

IRIS

Measurement and control damper



General

The IRIS is a shutter-type airflow measurement and control damper designed for controlling and measuring the air flow in circular ventilation ducts.

Quick facts

- ▶ Type-approved method of measurement
- ▶ Short installation length
- ▶ Can be cleaned (up to and including size 630)
- ▶ Low flow-generated noise level
- ▶ High measurement accuracy
- ▶ Each damper is individually calibrated.

IRIS

Technical Description

Design

The control function itself is built into a surface-mounted collar and offers uniform and centric throttling when the damper blades are actuated towards the centre. The result will be a laminar and uniform air stream pattern with a low noise level. Thanks to its compact design, the IRIS is simple to integrate into the ductwork.

Materials and finish

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.

Function

The IRIS is designed for regulating the airflow in circular ventilation ducts. The control disks form an almost ideal measurement flange that enables simple and reliable airflow measurement. The IRIS is ideally suited for installation in ducts that require regular cleaning, because it can be opened completely (up to and including size 630 mm).

Installation

The IRIS damper should be installed at a suitable distance from obstruction sources. This is especially the case if it is connected to a vertical run of ducts.

Commissioning

Each damper is individually calibrated. The max. permissible measurement deviation is $\pm 7\%$, this also applies if the damper is positioned near a T-piece, transition piece or duct bend. The pressure differential can be read and the airflow can be determined using the fixed measurement tappings.

Maintenance

The damper is maintenance-free.

Environment

The Declaration of Construction Materials is available from www.swegon.com.



Figure 1. Installation.

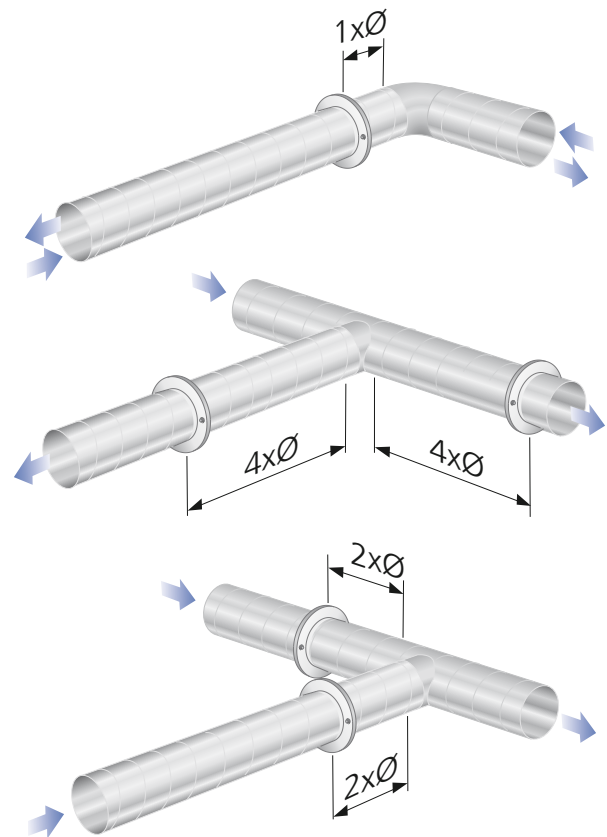


Figure 2. Planning.

Sizing

Sound Power Level

The diagrams for the various sizes show the total generated sound power (L_{Wtot} dB), as a function of the airflow and pressure drop across the damper. By correcting L_{Wtot} with the correction factors from Table K_{ok} , the sound power level for each octave band ($L_W = L_{Wtot} + K_{ok}$) can be obtained.

