

# IR Series

## Iris Dampers

### Features

- Flow measurement accuracy +/- 5%
- Linear response flow control
- Nine sizes available from 4" to 25"
- Quiet, low self-generated noise characteristic
- Compact design allows for simple installation
- Each damper comes with permanent pressure taps
- Airtight construction with integral gaskets for duct connection
- Internal aperture opens fully to allow duct cleaning without dismantling
- Five year warranty



### Description and Function

The Fantech Iris Damper is the ideal device for measuring and adjusting airflow through a duct. The design of the adjustable aperture ensures low turbulence resulting in minimal self-generated noise.

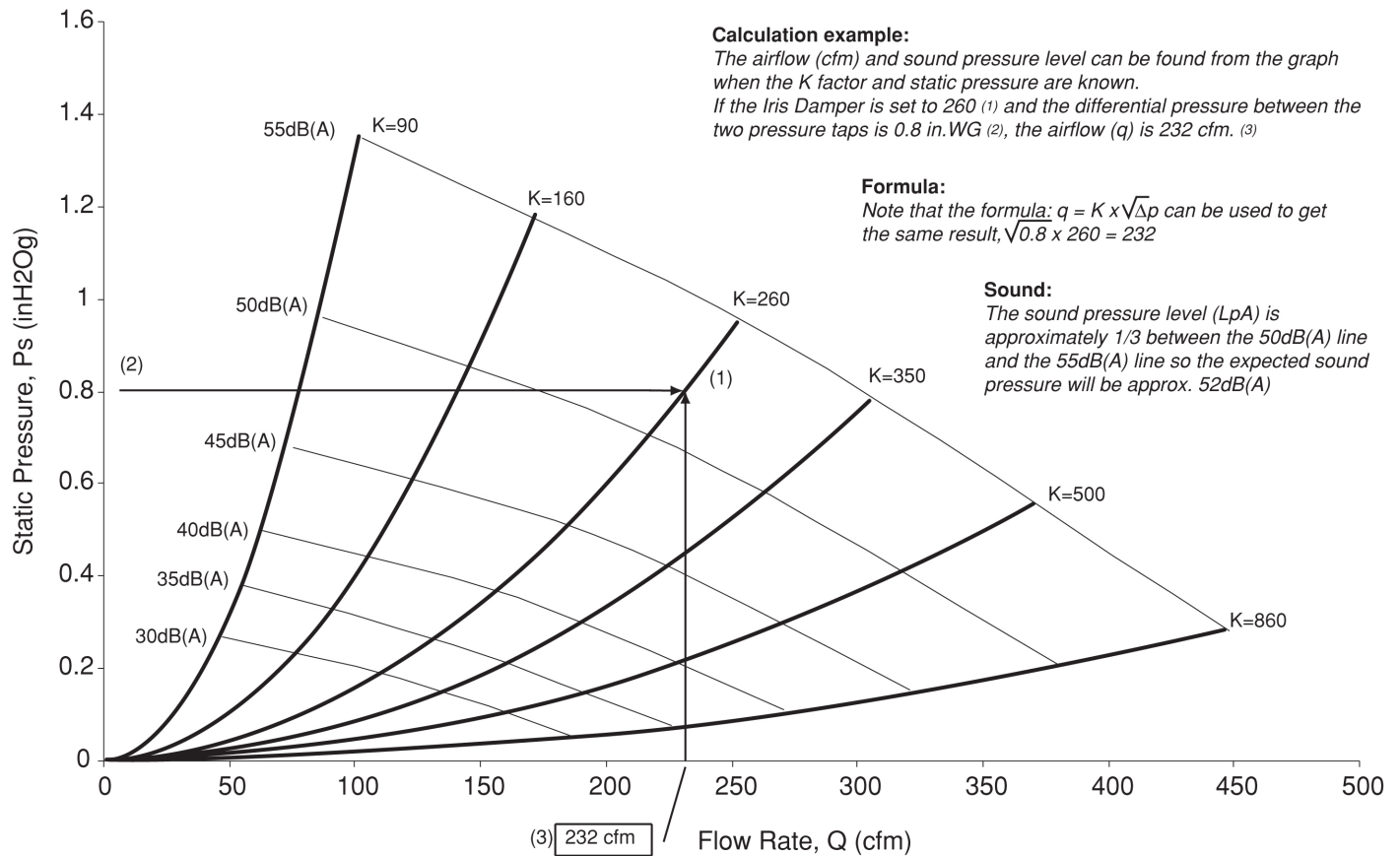
Adjusting airflow/pressure is a simple matter of positioning the calibrated control lever on the outside of the Iris Damper.

