IBD-FS – Fire & Leakage Rated Dampers

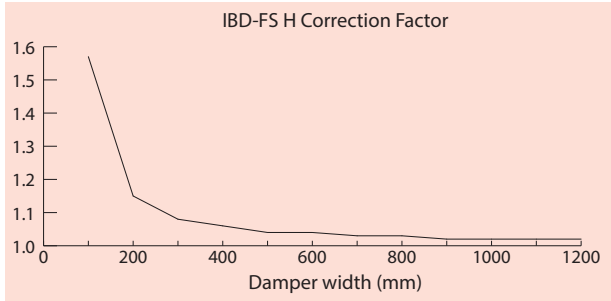
Model: **IBD-FS-A**

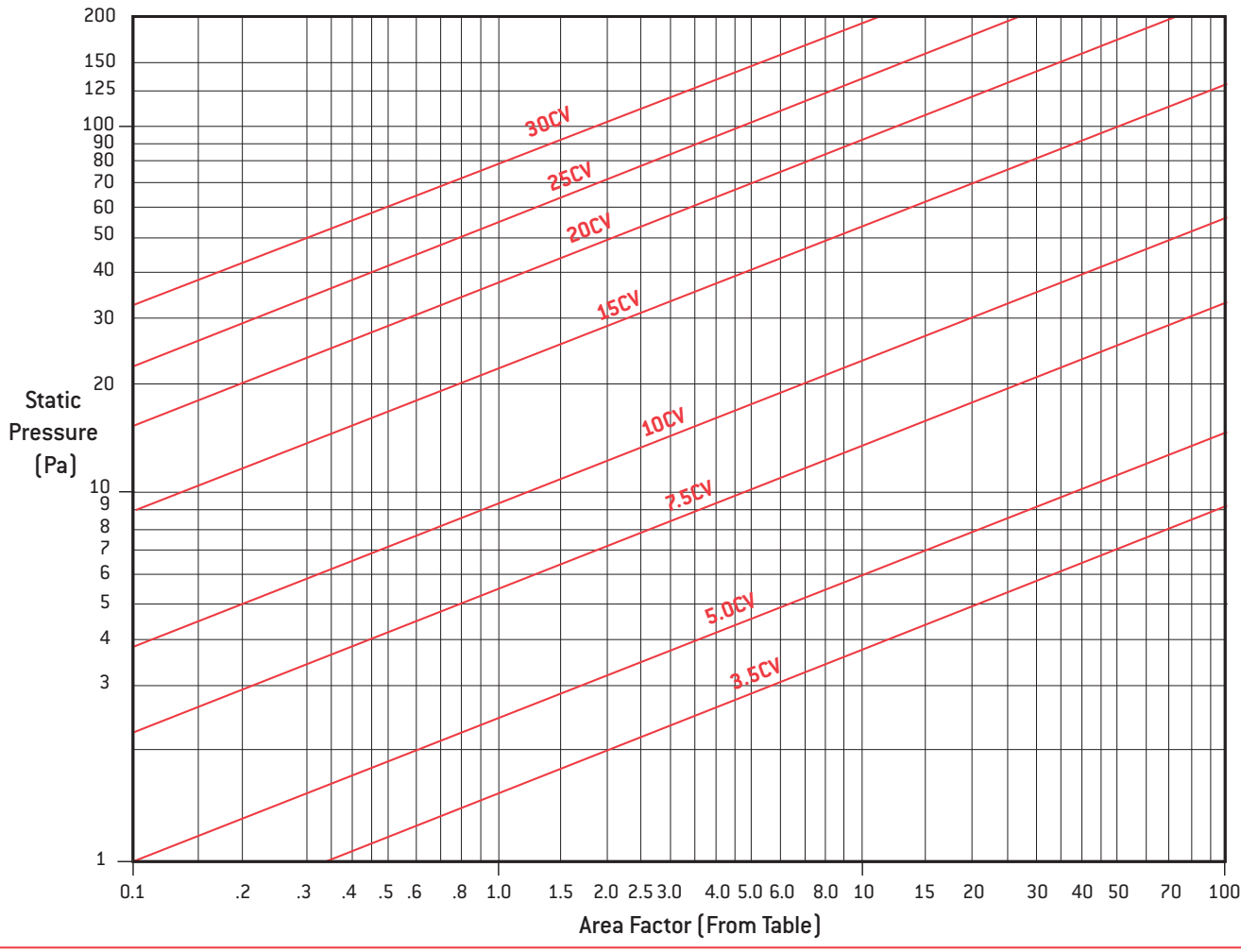
AREA FACTOR TABLE - DUCT CONNECTION STYLE A												
Dim. 'B'	Dimension 'A' Width (mm)											
(mm)	100	200	300	400	500	600	700	800	900	1000	1100	1200
184		55.90	33.90	24.30	19.00	15.60	13.20	11.40	10.10	9.00	8.18	7.47
304	82.70	29.00	17.60	12.60	9.83	8.06	6.83	5.92	5.23	4.68	4.24	3.87
424	55.80	19.60	11.90	8.51	6.63	5.44	4.61	3.99	3.53	3.16	2.86	2.61
544	42.10	14.80	8.95	6.42	5.01	4.10	3.48	3.01	2.66	2.38	2.16	1.97
664	33.80	11.80	7.18	5.15	4.02	3.29	2.79	2.42	2.14	1.91	1.73	1.58
784	28.20	9.90	6.00	4.31	3.36	2.75	2.33	2.02	1.79	1.60	1.45	1.32
904	24.20	8.50	5.15	3.70	2.88	2.36	2.00	1.74	1.53	1.37	1.24	1.13
1024	21.20	7.45	4.51	3.24	2.53	2.07	1.75	1.52	1.34	1.20	1.09	0.99
1144	18.90	6.63	4.02	2.88	2.25	1.84	1.56	1.35	1.19	1.07	0.97	0.88
1200	17.00	5.97	3.62	2.60	2.02	1.66	1.41	1.22	1.08	0.96	0.87	0.80

