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Ducts



General dimensions and tolerances for circular ducts and form parts in accordance with EN 12237 and EN 1506

DN	Duct	Permissible deviation					
	d (mm)	d ₁ , d ₂ , d ₃ (mm)	overlapping-length l _p (mm)	Seam width f (mm)	Dimensions (mm)		
80	0	-0,7	≥ 25	6	± 10		
100		-1,2					
125	+0,5	-0,7					
140		-1,3					
150	0	-0,7					
160	+0,6	-1,4					
180	0	-0,7			± 15		
200	+0,7	-1,5					
224	0	-0,7					
250	+0,8	-1,6					
280	0	-0,7					
300	+0,9	-1,7					
315	0	-0,7	≥ 50	8	± 20		
355	+1,0	-1,8					
400	0	-0,7					
450	+1,1	-1,8					
500	0	-0,7					
560	+1,2	-1,9				± 25	
600	0	-0,7					
630	+1,5	-2,0					
710	0	-0,7					
800	+1,6	-2,1					
900	0+	-0,7			≥ 100		12
1000	2,0	-2,2					
1120	0	-0,7					
1250	+2,5	-2,2					

Bold: Recommended sizes

Wall thickness and weight tolerances result from the sheet thickness tolerances in accordance with EN 10143.

Outer diameter over the seam is approx $d + \approx 5$ mm.

tolerance: $\pm 0,005 L$.

Material: Sendzimir galvanised steel in accordance with EN 10327.

With a zinc coating for outside use in industrial atmosphere with low pollution and moderate sulphur content and coastal region with low saline content, and also for inner rooms with high humidity such as the food industry.

In order to comply with the leak tightness class the following limits may not be exceeded for the static pressure for circular ducts and form parts without denting: overpressure: 2000 Pa, vacuum 750 Pa.

Optional: Aluminium, stainless steel 1.4301 and 1.4404 on request, and sealed ducts.

Permissible negative pressures for spiral ducts SREN according to DIN EN 12 237

Our sendzimier galvanized SREN pipes meet the pressure requirements for the static pressure limit according to DIN EN 12 237 with -750 Pa / + 2000 Pa.

When the pipes are used in applications outside conventional air conditioning/ventilation systems, the following limits for static vacuum apply to exclude component failure due to deformation for undamaged pipes in lengths up to 3,0 m:

Conversion factors:

100 Pa \approx 10 kp/m² \approx 1 mbar

The above values were measured on production-technically flawless spiral ducts.

Even the smallest dents caused by transport or assembly can influence this value and lead to component failure. The pipe bends in and collapses.

This can happen abruptly.

Overpressure is relatively uncritical for round components and systems and less important for stability. At very high pressures, before plastic deformation, there will be a noise development due to the leakage of air past the seal. In addition, unsecured connections can move apart or open folds.

Alternatively, spiral ducts with sealed seam to increase diffusion tightness can be made of aluminium, stainless steel 1.4301 and stainless steel 1.4571.

Permissible negative pressures (Pa)		
DN = Ød (mm)	Stiffening beads	
	without	with
80	-39.800	
100	-21.200	
125	-16.600	
160	-11.200	
200	-7.300	
250		-5.000
315		-4.400
400		-3.900
500		-3.000
630		-3.000
800		-2.200
1000		-1.000
1250		-800

Note:

During commissioning and during operation, for example, a pressure surge may occur due to the closing of a fire damper, a control error or the like. Pressure shocks can overlap and thus be significantly above the nominal pressure of the fan.

Please note that such impulses may lead to the destruction of components or the installation.

SREN

Duct to EN 1506 and EN 12237,

Material: Steel, galvanised,

Ød 80 to 1250 mm

SREND

Duct with sealed seam, diffusion sealed, Ød 80 to 1250 mm.

