

## Flexalen® 600 Cooling

Pre-insulated piping system by Thermaflex®

Extremely flexible and easy to install pre-insulated pipe system for district cooling

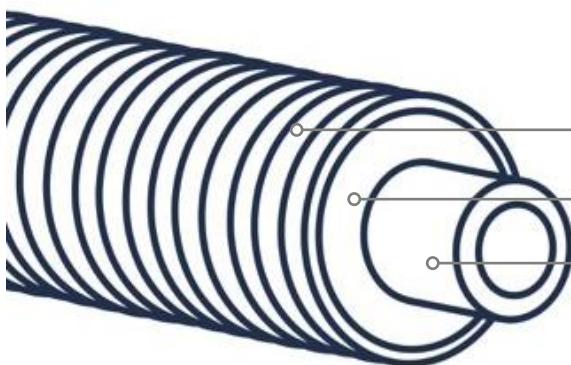


### Benefits

- Fast and easy installation; minimum amount of fittings needed
- Safest choice with homogeneous welding and 20°C/16bar pressure rating
- Large network capacity with full compatibility with Flexalen® PU with service pipes up to OD315mm
- The only Cradle to Cradle™ certified pre-insulated pipe system in the world
- Thermaflex service: Support with integrated network design, calculation tools, training and on-site

### Applications

- District cooling networks
- Chilled water networks for hotels and resorts
- Process water distribution for industrial, agricultural and food processes
- Campus cooling for hospitals, schools and business parks



#### Design

##### Corrugated PE Casing pipe

Flexibility and mechanical protection

##### Polyolefin foam

Closed-cell, CFC-free

##### Polybutene service pipe, PB-H

With EVOH layer





## Technical Properties

Flexalen® 600 is a pre-insulated flexible plastic pipe system produced conform the European standard EN15632-1,3 (DOC), QB08 certified (CSTB) and KIWA system certified as well as third-party controlled according BRL KOMO 5609-2 and BRL-K17401.

PB-H service pipe (EN-ISO 15876)	
Service temperature range	-10°C to +95°C
Max. operating pressure	16bar*(20°C) (see p3)
SDR-class	SDR11

Thermal Insulation
Polyolefin foam
Closed-cell structure, CFC-free
Water vapor diffusion $\mu \geq 3,500$

## Flexalen® 600 Heat loss/gain

	Heat loss/gain q [W/m] at 6°C medium temp.				
	Soil temperature T [°C]				
	10°C	15°C	20°C	25°C	30°C
25 / 90	-0,71	-1,60	-2,48	-3,37	-4,25
32 / 90	-0,87	-1,96	-3,04	-4,13	-5,22
40 / 90	-1,09	-2,45	-3,82	-5,18	-6,54
40 / 125	-0,85	1,91	-2,97	-4,03	-5,09
50 / 125	-1,04	-2,35	-3,66	-4,96	-6,27
50 / 160	-0,88	-1,97	-3,07	-4,17	-5,26
63 / 125	-1,37	-3,09	-4,81	-6,53	-8,25
63 / 160	-1,07	-2,40	-3,74	-5,08	-6,41
75 / 160	-1,28	-2,88	-4,48	-6,08	-7,69
90 / 160	-1,61	-3,63	-5,65	-7,66	-9,68
110 / 200	-1,71	-3,84	-5,97	-8,10	-10,23
125 / 200	-2,06	-4,64	-7,22	-9,80	-12,38

	Heat loss/gain q [W/m] at 12°C medium temp.				
	Soil temperature T [°C]				
	10°C	15°C	20°C	25°C	30°C
25 / 90	0,35	-0,53	-1,42	-2,31	-3,19
32 / 90	0,43	-0,65	-1,74	-2,83	-3,91
40 / 90	0,55	-0,82	-2,18	-3,54	-4,91
40 / 125	0,42	-0,64	-1,70	-2,75	-3,81
50 / 125	0,52	-0,78	-2,09	-3,39	-4,70
50 / 160	0,44	-0,66	-1,75	-2,85	-3,95
63 / 125	0,69	-1,03	-2,75	-4,47	-6,18
63 / 160	0,53	-0,80	-2,14	-3,47	-4,81
75 / 160	0,64	-0,96	-2,56	-4,16	-5,76
90 / 160	0,81	-1,21	-3,23	-5,24	-7,26
110 / 200	0,85	-1,28	-3,41	-5,54	-7,68
125 / 200	1,03	-1,55	-4,13	-6,71	-9,28

