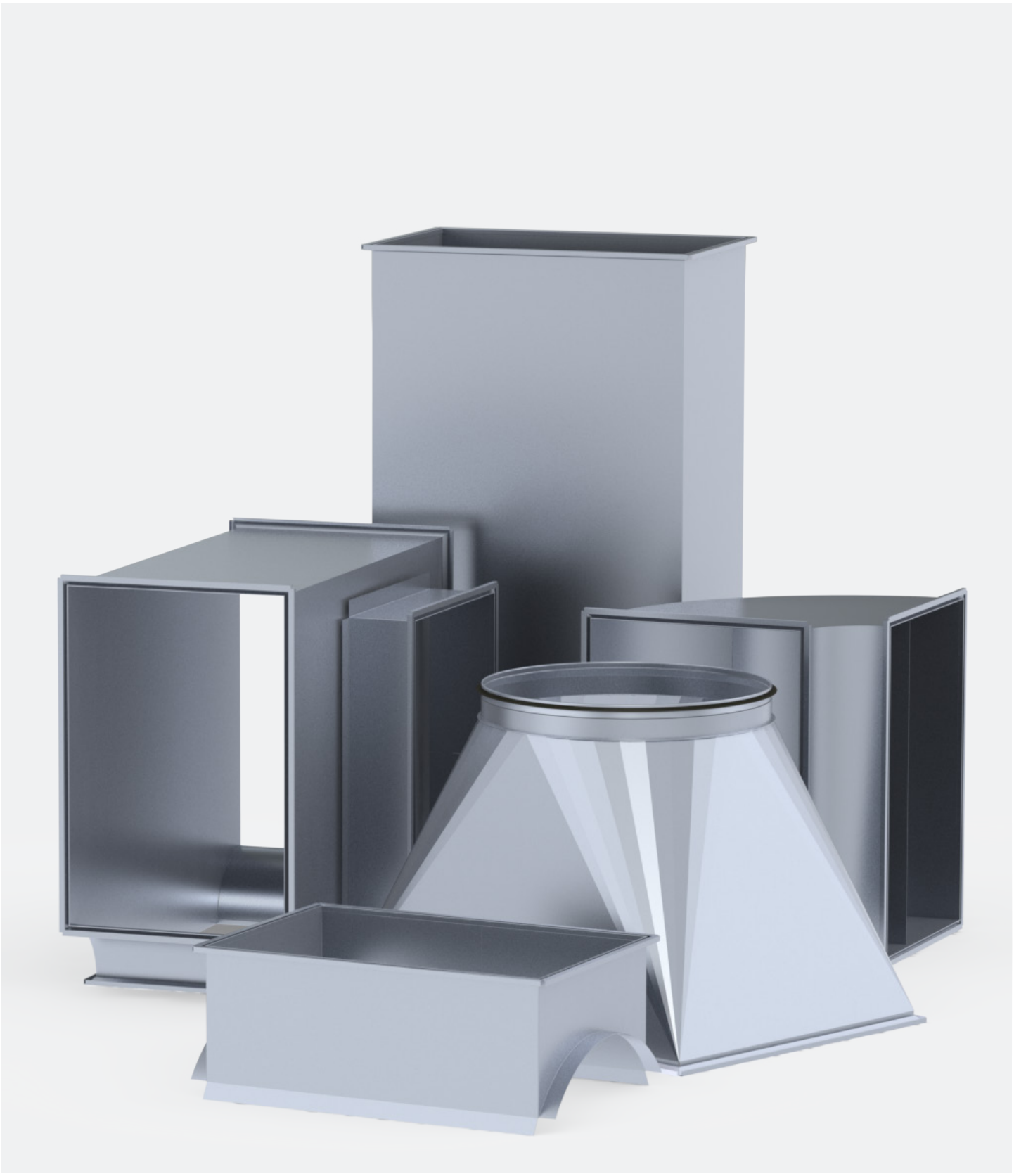


NORDrect
Rectangular ducting

ETS NORD
All about air

ETS NORD®

2

NORDrect

Contents

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. Joining profiles

All ducts and parts have a joining Z-profile at the end. Components are joined with a sliding C-profile and two seal profiles.

Other joining styles

- europrofile
- flange joint

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, class D

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

3. Measurements and tolerances

Rectangular ducts are parts are measured in millimetres on the inside (measurements a and b). For a reducer, the smaller end's measurements are marked c and d. The duct side standard sizes in table.

