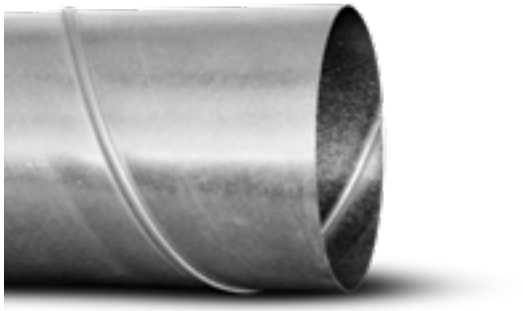
Spiral ventilation ducts
SPR



Description

Round spiral ducts are available in diameters from 80 mm to 1600 mm. The ducts are available as made of 0.4 mm to 1.2 mm thick metal sheet; the ducts in diameters of DN 160 mm or greater are also available with corrugation for improved stiffness and vacuum strength. The corrugations are available as a standard feature for diameters of DN 250 mm to DN 1600 mm. All spiral ducts made from galvanized steel sheet, stainless steel sheet or aluminium sheet meet requirements of air tightness class D according to EN 12237.

Available materials — Product code example

SPR-C-...	- galvanized steel sheet
SPR-Z-...	- Z275 galvanized steel sheet
SPR-K-…	- 1.4301/304 stainless steel sheet
SPR-K-…-...-316L	- 1.4404/316L stainless steel sheet, molybdenum-enriched
SPR-A-….	- AW-1050A H24 aluminium sheet
SPR-CU-….	- M1E z4 copper sheet
SPR-ZM-…	- ZM310 coating (only up to a diameter of Ød1 = 500mm)

The products are sold in units of measurement (pieces).
Standard lengths of spiral-wound pipes:
- for diameters Ø 80–560 mm – standard length 3.0 m,
- for diameters Ø 600 mm and above – standard length 2.7 m.

Product code example:

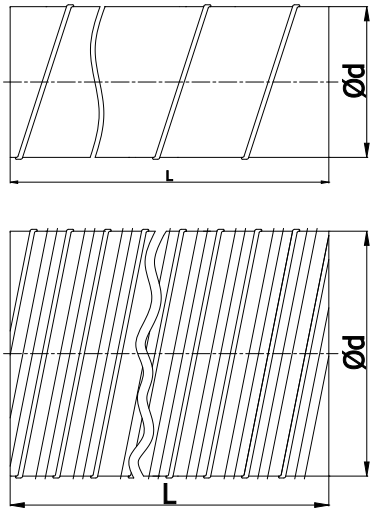
Product code: **SPR-C - aaa - bbb - ccc**

type
Ød$_1$
thickness
length

Product certified by TÜV Rheinland

Dimensions

corrugated



$Ød_{nom}$ (mm)	πd (m)	$\frac{\pi d^2}{4}$ (m^2)
80	0.251	0.005
100	0.314	0.008
125	0.393	0.012
140	0.440	0.015
150	0.471	0.018
160	0.502	0.020
180	0.565	0.025
200	0.628	0.031
224	0.703	0.039
250	0.785	0.049
280	0.879	0.062
300	0.942	0.071
315	0.989	0.078
355	1.115	0.099
400	1.256	0.126
450	1.413	0.159
500	1.570	0.196
560	1.758	0.246
600	1.884	0.283
630	1.978	0.312
710	2.229	0.396
800	2.512	0.503
900	2.826	0.636
1000	3.140	0.785
1120	3.517	0.985
1250	3.925	1.227
1400	4.396	1.539
1600	5.024	2.010

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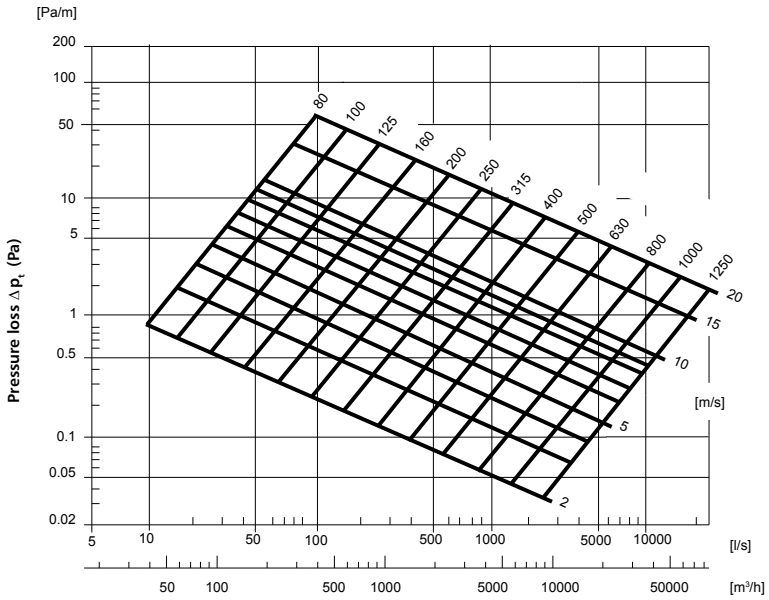
Technical specifications



Vacuum

Ventilation systems operated at high vacuum are exposed to a high risk of ductwork deformation which usually begins at the structurally weakest parts of the ductwork, e.g. at the points of dents incurred during transport, handling or installation. Therefore it is of critical importance to properly choose the design and size of ducts according to the pre-defined operating vacuum. The following table shows the maximum operating vacuum (Pa) levels for specific types of ducts.

Maximum vacuum resistance of SPR ducts made of galvanized sheet metal or corrosion-resistant sheet metal.

L [m]	*Ød [mm]*	*t=0.4 [mm]*	*t=0.5 [mm]*	*t=0.6 [mm]*	*t=0.7 [mm]*	*t=0.9 [mm]*	*t=1.25 [mm]*
6	80	-	-	-	-	-	-
	100	-	-	-	-	-	-
	125	-	-	-	-	-	-
	150	-	23000	-	-	-	-
	160		18500	22000	-	-	-
	200		10500	15000	-	-	-
	250		5000	8800	-	-	-
	300		4500	4600	-	-	-
	315	2700	3500	3900	23000	-	-
	355		3200	3700	18000	-	-
	400		1900	2800	14500	-	-
	450		1700	2300	9500	23000	-
	500		1500	1900	7000	15000	-
	560		1100	1600	5900	12000	-
	600		900	1500	4600	10200	-
	630			1400	3900	8500	-
3	710			3200	5800	9100	22500
	800			2500	4500	6700	14800
	900				3100	5200	10900
	1000					4200	8400
	1120					3500	6700
	1250					2800	4900
	1500						3800

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