Round duct diffusers

Round Duct Diffuser SKD-13

Application

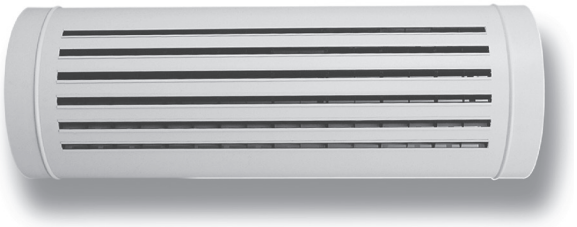
Round duct diffusers SKD-13 are designed for supplying air to the rooms with large floor to ceiling heights, e.g. conference halls, gyms, industrial halls etc. They can be installed at any location within the duct network, which renders them suitable for supplying of either hot or cold air.

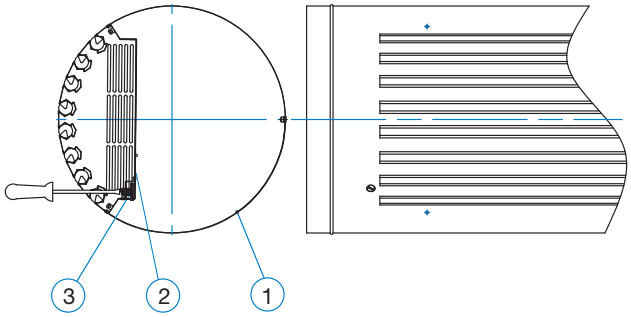
The T register model is designed to control the supply air flow-rate at the individual diffuser level. The T register design is recommended for installations with several round duct diffusers in one line. In such cases, the flow-rates of the diffusers near the line beginning should be slightly reduced,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

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 360° 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.

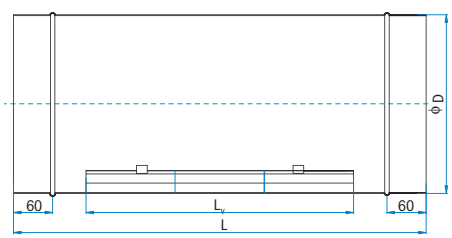




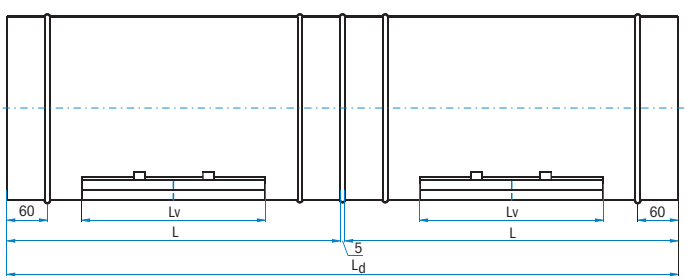
1. SKD-13D
2. T-register
3. Gear

L_D	L	L_V
/	1000	800
1505	750	2 x 500
1755	875	2 x 600
2005	1000	2 X 800

Diffuser structure for lengths exceeding 1000 mm



Note: ϕD is the diffuser internal diameter.

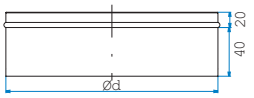


Accessories

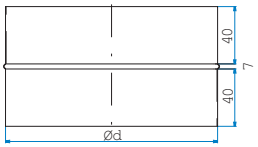
Size	d	L,r
150	148.7 – 149.3	150
160	158.7 – 159.3	160
180	178.6 – 179.3	180
200	198.6 – 199.3	200
224	222.5 – 223.3	224
250	248.5 – 249.3	250
280	278.4 – 279.3	280
300	298.4 – 299.3	300
315	313.4 – 314.3	315
355	353.3 – 354.3	355
400	398.3 – 399.3	400
450	448.2 – 449.3	450
500	498.2 – 499.3	500
560	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: ϕd is the external diameter.

