

**TPDUCT®**

**THANH PHONG E&T JSC**

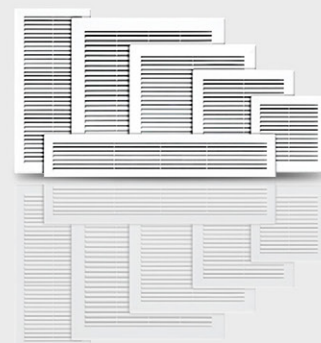
# DUCTWORK CATALOG

 **RECTANGULAR  
DUCTS & FITTINGS**

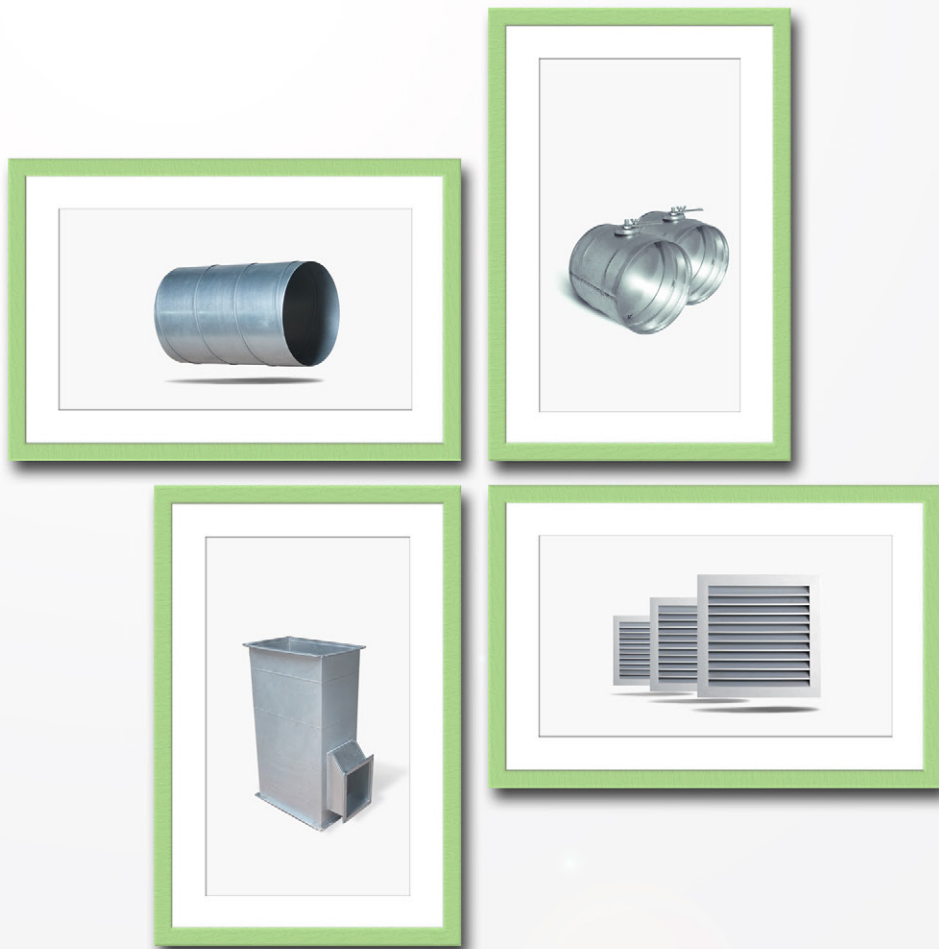
 **ROUND - SPIRAL  
DUCTS & FITTINGS**

 **AIR  
DAMPERS**

 **AIR GRILLES  
& DIFFUSERS**



**THANH PHONG VENTILATION SYSTEM**



**TPDUCT®**

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# DUCTWORK CATALOG

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# **RECTANGULAR DUCTS AND FITTINGS**

We reserve the right to make changes in the dimensions and technical data products due to their continuous improvement

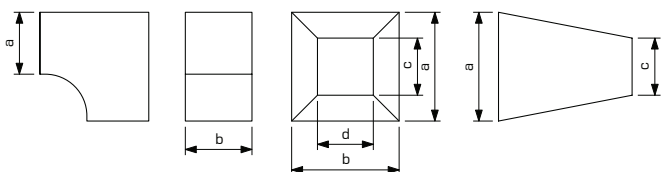
# RECTANGULAR TECHNICAL INFORMATION

## About The System

We present you a production range of rectangular ducts and fittings. The catalogue includes rectangular ducts and fittings with dimensions as required by the standard: DW144:1998 (Specification for Sheet Metal Ductwork (First Edition)), SMACNA: 1995 (Sheet metal and air conditioning contractor's national association (Second Edition)). Stainless steel or zinc/aluminium alloy-coated steel ducts and fittings can be fabricated on request where better protection against corrosion is needed. We also offer unusual fittings, and rectangular ducts with dimensions not included in the catalogue, based on your drawing and your project requirement (as more thickness material for exhaust duct.,ect).

## Dimensions

The nominal dimension, which is conventionally used to identify and calculate straight ducts and fittings, corresponds to the internal dimensions of sides a and b, where a stands for the visible side (see figure 1). The side lengths of the minor end of the transition fitting are identified as c and d, where c stands for the visible side. Dimension L represents the useful length of the straight duct, i.e. a dimension that affects the total length of duct system. Dimension I represents the useful length of the fitting, i.e. a dimension that affects the total length of duct system.



Dimensions of rectangular ducts and fittings are treated as standard up to 3000 mm size of any side. Discussion needed for ducts and fittings with a larger size.

## Air Tightness

The ventilation ducts are manufactured in three tightness classes as defined in the standards: DW144:1998 (Specification for Sheet Metal Ductwork (First Edition) page13) low pressure class A, medium pressure class B, high pressure class C.

Air tightness of ducts	Leakage limit $(f_{max})m^3s^{-1}m^{-2}$	Static pressure limits( $p_s$ )Pa		
		Positive	Negative	Maximum air velocity (m/s)
A	$0.027 \times p_{test}^{0.65} \times 10^{-3}$	500	500	10
B	$0.009 \times p_{test}^{0.65} \times 10^{-3}$	1000	750	20
C	$0.003 \times p_{test}^{0.65} \times 10^{-3}$	2000	750	40

## Design

The rectangular ducts and fittings are designed with slip-fit connections, either welded or button punched. The ducts and fittings are available in low medium and high pressure versions (minimum negative pressure/ maximum overpressure):

- Design class A (low pressure design): It is a standard design ranging from -500Pa to +500Pa
- Design class B (medium pressure design): From -750Pa to 1000Pa.
- Design class C (high pressure design): From -750Pa to 2000Pa.

Deviations and sheet metal thickness are selected based on:

- Length of the longer side of the straight duct.
- Length of the longest side of the connection cross-section of the fitting.

The table below shows allowable deviations and minimum sheet metal thicknesses for individual dimensions.

Length of the longer side (mm)	Allowable deviations of the duct side (mm)	Class A, B minimum sheet metal thickness (mm)	Class C minimum sheet metal thickness (mm)
400	0 - 4	0.6	0.8
401-1000	0 - 4	0.8	0.8
1001-1600	0 - 4	1	1
1600-2500	0 - 5	1	1.2
2501-3000	0 - 5	1.2	1.2

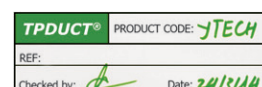
The rectangular components can be made of other materials, such as stainless steel or zinc/aluminium alloy-coated steel (ZACS) or as your requirement for project that follow other standard.

## Tolerances And Deviations

For straight ducts, the tolerance of length L is  $\pm 0.005L$ . Angle tolerance is  $\pm 2^\circ$ . Deviations from values a, b, c, d, e and f range from 0mm to -4mm. Duct dimensions which include matching cross-section field  $A_C$ , hydraulic diameter  $d_h$ , equivalent diameter  $d_e$  and ducts area per metre A are shown in table 3.

## Labelling

Thanh Phong E&T products are usually signed on as picture beside.



**TABLE 3** Duct dimensions and values  
for designer reference

Side length [mm]	100	150	200	250	300	400	500	600	800	1000	1200	
200	0.02	0.03	0.04									A <sub>c</sub>
	133	171	200									d <sub>h</sub>
	149	186	218									d <sub>e</sub>
	0.6	0.7	0.8									A <sub>l</sub>
250	0.025	0.038	0.05	0.063								A <sub>c</sub>
	143	188	222	250								d <sub>h</sub>
	165	206	241	273								d <sub>e</sub>
	0.7	0.8	0.9	1								A <sub>l</sub>
300	0.03	0.045	0.06	0.075	0.09							A <sub>c</sub>
	150	200	240	273	300							d <sub>h</sub>
	180	224	262	296	327							d <sub>e</sub>
	0.3	0.9	1	1.1	1.2							A <sub>l</sub>
400	0.04	0.06	0.08	0.1	0.12	0.16						A <sub>c</sub>
	160	218	267	308	343	400						d <sub>h</sub>
	205	255	299	337	373	436						d <sub>e</sub>
	1	1.1	1.2	1.3	1.4	1.6						A <sub>l</sub>
500		0.075	0.1	0.13	0.15	0.2	0.25					A <sub>c</sub>
		231	286	333	375	444	500					d <sub>h</sub>
		283	331	374	413	483	545					d <sub>e</sub>
		1.3	1.4	1.5	1.6	1.8	2					A <sub>l</sub>
600		0.09	0.12	0.15	0.18	0.24	0.3	0.36				A <sub>c</sub>
		240	300	353	400	480	545	600				d <sub>h</sub>
		307	359	406	448	524	592	654				d <sub>e</sub>
		1.5	1.6	1.7	1.8	2	2.2	2.4				A <sub>l</sub>
800			0.16	0.2	0.24	0.32	0.4	0.48	0.64			A <sub>c</sub>
			320	381	436	533	615	686	800			d <sub>h</sub>
			410	463	511	598	675	745	872			d <sub>e</sub>
			2	2.1	2.2	2.4	2.6	2.8	3.2			A <sub>l</sub>
1000				0.25	0.3	0.4	0.5	0.6	0.8	1		A <sub>c</sub>
				400	462	571	667	750	889	1000		d <sub>h</sub>
				512	566	662	747	825	965	1090		d <sub>e</sub>
				2.5	2.6	2.8	3	3.2	3.6	4		A <sub>l</sub>
1200					0.36	0.48	0.6	0.72	0.96	1.2	1.44	A <sub>c</sub>
					480	600	706	800	960	1091	1200	d <sub>h</sub>
					614	719	812	896	1049	1184	1308	d <sub>e</sub>
					3	3.2	3.4	3.6	4	4.4	4.8	A <sub>l</sub>
1400						0.56	0.7	0.84	1.12	1.4	1.68	A <sub>c</sub>
						622	737	840	1018	1167	1292	d <sub>h</sub>
						771	871	962	1125	1270	1403	d <sub>e</sub>
						3.6	3.8	4	4.4	4.8	5.2	A <sub>l</sub>
1600						0.64	0.8	0.96	1.28	1.6	1.92	A <sub>c</sub>
						640	762	873	1067	1231	1371	d <sub>h</sub>
						819	925	1022	1195	1350	1491	d <sub>e</sub>
						4	4.2	4.4	4.8	5.2	5.6	A <sub>l</sub>
1800							0.9	1.08	1.44	1.8	2.16	A <sub>c</sub>
							783	900	1108	1286	1440	d <sub>h</sub>
							976	1078	1261	1424	1573	d <sub>e</sub>
							4.6	4.8	5.2	5.6	6	A <sub>l</sub>
2000							1	1.2	1.6	2	2.4	A <sub>c</sub>
							800	923	1143	1333	1500	d <sub>h</sub>
							1024	1131	1323	1494	1650	d <sub>e</sub>
							4.8	5.2	5.6	6	6.5	A <sub>l</sub>

## Legend of table 3

The area of the cross-section is the product of multiplying the lengths of sides a and b.

