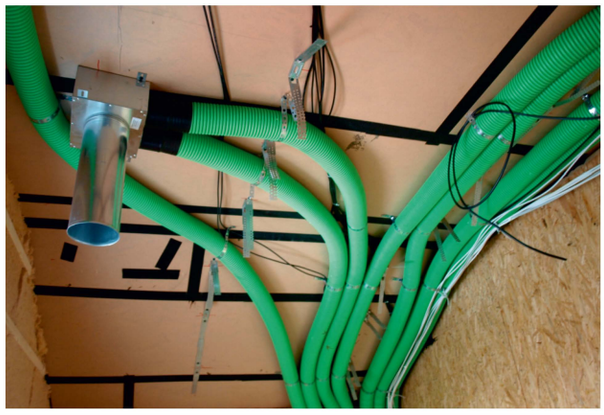
REALIZATION KLIMAFLEX SB

Project design and execution of construction work including HRV



Opava - Vávrovice

Opava - Jaktař

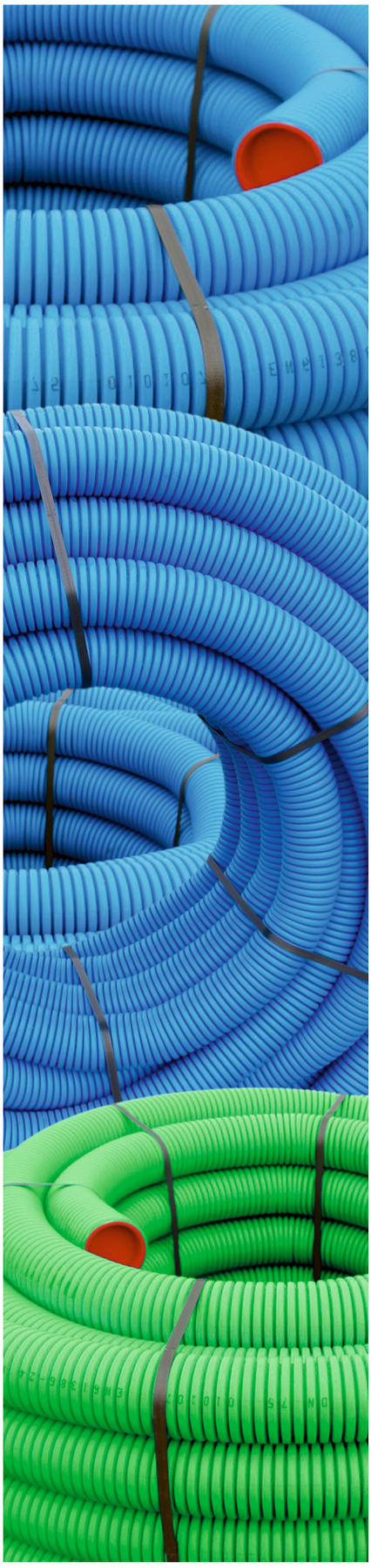
Opava - Vávrovice

Opava - Stěbořice

SHAPE YOUR IDEAS
MAT

KLIMAFLEX SB

Flexible plastic ducts for air-distribution systems



KLIMAFLEX SB flexible plastic ducts are designed for air ducts, air-distribution equipment and heat recovery systems. The inner walls of the ducts are treated with a protective antibacterial and antifungal coating, which ensures hygienic protection against bacteria and mould. The ends of the rolls are fitted with caps to prevent dirt from getting into the ducts.

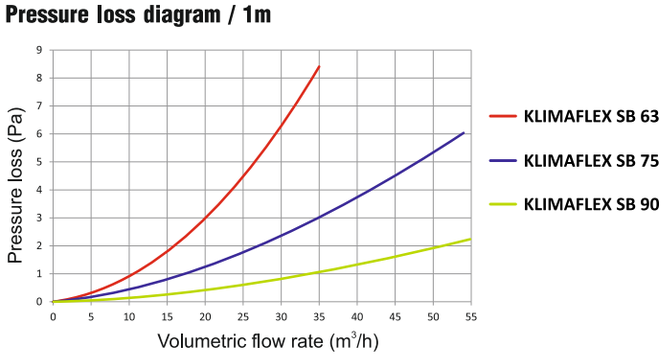
The design and properties of **KLIMAFLEX SB** flexible plastic ducts assure perfect transport of air and low pressure losses.

The ducts are designed in accordance with ČSN EN 61386-24. They are tested pursuant to ČSN EN ISO 846:98, methods A,C. Compression test at 450 N/ 200 mm.

outer diameter	inner diameter	bend radius	roll length
mm	mm	m	m
63	51	0,26	50
75	61	0,29	50
90	75	0,33	50
160*	136	0,43	25
200*	171	0,50	25

* Production on order (delivery time and quantity to be agreed)

Pressure loss diagram / 1m



Material

- Outer wall made from PE-HD.
- Inner wall made from PE-LD + antibacterial and antifungal additive (∅ 63 mm) or from PE-HD + antibacterial and antifungal additive (∅ 75-200 mm).

Ducts colours

- Outer wall - blue or green.
- Inner wall - grey or white.

Temperature resistance

- Installation temperature: of -5°C to +50°C.
- Operation temperature: of -20°C to +50°C.
- Storage temperature: of -40°C to +60°C.

Packaging

- Individual rolls are wrapped in protective PE.

Handling

- The low weight of KLIMAFLEX SB flexible plastic ducts makes them easy to transport and simple to install.

Transport

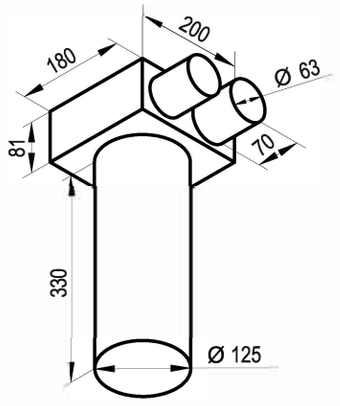
- When loading and unloading the pipes it is essential to prevent any mechanical damage or distortion of the plastic ducts.

Storage

- Rolls must be stored in a horizontal position up to a max. height of 2 m and only for the shortest time necessary, maximum 3 months.
- The ducts must be kept out of direct sunlight.

