Air Distribution Products

JSR

Supply Jet Diffuser

Data Sheet

systemair

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Description

The JSR is a circular multiple-cone diffuser, installed on a duct, and is used to supply air to large spaces.
A scattered distribution pattern (short throw) or concentrated distribution pattern (long throw) can be set by rotating the diffuser 180°. This unit can be mounted on either the wall or the ceiling, and is suitable for both cooled and heated air supply. The angle of the diffuser can be set between 15° and 30° depending on the required distribution direction.

Highlights

- Two types of adjustable discharge patterns: scattered or concentrated jet
- Discharge direction can be tilted up to a 30° angle

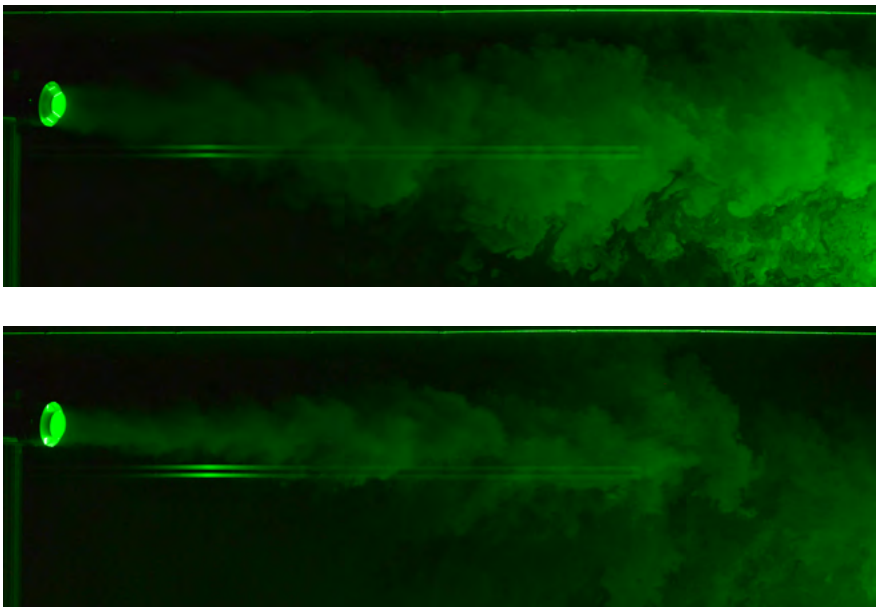


Fig. 1: Air flow visualisation
(top: scattered discharge deflector adjustment; bottom: concentrated discharge deflector adjustment)

Design

The JSR is manufactured from galvanised sheet metal with a white powder-coated finish in RAL9010 or RAL9003 (30% gloss). The discharge adjustment deflection cone is integrated into the circular casing. The cone can be removed to ease the installation of the diffuser.