The area of the duct is the product of multiplying the internal perimeter and the length of the duct.

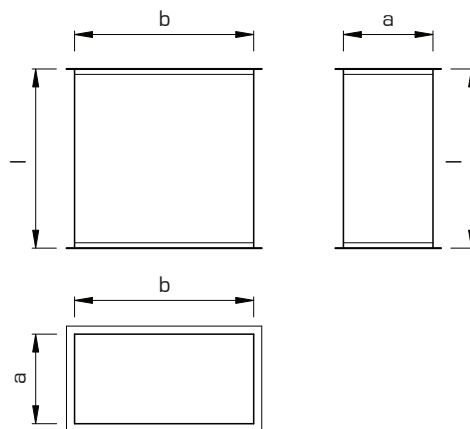
Hydraulic diameter: In relation to the rectangular duct, it is a diameter of the round duct at which pressure loss is the same for identical air flow rates and friction factors.

Formula  $d_h = 2 \times a \times b / a + b$ .

Equivalent diameter: In relation to the rectangular duct, it is a diameter of the round duct at which pressure loss is the same for identical air flow rates and friction factors.



## Dimensions



## Description

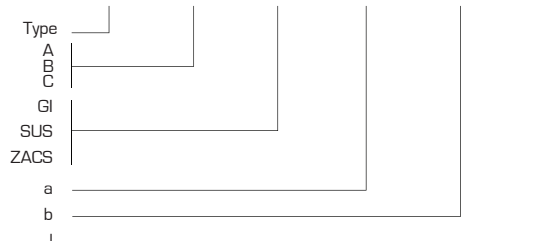
On its ends the rectangular duct has mounting flanges, there are two type of flange, one is TFD for the size from 300mm and higher, one is C-clip for the size smaller than 300mm. The standard length of TFD connection type is L=1120mm for C-clip is 1180mm.  
(By default rectangular duct fabricated with TFD or C-clip, angle bar should be applied as your requirement)

## Description

If the duct is to be closed otherwise than with an end cover, please specify the following as your remarks:  
LR – loose end cover  
BR – no end cover  
Z – end cap

## Example Identification

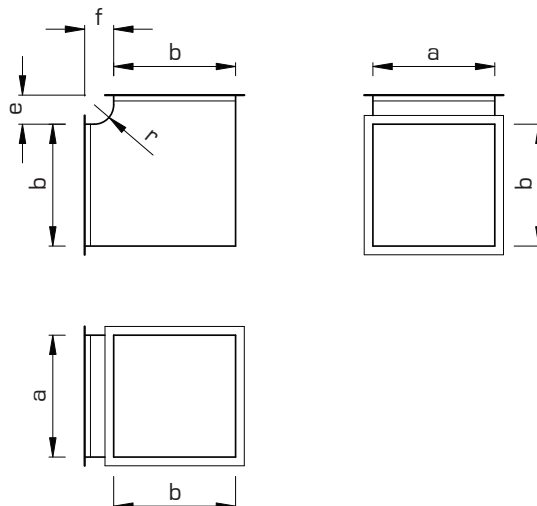
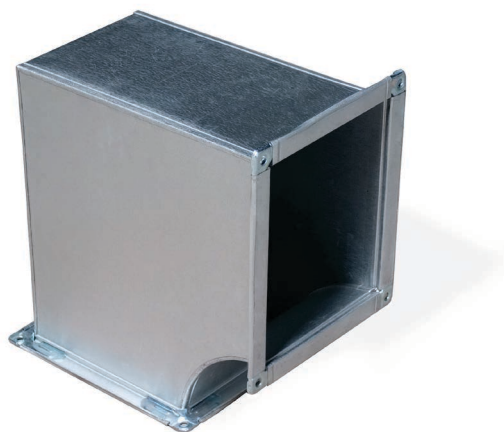
Product Code QDN - A - GI - 500 x 300 - 1120



- A low pressure
- B medium pressure
- C high pressure
- GI galvanised material
- SUS stainless steel
- ZACS zinc/aluminium alloy-coated steel
- a width
- b height
- l length

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

## Dimensions



## Description

QBF in the bend without elbow outline, QBF use to change the direction of the duct line by 90 degree .  
The flange connection type of Bend depends on rectangular duct flange type.

## Example Identification

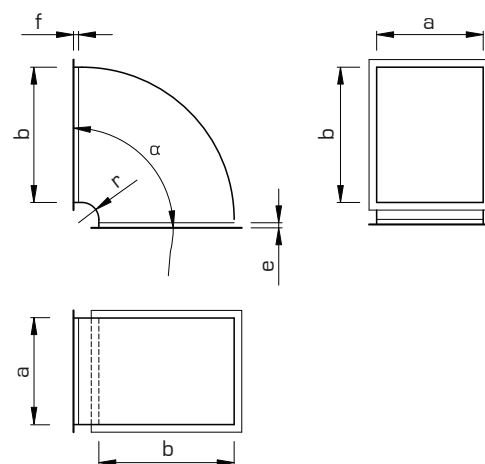
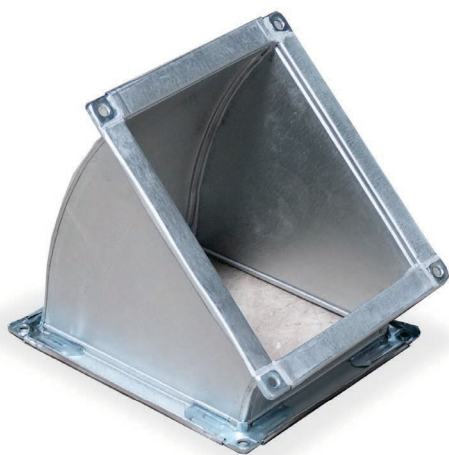
Product Code QBF - A - GI - 500 x 300 - 200 - 200 - 150

Type	_____
A	_____
B	_____
C	_____
GI	_____
SUS	_____
ZACS	_____
a	_____
b	_____
e	_____
f	_____
r	_____

- A low pressure
- B medium pressure
- C high pressure
- GI galvanised material
- SUS stainless steel
- ZACS zinc/aluminium alloy-coated steel
- a width
- b height
- e extension (by default,  $e = r$  mm)
- f extension (by default,  $f = r$  mm)

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

## Dimensions



## Description

QB is the bend without elbow outline, QB use to change the direction of the duct line by any angle. The flange connection type of Bend depends on rectangular duct flange type. Standard angle  $\alpha = 90^\circ$ .

## Description

A bend is usually used to divert the direction of the duct system by an angle while maintaining the cross-section of the duct.

## Example Identification

Product Code QB - A - GI - 500 x 300 - 30 - 30 - 250 - 90

Type	QB	A	GI	500	x	300	-	30	-	30	-	250	-	90
A														
B														
C														
GI														
SUS														
ZACS														
a														
b														
e														
f														
r														
α														

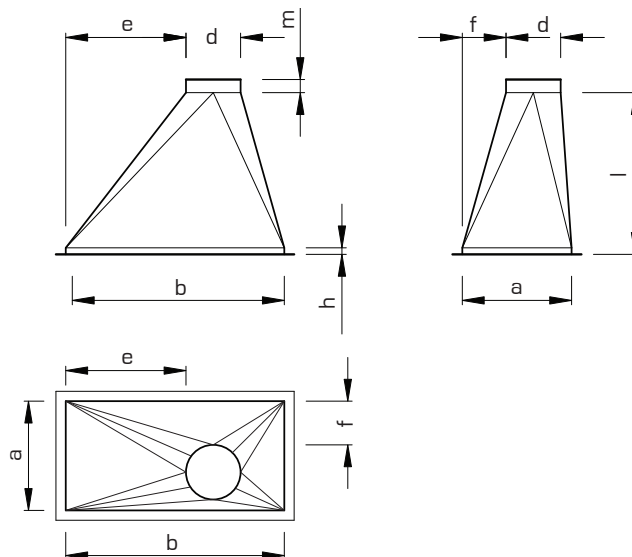
A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	width
b	height
e	extension (by default, $e = 0$ mm)
f	extension (by default, $f = 0$ mm)
r	radius (by default, $r = b/2$ mm)
α	angle (default angle = $90^\circ$ )

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*



# PR7 Eccentric Rectangular To Round Reducer

## Dimensions



## Description

The conversion is used to change the cross-section of the duct system from rectangular to round. The fitting enables to design a ventilation system with all dimensions freely changeable and any offset in both directions. The round take-off has usually a male end.

## Example Identification

Product Code PR7 - A - GI - 500 x 300 - 50 - 30 - 30 - 50 - 50 - 300

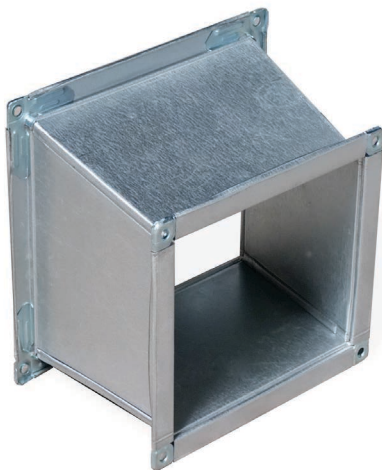
Type	
A	
B	
C	
GI	
SUS	
ZACS	
a	
b	
d	
e	
f	
h	
m	
l	

A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	width
b	height
d	diameter

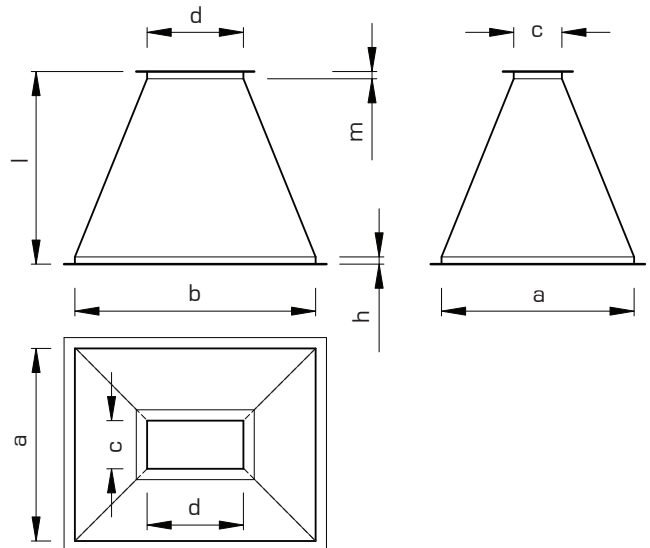
e	vertical shift
f	horizontal shift
h	extension (by default, h = 30 mm)
m	extension (by default, m = 50 mm)
l	length

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

# QPR6 Concentric Reducer



## Dimensions



## Description

The reducer is used for joining two rectangular ducts with different dimensions. On its ends it has mounting frames with sheet metal joining profiles and is stiffened with transverse sheet corrugation. It enables to design a ventilation system by reducing its crosssection concentrically. The axes of both dimensions match each other.