KLIMAFLEX SB KLIMAFLEX SB

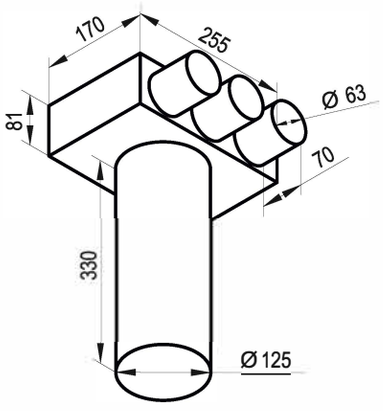
*KLO-2x63/125-OC Pass-through ceiling / Wall box for DN 125 air valve



Material: galvanised steel
Supplied components:
- DN 125 plug
- installation fixtures
- safeguards against movement of the flexible piping
- 2 DN 63 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x63)	15	19,5	25
Volume m^3/h (2x63)	30	39	50

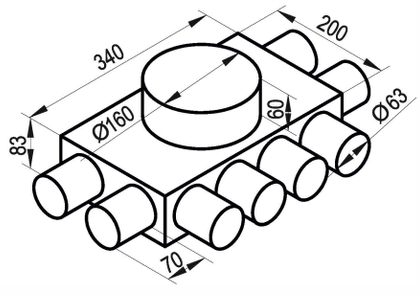
*KLO-3x63/125-OC Pass-through ceiling / Wall box for DN 125 air valve



Material: galvanised steel
Supplied components:
- DN 125 plug
- installation fixtures
- safeguards against movement of the flexible piping
- 3 DN 63 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x63)	15	19,5	25
Volume m^3/h (2x63)	30	39	50
Volume m^3/h (3x63)	45	58,5	75

*KL-8x63/160-OC Flat distribution box

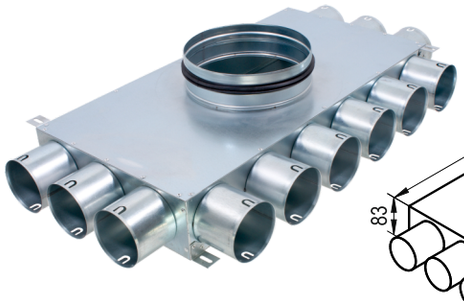


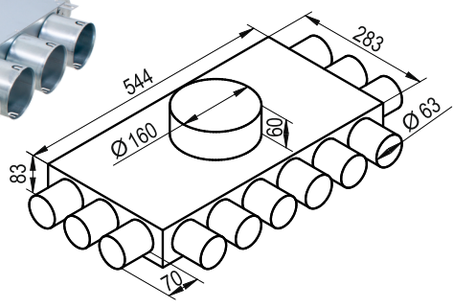
Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 8 DN 63 sealing rings
- interior box insulation

Airflow speed m/s	2	2,5	3
Volume m^3/h (8x63)	120	156	200

* Possibility to order in a variant with plastic diffusers

*KL-12x63/160-OC Flat distribution box

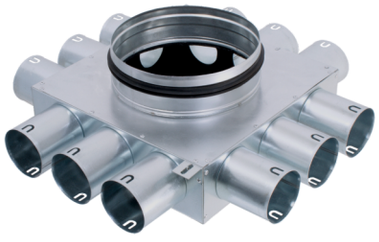


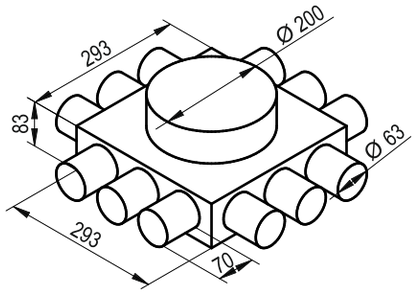


Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 12 DN 63 sealing rings
- interior box insulation

Airflow speed m/s	2	2,5	3
Volume m^3/h (12x63)	180	234	300

KLKW-12x63/200-OC Flat distribution box

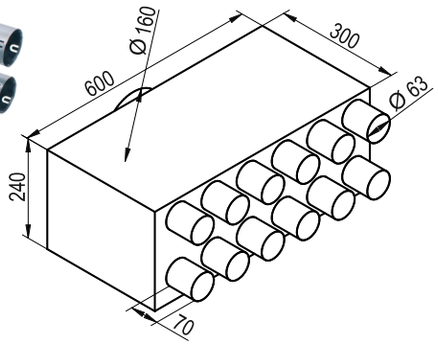




Material: galvanised steel
Supplied components:
- DN 200 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 12 DN 63 sealing rings
- interior box insulation

Airflow speed m/s	2	2,5	3
Volume m^3/h (12x63)	180	234	300

*RT2R-12x63/160-OC Direct distribution box

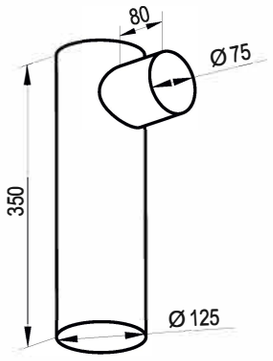


Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 12 DN 63 sealing rings
- interior box insulation
- inspection hatch

Airflow speed m/s	2	2,5	3
Volume m^3/h (12x63)	180	234	300

* Possibility to order in a variant with plastic diffusers

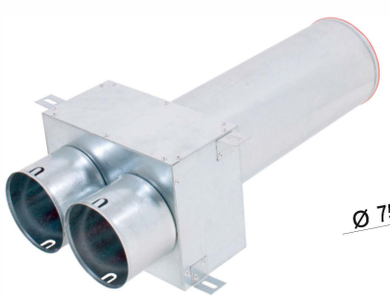
*KLOZ-1x75/125-OC Pass-through ceiling / Wall box for DN 125 air valve

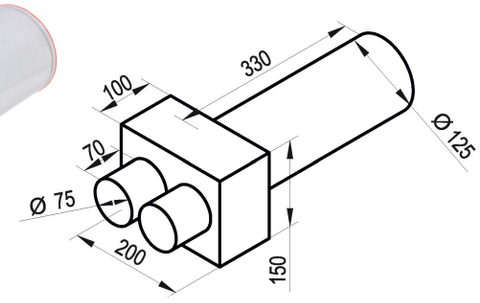


Material: galvanised steel
Supplied components:
- DN 125 plug
- safeguards against movement of the flexible piping
- 1 DN 75 sealing ring

