



NORDrect Rectangular ducting

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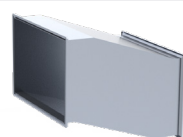
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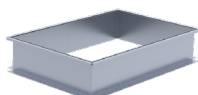
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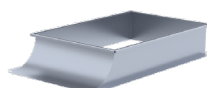
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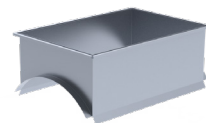
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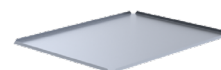
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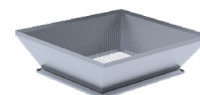
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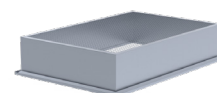
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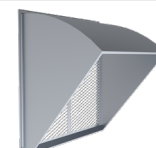
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General

NORDrect - rectangular duct system's duct and part measurements are based on the standard EVS-EN 1505:2001 unless otherwise indicated.

Generally NORDrect system is used when round ducts are not suitable because of cramped spaces.

1. Duct connections

All ducts and parts have a joining Z-profile at the end. Components are joined with a sliding C-profile and two seal profiles (not included).

It is possible to order duct parts with europrofile connection (E20, E30).

2. Tightness

Different joinings give different tightness. According to standard EVS-EN 1507:2006 NORDrect duct system meets the following tightness class requirements:

- Z-profile, class C
- Europrofile (E20, E30), class D

This only applies on condition that the products are installed in accordance with the installation instructions.

3. Measurements and tolerances

Rectangular ducts and duct parts nominal dimensions are internal dimensions a and b (measured in millimetres), where a is the visible side. For a reducer, the smaller end's measurements are marked c and d, where c is the visible side. Standard dimensions for side lengths are given in the tabel.

Measures are given in millimetres, angles in degrees.

We use symbols:

- Side a, b, c, d
- Radius r
- Detail length L
- Part length of the detail l
- Angle k

Measurements		Tolerance, mm
a, b, c, d		+0 -4
l, r	≤15	+0 -2
	> 15 ≤100	+0 -5
	>100	+0 -10
Angle k		2°
Length L		0,005L

Standard sizes

a \ b	100	150	200	250	300	400	500	600	800	1000	1200
200											
250											
300											
400											
500											
600											
800											
1000											
1200											
1400											
1600											
1800											
2000											

4. Materials

Standard material for NORDrect ducts and parts is galvanized steel sheet coated with minimum thickness of zinc inside and out of 275 g/m² (material thickness 0,7-1,2 mm). Products can also be manufactured of zinc-magnesium coated and acid-proof steel.

Materials and standards:

Galvanized steel (standard EVS-EN 10346:2015, DX51D+Z275)

Zinc-magnesium coated steel (DX51D+ZM310), (standard EVS-EN 10346:2015)

Acid-proof steel (standards EVS-EN 10088-2:2014, EN 1.4436 or AISI 316)

4.1 Material thickness

Longer side length	Galvanized steel (s)	Zinc-magnesium coated steel (s)	Acid-proof steel (s)
a, b ≤ 800	0,7 mm	0,7 mm	0,7 mm
800 < a, b ≤ 1400	0,9 mm	0,9 mm	1,0 mm
a, b > 1400	1,0 mm	0,9 mm	1,0 mm

5. Product codes

Marking standard products, the type and dimensions of the product must be specified. All measurements are in millimetres.

5.1 Marking of materials

For standard material [Zn - galvanized steel (Z275)] no material code.

Other materials:

H - acid-proof steel (AISI 316)

ZM - zinc-magnesium coated steel (ZM 310)

Example: EKT-H 800×400/L=1250 Z/Z Rectangular duct

For standard products, when material thickness is different from point 4.1 the non-standard material thickness is marked with the letter "S" followed by material thickness

Example: EKT-S1.2 800×400/L=1250 Z/Z Rectangular duct

5.2 Duct connections

The duct connection method symbol is written on the marking after the dimensions.

Marking symbol	Description
-	without a duct connection
Z	Z-profile (standard connection)
Z+	Z-profile unattached
E20/E30	Europrofile
E20+/E30+	Europrofile unattached
SKV mm	Rivet collar bent outside
SKS mm	Rivet collar bent inside
P	Blind duct end

Example:

EKP 800×400/800×400/90/r=125 Z/Z Rectangular bend - standard duct connection, both ends provided with a Z-profile (Z)

EKK 800×400/400×200-1/L=500 SKV25/Z Reducer for rectangular duct - one end rivet collar bent outside (SKV25), the other with Z-profile (Z)

EKT 800×400/L=1250 SKS25/Z+ Rectangular duct - one end rivet collar bent inside, the other (Z-profile) unattached

EKT 800×400/L=2000 P/Z Rectangular duct - blind to one end

EKT 800×400/L=2000 P/P Rectangular duct - blind to both ends

5.3 Insulated ducts

Ducts and parts can also be manufactured with insulation. Nominal size is the inner measurement. Flange profile is attached to the outer shell unless otherwise stated. Profile attached to inner core, is marked as LS.

