AirPro Damper IRIS

AirPro means carefully selected products with high quality at a good price.

IRIS

- 12 sizes ranging from Ø 80 to 800 mm
- Easy to install & adjust
- High measurement accuracy
- Type-approved method of measurement
- Ductwork leakage class C, EN 1751
- Low noise levels

Usage

Iris dampers are typically used for controlling the air volume and measuring the circular duct in ventilation and air conditioning systems. The diaphragm valve ensures a perfect accordance between a diameter indication on the handle and an opening of a valve. A fully opened iris damper provides a 100% free area with no control mechanism in the airstream, thus allowing easy and effective cleaning of the duct work system.

Design

The damper structure and the control discs are made of galvanized sheet steel, and the other components are made of plastic. The connection spigots are fitted with rubber seal rings

Installation

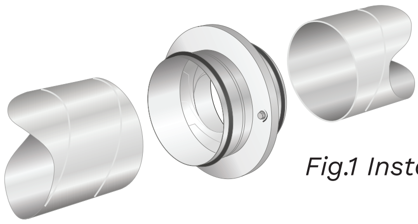

Fig.1 Installation

The IRIS damper should be installed at a suitable distance from obstruction sources. In undisturbed measurement an accuracy of ±5% is achieved. With installation options according to figure 2, an accuracy of ±10% is achieved. Casing leakage is according to ductwork leakage class C (EN 1751).

If external conditions require shorter distances than recommended, a so-called turbulent flow pattern may occur, which can lead to increased measurement deviation (see adjustment).

As the damper blades are based on the collar surrounding the damper and are independent of the flow direction, the damper can easily be adapted for different installation situations. However, the damper should not be loaded with the weight of connecting ducts, regardless of whether the installation is horizontal or vertical. Rubber seals are located on the connection collars to prevent air leakage.