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x75)	21	26	32

*KLO-2x75/P-125-OC Pass-through flat ceiling / Wall box for DN 125 air valve

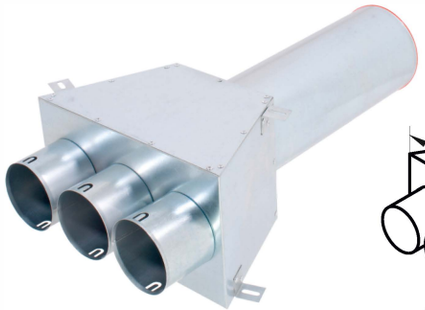


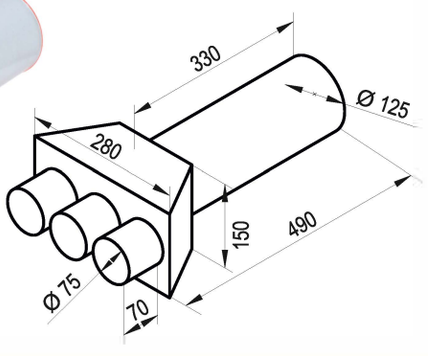


Material: galvanised steel
Supplied components:
- DN 125 plug
- installation fixtures
- safeguards against movement of the flexible piping
- 2 DN 75 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x75)	21	26	32
Volume m^3/h (2x75)	42	52	64

*KLO-3x75/P-125-OC Pass-through flat ceiling / Wall box for DN 125 air valve

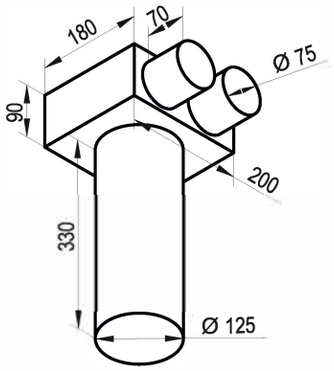




Material: galvanised steel
Supplied components:
- DN 125 plug
- installation fixtures
- safeguards against movement of the flexible piping
- 3 DN 75 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x75)	21	26	32
Volume m^3/h (2x75)	42	52	64
Volume m^3/h (3x75)	63	78	96

* KLO-2x75/125-OC Pass-through ceiling / Wall box for DN 125 air valve

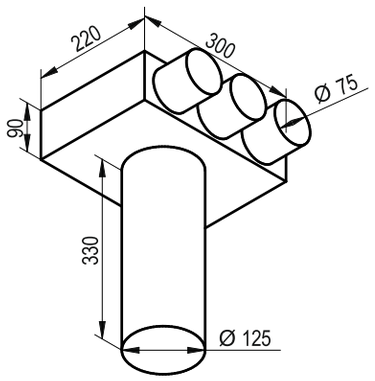


Material: galvanised steel
Supplied components:
- DN 125 plug
- installation fixtures
- safeguards against movement of the flexible piping
- 2 DN 75 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x75)	21	26	32
Volume m^3/h (2x75)	42	52	64

* Possibility to order in a variant with plastic diffusers

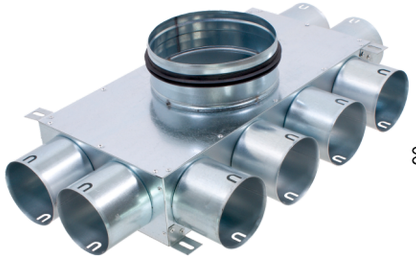
*KLO-3x75/125-OC Pass-through ceiling / Wall box for DN 125 air valve

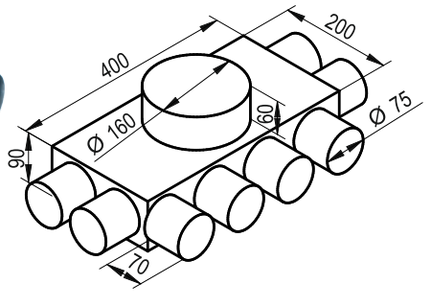


Material: galvanised steel
Supplied components:
- DN 125 plug
- installation fixtures
- safeguards against movement of the flexible piping
- 3 DN 75 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x75)	21	26	32
Volume m^3/h (2x75)	42	52	64
Volume m^3/h (3x75)	63	78	96

*KL-8x75/160-OC Flat distribution box

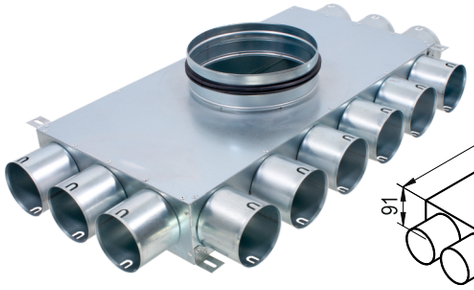


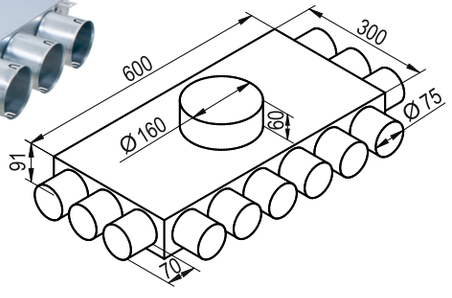


Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 8 DN 75 sealing rings
- interior box insulation

Airflow speed m/s	2	2,5	3
Volume m^3/h (8x75)	168	208	256

*KL-12x75/160-OC Flat distribution box

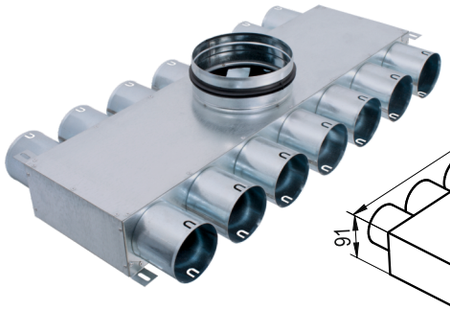


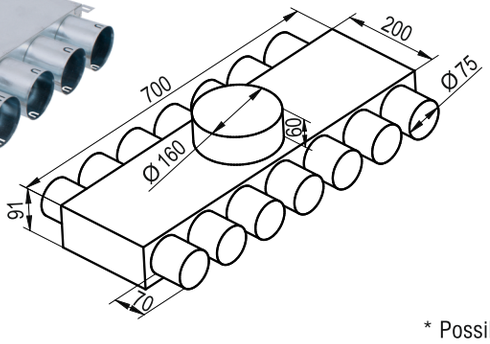


Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 12 DN 75 sealing rings
- interior box insulation

Airflow speed m/s	2	2,5	3
Volume m^3/h (12x75)	252	312	384

*KL-14x75/160-OC Flat distribution box



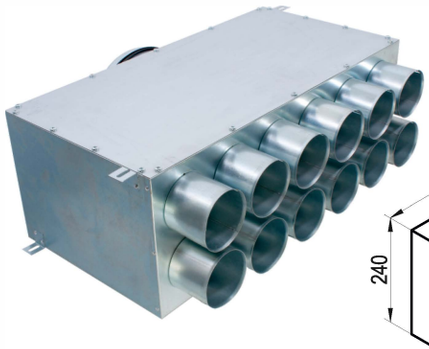


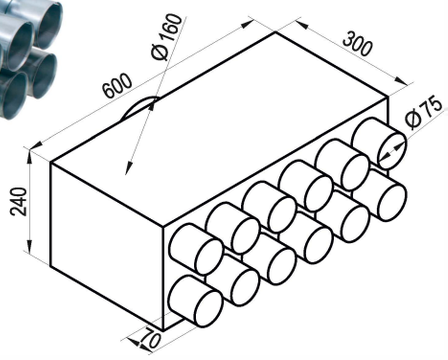
Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 14 DN 75 sealing rings
- interior box insulation

