



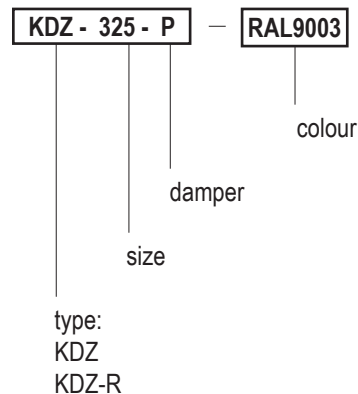
FEATURES

- made of steel sheet
- high quality of finish
- highly resistant to static stress
- by default, painted in RAL 9003.
- On special request, it can be manufactured in any size and RAL colour.
- KDZ – single-adjusted nozzles, designed to be mounted within the wall
- KDZ-R - single-adjusted nozzles, designed to be mounted in a round duct
- nozzles made of the ABS material

ASSEMBLY

Ventilation grilles are designed to be mounted on a wall, ceiling, in a duct or in an assembly box

ORDER REFERENCE



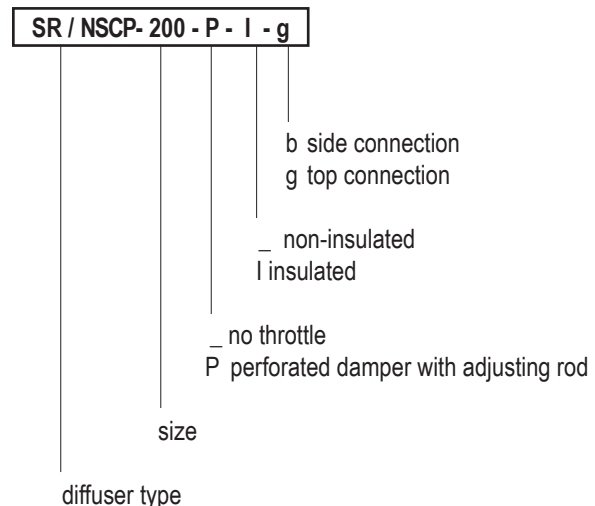
DESCRIPTION

In multi-purpose rooms/halls which are used in various ways, air-conditioning systems have to meet extended requirements. The rooms host both sport and culture events which require different amounts of supplied air and a variable difference in temperature of the air supplied and present in the room.

In order to meet such requirements, the KDZ long-throw ventilation grille was developed. Its well-thought structure allows for the inflow of air to be fast and silent. High speed of the air supply enables deep penetration of the airstream in the vented room, thanks to which an entire room will be filled with fresh air. Another advantage of the ventilation grille is the fact that the airstream is divided into several smaller streams, which significantly increases induction. Temperature and speed of individual streams can be quickly reduced. It means that when cooling, a stream does not reach human working zone too quickly. At the same time, when heating, the stream does not leave human working zone that fast.

A KDZ long-throw ventilation grille, equipped with manually adjusted single nozzles, allows to shape the airstream freely (movement range of 450). KDZ-R ventilation grilles were designed for round ducts. The amount of supplied air can be controlled thanks to a slotted damper. For an extra charge, an assembly box (if a slotted damper is not used) can be used. The damper, situated at the end of the box (for an extra charge) can be used for easy adjustment of the amount of supplied air. All options can be used in VAV systems (range from 1000 to 400).