Insulation codes:

S – thermal insulation 50 mm, 100 mm

M – sound insulation, 30 mm, 50 mm, 100 mm

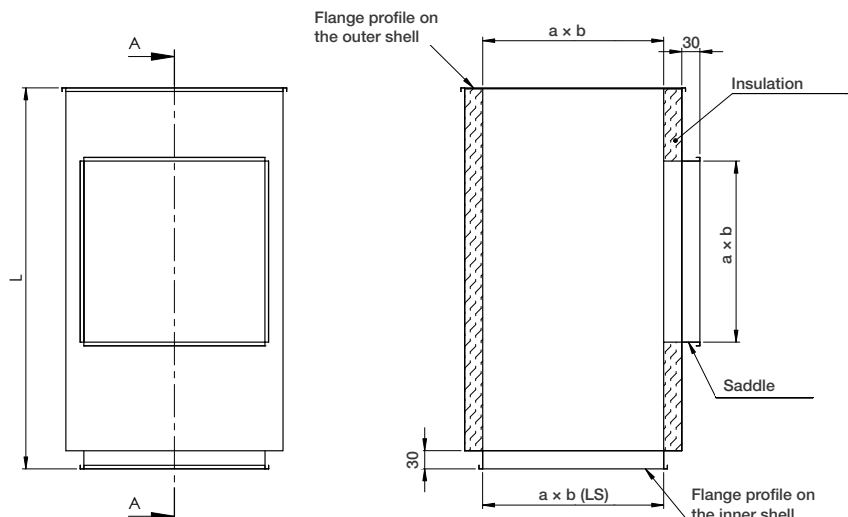
CL – sound insulation (wet cleanable) 30 mm, 50 mm, 100 mm

EI120 – fire insulation, 100 mm

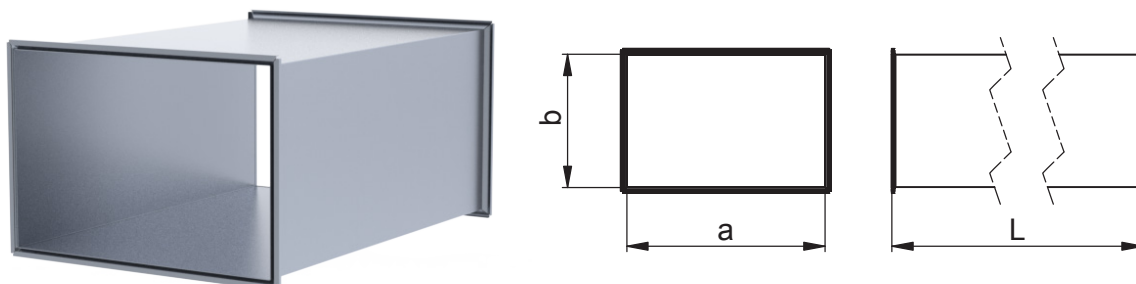
Used fire insulation meets the testing methods requirements according to EN1366-1 and is VTT certified. Fire insulation strengths in accordance with EN-13501-1.

The insulation code is marked at the end of the product marking.

Example: EKT 600×400/L=2000 Z/Z S50 Rectangular duct with 50 mm thermal insulation



EKT Duct



Rectangular duct, stiffened with transverse corrugations to reduce the risk of noise generation. Larger dimensions have stiffened with rods or U-profiles. Duct standard lengths are 1250 mm and 2000 mm, when a or b >1200, standard length L=1250. Duct is equipped with Z-profile.

Stiffening

$a, b < 800$ and $L \leq 2000$ - without stiffening profiles.
 $800 \leq a, b < 1300$ and $500 \leq L \leq 2000$ - stiffened with rods.
 $a, b \geq 1300$ and $500 \leq L \leq 2000$ - Reinforced with U-profile.

Product codes

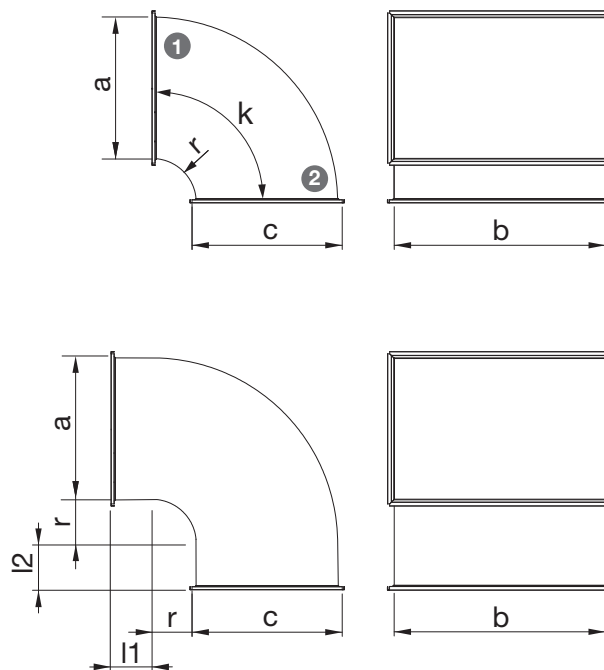
	EKT	Material	a x b	L	Z	U
Product						
Material						
		Galvanized steel (DX51D+Z275), standard material				
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)				
		H – Acidproof stainless steel AISI 316				
Dimensions a x b						
Length L						
Duct connection						
Reinforced with U-profile						

Example: EKT-H 800x400/L=1250 Z/Z
 EKT-H 800x400/L=1250 Z/Z U

EKP Elbow



Elbow with rounded outer corner.
Stiffened with a guide blade when side $a > 400$.
When angle $\leq 45^\circ$, no guide blade.
Standard radius is 125 mm.

