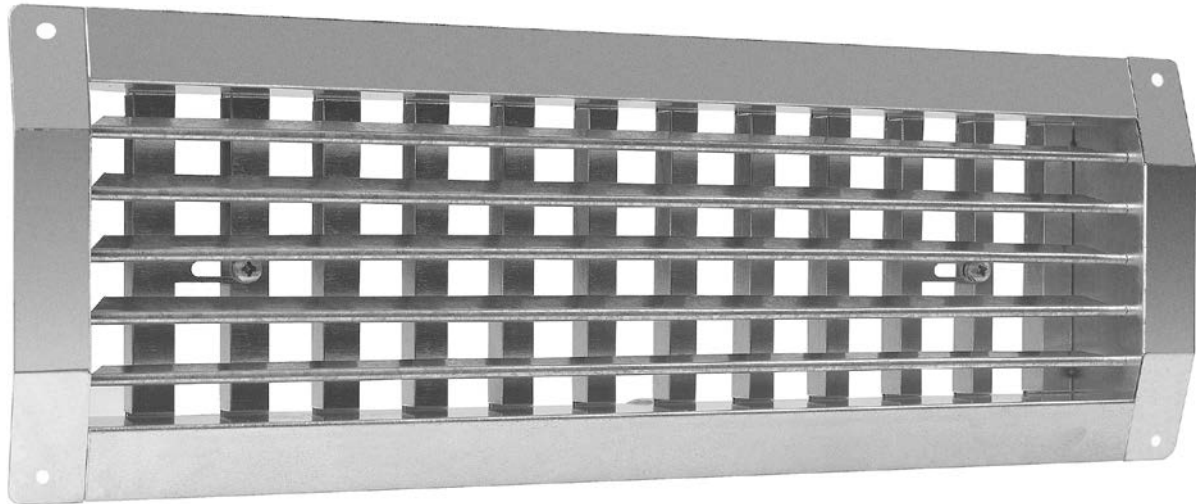


SR pipe grille with hit-and-miss damper

Steel, galvanized



Pipe grille for spiral ducts

SR pipe grille for supply and exhaust air, made of galvanized sheet steel, with drilled front frame, individually adjustable, horizontal or vertical air blades and front-side adjustable volume flow regulation by hit-and-miss damper with 60% free cross-section and with integrated equalizing blades.

SR with horizontal air blades

SRS with vertical air blades

Sizes:

Width B x Height H

B [mm]					H [mm]
425	525	625	825	1025	75 ^{*)}
425	525	625	825	1025	125
425	525	625	825	-	225

^{*)} Height 75 mm only available as SRS

SR pipe grilles are ventilation grilles punched from galvanized sheet steel for direct installation in pipes, in particular in spiral ducts. The direction of the airflow outlet can be adjusted with the horizontally or vertically arranged air blades. The hit-and-miss damper, which is firmly connected to the front frame and equipped with vertical bars, optimally restricts the air flow with its relatively large, free cross-section; it also enables volume flow regulation and supports horizontal jet control. A sufficiently even distribution of outgoing supply air is ensured. The galvanized surface of the pipe grille is the same as the pipe surface, necessary on-site painting is not a problem.

SR pipe grille with hit-and-miss damper

Data sheet, dimensioning

SR

SRS

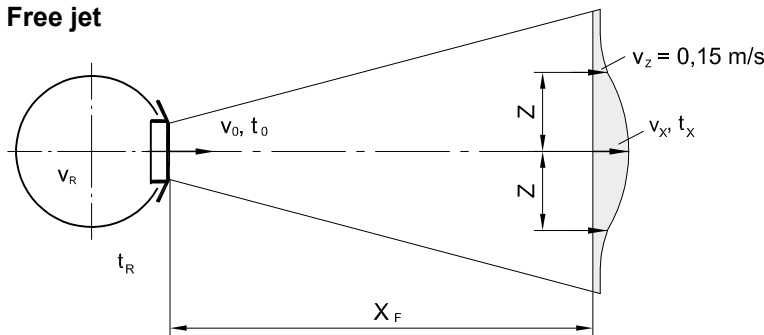
B x H = Pipe section

Free grille surface A_{free} [m ²]					
H / B [mm]	425	525	625	825	1025
75	0.019	0.024	0.029	0.038	0.047
125	0.036	0.045	0.054	0.071	0.089
225	0.068	0.085	0.101	0.134	-----