Product Parts

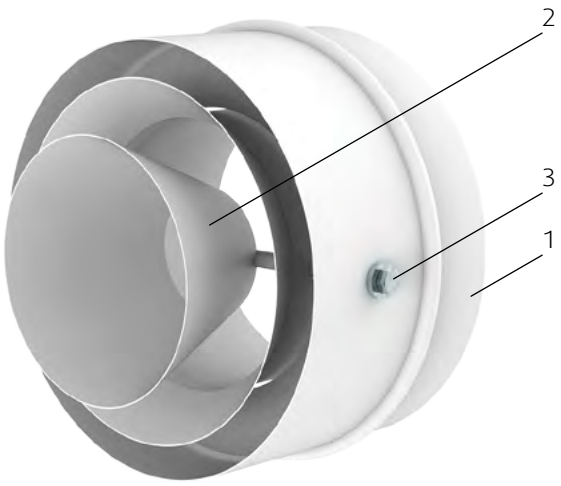


Fig. 2: Components of the JSR

Legend

1	Casing with duct connection
2	Adjustable cone deflector
3	Deflector fixing bolts

Setup Possibilities

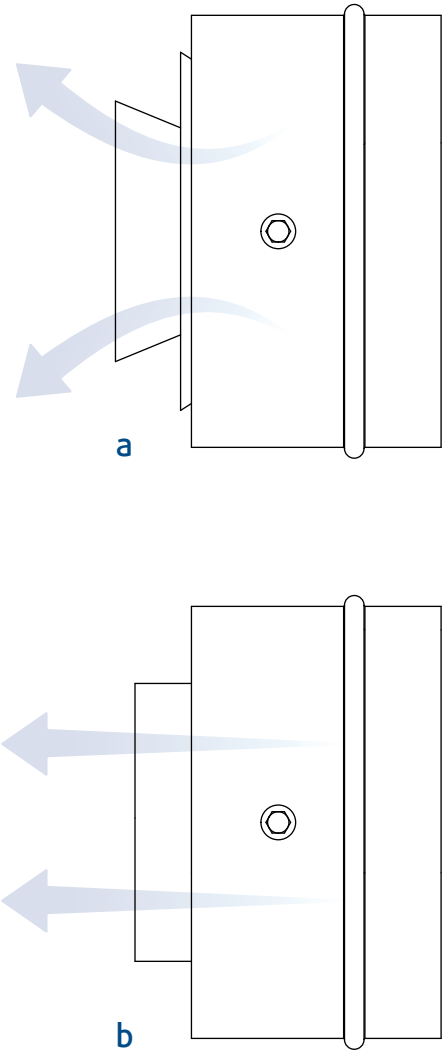


Fig. 3: Different deflector setups and resulting air discharge patterns

Legend

a	Scattered discharge deflector adjustment
b	Concentrated discharge deflector adjustment

Dimensions

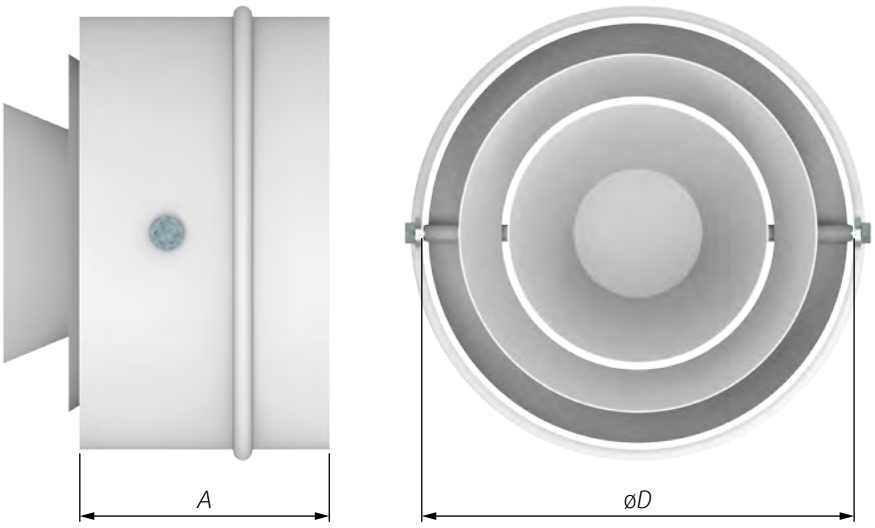
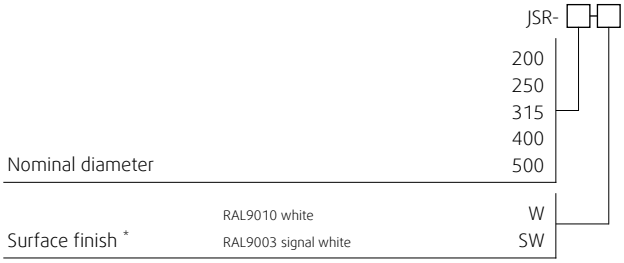


Fig. 4: Dimensions of the JSR

Tab. 1: Dimensions of the JSR

Type	*øD*	*A*
	(mm)	
JSR-200	199	115
JSR-250	249	115
JSR-315	314	115
JSR-400	399	115
JSR-500	499	115

Ordering Code



NOTE: * If no surface finish is defined, signal white powder coating (RAL9003) will be delivered.