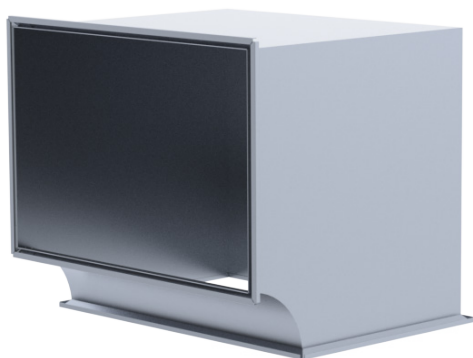


Product codes

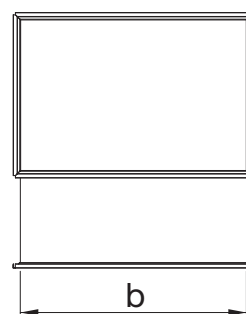
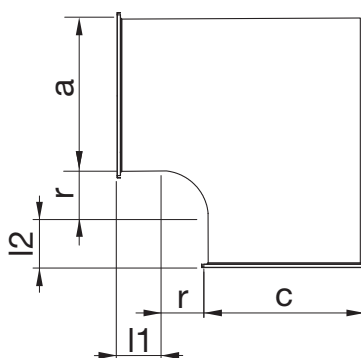
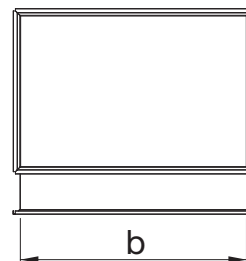
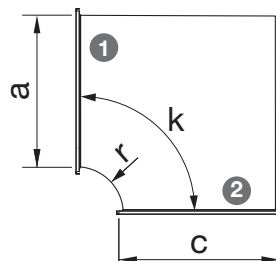
	EKP	Material	$a \times b$	$c \times b$	90	125	I1/I2	Z
Product								
Material								
		Galvanized steel (DX51D+Z275), standard material						
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)						
		H – Acidproof stainless steel AISI 316						
Dimensions $a \times b$								
Dimensions $c \times b$								
Angle k								
Radius r								
Extension I1/I2 (optional)								
Duct connection								

Example: EKP-ZM 800×400/800×400/90/r=125/I1=1000/I2=250 Z/Z

EKPK Elbow



Elbow with sharp outer corner.
Stiffened with a guide blade when side $a > 400$.
When angle $\leq 45^\circ$, no guide blade.
Standard radius is 125 mm.



Product codes

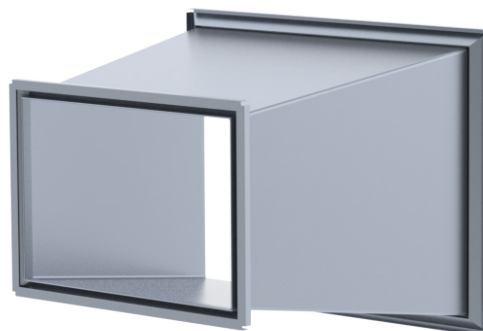
	EKPK	Material	a × b	c × b	90	125	l1/l2	Z
Product								
Material								
		Galvanized steel (DX51D+Z275), standard material						
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)						
		H – Acidproof stainless steel AISI 316						
Dimensions a × b								
Dimensions c × b								
Angle k								
Radius r								
Extension l1/l2 (optional)								
Duct connection								
Example: EKPK-H 800×400/500×400/90/r=125 Z/Z								

EKK Reducer

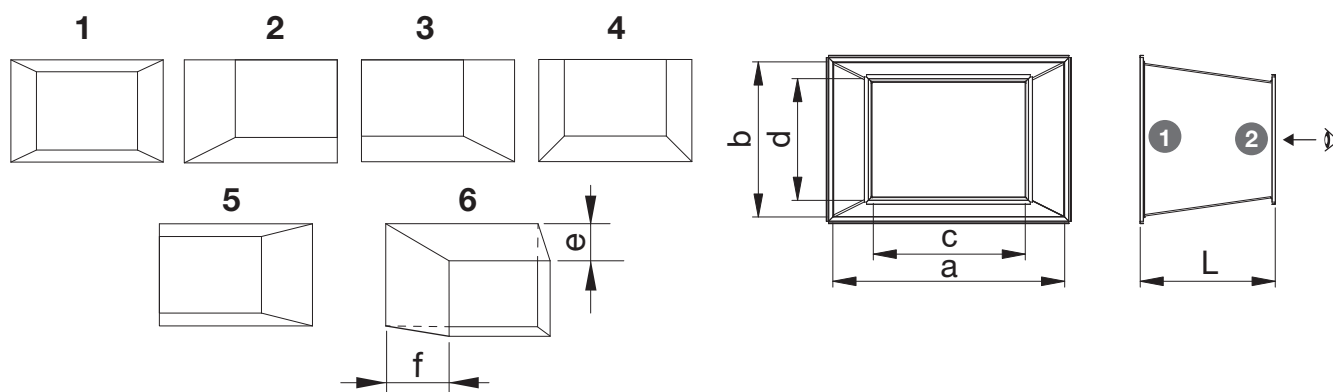
EKK educers are used to connect ducts with different sizes.