Sound data – IRIS

Table K_{ok}

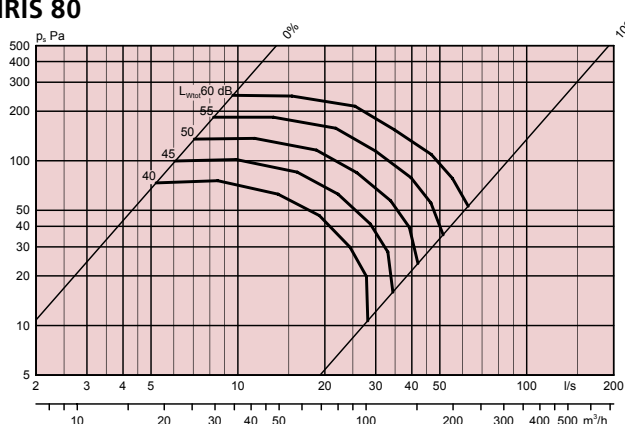
IRIS	63	125	250	500	1000	2000	4000	8000
80	0	-2	-6	-9	-13	-19	-24	-41
100	1	-1	-6	-13	-18	-28	-34	-47
125	-1	-2	-6	-12	-18	-23	-25	-36
160	-1	-2	-6	-14	-21	-26	-33	-45
200	-2	-1	-6	-13	-20	-23	-32	-43
250	1	-2	-6	-11	-13	-18	-28	-40
315	0	-1	-8	-13	-12	-15	-26	-40
400	-1	-3	-6	-10	-13	-16	-21	-25
500	1	-3	-6	-9	-11	-14	-18	-21
630	-2	-3	-7	-8	-11	-15	-19	-21
800	0	-4	-6	-6	-10	-15	-19	-22

Engineering graphs - IRIS

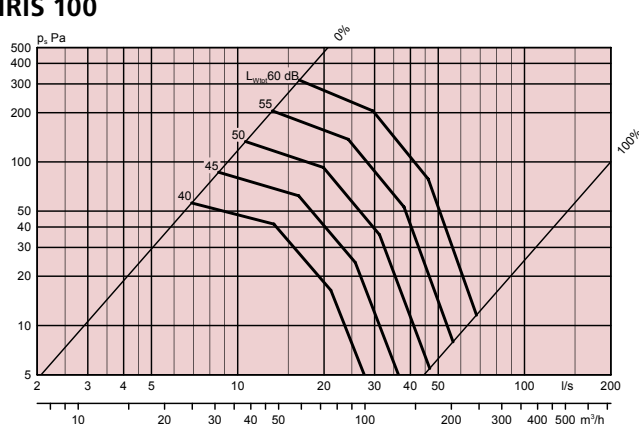
Airflow - Pressure drop - Sound level

- The diagrams are not to be used for commissioning.

