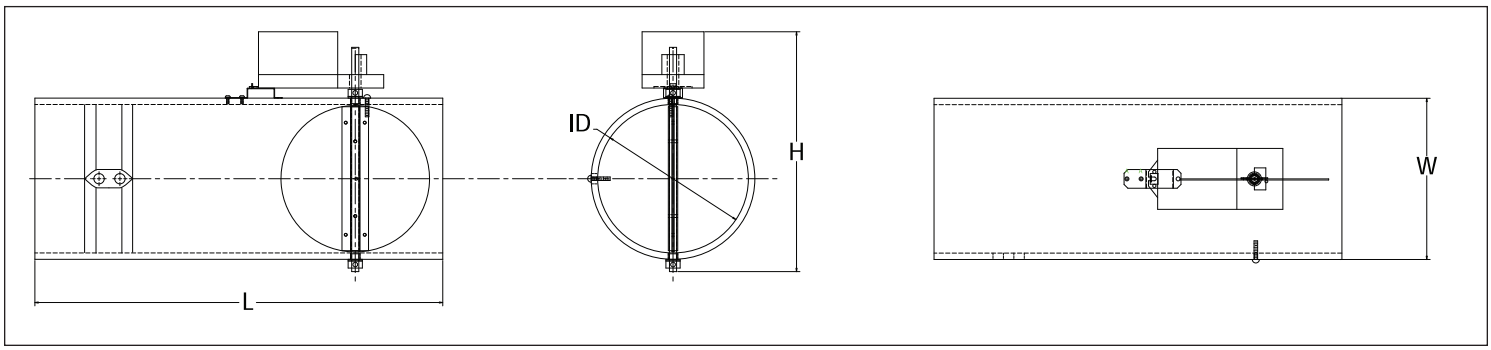
Operation with other than standard conditions will require in-place calibration for maximum accuracy. The flow control system can easily accommodate temperature input for mass flow calculations. Temperature effects the pitot measured mass flow by about 1% per 10˚ F (5.6˚ C).

When used with the AF-ACT-1 actuator, and configured in the normally open position, loss of power will cause the damper to fail in the 70% open (or greater) position.

## OPERATIONAL NOTES

1. Unless otherwise stated, the damper will be configured in the normally open mode (damper is in the fully open position on loss of power.
2. In-line actuator mounting is the most common configuration.
3. The damper default position is normally open. It may be field changed to normally closed.
4. Cross flow pitot is supplied with 1/8 NPT brass pressure fittings

## PHYSICAL DIMENSIONS




| MODEL | L in. (cm) | W in. (cm) | H in. (cm) | ID in. (cm) |
|---|---|---|---|---|
| AF-DPR-08-AP | 21.5 (54.61) | 8.63 (21.92) | 12.83 (32.59) | 7.94 (20.16) |
| AF-DPR-10-AP | 29.0 (73.66) | 10.75 (27.31) | 14.95 (37.97) | 9.98 (25.27) |
| AF-DPR-12-AP | 29.0 (73.66) | 12.75 (32.39) | 16.95 (43.05) | 11.89 (30.20) |

## ORDERING INFORMATION

| | |
|---|---|
| AF-DPR-08-AP | 8 in. damper, PVC casing and pitot |
| AF-DPR-10-AP | 10 in. damper, PVC casing and pitot |
| AF-DPR-12-AP | 12 in. damper, PVC casing and pitot |

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