Example of the Ordering Code

JSR-200-W

Diffuser size 200 mm, white colour RAL9010.

Quick Selection

Tab. 2: Quick selection with the **diluted** air distribution pattern adjustment

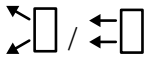
	Air flow volume at different sound power levels L_{WA}							
	25 dB		30 dB		35 dB		40 dB	
Type	m³/h	l/s	m³/h	l/s	m³/h	l/s	m³/h	l/s
JSR-200	195	54	246	68	299	83	421	117
JSR-250	287	80	369	103	454	126	541	150
JSR-315	430	119	552	153	677	188	804	223
JSR-400	612	170	795	221	976	271	1173	326
JSR-500	1176	327	1506	418	1818	505	2147	596

Tab. 3: Quick selection with the **concentrated** air distribution pattern adjustment

	Air flow volume at different sound power levels L_{WA}							
	25 dB		30 dB		35 dB		40 dB	
Type	m³/h	l/s	m³/h	l/s	m³/h	l/s	m³/h	l/s
JSR-200	212	59	267	74	325	90	387	108
JSR-250	313	87	401	111	490	136	589	164
JSR-315	468	130	607	169	734	204	880	244
JSR-400	674	187	871	242	1059	294	1276	354
JSR-500	1290	358	1642	456	1979	550	2336	649

Technical Parameters

Legend

p_s	Pa	Pressure drop
q_v	m³/h l/s	Air flow volume
L_{WA}	dB(A)	Total A-weighted sound power level
$L_{0,2}$	m	Air throw length with terminal velocity 0,2 m/s
x	m/s	Terminal velocity in range of 0,1 m/s ... 1 m/s
L_x	m	Air throw length calculated for a specific terminal velocity
		Scattered/concentrated discharge pattern

Calculation of Air Throw for Different Terminal Velocities

$L_x = L_{0,2} \cdot 0{,}2/x$

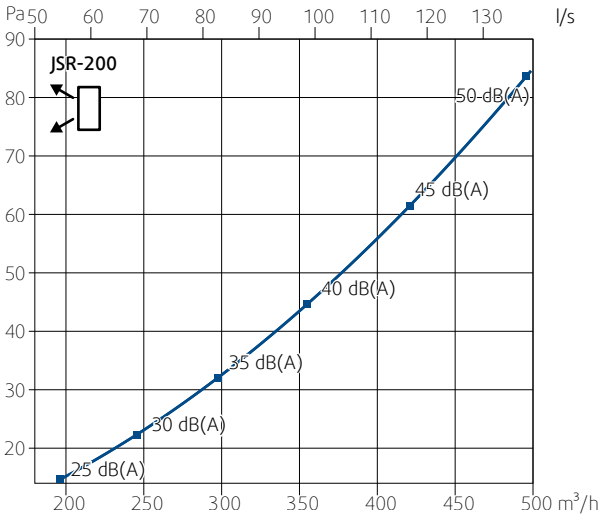


Diagram 1: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **scattered** discharge pattern

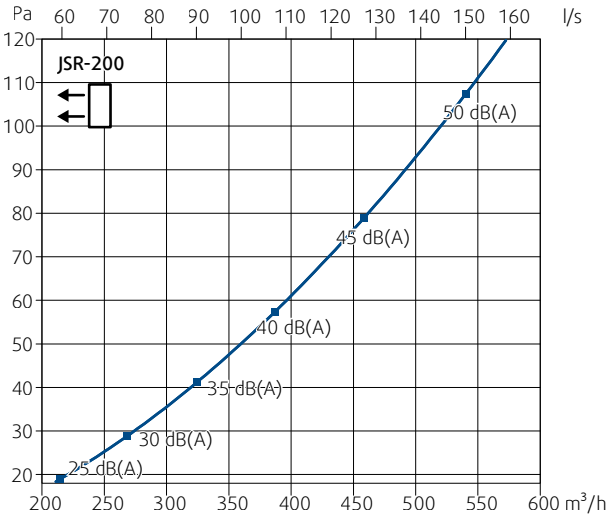


Diagram 3: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **concentrated** discharge pattern

