

# Flexalen® 600 Heating

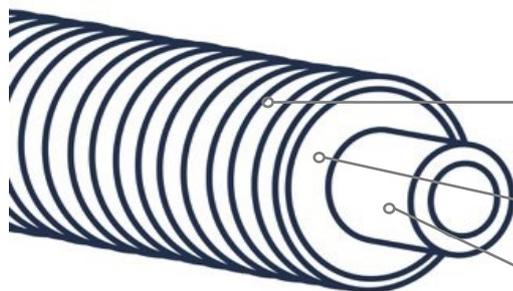
Pre-insulated piping system by Thermaflex®

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



## Benefits

- Fast and easy installation
- Safest choice with homogeneous welding and high-pressure rating 95°C/8bar
- 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



### Design

#### Corrugated PE Casing pipe

Flexibility and mechanical protection

#### Polyolefin foam

Closed-cell, CFC-free

#### Polybutene service pipe, PB-H

With and without EVOH layer

### Applications

- Local / District heating and cooling networks
- Biogas / Biomass / Waste heat recovery
- Geothermal distribution lines
- Island networks
- A to B Connections

## 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 to BRL KOMO 5609-2 and BRL-K17401.

### PB-H service pipe (EN-ISO 15876)

Max. service temperature	95°C
Max. operating pressure	8bar*(95°C)

\*depending on the diameter

### Thermal Insulation

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



### Disclaimer

All recommendations and information provided on this data sheet are based on our knowledge and experience. Product specifications are intended as guidelines. Since conditions of service are beyond our control, users must satisfy themselves that products are suitable for the intended use. No guarantee or warranty is given or implied or that any use of the products will not infringe rights belonging to other parties. We reserve the right to change product design and properties without notification.



## Flexalen® 600 Energy losses

Energy loss q [W/m] for one Single line										
Flexalen® 600 Single line	U value W/m.K	Operating temperature T of the flow or return line [°C]								
		20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C	
25 / 90	0.148	1.48	2.96	4.44	5.92	7.40	8.88	10.36	11.84	
32 / 90	0.182	1.82	3.64	5.46	7.28	9.10	10.92	12.74	14.56	
40 / 90	0.230	2.30	4.60	6.90	9.20	11.50	13.80	16.10	18.40	
40 / 125	0.178	1.78	3.56	5.34	7.12	8.90	10.68	12.46	14.24	
50 / 125	0.219	2.19	4.38	6.57	8.76	10.95	13.14	15.33	17.52	
50 / 160	0.182	1.82	3.64	5.46	7.28	9.10	10.92	12.74	14.56	
63 / 125	0.290	2.90	5.80	8.70	11.60	14.50	17.40	20.30	23.20	
63 / 160	0.222	2.22	4.44	6.66	8.88	11.10	13.32	15.54	17.76	
75 / 160	0.265	2.65	5.30	7.95	10.60	13.25	15.90	18.55	21.20	
90 / 160	0.336	3.36	6.72	10.08	13.44	16.80	20.16	23.52	26.88	
110 / 200	0.354	3.54	7.08	10.62	14.16	17.70	21.24	24.78	28.32	
125 / 200	0.430	4.30	8.60	12.90	17.20	21.50	25.80	30.10	34.40	

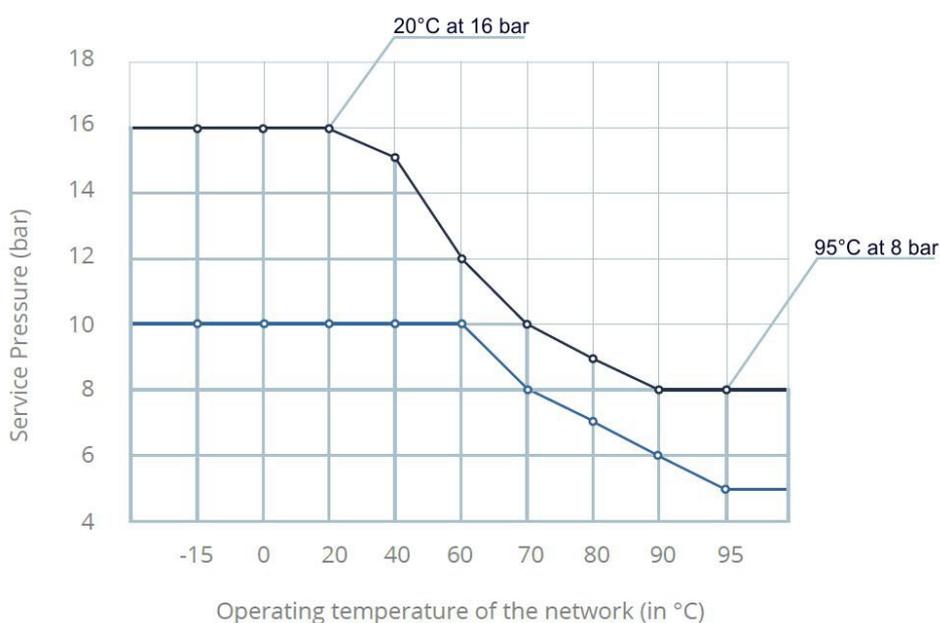
Energy loss q [W/m] for one Double line							
Flexalen® 600 Double line	U value W/m.K	Average operating temperature T of the flow and return line [°C]					
		30°C	40°C	50°C	60°C	70°C	80°C
25 + 25 / 125	0.221	4.42	6.63	8.84	11.05	13.26	15.47
32 + 32 / 125	0.283	5.66	8.49	11.32	14.15	16.98	19.81
32 + 32 / 160	0.208	4.16	6.24	8.32	10.40	12.48	14.56
40 + 40 / 160	0.255	5.10	7.65	10.20	12.75	15.30	17.85
50 + 50 / 160	0.338	6.76	10.14	13.52	16.90	20.28	23.66
63 + 63 / 200	0.363	7.26	10.89	14.52	18.15	21.78	25.41

### Calculation parameter

$\lambda_{soil}$ :	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 energy loss characteristics are in accordance with the European standard for flexible heating pipes systems EN15632.

