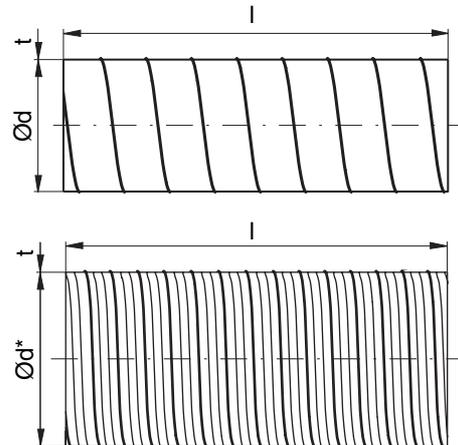


# Circular duct

SR



## Dimensions



## Description

When ducts are embedded in concrete they are exposed to very high forces. How high depends on the hydrostatical pressure, how the concrete is filled up and if or how the concrete is vibrated. The hydrostatic pressure in turn depends on the velocity of the rising of the concrete, temperature, consistency and density.

It is for the constructor to determine what actual pressure the ducts are exposed to and prescribe ducts with adequate strength.

In doubtful cases - contact Lindab.

When moulding with low viscosity, very runny, concrete and where you want to ensure that no liquid enters the duct system, higher demands are placed on ducts, products and installation of these. We then recommend our liquid-tight system with seam-sealed ducts, internally lacquered details and taping of joints with self-vulcanising tape.

In the case of vertical runs through the floor, it is important to seal around the duct so that liquid does not run down the outside of the duct and also to ensure that liquid does not stand around the duct for a long time, which significantly increases the risk of corrosion.

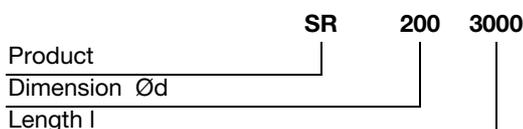
Before the ducts are placed in the formwork they should be inspected for dents or other defects.

For information about tightness and material - see our brochure "General information and theory"

Ød std nom	O $\pi d$ m	A $\pi d^2/4$ m <sup>2</sup>	t std [mm]	l std [mm]	ml std kg/m
63	0,198	0,003	0,45	3000	0,85
<b>63</b>	<b>0,198</b>	<b>0,003</b>	<b>0,5</b>	<b>3000</b>	<b>0,89</b>
80	0,251	0,005	0,45	3000	0,91
80	0,251	0,005	0,5	3000	1,01
<b>100</b>	<b>0,314</b>	<b>0,008</b>	<b>0,45</b>	<b>3000</b>	<b>1,14</b>
100	0,314	0,008	0,5	3000	1,27
<b>125</b>	<b>0,393</b>	<b>0,012</b>	<b>0,45</b>	<b>3000</b>	<b>1,41</b>
125	0,393	0,012	0,5	3000	1,57
125	0,393	0,012	0,6	3000	2,05
125	0,393	0,012	0,8	3000	2,74
<b>160</b>	<b>0,503</b>	<b>0,020</b>	<b>0,5</b>	<b>3000</b>	<b>2,02</b>
160	0,503	0,020	0,6	3000	2,42
160	0,503	0,020	0,8	3000	3,22
<b>200</b>	<b>0,628</b>	<b>0,031</b>	<b>0,5</b>	<b>3000</b>	<b>2,56</b>
200	0,628	0,031	0,6	3000	2,63
200	0,628	0,031	0,9	3000	3,98
<b>250 *</b>	<b>0,785</b>	<b>0,049</b>	<b>0,5</b>	<b>3000</b>	<b>3,18</b>
<b>315 *</b>	<b>0,990</b>	<b>0,078</b>	<b>0,55</b>	<b>3000</b>	<b>4,41</b>
<b>400 *</b>	<b>1,257</b>	<b>0,126</b>	<b>0,55</b>	<b>3000</b>	<b>6,01</b>
<b>500 *</b>	<b>1,571</b>	<b>0,196</b>	<b>0,7</b>	<b>3000</b>	<b>9,54</b>
<b>630 *</b>	<b>1,979</b>	<b>0,312</b>	<b>0,7</b>	<b>3000</b>	<b>12,0</b>
<b>800 *</b>	<b>2,513</b>	<b>0,503</b>	<b>0,8</b>	<b>3000</b>	<b>17,4</b>
<b>1000 *</b>	<b>3,142</b>	<b>0,785</b>	<b>0,9</b>	<b>3000</b>	<b>24,1</b>
<b>1250 *</b>	<b>3,927</b>	<b>1,227</b>	<b>0,9</b>	<b>3000</b>	<b>30,2</b>
<b>1600 *</b>	<b>5,027</b>	<b>2,011</b>	<b>1,25</b>	<b>2400</b>	<b>54,8</b>

\* With outturned stiffening corrugation  
 Bold face denotes standard dimensions.