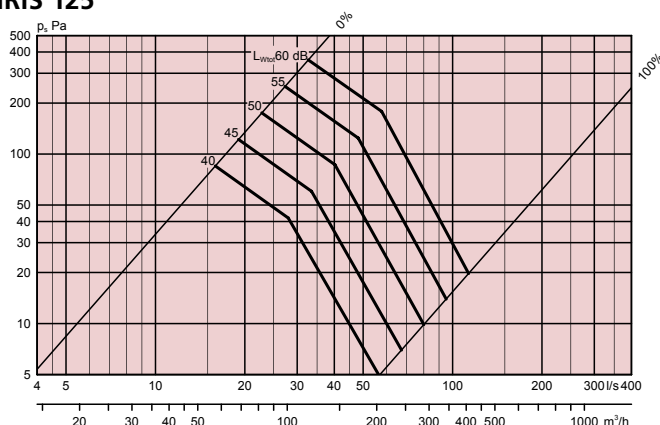
IRIS 80



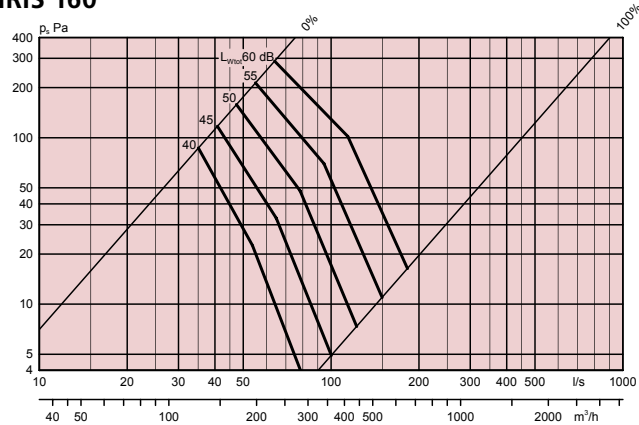
IRIS 100



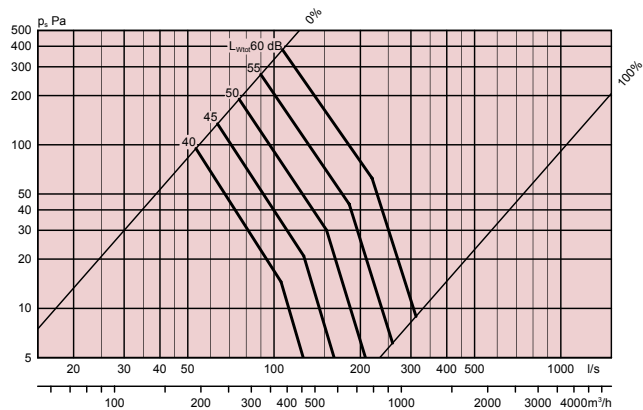
IRIS 125



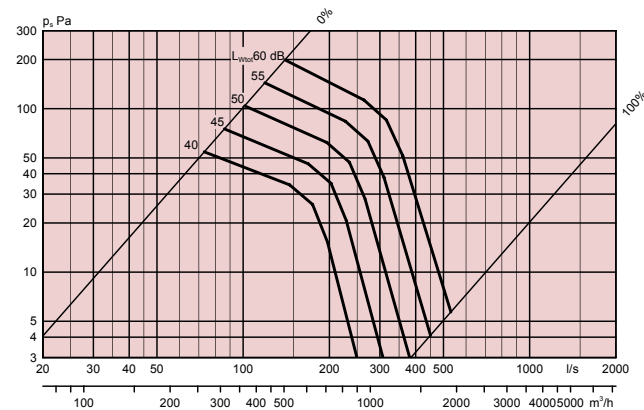
IRIS 160



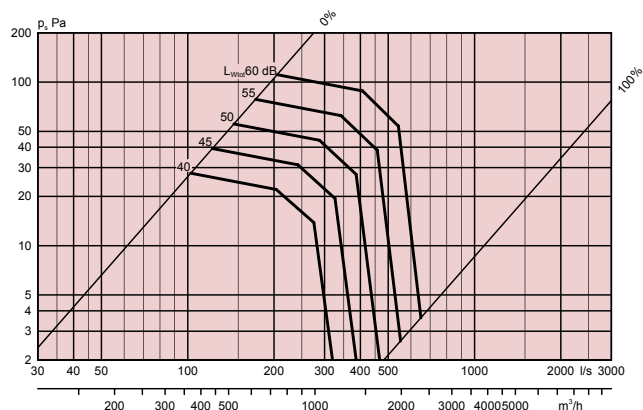
IRIS 200



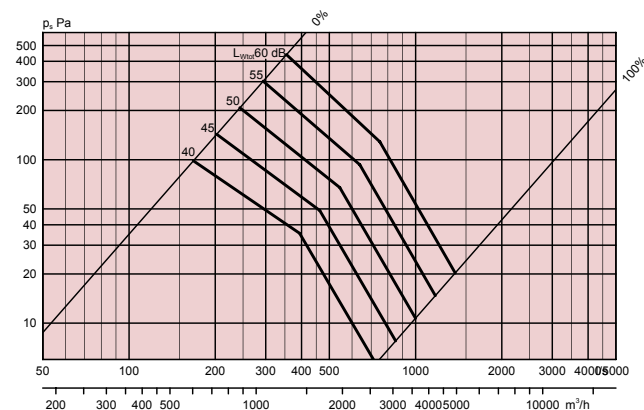
IRIS 250



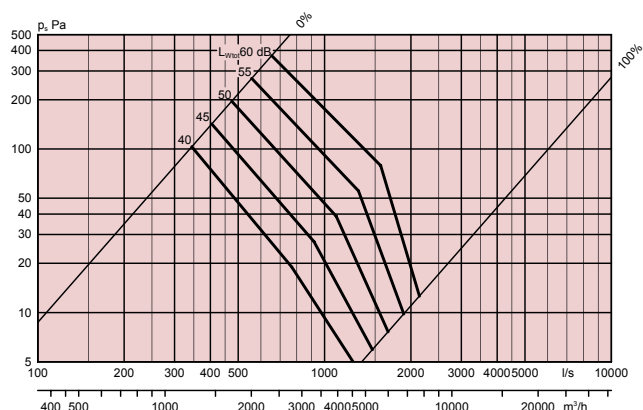
IRIS 315



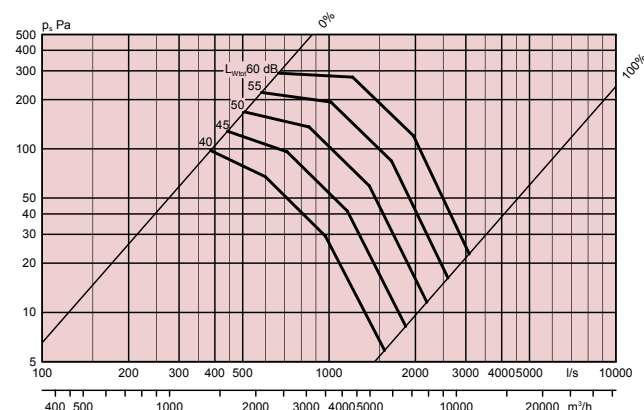
IRIS 400



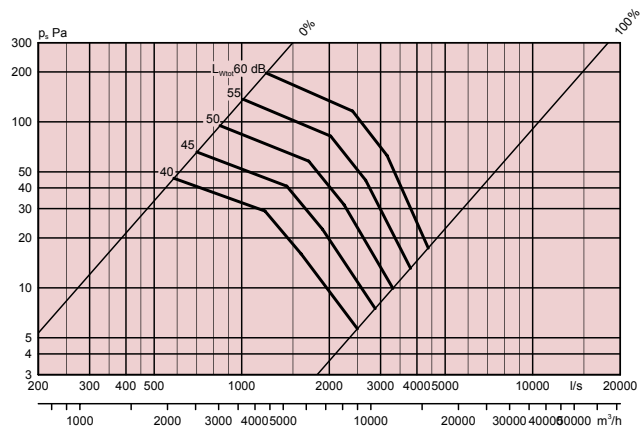
IRIS 500



IRIS 630



IRIS 800



Dimensions and weights

IRIS

Size	Ød (mm)	ØD (mm)	L (mm)	A (mm)	B (mm)	Weight (kg)
80	79	125	110	30	22	0,5
100	99	165	110	30	32	0,5
125	124	188	110	30	32	0,7
160	159	230	110	30	35	0,9