When a and b < 800, then l = 300 mm

When a or b ≥ 800, then l = 500 mm



Location



Product codes

	EKK	Material	a × b	c × d	1	L	Z
Product							
Material							
		Galvanized steel (DX51D+Z275), standard material					
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)					
		H – Acidproof stainless steel AISI 316					
Dimensions a × b							
Dimensions c × d							
Location							
Lenght L							
Duct connection							

Example: EKK-ZM 800×400/400×200-1/L=500 Z/Z

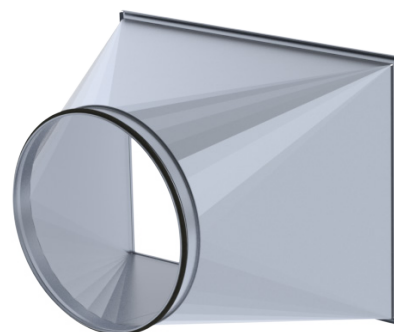
Marking location 6: EKK-ZM 800×400/400×200-6/E=200/F=100/L=500 Z/Z

EKD Reducer

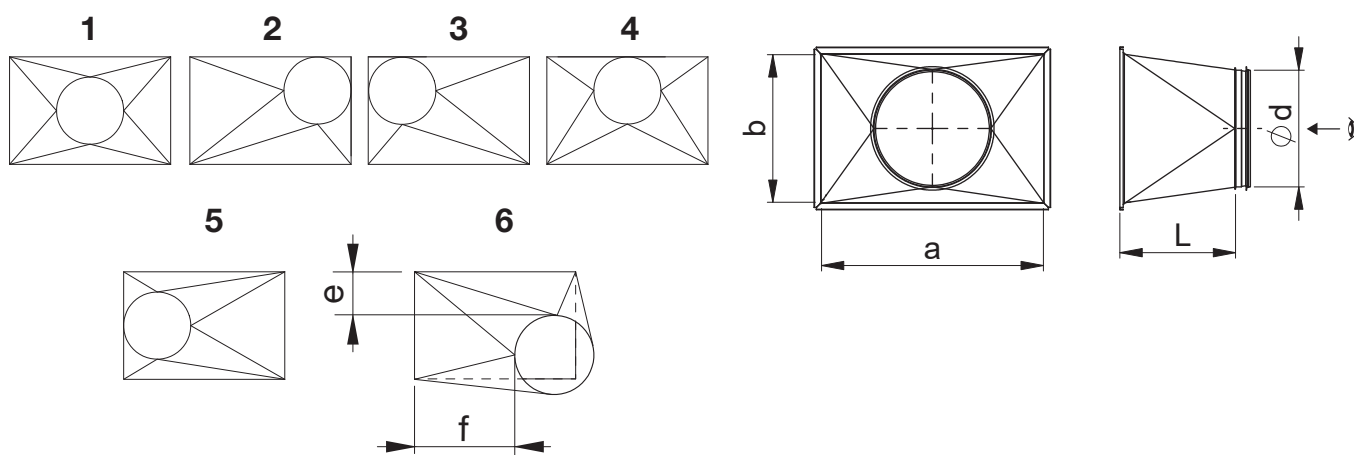
EKD reducers are used to connect rectangular and round ducts.

When a and $b < 800$, then $l = 300$ mm

When a or $b \geq 800$, then $l = 500$ mm



Location



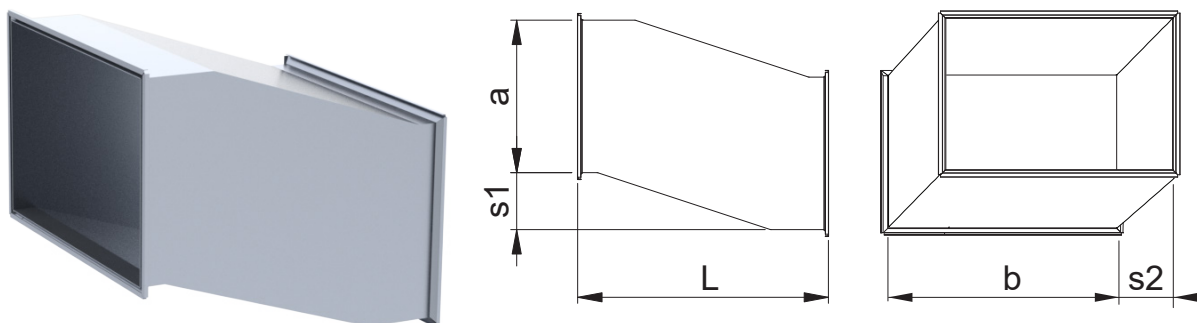
Product codes

	EKD	Material	$a \times b$	d	1	L	Z
Product							
Material							
		Galvanized steel (DX51D+Z275), standard material					
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)					
		H – Acidproof stainless steel AISI 316					
Dimensions $a \times b$							
Diameter d							
Location							
Length L							
Duct connection							

