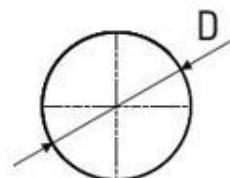
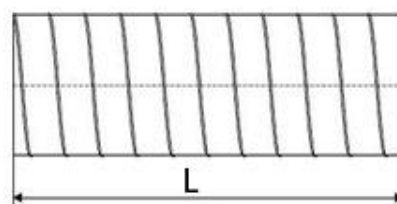




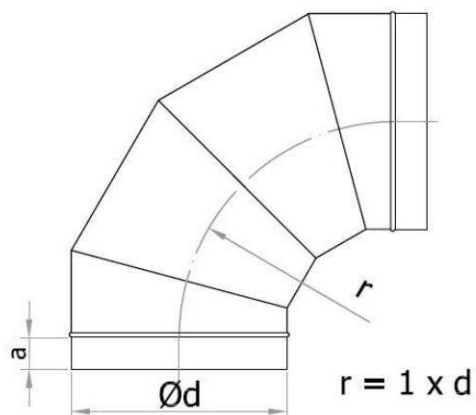
Spiral tubes and junctions catalogue



Spiral Ducts – Dimensions and Weights

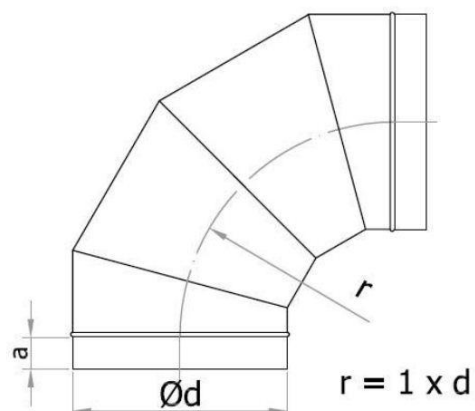
Diameter (mm)	Material Thickness "s" (mm)			
	0,60 mm	0,70 mm	0,80 mm	1,00 mm
	kg			
Ø125	2,13			
Ø140	2,39			
Ø150	2,56			
Ø160	2,73			
Ø180	3,07			
Ø200	3,41			
Ø224	3,82			
Ø250	4,26			
Ø280	4,78			
Ø300	5,12	5,97		
Ø315	5,37	6,27		
Ø355	6,05	7,06		
Ø400	6,82	7,96		
Ø450	7,67	8,95	10,23	
Ø500	8,53	9,95	11,37	
Ø560		11,14	12,73	
Ø630		12,54	14,33	
Ø710		14,13	16,15	
Ø800		15,92	18,19	22,74
Ø900			20,47	25,58
Ø1000				28,43
Ø1120				31,84
Ø1250				35,53

*Red numbers , price for non standard thickness



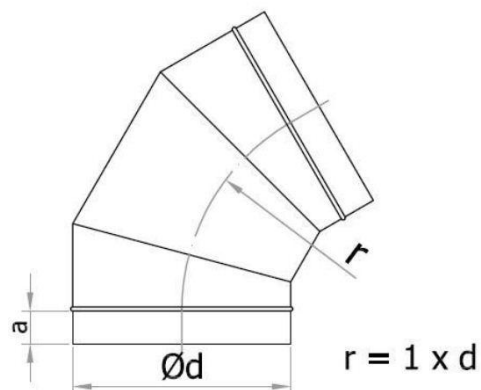
90° segmented elbow Dimensions and Weights

d(mm)	a(mm)	m(kg)
125	40	0,57
140	40	0,68
150	40	0,77
160	40	0,86
180	40	1,05
200	40	1,26
224	40	1,54
250	55	1,99
280	55	2,43
300	55	2,74
315	55	2,99
355	55	3,71
400	75	4,84
450	75	5,98
500	75	9,71
560	75	11,95
630	75	14,83
710	100	19,21
800	100	23,92
900	100	36,82
1000	115	45,54
1120	115	56,25
1250	115	69,12



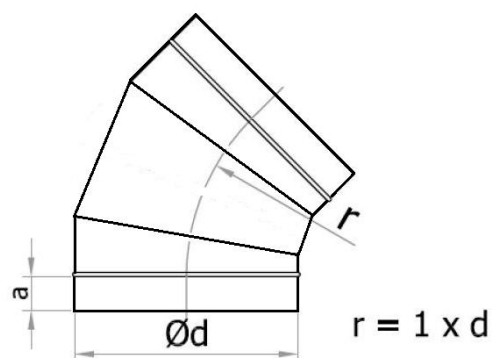
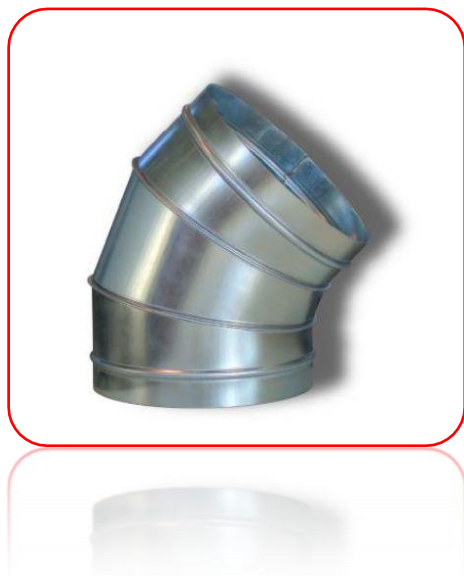
75° segmented elbow Dimensions and weights

d(mm)	a(mm)	m(kg)
125	40	0,5
140	40	0,6
150	40	0,67
160	40	0,75
180	40	0,91
200	40	1,09
224	40	1,33
250	55	1,72
280	55	2,1
300	55	2,37
315	55	2,58
355	55	3,19
400	75	4,18
450	75	5,15
500	75	8,33
560	75	10,23
630	75	12,67
710	100	16,47
800	100	20,45
900	100	31,42
1000	115	38,9
1120	115	47,93
1250	115	58,77



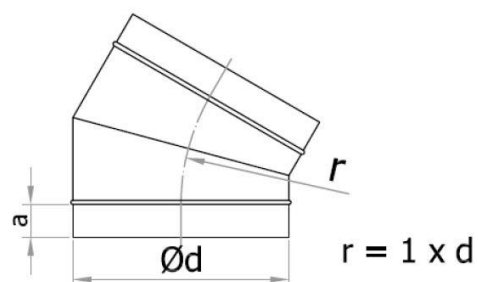
60° segmented elbow Dimensions and weights

d(mm)	a(mm)	m(kg)
125	40	0,43
140	40	0,51
150	40	0,57
160	40	0,64
180	40	0,77
200	40	0,92
224	40	1,12
250	55	1,46
280	55	1,77
300	55	1,99
315	55	2,16
355	55	2,66
400	75	3,52
450	75	4,32
500	75	6,97
560	75	8,52
630	75	10,51
710	100	13,74
800	100	16,99
900	100	26,01
1000	115	32,24
1120	115	39,6
1250	115	48,43
1400	115	59,7



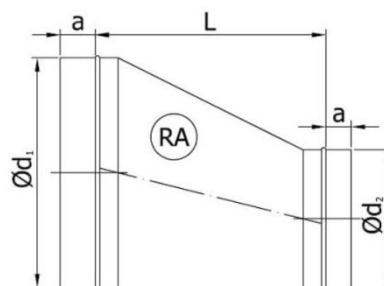
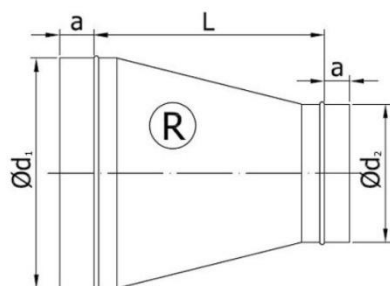
45° segmented elbow Dimensions and weights

d(mm)	a(mm)	m(kg)
125	40	0,36
140	40	0,42
150	40	0,47
160	40	0,52
180	40	0,63
200	40	0,75
224	40	0,19
250	55	1,2
280	55	1,44
300	55	1,62
315	55	1,75
355	55	2,14
400	75	2,86
450	75	3,5
500	75	5,6
560	75	6,8
630	75	8,35
710	100	11
800	100	13,54
900	100	20,61
1000	115	25,6
1120	115	31,28
1250	115	38,08