Flow can be determined from the K factor and a differential pressure measurement. Use the lever on the damper to select the K factor.

Airflow is found from the formula:  $q = K \sqrt{\Delta p}$ , where 'q' is the airflow in cfm and  $\Delta p$  is the differential pressure in in.w.g. found by connecting a manometer or other pressure instrument to the two pressure taps provided on the Iris Damper.

Alternatively, you may use the graph method to find airflow. Each model in the Fantech Iris Damper series has its own specific airflow and sound characteristics graph.

## IR 6



## Sound Power Level $L_w$

Sound power level ( $L_w$ ) for each frequency band can be found by applying the formula:  $L_w = L_{pA} + K_{ok}$ .

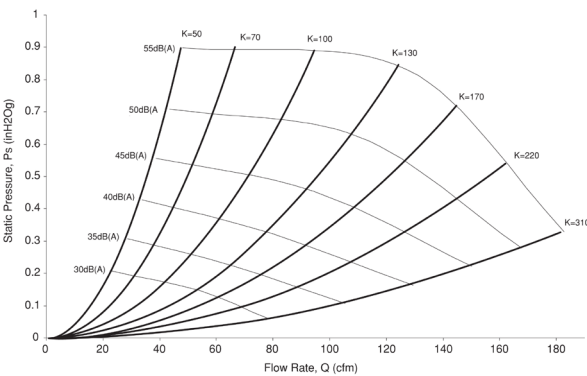
## Sound Data

Size	Mid-frequency (octave band) Hz						
	63	125	250	500	1k	2k	4k
IR 4	11	10	3	-2	-8	-16	-24
IR 5	7	8	2	-4	-11	-19	-27
IR 6	9	6	1	-5	-11	-18	-27
IR 8	9	5	1	-5	-12	-17	-24
IR 10	6	1	-4	-3	-4	-17	-24
IR 12	3	1	-4	-4	-9	-13	-19
IR 16	3	1	-4	-4	-9	-13	-19
Tolerance	+/- 6	+/- 5	+/- 2	+/- 2	+/- 2	+/- 2	+/- 3

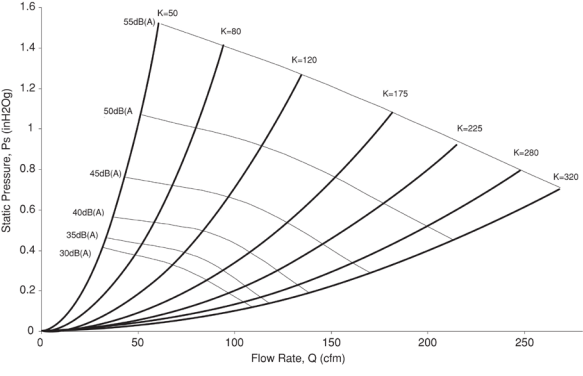
From the example above, sound pressure level ( $L_{pA}$ ) is 52dB(A).

Sound power level ( $L_w$ ) can now be found from the table.  
The sound power level ( $L_w$ ) in the 500Hz octave band is:  
 $L_{pA}$  (from graph) +  $K_{ok}$  (correction factor from table) =  $L_w$   
or  $52 + (-5) = 47$ dB(A).

