

Flexalen® PU SL Cooling

Pre-insulated piping system by Thermaflex®

High performance, semi-flexible pre-insulated plastic system for cooling applications

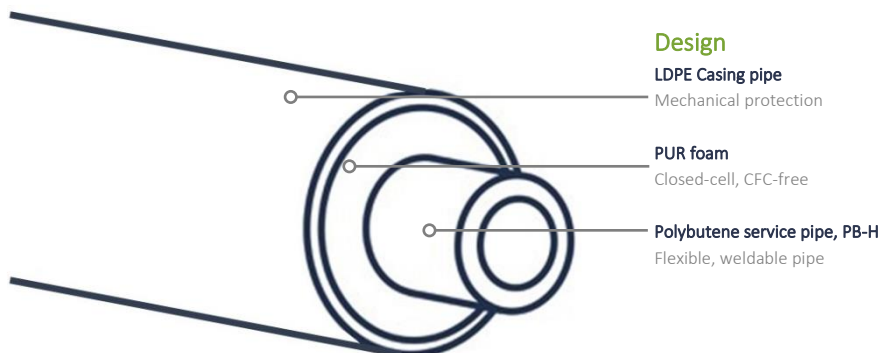


Benefits

- Large network capacity with service pipes up to OD315mm
- Full compatibility with Flexalen® 600: combine high capacity mainlines with the most flexible individual connection lines
- Safest choice with homogeneous welding and high-pressure rating 20°C/10bar, for increased reliability
- Thermaflex service: Support with integrated network design, calculation tools, training and on-site support

Application

- 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





Technical Properties

Flexalen® PU is a pre-insulated plastic pipe system consisting of fully flexible and semi-flexible pipes (SL). The flexible pre-insulated pipe system is produced conform to the European standard EN15632-1, 2 (DOC), QB08 certified (CSTB) and KIWA system certified as well as third-party controlled according BRL KOMO 5609-2. The PB service pipes are conform to EN-ISO 15876. The PUR foam and LDPE casing pipe of the semi-flexible pre-insulated pipes (SL) fulfil the functional requirements according EN253.

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

Thermal Insulation
Cyclopentane-based PUR foam
Closed-cell structure, CFC-free
Thermal Conductivity $\lambda \leq 0.029$ W/m-K @ 50°C (λ_{DECC})

Flexalen® PU SL 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
	63 / 140 SL	0,82	1,85	2,88	3,91
75 / 160 SL	0,86	1,94	3,02	4,10	5,18
90 / 180 SL	0,93	2,10	3,27	4,43	5,60
110 / 200 SL	1,07	2,40	3,73	5,06	6,39
125 / 200 SL	1,31	2,95	4,58	6,22	7,86
140 / 225 SL	1,30	2,93	4,56	6,19	7,82
160 / 250 SL	1,37	3,09	4,81	6,53	8,25
225 / 315 SL	1,75	3,93	6,12	8,30	10,48
315 / 450 SL	1,69	3,80	5,91	8,02	10,13

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
	63 / 140 SL	-0,41	0,62	1,65	2,68
75 / 160 SL	-0,43	0,65	1,73	2,80	3,88
90 / 180 SL	-0,47	0,70	1,87	3,03	4,20
110 / 200 SL	-0,53	0,80	2,13	3,46	4,79
125 / 200 SL	-0,65	0,98	2,62	4,26	5,89
140 / 225 SL	-0,65	0,98	2,61	4,23	5,86
160 / 250 SL	-0,69	1,03	2,75	4,47	6,19
225 / 315 SL	-0,87	1,31	3,49	5,68	7,86
315 / 450 SL	-0,84	1,27	3,38	5,49	7,60

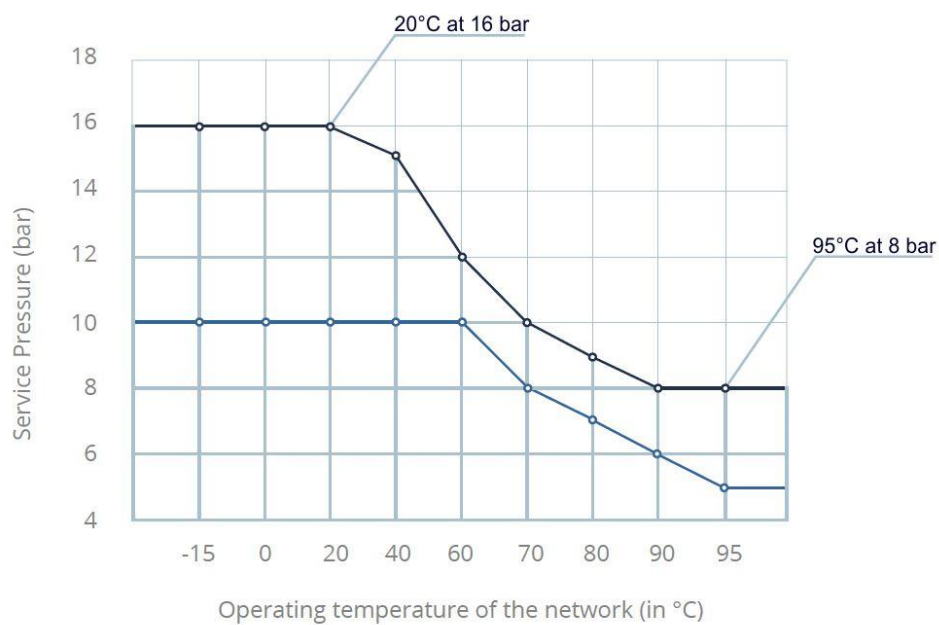
Calculation parameter

λ_{soil} :	1.00 W/m-K
R soil surface to ambient air:	0.0685 m ² -K/W
T _{soil} :	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® PU Pressure rating