30° segmented elbow Dimensions and weights

d(mm)	a(mm)	m(kg)
125	40	0,28
140	40	0,33
150	40	0,37
160	40	0,41
180	40	0,49
200	40	0,58
224	40	0,69
250	55	0,93
280	55	1,11
300	55	1,24
315	55	1,34
355	55	1,62
400	75	2,2
450	75	2,66
500	75	4,22
560	75	5,1
630	75	6,2
710	100	8,27
800	100	10,08
900	100	15,24
1000	115	18,93
1120	115	22,95
1250	115	27,73



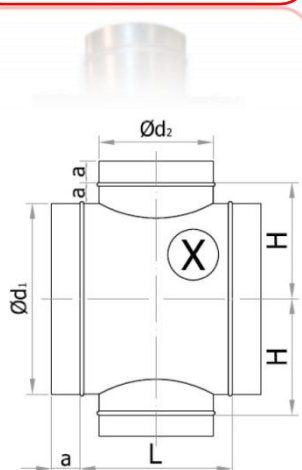
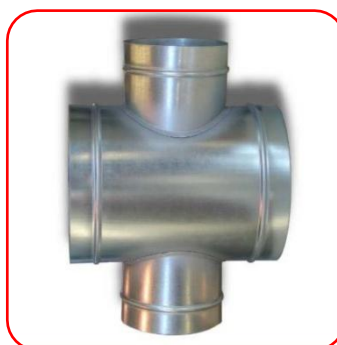
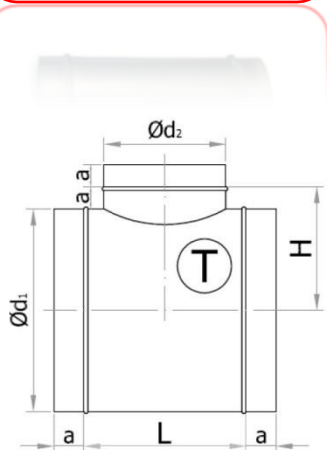
Reducers:

Reducers – Simetrical/Asimetrical	Weight (kg)
- Ø125 mm → Ø 100 mm	0,45
- Ø150 mm → Ø100 mm	0,59
- Ø150 mm → Ø 125 mm	0,55
- Ø160 mm → Ø100 mm	0,65
- Ø160 mm → Ø 125 mm	0,61
- Ø160 mm → Ø 150 mm	0,55
- Ø160 mm → Ø 224 mm	0,99
- Ø160 mm → Ø 250 mm	1,27
- Ø180 mm → Ø 100 mm	0,79
- Ø180 mm → Ø 125 mm	0,74
- Ø180 mm → Ø 150 mm	0,71
- Ø180 mm → Ø 160 mm	0,80
- Ø200 mm → Ø 100 mm	0,93
- Ø200 mm → Ø 125 mm	0,89
- Ø200 mm → Ø 150 mm	0,83
- Ø200 mm → Ø 160 mm	0,80
- Ø200 mm → Ø 180 mm	0,73
- Ø224 mm → Ø 125 mm	1,08
- Ø224 mm → Ø 150 mm	1,02
- Ø244 mm → Ø 180 mm	0,92
- Ø224 mm → Ø 200 mm	0,84

Reducers – Simetrical/Asimetrical	Weight (kg)
- Ø250 mm → Ø 100 mm	1,40
- Ø250 mm → Ø 125 mm	1,36
- Ø250 mm → Ø 150 mm	1,30
- Ø250 mm → Ø 180 mm	1,20
- Ø250 mm → Ø 200 mm	1,12
- Ø250 mm → Ø 224 mm	1,01
- Ø280 mm → Ø 150 mm	1,59
- Ø280 mm → Ø 160 mm	1,56
- Ø280 mm → Ø 200 mm	1,41
- Ø280 mm → Ø 250 mm	1,21
- Ø300 mm → Ø 200 mm	1,62
- Ø300 mm → Ø 224 mm	1,30
- Ø300 mm → Ø 250 mm	1,42
- Ø315 mm → Ø 125 mm	2,02
- Ø315 mm → Ø 200 mm	1,78
- Ø315 mm → Ø 224 mm	1,67
- Ø315 mm → Ø 250 mm	1,58
- Ø355 mm → Ø 160 mm	2,40
- Ø355 mm → Ø 180 mm	2,33
- Ø355 mm → Ø 200 mm	2,25
- Ø355 mm → Ø 224 mm	2,14
- Ø355 mm → Ø 280 mm	1,87
- Ø355 mm → Ø 300 mm	1,74
- Ø400 mm → Ø 280 mm	2,58
- Ø400 mm → Ø 355 mm	2,01
- Ø450 mm → Ø 300 mm	3,18
- Ø450 mm → Ø 315 mm	3,07
- Ø450 mm → Ø 355 mm	2,75
- Ø500 mm → Ø 280 mm	5,52
- Ø560 mm → Ø 355 mm	6,19
- Ø630 mm → Ø 355 mm	8,04
- Ø560 mm → Ø 400 mm	5,79
- Ø630 mm → Ø 400 mm	7,64
- Ø630 mm → Ø 450 mm	6,94
- Ø630 mm → Ø 500 mm	6,15
- Ø630 mm → Ø 560 mm	5,06
- Ø710 mm → Ø 355 mm	10,74
- Ø710 mm → Ø 500 mm	8,85
- Ø710 mm → Ø 560 mm	7,76
- Ø710 mm → Ø 630 mm	6,32
- Ø800 mm → Ø 560 mm	10,75
- Ø800 mm → Ø 630 mm	9,31
- Ø800 mm → Ø 710 mm	7,77
- Ø900 mm → Ø 630 mm	16,10
- Ø900 mm → Ø 710 mm	14,20

Reducers – Simetrical/Asimetrical	Weight (kg)
- Ø900 mm → Ø 800 mm	11,24
- Ø1000 mm → Ø 630 mm	21,54
- Ø1000 mm → Ø 710 mm	19,63
- Ø1000 mm → Ø 800 mm	16,68
- Ø1000 mm → Ø 900 mm	12,93
- Ø1120 mm → Ø 800 mm	23,45
- Ø1120 mm → Ø 900 mm	19,71
- Ø1120 mm → Ø 1000 mm	15,84
- Ø1250 mm → Ø 800 mm	31,59
- Ø1250 mm → Ø 900 mm	27,84
- Ø1250 mm → Ø 1000 mm	23,97

Tees – T:



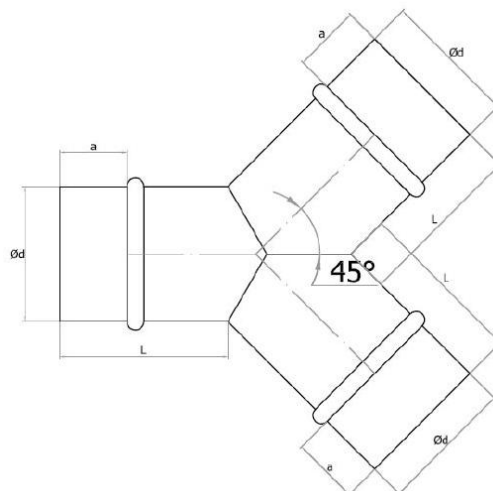
“T” & “X” Tees:

Below in the table there are some of the dimensions and weights for “T” and “X” elements. Our production line is more than the table below. Therefore we give this information to you as an basic introduction. If interested please contact us for other specific demands.

d1 (mm)	d2 (mm)	T(kg)	X(kg)
125	80	0,59	0,69
	100	0,65	0,78
	125	0,73	0,89
150	125	0,84	1,01
	140	0,89	1,08
	150	0,93	1,13
160	140	0,94	1,13
	150	0,98	1,18
	160	1,02	1,23
180	150	1,08	1,28
	160	1,12	1,33
	180	1,20	1,43
200	150	1,17	1,37
	160	1,22	1,43
	180	1,30	1,54

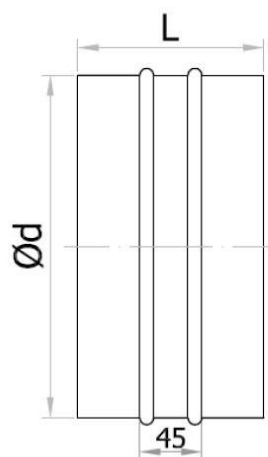
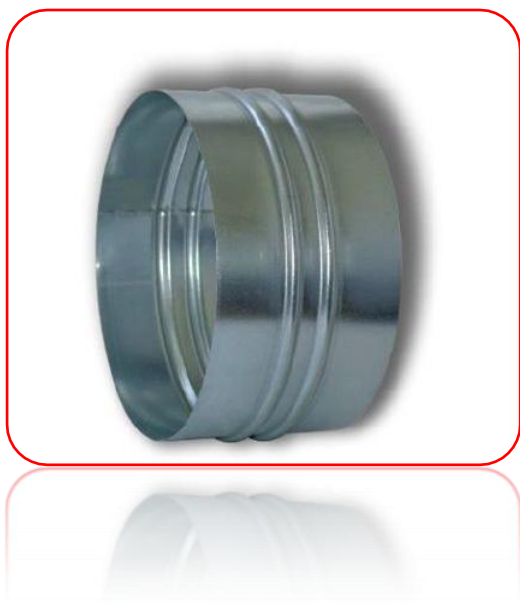
d1 (mm)	d2 (mm)	T(kg)	X(kg)
224	160	1,34	1,55
	180	1,43	1,67
	200	1,52	1,79
250	180	1,68	1,92
	200	1,78	2,04
	224	1,90	2,20
	250	2,14	2,58
280	200	1,96	2,23
	224	2,09	2,39
	250	2,34	2,79
	280	2,52	3,02
300	224	2,22	2,52
	250	2,48	2,92
	280	2,67	3,16
	300	2,79	3,32
315	200	2,17	2,44
	224	2,32	2,61
	250	2,58	3,02
	280	2,77	3,27
	300	2,90	3,43
	315	3,00	3,56
355	250	2,85	3,30
	280	3,06	3,56
	300	3,20	2,73
	315	3,31	2,87
	355	3,59	4,22
400	300	3,78	4,31
	315	3,89	4,45
	355	4,20	4,83
	400	4,78	5,73
450	315	4,31	4,87
	355	4,65	5,28
	400	5,26	6,21
	450	5,71	6,77
500	300	6,15	6,86
	315	6,34	7,08
	355	6,83	7,67
	400	7,70	8,96
	450	8,35	9,77
	500	9,00	10,80
560	315	7,01	7,75
	355	7,54	8,39
	400	8,47	9,73
	450	9,18	10,60
	500	9,89	11,47
	560	10,75	12,52
630	355	8,38	9,23

d1 (mm)	d2 (mm)	T(kg)	X(kg)
	400	9,37	10,63
	450	10,15	11,57
	500	10,93	12,51
	560	11,87	13,64
	630	12,96	14,96
710	400	11,10	12,36
	450	11,96	13,38
	500	12,82	14,40
	560	13,85	15,62
	630	15,06	17,05
	710	17,14	20,08
800	450	13,29	14,72
	500	14,24	15,83
	560	15,38	17,15
	630	16,71	18,71
	710	18,93	21,88
	800	20,73	24,05
900	500	19,59	21,55
	560	21,15	23,35
	630	22,97	25,44
	710	25,91	29,57
	800	28,36	32,48
	900	31,08	35,71
1000	560	23,99	26,19
	630	25,98	28,45
	900	38,37	43,00
	1000	42,36	48,24
	1120	46,36	52,94
1250	900	42,29	46,91
	1000	46,60	52,47
	1120	50,98	57,56
	1250	55,72	63,07



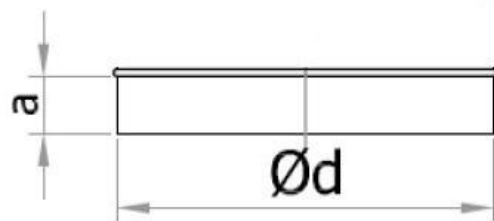
Wyes – "Y" elements – Dimensions and Weights

d (mm)	a (mm)	L (mm)	m (kg)
80	40	100	0,42
100	40	100	0,55
125	40	100	0,72
140	40	100	0,83
150	40	100	0,90
160	40	100	0,98
180	40	100	1,14
200	40	100	1,31
224	40	100	1,53
250	55	100	1,77
280	55	100	2,08
300	55	100	2,29
315	55	150	3,15
355	55	150	3,71
400	75	150	4,37
450	75	150	5,16
500	75	200	9,54
560	75	200	11,16
630	75	200	13,20
710	100	250	17,80
800	100	250	21,09
900	100	250	30,99
1000	115	300	39,89
1120	115	300	47,08
1250	115	300	60,04



Couplings- Dimensions and Weights

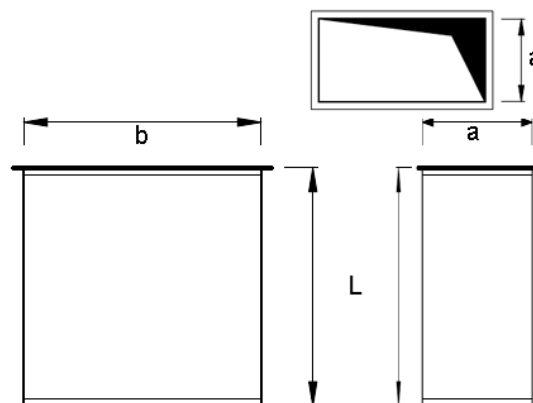
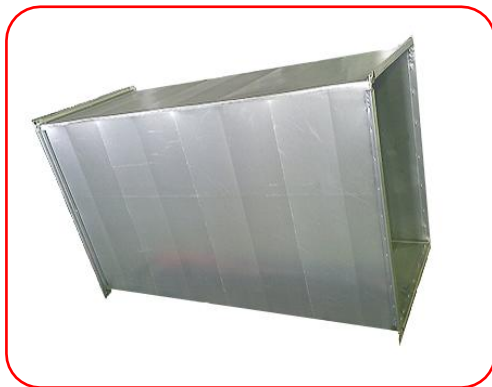
d (mm)	a (mm)	L(mm)	m (kg)
125	40	135	0,25
140	40	135	0,28
150	40	135	0,30
160	40	135	0,32
180	40	135	0,36
200	40	135	0,40
224	40	135	0,44
250	55	135	0,50
280	55	135	0,56
300	55	135	0,60
315	55	135	0,84
355	55	135	0,95
400	75	135	1,07
450	75	135	1,20
500	75	135	1,34
560	75	135	1,50
630	75	185	2,85
710	100	185	3,22
800	100	185	3,62
900	100	185	5,10
1000	115	185	3,66
1120	115	185	6,34
1250	115	185	7,08



Round cup- Dimensions and Weights

d (mm)	a (mm)	m (kg)
100	40	0,13
125	40	0,17
160	40	0,24
200	40	0,33
250	55	0,52
315	55	0,73
355	55	0,88
400	75	1,18
450	75	1,41
500	75	1,66
560	75	2,82
630	75	3,41
710	100	4,52
800	100	5,48
900	100	7,82
1000	115	9,70
1250	115	14,10

Rectangular Ducts



Description

The rectangular ducts are with stiffening for strength improvement. Also according to the dimensions we install galvanized bars to strengthen the duct if it is needed.