ADDITIONAL ACCESSORIES

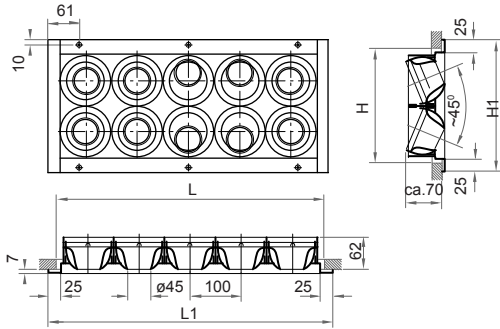


6.6 KDZ

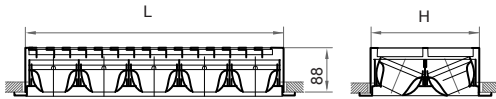
Long-throw ventilation grille

DIMENSIONS AND MAKE

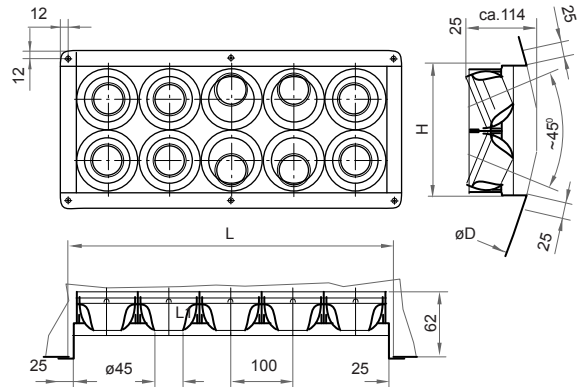
DIMENSIONS: KDZ



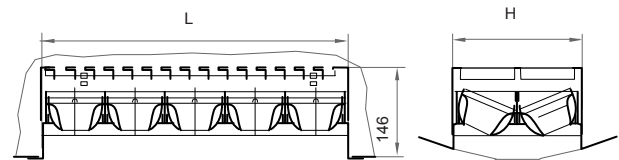
KDZ-P



KDZ-R



KDZ-R-P



Standard KDZ dimensions

L	L1	H	H1
325	375	125	175
425	475		
525	575		
625	675		
825	875	225	275
1025	1075		
525	575		
625	675		
825	875		
1025	1075	325	375
525	575		
625	675		
825	875		
1025	1075		

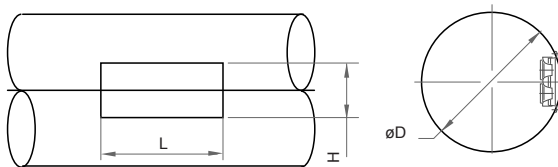
all combinations of length and width are possible

Standard KDZ dimensions

L	H
325	125
425	
525	
625	
825	
1025	225
525	
625	
825	
1025	

all combinations of length and width are possible

INSTALLATION METHOD



H (mm)	channel diameter (mm)		
125	250	315	400
225	630	800	1000

The ventilation grille will fit the duct closely only with a perfect diameter

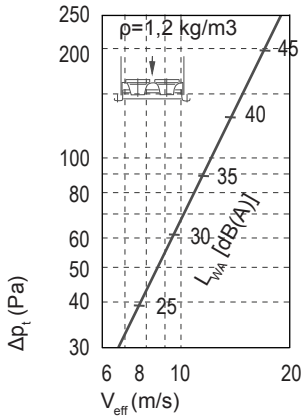
diameter of a round duct

Two heights of the air vent and a skew flange allow for optimal fitting of a KDZ-r long-throw ventilation grille to the diameter of a round duct.

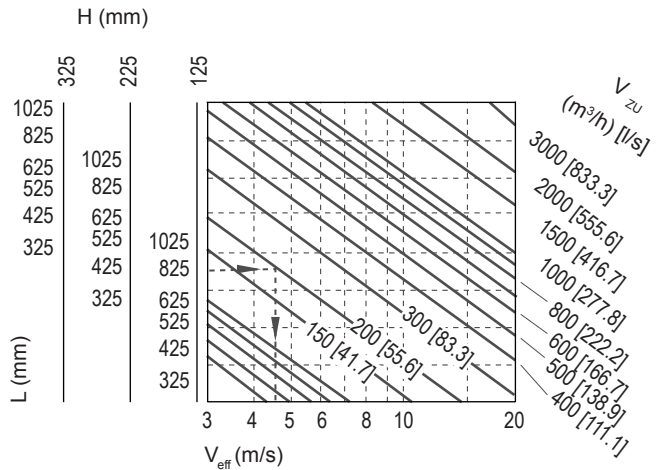
They also assure a reliable structure – resistance to twisting. When choosing the ventilation grille height, use the duct diameter data provided in the table below. The assembly of a KDOZ-R ventilation grille in a round duct is to be performed without application of stress. When using oval or twisted ducts, prevent the ventilation grille from bending.

