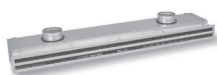


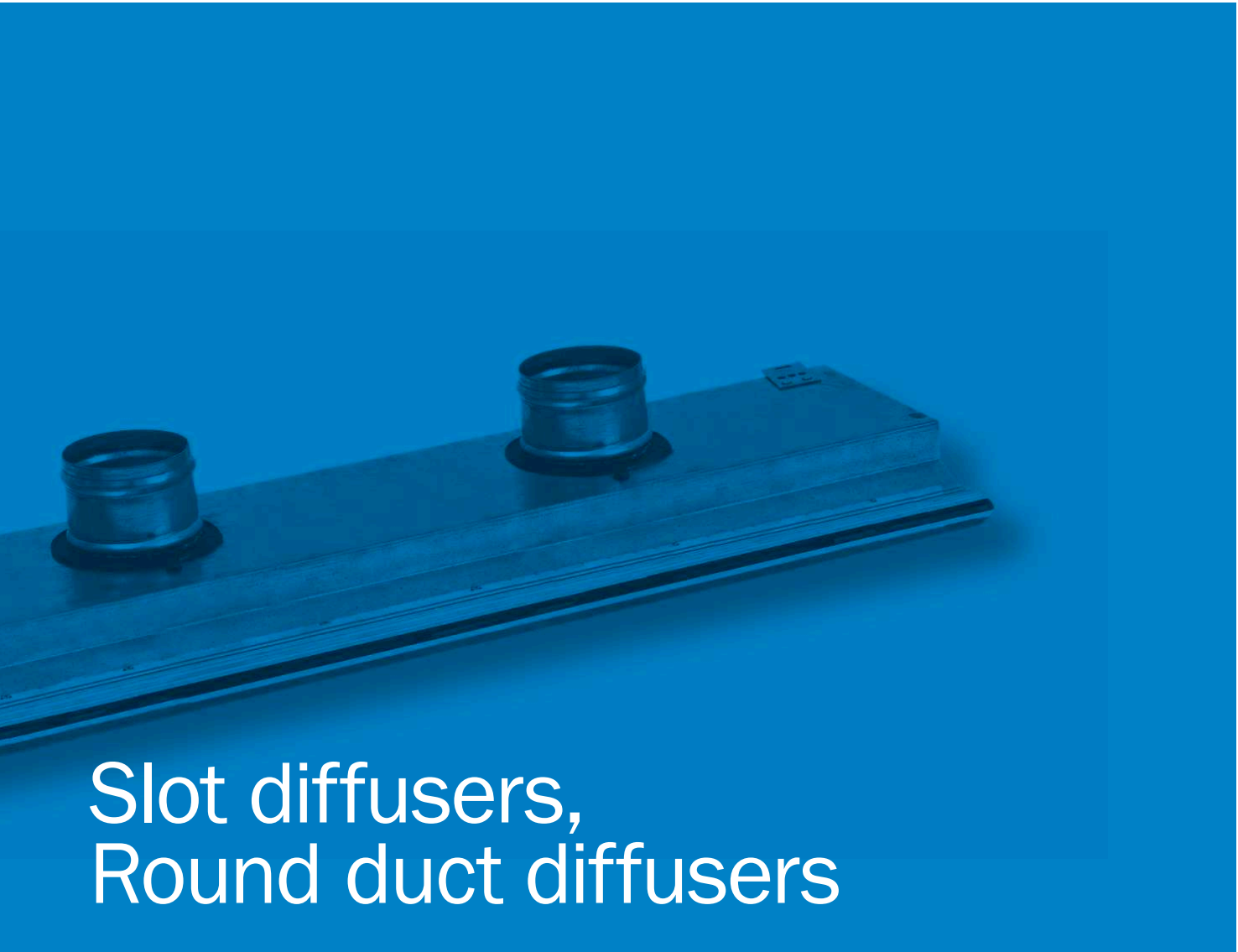
# 04



Slot diffusers



Round duct diffusers



# Slot diffusers, Round duct diffusers

Slot diffusers are designed for air supply in rooms with floor to ceiling heights of 2.5 to 4 m. They are suitable for supplying either cold or warm air, in particular in applications where air conditioning comfort demands are stringent. Due to their high induction rate and rapid decrease of temperature difference, these diffusers are also suitable for variable systems.