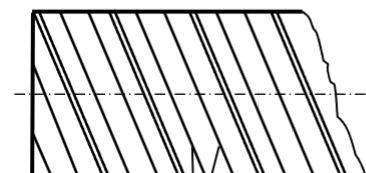
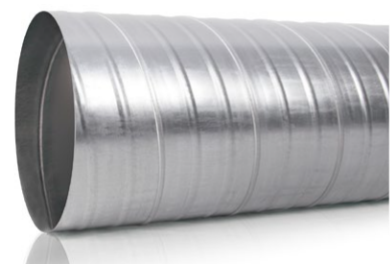
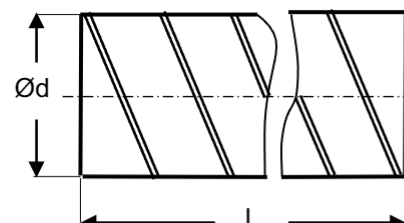
A silicone-free, grease and oil resistant nitrile rubber gasket is integrated in the seam.

Standard length L : 2000 mm and 3000 mm Tightness class D

Ducts above DN 250 have double stiffening ribs for mechanical stability and transport.

Outer diameter across the seam approx. $d + \square 8$ mm.

Length tolerance: $\pm 0.005 L$.



Ød DN	Cross section (m ²)	Weight (kg/m)
80	0,005	0,90
100	0,008	1,30
125	0,012	1,60
140	0,015	1,90
150	0,018	2,10
160	0,020	2,20
180	0,025	2,50
200	0,031	2,80
224	0,039	3,10
250	0,049	3,50
280	0,062	3,90
300	0,071	4,10
315	0,078	5,30
355	0,099	6,00
400	0,126	6,80
450	0,159	7,60
500	0,196	8,40
560	0,246	9,50
600	0,283	10,10
630	0,312	14,20
710	0,396	16,00
800	0,503	18,00
900	0,636	20,30
1000	0,785	28,10
1120	0,985	31,50
1250	1,227	35,20



Description

The duct type SR to $\varnothing d$ 900 mm also fulfills the requirements of EN 12237.

Standard length L : 3000 mm

SR:

Duct to EN 1506 and EN 24145 ,

Material: Steel galvanised

$\varnothing d$ 80 to 1250 mm.

SRD:

Duct with sealed seam, diffusion sealed

Material: Steel galvanised

$\varnothing d$ 80 to 1250 mm

A silicone-free, grease and oil resistant nitrile rubber Inside color coding "yellow"

SR2A:

Duct to EN 1506 and EN 24145,

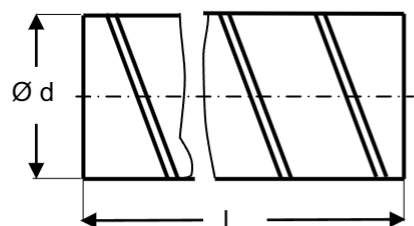
Material: Stainless steel 1.4301 $\varnothing d$ 80 to 710 mm.

SR4A:

Duct to EN 1506 and EN 24145,

Material: Stainless steel 1.4404 $\varnothing d$ 80 to 710 mm,

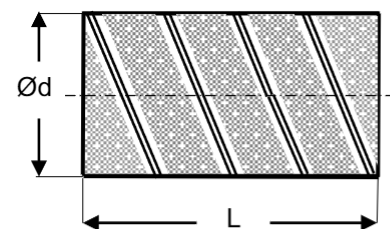
Inside color coding "blue".



$\varnothing d$ DN	Cross section (m ²)	Weight (kg/m)
80	0.005	1.1
100	0.008	1.7
125	0.012	2.1
140	0.015	2.4
150	0.018	2.5
160	0.020	2.7
180	0.025	3.1
200	0.031	3.4
224	0.039	3.8
250	0.049	4.2
280	0.062	4.7
300	0.071	6.8
315	0.078	7.1
355	0.099	8.0
400	0.126	9.0
450	0.159	10.1
500	0.196	11.3
560	0.246	12.6
600	0.283	13.5
630	0.312	17.7
710	0.396	20.0
800	0.503	22.5
900	0.636	25.3
1000	0.785	34.4
1120	0.985	38.6
1250	1.227	43.0

SRP:

Duct to EN 1506 and EN 12237,
 Material: Steel, galvanised, perforated.
 Perforation DN 5 mm, Center distance 7 mm, displaced
 Free cross section approx. 34 %, perforation $\zeta = 11.6$ uniform
 radial flow at $\Delta P_{st} \geq 80$ Pa
 corresponds to ≥ 24 m/s at an air density of $\rho 1.2$ kg/m³
 $\varnothing d$ 80 bis 500 mm
 Standard length L : 3000 mm
 Outer diameter over the seam approx. $d + \sim 8$ mm.
 Length tolerance: ± 0.005 L.