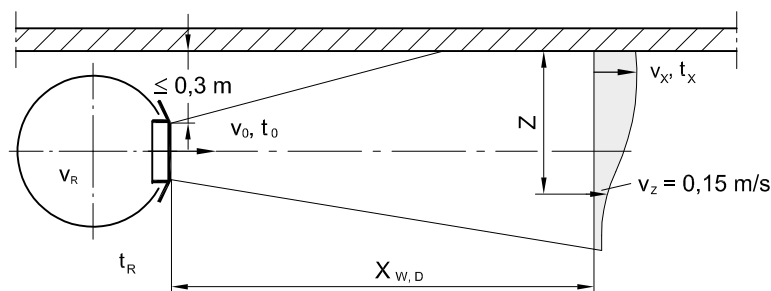
Free hit-and-miss damper surface in OPEN position: 60% of A_{free}

	H [mm]	75	125	225
Installation depth T [mm]	SR	-	49	56
	SRS	59	56	62
Pipe diameter $\varnothing D$ [mm]	140 ... 400	300 ... 900	600 ... 2400	
Angle α		25°	17°	14°

Free jet



Wall or ceiling jet

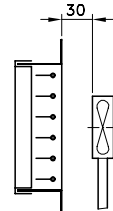


Volume flow measurement with the impeller anemometer^{*)}