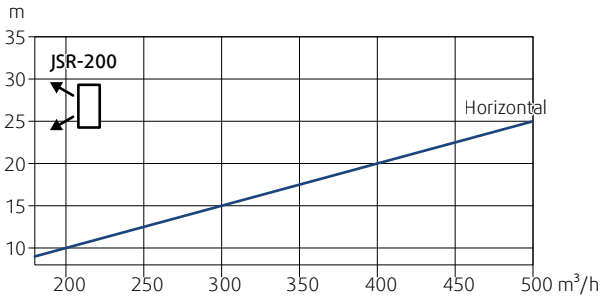


Diagram 2: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **scattered** discharge pattern

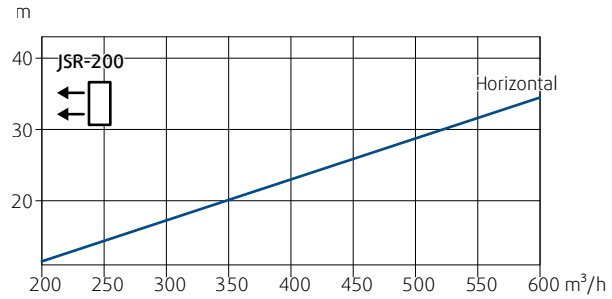


Diagram 4: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **concentrated** discharge pattern

SIZE 200

SIZE 250

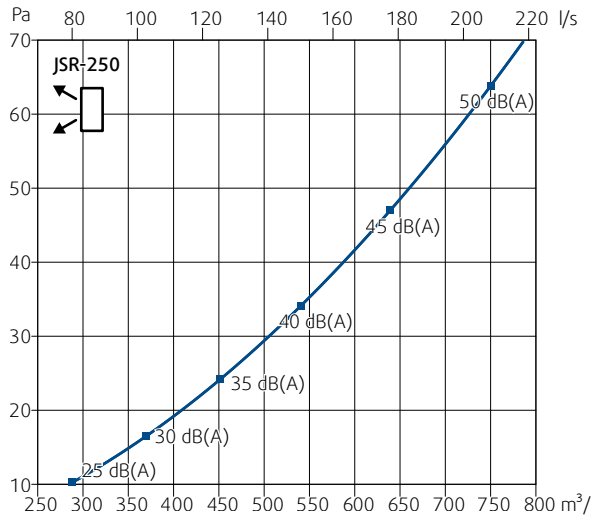


Diagram 5: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **scattered** discharge pattern

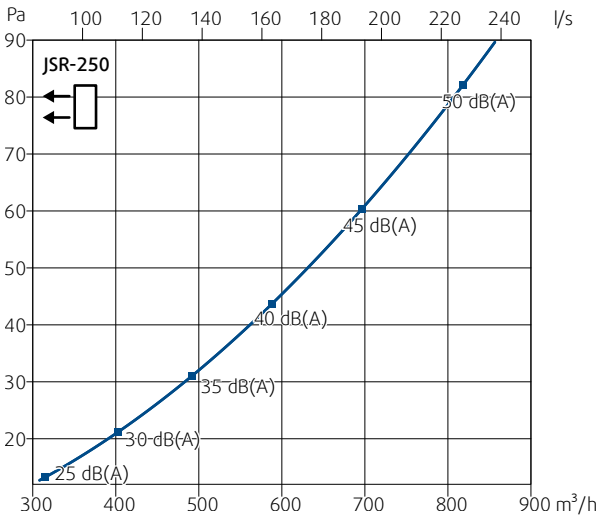


Diagram 7: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **concentrated** discharge pattern

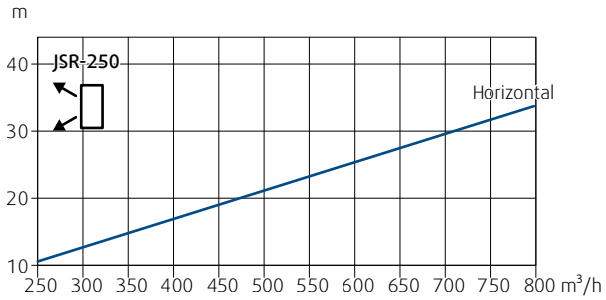


Diagram 6: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **scattered** discharge pattern

