

COMPLETE DAMPER ASSEMBLY AND PRECISION DAMPER COMBINATION

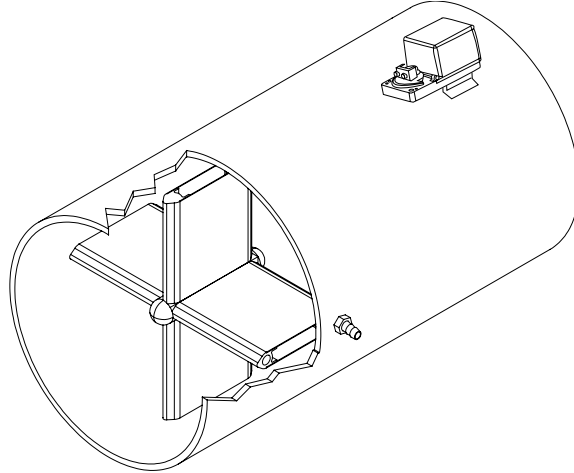
The AF-DPR-AP is a precision PVC damper with an AF-ACT-1 actuator and AF-XPP cross pitot.

The AF-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 overall length would increase by 2 diameters. With a nominal length of 2 diameters, in-line actuator mounting is recommended.

Since the AF-DPR-AP is comprised of the AF-XPP and the AF-DPR-X-A, 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 flow control, room 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

- ▼ Accurate
- ▼ 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
- ▼ In-place calibration not normally required

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.

OPERATION

Due to the velocity averaging aspect of the specially ported total pressure sensing holes, the CPP 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 affects the pitot measured mass flow by about 1% per 10°F (5.6°C). Under extreme turbulent conditions, the output of the pitot must be linearized prior to time averaging. When used with low volume transmitters, a special “pneumatic capacitor” may be required to decouple the acoustical noise and to force equal response rate characteristics.

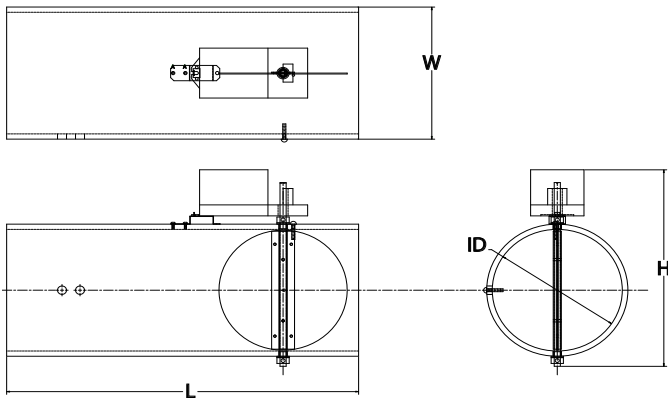
AF-DPR-AP

TYPICAL SPECIFICATIONS

- ▼ **Maximum static pressure:** 4 in. wc (996 Pa)
- ▼ **Maximum operating temperature:** 125°F (51.7°C)
- ▼ **Damper Body Material:** schedule 40 PVC ▼
Damper Blade Material: stainless steel
- ▼ **Pitot Material:** PVC
- ▼ **Output Connections:** 1/8 in. FNPT
- ▼ **Maximum Combined Unrecovered Pressure Loss (damper > 90% open):** 0.2 x velocity pressure

Please refer to the AF-DPR-X-A (Precision Damper Assembly) and AF-XPP (Manifolded Pitot Primary) datasheets for additional information.

PHYSICAL DIMENSIONS



inches(cm)

Model	L	W	H	ID
AF-DPR-08-AP	21.5 (54.61)	8.63 (21.92)	12.83 (32.59)	7.94 (20.17)
AF-DPR-10-AP	29.0 (73.66)	10.75 (27.31)	14.95 (37.97)	9.98 (25.35)
AF-DPR-12-AP	29.0 (73.66)	12.75 (32.39)	16.95 (43.05)	11.89 (30.20)

OPERATIONAL NOTES

- ▼ Unless otherwise stated, the damper will be configured in the normally open mode (damper is in the fully open position when the actuator is retracted).
- ▼ In-line actuator mounting is the most common configuration.
- ▼ The damper default position is normally open. May be field-changed to normally closed.

ORDERING INFORMATION

AF-DPR-AP-x-(option) x = 8, 10, 12 in nominal PVC casing and pitot

Example: AF-DPR-AP-10 = 10 in nominal with PVC casing and pitot

WORLD HEADQUARTERS

American Auto-Matrix
One Technology Lane
Export, Pennsylvania 15632-8903 USA
Tel (1) 724-733-2000
Fax (1) 724-327-6124
Email aam@aamatrix.com
www.aamatrix.com



AMERICAN AUTO-MATRIX®

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