Example: EKD-H 800x400/315-1/L=500 Z

Marking location 6: EKD-H 800x400/315-6/E=200/F=100/L=500 Z

EKN Offset



Offset is used for setting the ventilation system offset horizontally or vertically. The length of the offset depends on its size. The measures given in the table should be preferred, since ratio measures between height a , offset s and length l are important. Otherwise too sudden a drop may limit air flow movement.

a	b	s	l
100	200 300 400	50,100	300
150	200 300 400 500	50,100,150	350
200	100 150 300 400 500 600	50,100 150, 200	300 400
300	100 150 200 300 400 500 600 800	50,100 150, 200, 250, 300	400 500
400	100 150 200 300 400 500 600 800 1000	50, 100 150, 200 250, 300, 350, 400	400 500 600

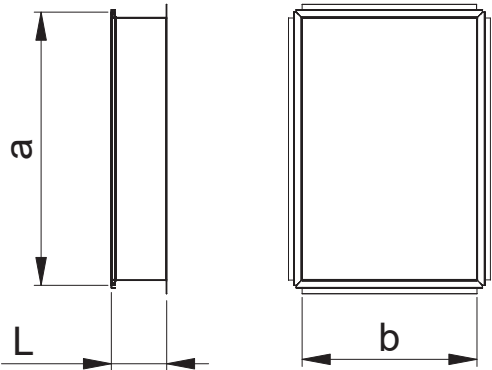
a	b	s	l
500	150 200 300 400 600 800 1000	50,100,150 200, 250 300, 350, 400, 450, 500	500 600 700
600	200 300 400 500 800 1000	50, 100, 150 200, 250 300, 350 400, 450, 500, 550, 600	500 650 700 800
800	300 400 500 600 1000	50,100 150 200, 250 300, 350 400, 450, 500 600, 700	500 600 700 800 900 1100
1000	400 500 600 800	50, 100 150, 200 250, 300 350, 400, 450, 500 600, 700, 800, 900	550 700 850 1000 1200

Product codes

	EKN	Material	a × b	s	L	Z
Product						
Material		Galvanized steel (DX51D+Z275), standard material ZM – Zinc-magnesium coated steel (DX51D+ZM310) H – Acidproof stainless steel AISI 316				
Dimensions a × b						
Offset s1/s2						
Lenght L						
Duct connection						

Example: EKN 800×400/s1=50/L=500 Z/Z

ESS saddle

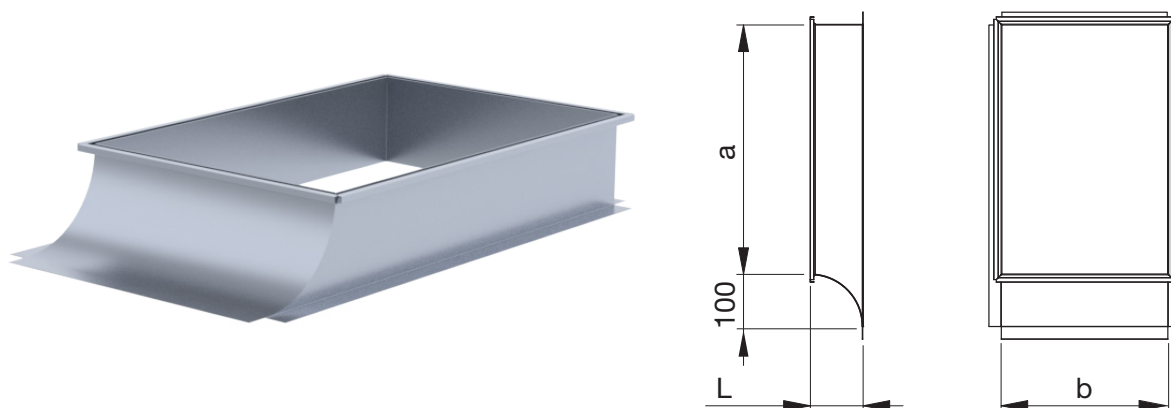


Straight saddle for a rectangular duct.
Standard length 125 mm.