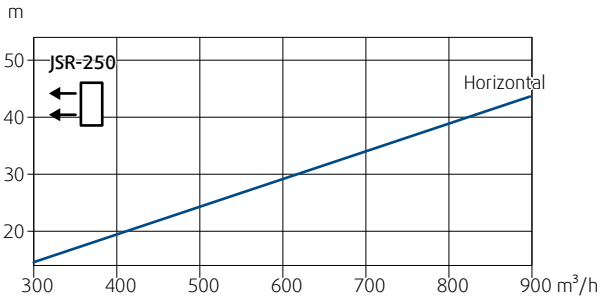


Diagram 8: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **concentrated** discharge pattern

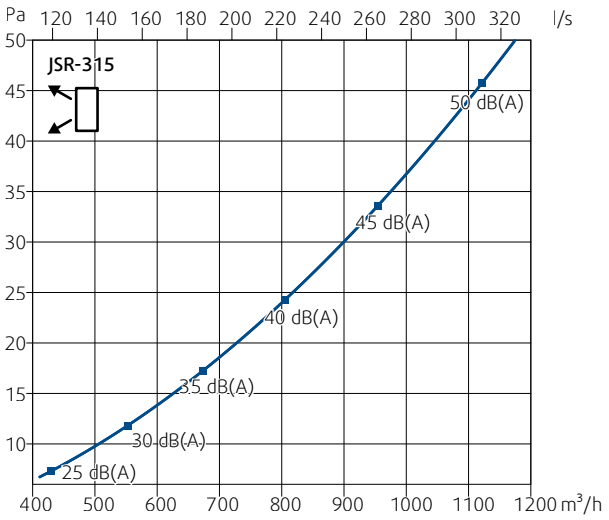


Diagram 9: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **scattered** discharge pattern

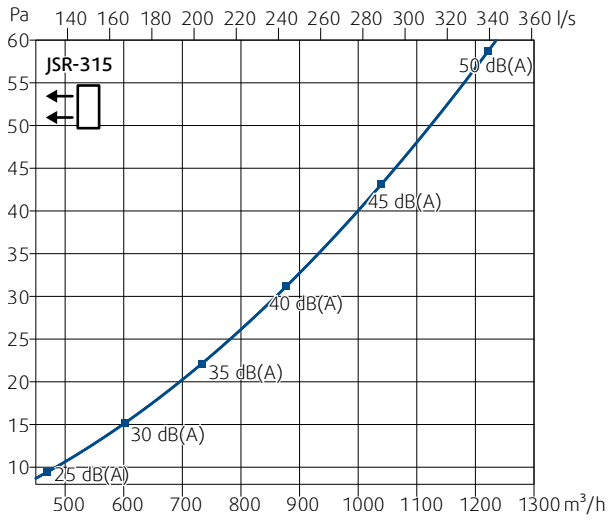


Diagram 11: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **concentrated** discharge pattern

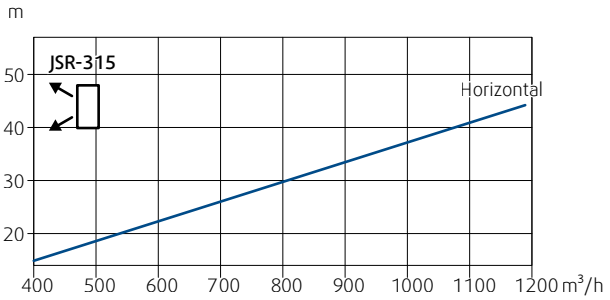


Diagram 10: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **scattered** discharge pattern

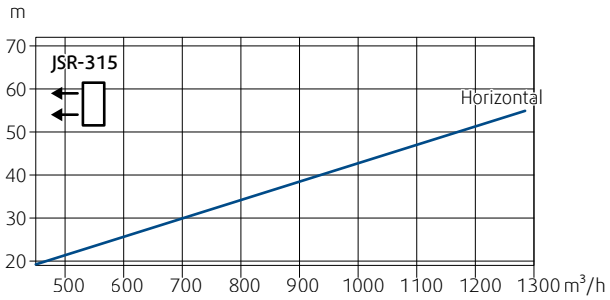


Diagram 12: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **concentrated** discharge pattern

