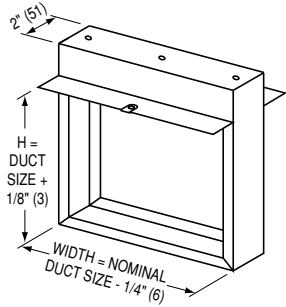
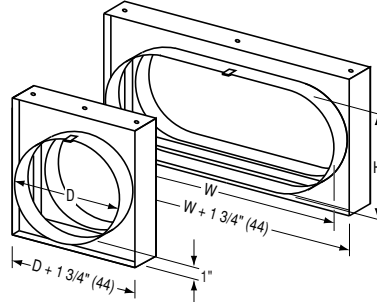


DIMENSIONAL DATA:

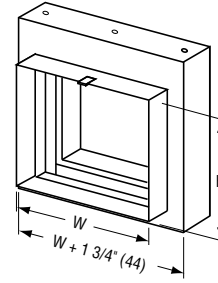


**MODEL 0220:
TYPE B**

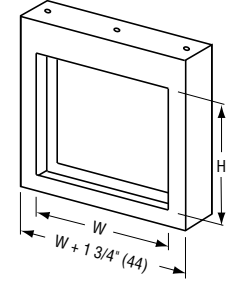


**MODEL 0230:
TYPE CR**

**MODEL 0230:
TYPE CO**



**MODEL 0240:
TYPE CSR
WITH COLLAR
(STANDARD)**



**MODEL 0240:
TYPE CSR
WITHOUT COLLAR**

For overall damper dimensions see sizing chart on page D54.

PERFORMANCE DATA:

MODEL SERIES: 0210V/H - 1 1/2 HOUR LABEL

Curtain type fire dampers impose minimal resistance to air flow in the system. The following charts indicate both free area for the different damper types and static pressure losses for various velocities.

Type A Thinline Damper Free Area – sq. ft.

Duct Height in inches (mm)	Duct Width in inches (mm)							
	6" (152)	12" (305)	18" (457)	24" (610)	30" (762)	36" (914)	40" (1016)	
6" (152)	.12	.27	.44	.59	.75	.94	1.02	
12" (305)	.27	.61	.93	1.36	1.7	2.1	2.4	
18" (457)	.42	.94	1.5	2.2	2.7	3.4	3.7	
24" (610)	.55	1.29	2.1	3.0	3.7	4.5	4.9	
30" (762)	.71	1.65	2.6	3.8	4.3	5.7	6.3	
36" (914)	.86	2.1	3.2	4.6	5.7	7.0	7.7	
42" (1067)	.93	2.3	3.5	5.1	6.3	7.6	8.8	
48" (1219)	1.14	2.7	4.3	6.0	7.7	9.4	n/a	
54" (1372)	1.32	3.1	4.9	6.2	8.8	10.7	n/a	
60" (1524)	1.51	3.5	5.5	7.7	9.9	11.8	n/a	

Type B Thinline Damper Free Area – sq. ft.

Duct Height in inches (mm)	Duct Width in inches (mm)							
	6" (152)	12" (305)	18" (457)	24" (610)	30" (762)	36" (914)	40" (1016)	
6" (152)	.15	.32	.52	.69	.88	1.09	1.17	
12" (305)	.31	.70	1.07	1.55	1.95	2.4	2.7	
18" (457)	.47	1.05	1.7	2.5	3.05	3.8	4.2	
24" (610)	.62	1.44	2.3	3.4	4.2	5.1	5.6	
30" (762)	.80	1.84	2.9	4.3	4.9	6.5	7.2	
36" (914)	.95	2.33	3.6	5.1	6.4	7.8	n/a	
42" (1067)	1.0	2.5	3.8	5.6	7.0	8.5	n/a	
48" (1219)	1.3	3.1	4.8	6.8	8.6	10.4	n/a	

Type C Dampers have Free Area equal to Nominal Duct Area.

To calculate Free Area of round duct: Diameter² x .00545 = Free Area (sq ft.)

To determine pressure drop across open damper, calculate **free area velocity** as shown, find velocity on curve and read across for s.p. differential.

$$\text{Free Area Velocity (fpm)} = \frac{\text{cfm}}{\text{Free Area}}$$

Example:

1 – 36" x 36" Damper required for 14,000 cfm. (Type A)

$$\text{FAV} = \frac{14,000}{7 \text{ sq. ft.}} = 2000 \text{ fpm}$$

2000 fpm located on the 'A' curve shows a pressure drop of .12 in. wg.

cfm = cubic feet per minute

fpm = feet per minute velocity

S.P. = static pressure in inches water gauge

FAV = Free Area Velocity

Imperial System Shown

To convert to SI (metric) system:

Multiply cfm by .4719 for liters per second

Multiply fpm by .00508 for meters per second

Multiply in. wg. by .2486 for kilopascals

Multiply sq. ft. by .0929 for square meters.

Pressure Drop