CHARACTERISTICS PRESSURE LOSS AND THE SOUND POWER LEVEL

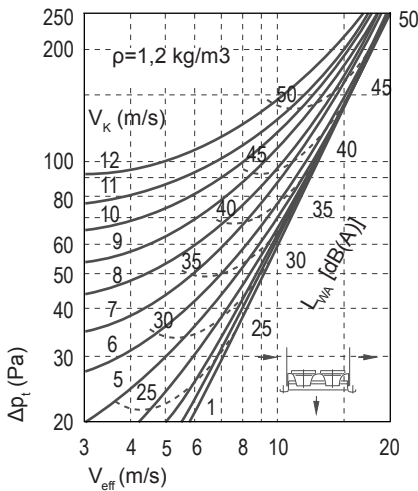
without a slotted damper



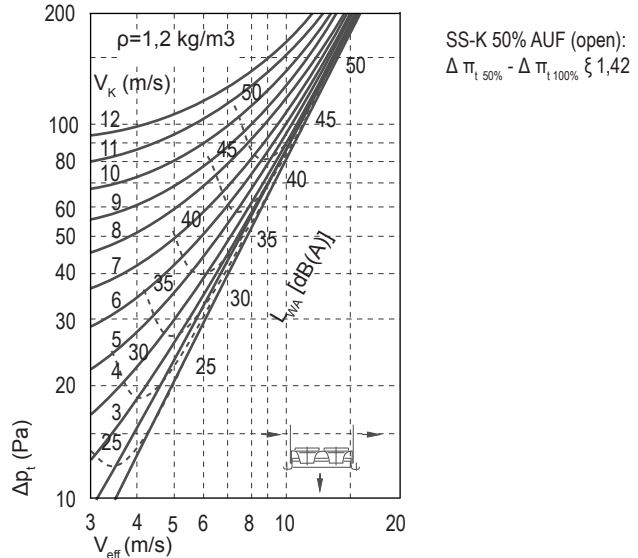
exhaust speed



without a slotted damper,
in-duct mount



with a SS-K slotted damper (100% open AUF),
in-duct mount



FRONTAL SURFACE [A_{STIRN} (M2)]

H (mm)	L(mm)					
	325	425	525	625	825	1025
125	0,0310	0,0412	0,0514	0,0616	0,0820	0,1025
225	0,0614	0,0816	0,1018	0,1220	0,1624	0,2028
325	0,0918	0,1220	0,1522	0,1824	0,2428	0,3032