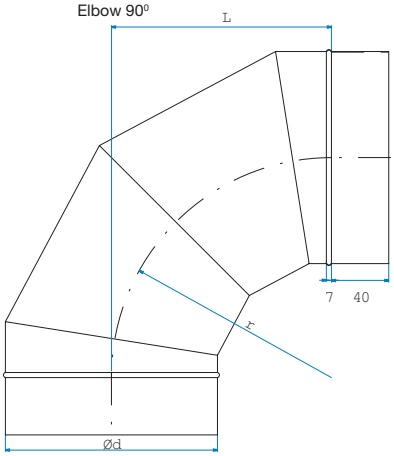
End cover



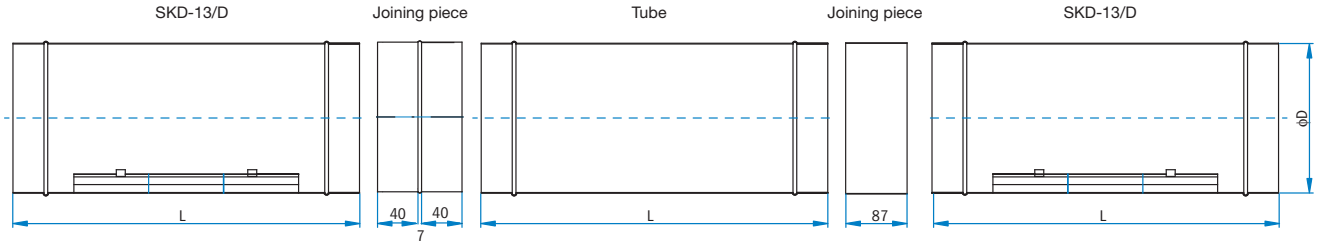
Joining piece



Elbow 90⁰



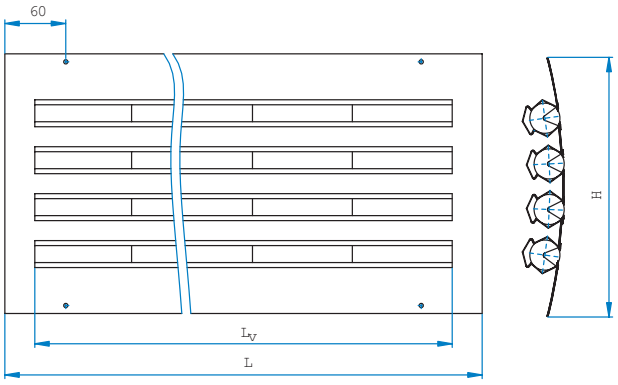
Installation of SKD-13/D



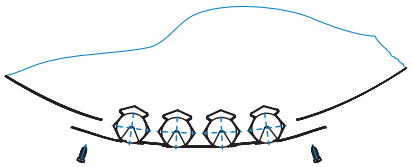
SKD-13/R

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

L	L_V	H	No. of slots	ΦD 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:



Ordering key

Ordering example for round duct element with slots

SKD-13D	/	B	/	T	/	fi355	/	2	L=1000
1		2		3		4		5	6

Ordering example for slot diffuser for installation onto round ducts

SKD-13R	/	B	/	T	/	fi355	/	2	L=880, H=150
1		2		3		4		5	6

1 Diffuser type	
SKD-13D	
SKD-13R	

2 Deflectors	
B	Black deflectors
W	White deflectors

3 Register	
T	Register

4 Tube diameter	
fi	State tube diameter (150-900)

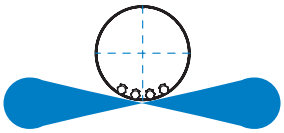
5 Number of slots	
1	Slot (only SKD-13/R)
2	Slots
3	Slots (only SKD-13/R)
4	Slots
6	Slots (only SKD-13/D)
8	Slots (only SKD-13/D)
10	Slots (only SKD-13/D)
12	Slots (only SKD-13/D)
14	Slots (only SKD-13/D)

6 Length - state for SKD-13/R in mm	
SKD-13D	L=length
SKD-13R	L=length, H=heigth

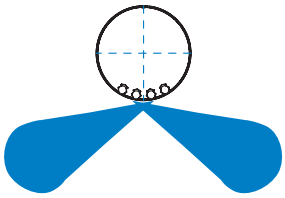
Example accessory specification:

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

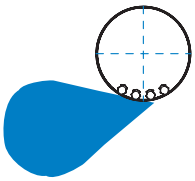
Types of discharge



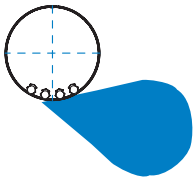
Cooling – two-sided horizontal discharge