Round duct diffusers can be installed at various locations within the duct network. They are suitable for supplying either cold or warm air.

VENTILATING GRILLES,  
VENTILATING VALVES

CIRCULAR DIFFUSERS,  
SQUARE DIFFUSERS

SWIRL DIFFUSERS,  
VARIABLE SWIRL  
DIFFUSERS

SLOT DIFFUSERS,  
ROUND DUCT DIFFUSERS

AIR DISPLACEMENT  
UNITS

SUPPLY AIR NOZZLES

EXTERNAL ELEMENTS

AIR FLOW  
CONTROL UNITS

SOUND ATTENUATORS,  
SOUND ATTENUATING  
LOUVRES

# Overview

## Slot diffusers

Slot diffusers are designed for air supply in rooms with floor to ceiling heights of 2.5 to 4 m. They are suitable for supplying either cold or warm air, in particular in applications where air conditioning comfort demands are stringent. Due to their high induction rate and rapid decrease of temperature difference, these diffusers are also suitable for variable systems.

## Nozzle diffusers

Nozzle diffusers LD-19 are designed for supply of warm or cold air and can be mounted in the wall or in the ceiling. Adjustable deflectors allow us to set different directions of air discharge.

Nozzle diffusers LD-20 are designed to supply low quantities of air on big window surfaces to prevent condensation (ceiling installation near windows) or for big throws for cooling when wall installation (Coanda effect).

## Panel design slot diffusers

A panel design slot diffuser consists of a face plate and a plenum box. Cylindrical air deflectors, equal to those in LD-13 and LD-14 diffusers, are installed in the slots, to allow continuous adjustment of discharged air direction within the 360° range. On order, diverse plate designs and slot patterns are available.

## Floor slot diffusers

LD-16N floor slot diffusers are a suitable solution for swimming pools and similar rooms with large glass surfaces and windows. They are designed for installation in the floor. Warm air is supplied in the upwards direction, towards the window.

## Round duct diffusers

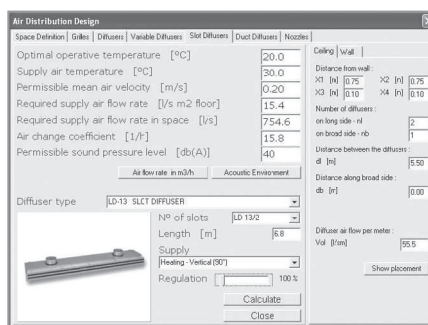
Round duct diffusers can be installed at various locations within the duct network. They are suitable for supplying either cold or warm air.

## Software: KLIMA ADE

LD and SKD Software:

- available calculation and graphical display of air supply for slot diffusers LD-13, LD-14 and LD-15
- available calculation of technical specifications for the application of wall- or ceiling-mounted slot diffusers
- available calculation of ceiling-mounted multiple-diffuser configuration air supply
- application of vertical or horizontal slot diffuser air supply into the room, depending on the mode of operation – heating or cooling
- the package supports basic air supply mode models for the SKD-13 round duct diffuser
- available calculation of SKD-13 round duct diffusers cooling mode: single-side and two-side horizontal supply and alternating horizontal supply heating mode: vertical air supply

## Software: Klima ADE



## Slot diffusers



LD-13

LD-14



LD-15

LD-18

## Nozzle diffusers



LD-19

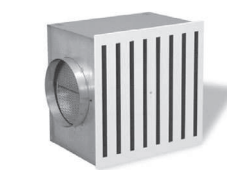
LD-20

## Floor slot diffusers



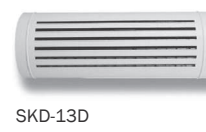
LD-16N

## Panel design slot diffusers



LDP-14

## Round duct diffusers












SKD-13D

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<b>ROUND DUCT DIFFUSERS</b>	<b>234</b>
Round duct diffusers SKD-13	234