## Example Identification

Product Code QPR6 - A - GI - 500 x 300 - 400 x 200 - 30 - 30 - 300

Type	
A	
B	
C	
GI	
SUS	
ZACS	
a	
b	
c	
d	
h	
m	
l	

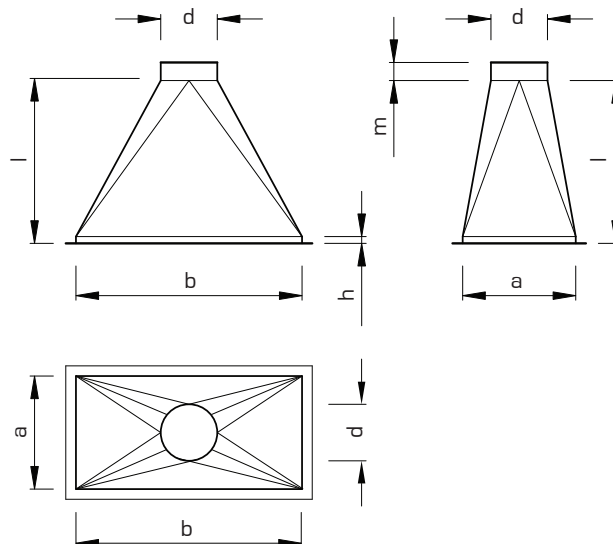
A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	inlet width
b	inlet height
c	oulet width
d	inlet height

h	extension (by default, h = 15 mm)
m	extension (by default, m = 15 mm)
l	length

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

# PR1 Concentric Rectangular To Round Reducer

## Dimensions



## Description

The conversion is used to change the cross-section of the duct system from rectangular to round. The fitting enables to maintain the concentricity of the duct system, i.e. the axes of the rectangular and the round dimensions match each other. The round take-off has usually a male end.

## Example Identification

Product Code PR1 - A - GI - 500 x 300 - 250 - 30 - 30 - 800

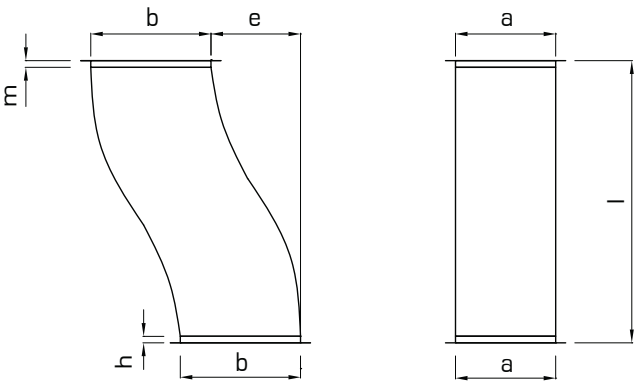
Type	PR1	A	GI	500	x	300	-	250	-	30	-	30	-	800
A														
B														
C														
GI														
SUS														
ZACS														
a														
b														
d														
h														
m														
l														

A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	width
b	height
d	diameter

h	extension (by default, h = 15 mm)
m	extension (by default, m = 50 mm)
l	length

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

Dimensions



Description

The variable cross-section offset is used to bypass any obstructions in the ventilation system while changing the height of the duct, e.g. at duct crossings. To ensure proper air flow, it is recommended to select appropriate dimensions for length L and deviation e.

Example Identification

Product Code	QPR3	-	A	-	GI	-	500	x	300	-	100	-	30	-	30	-	800
Type																	
A																	
B																	
C																	
GI																	
SUS																	
ZACS																	
a																	
b																	
e																	
h																	
m																	
l																	

- A

low pressure
- B

medium pressure
- C

high pressure
- GI

galvanised material
- SUS

stainless steel
- ZACS

zinc/aluminium alloy-coated steel
- a

width
- b

height
- e

shift

- h

extension (by default, h = 15 mm)
- m

extension (by default, m = 15 mm)
- l

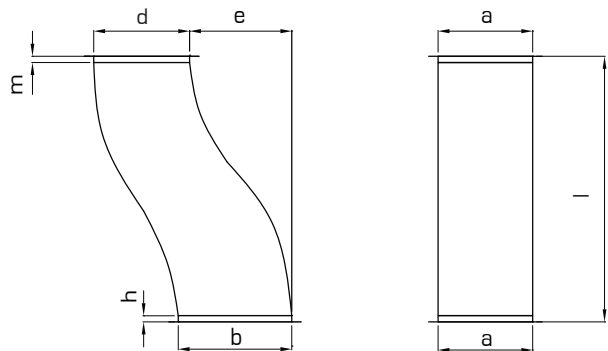
length

The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.



# QPR4 Variable Cross-Section Setoff

## Dimensions



## Description

The variable cross-section offset is used to bypass any obstructions in the ventilation system while changing the height of the duct, e.g. at duct crossings. To ensure proper air flow, it is recommended to select appropriate dimensions for length  $L$  and deviation  $e$ .

## Example Identification

Product Code QPR4 - A - GI - 500 x 300 - 200 - 100 - 30 - 30 - 800

Type	
A	
B	
C	
GI	
SUS	
ZACS	
a	
b	
d	
e	
h	
m	
l	

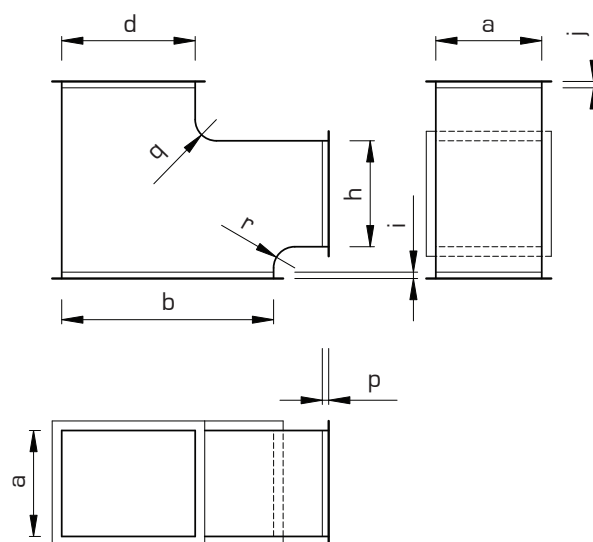
A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	width
b	extract height
d	extract height

e	shift
h	extension (by default, $h = 15 \text{ mm}$ )
m	extension (by default, $m = 15 \text{ mm}$ )
l	length

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

# TR Symmetric T-Piece

## Dimensions



## Description

The fitting enables to design a ventilation system with a 90 degree tap. T-piece height a is fixed.

## Example Identification

Product Code	TR	-	A	-	GI	-	500	x	300	-	250	-	200	-	30	-	30	-	30	-	120	-	120
Type																							
A																							
B																							
C																							
GI																							
SUS																							
ZACS																							
a																							
b																							
d																							
h																							
i																							
j																							
p																							
q																							
r																							

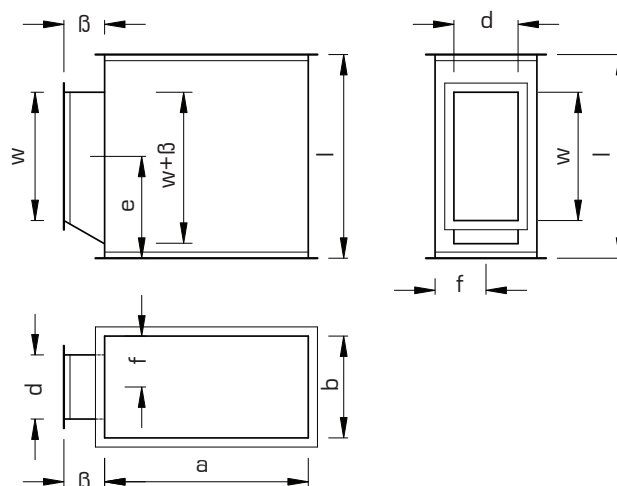
A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	width
b	inlet height
d	inlet height
h	outlet height

i	extension (by default, i = 0 mm)
j	extension (by default, j = 0 mm)
p	extension (by default, p = 0 mm)
q	radius
r	radius

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

# TR1 T-Piece With Rectangular Outlet

## Dimensions



## Description

The T-piece enables to design a ventilation system with a 90 degree tap and an outlet reduction. The inlet and passage are fixed. For optimize the friction loss 90 degree tap should be fabricated like a boat as shawn on picture, this is an optional.

## Example Identification

Product Code TR1 - A - GI - 500 x 300 - 600 - 450 x 250 - 20 - 20 - 100

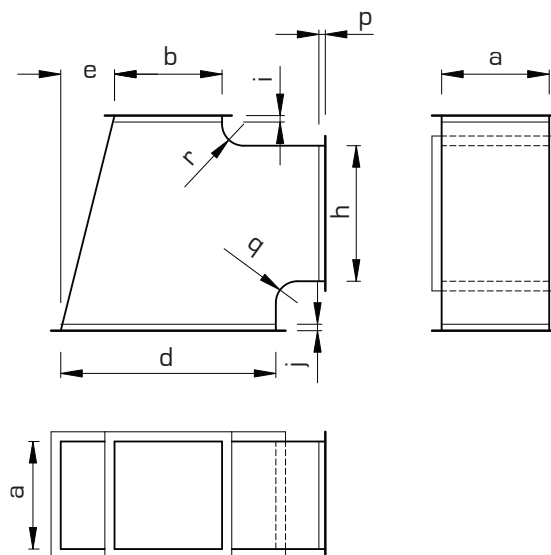
Type	TR1	A	GI	500	x	300	-	600	-	450	x	250	-	20	-	20	-	100
A																		
B																		
C																		
GI																		
SUS																		
ZACS																		
a																		
b																		
l																		
w																		
d																		
e																		
f																		
β																		

A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
b	width
l	length
w	outlet length

d	outlet width
e	longitudinal outlet shift
f	transverse outlet shift
β	outlet length (by default, β = 100 mm)

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

## Dimensions



## Description

The T-piece enables to design a ventilation system with a 90 degree tap and an outlet reduction.

