

## AD-T/HD-T Multi-blade Volume Control Damper

### ■ Description

ASLI multi-blade volume control dampers are designed for manual balancing (HD-T, HDR-T) and motorized control (AD-T) in ventilation systems for volume flow and pressure.

### HD-T

HD-T is primary designed for manual balancing application in ventilation systems for volume flow and pressure control. The galvanized steel locking quadrant arm (HD-T) or the OM arm linkage (HD-T-OM) is mounted on the shaft for manual operation.

### AD-T

AD-T is primary designed for motorized control in ventilation systems for volume flow and pressure control.

**AD-T-1T:** Actuator mounted exposed at the side of the volume control damper.

**AD-T-2T:** Actuator mounted in a compartment at the corner of the volume control damper.

**AD-T-3T:** Actuator mounted in a compartment at the side of the volume control damper.

**AD-T-4T:** Actuator mounted in an extrusion fitting.

### ■ Materials

- Frame: Galvanized steel, 1.0mm thickness.
- Blade: Galvanized steel, 1.0mm thickness.

### ■ Surface Finish

- Mill galvanized.

### ■ Blade Action

- Opposed blade.

### ■ Axles

- 10mmX10mm square bar plated steel.

### ■ Bearing

- Engineering plastic sleeve as standard. Bronze bush is optional.

### ■ Blade Dimension Limits

- Maximum blade length = 1200mm
- Maximum blade width = 160mm

### ■ Connection Method

- Slip joint (S) or flange joint for TDC (T).

### ■ Temperature Limits

- -40°C to 116°C



HD-T

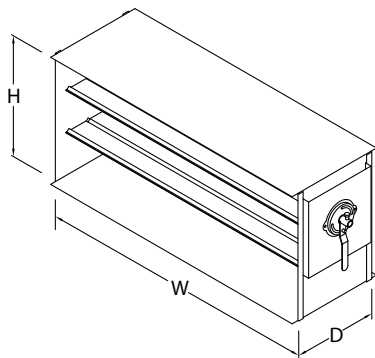


AD-T

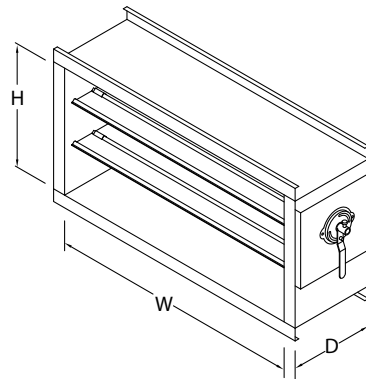


HD-T-OM

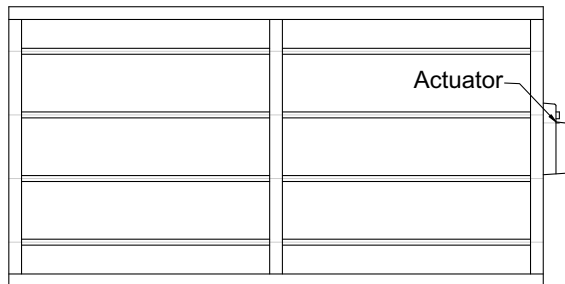
## AD-T/HD-T Multi-blade Volume Control Damper