We produce rectangular ducts from galvanized steel. Our production line is flexible and we are able to do more than these parts explained here. By normal production and dimensions we give the parts that are more common and demanded. By costumers demand we can produce ducts that are not explained in this catalogue. The rectangular ducts are with stiffening for strength improvement. Also according to the dimensions we install galvanized bars to strengthen the duct if it is needed.

Normal dimensions - rectangular ducts

The marking of the normal dimensions are shown on the upper right photo. The normal dimensions are:

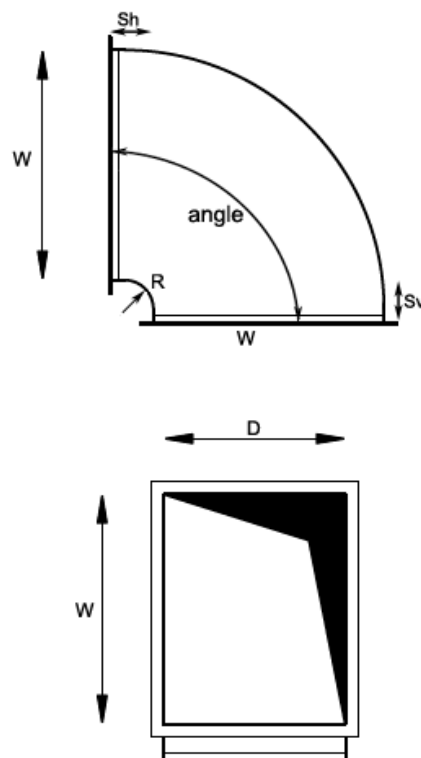
- Dimensions **a>150mm** and **b>150mm**.
- Length **L=1500mm**.

Endings

On the ends of the rectangular ducts we install mounting **frames (flanges) 20mm, 30mm and 40mm** in dependence of the dimensions **a** and **b**.

By costumer's demand we close one or two ends of the rectangular duct with rectangular cup.

Rectancular bending section



Description

We are characterized with flexible rectangular bend section production.

As shown on the photo all parameters can be modified. The rectangular bend sections are stiffened for strength improvement. According to the dimensions we install galvanized bars and deflectors for better performance and strength if it is needed.

Normal dimensions - rectangular bend section

The dimensions here vary according the parameters shown on the photo. Normal dimensions are considered the most used dimensions. That does not exclude manufacturing dimensions that are not mentioned as normal. The normal dimensions are:

- Dimensions **D>150mm**.
- Any **angle** ($1^\circ < \text{angle} < 180^\circ$)
- Any **W>150**
- Variable radius **R**.

Endings

On the ends of the Rectancular bending section we install mounting **frames (flanges) and corners** - **20mm, 30mm and 40mm** in dependence of the dimensions **W** and **D**.

By costumer's demand we close one or two ends of the rectangular duct with rectangular cup.

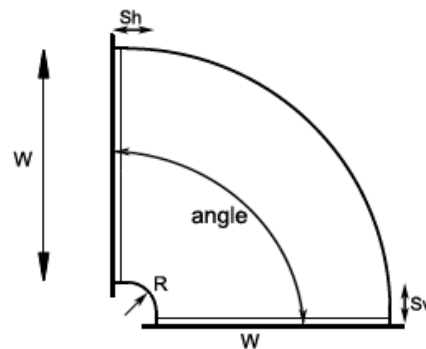
Rectangular bending types

We are producing different types of bending sections. The most common types are:

- **Bending with equal dimensions on the endings.**

Here are the changeable dimensions:

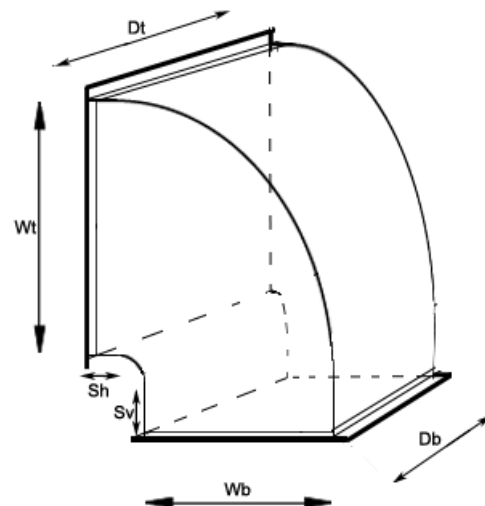
- Width (bottom) - **W**
- Depth (bottom) - **D**
- Straight part(horizontal) – **Sh**
- Straight part(vertical) – **Sv**
- Radius (internal) - **R**



- **Bending with different dimensions on the endings – Reducer bendings**

Here are the changeable dimensions:

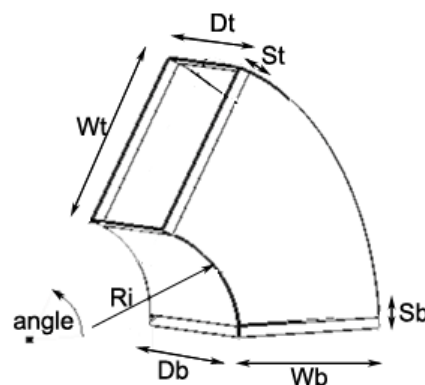
- Width (bottom) - **Wb**
- Depth (bottom) - **Db**
- Width (top) - **Wt**
- Depth (top) - **Dt**
- strait part top
- strait part down
- Straight part(horizontal) - **Sh**
- Straight part(vertical) - **Sv**



- **Reducer bending by different angle and different a, b, c, and d dimensions**

Here all the parameters are changeable:

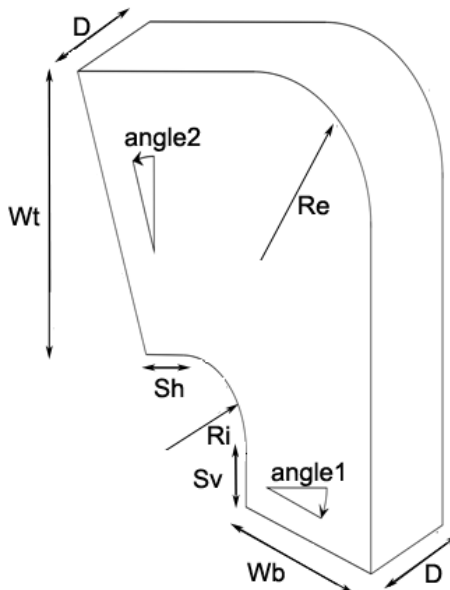
- Width (bottom) - **Wb**
- Depth (bottom) - **Db**
- Width (top) - **Wt**
- Depth (top) - **Dt**
- Radius (internal) - **Ri**
- Angle - **angle**
- Straight part(bottom) - **Sb**
- Straight part(top) - **St**



- **Rectangular bending with two different angles.**

On this element we can change these parameters:

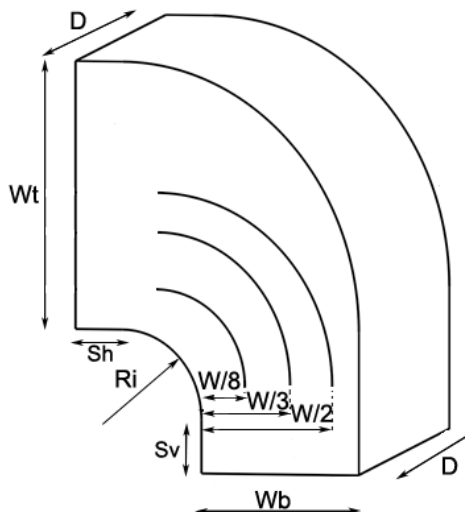
- Width (top) – **a**
- Depth – **b**
- Width (bottom) – **c**
- Radius (internal) – **Ri**
- Radius (external) – **Re**
- Angle (top) – **angle2**
- Angle (bottom) – **angle1**
- Straight part (horizontal) – **Sh**
- Straight part (vertical) – **Sv**