SIZE 400

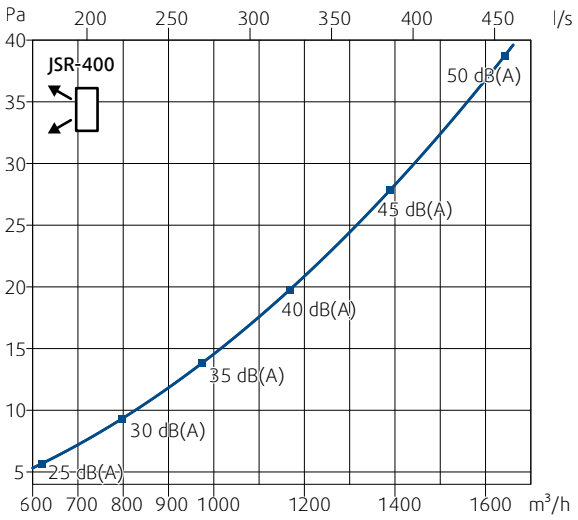


Diagram 13: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **scattered** discharge pattern

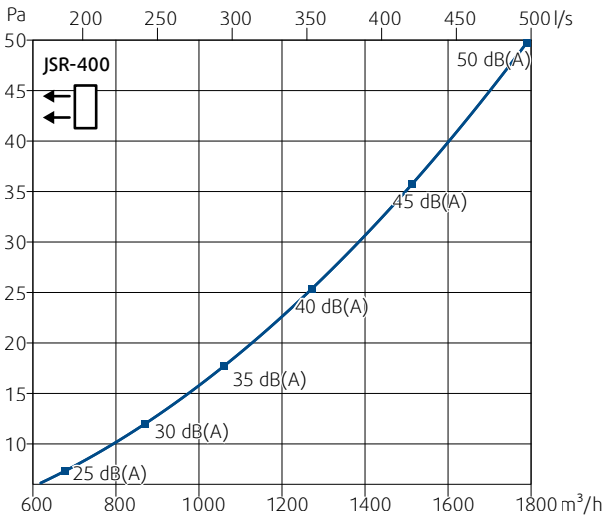


Diagram 15: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **concentrated** discharge pattern

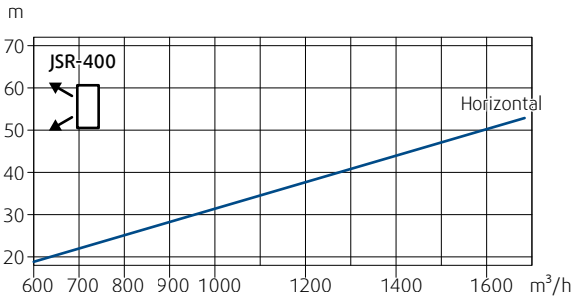


Diagram 14: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **scattered** discharge pattern

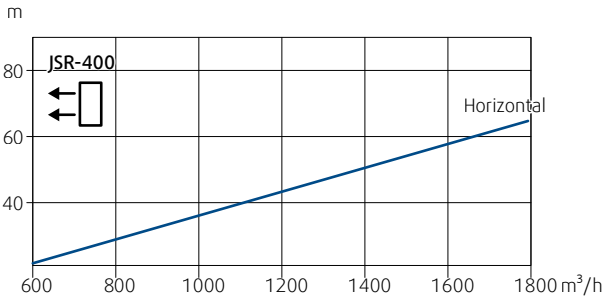


Diagram 16: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **concentrated** discharge pattern