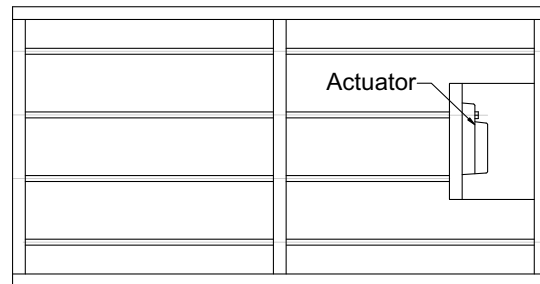
HD-T - Slip Joint



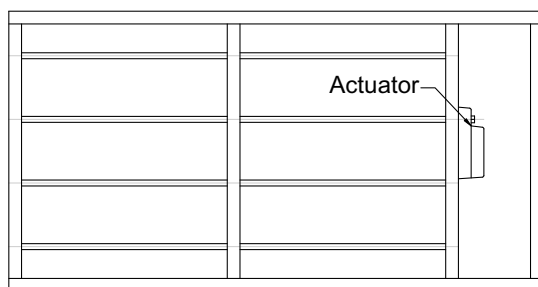
HD-T - Flange Joint



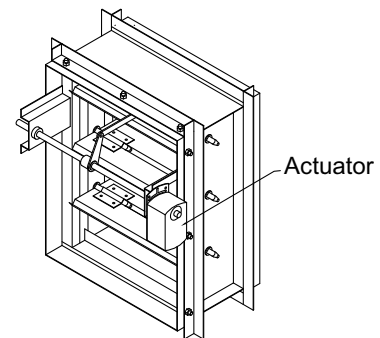
AD-T-1T



AD-T-2T



AD-T-3T



AD-T-4T

### ■ Recommended Installations

- HD-T/AD-T can be installed with blade running horizontally or vertically.
- HD-T/AD-T is intended to be self-supporting only in the largest single section size. Bracing is required in multiple section damper assemblies to support the weight of the assembly and to hold against system pressure. It is recommended that appropriate bracing to support damper horizontally at least once for every 8 feet of damper width. More bracing may be required for vertical assemblies and higher system pressure.

## AD-T/HD-T Multi-blade Volume Control Damper

### AD-T/HD-T Performance Data

Damper Width (inch)	Maximum System Pressure (inch w.g.)	Maximum System Velocity (fpm)	Leakage	
			CFM /ft <sup>2</sup>	% in Max. Air Flow
48	2	2000	45	2.3
36	2.5	2000	45	2.3
24	3.5	2000	55	2.8
12	4.5	2000	70	3.5

• Leakage information is based on differential pressure of 1.0" w.g.

Duct Velocity (m/s)	Total Pressure Drop	Degree of Blade Deflection							
		10	20	30	40	50	80	70	80
1	Pt. (Pa)	<5	<5	<5	7	20	65	300	1400
	NC	<35	<35	<35	<35	42	53	67	>80
2	Pt. (Pa)	<5	<5	10	28	80	250	1250	>1500
	NC	<35	<35	28	47	56	66	>80	>80
3	Pt. (Pa)	<5	7	22	60	180	550	>1500	>1500
	NC	<35	38	46	55	65	75	>80	>80
4	Pt. (Pa)	<5	11	40	110	300	1000	>1500	>1500
	NC	<35	45	52	60	70	>80	>80	>80
5	Pt. (Pa)	5	18	60	180	500	>1500	>1500	>1500
	NC	45	50	56	65	75	>80	>80	>80
10	Pt. (Pa)	18	70	220	650	>1500	>1500	>1500	>1500
	NC	58	65	72	80	>80	>80	>80	>80

- Pt = total pressure drop
- NC = noise criteria

#### NC Correction factor

Damper Area (m <sup>2</sup> )	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1	1.25	1.5	2	3	4
K	-10	-7	-5	-4	-3	-2	-1	0	+1	+2	+3	+5	+6

#### Example:

Given: Damper area = 0.5 m<sup>2</sup>, Degree of blade deflection = 30, air velocity = 5 m/s

Find: Total pressure drop, NC

Refer to table above, Pt = 60 Pa and NC = 56 - 3 = 53

### AD-T/HD-T Order Code Unit:mm

Model	Neck Size (W X H X D)	Connection Method (Left)	Connection Method (Right)
AD-T	1000mm X 1000mm X 150mm	Slip Joint (S)	Slip Joint (S)
HD-T		Flange Joint for TDC (T)	Flange Joint for TDC (T)

**Example:** HD-T-1000mmX1000mmX150mm-TT