Correction factors
 $k = v_0 / v_{Measurement}$
 Supply air Exhaust air

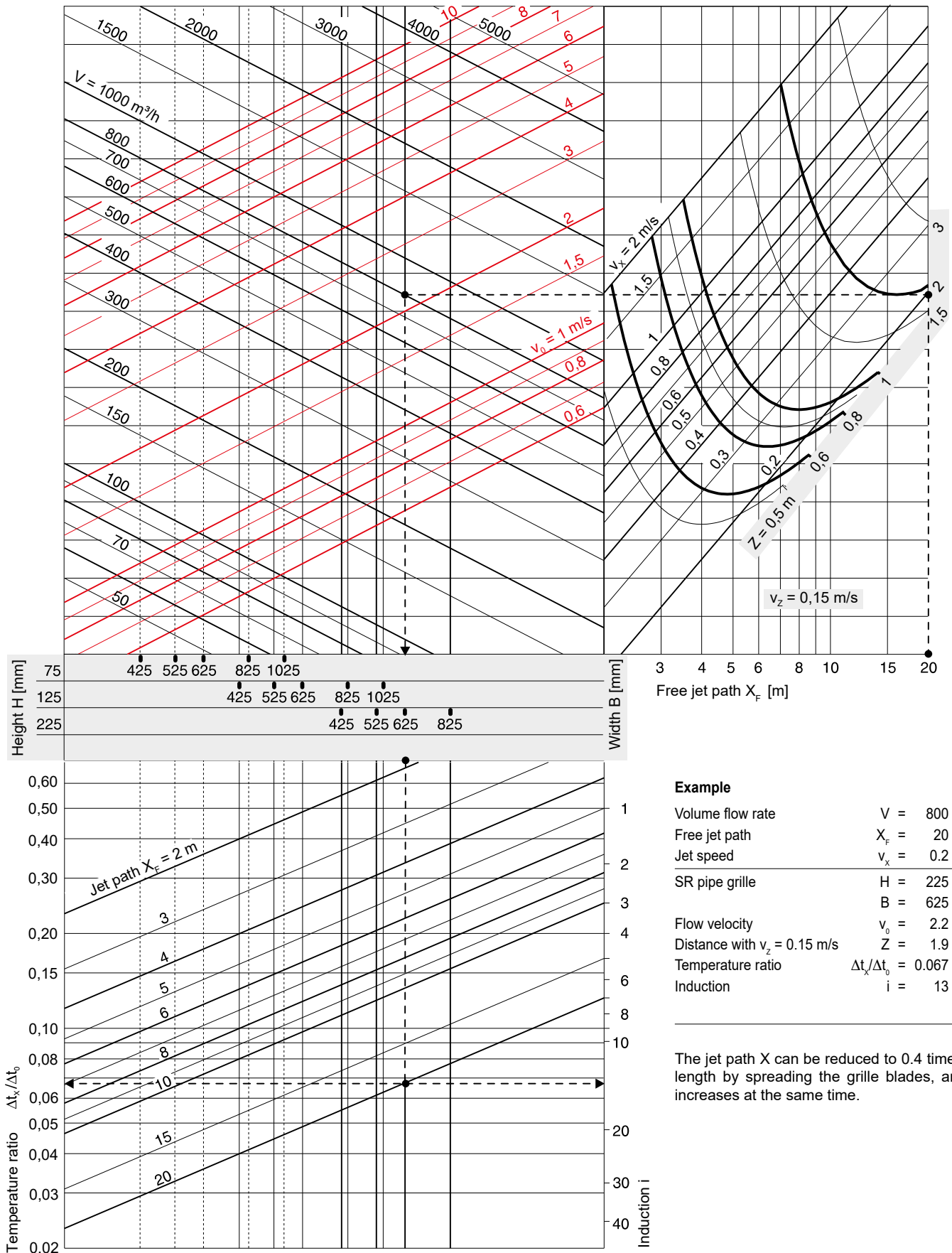
k	0.8	1.8
---	-----	-----

^{*)} Impeller diameter possibly ≥ 60 mm



SR pipe grille with hit-and-miss damper

Room air flow: Free jet



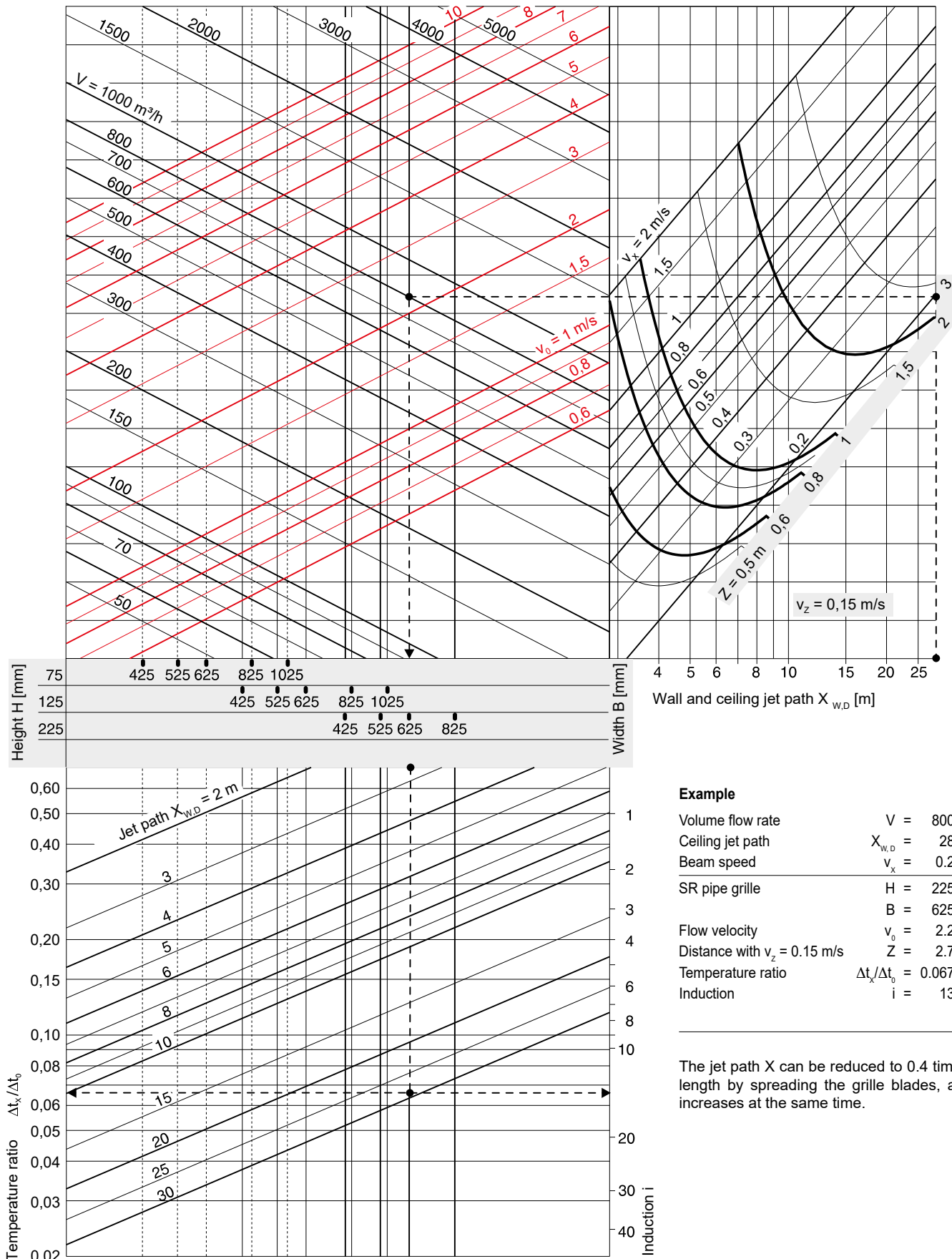
Example

Volume flow rate	$V = 800 \text{ m}^3/\text{h}$
Free jet path	$X_f = 20 \text{ m}$
Jet speed	$v_x = 0.2 \text{ m/s}$
SR pipe grille	$H = 225 \text{ mm}$
	$B = 625 \text{ mm}$
Flow velocity	$v_0 = 2.2 \text{ m/s}$
Distance with $v_z = 0.15 \text{ m/s}$	$Z = 1.9 \text{ m}$
Temperature ratio	$\Delta t_x / \Delta t_0 = 0.067$
Induction	$i = 13$

The jet path X can be reduced to 0.4 times its length by spreading the grille blades, and Z increases at the same time.