(All dimensions include 6 mm clearance total between outside of damper frame and inside of duct).

For pressure drop through an open IBD-FS-A fire and leakage rated damper, use the following procedure:

1. Find the Area Factor from the above table, enter duct width and height. For horizontal dampers multiply the area factor by the correction factor on the right.
2. Determine Conversion Velocity (CV) by multiplying Area Factor by flow in m^3/s (CV = Area Factor x m^3/s).
3. Enter pressure drop chart with Area Factor and establish intersection with Conversion Velocity (CV) line just determined. Read pressure drop on left hand side of the chart.





Notes

1. Static Pressure and Conversion Velocities are correct for 1.2 kg/m^3 air density.
2. Ratings are based on dampers installed in accordance with details in this catalogue, with ductwork upstream and downstream.

Model: **IBD-FS-B**

AREA FACTOR TABLE - DUCT CONNECTION STYLE B												
Dim. 'B'	Dimension 'A' Width (mm)											
(mm)	100	200	300	400	500	600	700	800	900	1000	1100	1200
84			67.90	48.70	38.00	31.10	26.40	22.90	20.20	18.10	16.40	14.90
179		42.40	25.70	18.50	14.40	11.80	9.99	8.67	7.65	6.85	6.20	5.66
299	67.80	23.80	14.40	10.40	8.07	6.61	5.60	4.86	4.29	3.84	3.48	3.17
394	50.30	17.60	10.70	7.68	5.99	4.91	4.16	3.60	3.18	2.85	2.58	2.35
514	37.90	13.30	8.07	5.79	4.51	3.70	3.13	2.72	2.40	2.15	1.94	1.78
609	31.80	11.10	6.75	4.85	3.78	3.10	2.62	2.27	2.01	1.80	1.63	1.49
729	26.30	9.24	5.60	4.02	3.13	2.57	2.18	1.89	1.67	1.49	1.35	1.23
824	23.20	8.14	4.93	3.54	2.76	2.26	1.92	1.66	1.47	1.31	1.19	1.09
944	20.20	7.07	4.29	3.08	2.40	1.97	1.67	1.44	1.28	1.14	1.03	0.94
1046	18.30	6.41	3.89	2.79	2.17	1.78	1.51	1.31	1.16	1.03	0.94	0.86

(All dimensions include 6 mm clearance total between outside of damper frame and inside of duct).

