

### The NIROFLEX family

NIROFLEX is a single-walled corrugated piping system made of stainless steel.

The key constructional element of these pipes manufactured at our works in long lengths is the helically corrugated pipe.

The basic advantage of BRUGG's spirally corrugated pipe technology is the optimized geometry of the corrugated pipes for minimal flow resistance, the good flushability and the efficient heat transfer characteristics, combined with great flexibility and high lateral rigidity.

### Applications

For the transport above and below ground of fluids and gases, as a heat-exchanger piping system, as an ancillary hot water heating system, as an inner liner, as emptying pipe, protective pipe .....

### Construction

From the basic stainless steel pipe to the corrosion-protective sheathing via the heat-insulated corrugated pipe through to the corrugated pipe with integrated leak monitoring: the application decides the construction.

### System advantages

- fast and efficient laying
- no welding, no fittings needed
- high flexibility, self-compensating
- unique hydrodynamic characteristics through the spiral corrugation
- small bending radii

Expansion take-up is guaranteed by the corrugated pipe geometry. This makes NIROFLEX easy and fast to lay even when the routing is difficult, thus cutting the costs.

Trench work is minimized when the pipes are laid underground, the pipe can be pulled in in one piece. With surface-laid pipes, the optimum route can be chosen by using the correct mounting systems and taking advantage of the low bending radii.



### The pipes

NIROFLEX with a corrugated inner pipe made of stainless steel and with excellent corrosion resistance.

Standard materials: 1.4404 or 1.4571 and 1.4301 according to worksheets

Nominal bores: DN 15 to DN 150

Pressure stages: PN 6 - PN 25

### Connecting technology

Optimized connections and fittings enable the pipes to be coupled to all standard connections. There are several variants of the connection technology (welded, non-welded graphite packing technology and flared-type connections).

Non-welded connection technology enables time-savings on installation work in areas where explosions are a danger.

**Type:**

**NIROFLEX corrugated pipe (uncoated core pipe)**

Among other uses as an above-ground product transport system, as a heat-exchanging pipe inside vessels, as piping in the production of regenerative energies (bio-gas, solar energy), as an ancillary hot-water heating system.

**CNW**



**NIROFLEX corrugated piping with a corrosion-proof external polyethylene sheathing**

Among other uses, as a product transport system for the most diverse media up to PN 16 above and below ground.

**CNT**



**NIROFLEX with extra strengthening and a corrosion-proof external polyethylene sheathing**

Among other uses, as a product transport system for the most diverse media up to PN 25 above and below ground.

**LPG**



**NIROFLEX corrugated pipe with heat insulation**

The pipe is insulated against heat loss by an outstandingly efficient, flexible, CFC-free hard polyurethane (polyisocyanurate) foam

**CFL**



**NIROFLEX corrugated pipe with external polyethylene jacket**

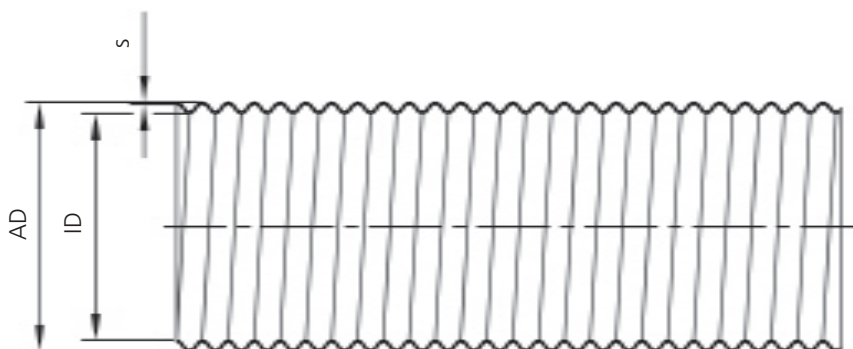
The annular gap between the inner pipe and the external PE casing pipe can be used to contain spillages or for a leak detection system.

**SEC**



### Type: CNW

Construction: Helically corrugated stainless steel pipe  
 Standard materials: 1.4404 or alternatively 1.4571 and 1.4301 see tables (other materials on request)  
 Nominal bores: DN 15 - DN 150  
 Pressure stages: PN 6 - PN 10



**Standard:** 1.4404 or alternatively 1.4571

Type	Nom. bores	Dimensions			Preferred bending radius m*	Min. bending radius m*	Weight kg/m	Volume l/m dm <sup>3</sup> /m
		ID mm	AD mm	s mm				
CNW 16/20	DN 15	16.0	20.0	0.2	0.4	0.18	0.24	0.20
CNW 22/25	DN 20	22.0	25.5	0.3	0.4	0.2	0.30	0.37
CNW 30/34	DN 25	30.0	34.0	0.3	0.4	0.2	0.40	0.80
CNW 39/44	DN 32	38.9	43.8	0.4	0.5	0.25	0.63	1.30
CNW 48/55	DN 40	48.5	54.5	0.5	0.6	0.3	1.00	2.00
CNW 60/66	DN 50	60.0	66.0	0.5	0.8	0.4	1.24	3.00
CNW 83/94	—	83.0	94.1	0.8	1.4	0.7	2.90	6.00
CNW 98/109	DN 80	98.0	109.2	0.8	1.6	0.8	3.50	8.40
CNW 127/143	DN 100	127.0	142.9	0.9	1.8	0.9	4.75	14.30