Product codes

	ESS	Material	a x b	125	Z
Product					
Material					
Galvanized steel (DX51D+Z275), standard material					
ZM – Zinc-magnesium coated steel (DX51D+ZM310)					
H – Acidproof stainless steel AISI 316					
Dimensions a x b					
Length L					
Duct connection					
Example: ESS-H 800x400/L=250 Z					

ESK Saddle



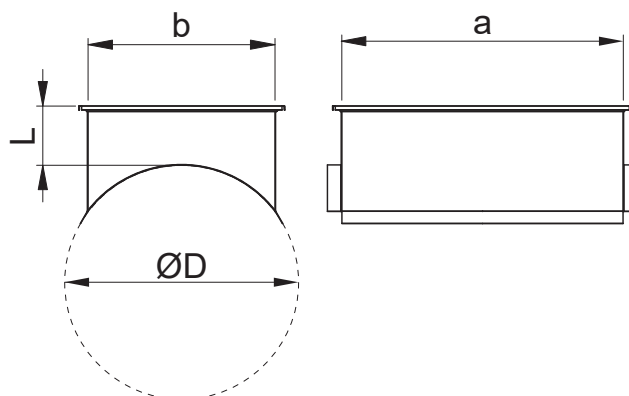
Flat saddle for a rectangular duct. One edge of the saddle is provided with a connection bar and larger end with flange for riveting into duct side.
Standard length is 125 mm.

Product codes

	ESK	Material	a x b	125	Z
Product					
Material					
		Galvanized steel (DX51D+Z275), standard material			
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)			
		H – Acidproof stainless steel AISI 316			
Dimensions a x b					
Length L					
Duct connection					

Example: ESK-ZM 800x400/L=200 Z

ESD Saddle for a round duct



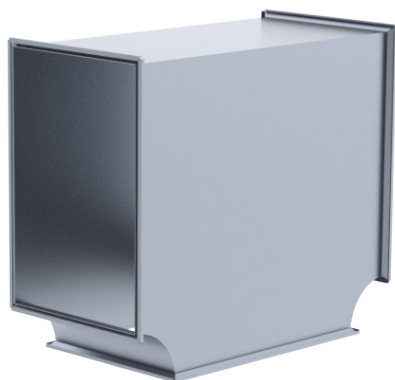
Saddle for connecting with a round duct. The rectangular end is provided with joining profile. The rounded end has an edge for fixing with round duct.
Standard length is 125 mm.

Product codes

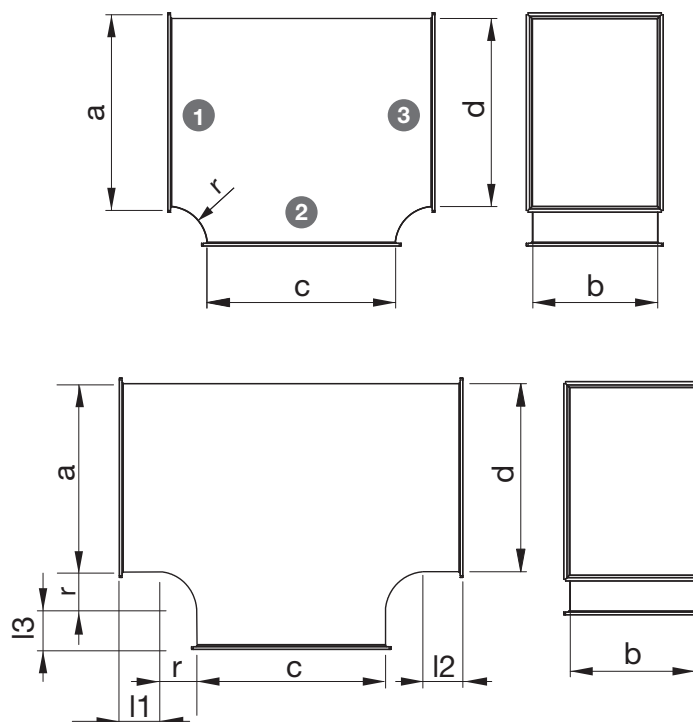
	ESD	Material	a × b	D	125	Z
Product						
Material		Galvanized steel (DX51D+Z275), standard material ZM – Zinc-magnesium coated steel (DX51D+ZM310) H – Acidproof stainless steel AISI 316				
Dimensions a × b						
Diameter D						
Length L						
Duct connection						

Example: ESD-H 800×400/1600/L=200 Z

EKM T-piece



T-pieces are used to direct the conduit in two different directions. Side dimensions (a, c, d) of the T-piece may differ. Standard radius is 125 mm.

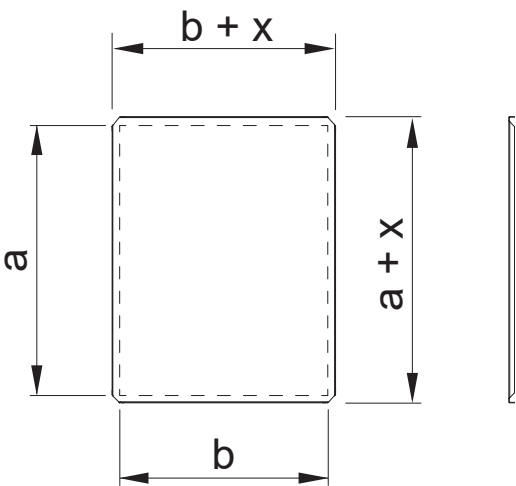


Product codes

	EKM	Material	a × b	c × b	d × b	125	l1/l2/l3
Product							
Material							
		Galvanized steel (DX51D+Z275), standard material					
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)					
		H – Acidproof stainless steel AISI 316					
Dimensions a × b							
Dimensions c × b							
Dimensions d × b							
Radius r							
Lenght l1/l2/l3 (optional)							

Example: EKM-ZM 500×800/600×800/400×800/r=125/l1=1000/l2=500/l3=400 Z/Z/Z

EKO End cap



Ventilation cap used at the end of the duct.