## Example Identification

[illegible]

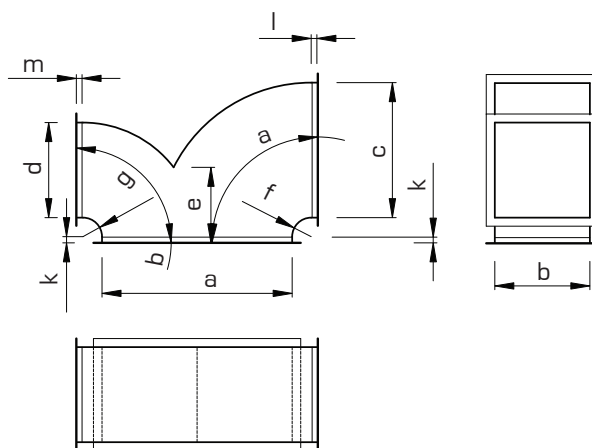
A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	width
b	inlet height
d	extract height
e	shift

h	outlet height
i	extension (by default, $i = 0$ mm)
j	extension (by default, $j = 0$ mm)
p	extension (by default, $p = 0$ mm)
q	radius
r	radius

*The components are usually fabricated with standard dimensions, and there is no need to specify them. For sound reducer (silencer) option please remark with material and density of material.*

# TR3 Concentric Y-Branch

## Dimensions



## Description

It enables to design a ventilation system with two taps directed at any angle. Turning vanes can be used.

## Example Identification

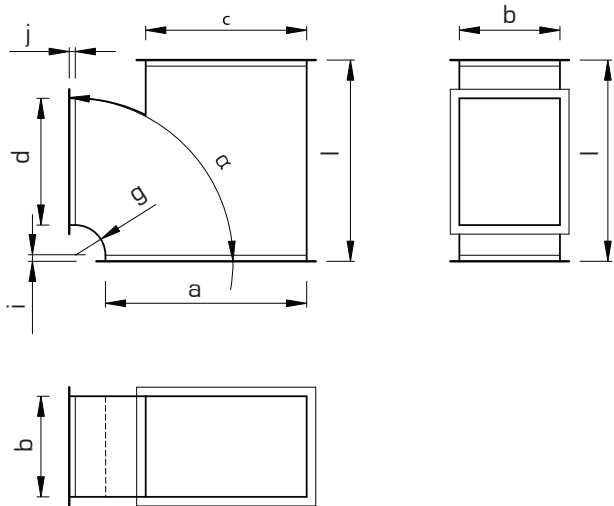
Product Code	TR3	-	A	-	GI	-	500	x	300	-	300	-	200	-	100	-	120	-	120	-	90	-	90	-	30	-	30	-	30	-	30
Type																															
A																															
B																															
C																															
GI																															
SUS																															
ZACS																															
a																															
b																															
c																															
d																															
e																															
f																															
g																															
β																															
α																															
j																															
k																															
l																															
m																															

A	low pressure
B	medium pressure
C	high pressure
GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	height
b	width
c	outlet height 1
d	outlet height 2

e	base length
f	radius
g	radius
β	angle (default angle = 90°)
α	angle (default angle = 90°)
j	extension (by default, j = 0 mm)
k	extension (by default, k = 0 mm)
l	extension (by default, l = 0 mm)
m	extension (by default, m = 0 mm)

# TR4 Bend T-Piece

## Dimensions



## Description

The bend tap enables uniform air distribution with turning vanes to prevent air whirls in the duct.

## Example Identification

Product Code	TR4	-	A	-	GI	-	500	x	300	-	300	-	200	-	600	-	20	-	90	-	30	-	30
Type																							
A																							
B																							
C																							
GI																							
SUS																							
ZACS																							
a																							
b																							
c																							
d																							
l																							
g																							
α																							
j																							
k																							

- A

low pressure
- B

medium pressure
- C

high pressure
- GI

galvanised material
- SUS

stainless steel
- ZACS

zinc/aluminium alloy-coated steel
- a

height
- b

width
- c

passage height

- d

outlet height
- l

length
- g

radius
- α

angle (default angle = 90°)
- j

extension (by default, j = 0 mm)
- k

extension (by default, k = 0 mm)

# **ROUND-SPIRAL DUCTS AND FITTINGS**

We reserve the right to make changes in the dimensions and technical data products due to their continuous improvement

# ROUND - SPIRAL TECHNICAL INFORMATION

## Benefits Of Use

- Quick and easy installation
- With fittings fixed tightly, no risk of leakage
- Attractive design, so important when ducts run uncovered

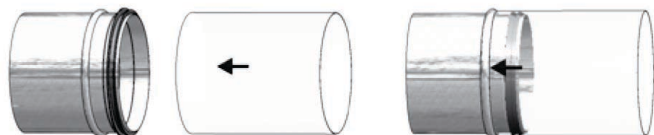
## Airtight Ducting System

Spiral is a well-proven system of spiral-seam quick-connect ducts and fittings (factory-installed rubber gasket is an optional). The gasket ensures a tight and permanent connection between spiral system components. The system is available in a full range of sizes, from Ø100mm to the largest ones, such as Ø1000mm.

The high quality and efficient, factory-installed rubber gaskets make the installation of the system easy, and thus quick. When so installed, the spiral system ensures long standing air tightness, and requires no further sealing.

## Key Advantage

The gasket adheres closely and tightly to the duct wall. (Factory - installed rubber gasket is an optional).

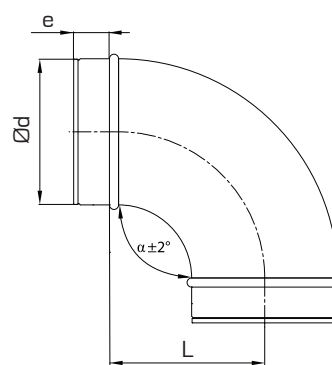


## Tolerance For Fittings

The spiral system is based on the duct tolerances specified below.

Ød <sub>1</sub> nom[mm]	e [mm]	Tolerance [mm]	
Ø100-300	25	+0	-3
Ø350-400	30	+0	-3
Ø450-650	35	+0	-5
Ø750-1000	40	+0	-6

## Angle Tolerance



## Material Specifications

Other materials are available upon request:

GI	galvanized material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel

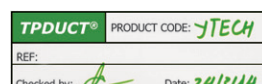
Specify the material code when ordering. If no code is provided, standard galvanised steel quality will be supplied.

## Example Identification

Product code	SPR - GI - 100 - 90
Type	
Material	
Ød <sub>1</sub>	
Degree	

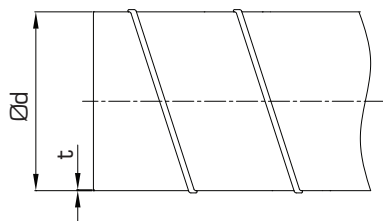
## Labelling

Thanh Phong E&T products are usually signed on as picture below.

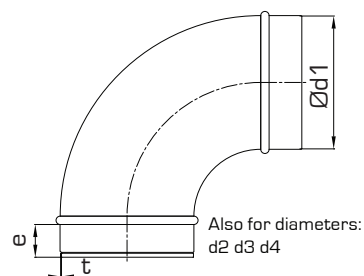




# TOLERANCE



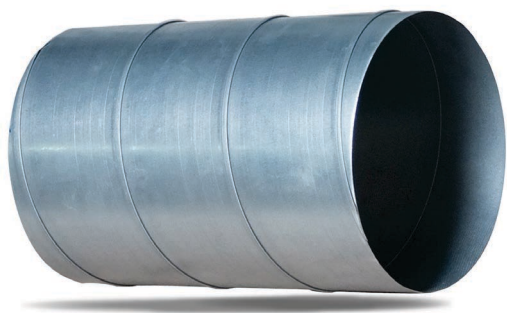
Tolerance for Ducts



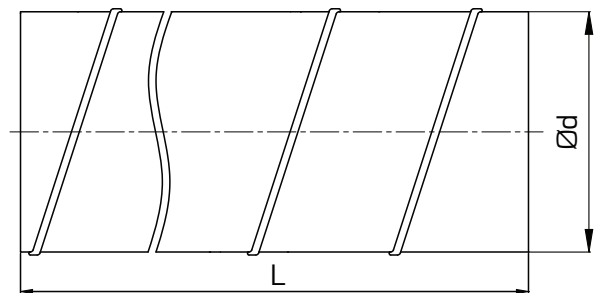
Tolerance for Fittings

diameter $\varnothing d_{nom}$ [mm]	min. - max. diameter $\varnothing d_{nommin} - \varnothing d_{nommax}$ [mm]	thickness $t_{nom}$ [mm]
100	100 - 102	0.5
125	125 - 127	0.5
150	150 - 152	0.5
200	200 - 202	0.5
250	250 - 252	0.5
300	300 - 302	0.5
350	350 - 352	0.6
400	400 - 403	0.6
450	450 - 453	0.6
500	500 - 503	0.6
550	550 - 553	0.7
600	600 - 603	0.7
650	650 - 653	0.7
700	700 - 703	0.7
800	800 - 803	0.7
900	900 - 903	0.9
1000	1000 - 1003	0.9

diameter $\varnothing d_{nom}$ [mm]	min. - max. diameter $\varnothing d_{nommin} - \varnothing d_{nommax}$ [mm]	thickness $t_{nom}$ [mm]
100	97 - 98	0.5
125	123 - 124	0.5
150	147 - 148	0.5
200	197 - 198	0.5
250	247 - 248	0.5
300	297 - 298	0.5
350	347 - 348	0.5
400	396 - 398	0.5
450	446 - 448	0.5
500	496 - 498	0.5
550	546 - 548	0.6
600	596 - 598	0.6
650	646 - 648	0.6
700	696 - 698	0.7
800	796 - 798	0.7
900	896 - 898	0.7
1000	996 - 998	0.9



Dimensions

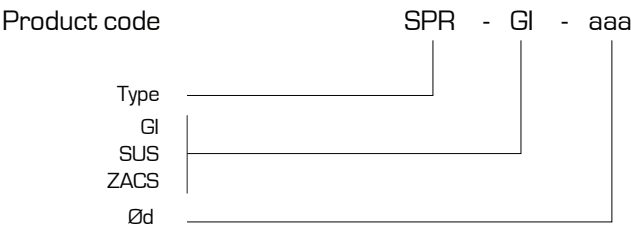


Ød rated [mm]	πd [m]	$\frac{\pi d^2}{4}$ [m²]
100	0.314	0.008
125	0.393	0.012
150	0.471	0.018
200	0.628	0.031
250	0.785	0.049
300	0.942	0.071
350	1.099	0.096
400	1.256	0.126
450	1.413	0.159
500	1.570	0.196
550	1.727	0.237
600	1.884	0.283
650	2.041	0.331
700	2.198	0.384
800	2.512	0.503
900	2.826	0.636
1000	3.140	0.785

Description

Round spiral ducts available in diameters from 100mm to 1000mm (higher or lower range of diameters only available for round duct only).

