

PRA

Adjustment And Measurement Unit



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- Airflow balancing, adjustment and measurement unit
- Manual adjustment, no tools required
- Accurate airflow measurement based on flow nozzle principle
- Minimised sound generation due to conical adjustment section
- Temperature operation range from -30 °C to +70 °C
- Self-locking adjustment mechanism, position can be ensured with locking screw
- Duct cleaning enabled through the unit up to size 315
- Adjustment position marker indicates proper position e.g. repositioning after cleaning
- Inlet and outlet spigots equipped with integral rubber gaskets
- Application option as supply air jet nozzle for air diffusion in large spaces
- Classification of casing leakage EN 1751 class C

Product Models

- PRA -unit (PRA/R) integrated with cleaning access panel. RLA enables removal of the adjustment damper and access to ductwork for cleaning.

MATERIAL

PART	MATERIAL	NOTE
Casing	Galvanised steel	
Blades	Galvanised steel	
Operating mechanism	ABS and PBT plastic	Sizes 100...315
Operating mechanism	Steel	Sizes 350...1000
Duct gaskets	1C-polyurethane hybrid	
Measurement taps	Polyurethane (PU)	

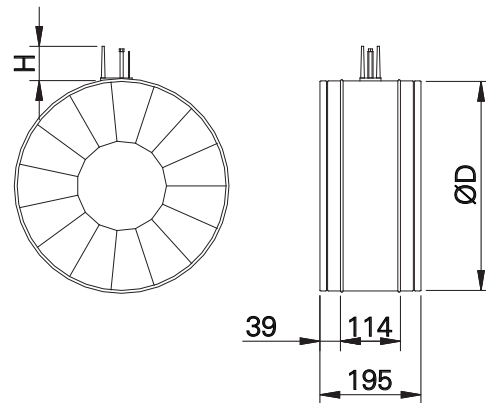
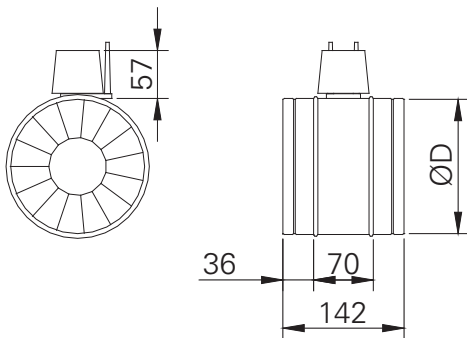
QUICK SELECTION

D [mm]	qmin		qmax	
	[l/s]	[m³/h]	[l/s]	[m³/h]
100	8	28	47	170
125	12	44	74	265
160	20	72	121	434
200	31	113	188	679
250	49	177	295	1060
315	78	281	468	1683
350	96	346	577	2078
400	126	452	754	2714
500	196	707	1178	4241
630	312	1122	1870	6733
800	503	1810	3016	10857
1000	785	2827	4712	16965

qmin 1 m/s duct velocity

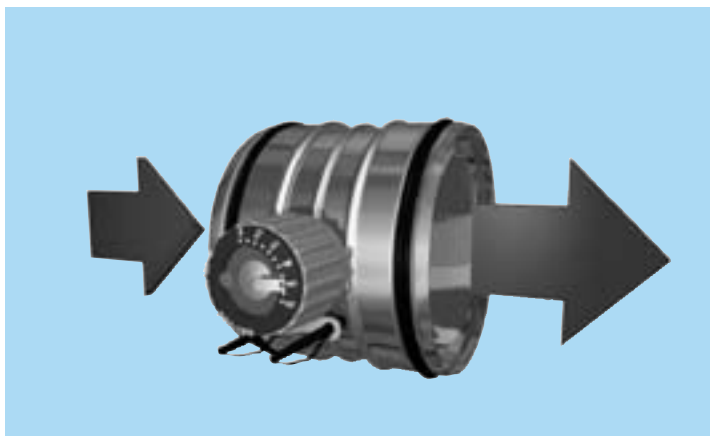
qmax 6 m/s duct velocity - recommended maximum
airflow for comfort applications

DIMENSIONS



PRA 100...315	
NS	ØD
100	99
125	124
160	159
200	199
250	249
315	314

PRA 350...1000		
NS	ØD	H
350	349	70
400	399	70
500	499	70
630	629	70
800	799	70
1000	999	85



Function

The airflow rate is adjusted by turning the adjustment knob in order to change the aperture size of the adjustment cone formed by iris blades. Once the opening area is reduced, the airflow rate decreases and the total pressure loss caused by the device increases.