Airflow speed m/s	2	2,5	3
Volume m^3/h (14x75)	294	364	448

* Possibility to order in a variant with plastic diffusers

*RT2R-12x75/160-OC Direct distribution box

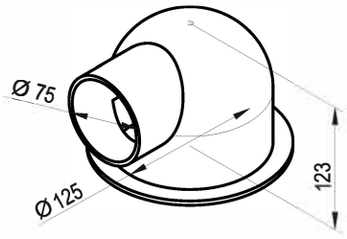




Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 12 DN 75 sealing rings
- interior box insulation
- inspection hatch

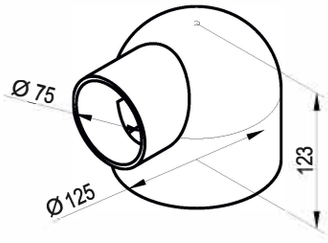
Airflow speed m/s	2	2,5	3
Volume m^3/h (12x75)	252	312	384

SV-75-125 Plastic ceiling/Wall outlet



For installation on plasterboard with vapour barrier
Input for DN 75 flexible piping
Output for DN 125 table valve
Material: PP
Supplied components:
- installation screws
- DN 75 seal O –ring
- DN 125 cap

SJD-75-125 Plastic ceiling/Wall outlet

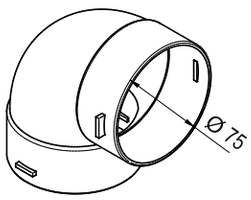


For installation on plasterboard with vapour barrier
Input for DN 75 flexible piping
Output for DN 125 table valve
Material: PP
Supplied components:
- installation screws
- DN 75 seal O-ring
- DN 125 cap

Example of use with the Lindap connector and SPIRO pipes
(not included in the delivery)

* Possibility to order in a variant with plastic diffusers

KP-75 Plastic elbow

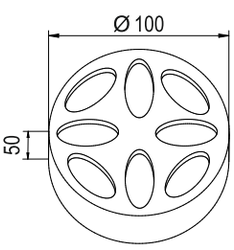


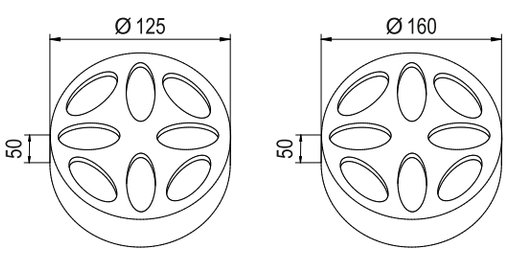
For 90° pipe installation in places where the bend of flexible pipe is not sufficient
Material: PP
Supplied components:
- 2 DN 75 seling O -rings
- 4 safeguards against movement of the flexible piping

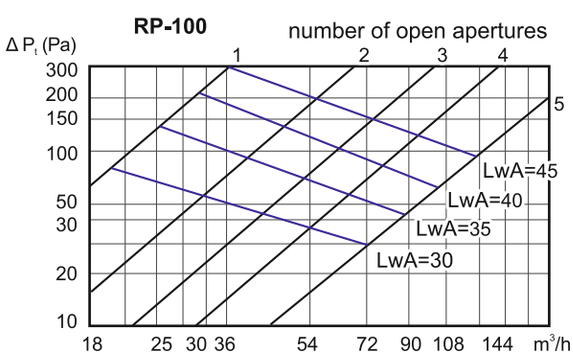
For pipe dimensions DN	75
Order code	KP-75

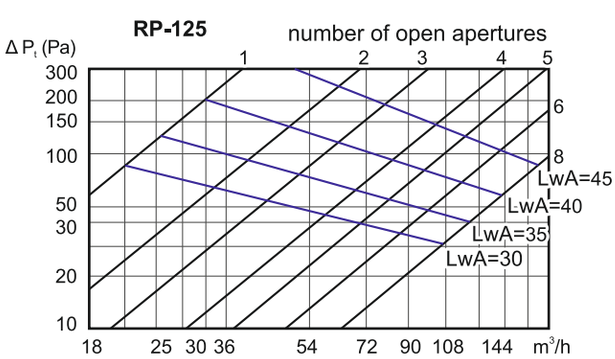
RP Flow-through regulator with damper

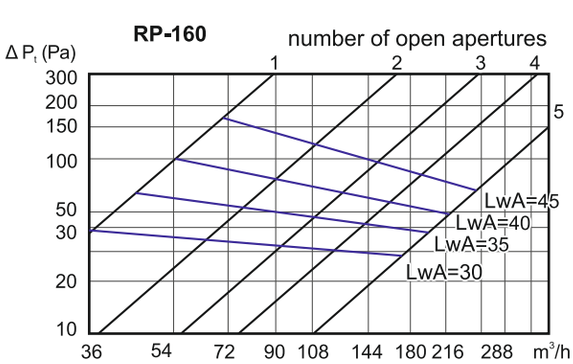
Special damping foam
The air flow-through is regulated by means of the number of open apertures







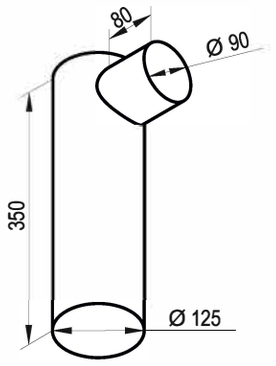




Damping of dB in frequency band (Hz)

Type	Number of open apertures	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
RP-100	1	6,5	7	4	9,5	13	16	18	22
	3	3	3,5	2,5	5,5	8,5	8,5	15	19
	5	1,5	2,5	1,5	3,5	6	6,5	12	17
RP-125	2	5,5	6,5	7	6,5	10	15	19	21
	5	2	2	2,5	3	8,5	8	14	19
	8	1	1,5	1,5	2,5	6	6	11	18
RP-160	1	6,5	7	4	9,5	13	16	18	22
	3	2,8	3,5	2,5	5,8	8,5	8,7	14,5	19
	5	3	3,5	2,5	5,5	8,5	8,5	15	20