Measurements are in millimetres.

Angles in degrees.

Radius r

Length l

Measurements		Tolerance, mm
a, b, c, d		+0 -4
l, r	≤15	+0 -2
	> 15 ≤100	+0 -5
	>100	+0 -10
Angle α		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/m^2 (material thickness 0,5-1,2 mm). Products can also be manufactured of aluminium, acid-proof steel or stainless steel

Materials and standards:

Galvanized steel (standard EVS-EN 10346:2015, DX51D+Z275)
Zinc-magnesium coated steel (DX51D+ZM310), (standard EVS-EN 10346:2015)
Stainless steel (standards EVS-EN 10088-2:2014,EN 1.4301 or AISI 304)
Acid-proof steel (standards EVS-EN 10088-2:2014,EN 1.4436 or AISI 316)

4.1 Material thickness

a, b ≤ 800	s = 0,7 mm
800 < a, b ≤ 1400	s = 0,9 mm
a, b > 1400	s = 1,0 mm

5. Product codes

For standard products, product type and sizes. All measurements in millimetres (mm).

5.1 Material codes

For standard material (galvanized steel) no material code.
Other materials:
Zn - galvanized steel (standard EVS-EN 10346:2015, DX51D+Z275)
H - acid-proof steel (standards EVS-EN 10088-2:2014,EN 1.4436 or AISI 316)
ZM - zinc-magnesium coated steel (DX51D+AZ185), (standard EVS-EN 10346:2015)

Example: EKT-R 600x400- 2000 rectangular duct of stainless steel

For standard products, when material thickness is different from point 4, the non-standard material thickness is marked with the letter "S" followed by material thickness

Example: EKT-S 1,0 600x400-2000 rectangular duct 1,0 mm of galvanized steel

5.2 Joining system codes

Joining system is marked after the size in parenthesis (). Standard joining system (Z-profile) does not need to be marked.
When a rectangular product includes a round part, the round part is provided with a rubber gasket unless otherwise stated. (E.g. EKD Transition rectangular-to-round).

Example: **EKK 500x300(nk)-400x300** Reducer

Marking code	Description
-	Z-profile
z+	Z-profile unattached
Sk	Rivet collar 30 mm
Sks	Rivet collar 30 mm bent inside
Lt	Round female end
V	Round end with rubber gasket (male)
E	Europrofile E20 (20 mm), E30 (30 mm)
A	Flange profile
Ls	Insulated duct with flange profile on the inner shell

5.3 Insulated ducts

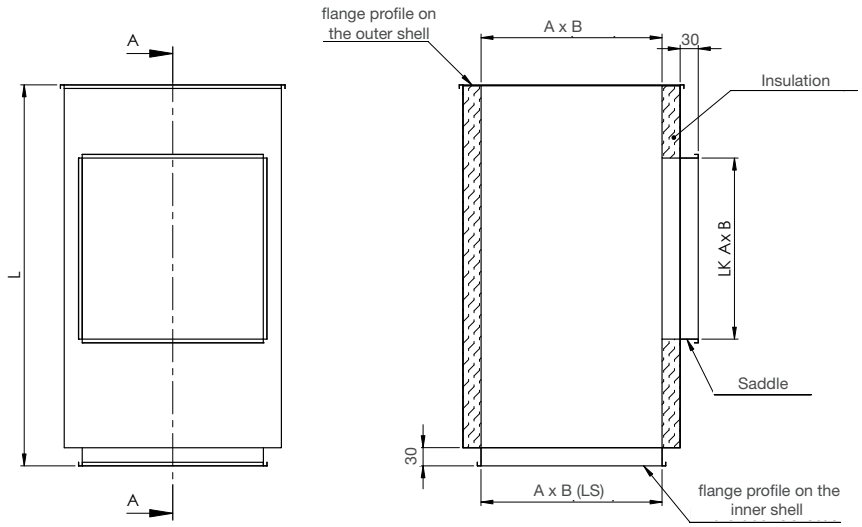
Ducts and parts can also be manufactured with insulation. Nominal size is the inner measurement. Flange profile is attached to the outer shell unless otherwise stated.

