

# BRRM

Measuring unit



DAMPERS &  
MEASURING DAMPERS



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# Measuring unit BRRM



Also available as Flow measurement unit BVVM, see separate product sheet.

## Quick facts

- Sizes according to table
- Hot dip galvanised sheet steel or Stainless steel design
- Slip joint connection
- Available in MagiCAD
- Also available as flow measurement unit BVVM
- Only 120 mm deep
- Supplied with integrated lifting points
- Prepared for wrap over insulation

## Use

The BRRM measurement unit is designed for measuring air flows in rectangular ducts. Testing and specifying of K-factors has been performed at RISE (SP). For commissioning, the measurement unit is supplemented with rectangular damper BRJS, see separate product sheet.

## Material och ytbehandling

The casing is made as standard of hot-dip galvanized sheet steel. The measurement tube is made of extruded aluminium. Corrosivity category C3. Other casing materials are available for higher environmental requirements.

## Specifications

Example: **Measuring unit BRRM - 600 - 400 - 1**

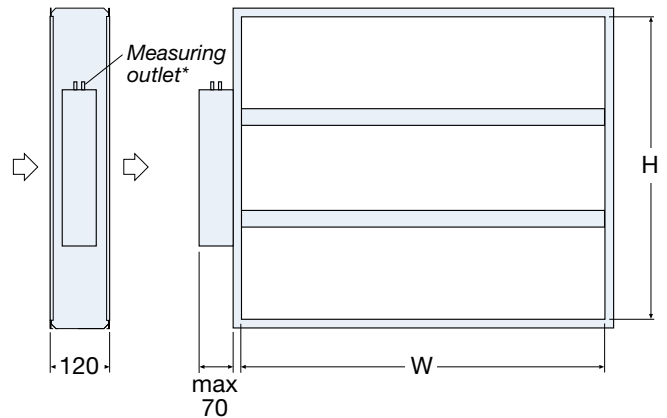
Size

Dimensions, W x H mm

Material

Galvanized sheet steel = 1  
Stainless steel 1.4404 = 3

## Dimensions



\* Number of measurement tubes varies depending on the size of the damper.

## Sizes

H	W															
	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	
200	●	●	●	●	●											
300	●	●	●	●	●	●	●									
400		●	●	●	●	●	●	●	●	●	●					
500			●	●	●	●	●	●	●	●	●	●	●	●	●	
600				●	●	●	●	●	●	●	●	●	●	●	●	●
700					●	●	●	●	●	●	●	●	●	●	●	●
800						●	●	●	●	●	●	●	●	●	●	●
900							●	●	●	●	●	●	●	●	●	●
1000								●	●	●	●	●	●	●	●	●
1100									●	●	●	●	●	●	●	●
1200										●	●	●	●	●	●	●
1300											●	●	●	●	●	●

NB: The measuring outlet is placed on the H-side



**Technical data**

**Sound data**

Correction of sound power level,  $L_W$ , for different sizes

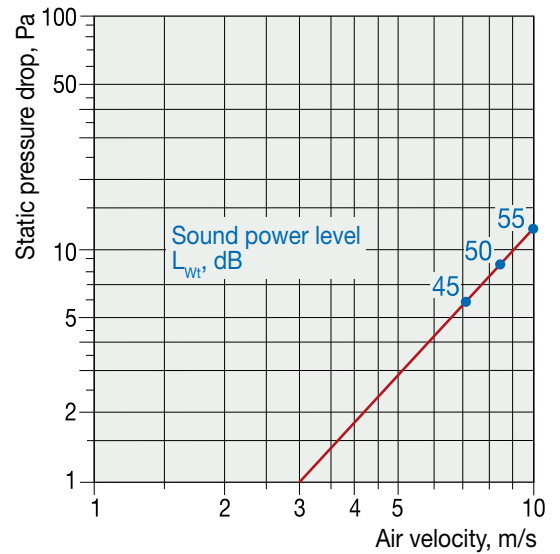
$$L_W = L_{Wt} + K_1$$

Damper-area, m <sup>2</sup>	0,12	0,25	0,5	1,0	2,0	3,0	4,0
$K_1$	-3	0	3	6	9	10,5	12

Correction of sound power level,  $L_{Wok}$ , in octave band

$$L_{Wok} = L_W + K_{ok}$$

Mid frequency Hz	125	250	500	1000	2000	4000	8000
$K_{ok}$	-3	-6	-9	-12	-17	-16	-25



**Installation**

When installing the measuring unit a linear distance corresponding to minimum 2 hydraulic diameters ( $d_h$ ), is required after a disturbance source (min. 500 mm), see below. At other disturbance sources, for example T-piece, minimum 5 x  $d_h$  is recommended.

$$d_h = \frac{2 \times B \times H}{B + H} \text{ mm, where } W \text{ and } H \text{ are the sides of the duct}$$

Examples of disturbance sources are: Duct bend, silencer change in dimensions, damper, heater, fan, air intake, etc.

Method error,  $m_2 < 5\%$

NB: The device should always be placed in the same plane as a duct bend or bifurcation and with the measuring tube turned outwards. Commissioning dampers can be placed directly after the measurement unit.

**Commissioning**

**Commissioning with K-factor**

For commissioning with K-factor, use the formula:

$$q = a \times K \times \sqrt{\Delta p}$$

$q$  = airflow, l/s

$\Delta p$  = differential pressure, Pa

$K$  = measuring unit's K factor = 680

$a$  = area of the measuring unit, m<sup>2</sup>

Recommended working range, 2-5 m/s in duct velocity.

NB: Measurement uncertainty increases at air velocities < 2 m/s.