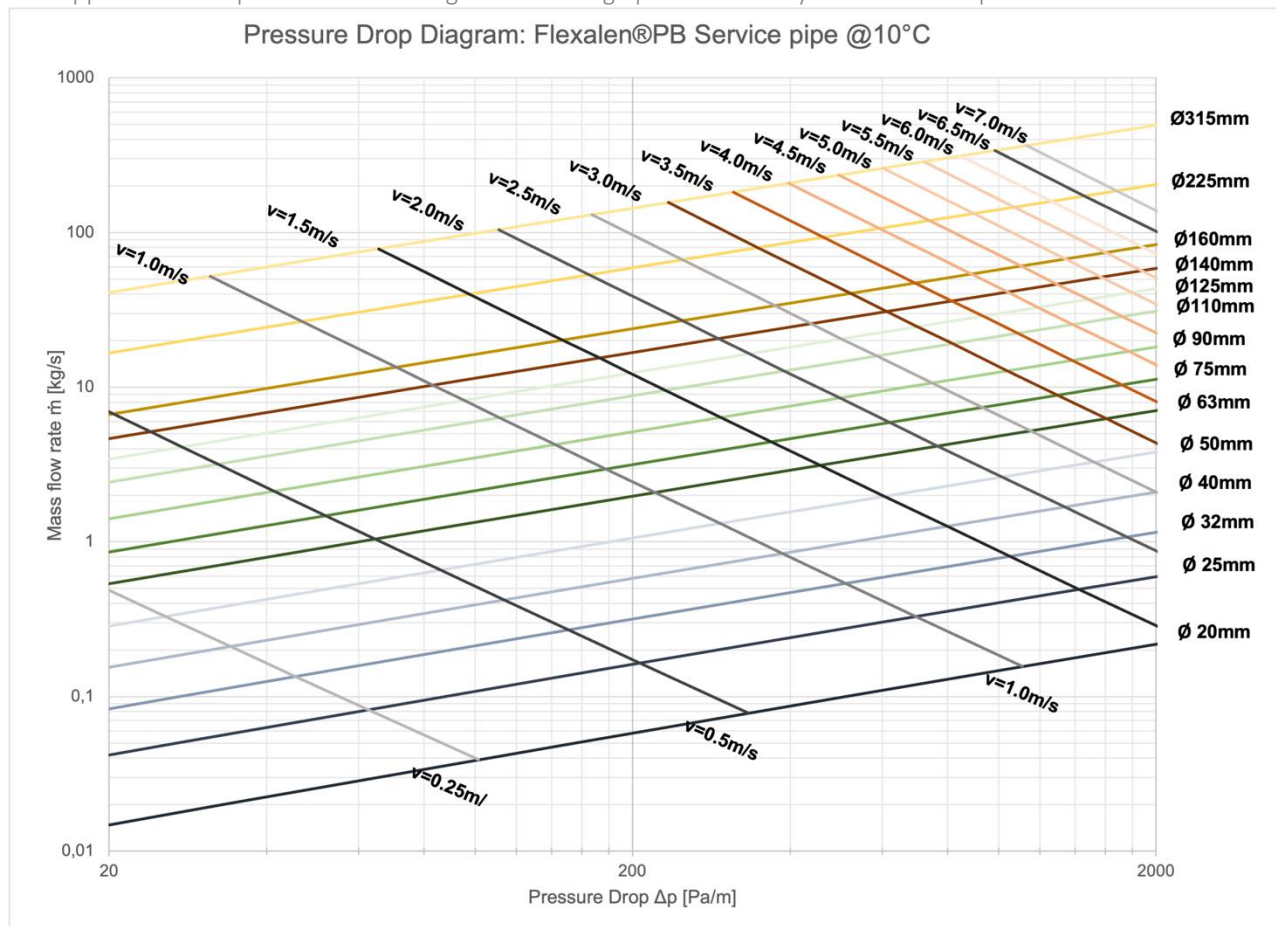


- Up to OD110 20°C/16 bar 95°C/8 bar
- ≥ OD125 20°C/10 bar 95°C/5 bar



Flexalen® PU Pressure drop PB

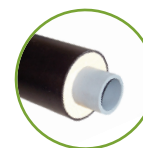
Determine the pressure drop using Flexalen PB pipe systems at a temperature of 10°C for District cooling systems.
For support on a complete district heating network design please contact your Thermaflex partner!





Flexalen® PU SL Availability

- Single lines in sticks, Flexalen PU SL OD40-315 mm with smooth casing pipe
- Double lines in sticks and smaller sizes are available on request.
- Prefabricated sticks with build-in branches.



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]
1921-140063-030	63 / 140 SL ¹	63 x 5.8	140	3.00	12.00	11.8
1921-160075-030	75 / 160 SL ¹	75 x 6.8	160	3.85	12.00	11.8
1921-180090-030	90 / 180 SL ¹	90 x 8.2	180	4.90	16.00	11.8
1920-200110-030	110 / 200 SL	110 x 10.0	200	6.30	16.00	11.8
1920-200125-030	125 / 200 SL	125 x 11.4	200	7.40	16.00	11.8
1920-225140-030	140 / 225 SL	140 x 12.7	225	9.00	18.00	11.8
1920-250160-030	160 / 250 SL	160 x 14.6	250	11.70	20.00	11.8
1920-315225-010	225 / 315 SL	225 x 20.5	315	22.00	26.00	5.8
1920-315225-030	225 / 315 SL	225 x 20.5	315	22.00	26.00	11.8
1920-450315-005	315 / 450 SL	315 x 28.6	450	36.00	-	3.0
1920-450315-010	315 / 450 SL	315 x 28.6	450	36.00	-	6.0

¹ on request

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