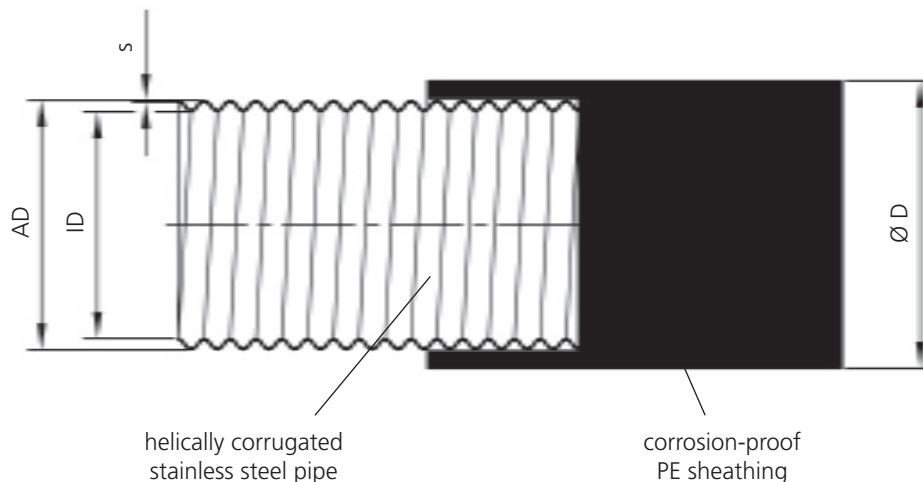
**On request:** material 1.4301

Type	Nom. bores	Dimensions			Preferred bending radius m*	Min. bending radius m*	Weight kg/m	Volume l/m dm <sup>3</sup> /m
		ID mm	AD mm	s mm				
CNW 75/86	DN 65	75.8	85.6	0.6	1.2	0.60	1.90	5.1
CNW 98/109	DN 80	98.0	109.2	0.8	1.6	0.80	3.50	8.4
CNW 127/143	DN 100	127.0	142.9	0.9	1.8	0.90	4.75	14.3
CNW 147/163	DN 125	147.0	162.7	1.0	2.2	1.10	6.00	17.3
CNW 200/220	DN 150	197.5	218.0	1.2	2.7	1.35	9.50	23.2

\* Only use a bending template or bending machine to bend the pipe.

### Type: CNT

Construction: Helically corrugated stainless steel pipe with a corrosion-proof external PE-LD sheathing  
 Standard materials: 1.4404 or alternatively 1.4571 and 1.4301 see tables (other materials on request)  
 Nominal bores: DN 20 - DN 150  
 Pressure stages: PN 6 - PN 16



#### Standard: 1.4404 or alternatively 1.4571

Type	Nom. bores	Dimensions				Preferred bending radius m*	Min. bending radius m*	Weight kg/m	Volume l/m dm <sup>3</sup> /m
		ID mm	AD mm	s mm	Ø D mm				
CNT 22/31	DN 20	22.0	25.5	0.3	29.5	0.4	0.2	0.44	0.37
CNT 30/38	DN 25	30.0	34.0	0.3	38.0	0.4	0.2	0.56	0.80
CNT 39/49	DN 32	38.9	43.8	0.4	48.0	0.5	0.25	0.90	1.30
CNT 48/60	DN 40	48.5	54.5	0.5	59.3	0.6	0.3	1.37	2.00
CNT 60/71	DN 50	60.0	66.0	0.5	71.2	0.8	0.4	1.75	3.00
CNT 83/105	—	83.0	94.1	0.8	101.9	1.4	0.7	3.80	6.00
CNT 98/120	DN 80	98.0	109.2	0.8	117.0	1.6	0.8	4.50	8.40
CNT 127/152	DN 100	127.0	142.9	0.9	152.0	1.8	0.9	6.60	14.30

#### On request: material 1.4301

Type	Nom. bores	Dimensions				Preferred bending radius m*	Min. bending radius m*	Weight kg/m	Volume l/m dm <sup>3</sup> /m
		ID mm	AD mm	s mm	Ø D mm				
CNT 75/92	DN 65	75.8	85.6	0.6	92.4	1.2	0.6	2.35	5.10
CNT 98/120	DN 80	98.0	109.2	0.8	117.0	1.6	0.8	4.50	8.40
CNT 127/152	DN 100	127.0	142.9	0.9	152.0	1.8	0.9	6.60	14.30
CNT 147/172	DN 125	147.0	162.7	1.0	173.0	2.2	1.1	8.30	17.30
CNT 200/230	DN 150	197.5	218.0	1.2	228.0	2.7	1.35	12.70	23.20

\* Only use a bending template or bending machine to bend the pipe.