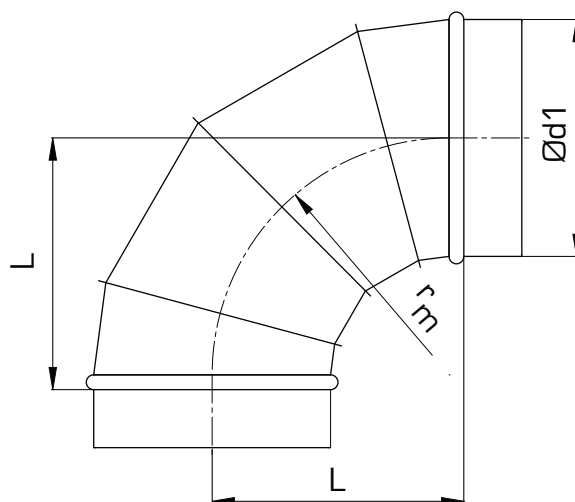
Example Identification



GI galvanised material  
SUS stainless steel  
ZACS zinc/aluminium alloy-coated steel  
Ød diameter (mm)

# BS-90 Bends

## Dimensions

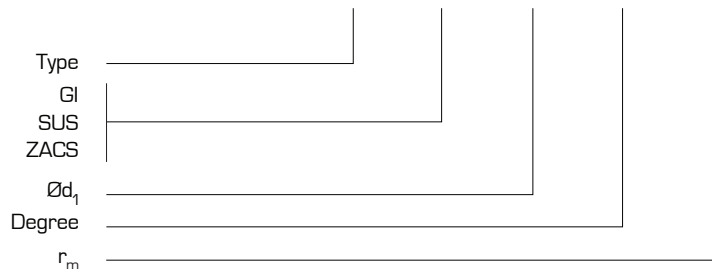


## Description

BS – segmented bend by default  $r_m \approx 1 \times d_1$

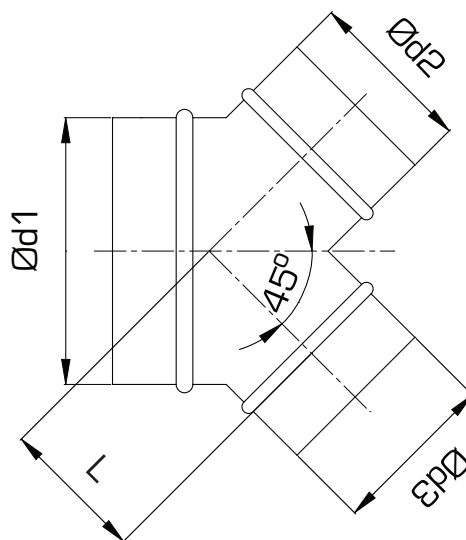
## Example Identification

Product code BS-90 - GI - aaa - 90 - 120



GI      galvanised material  
 SUS    stainless steel  
 ZACS   zinc/aluminium alloy-coated steel  
 Ød<sub>1</sub>    diameter (mm)  
 Degree   angle of bend in degree

## Dimensions



## Description

YSV-45 — Y-pieces with 45° branch

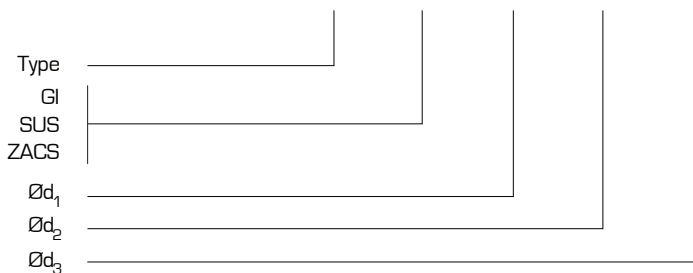
Available upon request: 15°, 30°, 60°

e.g. YSV-15- d<sub>1</sub>- d<sub>3</sub>- d<sub>4</sub>

Please specify two angles and all dimensions when ordering.

## Example Identification

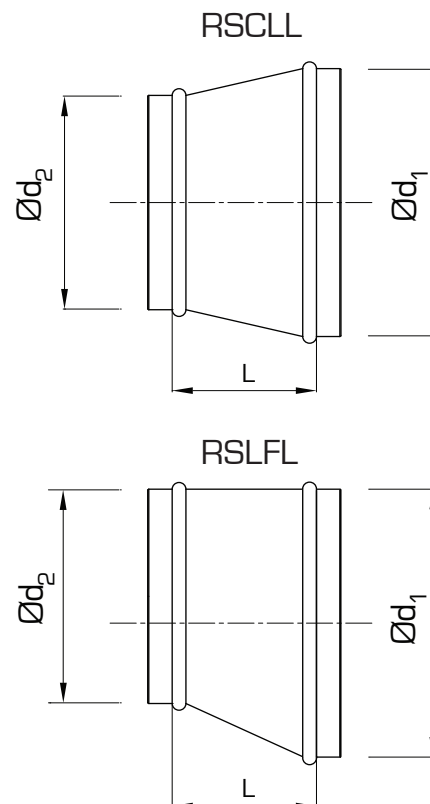
Product code YSV-45 - GI - aaa - bbb - ccc



GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
Ød <sub>1</sub>	inlet diameter (mm)
Ød <sub>2</sub>	outlet diameter (mm)
Ød <sub>3</sub>	out diameter (mm)

# RSCLL/RSLFL Fabricated Reducers

## Dimensions



## Description

RSCLL – symmetric reducer

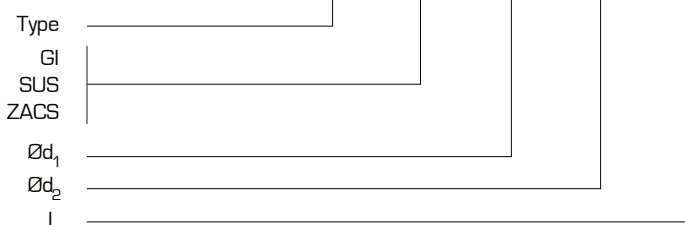
RSLFL – asymmetric reducer

$\text{Ø}d_2$  - fits SPR ducts

$\text{Ø}d_1$  - fits SPR ducts or slips directly over fittings.

## Example Identification

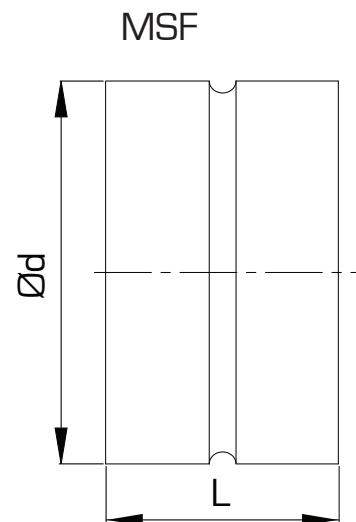
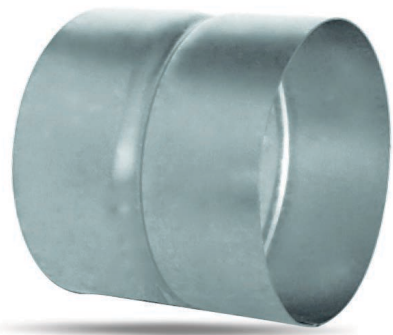
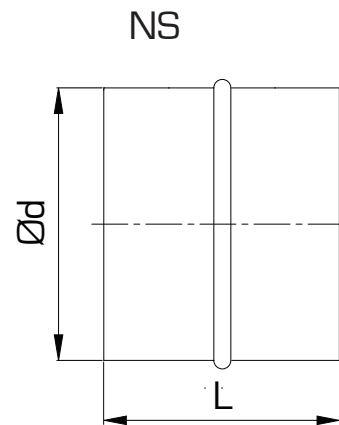
Product code RSCLL/RSLFL - GI - aaa - bbb - 100



GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
$\text{Ø}d_1$	inlet diameter (mm)
$\text{Ø}d_2$	outlet diameter (mm)
L	length of reducer without connection ring

# NS/MSF Male & Female Couplings

## Dimensions

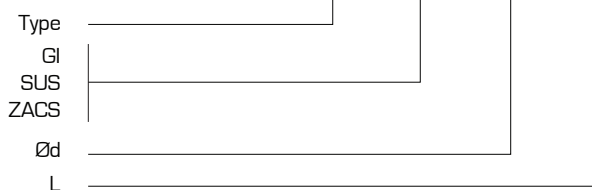


## Description

NS - coupling used for joining SPR ducts  
MSF - female coupling, designed for joining fittings directly.

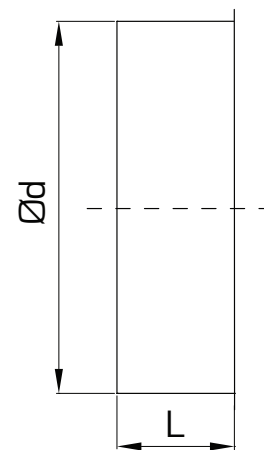
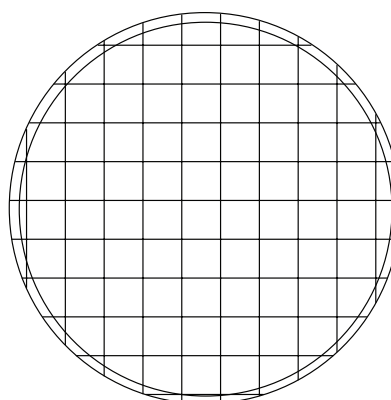
## Example Identification

Product code NS/MSF - GI - aaa - 100



GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
Ød	diameter (mm)
L	length (mm)

## Dimensions



## Description

ILSN connection with a mesh is used as the termination of ventilation ducts. It is equipped with a mesh made of galvanized wire protecting against external contaminations. It is made of galvanized sheet. Optionally stainless or aluminium version is available.