## Legend of symbols

- |  |   |   |
|--|---|---|
| <b>Al</b> Element is made of aluminium profiles, aluminium sheet or aluminium casting.   |  Element is intended to be built in the wall.  |  Element is suitable for the supply of cool air (cooling).   |
| <b>St</b> Element is made of steel sheet.  |  Element is intended to be built in the ceiling or in the wall.                      | <b>M</b> Element allows regulation by electric motor (Belimo electric motors).  |
|  Element is powder painted in standard RAL 9010 colour. Other desired colour is to be specified in the order. |  Element for air conditioning of rooms with floor to ceiling heights room up to 4 m. | <b>F EU...</b> Element is intended for air filtration. The filter of class ... is built in.   |
|  Shady symbol means possibility of optional material, surface protection, motor version, ...                  |  Element for air conditioning of rooms with floor to ceiling heights from 6 to 15 m. | <b>CD</b> The possibility of the automatic selection and calculation of the technical characteristics of grilles and difusers in regard to the given conditions with the assistance of the Klima ADE program. |
|  Element is intended to be built in the floor.  |  Element is suitable for the supply of warm air (heating).                           | <b>INOX</b> The element is made of stainless sheet steel AISI 304.  |

# Round duct diffusers

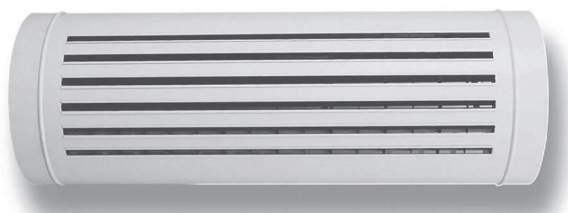
## ■ Round Duct Diffuser SKD-13

### Application

Round duct diffusers SKD-13 are designed for supplying air to the rooms with large floor to ceiling heights, e.g. conference halls, gyms, industrial halls etc. They can be installed at any location within the duct network, which renders them suitable for supplying of either hot or cold air.

The T register model is designed to control the supply air flow-rate at the individual diffuser level. The T register design is recommended for installations with several round duct diffusers in one line. In such cases, the flow-rates of the diffusers near the line beginning should be slightly reduced, in order to supply adequate amounts of air to the diffusers farther along the line.

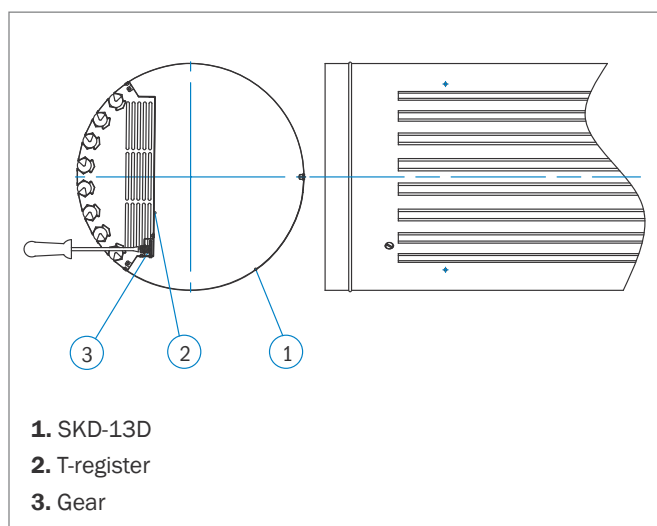
St  
RAL 9010  
▲



### Description

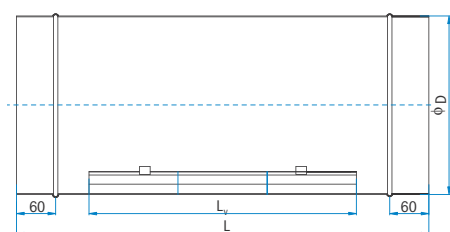
The duct diffuser consists of galvanised round cross-section tubes with inserted longitudinal guides, fitting tight into the tubes. Cylindrical deflectors made of recycled plastics are inserted into the guides, to allow continuous adjustment of discharged air direction within the 360o range. Diffusers are available with different number of slots. The tube is painted in a RAL 9010 scale colour, or, on special orders, in other colours. The deflectors, equal to those of LD-13 slot diffusers, are white or black as standard.

A T register, made of galvanised sheet steel, is inserted in the SKD-13D/T. The T register The setting piece is adjusted with a gear moved using a straight screwdriver. The gear can be accessed through a hole in the cover.