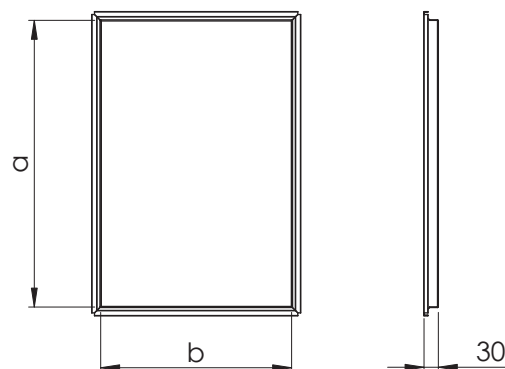
Duct connection	X
Z/E20 profile	40 mm
E30 profile	60 mm

Product codes

	EKO	Material	a x b	Z/E20
Product				
Material				
Galvanized steel (DX51D+Z275), standard material				
ZM – Zinc-magnesium coated steel (DX51D+ZM310)				
H – Acidproof stainless steel AISI 316				
Dimensions a x b				
Duct connection				

Example: EKO-H 800x400 Z/E20
EKO 800x400 E30

EKOL End cap

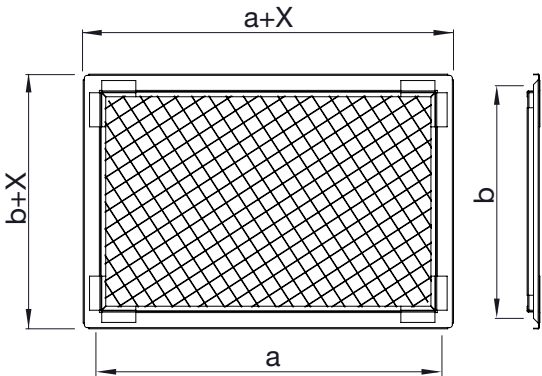
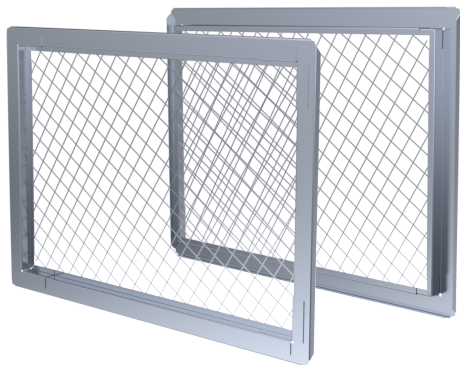


Ventilation cap with joining profile used at the end of the duct.

Product codes

	EKOL	Material	a x b	Z
Product				
Material				
		Galvanized steel (DX51D+Z275), standard material		
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)		
		H – Acidproof stainless steel AISI 316		
Dimensions a x b				
Duct connection				
Example: EKOL-ZM 800x400 Z				

EKV End cap with a mesh



Ventilation end cap with mesh used at the end of the duct.

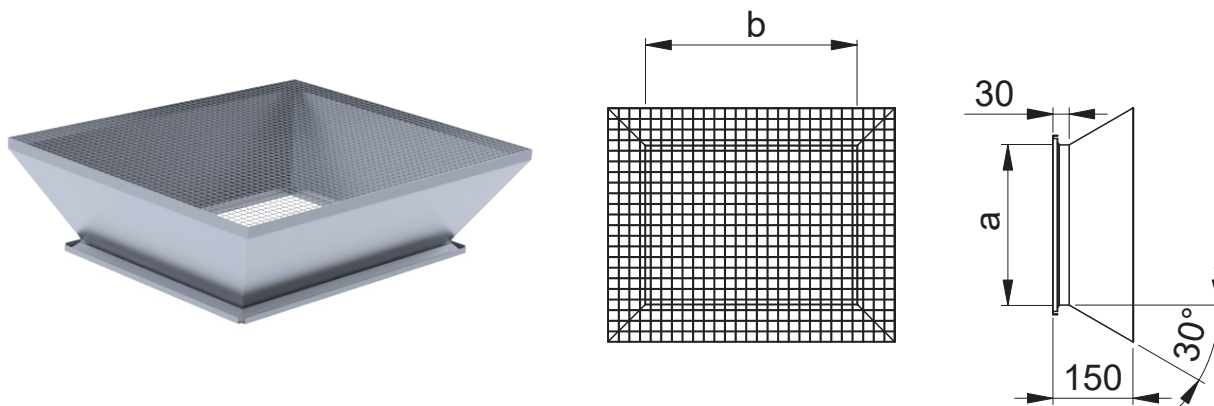
Duct connection	X
Z/E20 liist	40 mm
E30 liist	60 mm

Product codes

	EKV	Material	a × b	Z/E20
Product				
Material				
Galvanized steel (DX51D+Z275), standard material				
ZM – Zinc-magnesium coated steel (DX51D+ZM310)				
H – Acidproof stainless steel AISI 316				
Dimensions a × b				
Duct connection				