## Flexalen® 600 Pressure rating



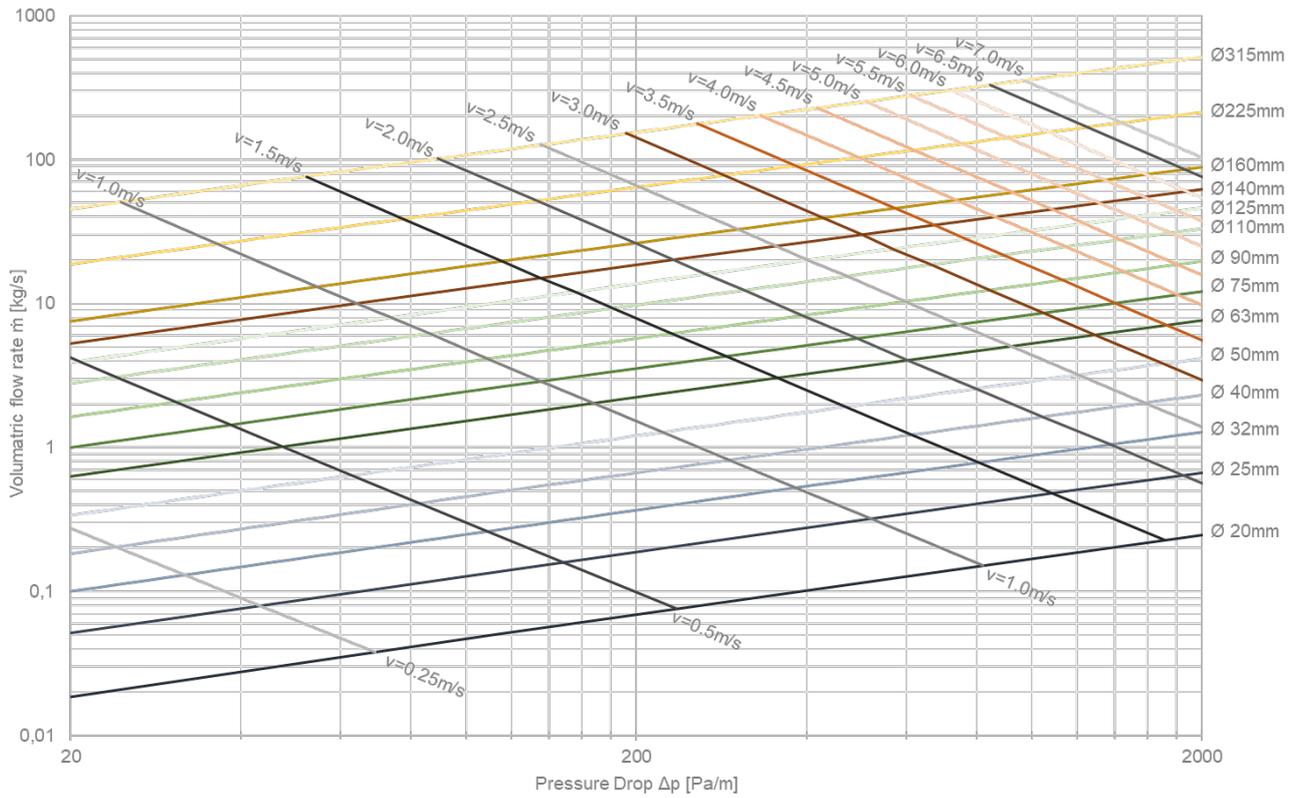
- Up to OD110 20°C/16 bar 95°C/8 bar
- ≥ OD125 20°C/10 bar 95°C/5 bar



## Flexalen® 600 Pressure drop PB

Determine the pressure drop using Flexalen® pipe systems at a flow temperature of 90°C (Flow line). For lower medium temperatures the pressure drop is higher: e.g. for 60°C 10%; for 10°C 20% higher.

For support on a complete district heating network design please contact your Thermaflex partner!





# Availability - Heating / Cooling

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
1001-200110-030	110 / 200 SL <sup>2</sup>	110 x 10.0 <sup>1</sup>	200	5.40	1.25	12
1000-200125-001	125 / 2003	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
1001-200125-030	125 / 200 SL <sup>2,3</sup>	125 x 11.4 <sup>1</sup>	200	6.38	1.50	12

Double 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]
1030-125025-001	25 + 25 / 125	25 x 2.3	125	1.80	0.60	300
1030-125032-001	32 + 32 / 125	32 x 3.0	125	1.90	0.60	300
1030-160032-001	32 + 32 / 160	32 x 3.0	160	2.14	0.60	150
1030-160040-001	40 + 40 / 160	40 x 3.7	160	2.50	0.80	150
1030-160050-001	50 + 50 / 160	50 x 4.6	160	3.00	0.80	150
1030-200063-001	63 + 63 / 200	63 x 5.8	200	4.50	1.25	100

Higher insulation range with increased insulation thickness and improved energy efficiency

<sup>1</sup> Without EVOH layer (Not included into the System Certification)

<sup>2</sup> Semi-flexible pipe system, straight lengths (available in 6m&12m sticks)

<sup>3</sup> Maximum temperature / pressure rating 95°C / 5 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