- **Rectangular bending sections with splitters.**

On this bending we can change these parameters:

- Width top – **Wt**
- Width bottom – **Wb**
- Depth – **D**
- Radius (internal) – **Ri**
- Distance – **W/8**
- Distance – **W/3**
- Distance – **W/2**

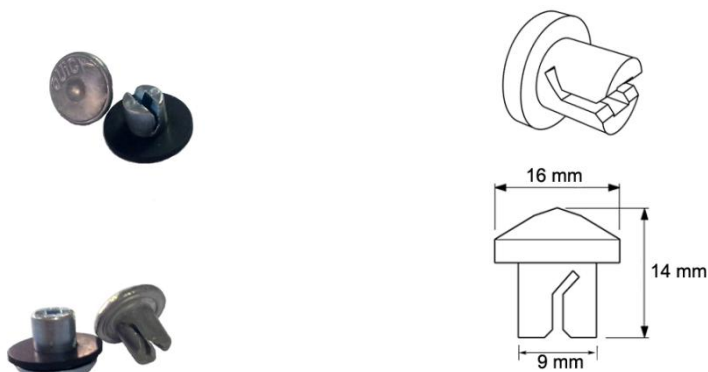


The rectangular bending sections with splitters are produced according the next regulative:

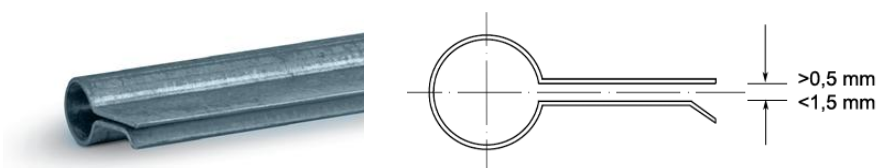
Width -W (mm)	No. of Splitters	Splitter placing (mm)		
400 to 800	1	W/3	/	/
801 to 1600	2	W/4	W/2	/
1601 to 2000	3	W/8	W/3	W/2

The system used for installing the splitters is composed of guiding clips that hold the splitter and special conical ending. Those are shown together with their use.

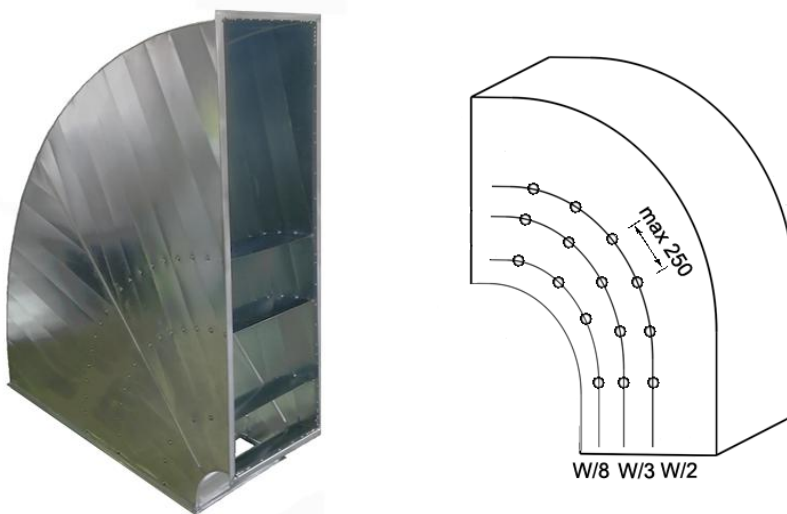
Guiding clips



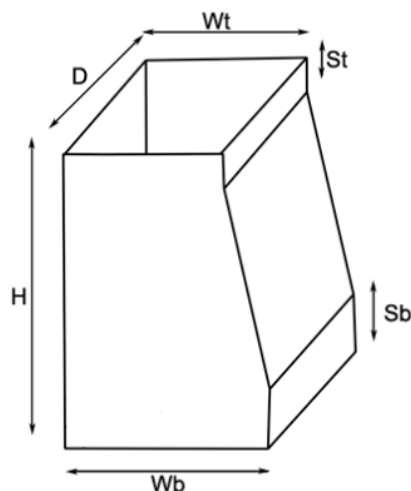
Conical ending



Installing splitters



One side rectangular reducer



Description

The one side rectangular reduction sections – reducers, are one of the basic parts used for HVAC ventilations. On this type of a reducer the adjustable parameters are shown and explained bellow.

Normal dimensions - rectangular reduction sections – reducers

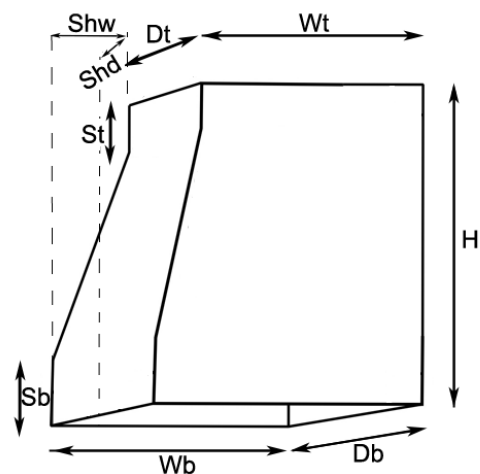
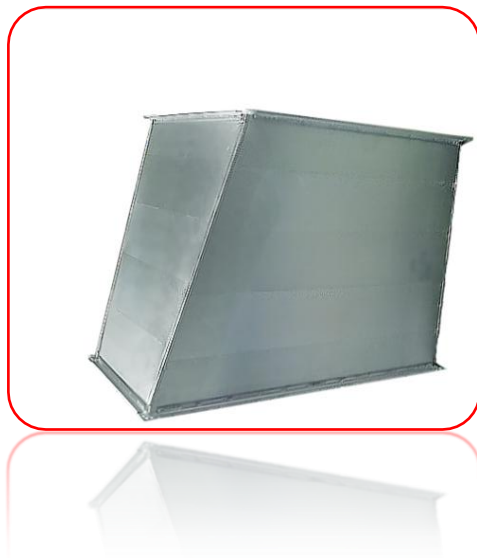
The dimensions here vary according the parameters shown on the photo. Normal dimensions are considered the most used dimensions. That does not exclude parts from manufacturing which dimensions are not mentioned as normal. The normal dimensions are:

- Dimensions **D>150mm**.
- Straight parts **St** (straight part top) and **Sb** (straight part bottom) = **30 mm**
- Any Height **H>150**
- Any Width-top **Wt>150mm**.
- Any Width-bottom **Wb>150mm**.

Endings

On the ends of the One side rectangular reducer we install mounting **frames (flanges) and corners** - **20mm, 30mm and 40mm** in dependence of the dimensions **Wt, Wb** and **D**.

Both sides rectangular reducer



Description

Both side rectangular reduction sections – reducers, can be designed in variable situations. They are flexible and can be designed to accomplish the customer's demands. The adjustable parameters of the both side reducer sections are shown and explained below.

Normal dimensions – both sides rectangular reduction sections – reducers

Normal dimensions are considered the most used dimensions. That does not exclude parts from manufacturing which dimensions are not mentioned as normal. The normal dimensions are:

- **Dt** (depth top) and **Db** (depth bottom) >150mm.
- Straight parts **St** (straight part top) and **Sb** (straight part bottom) = 30 mm
- Any Height **H**>150
- Any Width-top **Wt**>150mm.
- Any Width-bottom **Wb**>150mm.
- Shift width **Shw**
- Shift depth **Shd**

On the ends of the Both side rectangular reduction sections we install mounting **frames (flanges)** and **corners** - 20mm, 30mm and 40mm in dependence of the dimensions **Wt, Wb, Dt** and **Db**.

