

Heating direct to your door



CaldoPEX by ENERPIPE

More safety, more heat.



HEAT ON LOCATION

CaldoPEX is a pipe system which has been developed especially for local and district heating systems. But our pipe system CaldoPEX is also applicable for industry and agriculture, for refrigeration supply conducts and geothermal energy conducts.

MEDIUM PIPE

The medium pipe consists of cross-linked polyethylene PE-Xa [DIN 16892/93]. Thanks to its physical properties this material is suitable for both, thermal and mechanical stress. The medium PE-Xa pipe can be easily processed despite its corrosion resistance and its utmost chemical resistance. At the same time it is pollutant-free and therefore extremely environment-friendly.

In order to avoid oxygen enrichment in the system, an organic oxygen diffusion barrier [EVOH DIN 4726] has been designed for the medium pipe.



HEAT INSULATION

The **CaldoPEX** pipes are insulated by polyurethane foam [PUR]. This PUR foam has excellent heat insulation characteristics and is manufactured without chlorofluorocarbon [CFC].

A contribution to environmental protection.



CASING PIPE

The casing consists of PE-LD in order to ensure a complete interconnection between medium pipe, insulation and outer casing. The outer casing is extremely resistant to ultraviolet rays and chemical compounds. Therefore the **CaldoPEX** pipe is well-suited for laying in the ground.

ACCESSORIES

The accessories program ensures an ideal planning and installation and guarantees an adequate solution for any kind of construction situation.

PLANNING

Due to the flexibility of the pipe, mostly the shortest track can be chosen for the pipes route. In doing so, the **CaldoPEX** pipes are delivered as rings or on a reel to

the construction site. With our large pipe lengths the number of joints in the ground are minimized! Therefore the pipe trench can be constructed considerably narrower and the underground construction costs can be reduced.

CaldoPEX does not only reduce construction time but also the coordination on the construction site!

LAYING

CaldoPEX offers the possibility to adapt itself to the current construction situations spontaneously and flexibly.

Whether open building method, wash drilling or plough laying, suddenly appearing obstacles can be passed under or crossed over easily and without additional expenses.

By the compound between medium pipe, PUR foam and casing pipe, **CaldoPEX** cannot move within the pipe trench. Therefore, no expansion bends or static layouts, as for example for steel conducts are necessary!

For the establishment of joints, **ENERPIPE** offers bolted or crimp connections. These joining techniques allow a construction which is not subject to the weather.