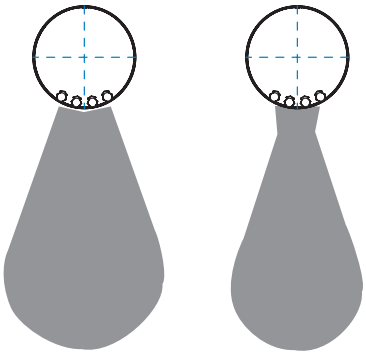
Cooling – alternate sided horizontal discharge



Cooling – one sided left (horizontal)



Cooling – one sided – right (horizontal)



Heating – vertical 90°

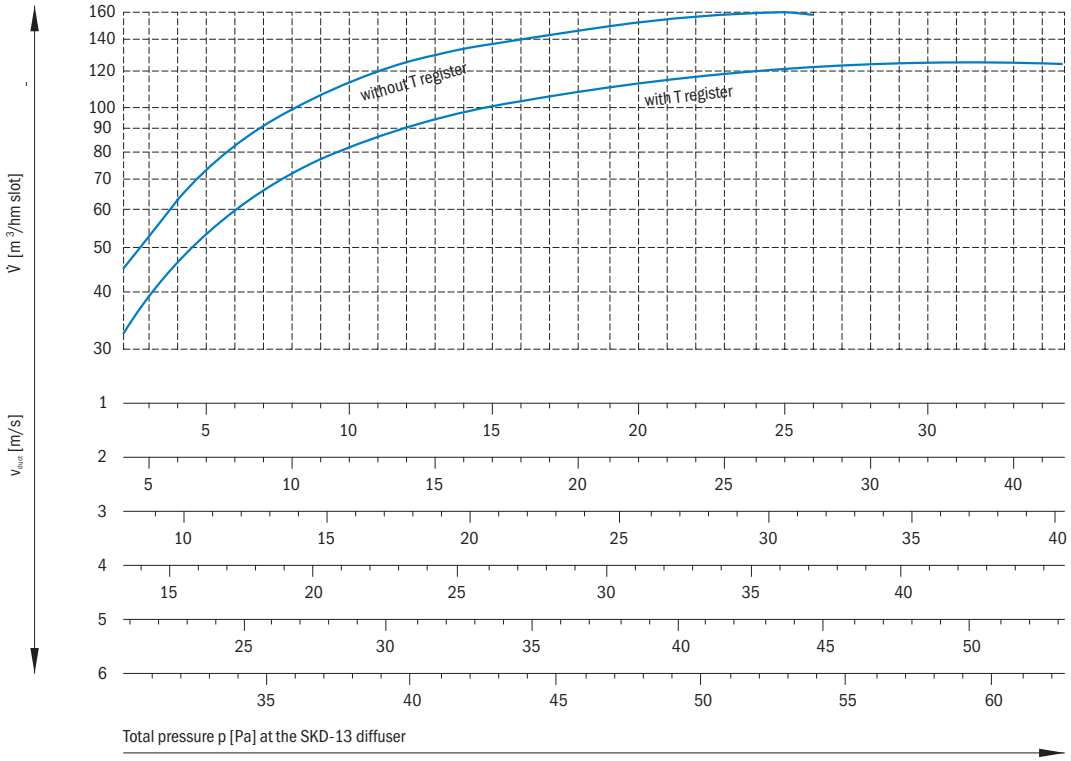
For determination of air velocity data at different throw distances and temperature differences, please use software for air distribution elements calculation KLIMA ADE.

Pipe length L_d [mm] (Slot length L_v [mm])	No. of slots	L_{wa}[d-B(a)]	Recommended air flow volume [m³/h]					
			150, 160, 180	200, 224, 250	280, 300, 315, 355	400, 450	500, 560	630, 710, 800, 900
1000 (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
1505 (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
1755 (2 x 600)	2	30		192	192	192		
	4	32		384	384	384		
	6	33			576	576		
	8	35				768		
	10	38				960		
2005 (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 m³/h m per meter of active slot length.

Pressure drop determination diagram



v air jet velocity in the duct