Example: EKV-H 800×400 Z/E20
EKV 800×400 E30

EVO Air intake with mesh



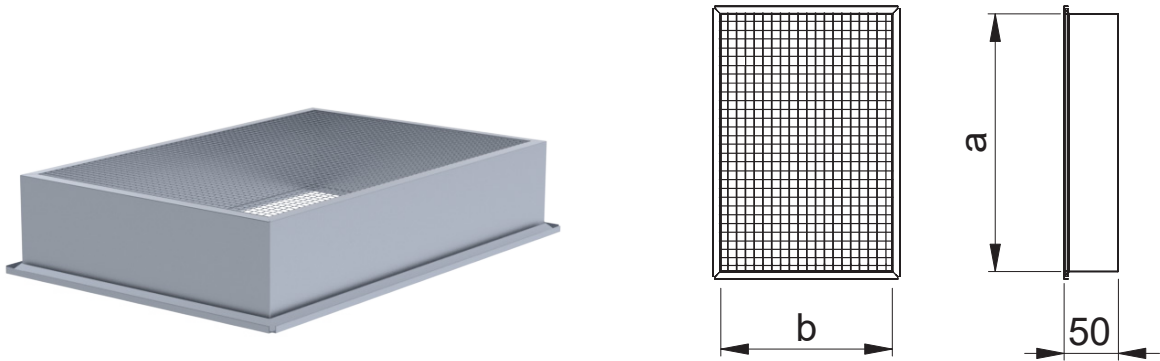
EVO air intake with mesh is suitable for use at the end of both the supply and exhaust duct.

Product codes

	EVO	Material	a x b	Z
Product				
Material		Galvanized steel (DX51D+Z275), standard material ZM – Zinc-magnesium coated steel (DX51D+ZM310) H – Acidproof stainless steel AISI 316		
Dimensions a x b				
Duct connection				

Example: EVO-ZM 800x400 Z

ESV Air intake with mesh



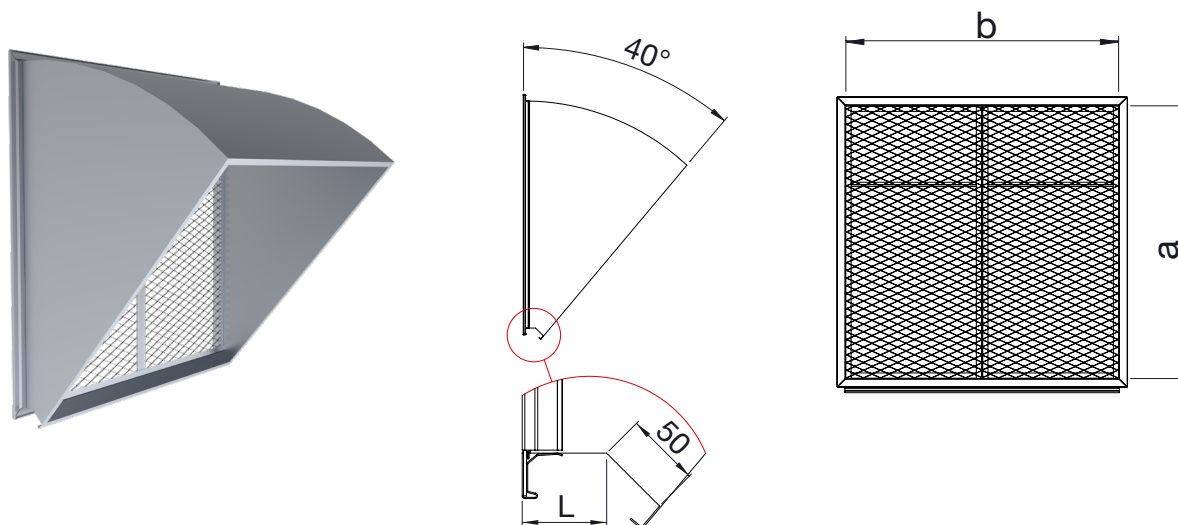
ESV straight air intake with mesh is suitable for use at the end of both the supply and exhaust duct.

Product codes

	ESV	Material	a × b	Z
Product				
Material				
		Galvanized steel (DX51D+Z275), standard material		
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)		
		H – Acidproof stainless steel AISI 316		
Dimensions a × b				
Duct connection				

Example: **ESV-H 800×400 Z**

EVR Air intake with mesh



EVR is a diagonal air intake with mesh is suitable for use at the end of both the supply and exhaust duct.
 Dimensions a, b (≤ 2500) are nominal sizes.
 Size L = 50 - 300 mm, unless otherwise stated on the order, it is manufactured with a size of 50 mm.

Product codes

	EVR	Material	a × b	L	Z
Product					
Material					
		Galvanized steel (DX51D+Z275), standard material			
		ZM – Zinc-magnesium coated steel (DX51D+ZM310)			
		H – Acidproof stainless steel AISI 316			
Dimensions a × b					
Length L					
Duct connection					
Example: EVR-ZM 800×400/L=100 Z					



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*Let's move the air **together!***