200	199	285	110	30	42	1,4
250	249	335	135	40	42	2,1
315	314	410	135	40	47	3,5
400	398	525	190	60	62	6,4
500	498	655	170	50	77	9,6
630	628	815	170	50	92	15,6
800	798	1015	270	100	107	25,0

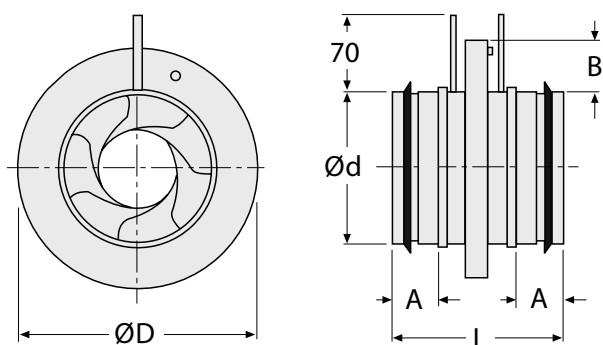


Figure 3. IRIS

Ordering key

Product

Commissioning damper	IRIS	a	-aaa
Version			
Size:			
100, 125, 160, 200, 250, 315,			
400, 500, 630, 800			

Specification text

Swegon's type IRIS circular measurement and commissioning damper with the following functions:

- Type-approved method of measurement
- Fixed measurement tappings
- Lockable damper knob with damper blade position indicator
- Non-fouling design

Size IRIS a -aaa xx st