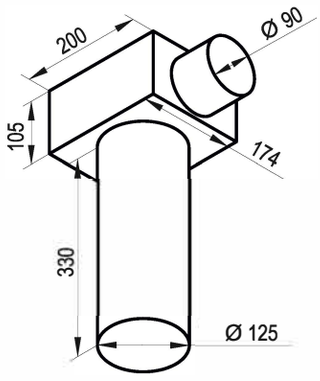
KLOZ-1x90/125-OC Pass-through ceiling / Wall box for DN 125 air valve



Material: galvanised steel
Supplied components:
- DN 125 plug
- safeguards against movement of the flexible piping
- 1 DN 90 sealing ring

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x90)	32	40	48

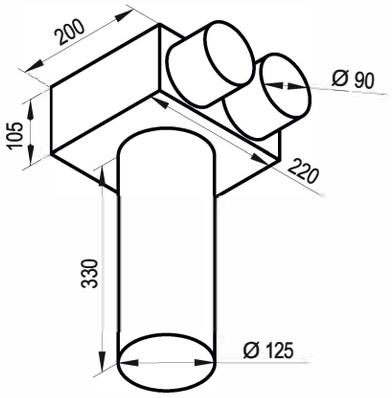
*KLO-1x90/125-OC Pass-through ceiling / Wall box for DN 125 air valve



Material: galvanised steel
Supplied components:
- DN 125 plug
- safeguards against movement of the flexible piping
- installation fixtures
- 1 DN 90 sealing ring

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x90)	32	40	48

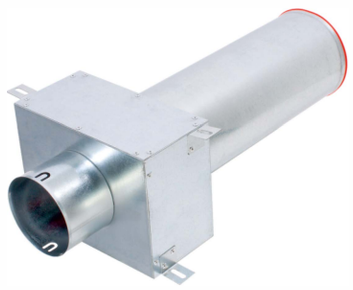
*KLO-2x90/125-OC Pass-through ceiling / Wall box for DN 125 air valve

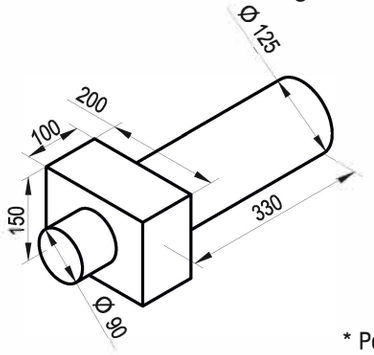


Material: galvanised steel
Supplied components:
- DN 125 plug
- safeguards against movement of the flexible piping
- installation fixtures
- 2 DN 90 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x90)	32	40	48
Volume m^3/h (2x90)	64	80	96

*KLO-1x90/P-125-OC Pass-through flat ceiling / Wall box for DN 125 air valve



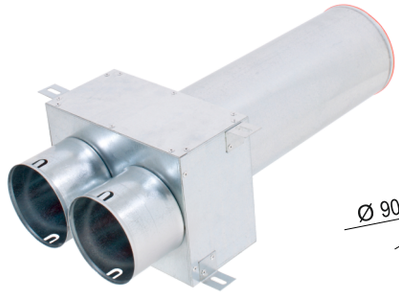


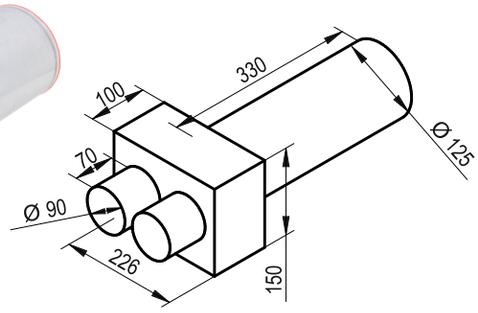
Material: galvanised steel
Supplied components:
- DN 125 plug
- safeguards against movement of the flexible piping
- installation fixtures
- 1 DN 90 sealing ring

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x90)	32	40	48

* Possibility to order in a variant with plastic diffusers

*KLO-2x90/P-125-OC Pass-through flat ceiling / Wall box for DN 125 air valve

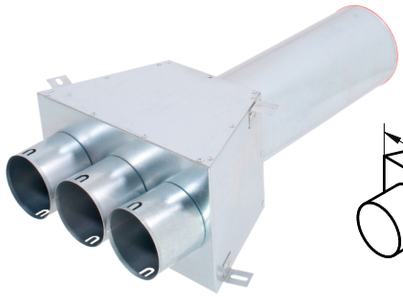


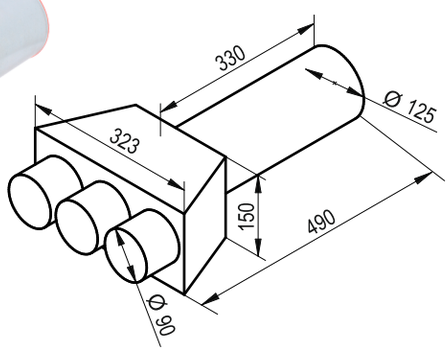


Material: galvanised steel
Supplied components:
- DN 125 plug
- safeguards against movement of the flexible piping
- installation fixtures
- 2 DN 90 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x90)	32	40	48
Volume m^3/h (2x90)	64	80	96

*KLO-3x90/P-125-OC Pass-through flat ceiling / Wall box for DN 125 air valve

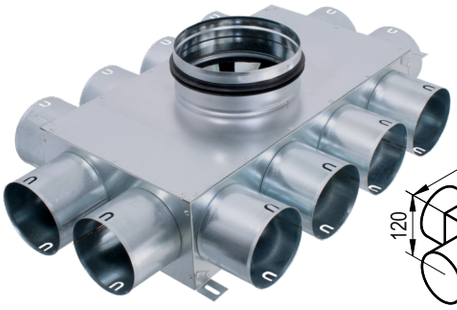


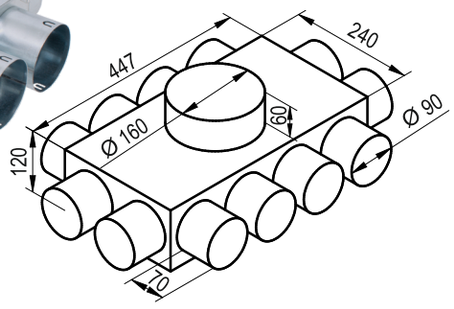


Material: galvanised steel
Supplied components:
- DN 125 plug
- safeguards against movement of the flexible piping
- installation fixtures
- 3 DN 90 sealing rings

Airflow speed m/s	2	2,5	3
Volume m^3/h (1x90)	32	40	48
Volume m^3/h (2x90)	64	80	96
Volume m^3/h (3x90)	96	120	144