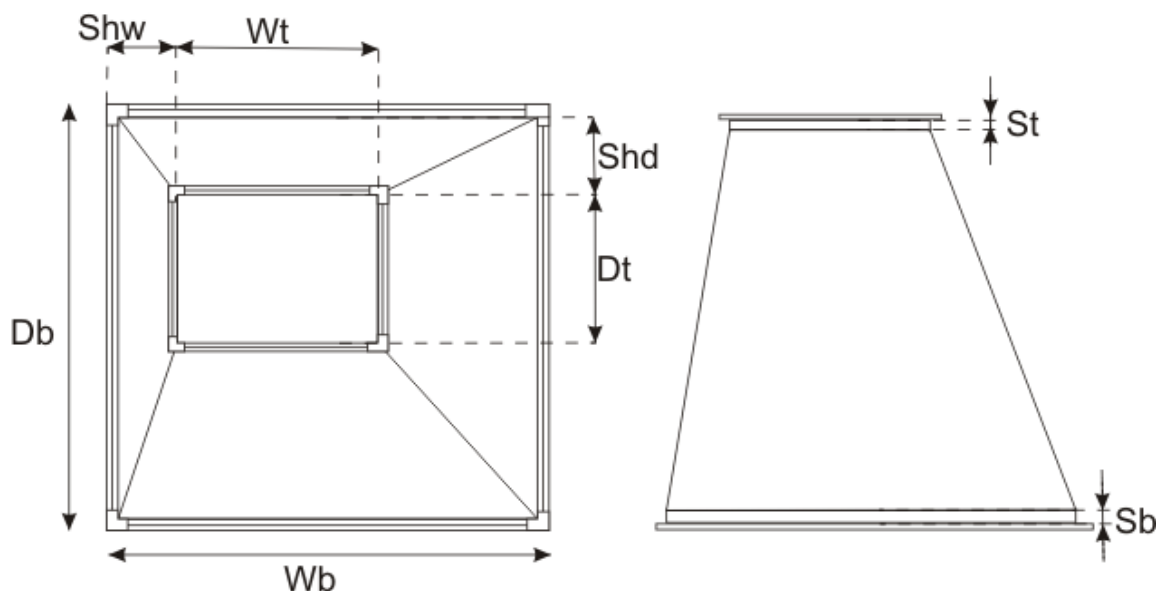
Depending of the adjustable parameters, mostly by changing Shift width - **Shw** and Shift depth – **Shd**, we can separate **two basic types of both side rectangular reduction sections**:

• Eccentric both side rectangular reduction sections.

On this type of reduction section the shifting is done in a way so it is shifted asymmetrical to the center axes.

This type has the following parameters:

- | | |
|--|---|
| - Wb - Width (bottom) | - Wt - Width (top) |
| - Db - Depth (bottom) | - Dt - Depth (top) |
| - Shd - Shift (depth) | - Shw - Shift (width) |
| - Sb (30 mm) - Strait part (bottom) | - St (30 mm) - Strait part (top) |



Endings

On the ends of Eccentric both side rectangular reduction sections we install mounting **frames (flanges)** and **corners** - 20mm, 30mm and 40mm in dependence of the dimensions **Wt, Wb, Dt** and **Db**.

• Concentric both side rectangular reduction sections.

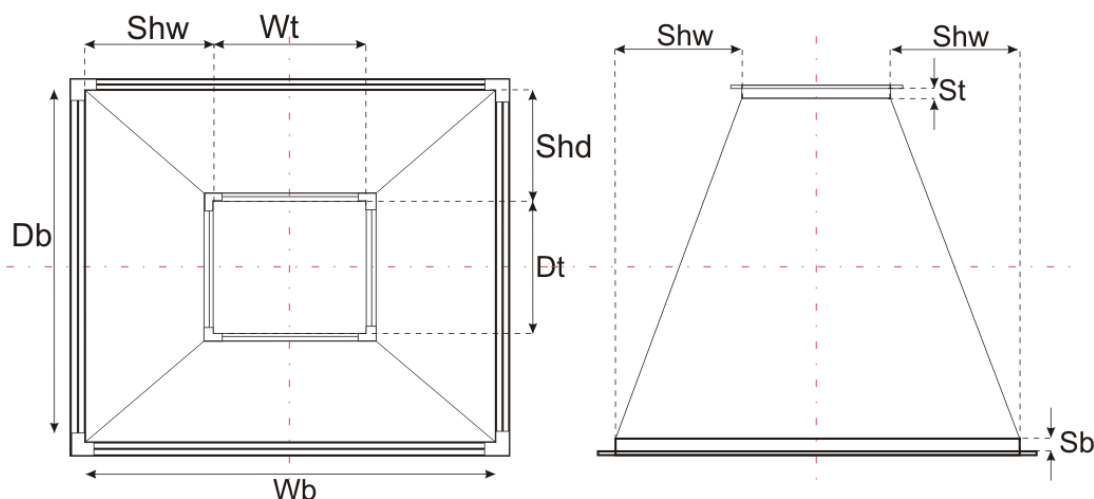
On this type of reduction section the shifting is done in a way so it is shifted symmetrical to the center axes. This type has the following parameters:

- | | |
|--|---|
| - Wb - Width (bottom) | - Wt - Width (top) |
| - Db - Depth (bottom) | - Dt - Depth (top) |
| - Shd - Shift (depth) | - Shw - Shift (width) |
| - Sb (30 mm) - Strait part (bottom) | - St (30 mm) - Strait part (top) |

Recommendations:

$$\text{Shift (depth)} Shd = \frac{[\text{depth(bottom)} Db - \text{depth(top)} Dt]}{2}$$

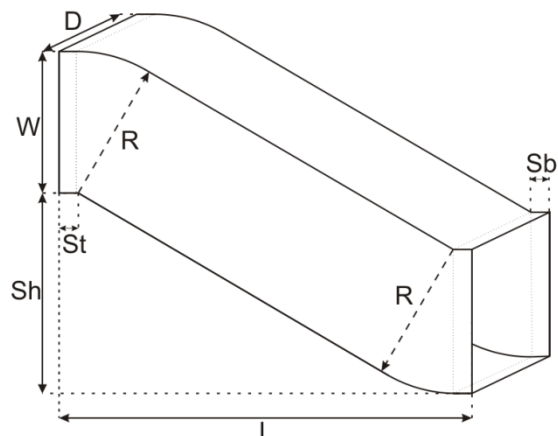
$$\text{Shift (width)} Shw = \frac{[\text{width(bottom)} Wb - \text{width(top)} Wt]}{2}$$



Endings

On the ends of the rectangular reduction sections we install mounting **frames (flanges) and corners** - 20mm, 30mm and 40mm in dependence of the dimensions **Wt, Wb, Dt** and **Db**.

Rectangular shift section – setoff



The rectangular shift section – setoff has the following adjustable parameters:

- **W >150mm** - Width
- **D >150mm** - Depth
- **Sh *** - Shift
- **St (30 mm)** - Strait part (top)
- **Sb (30 mm)** - Strait part (bottom)
- **L *** - Length

Description

The **rectangular shift section - setoff** is one of the standard and often used types rectangular ducting sections. It can help to shift the duct line in any direction.