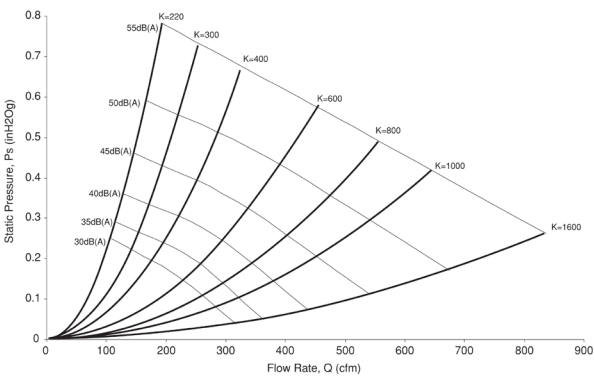
IR 4



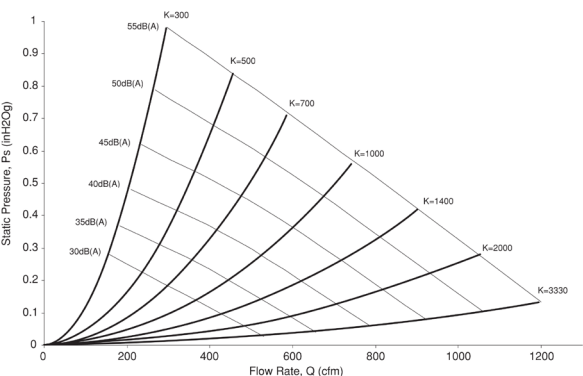
IR 5



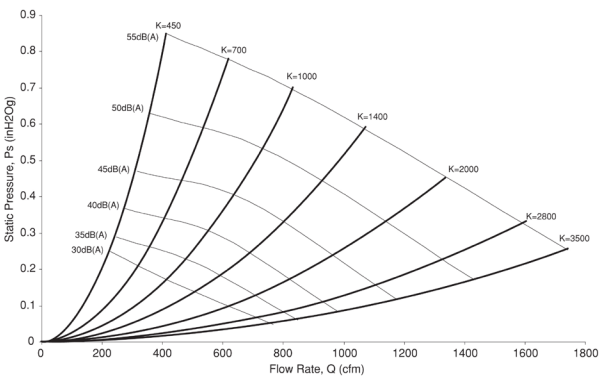
IR 8



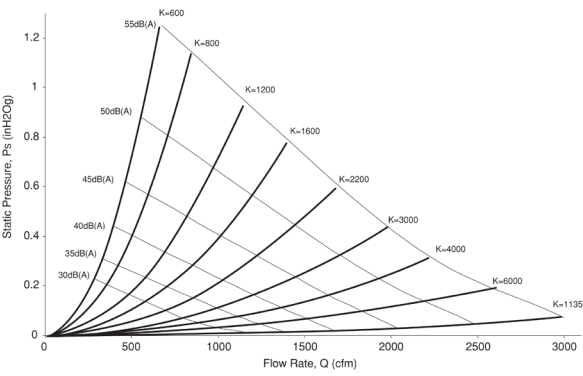
IR 10



IR 12



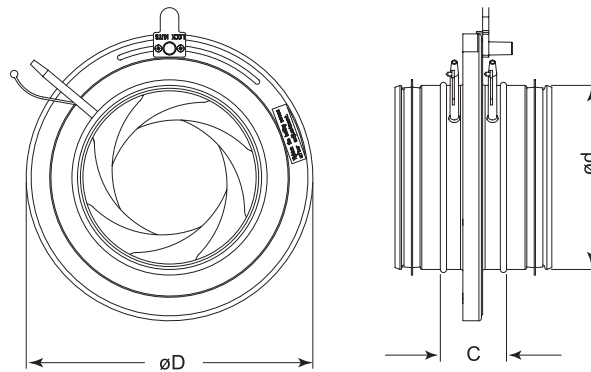
IR 16



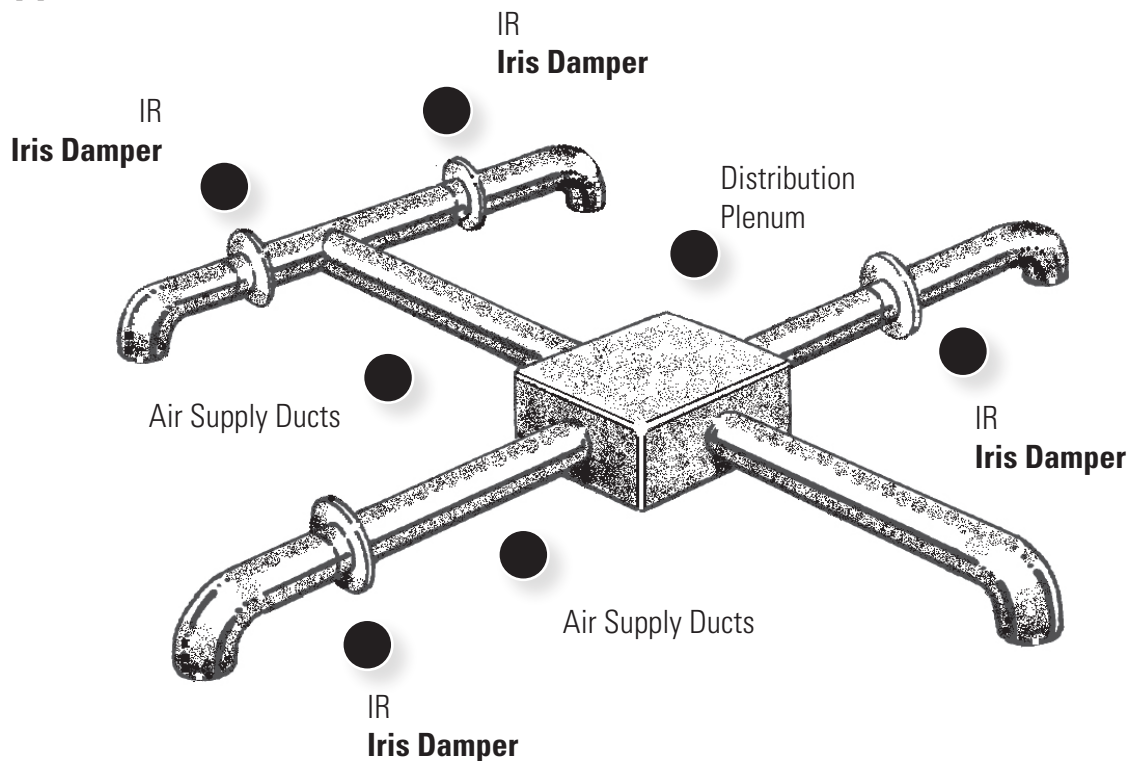
## Dimensions

Model	ød	øD	C	Weight, lbs	Item#
IR 4	4 (102)	6 1/2 (153)	2 1/4 (57)	2	411234
IR 5	5 (127)	8 1/4 (210)	2 1/2 (64)	3	411235
IR 6	6 (152)	9 (229)	2 (51)	4	411236
IR 8	8 (203)	11 1/4 (286)	2 1/4 (57)	5	411237
IR 10	10 (254)	13 (330)	2 1/4 (57)	7	411238
IR 12	12 (305)	16 (406)	2 5/8 (60)	8	411239
IR 12	16 (406)	22 (559)	3 1/4 (83)	12	411240

Dimensions are in inches (mm).



## Application



Typical multi-duct installation where Iris Dampers are used to balance the system.

### Installation Note:

For precise metering of airflow, the **Iris Damper** should be located at a minimum 1 diameter before or after the elbow, 3 diameters before a "T", 1 diameter after a "T", and 3 diameter before an outlet register.



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