United Enertech

(ENGINEERS)

# SUBMITTAL DATA

## EXTRUDED ALUMINUM MANUAL BALANCING DAMPERS

## OPPOSED BLADE - PARALLEL BLADE BALANCING DAMPER

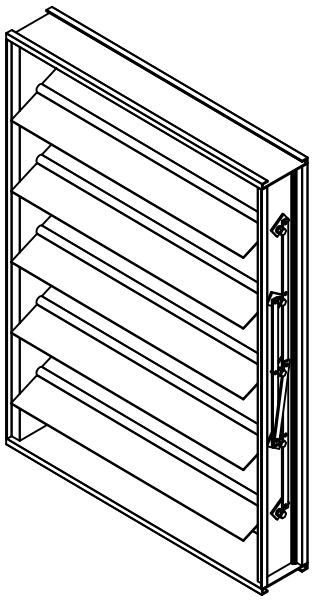
### Suggested Specifications:

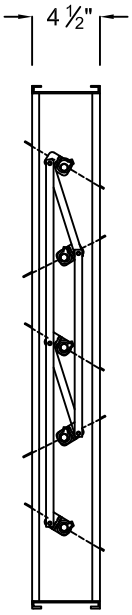
Furnish and install at location shown on drawing or in accordance with scheduled dampers meeting the following specifications: Rectangular damper shall have .125 extruded aluminum blades and .081 extruded aluminum frame. Damper to have nylon bushings and meet the low pressure drop equal to United Enertech MODEL MD-105 or MD-106.

Pressure - up to 3" w.g. - See pressure limit table

FPM Table

| | |
|---|---|
| 12" wide | - 2600 FPM |
| 24" | - 2200 |
| 36" | - 2000 |
| 48" | - 1700 |
| 52" | - 1600 |






Undersized 1/4"

### Standard Construction:

**Frame:** .081 Extruded Aluminum

**Blade:** .125 Extruded Aluminum

**Bearing:** Nylon

**Linkage:** *Concealed in frame

**Axles:** 1/2"Ø Cast Zinc with thrust bushings

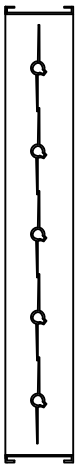
**Control Shaft:** 1/2" x 6" long shaft supplied with all hand quadrant operated dampers.

**Hand Quadrant:** Standard (field installation)

### Options:

- ☐ Stand-off bracket, 2"
- ☐ Side plate (end flange)

NOTE: THESE DAMPERS ARE FOR BALANCING PURPOSES ONLY. THEY ARE NOT FOR SHUT-OFF APPLICATIONS. GAPS BETWEEN BLADES & FRAME WILL EXIST.

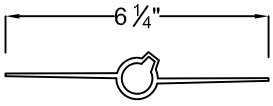


CROSS SECTIONAL VIEW
Closed position

Minimum Size: 5"w x 4"h
8" and under single blade

Maximum Size: 48"w x 60"h (single section)
Multi-section: NOT AVAILABLE

*Over 36" wide or 48" high, blade linkage will be modified.