There are some basic recommendation that should be considered during planning this elements, that are not an obligation:

****Recommendations:***

$$\text{Shift } Sh < \frac{\text{Length } L}{2}$$

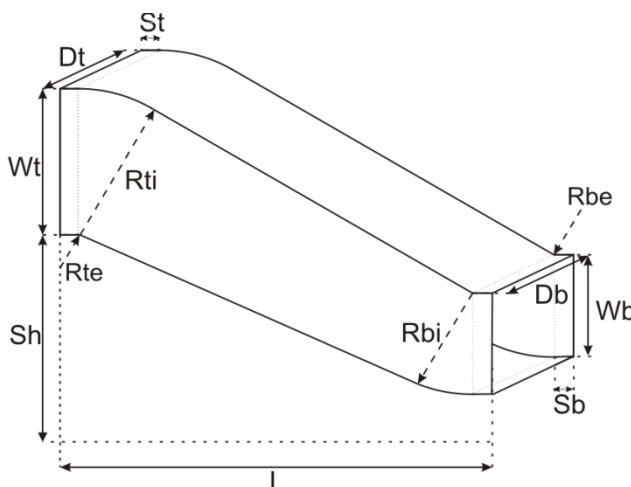
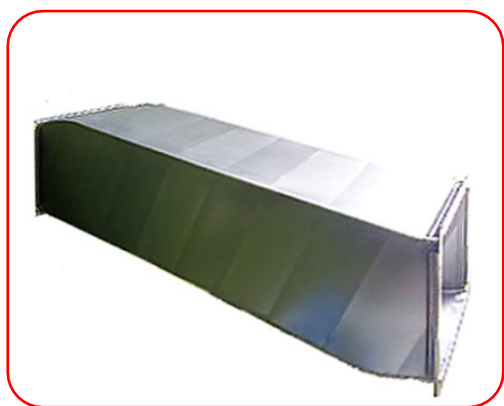
$$\text{Length } L = \frac{3 * W}{2} = 1,5 * W$$

$$\text{Radius } R = \text{Width } W$$

Endings

On the ends of **rectangular shift section - setoff** we install mounting **frames (flanges)** and **corners** - **20mm, 30mm** and **40mm** in dependence of the dimensions **W** and **D**.

Rectangular cross section setoff with variable endings



The rectangular cross section setoff has the following adjustable parameters:

- | | |
|--|---|
| - Wb - Width (bottom) | - Wt - Width (top) |
| - Db - Depth (bottom) | - Dt - Depth (top) |
| - Sb (30 mm) - Strait part (bottom) | - St (30 mm) - Strait part (top) |
| - Rbi - Radius (bottom internal) | - Rti - Radius (top internal) |
| - Rbe - Radius (bottom external) | - Rte - Radius (top external) |
| - Sh* - Shift | - L* - Length |

Description

The **rectangular cross section setoff** is another one of the standard and often used types rectangular ducting sections. It can help to shift the duct line in any direction and change its dimensions.

There are some basic recommendations that should be considered during planning this elements, that are not an obligation:

* Recommendations:

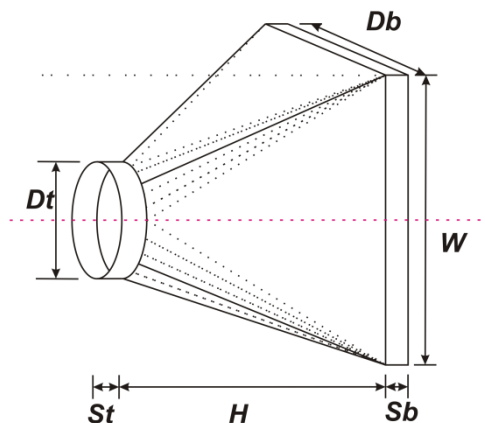
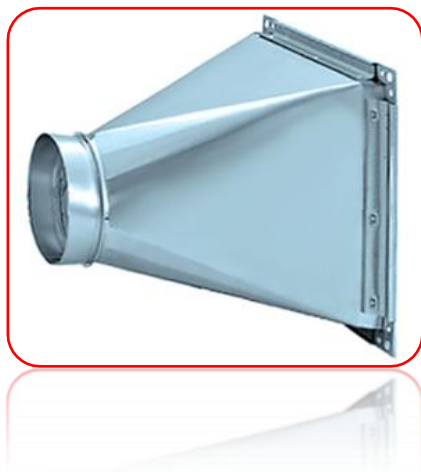
$$\text{Shift } Sh < \frac{\text{Length } L}{2}$$

$$\text{Length } L > \frac{3 * W}{2} = 1,5 * W$$

Endings

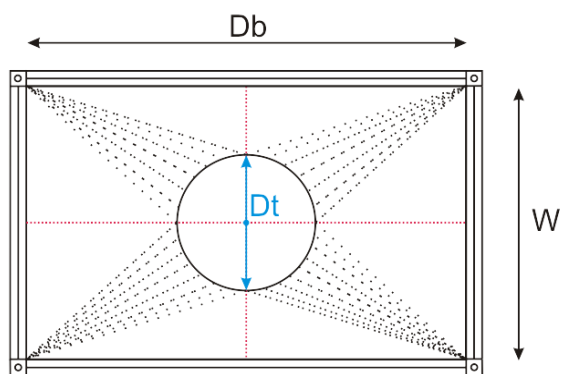
On the ends of **rectangular shift section - setoff** we install mounting **frames (flanges)** and **corners** - 20mm, 30mm and 40mm in dependence of the dimensions **Wb, Wt, Db** and **Dt**.

Concentric rectangular to round reducers



The concentric rectangular to round reducers has the following adjustable parameters:

- **W** - Width
- **D** - Depth
- **Sb** (30 mm) - Strait part (bottom)
- **Sh** – Shift ($Sh_w = 0$, $Sh_b = 0$)
- **Dt** – Diameter (top)
- **St** - (30 mm) - Strait part (top)
- **H** – Length



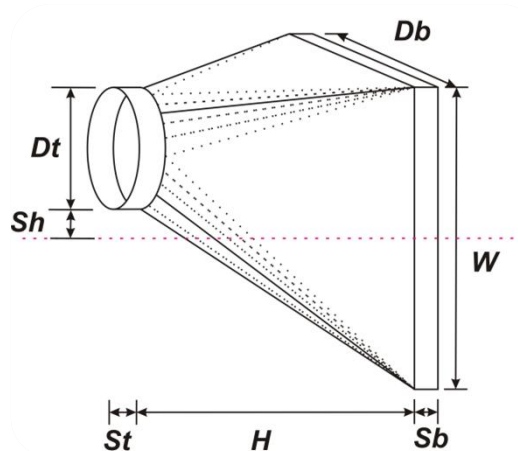
Description

The concentric rectangular to round reducers are used to change from circular to rectangular duct line and as a connection and fitting for various elements.

Endings

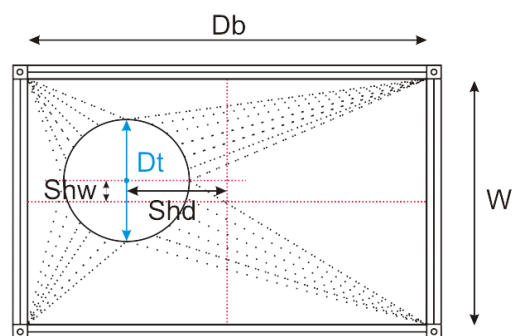
On the one end of concentric rectangular to round reducers we install mounting **frames (flanges)** and **corners** - 20mm, 30mm and 40mm in dependence of the dimensions **W** and **Db**. On the other end there is a coupling for connecting the circular element or circular flange.