The airflow can be determined by measuring the differential pressure in the measurement taps.

PRA 100...315

The operating mechanism is positioned partly outside the device and between the adjustment cone and casing. The unit can be cleaned with normal duct sweeping equipment when the device is fully opened.

PRA 350...1000

The operating mechanism is located partly outside the device and inside the adjustment cone. The device can be cleaned with normal duct sweeping equipment, when the device is fully opened and the cleaning equipment is passed carefully through the operating mechanism.

Supply air jet nozzle PRA/S

The PRA-unit can also be used as a supply air nozzle in e.g. industrial spaces. Refer to the technical data for PRA/S -model presented in the technical performance chapter.



Installation

Sizes 100...315

CODE	DESCRIPTION
1	Air flow direction indicator
2	Adjustment knob
3	Locking screw of adjustment Position
4	Adjustment position indicator
5	Adjustment position marker for Cleaning
6	Adjustment scale
7	Measurement taps

Sizes 350...1000

CODE	DESCRIPTION
1	Adjustment position indicator
2	Adjustment knob
3	Measurement taps

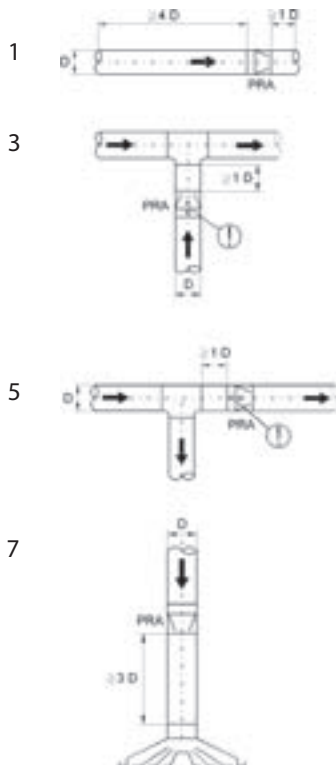
Installation

Fix the damper to the ductwork e.g. with rivets.

Ensure that the rivet does not prevent the operation of the PRA. The position of the rivet must be at least 10 mm from the duct end.

The PRA iris damper shall be installed in the ductwork taking into account the safety distances outlined in the installation guidelines. Safety distances are not required next to duct transitions between only one nominal duct size.

The orientation of the unit shall correspond to the airflow direction. The airflow direction is marked with an arrow indicator on the label on the casing. In order to get accurate measurement readings the orientation of the unit shall be selected so that the location of the measurement taps (below the knob) corresponds to the installation guidelines.



Safety distances

Recommended safety distance in order to get accurate measurement readings are presented in the figure below.

Direct duct with no flow disturbances

- safety distance 4 D upflow of the PRA unit
- safety distance 1 D downflow of the PRA unit

In cases where recommended safety distances cannot be met, use the correction factors of the attached figures for determination of the airflow rate.

Note the position of the measurement taps marked in the figures.

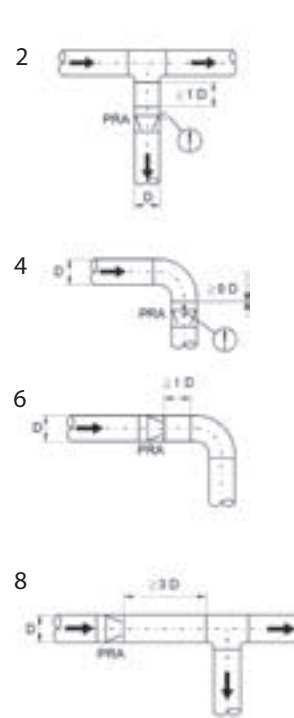


Figure	Installation case	Duct velocity upflow of the pra unit	K-factor
1	Recommended safety distance		1
2	T-branch, supply air		0.95 (1D) ... 1.00 (4D)
3	T-branch, exhaust air	> 2 m/s 1... 2 m/s	0.95 (1D) ... 1.00 (4D) 0.90 (1D) ... 1.00 (4D)
4	90° bend		0.97 (0D) ... 1.00 (4D)
5	T-branch		1
6	90° bend		1
7	Upflow of a supply air device		1
8	T-branch		1