DIFFERENTIATING OPTIONS: • Leakage rated damper



Actual damper width = Nominal width, W - 6 Actual damper height = Nominal height, H - 6

#### **APPLICATION :**

Damper is designed for shut-off application where low air leakage across the damper is required. Leakage rate is less than 1% on design duct velocity of 10m/s at 1000Pa operating pressure.

#### SIZE AVAILABILITY :

Min. module Size: 150 x 150 mm.

Max. module Size: 900 x 1500 mm. single module. For larger size, damper will be supplied in multiple modules. (refer to drawing no. DVZEP015 and DVZEP016)

### **FEATURES :**

1. Frames and blades are constructed of high quality 1.2 mm thick corrosion resistant galvanized steel.

2. Blades are constructed with specially formed profile to provide rigidity. Standard blade width is 150mm. First and last blade width may varies to achieve high free area and lower pressure loss.

3. Vinyl blade edge seals are provided to minimize leakage.

4. Jamb seals are constructed of 0.15 mm thick stainless steel type SUS304 to minimize leakage.

5. Blade linkage bar and linkage bracket are constructed of 1.5mm thick high quality corrosion resistant galvanized steel. Blade linkage mechanism is externally mounted on the shaft, out of air stream.

6. Square axle prevents slippage between blades and axles.

7. Non-metallic 2-parts bush reduce friction and provide smooth and reliable moving parts.

To minimize cost, please specify operating velocity and pressure:

<b>OPERA</b>	TING VELOCITY
5 m/s	
7.5 m/s	
10m/s	

<b>OPERA</b>	<b>FING PRESSURE</b>
500 Pa	
750 Pa	
1000 Pa	



Side view

#### **DAMPER MODEL :**

LD1 Parallel Blade Damper with blade seal and jamb seal

#### **ACTUATOR TYPE:**



- ] On-off Spring Return
- Modulating
- Modulating Spring Return
- Fast acting modulating
- Fast acting On-off

#### **ACTUATOR POWER OPTION:**

230Vac 24Vac

#### **ACTUATOR SWITCH OPTION:**

- no auxiliary switch
- S1 1 auxiliary switch
- S2 2 auxiliary switches
- DAMPER DEPTH, D:
  - 150 mm
- Depth following blade width (blade within casing)

#### **FLANGE OPTION:**

- TDF compatible flange
- Angle Frame with Standard
- Prepunched hole

## **AMBIENT CONDITION:**

Ambient Temperature (50°C)

All dimensions are in mm

- High Temperature (150°C)
- Explosion Proof

Note: For higher operating velocity and pressure, please consult factory.

the interest of product improvement,	we reserved the right to make	e changes without notice.

Title : LOW LEAKAGE VOLUME CONTROL ACTUATOR, MOD	Project :				
OLS MANUFACTURING CO.	Dwn. By :	ZhieZhie <i>Zhie</i>	Date :	11/11/2020	Scale :
3-B, Joo Koon Circle, Singapore 629034 Tel.: 68615253 Fax.: 68619850 email: team.tvmfsd@connols-air.com http://www.connols-air.com	Chk. By :	JingJing	Dwg. No. :	DVZEP012	N.T.S
	App. By :	Wong			$\bigcirc $
		~ ()			

DIFFERENTIATING OPTIONS • Non-leakage rated damper



# Axle bracket Linkage bar Depth, D

\*Note:

Actual damper width = Nominal width, W - 6 Actual damper height = Nominal height, H - 6

## **APPLICATION:**

Damper is designed for in-duct air volume control application

# SIZE AVAILABILITY :

Min. module Size: 150 x 150 mm.

Max. module Size: 1500 x 1500 mm. single module. For larger size, damper will be supplied in multiple modules. (refer to drawing no. DVZEP015 and DVZEP016)

## **FEATURES :**

1. Frames and blades are constructed of high quality 1.2 mm thick corrosion resistant galvanized steel.

2. Blades are constructed with specially formed profile to provide rigidity. Standard blade width is 150mm. First and last blade width may varies to achieve high free area and lower pressure loss.

3. Blade linkage bar and linkage bracket are constructed of 1.5mm thick high quality corrosion resistant galvanized steel. Blade linkage mechanism is externally mounted on the shaft, out of air stream.

4. Square axle prevents slippage between blades and axles.

5. Non-metallic 2-parts bush reduce friction and provide smooth and reliable moving parts.

To minimize cost, please specify operating velocity and pressure:

**OPERATING VELOCITY OPERATING PRESSURE** 

5  m/s	
7.5 m/s	
10m/s	

500 Pa	
750 Pa	
1000 Pa	Γ

Note: For higher operating velocity and pressure, please consult factory.



no auxiliary switch S1 - 1 auxiliary switch

S2 - 2 auxiliary switches

### **DAMPER DEPTH, D:**

- 150mm
- Depth following blade width (blade within casing)