$\varnothing d$ DN	free cross section per m (m ²)	Weight (kg/m)
80	0.085	0.8
100	0.107	1.0
125	0.134	1.2
140	0.150	1.3
150	0.160	1.4
160	0.171	1.5
180	0.192	1.7
200	0.214	1.9
224	0.239	2.1
250	0.267	2.3
280	0.299	2.6
300	0.320	2.8
315	0.336	4.1
355	0.379	4.6
400	0.427	5.2
450	0.481	5.8
500	0.534	6.4

Description

Duct to DIN EN 1506,
 Material: 1.0226, sendzimir-galvanised steel,
 DX51D+Z275, St02Z, to DIN EN 10327, S
 zinc coating i.a.w. ISO 12944-2, C3. Ø d 80 to 630 mm

GRG:

L = 500: Ød 80 - 630 mm, seam -welded,
 L = 1000: Ød 80 - 630 mm, seam -welded,
 L = 1500: Ød 125 - 150 mm, seam-welded with standing seam,
 L = 2000: Ød 125 - 150 mm, seam-welded with standing seam,
 L = 2000: Ød 450 - 630 mm, seam-welded with standing seam,
 Effective length per standing seam shortened by 15 mm

GRF:

L = 1500: Ød 160 - 630 mm, seamed
 L = 2000: Ød 160 - 450 mm, seamed

GRFD:

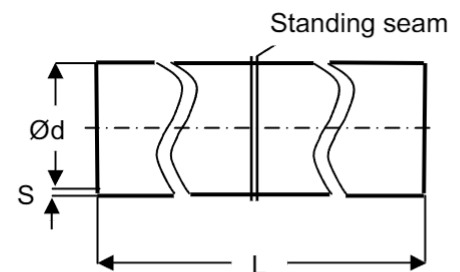
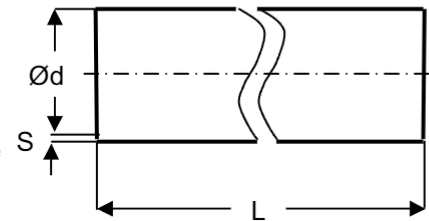
Duct with longitudinal seam and acrylic seal, for use in food processing companies.
 L = 1500: Ød 160 - 630 mm, seamed,
 L = 2000: Ød 160 - 450 mm, seamed.

GRG2A :

Material: Stainless steel V2A 1.4301,
 L = 1000: Ød 80 - 300 mm, seam welded.

GRF2A:

Material: Stainless steel V2A 1.4301,
 L = 1250: Ød 315 - 630 mm, longitudinal seam.



Ød	Sheet thickness s	Cross section	Permissible vacuum	Permissible pressure	Weight
DN	(mm)	(m ²)	(Pa)	(Pa)	(kg/m)
80	0,5	0,005	-2500	6300	1,0
100	0,5	0,008			1,2
125	0,5	0,012			1,5
140	0,5	0,015			1,7
150	0,5	0,018			1,9
160	0,5	0,020			2,0
180	0,5	0,025			2,2
200	0,5	0,031			2,5
224	0,5	0,039			2,8
250	0,5	0,049			3,1
280	0,6	0,062	-500	2500	4,2
300	0,6	0,071			4,5
315	0,6	0,078			4,7
355	0,6	0,099			5,3
400	0,6	0,126			5,9
450	0,7	0,159	-100	2500	7,8
500	0,7	0,196			8,7
560	0,7	0,246			9,7
600	0,9	0,283	-100	2500	13,4
630	0,9	0,312			14,1