*KL-12x90/160-OC Flat distribution box

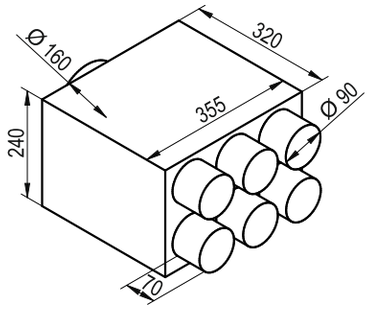




Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 12 DN 90 sealing rings
- interior box insulation

Airflow speed m/s	2	2,5	3
Volume m^3/h (12x90)	384	480	576

*RT2R-6x90/160-OC Direct distribution box

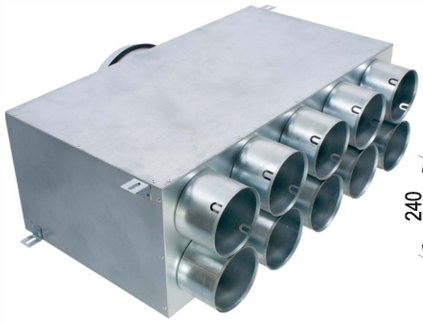


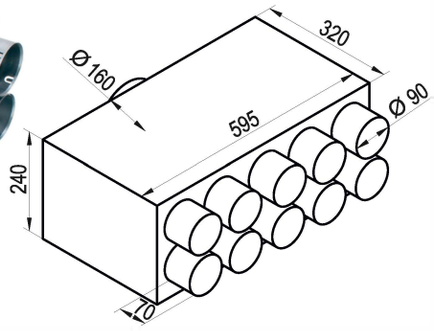
Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 6 DN 90 sealing rings
- interior box insulation
- inspection hatch

Airflow speed m/s	2	2,5	3
Volume m^3/h (6x90)	192	240	288

* Possibility to order in a variant with plastic diffusers

*RT2R-10x90/160-OC Direct distribution box

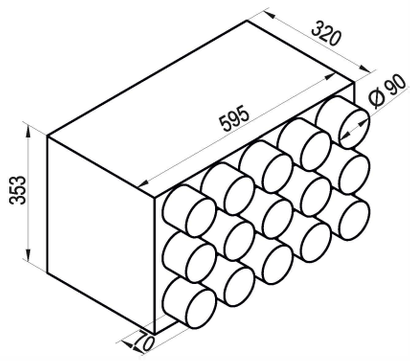




Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- Installation fixtures
- safeguards against movement of the flexible piping
- 10 DN 90 sealing rings
- interior box insulation
- inspection hatch

Airflow speed m/s	2	2,5	3
Volume m^3/h (10x90)	320	400	480

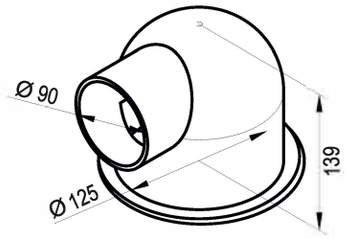
*RT3R-15x90/160-OC Direct distribution box



Material: galvanised steel
Supplied components:
- DN 160 seal O -ring
- installation fixtures
- safeguards against movement of the flexible piping
- 15 DN 90 sealing rings
- interior box insulation
- inspection hatch

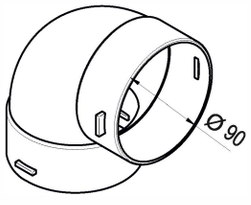
Airflow speed m/s	2	2,5	3
Volume m^3/h (15x90)	480	600	720

SV-90-125 Plastic ceiling/Wall outlet



For installation on plasterboard with vapour barrier
Input for DN 90 flexible piping
Output for DN 125 table valve
Material: PP
Supplied components:
- installation screws
- DN 90 seal O –ring
- DN 125 cap

KP-90 Plastic elbow



For 90˚ pipe installation in places where the bend of flexible pipe is not sufficient
Material: PP
Supplied components:
- 2 DN 90 seling O -rings
- 4 safeguards against movement of the flexible piping

For pipe dimensions DN	90
Order code	KP-90

⚠ We do not guarantee that our products will be compatible with another company's products! * Possibility to order in a variant with plastic diffusers

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GLASS VALVE GLASS VALVE

SKVE Design glass valve

For air intake and outflow with easy and fast airflow control
For attachment to a wall or ceiling
The valve consists:
• the body of the valve - is fitted within a system of piping by three metal springs
• the glass front plate - is attached to the body of the valve using springs
Shape: square (CT) or ring (KR)
Colours: gloss (L), matt (M)

Order code	For pipe dimensions DN	Body diameter mm	Exterior diameter mm	Body depth mm	Diameter of the valve cap mm
SKVE/100/CT or KR/L or M	100	90	137,5	54	200
SKVE/125/CT or KR/L or M	125	114	156	57	200
SKVE/160/CT or KR/L or M	160	149	191	57	230

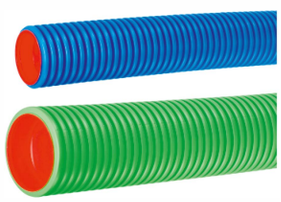
Colours gloss (L)	Colours matt (M)
Aluminium 9007	Anthracite 7016M
Anthracite 7016	Beige Warm 1015M
Black 9005	Black 9005M
Blue Shadow 7000	Brown 7013M
Brown 7013	Green Soft 8615M
Cooper Metal 9115	Red Terracotta 8815M
Red 1586	Silver Bronze 1002M
Terracotta 8815	Silver 1004M
Taupe Metal 0627	Silver Clear 1003M
Pearl 1013	Silver Gray 1001M
White Pure 9003	White Pure 9003M
White Soft 9010	White Soft 9010M

Other accessories

End cap

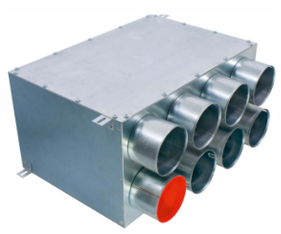
Material: PE-HD
• for flexible piping

For pipe dimensions DN	63	75	90
Order code	ZA-63	ZA-75	ZA-90



• for box outlets

End cap for box DN	63	75	90
Order code	ZAB-63	ZAB-75	ZAB-90



Exterior connector for connecting the flexible piping

Material: PP

For pipe dimensions DN	63	75	90
Order code	ZV-63	ZV-75	ZV-90

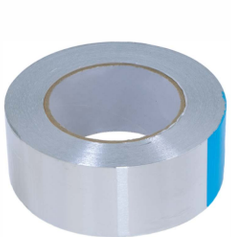
Sealing ring

Material: EPDM
• for connecting the flexible piping

For pipe dimensions DN	63	75	90
Order code	UV-63	UV-75	UV-90

• for connecting the flexible piping to the box

For pipe dimensions DN	63	75	90
Order code	UVB-63	UVB-75	UVB-90



Aluminium self-adhesive tape

Material: glass-fibre reinforced aluminium, acrylic-based adhesive film
For sealing connections berween pipes and boxes
For securing end caps