Insulation codes:

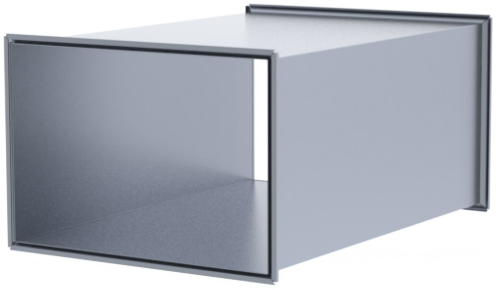
S – thermal insulation 50 mm, 100 mm
M – sound insulation, 30 mm, 50 mm, 100 mm…
CL 50 – sound insulation 50 mm Duct + "cleanable"
EI30 – fire insulation, 50 mm
EI60, EI90, EI120 – fire insulation, 100 mm

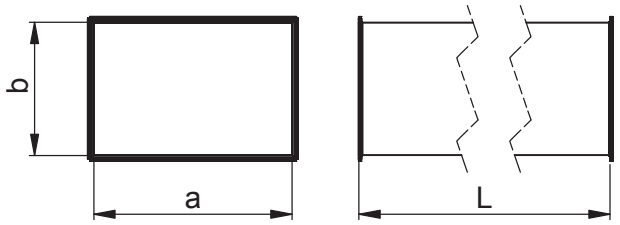
Insulation code have to mark after the product code. Used fire insulation meets the testing methods requirements according to EN1366-1. Fire insulation strengths in accordance with EN-13501-1.

Example: EKT-S50 600x400-2000 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 profiles.
Duct standard lengths are 1250 mm and 2000 mm, when a or b >1200, standard length L=1250.
Can be supplied in other lengths.

Stiffening

1. Duct is stiffened with rods and corner bits (standard):
   - 600 < a,b < 1200 1 rod + 1 corner bit at both ends
   - 1200 ≤a,b ≤1600 2 rods + 2 corner bits at both ends
   - 1600 < a,b ≤ 2400 3 rods + 2 corner bits at both ends
2. U-corrugated duct has outside stiffening profiles with installation height of 20 mm.
   a,b ≤ 600
   600 < a,b ≤ 1200
   a,b > 1200

Product codes

EKT	a x b	l	U
Product	Width x height	Lenght	U- stiffening profiles

Example: **EKT 600x400-1250**
EKT 1200x600-1250-U

EKP Elbow

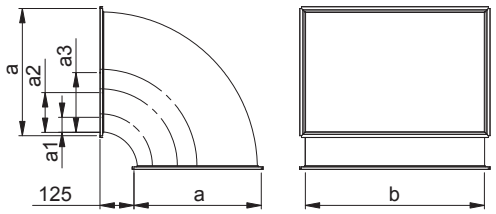
Elbow with rounded outer corner, stiffened with a guide blade when side a > 400.
When angle ≤ 45°, no guide blade.

Guide blades

Size a mm	Amount	Distance mm, mm		
		a_1	a_2	a_3
>400≤800	1	a/3	-	-
>800≤1600	2	a/4	a/2	-
>1600≤2000	3	a/8	a/3	a/2

Product codes

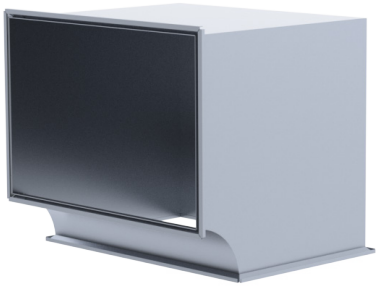
EKP	a x b x c	90
Product	a - form side b - curved side c-side - used with variable angle bendl	Angle °

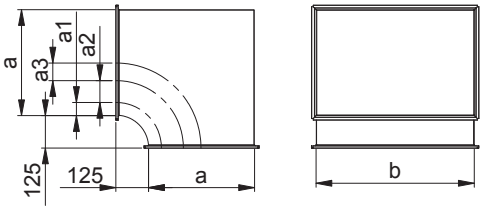


Example: **EKP 600x400-45**

EKPK Elbow

Elbow with sharp outer corner. Stiffened with a guide blade when side a > 400.
When angle ≤ 45°, no guide blade.