$$L_{WA} = L_{WA1} + KF$$

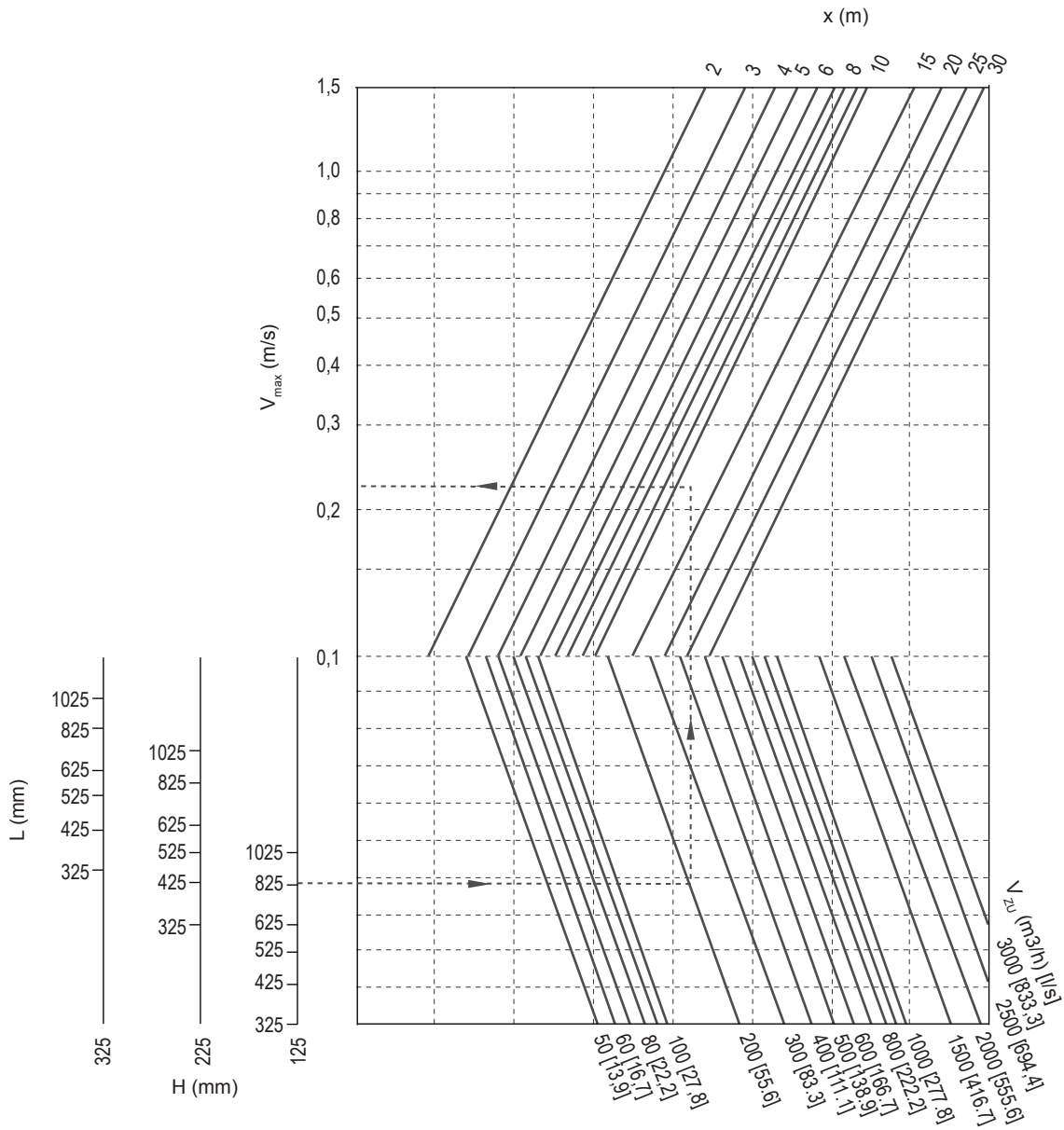
CORRECTION COEFFICIENTS

A _{STIRN} (M2) N	0,032	0,040	0,051	0,064	0,080	0,100	0,128	0,160	0,203	0,256	0,320
KF (-)	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