Tape dimension	Width 50 mm/ length 50 m	Width 75 mm/ length 50 m	Width 100 mm/ length 50 m
Order code	PAL 50	PAL 75	PAL 100

Shrink-seal connectors

Heat-shrink pipe connector
For sealing connections between pipes and boxes
Length 1000 mm
Application using a hot-air gun
Moulds to the pipe surface

For pipe dimensions DN	63	75	90
Order code	STS01	STS01	STS02

Noise damper

Enables achievement of a significant noise damping effect in circular pipes.
Material:
• external casing galvanised metal sheet
• internal casing perforated galvanised metal sheet
Damping layer:
• mineral wool with nonwoven textile
Outlet component:
• radial shaft seal

Order code	Internal diameter d1 mm	External diameter D mm	Length L* mm
TH50* 100/0200/0900/S	100	200	900
TH50* 125/0224/0900/S	125	224	900
TH50* 160/0250/0900/S	160	250	900
TH50* 200/0315/0900/S	200	315	900
TH50* 250/0355/0900/S	250	355	900

*additional dimensions on request

Damping of dB in frequency band (Hz)

f /Hz/	63	125	250	500	1k	2k	4k	8k	Di na $L_{Aeq.T}$ /dB/ **
Order code	Di /dB/ acoustic damping effect								
TH50 0100/0200/0900/S	5	17	26	34	30	34	37	25	26,0
TH50 0125/2240/900/S	3	13	20	32	29	35	31	21	23,0
TH50 0160/250/0900/S	2	9	13	27	32	39	26	15	20,4
TH50 0200/315/0900/S	3	6	12	20	24	23	15	12	14,4
TH50 0250/355/0900/S	5	2	6	11	15	9	7	5	7,5
TH50 0315/400/0900/S	3	1	5	12	16	14	8	5	8,0
TH50 0400/500/0900/S	7	1	6	9	10	7	6	5	6,4

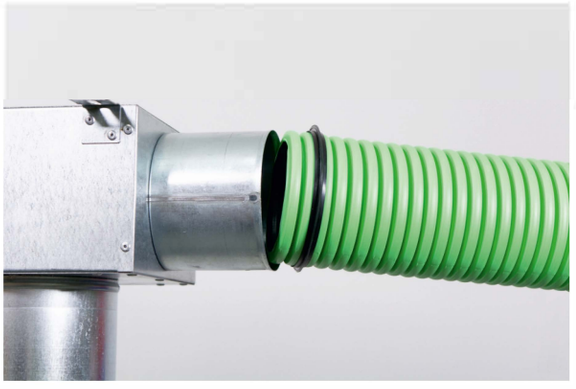
**equivalent acoustic pressure level LAeq,T in dB

Installation of KLIMAFLEX SB pipes to KL, KLO, KLOZ and RT boxes

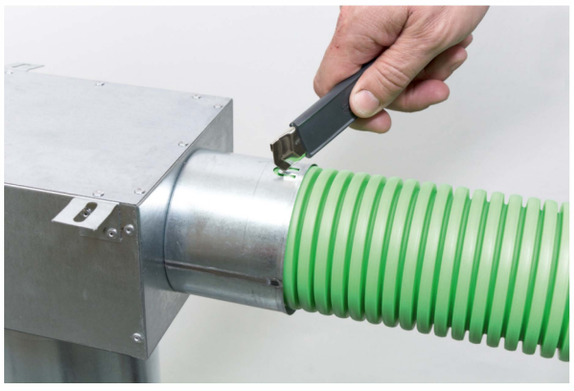
1) Cut the pipe to the required length at the groove in the corrugation.

2) Fit a sealing ring to the 2nd or 3rd groove.

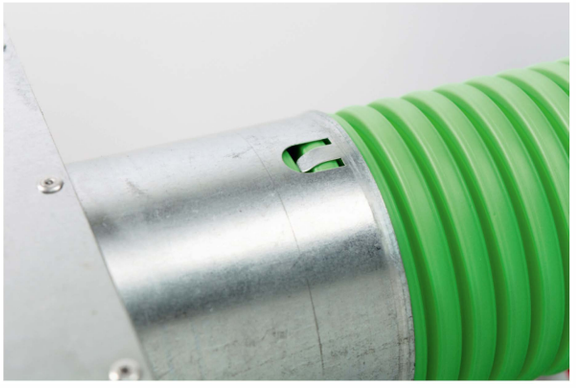
3) Apply lubricant to the interior surface of the outlet.*



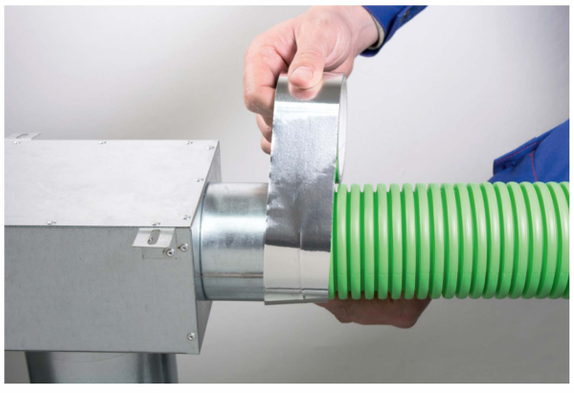
4) Insert the pipe as far as it will go.



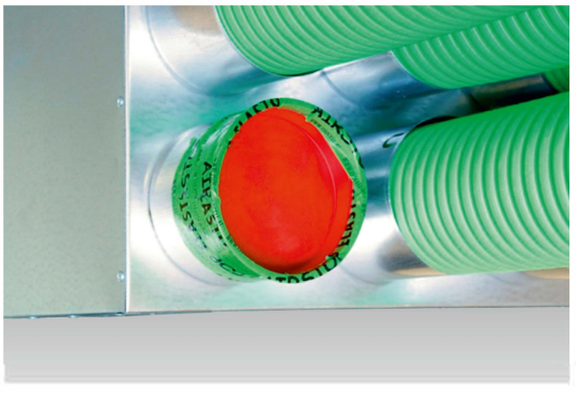
5) Press both locks to prevent the pipe from sliding out.