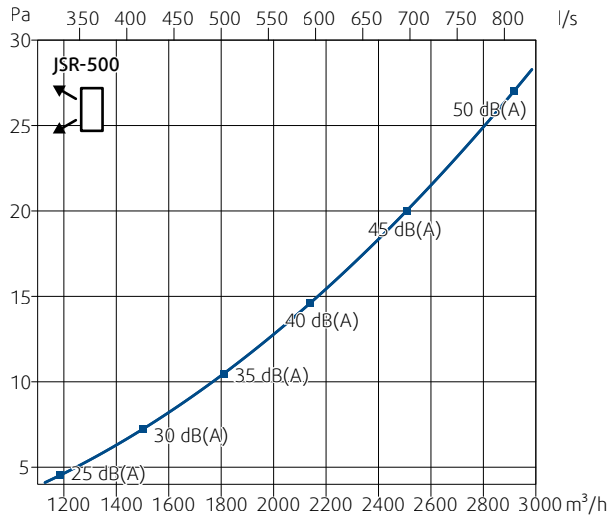


Diagram 17: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **scattered** discharge pattern

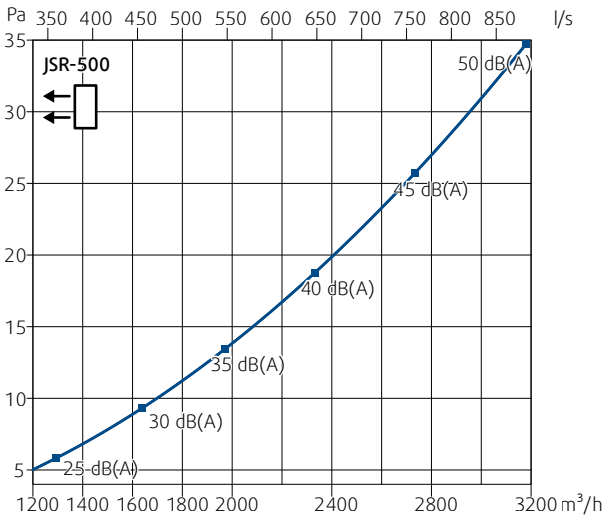


Diagram 19: Pressure drop & A-weighted total sound power level, depending on the supply air flow volume, **concentrated** discharge pattern

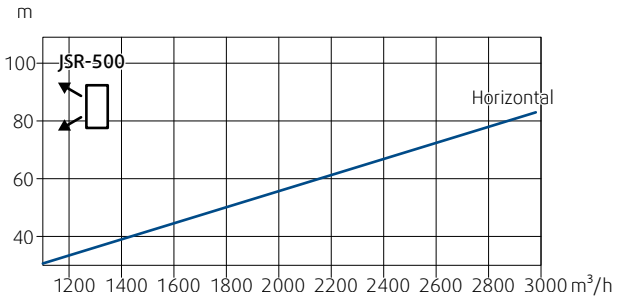


Diagram 18: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **scattered** discharge pattern

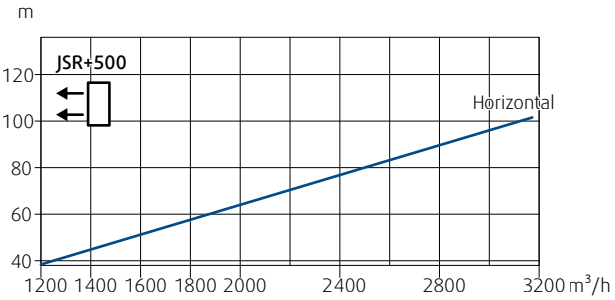


Diagram 20: Isothermal air throw lengths for horizontal-omnidirectional and vertical discharge with terminal velocity 0,2 m/s, depending on air flow volume, **concentrated** discharge pattern

Installation, Maintenance & Operation

Information about installation, maintenance and operation is available in the document “UserManual_JSR” or follow the instruction for jet diffusers at Systemair DESIGN.

Transport & Storage

Dry indoor conditions with a temperature range of -40°C to +80°C.

Supplement

Any deviations from the terms and technical specifications contained herein should be discussed with the manufacturer. We reserve the right to make any changes to the product without prior notice, provided that these changes do not affect the quality of the product and the required parameters.

Current information on all products is available at www.systemair.com

Related Products

AJD

Jet Diffuser

Product information is available at Systemair DESIGN.

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