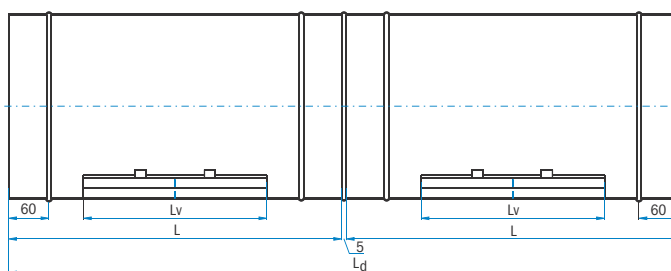


L <sub>0</sub>	L	L <sub>v</sub>
/	1000	800
<b>1505</b>	750	2 x 500
<b>1755</b>	875	2 x 600
<b>2005</b>	1000	2 x 800

### Diffuser structure for lengths exceeding 1000 mm



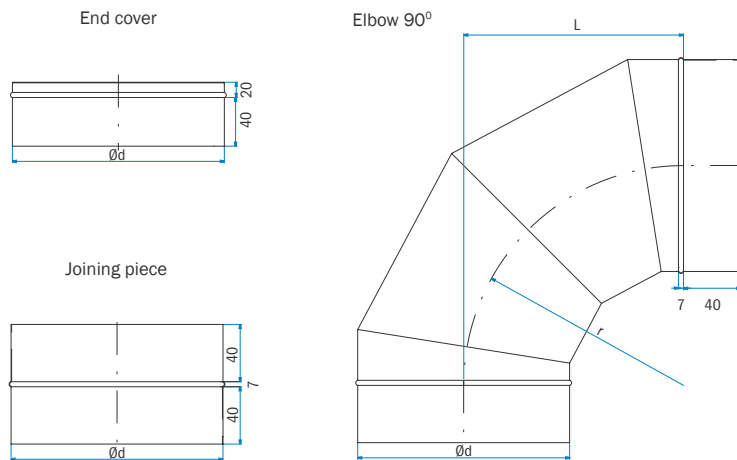
Note: φD is the diffuser internal diameter.



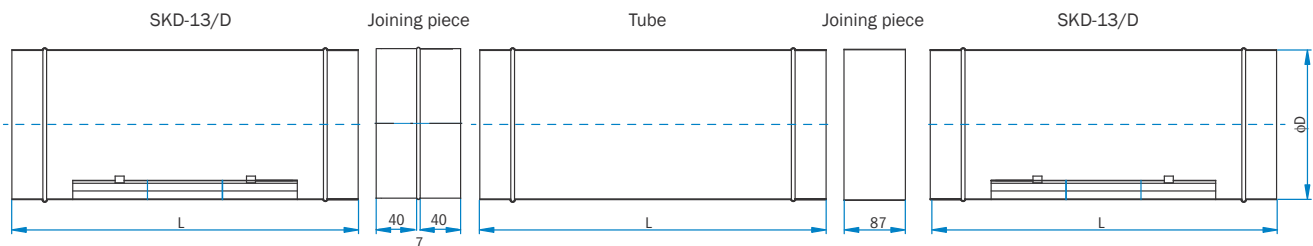
**Accessories**

Size	d	L,r
150	148.7 - 149.3	150
160	158.7 - 159.3	160
180	178.6 - 179.3	180
200	198.6 - 199.3	200
224	222.5 - 223.3	224
250	248.5 - 249.3	250
280	278.4 - 279.3	280
300	298.4 - 299.3	300
315	313.4 - 314.3	315
355	353.3 - 354.3	355
400	398.3 - 399.3	400
450	448.2 - 449.3	450
500	498.2 - 499.3	500
560	558.1 - 559.3	560
630	628.1 - 629.3	630
710	708.0 - 709.3	710
800	798.1 - 799.3	800
900	897.0 - 899.3	900

Note:  $\phi d$  is the external diameter.