6) Correct lock position.



7) Secure the connection using air-tight self-adhesive tape.



8) We recommend that the end caps on unused and sealed outlets be secured using air-tight self-adhesive tape.

** E.g. washing-up liquid, silicone oil etc. Petroleum-based oils, lubricating grease and solvents **MUST NOT BE USED**.*

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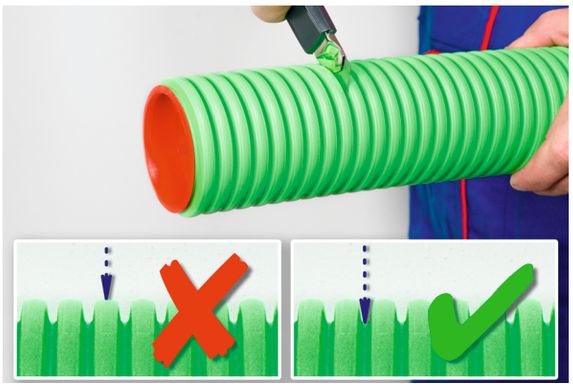
Fitting a KP 75 or KP 90 plastic elbow to a KLIMAFLEX SB pipe



1) Cut the pipe to the required length at the groove in the corrugation.

2) Fit the O-ring into the 1st groove.

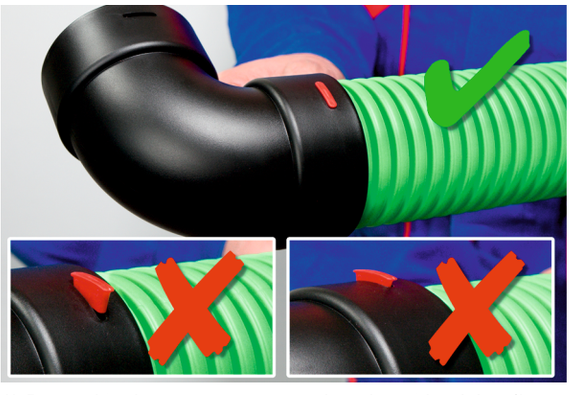
3) Press the O-ring into the perimeter of the groove in the pipe.

4) Position of the O-ring after it is pressed into place.

5) Lubricate the inner surface of the elbow with lubricant.*

6) Insert the elbow under the max. angle, while slightly rotating it and slide it into the pipe.

7) Centre the apertures for the securing pins against the groove in the pipe and slide both securing pins in as far as they will go.



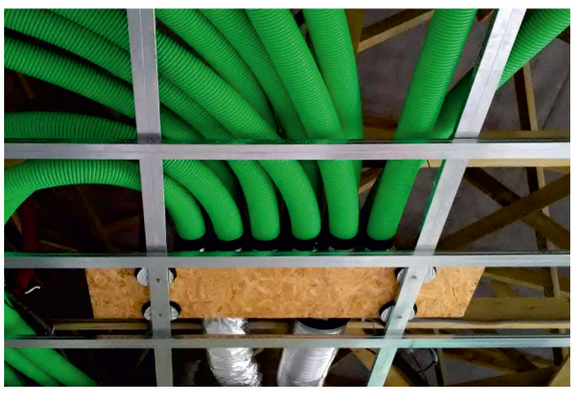
8) Proceed in the same manner on the other side of the elbow.

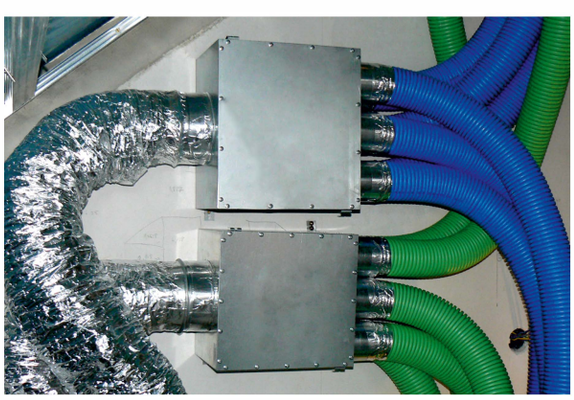
** E.g. washing-up liquid, silicone oil etc. Petroleum-based oils, lubricating grease and solvents **MUST NOT BE USED**.*

FITTING A PLASTIC ELBOW TO A PIPE

REALIZATION KLIMAFLEX SB

Project design and execution of construction work including HRV





The advantages of using KLIMAFLEX accessories and pipes

- speed and simplicity of installation
- adaptability to the type of installation
- increased flexibility while retaining mechanical durability
- low weight
- easy modification of pipe length
- anti-bacterial and anti-fungal treatment applied to the interior of the pipe
- low acquisition costs compared to other types of distribution system
- uniform air distribution
- low pressure losses in the pipeline
- sleeves for connecting the pipes to the boxes are included in the delivery
- no material losses, left-over pipes can be used by inserting a connector

Recommendations:

- the available pressure must be verified on long routes (over 15 m)
- secure connections between the boxes and the pipes using air-tight tape
- recommended maximum air-flow speed up to 3 m/s
- protect the ends of pipes against dust and dirt by fitting end caps (included in the delivery) after installation and before starting operation
- projects and installation should be realised according to the relevant building regulations and guidelines valid at the site of installation
- the maximum distance between anchoring strips when installing beneath the ceiling is 1,000 mm
- condensate removal must be resolved when distributing moist air
- insulate pipeline (insulation thickness 20 mm):
  a) if the pipeline is used to carry cooled air and leads through a warm room
  b) if the pipeline leads through a space with a lower temperature than the temperature of the transported air – the heat-loss requirements of the relevant standards (the thermal conductivity of the pipe wall is approx. 0.28 – 0.30 W/mK, thermal resistance is approx. 0.034-0.040 m2 K/W)

Air flow rate

KLIMAFLEX SB DN 63 (m^3/h)			
Number of tubes	Air flow speed		
	2 m/s	2,5 m/s	3 m/s
○	14,7	18,4	22,1
○○	29,4	36,8	44,2
○○○	44,1	55,2	66,3

KLIMAFLEX SB DN 75 (m^3/h)			
Number of tubes	Air flow speed		
	2 m/s	2,5 m/s	3 m/s
○	21,0	26,3	31,6
○○	42,0	52,6	63,2
○○○	63,0	78,9	94,8

KLIMAFLEX SB DN 90 (m^3/h)			
Number of tubes	Air flow speed		
	2 m/s	2,5 m/s	3 m/s
○	31,8	39,8	47,7
○○	63,6	79,6	95,4
○○○	95,4	119,4	143,1