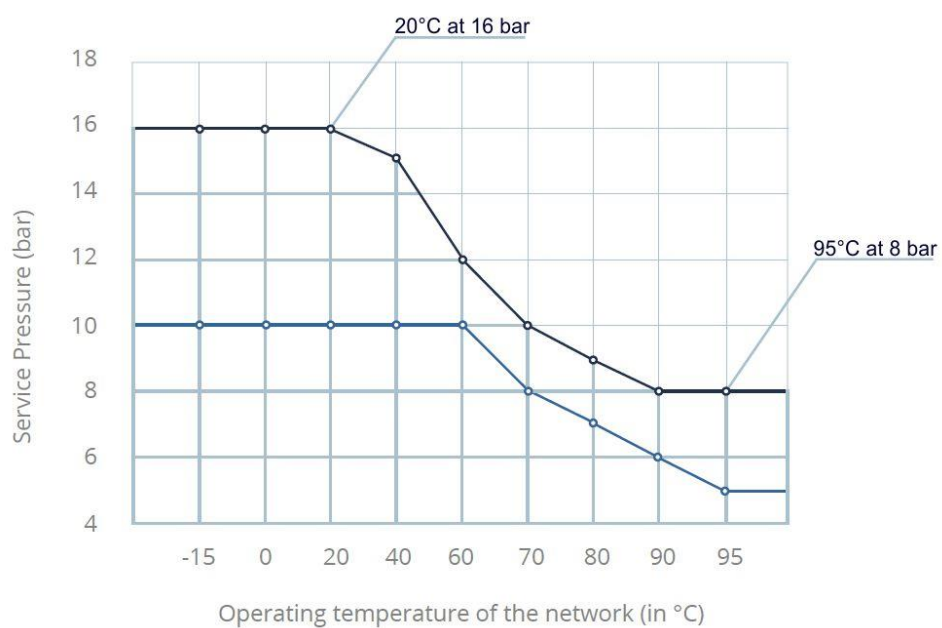
### Calculation parameter

$\lambda_{\text{soil}}$ :	1.00 W/m·K
R soil surface to ambient air:	0.0685 m <sup>2</sup> ·K/W
T <sub>soil</sub> :	10.0 °C
Soil covering:	0.8 m

The heat loss characteristics are in accordance with the European standard for flexible heating pipes systems EN15632.