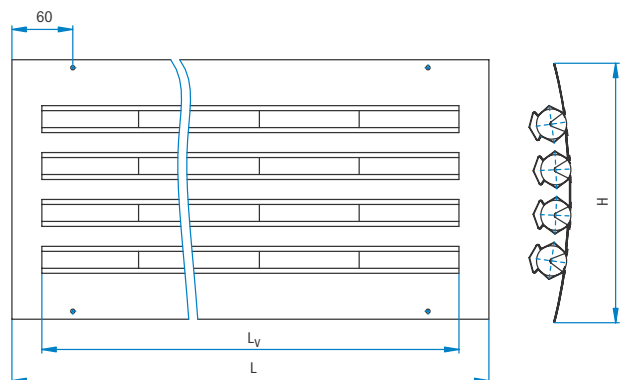
**Installation of SKD-13/D**



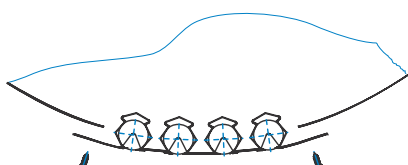
**SKD-13/R**

SKD-13/R is constructed for installations into round ducts with square openings.

L	L <sub>v</sub>	H	No. of slots	ØD of tube	Openings	
					L-35	H-35
580	500	100	1	150-355	545	65
680	600	150	2	355-900	645	115
880	800	200	3	600-2400	845	165
880	800	250	4	600-2400	845	215



**Installation of SKD-13/R:**



VENTILATING GRILLES,  
VENTILATING VALVES

CIRCULAR DIFFUSERS,  
SQUARE DIFFUSERS

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VARIABLE SWIRL  
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SLOT DIFFUSERS,  
ROUND DUCT DIFFUSERS

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SOUND ATTENUATING  
LOUVRES

**Ordering key**  
SKD-13D

**SKD-13D / B / T /  $\phi$ 355 / 2 L=1000 mm**

Length  
Number of slots  
Tube diameter  
T-register  
B Black deflectors  
W White deflectors  
Tube

**Note:**

- Please specify the deflector colour in your order. Other colours on customer's request.

**Ordering key**  
SKD-13R

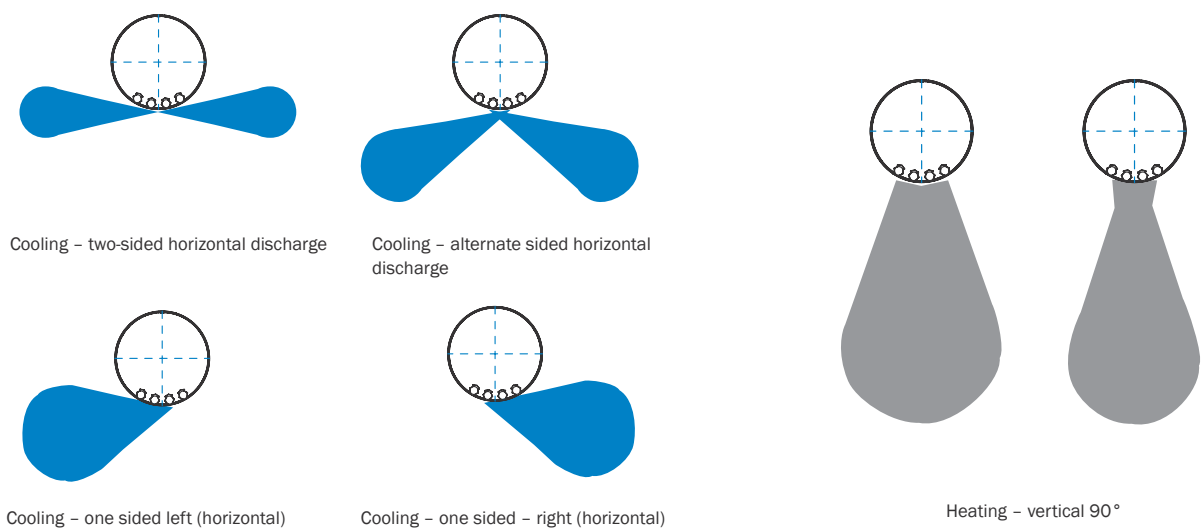
**SKD-13R / B / T /  $\phi$ 355 / 2 L=680 mm, H=150 mm**

Length  
Number of slots  
Tube diameter  
T-register  
B Black deflectors  
W White deflectors  
R Diffuser designed for installation into round ducts