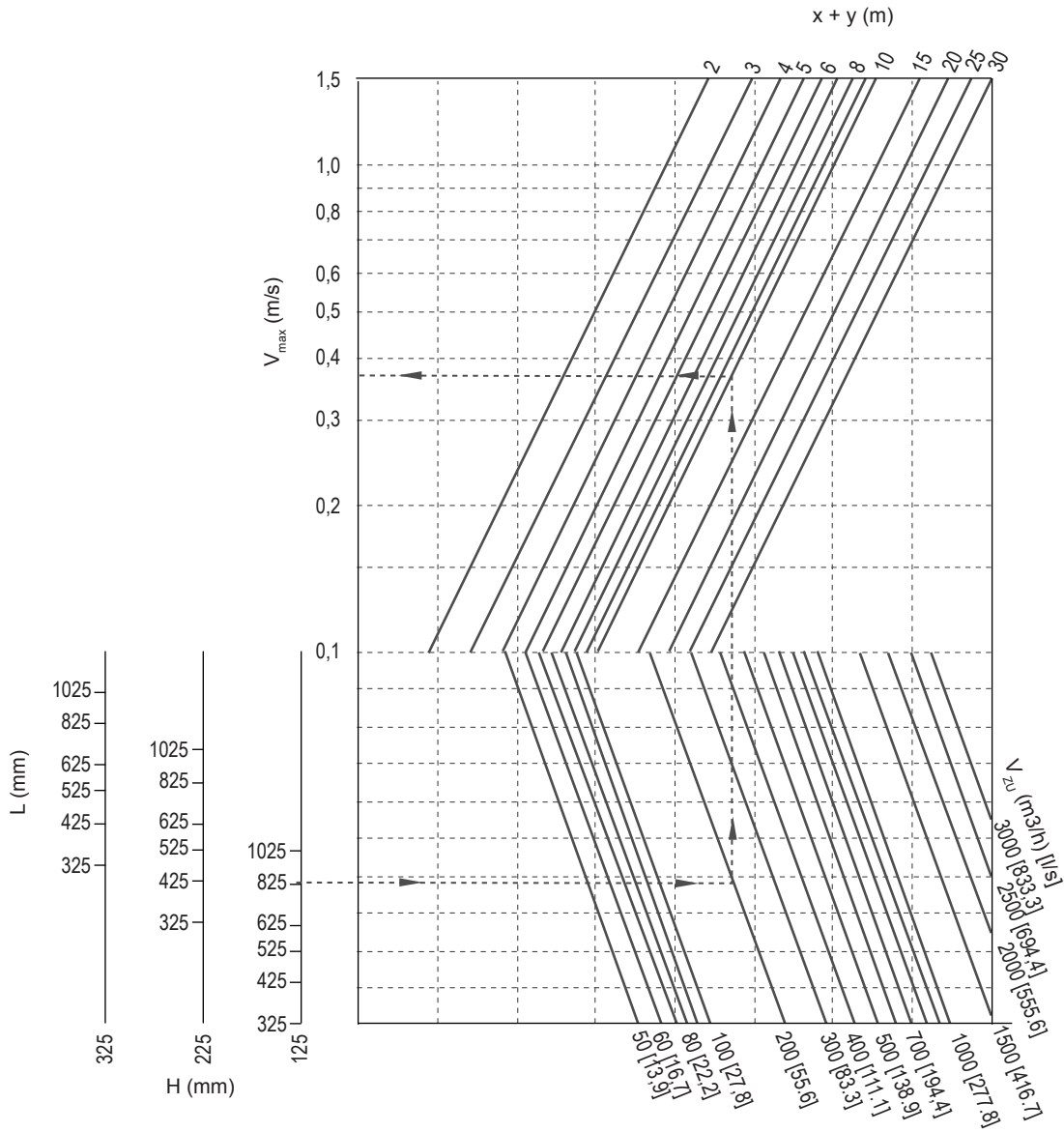
6.6 KDZ

Long-throw ventilation grille

MAXIMUM SPEED OF AIRSTREAM
EXCLUDING THE CEILING INFLUENCE



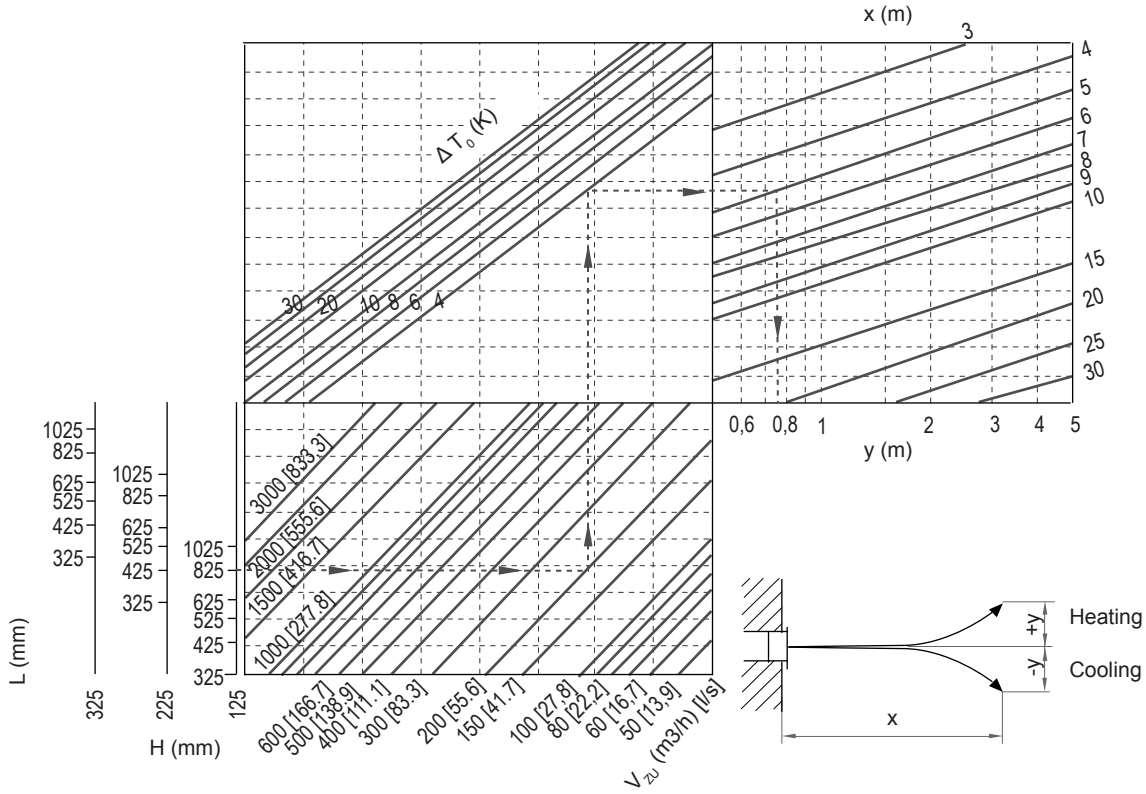
INCLUDING THE CEILING INFLUENCE