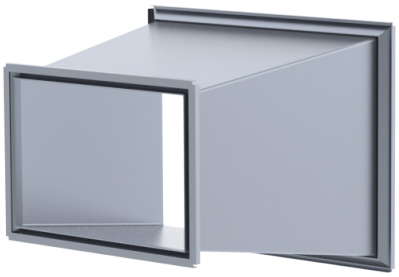
Product codes

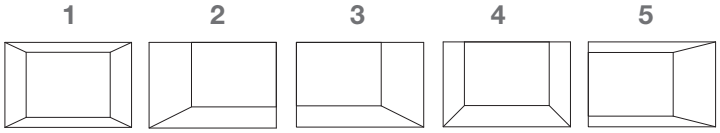
EKPK	a x b	90
Product	a - form side	Angle °

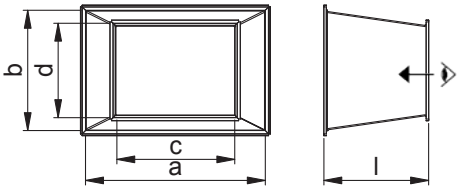
Example: **EKPK 600x400-45**

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







Product codes

EKK	a x b	c x d	1
Product	Width x height	Width x height	Location

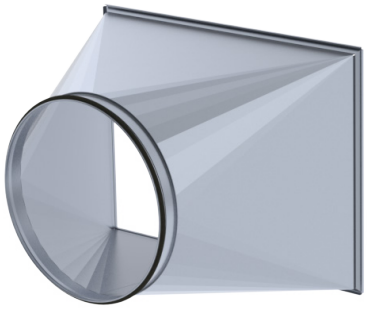
Example: **EKK 600x400/400x300-1**

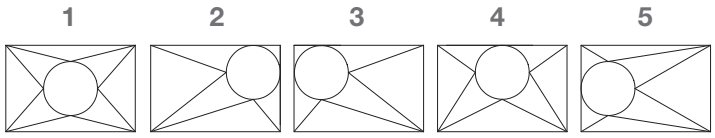
EKD Reduscer

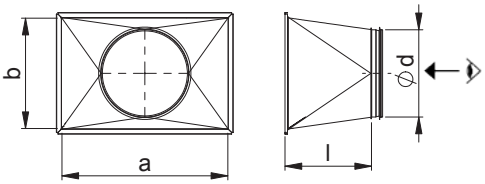
EKD reduscers are used to connect rectangular and round ducts.

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

When a or b ≥ 800, then l = 500 mm





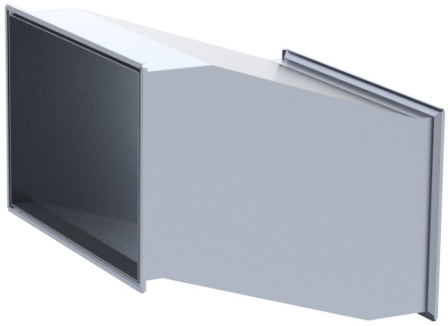


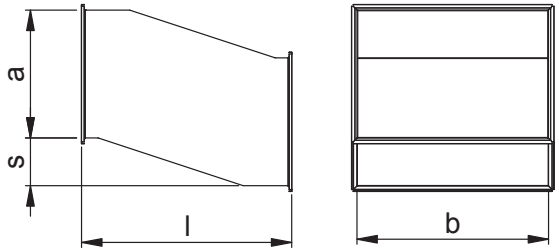
Product codes

EKD	a x b	d	1
Product	Width x height	Diameter	Location

Example: **EKD 600x400/400-2**

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	300
		150, 200	400
300	100 150 200 300 400 500 600 800	50,100	400
		150, 200, 250, 300	500
400	100 150 200 300 400 500 600 800 1000	50, 100	400
		150, 200	500
		250, 300, 350, 400	600

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

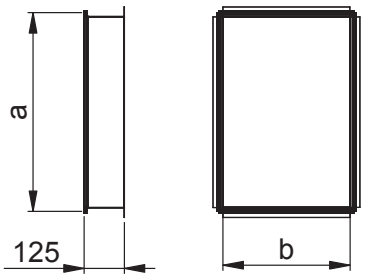
Product codes

EKN	a x b	s	l
Product	Width x height	Length of offset	Lenght

Example: **EKN 600x400-200-650**

ESS Straight saddle

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



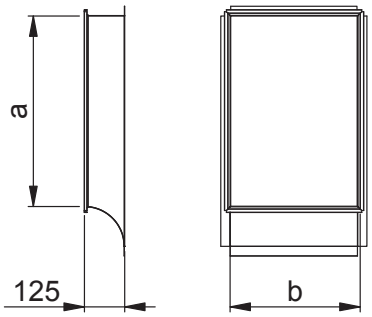
Product codes

ESS	a x b
Product	Side a x side b

Example: **ESS 600x400**

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.