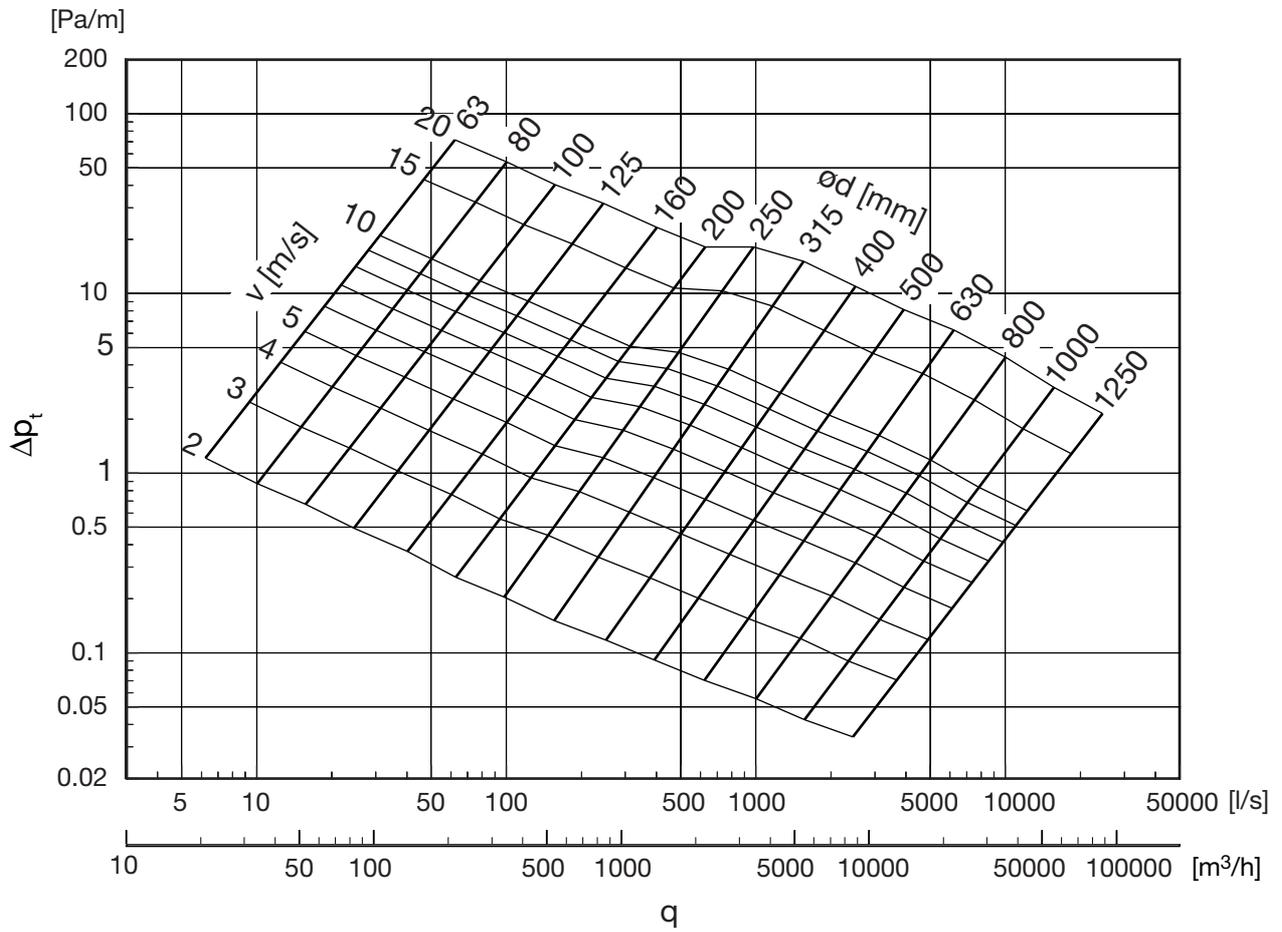
## Ordering example



# Circular duct

SR

## Technical data



# Circular duct

SR

## Technical data

### Special versions

We can supply ducts with the following special designs:

- In intermediate dimensions, see general information
- Extra tight, with nitrile rubber seal in the fold
- In other sheet metal thicknesses

### Extra tight, with fold seal

When extremely good sealing is required in the spiral fold, the ducts can also be supplied with a special rubber seal in the fold.

This seal is very effective at stopping leakage of vegetable oils and greases, and most petroleum products including white spirit.

### Other sheet metal thicknesses

If extra stability is needed in ducts, because of high negative pressure etc., they can be supplied with thicker sheet metal than standard. Remember that the thickness increase always reduces the inner diameter. Fittings for such special ducts must be specified separately and sometimes have to be made specially.

### Reinforcement corrugations

Ducts of Ø250 mm and above are normally given stiffening corrugations to increase radial stiffness.