## Example Identification

Product code ILSN - GI - 150 - 60

Type

GI

SUS

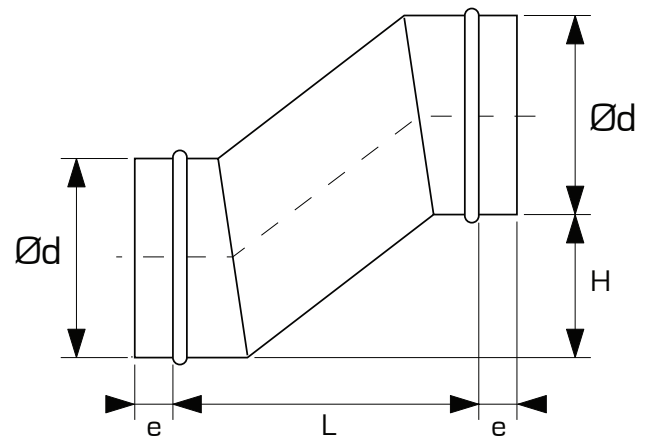
ZACS

Ød

L

GI galvanised material  
 SUS stainless steel  
 ZACS zinc/aluminium alloy-coated steel  
 Ød diameter (mm)  
 L length (mm)

## Dimensions



## Description

ODSO - round setoff.

The ODSOL setoff is used to bypass obstructions to the air flow.

Dimensions L and H can be modified as required, depending on design needs.

## Example Identification

Product code ODSO - GI - aaa - 500 - 100 - 50

Type	_____
GI	_____
SUS	_____
ZACS	_____
Ød	_____
L	_____
H	_____
e	_____

GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
Ød	diameter (mm)
L	length (mm)
H	diffirence height
e	connection ring



# AIR DAMPERS

We reserve the right to make changes in the dimensions and technical data products due to their continuous improvement

# AIR DAMPERS TECHNICAL INFORMATION

## About The System

Dampers complete with ducts and profiles compose a complete system of ventilation duct elements. Thanks to their variety they are applicable almost in all conditions.

In this version of catalog we just introduced the manually adjustable damper, the motorized damper should be listed on the next version. If you have requirement for motorized damper, please let us know to have the update information from our factory.

## Dimensions

All round dampers are of diameters corresponding to dimensions of round set of the SPIRAL profiles. In the case of rectangular ducts - their dimensions are each time adjusted to sizes of ducts and profiles. The remaining dimensions are based on tables and informations specified in a catalogue chart of each element.

## Assembly Instruction

Round dampers are mounted by means of self-drilling screws or rivets in a part of a duct where a connecting flange is inserted. Rectangular dampers are mounted at steel corners by means of screws and with use of the TFD clamp clamping two flange frames.

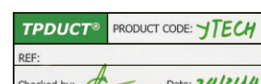
## Material Specifications

Other materials are available upon request:

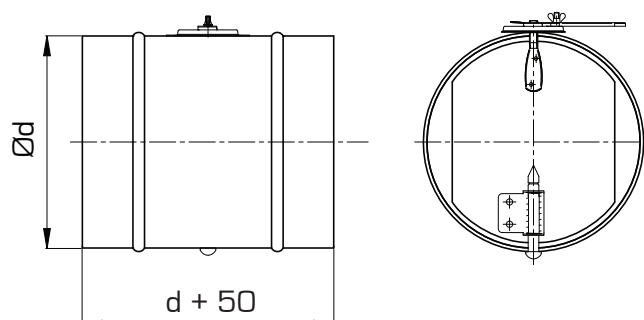
GI      galvanized material  
SUS    stainless steel  
ZACS   zinc/aluminium alloy-coated steel

## Labelling

Thanh Phong E&T products are usually signed on as picture below.



## Dimensions



## Description

The DARH regulating damper can be used everywhere if a tight closing is not required. Position of the damper plane is visible on a handle within 0° to 90° (Gear valve is optional). The damper plane can be fixed by means of a bolt with a wing-nut weight.

*Please note your option of using gear valve on remark if you need to using gear.*

## Example Identification

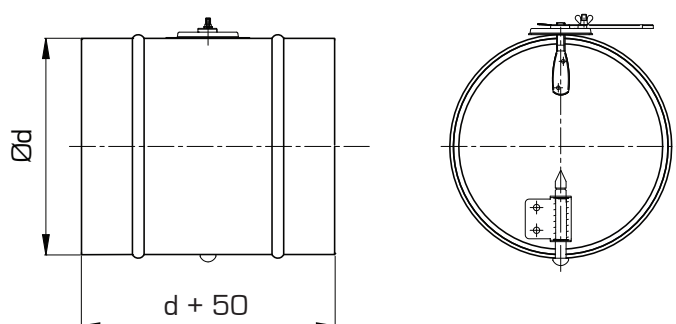
Product code	DASH - GI - 300
Type	GI
GI	
SUS	
ZACS	
Ød	300

GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
Ød	diameter (mm)

Ød <sub>1</sub> nom [mm]	Weight [kg]
100	0.4
125	0.5
150	0.6
200	0.8
250	1.2
300	1.5
400	1.6

# DASH The Shut-Off Dampers

## Dimensions



## Description

The DASH closing damper can be used everywhere if a tight closing is not required. Position of the damper plane is visible on a handle within 0° to 90° (Gear valve is optional). The damper plane can be fixed by means of a bolt with a wing-nut weight.

*Please note your option of using gear valve on remark if you need to using gear.*

## Example Identification

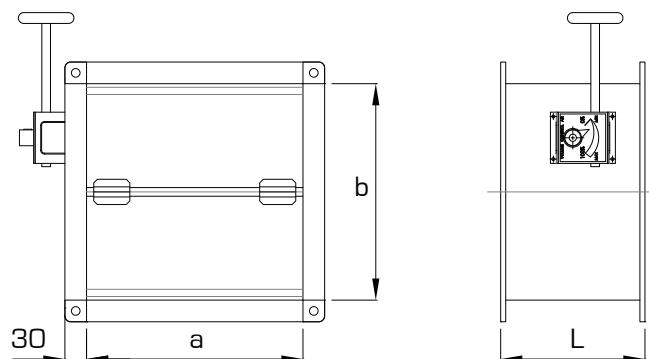
Product code	DASH - GI - 300
Type	GI
	SUS
	ZACS
Ød	300

GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
Ød	diameter (mm)

Ød <sub>1</sub> nom [mm]	Weight [kg]
100	0.4
125	0.5
150	0.6
200	0.8
250	1.2
300	1.5
400	1.6

# DSQ Steel Single-Blade Damper

## Dimensions



## Description

The single-blade damper is used to control or shut off the air flow in ventilation ducts. The blade is stiffened with transverse sheet corrugation, depending on the size. It is possible to lock the position of blade by locking screw.

DSQ damper can be controlled manually by a mechanism (Gear valve is optional)

*Please note your option of using gear valve on remark if you need to using gear.*

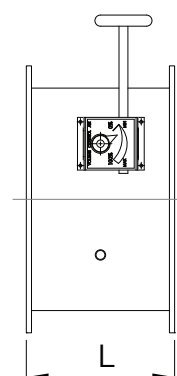
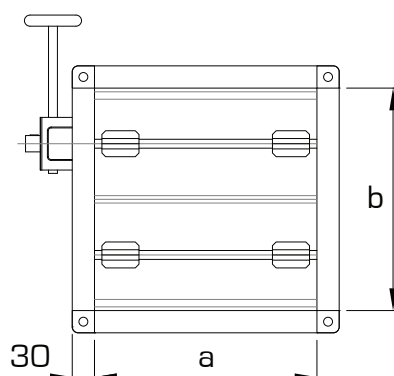
## Example Identification

Product code	DSQ	-	GI	-	600	-	400
Type							
GI							
SUS							
ZACS							
a							
b							

GI	galvanised material
SUS	stainless steel
ZACS	zinc/aluminium alloy-coated steel
a	width (mm)
b	height (mm)

# DSQW Steel Multi-Blade Damper

## Dimensions



## Description

Multi-blade damper DSQW is used to control or close the air flow in ducts. It can be installed both in system ventilation and in the heat recovery unit.

DSQW dampers can be controlled manually by a mechanism.  
(Gear valve is optional)

*Please note your option of using gear valve on remark if you need to using gear.*

## Example Identification

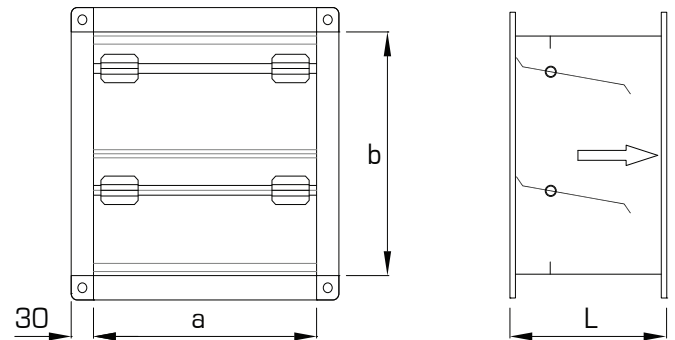
Product code DSQW - GI - 600 - 400



GI galvanised material  
SUS stainless steel  
ZACS zinc/aluminium alloy-coated steel  
a width (mm)  
b height (mm)

# NRD Non return damper

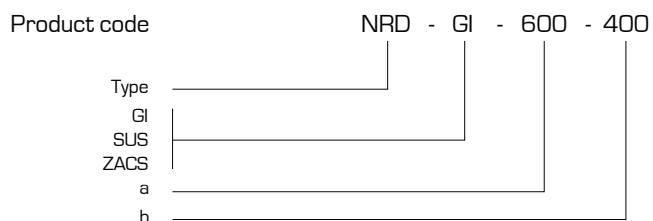
## Dimensions



## Description

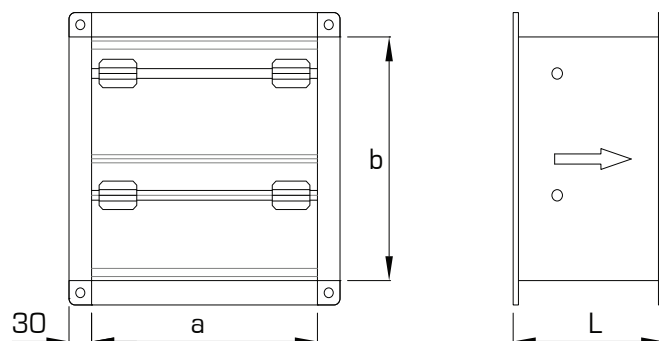
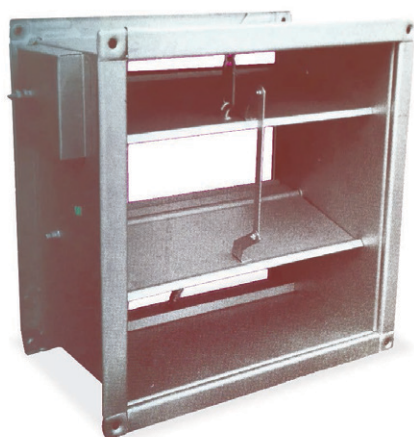
NRD damper use to force air flow direction make sure air flow can not return.