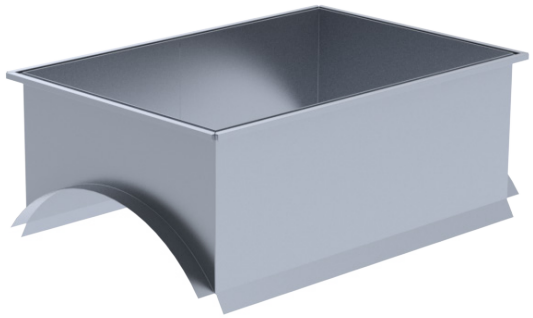
Product codes

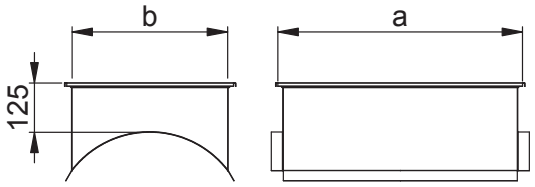
ESK	a x b
Product	Side a x side b

Example: **ESK 600x400**

ESD Saddle for a round duct

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





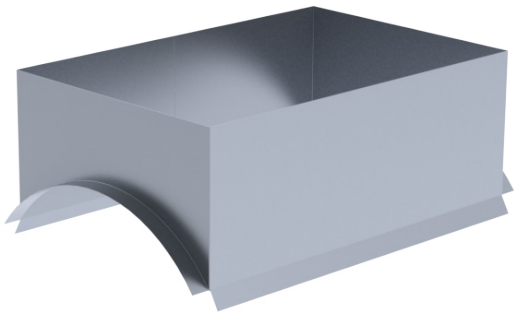
Product codes

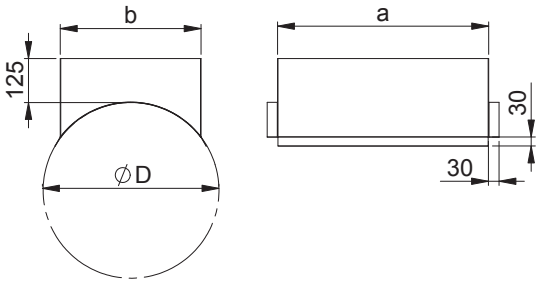
ESD	a x b	d
Product	Side a x side b	Duct diameter

Example: **ESD 500x300/315**

ESDR Saddle for a round duct

Saddle for connecting with a round duct.
Standard length is 125 mm.
The rounded end has an edge for fixing with round duct. A rectangular end without a joining profile.





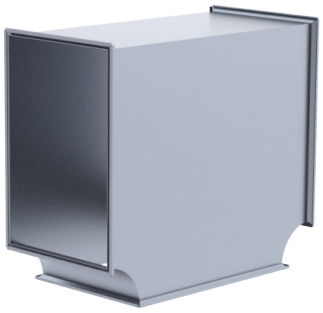
Product codes

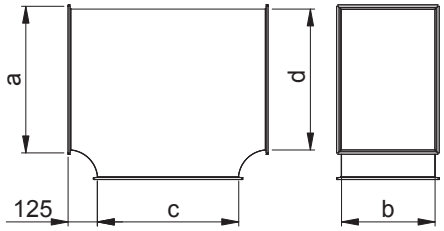
ESDR	a x b	d
Product	Side a x side b	Duct diameter

Example: **ESDR 500x300/315**

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.





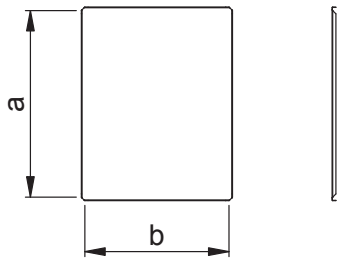
Product codes

EKM	a x b	c	d
Product	Side a x side b	Side c	Side d

Example: **EKM 800x500**
EKM 800x500/400/400

EKO End cap

Ventilation cap used at the end of the duct.



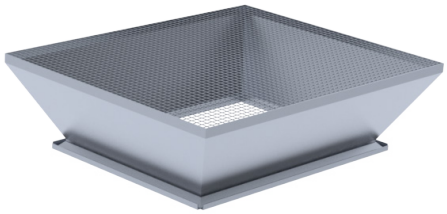
Product codes

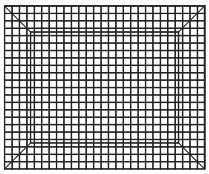
EKO	a x b
Product	Width x height

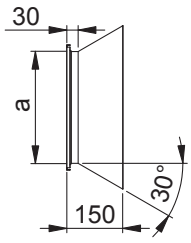
Example: **EKO 500x300**

EVO Air intake with mesh

Intake with mesh for supply and exhaust duct.