## Strength

### Positive pressure

In case of high positive pressure, the seal moulding lips will first start to whistle. At considerably higher pressure, the joints between the ducts will be forced apart. If you manage to fix the connections very well, the ducts will burst at their seams at even higher pressure. The high pressures needed for this to happen are not relevant to ventilation installations.

### Negative pressure

In installations with large amounts of negative pressure, there is a risk that the duct work system will collapse. This risk increases as dimensions grow larger.

This phenomenon is called buckling and occurs suddenly at the weakest point in the system. Buckling moves along the duct, which can become completely compressed. The weakest point is often a "transportation dent" on the duct. Therefore, only use undamaged ducts in systems that are used near critical pressure!

In order to increase the strength of the ducts you can, for example, increase the thickness of the sheet metal. Other remedies can be applied if the stability is not sufficient. For larger dimensions with greater demands on strength one should also consider the strength of the fittings.

Other methods than increasing the thickness of sheet steel are suitable for reinforcing the fittings.

Lindab has the experience and knowledge regarding this and will gladly assist you with solutions for special cases. We can, as special orders, supply duct systems up to and including dim 1250 that can withstand a minimum negative pressure of 5000 Pa.

The bar chart shows the maximum negative pressure that our undamaged standard ducts can withstand without collapsing.

### Sealing

The ability of the seal moulding to seal is different from these pressures, and is noted in our catalogue Air Duct Systems.

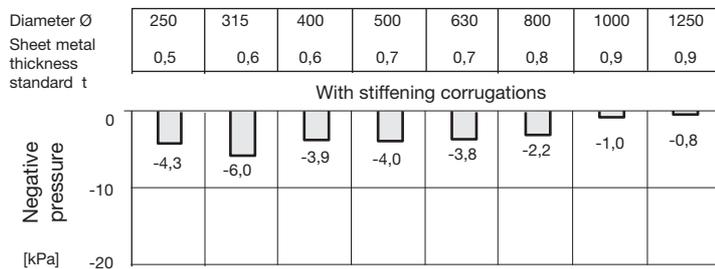
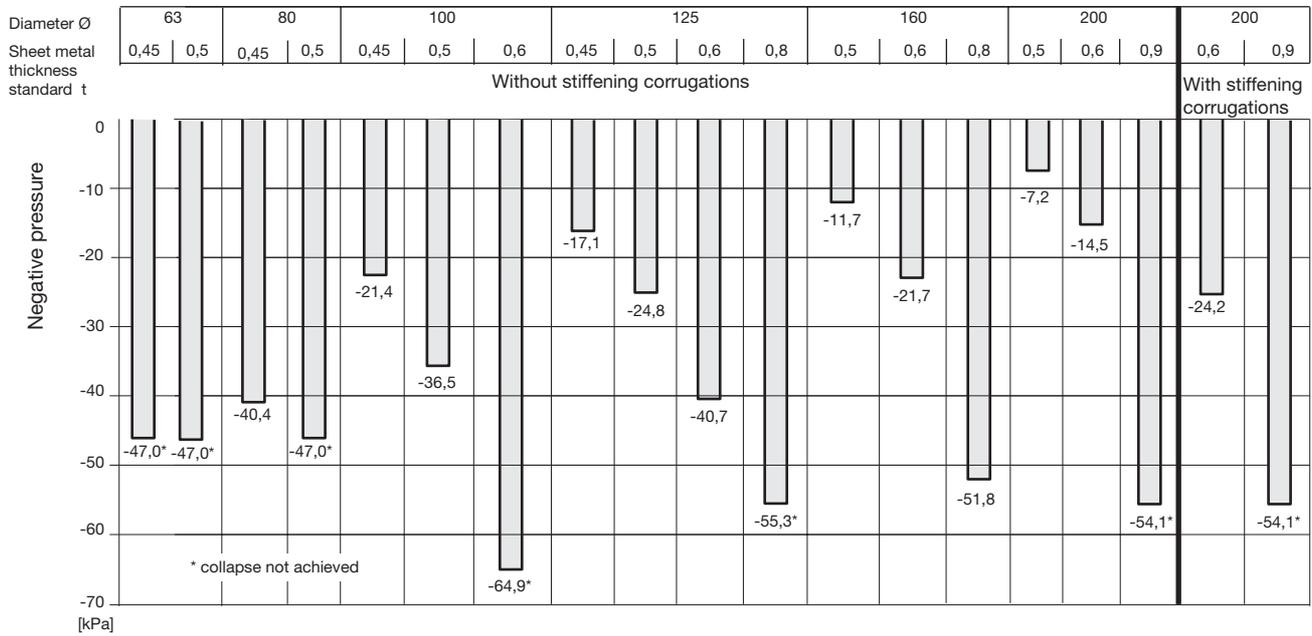


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## Collapsing pressure for duct SR

Extra bold style = standard sheet metal thickness.



The strength values are measured under laboratory conditions. The values are recalculated for the minimum permitted sheet metal thickness within the tolerances and with double safety factors.