# Flexalen® 600 Pressure rating

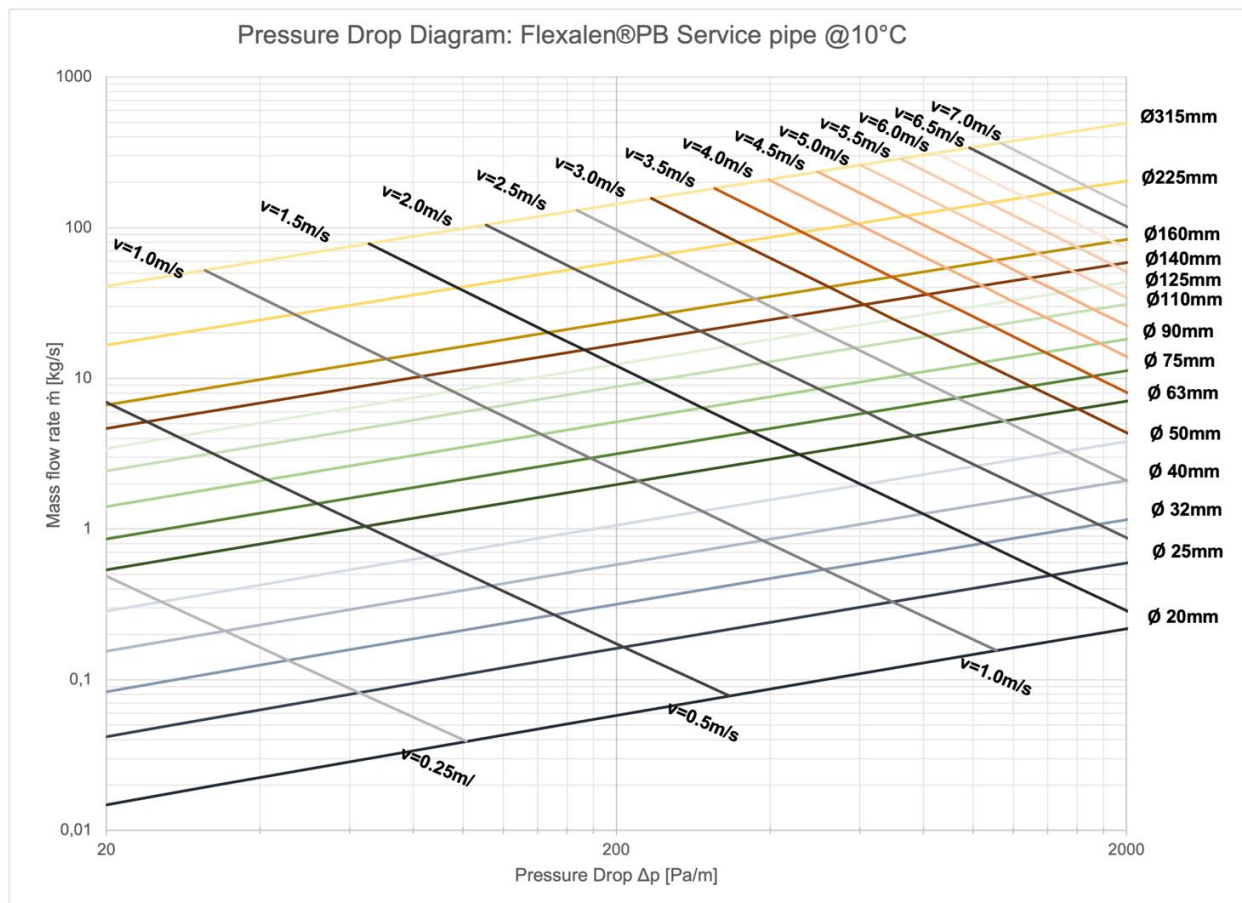


- Up to OD110 20°C/16 bar 95°C/8 bar
- ≥ OD125 20°C/10 bar 95°C/5 bar



# Flexalen® 600 Pressure drop PB

Determine the pressure drop using Flexalen PB pipe systems at a temperature of 10°C for District cooling systems. For support on a complete district heating network design please contact your Thermaflex partner!





# Flexalen® 600 Availability

Single line						
Product code	Dimension [mm]	Service pipe OD x s [mm]	Casing pipe OD [mm]	Weight [kg/m]	Min. bending radius [m]	Max. length [m]
1010-090025-001	25 / 90	25 x 2.3	90	0.75	0.40	500
1010-090032-001	32 / 90	32 x 3.0	90	0.86	0.40	500
1010-090040-001	40 / 90	40 x 3.7	90	1.00	0.50	500
1010-125040-001	40 / 125	40 x 3.7	125	1.98	0.50	300
1010-125050-001	50 / 125	50 x 4.6	125	2.08	0.70	300
1010-160050-001	50 / 160	50 x 4.6	160	2.40	0.70	150
1010-125063-001	63 / 125	63 x 5.8	125	2.43	0.80	300
1011-125063-015	63 / 125 SL <sup>2</sup>	63 x 5.8	125	2.43	0.80	6
1010-160063-001	63 / 160	63 x 5.8	160	2.75	0.80	150
1010-160075-001	75 / 160	75 x 6.8	160	3.03	0.80	150
1011-160075-015	75 / 160 SL <sup>2</sup>	75 x 6.8	160	3.03	0.80	6
1010-160090-001	90 / 160	90 x 8.2	160	3.64	1.00	150
1011-160090-015	90 / 160 SL <sup>2</sup>	90 x 8.2	160	3.64	1.00	6
1000-200110-001	110 / 200	110 x 10.0 <sup>1</sup>	200	5.40	1.25	100
1001-200110-015	110 / 200 SL <sup>2</sup>	110 x 10.0 <sup>1</sup>	200	5.40	1.25	6
1000-200125-001	125 / 200 <sup>3</sup>	125 x 11.4 <sup>1</sup>	200	6.38	1.50	80
1001-200125-015	125 / 200 SL <sup>2,3</sup>	125 x 11.4 <sup>1</sup>	200	6.38	1.50	6

Higher insulation range with increased insulation thickness and improved energy efficiency

<sup>1</sup> Without EVOH layer

<sup>2</sup> Semi-flexible pipe system, straight lengths (available in 6m sticks)

<sup>3</sup> Maximum temperature / pressure rating 20°C / 16 bar

- All types of homogenous plastic welded Prefabrications
- Prefabricated house connections
- Full range of weldable PB fittings
- Compression fitting system
- Full range of accessories and tools