Eccentric rectangular to round reducers



The eccentric rectangular to round reducers has the following adjustable parameters:

- **W** - Width
- **Db** - Depth
- **Sb** (30 mm) - Strait part (bottom)
- **Shd** – Shift depth
- **Dt** – Diameter (top)
- **St** - (30 mm) - Strait part (top)
- **H** – Length
- **Shw** – Shift width



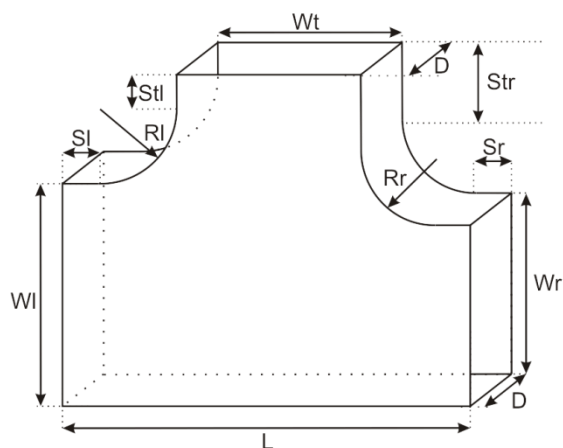
Description

The **eccentric rectangular to round reducers** are used to change from circular to rectangular duct line and as a connection and fitting for various elements.

Endings

On the one end of **eccentric rectangular to round reducers** we install mounting **frames (flanges) and corners - 20mm, 30mm and 40mm** in dependence of the dimensions **W** and **Db**. On the other end there is a coupling for connecting the circular element or circular flange.

3-Way rectangular Tees - “T-piece”



The **3-way rectangular T-section** has the following adjustable parameters:

- **WI** - Width (left)
- **SI** (30 mm) - Strait part (left)
- **RI** - Radius (left)
- **Stl** – Strait part (top left)
- **D** - Depth
- **Wt** – Width (top)
- **Wr** - Width (right)
- **Sr** (30 mm) - Strait part (right)
- **Rr** - Radius (right)
- **Str** – Strait part (top right)
- **L*** – Length

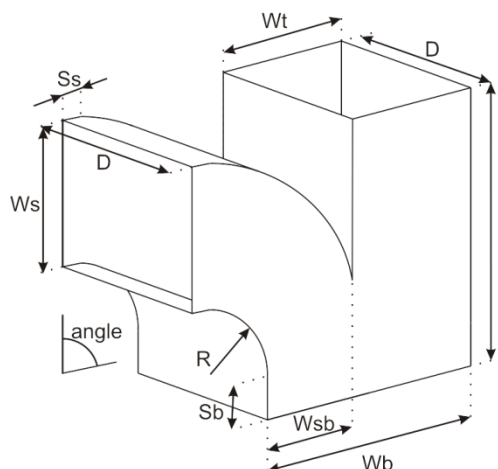
Description

The **3-way rectangular T-section** are used to split one duct line to two duct lines or connect two duct lines into one duct line. With different values of the parameters the T-section has different shapes.

Endings

On the one end of **3-way rectangular T-section** we install mounting **frames (flanges)** and **corners** - 20mm, 30mm and 40mm in dependence of the dimensions **WI,Wr,Wt** and **D**.

3-way rectangular section with a single side part



The **3-way rectangular section with a single side part** has the following adjustable parameters:

- **Wb** - Width (bottom)
- **Sb** (30 mm) - Strait part (bottom)
- **R** - Radius
- **D** - Depth
- **Wt** – Width (top)
- **Ws** - Width (side)
- **Wsb** – Width (side bottom)
- **angle**
- **Ss** – Strait part (side)
- **H** – Height

Description

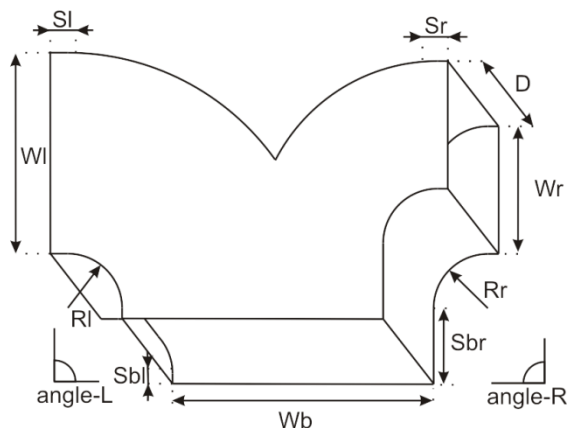
The **3-way rectangular section with a single side part** are used to split one duct line to two duct lines or connect two duct lines into one duct line. With different values of the parameters the 3-way rectangular section has different shapes.

Endings

On the one end of **3-way rectangular T-section** we install mounting **frames (flanges) and corners** - 20mm, 30mm and 40mm in dependence of the dimensions **Wb, Wsb, Ws, Wt** and **D**.

Double rectangular-section with 2 different side parts

Y - section -



The **Double rectangular-section with 2 different side parts - Y - section** has the following adjustable parameters:

- | | |
|---|--|
| - Wb - Width (bottom) | - D - Depth |
| - Sbr (30 mm) - Strait part (bottom right) | - Sbl (30 mm) - Strait part (bottom left) |
| - Rr - Radius (right) | - RI - Radius (left) |
| - Wr - Width (right) | - WI - Width (left) |
| - angle-R - (right) | - angle-L - (left) |
| - Sr - Strait part (right) | - Sl - Strait part (left) |

Description

The **rectangular-section with 2 different side parts - Y - section** are used to split one duct line to two duct lines or connect two duct lines into one duct line. With different values of the parameters the 3-way rectangular section has different shapes.

Endings

On the one end of **3-way rectangular T-section** we install mounting **frames (flanges)** and **corners** - **20mm**, **30mm** and **40mm** in dependence of the dimensions **Wb,Wr,WI** and **D**.

Additions:

The elements and sections explained in the upper chapters are most common used elements. We have a lot of different elements that are not described in this catalogue.

Frames

On the endings on the ducts and on the segments we are installing a mounting frames of different dimensions. We are installing mounting frames 20mm from flange 20mm and 20 mm corners on sections <1000mm. On sections above 1000mm and less then 2000mm we install mounting frames with flange 30mm and corners 30mm. On ducts and sections larger then 2000mm we install 40mm mounting frames with suitable corners 40mm.

Stiffening and strengthening

All the elements produced in our manufacturing facility are adequate stiffened and strengthened to sustain the necessary pressure class demanded by our costumer. We use different type of steel bars and baffles installed into the ducts and sections so their strength is insured. They are carefully and professionally installed into the duct.

Insulation

On the ducts and sections and special elements we also install different types of insulation depending of the use of that ductline, and the needs of our costumer. The insulations can be from various types and dimensions (thickness). Insulation can be different material and combination of material, external or Internal, etc.

Flanges

We also produce flanges from galvanized and stainless steel. We are making them with different dimensions and thickness according our costumer's needs.

Balancing tape

We also install balancing tape on costumer's demand. The balancing tape is installed and mounted on the right element if it is demanded. It is necessary to install a balancing tape if there is a need to stop the spreading of the noise trough the duct line.

Dumper mechanism

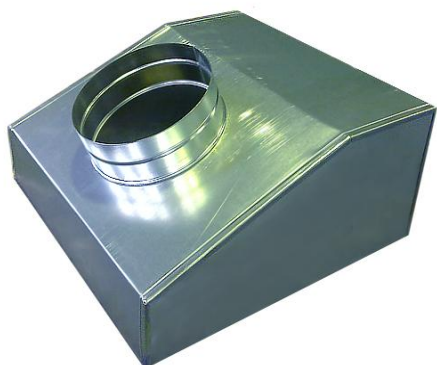
The dumper mechanism is made from galvanized sheet metal. We install the dumper mechanism if it is agreed with the costumer on the right section of the duct line.

This catalogue is only a illustration of our work. We do manufacture more elements on our costumer's demand. We make pieces from scratch and from drawing. We are constantly evolving and improving our production line.

For any element that is not shown in this catalogue or our web site please contact us by mail on info@krater.mk or by phone +389 2 2552 922

Following this additions chapter there are some photos that will show some of our products:

- ***Plenum boxes – various types***



- ***Rectangular to round diffusers***



- ***Round Ducts and T-sections***



- ***Couplings***