For pressure drop through an open IBD-FS-B fire and leakage rated damper use the following procedure:

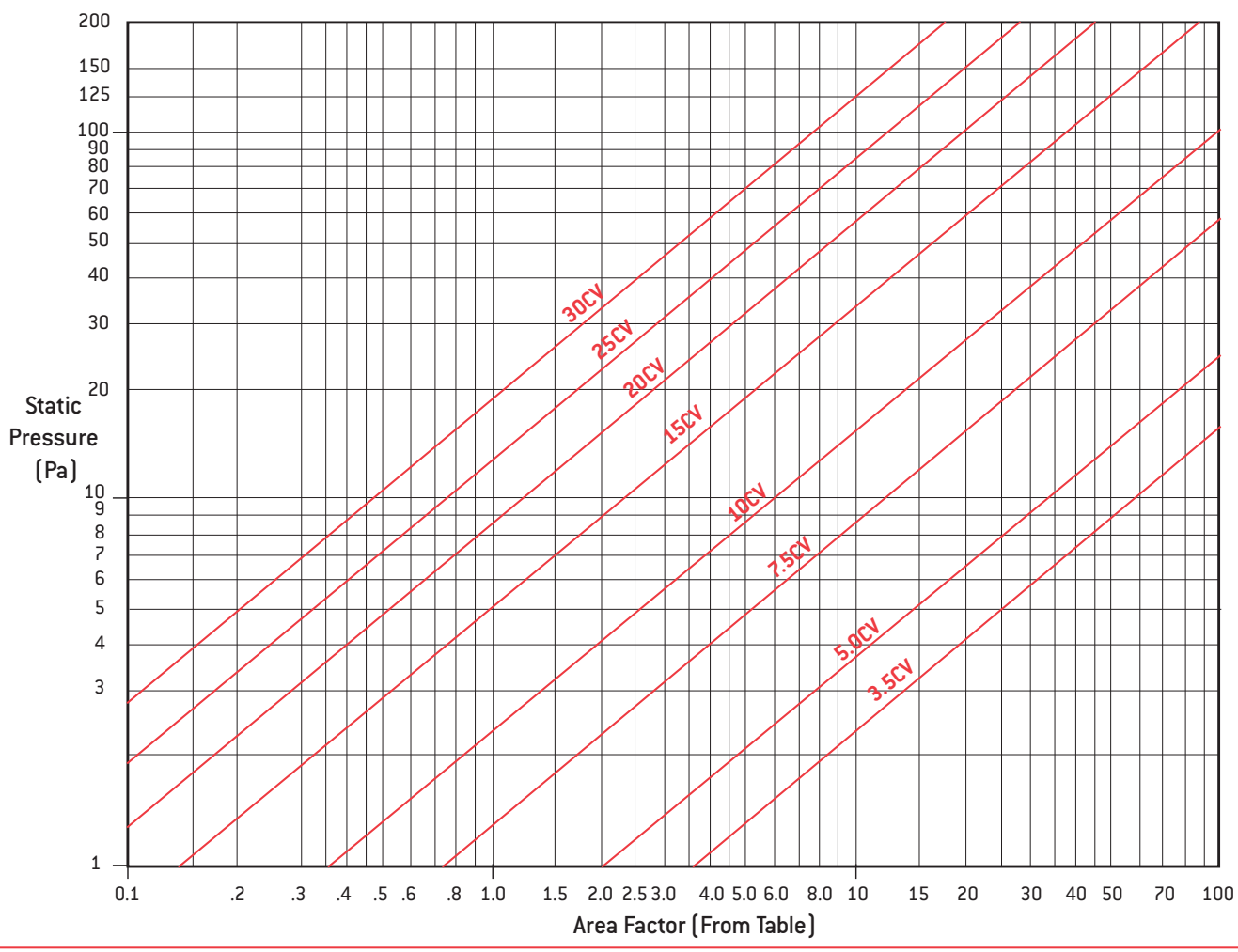
1. Find the Area Factor from the above table, enter duct width and height.
2. Determine Conversion Velocity (CV) by multiplying Area Factor by flow in m^3/s (CV = Area Factor x m^3/s).
3. Enter pressure drop chart with Area Factor and establish intersection with Conversion Velocity (CV) line just determined. Read pressure drop on left hand side of the chart.

Note: Interpolations while not precise, are adequate for most calculations.

EXAMPLE:

Find the pressure drop across a 500 wide x 514 high model IBD-FS-B fire and leakage rated damper, passing 2.2 m^3/s.

1. From the table using interpolation, the Area Factor is 4.51.
2. CV = 2.2 x 4.5 = 9.9 (10).
3. From pressure drop chart, pressure drop is 8 Pa.



Notes

1. Static Pressure and Conversion Velocities are correct for 1.2 kg/m^3 air density.
2. Ratings are based on dampers installed in accordance with details in this catalogue, with ductwork upstream and downstream.