# **FLANGE OPTION:**

TDF compatible flange Angle Frame with Standard Prepunched hole

# **AMBIENT CONDITION:**

- Ambient Temperature (50°C)
- High Temperature (150°C)
- **Explosion Proof**

All dimensions are in mm Title : Project : **VOLUME CONTROL DAMPER WITH ELECTRIC ACTUATOR (MD) OLS MANUFACTURING CO.** Dwn. By : ZhieZhie Zhie Date : 11/11/2020 Scale : 3-B, Joo Koon Circle, Singapore 629034 Chk. By : JingJing  $\mathcal{T}$ N.T.S Tel.: 68615253 Fax.: 68619850 Dwg. No. : DVZEP013 App. By Wong 9  $\square \oplus$ email: team.tvmfsd@connols-air.com http://www.connols-air.com

Side view (MD2)

# **DAMPER MODEL:**

- MD1 Parallel Blade Damper without blade seal and jamb seal
- MD2 Opposed Blade Damper without blade seal and jamb seal

## **ACTUATOR TYPE:**

- On-off
- **On-off Spring Return**
- Modulating
- Modulating Spring Return
- Fast acting modulating
- Fast acting On-off

# **ACTUATOR POWER OPTION:**

- 230Vac
- 24Vac

# **ACTUATOR SWITCH OPTION:**



#### **CONNECTION USING TDF CLIPS:**

1. Attach gasket all-round to connecting duct flange. 2. Mount the damper to adjacent duct and support the damper to the adjacent duct using bolts going through the oblong holes provided at the 4 corners of the damper frame.

3. Clamp the duct flange and damper flange together using suitable clips. Ensure the distance between clips are sufficiently close to prevent leakages. 4. After connection is done, operate the damper for few full cycles to ensure that the blades are not obstructed by unwanted screws, etc.

5. Turn on the fan and check that no leakage at the connection.

### 1. Attach gasket all-round to connecting duct flange. 2. Mount the damper to adjacent duct and support the damper to the adjacent duct using bolts going through the oblong holes provided at the 4 corners of the damper frame. 3. Ensure that the holes on the duct flanges and damper flanges are matched

4. Insert and fasten the remaining bolts and nuts 5. After connection is done, operate the damper for few full cycles to ensure that the blades are not obstructed by unwanted screws, etc.

6. Turn on the fan and check that no leakage at the connection.

Mounting holes calculation for SP1 and SP2: \*All holes spacing is 150mm, except for SP1 and

SP1 = [Nominal width W - 6 - 38 - (Nw x 150)] / 2SP2 = [Nominal height H - 6 - 38 - (Nh x 150)] / 2

of j	product improvement, we reserved the right to make changes without notice. All dimensions are in mm						
DUCT CONNECTION FOR VOLUME CONTROL DAMPER					Project :		
	OLS MANUFACTURING CO.	Dwn. By :	ZhieZhie <i>Shie</i>	Date :	11/11/2020	Scale :	
	3-B, Joo Koon Circle, Singapore 629034	Chk. By :	JingJing	Due Ne i		N.T.S	
vm	fsd@connols-air.com http://www.connols-air.com	App. By :	Wong Work	Dwg. No. :	DVZEP014		



1. Damper modules are supplied in separate modules. Joining plates, M6 bolts and spring washer may be supplied as option.

2. Align the adjacent modules such that the M6 nutserts on the damper frame is aligned. Ensure M6 bolts and spring washer can be inserted through the joining plate to the M6 nutserts.

- 4. Fasten the M6 bolts to the nutserts securely on the front and rear face of the damper.
- 5. Once joined, the whole damper can be lifted to the adjacent ductwork as a whole assembly.
- 6. Mount damper assembly to adjacent duct or wall.
- 7. Ensure damper is sufficiently supported by angle bar beneath it.

In the interest of product improvement, we reserved the right to make changes without notice. All dimensions are in m						
Title : VOLUME CONTROL DAMPER (2 x 1	VOLUME CONTROL DAMPER (2 x 1 MODULE ARRANGEMENT)					
OLS MANUFACTURING CO.	Dwn. By :	ZhieZhie <i>Shie</i>	Date :	11/11/2020	Scale :	
3-B, Joo Koon Circle, Singapore 629034	Chk. By :	JingJing	Dwg. No. :	DVZEP015	N.T.S	
email: team.tvmfsd@connols-air.com http://www.connols-air.com	App. By :	Wong Woy				
		0				



2. Align the adjacent modules such that the M6 nutserts on the damper frame is aligned. Ensure M6 bolts and spring washer can be inserted through the joining plate to the M6 nutserts.

- 4. Fasten the M6 bolts to the nutserts securely on the front and rear face of the damper.
- 5. Once joined, the whole damper can be lifted to the adjacent ductwork as a whole assembly.
- 6. Mount damper assembly to adjacent duct or wall.
- 7. Ensure damper is sufficiently supported by angle bar beneath it.

In the interest of product improvement, we reserved the right to make changes without notice.					All dimen	sions are in mm
Title :	<b>VOLUME CONTROL DAMPER (1 X 2 MODULE ARRANGEMENT)</b>			Project :		
A	OLS MANUFACTURING CO.	Dwn. By :	ZhieZhie <i>Shie</i>	Date :	11/11/2020	Scale :
	3-B, Joo Koon Circle, Singapore 629034	Chk. By :	JingJing	Dura Na i		N.T.S
email: team.tvmfsd@connols-air.com http://www.connols-air.com		App. By :	Wong Work	Dwg. No. :	DVZEP016	$\bigcirc $
			- 0			