## Example Identification



GI galvanised material  
 SUS stainless steel  
 ZACS zinc/aluminium alloy-coated steel  
 a width (mm)  
 b height (mm)

## Dimensions

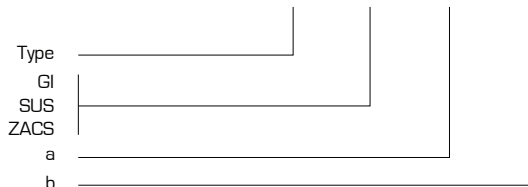


## Description

FDP use to stop fire spreading to other area when fire happen in building. This is standard fire damper with spring and fuse, when over heat (75 degree celsius) the fuse melting and the spring pull back blades.

## Example Identification

Product code FDP - GI - 600 - 400



GI galvanised material  
 SUS stainless steel  
 ZACS zinc/aluminium alloy-coated steel  
 a width (mm)  
 b height (mm)



# **AIR GRILLES AND DIFFUSERS**

We reserve the right to make changes in the dimensions and technical data products due to their continuous improvement

# GRILLS AND DIFFUSERS TECHNICAL INFORMATION

## About The System

We present you a production range of air grille and diffuser by the standard dimensions and aluminum standard material. Stainless steel or other material and dimensions can be fabricated follow your requirement.

## Dimensions

We only present some standard size in table for each product, with other size as your projects requirement please specify it one of the product code identification.

## Assembly Instruction

Before cutting the ceiling for installation please see the ceiling size on the table. For over size please contact us to provide information.

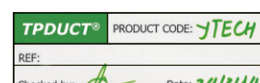
## Material Specifications

Other materials are available upon request:

ALU    aluminium  
SUS    stainless steel

## Labelling

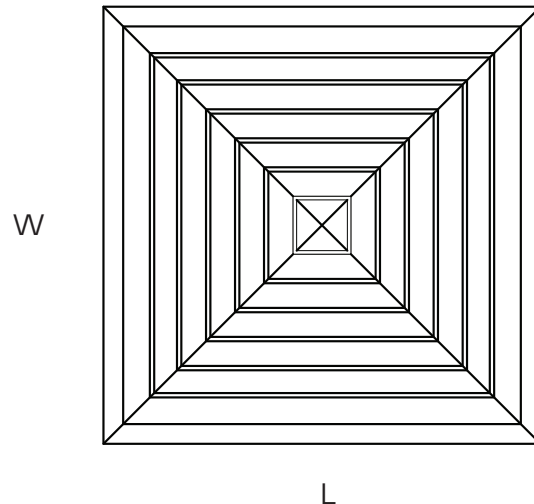
Thanh Phong E&T products are usually signed on as picture below.



# DA Ceiling Diffuser

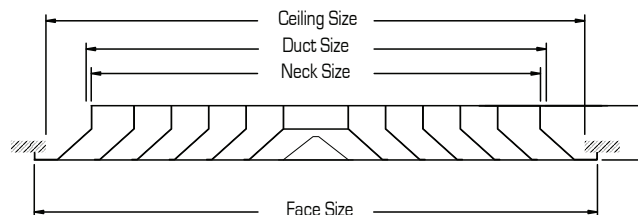


## Dimensions



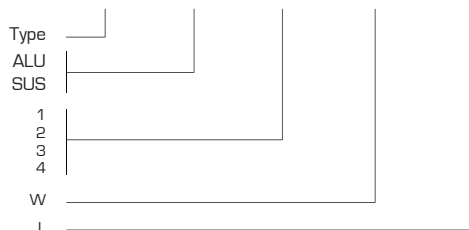
## Description

Air diffuser and grille made from aluminum for the standard design and stainless steel as optional, Air diffuser and air grille use for air supply or return system, as cool air supply, fresh air supply...



## Example Identification

Product Code DA - ALU - 4 - 600 - 600

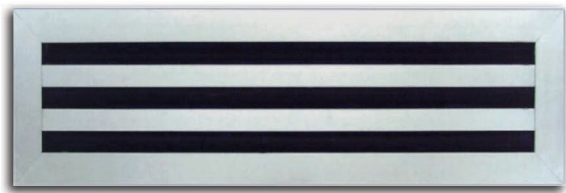


ALU aluminium  
SUS stainless steel  
1 one direction  
2 two direction  
3 three direction  
4 four direction  
W width of face size  
L length of face size

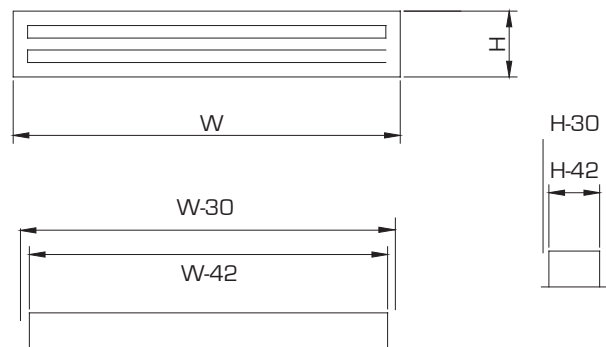
## Standard Size

A	B	C	D
Face size	Neck size	Duct size	Ceiling size
250x250	150x150	160x160	210x210
300x300	200x200	210x210	260x260
350x350	250x250	260x260	310x310
400x400	300x300	310x310	360x360
450x450	350x350	360x360	410x410
600x600	500x500	510x510	560x560

# SLLS Linear Ceiling Diffuser



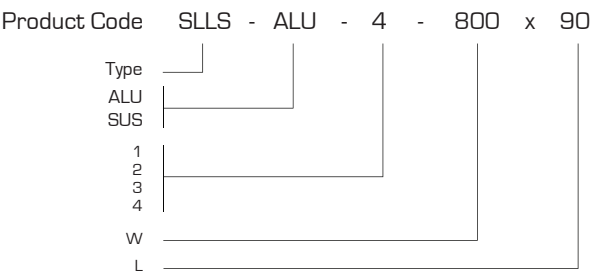
## Dimensions



## Description

Air linear made from aluminum for the standard design and stainless steel as optional, Air linear use for air supply or return system, as cool air supply, fresh air supply...

## Example Identification

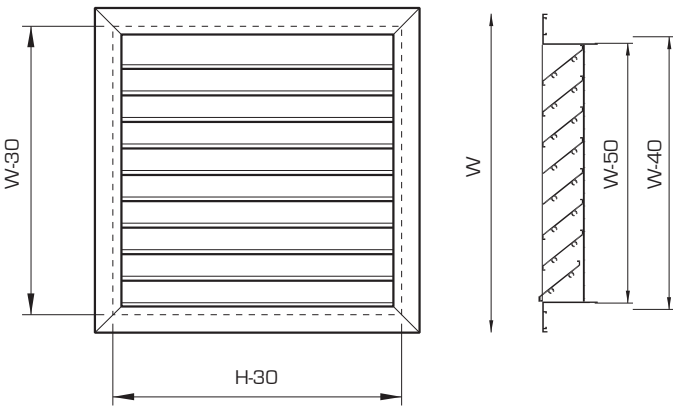


- ALU    aluminium
- SUS    stainless steel
- 1    one slot
- 2    two slot
- 3    three slot
- 4    four slot
- W    width of face size
- L    length of face size

## Standard Size

Slots	Width	A Face size	B Neck size	C Ceiling size
		WxH	W-42xH-42	W-30xH-30
1	800	800x90	758x48	770x60
2		800x137	758x95	770x107
3		800x184	758x142	770x154
4		800x231	758x189	770x201
1	1000	1000x90	958x48	970x60
2		1000x137	958x95	970x107
3		1000x184	958x142	970x154
4		1000x231	958x189	970x201
1	1200	1000x90	1158x48	1170x60
2		1000x137	1158x95	1170x107
3		1000x184	1158x142	1170x154
4		1000x231	1158x189	1170x201

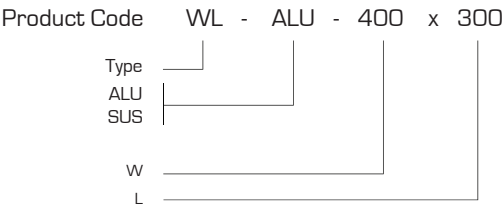
Dimensions



Description

Weather louver made from aluminum for the standard design and stainless steel as optional, Weather louver use for fresh air intake or exhaust system, it has been designed to resist the weather.

Example Identification



ALU    aluminium

SUS    stainless steel

W    width of face size

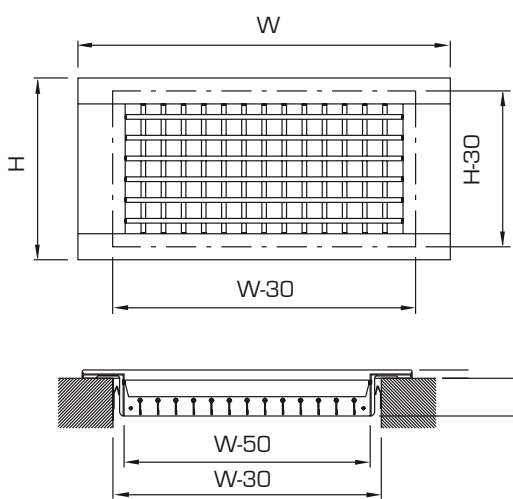
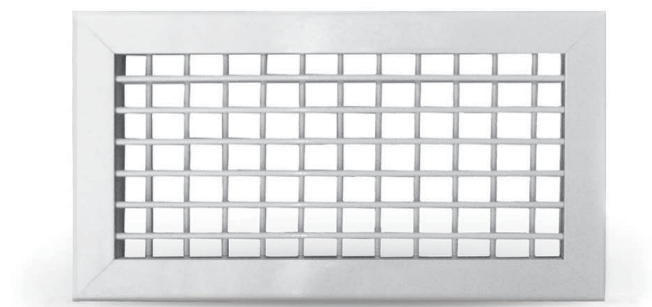
L    length of face size

Standard Size

A	B	C	D
Face size	Neck size	Duct size	Ceiling size
WxH	W-50xH-50	W-40xH-40	W-30xH-30
300x150	250x150	260x160	270x170
300x200	200x200	210x210	260x260
400x150	350x100	360x110	370x120
400x200	350x150	360x160	370x170
400x300	350x250	360x260	370x270
500x200	450x150	460x160	470x170
500x300	450x250	460x260	470x270
600x200	550x150	560x160	570x170
600x300	550x250	560x260	570x270

# SHR Double Deflection Grilles

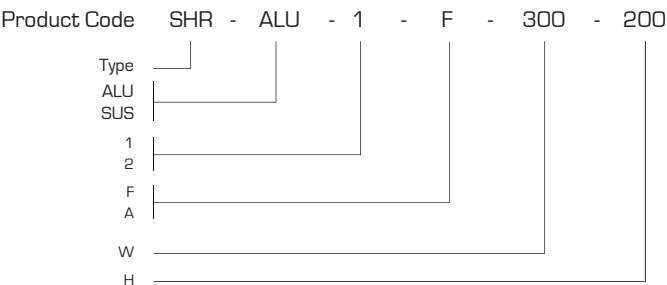
## Dimensions



## Description

SHR is rectangular aluminum grille with adjustable deflectors. SHR grille can be used in commercial and industrial premises for supply, or return air. It is intended for mounting into wall, ceiling or into window sill.