SR pipe grille with hit-and-miss damper

Room air flow: Wall or ceiling jet



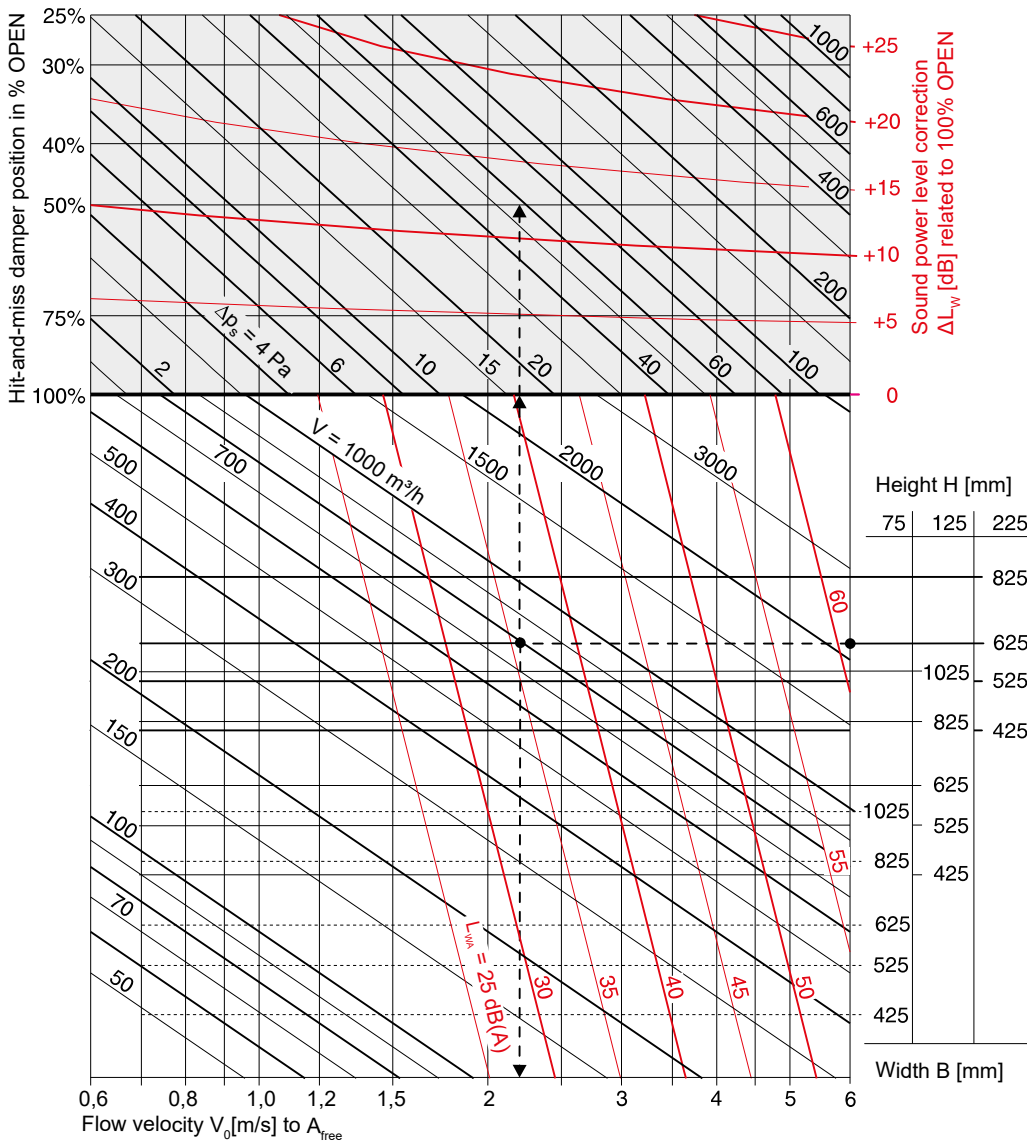
Example

Volume flow rate	$V = 800 \text{ m}^3/\text{h}$
Ceiling jet path	$X_{w,d} = 28 \text{ m}$
Beam speed	$v_x = 0.2 \text{ m/s}$
SR pipe grille	$H = 225 \text{ mm}$
	$B = 625 \text{ mm}$
Flow velocity	$v_0 = 2.2 \text{ m/s}$
Distance with $v_z = 0.15 \text{ m/s}$	$Z = 2.7 \text{ m}$
Temperature ratio	$\Delta t_x / \Delta t_0 = 0.067$
Induction	$i = 13$

The jet path X can be reduced to 0.4 times its length by spreading the grille blades, and Z increases at the same time.