**Example accessory specification:**

Accessory: Elbow 900  
Colour: RAL 9010  
Quantity: 1 piece

**Types of discharge**



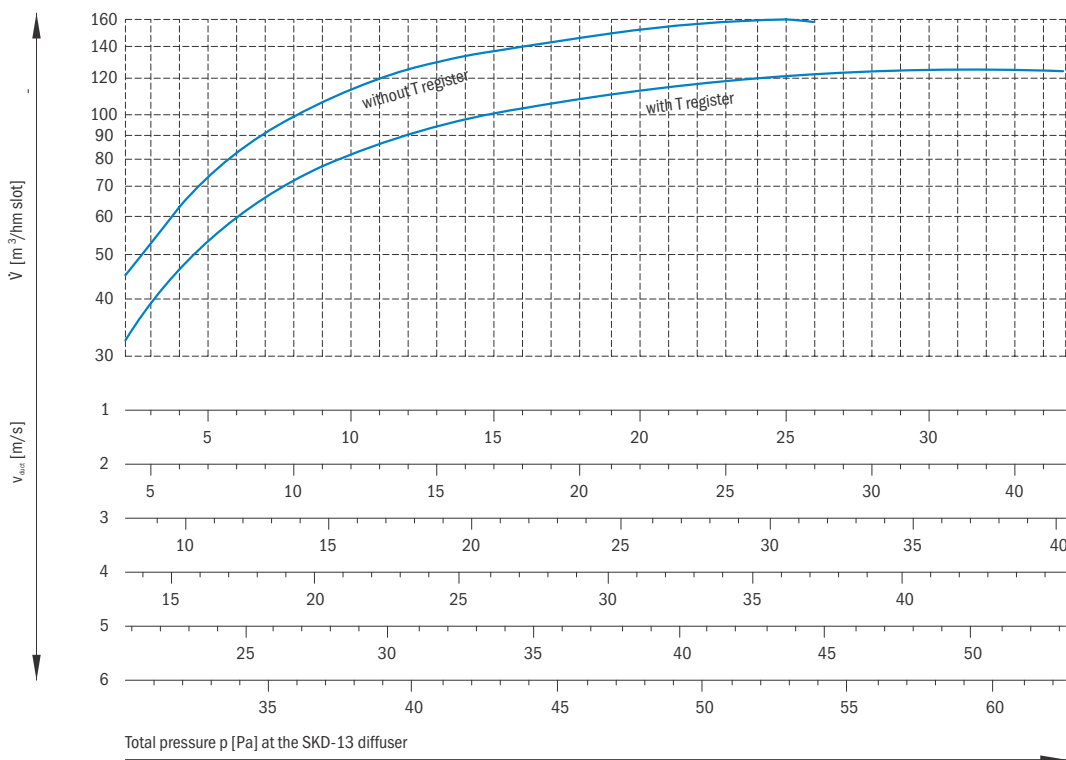
For determination of air velocity data at different throw distances and temperature differences, please use software for air distribution elements calculation KLIMA ADE.

Pipe length $L_d$ [mm] (Slot length $L_s$ [mm])	No. of slots	$L_{wa}$ [dB(a)]	Recommended air flow volume [m <sup>3</sup> /h]					
			150, 160, 180	200, 224, 250	280, 300, 315, 355	400, 450	500, 560	630, 710, 800, 900
<b>1000</b> (800)	2	26	128	128	128	128	128	128
	4	30	256	256	256	256	256	256
	6	34			384	384	384	384
	8	35				512	512	512
	10	36				640	640	640
	12	37					768	768
	14	38					896	896
<b>1505</b> (2 x 500)	2	35	160	160	160	160	160	160
	4	38	320	320	320	320	320	320
	6	40			480	480	480	480
	8	41				640	640	640
	10	46				800	800	800
	12	46					960	960
	14	47						1120
<b>1755</b> (2 x 600)	2	30		192	192	192		
	4	32		384	384	384		
	6	33			576	576		
	8	35				768		
	10	38				960		
<b>2005</b> (2 x 800)	2	30		256	256	256		
	4	32		512	512	512		
	6	34			768	768		
	8	37				1024		
	10	40				1280		

Other dimensions are available on request.

The recommended air flow is 80 m<sup>3</sup>/h m per meter of active slot length.

### Pressure drop determination diagram



$v$  air jet velocity in the duct