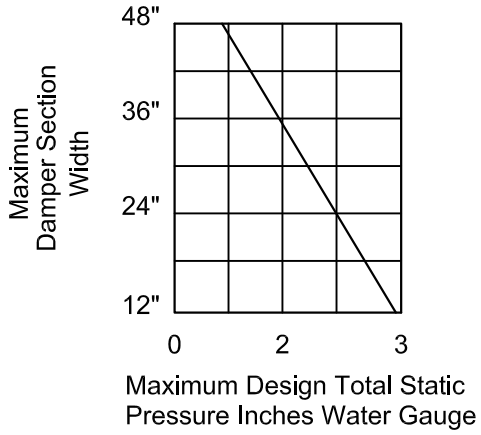



Blade Detail

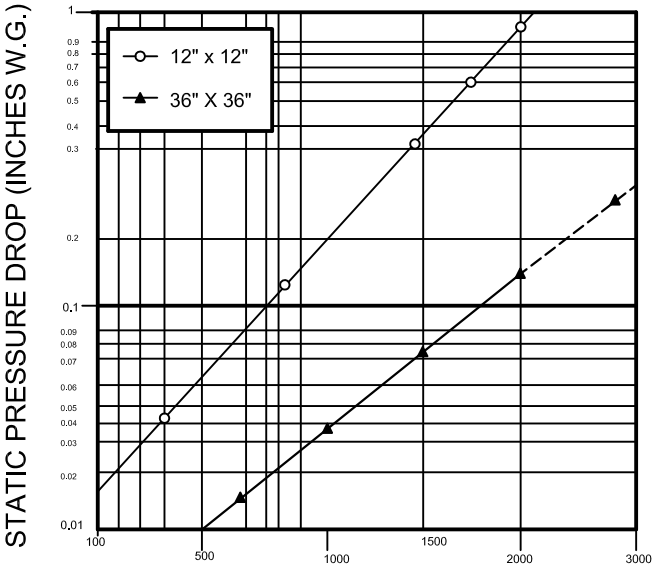
| | | | |
|---|---|---|---|
| Job Name: | ☐ **MODEL MD-105 (Opposed)** | | |
| Location: | ☐ **MODEL MD-106 (Parallel)** | | |
| Architect: | DRAWN BY: CLJ | DATE: 10-1-08 | REV. DATE: 07-27-09 |
| Engineer: | REV. NO. 5 | APPROVED BY: SDC | DWG. NO.: **A-4c** |
| Contractor: | | | |

# Model MD-105, MD-106 Damper Performance Data

## Pressure Limitations




## PRESSURE DROP




Based on STANDARD AIR- .075 lb. per cubic foot.

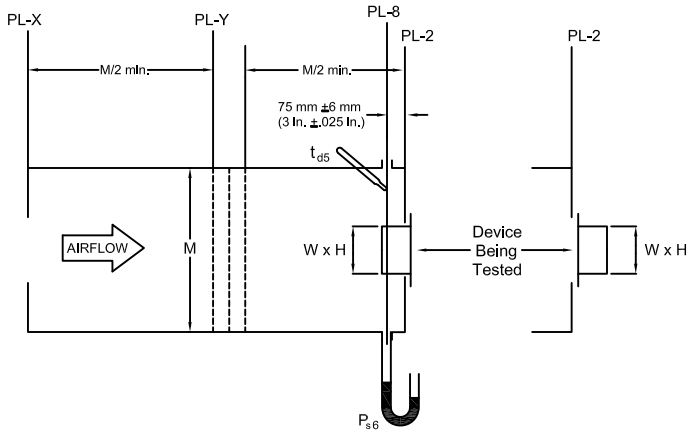



Figure 5.5- Test Device Setup with Inlet Chamber

12" x 12" (305mm x 305mm)

| Face Velocity ft/min (m/s) | Pressure drop w.g. (PA) | CFM |
|---|---|---|
| 407 (2.0) | .003 (7.5) | 407 |
| 820 (4.1) | .13 (32.4) | 820 |
| 1234 (6.3) | .31 (77.2) | 1234 |
| 1641 (8.3) | .57 (141.9) | 1641 |
| 2057 (10.4) | .91 (226.6) | 2057 |

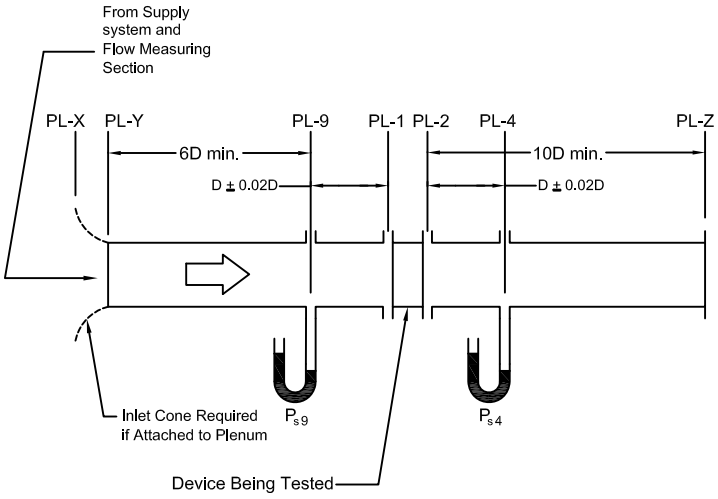



Figure 5.3- Test Device Setup with Inlet and Outlet Ducts

36" x 36" (914mm x 914mm)

| Face Velocity ft/min (m/s) | Pressure drop w.g. (PA) | CFM |
|---|---|---|
| 392 (1.99) | .004 (1.0) | 3528 |
| 789 (4.01) | .016 (4.0) | 7100 |
| 1208 (6.14) | .04 (9.9) | 10,877 |
| 1598 (8.12) | .07 (17.4) | 14,382 |
| 2006 (10.19) | .12 (29.9) | 18,061 |

A-4c cont.