SR pipe grille with hit-and-miss damper

Pressure loss, sound power level for exhaust air



Example

Volume flow rate $V = 800 \text{ m}^3/\text{h}$
 SR pipe grille $H = 225 \text{ mm}$
 $B = 625 \text{ mm}$

Flow velocity $v_0 = 2.2 \text{ m/s}$
 Hit-and-miss damper 100% OPEN^{*)}:
 Static pressure loss
 $\Delta p_s = 16 \text{ Pa}$
 Sound power level
 $L_{WA} = 36 \text{ dB(A)}$
 Hit-and-miss damper 50% OPEN:
 Static pressure loss
 $\Delta p_s = 58 \text{ Pa}$
 Sound power level^{*)}
 $L_{WA} = 36 \text{ dB(A)}$
 Correction value 50% OPEN
 $+\Delta L_W = 12 \text{ dB}$
 $L_{WA-Tot} = 48 \text{ dB(A)}$

^{*)} Sound power level correction for hit-and-miss damper positions:
 $L_{WA-Tot} = L_{WA} + \Delta L_W$

Legend

A_{free} [m ²]	Free grille surface	Z	[m]	Distance perpendicular to the jet axis, at which the flow velocity is	Δp	[Pa]	Pressure loss for supply air: Total pressure loss Δp_t Pressure loss for exhaust air: Static pressure loss Δp_s
$0.6 \cdot A_{free}$	Free hit-and-miss damper surface in OPEN position	v_z		0.15 m/s	L_{WA}	[dB(A)]	A-rated sound power level
V [m ³ /h]	Volume flow rate	t_0	[°C]	Supply air temperature	ΔL_W	[dB]	Sound power level correction
v_K [m/s]	Flow velocity In the duct	t_R	[°C]	Room temperature	L_{WA-Tot}	[dB(A)]	Total A-rated sound power level
v_0 [m/s]	Flow velocity Related to A_{free} "Grille outlet speed"	t_x	[°C]	Temperature after the jet path X			
X_F [m]	Jet path for free jet	$\Delta t_x/\Delta t_0$		Temperature ratio			
$X_{W,D}$ [m]	Jet path for wall and ceiling jet	$t_x = (\Delta t_x/\Delta t_0) \cdot (t_0 - t_R) + t_R$					
v_x [m/s]	Flow velocity after the jet path X	i		Induction			
$v_{x-median} = 0.3 \cdot v_x$		V_s [m ³ /h]		Secondary volume flow rate $V_s = i \cdot V$			

SR pipe grille with hit-and-miss damper

Order data, tender text

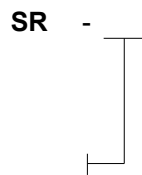
Pipe grille

with **horizontal** blades

Size

Width B [mm] x Height H [mm]

⇒ see page 1



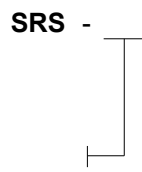
Pipe grille

with **vertical** blades

Size

Width B [mm] x Height H [mm]

⇒ see page 1



pipe grille for supply and exhaust air, made of galvanized sheet steel, with drilled front frame, individually adjustable, horizontal or vertical air blades and front-side adjustable volume flow regulation by hit-and-miss damper with 60% free cross-section and with integrated equalizing blades.

.... pc(s) **Width:** mm
 Height: mm
 Manufacturer: WILDEBOER
 Type: SR / SRS

deliver:
assemble:

Delete non-bold text as required!

INNOVATIVE • PRACTICAL • ECONOMICAL

WILDEBOER®
Factory administration
Telephone: +49 4951 - 950 - 0
E-mail: info@wildeboer.de
Internet: www.wildeboer.de

WILDEBOER®
Utrecht office
Telephone: +31 30 767 0150
E-mail: info@utrecht.wildeboer.eu
Internet: www.wildeboer.de/nl

WILDEBOER®
Leipzig office
Telephone: +49 34444 - 310 - 0
E-mail: info@leipzig.wildeboer.de
Internet: www.wildeboer.de

WILDEBOER®
Ulm office
Telephone: +49 7392 - 9692 - 0
E-mail: info@ulm.wildeboer.de
Internet: www.wildeboer.de

MAKE USE OF OUR STRENGTHS!

WILDEBOER®

Air distribution Fire protection Noise protection
Building control systems