6.6 KDZ

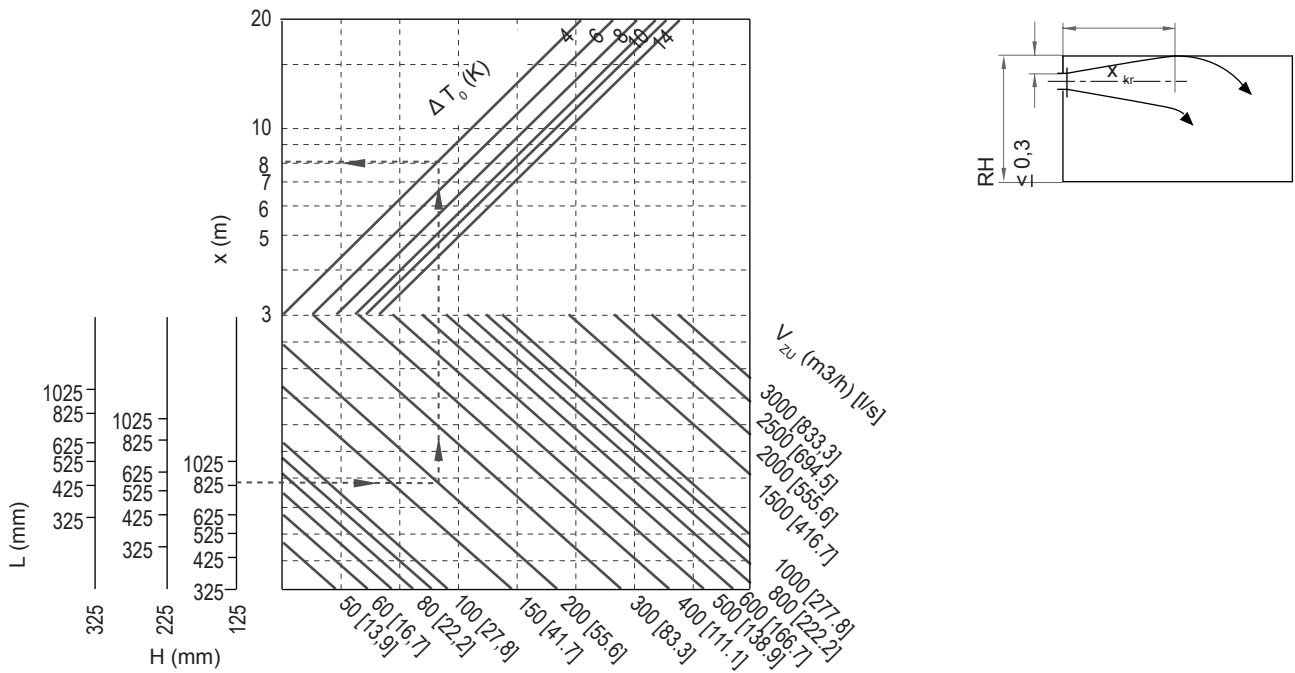
Long-throw ventilation grille

AIRSTREAM PATH FREE EXHAUST EXCLUDING THE CEILING INFLUENCE

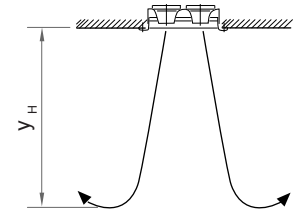
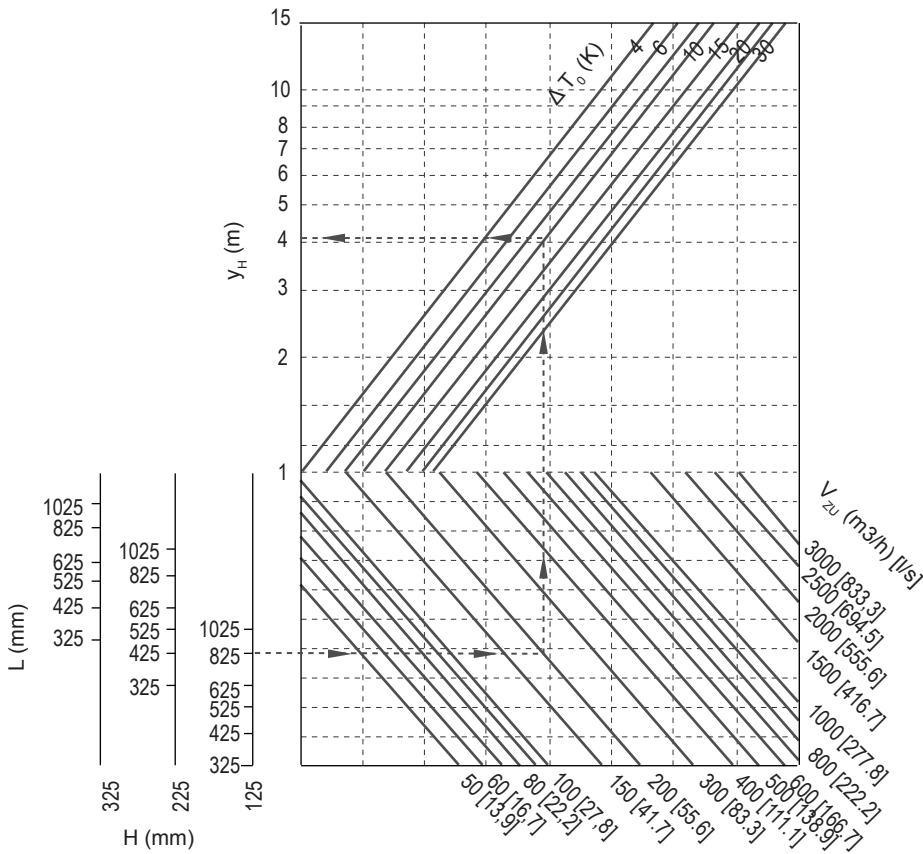