## Example Identification



- ALU    aluminium
- SUS    stainless steel
- 1    single deflector
- 2    double deflectors
- F    fixed deflector
- A    adjustable deflectors
- W    width of face size
- H    height of face size

## Standard Size

A	B	C	D
Face size	Neck size	Duct size	Opening size
WxH	W-50xH-50	W-40xH-40	W-30xH-30
300x200	250x150	260x160	270x170
400x150	350x100	360x110	370x120
400x200	350x150	360x160	370x170
400x300	350x250	360x260	370x270
500x200	450x150	460x160	470x170
500x300	450x250	460x260	470x270
600x200	550x150	560x160	570x170
600x300	550x250	560x260	570x270
600x400	550x350	560x360	570x370

# NCD Round Diffuser

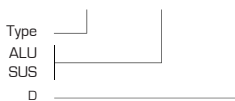


## Description

The NCD round diffusers are designed for low and medium pressure intake and exhaust ventilation and air-condition system. They can operate with constant and change able air flow. Air can be blown as well in vertical as in horizontal plane with temperature lower or higher than inside temperrature. The diffusers are light and easily assembled. It is possible to assemble them together with a distributor box.

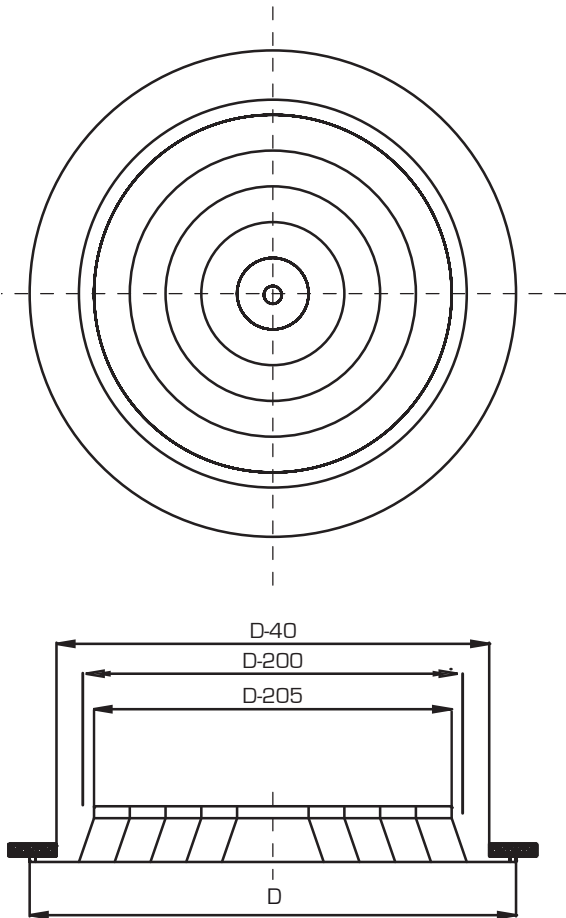
## Example Identification

Product Code    NCD   -   ALU   -   300



ALU    aluminium  
SUS    stainless steel  
D       diameter (mm)

## Dimensions

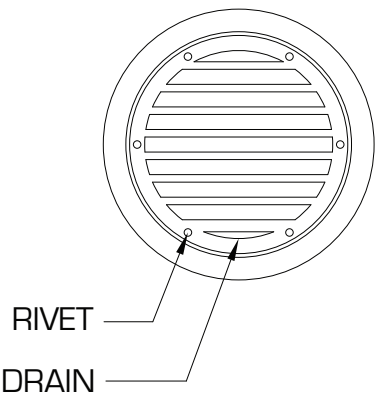


## Standard Size

A	B	C	D
Face size	Neck size	Duct size	Opening size
D	D - 205	D - 200	D - 40
300	95	100	260
400	195	200	360
500	295	300	460
600	395	400	560

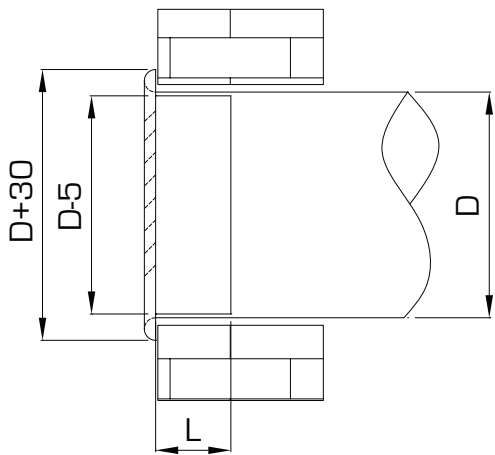
# VC/VCS Vent Cap With Screen And Without Screen

## Dimensions

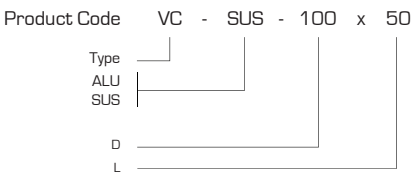


## Description

Vent cap with screen made from stainless steel for the standard design and other material as optional. Vent caps are perfect for any venting applications such as storage rooms, attics, basements, and bathroom and kitchen exhausts. Insect screens are an option.



## Example Identification



- ALU    aluminium
- SUS    stainless steel
- D    duct size (mm)
- L    depth of connector

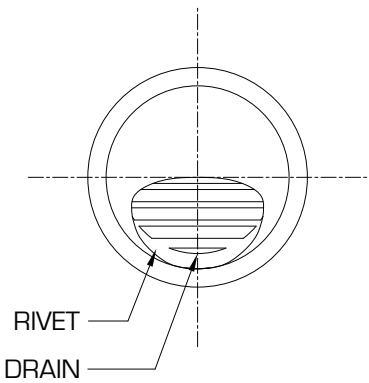
## Standard Size

Face size	Neck size	Duct size	Depth
D+30	D - 5	D	L
130	95	100	50
155	120	125	50
180	145	150	50
230	195	200	50
280	245	250	50



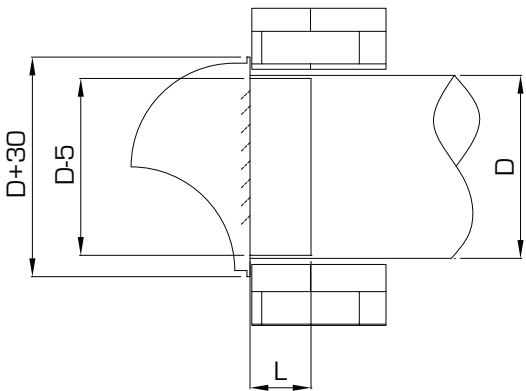
# VCH/VCHS Vent Cap With Screen And Without Screen

## Dimensions

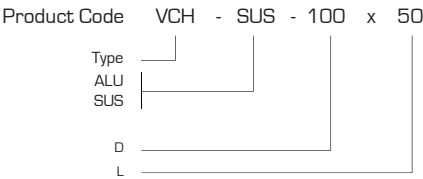


## Description

The VCH and VCHS are identical to the VC and VCS with exception of the hood. This model is excellent for exteriors where protection from the element is necessary and not already carried out by building design. Insect screens are an option.



## Example Identification



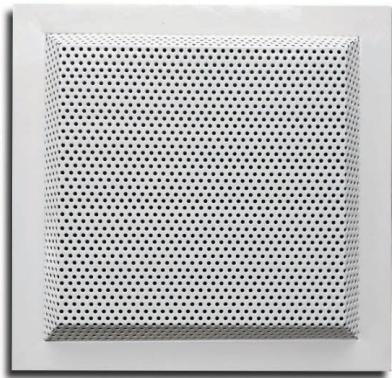
- ALU    aluminium
- SUS    stainless steel
- D      duct size (mm)
- L      depth of connector

## Standard Size

Face size	Neck size	Duct size	Depth
D+30	D - 5	D	L
130	95	100	50
155	120	125	50
180	145	150	50
230	195	200	50
280	245	250	50

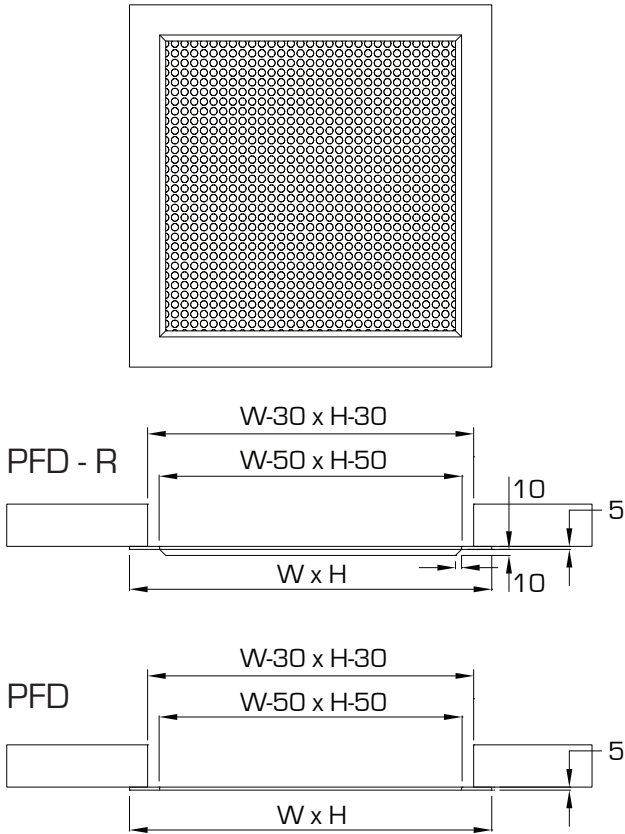
# PFD/PFD-R Perforated Face Diffuser (Raised Face)

## Dimensions



## Description

Perforated face diffuser made from stainless steel for the standard design and other material as optional, Perforated face diffuser use for air supply or return system in clean-room.



## Example Identification

Product Code    PFD-R - SUS - 600 x 600



ALU    aluminium  
SUS    stainless steel  
W    width of face size  
L    length of face size (mm)

## Standard Size

A	B	C	D
Face size	Neck size	Duct size	Ceiling size
W x H	W-50xH-50	W-40xH-40	W-30xH-30
300x300	200x200	210x210	260x260
350x350	250x250	260x260	310x310
400x400	300x300	310x310	360x360
450x450	350x350	360x360	410x410
600x600	500x500	510x510	560x560









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