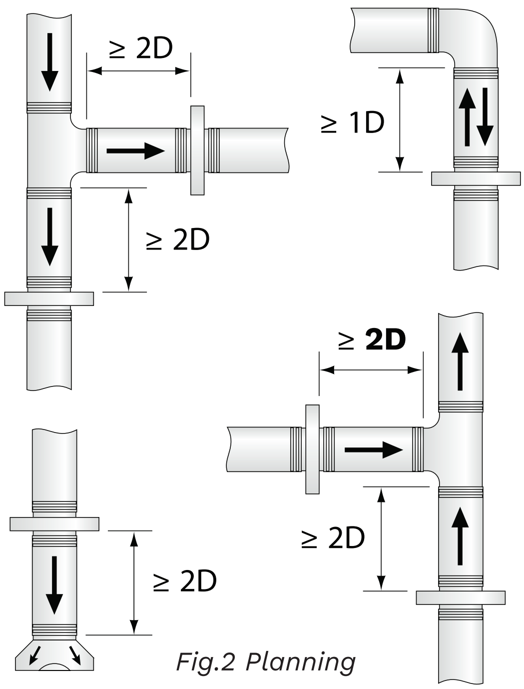

Fig.2 Planning

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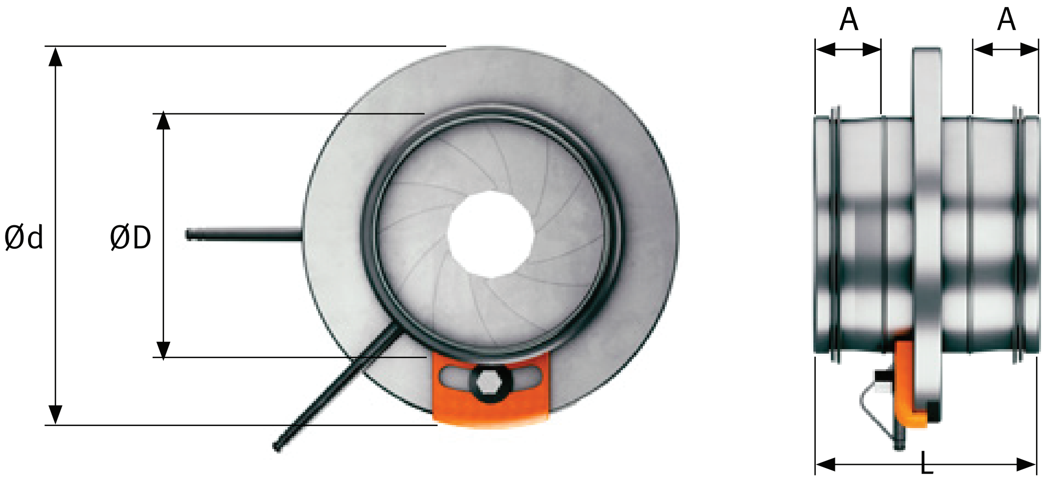
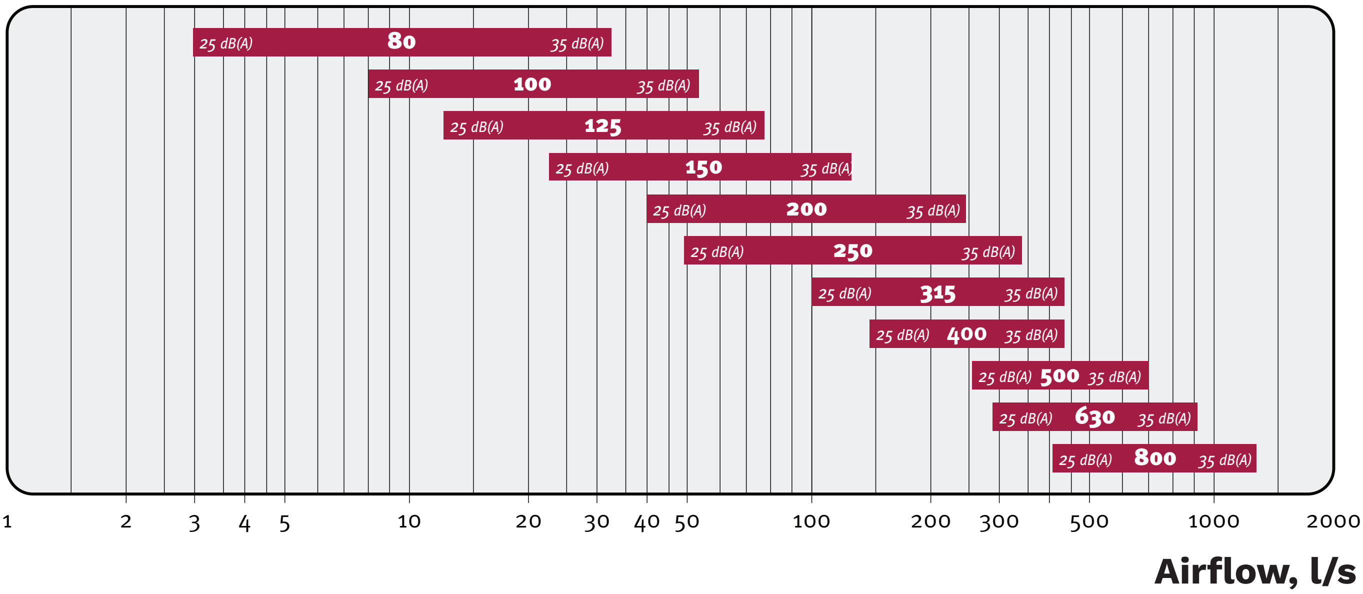
Dimension table with article numbers



Size	Ød mm	ØD mm	L mm	A mm	Number blades	Weight kg	Art nr
80	79	124	115	31	7	0,5	**DI80**
100	99	164	115	27	7	0,6	**DI100**
125	124	188	115	27	7	0,7	**DI125**
150	149	231	115	27	8	1,0	**DI150**
200	199	283	120	27	11	1,5	**DI200**
250	249	333	135	33	12	1,9	**DI250**
300	299	405	140	33	12	2,5	**DI300**
315	314	405	140	33	12	2,5	**DI315**
400	399	526	150	47,5	12	6,1	**DI400**
500	499	656	150	47,5	12	8,8	**DI500**
630	628	815	155	47,5	12	15,8	**DI630**
800	798	1017	285	113,5	12	24,8	**DI800**