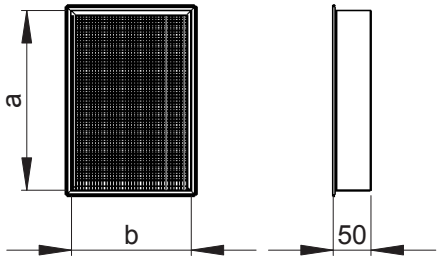
Product codes

EVO	a x b
Product	Width x height

Example: **EVO 500x300**

ESV Air intake with mesh

ESV straight air intake with mesh for supply and exhaust duct.



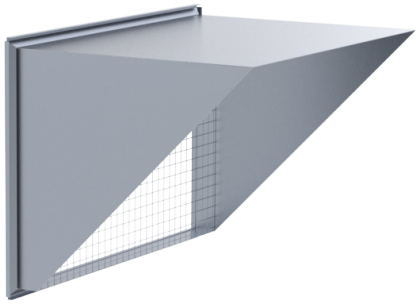
Product codes

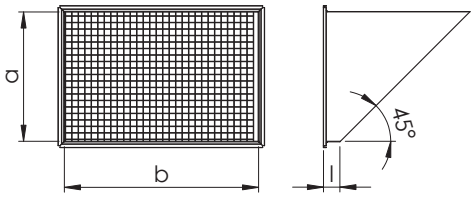
ESV	a x b
Product	Width x height

Example: **ESV 500x300**

EVK Air intake with mesh

EVK is a diagonal air intake with mesh for supply and exhaust duct.

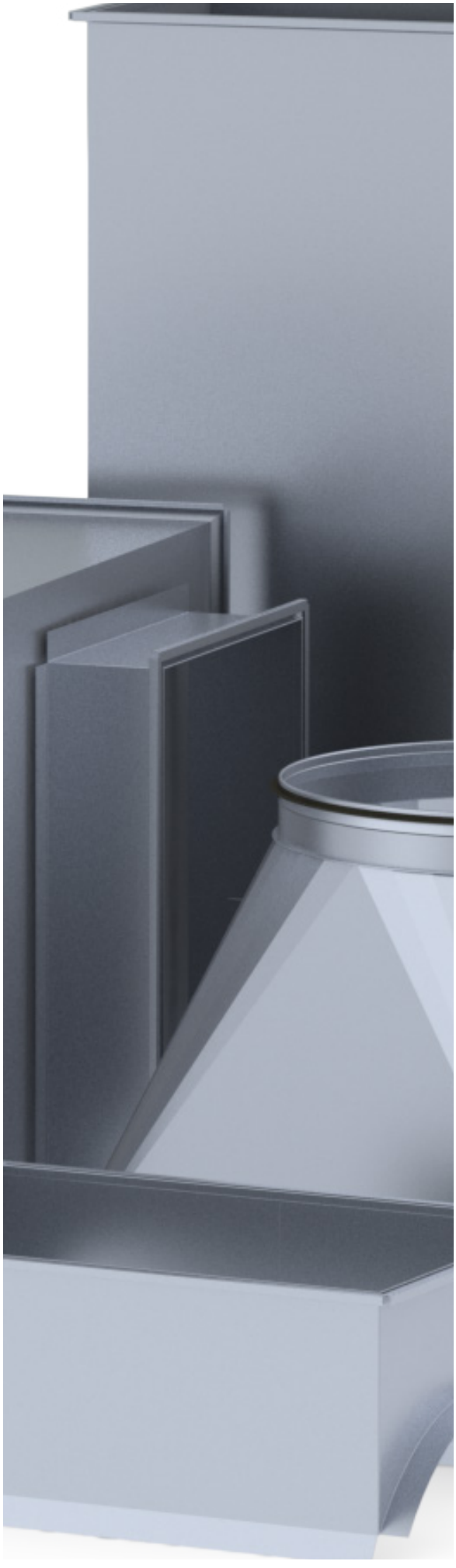




Product codes

EVK	a x b
Product	Width x height

Example: **EVK 500x300**



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