6

CRITICAL REACH OF THE AIRSTREAM INCLUDING THE CEILING INFLUENCE (WHOLE COOLING)



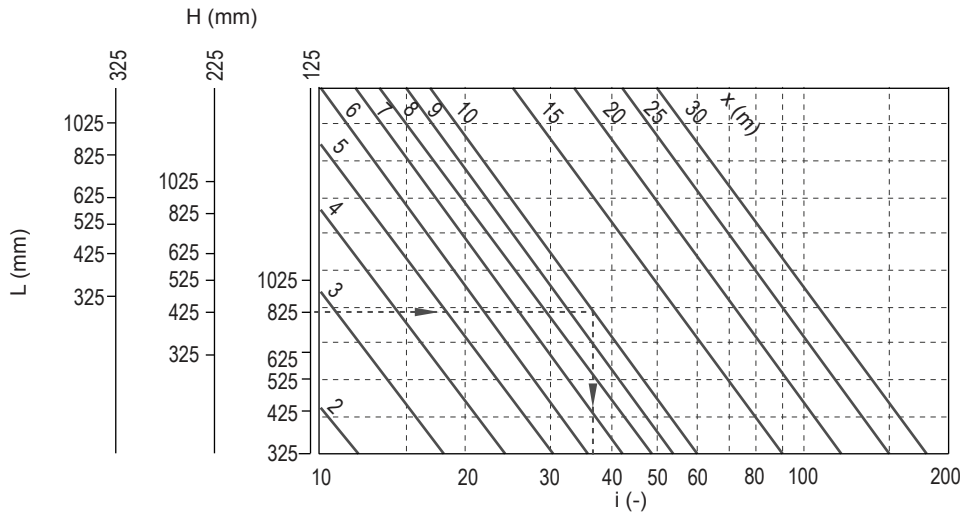
MAXIMUM REACH OF THE AIRSTREAM FOR HEATING FOR HEATING



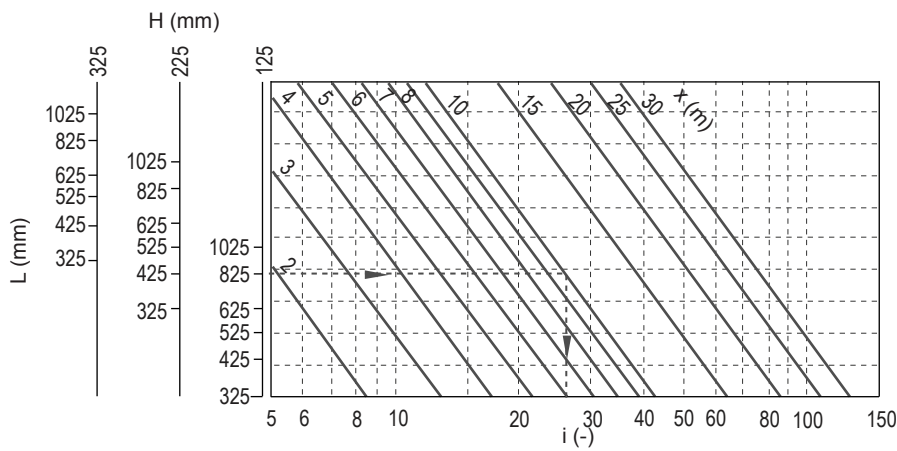
6.6 KDZ

Long-throw ventilation grille

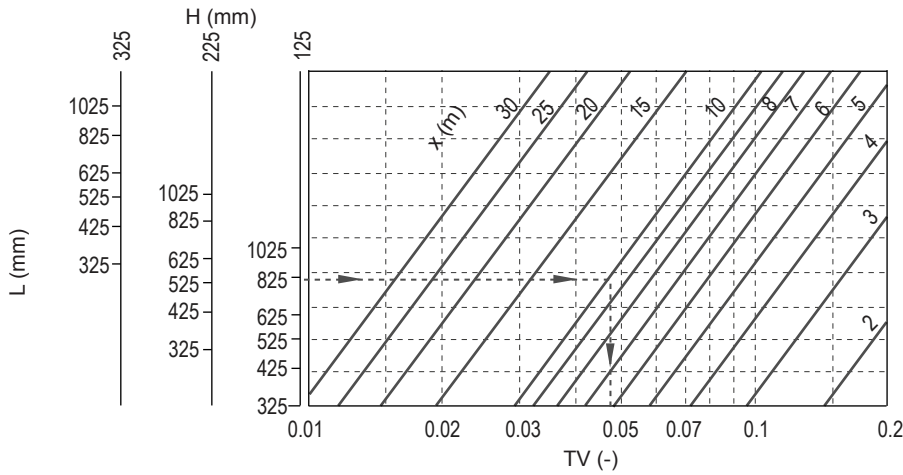
INDUCTION COEFFICIENT EXCLUDING THE CEILING INFLUENCE



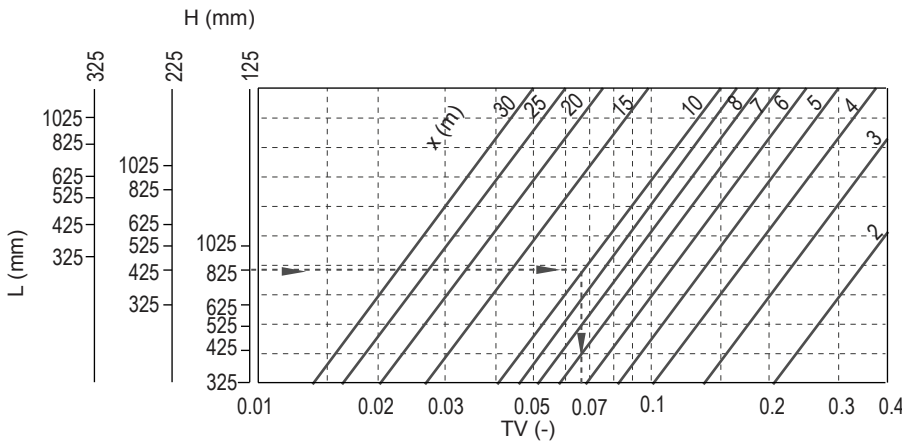
INCLUDING THE CEILING INFLUENCE



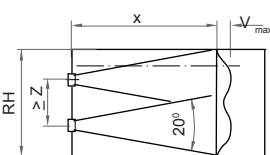
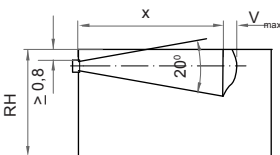
**TEMPERATURE VARIANCE REDUCTION COEFFICIENT
EXCLUDING THE CEILING INFLUENCE**



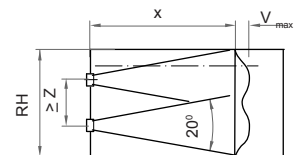
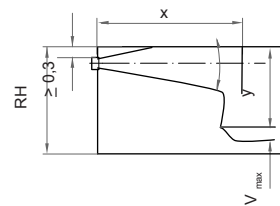
INCLUDING THE CEILING INFLUENCE



**FURTHER DATA
MINIMUM SPAN
EXCLUDING THE CEILING INFLUENCE**



INCLUDING THE CEILING INFLUENCE



If the minimum distance "z" is smaller than $(0.2 * x)$, the ventilation grilles operate like in the line assembly

Long-throw ventilation grille

KEY

VZU	(m ³ /h)	= amount of the supplied air
VZU	[l/s]	= amount of the supplied air
v _{max}	(m/s)	= maximum speed of the airstream
x	(m)	= vertical exhaust
y	(m)	= vertical horizontal
x+y	(m)	= vertical and horizontal exhaust
x _{kr}	(m)	= critical reach of the airstream
y _H	(m)	= maximum reach of the heating airstream
ΔTO	(K)	= temperature variance between the supplied air and the room temperature (ΔTO = tZU - tR)
tZU	(°C)	= temperature of the supplied air
tR	(°C)	= room temperature
Δp _t	(Pa)	= exhaust speed
v _{eff}	(m/s)	= exhaust speed
v _K	(m/s)	= duct air speed
A _{stim}	(m ²)	= frontal surface
K _F	(-)	= correction coefficients
LWA	[dB(A)]	= sound power level (A scale)
r	(kg/m ³)	= density
i	(-)	= induction coefficient (i = V _X / VZU)
TV	(-)	= temperature variance coefficient (TV = ΔTX / ΔTO)
RH	(mm)	= room height
RB	(mm)	= room width
L	(mm)	= length
H	(mm)	= height
z	(m)	= minimum distance between two ventilation grilles x (m) × 0,2