Quick selection guide



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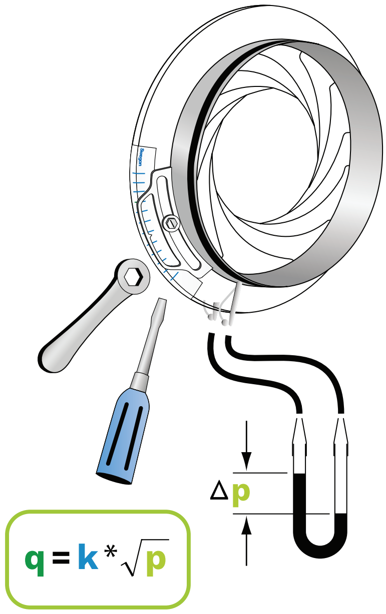
Commissioning

Read the pressure difference, i.e., the so-called measurement pressure (Δpm), across the damper's measuring nipples in pascals (Pa), and then calculate the airflow using the K-factors in the table below. Adjust the airflow by turning the adjustment nut with the included adjustment tool or a fixed wrench. Pay attention to both end positions and do not continue to turn once it stops.

Example: Ø160 mm / Pos 4 / Δpm = 50 Pa » 10.7 x √ 50 = 76 l/s

The measurement deviation amounts to ± 5% with the recommended installation method, with a straight duct section equivalent to a distance of ≥ 5 times the diameter (D) before the damper and ≥ 2 times D after the damper in the flow direction (see Figure 1).

The measurement deviation increases to ± 10% with alternative installation methods that require shorter disturbance distances than recommended (see above) when there is a risk of a so-called turbulent flow pattern (see Figure 2).



q = flow reading l/s
p = current pressure reading (Pa)
k = commissioning factor

IRIS – Size	Ring spanner size
80-160	8 mm
250-315	10 mm
400-630	15 mm
800	22 mm

Position	K-factor ($q_v = \sqrt{\Delta P_m}$)										
	80	100	125	160	200	250	315	400	500	630	800
1	6,1	10,4	13,8	22,1	44,2	64,4	118,0	131,0	230,0	451,0	489,0
1,5	–	7,9	10,4	17,2	36,6	53,5	88,3	–	–	–	–
2	4,1	7,5	8,8	14,8	30,9	45,6	70,0	102,0	177,0	297,0	402,0
2,5	–	6,6	7,3	13,4	26,9	41,8	64,5	–	–	–	–
3	3,2	6,0	6,5	12,5	23,2	38,7	58,7	88,3	146,0	238,0	344,0
3,5	–	5,2	5,5	11,5	20,6	34,5	53,0	–	–	–	–
4	2,3	4,5	4,7	10,7	18,2	30,7	45,1	67,3	112,0	169,0	267,0
4,5	–	3,8	4,0	9,5	15,9	27,3	42,4	–	–	–	–
5	1,4	3,4	3,5	8,5	14,0	24,1	37,0	52,7	88,5	127,0	217,0
5,5	–	2,9	3,1	7,5	12,3	21,4	33,3	–	–	–	–
6	0,9	2,5	2,7	6,8	11,0	18,4	30,0	38,5	66,6	91,6	170,0
6,5	–	2,1	2,2	5,6	9,6	15,8	25,9	–	–	–	–
7	0,6	1,7	1,5	4,9	8,4	12,8	21,8	28,4	48,0	62,8	122,0
7,5	–	1,2	–	4,0	6,5	10,9	19,0	–	–	–	–
8	–	0,9	–	3,5	5,0	8,9	15,8	15,5	30,0	35,1	73,7

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