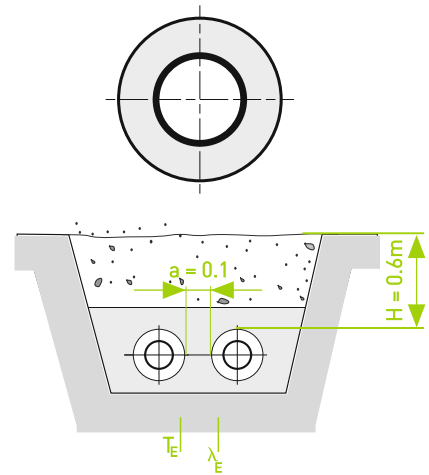
CaldoPEX Pflugverlegung

LOSS OF HEAT ENERPIPE CaldoPEX

Heating PN6

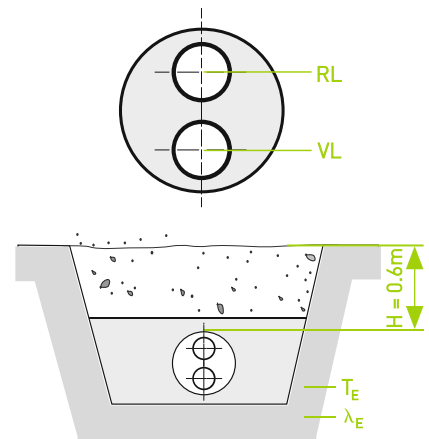
CaldoPEX single

Loss of heat q [W/m] for a single pipe per metre of pipe								
single		Value U	Average operating temperature T _B [°C]					
	Thermoconductivity	[W/mK]	40°	50°	60°	70°	80°	90°
25/76	0,0216	0,1165	3,50	4,66	5,83	6,99	8,16	9,32
25/91 PLUS	0,0216	0,0993	2,98	3,97	4,97	5,96	6,95	7,94
32/76	0,0216	0,1479	4,44	5,92	7,40	8,87	10,35	11,83
32/91 PLUS	0,0216	0,1212	3,64	4,85	6,06	7,27	8,48	9,70
32/111 PLUSPLUS	0,0216	0,1029	3,09	4,12	5,15	6,17	7,20	8,23
40/91	0,0216	0,1510	4,53	6,04	7,55	9,06	10,57	12,08
40/111 PLUS	0,0216	0,1236	3,71	4,94	6,18	7,42	8,65	9,89
40/126 PLUSPLUS	0,0216	0,1112	3,34	4,45	5,56	6,67	7,78	8,90
50/111	0,0216	0,1551	4,65	6,20	7,76	9,31	10,86	12,41
50/126 PLUS	0,0216	0,1360	4,08	5,44	6,80	8,16	9,52	10,88
63/126	0,0216	0,1767	5,30	7,07	8,84	10,60	12,37	14,14
63/142 PLUS	0,0216	0,1539	4,62	6,16	7,70	9,23	10,77	12,31
75/142	0,0216	0,1958	5,87	7,83	9,79	11,75	13,71	15,66
75/162 PLUS	0,0216	0,1616	4,85	6,46	8,08	9,70	11,31	12,93
90/162	0,0216	0,2057	6,17	8,23	10,29	12,34	14,40	16,46
90/182 PLUS	0,0216	0,1747	5,24	6,99	8,74	10,48	12,23	13,98
110/162	0,0216	0,2957	8,87	11,83	14,79	17,74	20,70	23,66
110/182 PLUS	0,0216	0,2355	7,07	9,42	11,78	14,13	16,49	18,84
110/202 PLUSPLUS	0,0216	0,1992	5,98	7,97	9,96	11,95	13,94	15,94
125/182	0,0216	0,3026	9,08	12,10	15,13	18,16	21,18	24,21
125/202	0,0216	0,2771	8,31	11,08	13,86	16,63	19,40	22,17
140/202	0,0216	0,3084	0,3084	9,25	12,34	15,42	18,50	21,59
160/250	0,0216	0,3028	0,3028	9,08	12,11	15,14	18,17	21,20



CaldoPEX double [flow and return pipe within one pipe]

Loss of heat q [W/m] for a double pipe per one metre of pipe								
double		Value U	Average operating temperature T _B [°C]					
	Thermoconductivity	[W/mK]	40°	50°	60°	70°	80°	90°
25+25/91	0,0216	0,1790	5,37	7,16	8,95	10,74	12,53	14,32
25+25/111 PLUS	0,0216	0,1392	4,18	5,57	6,96	8,35	9,74	11,14
32+32/111	0,0216	0,1829	5,49	7,32	9,15	10,97	12,80	14,63
32+32/126 PLUS	0,0216	0,1571	4,71	6,28	7,86	9,43	11,00	12,57
40+40/126	0,0216	0,2108	6,32	8,43	10,54	12,65	14,76	16,86
40+40/142 PLUS	0,0216	0,1741	5,22	6,96	8,71	10,45	12,19	13,93
50+50/162	0,0216	0,1954	5,86	7,82	9,77	11,72	13,68	15,63
50+50/182 PLUS	0,0216	0,1662	4,99	6,65	8,31	9,97	11,63	13,30
63+63/182	0,0216	0,2381	7,14	9,52	11,91	14,29	16,67	19,05
63+63/202 PLUS	0,0216	0,2075	6,23	8,30	10,38	12,45	14,53	16,60
75+75/202	0,0216	0,2802	8,41	11,21	14,01	16,81	19,61	22,42



Calculation Basis

Laying procedure CaldoPEX single:	2 m pipe underground per metre of trace
Laying procedure CaldoPEX double:	1 m pipe underground per metre of trace
Tube pitch:	a= 0.10m
Depth of cover:	H= 0.60m
Ground temperature:	T _E = 10°C
Conductibility of ground:	λ _E = 1.2 W/mK
Conductibility of PUR-foam:	λ _{PU} = 0.0216 W/mK
Conductibility of PEX-pipe:	λ _{PEXa} = 0.38 W/mK
Conductibility of PE-casing:	λ _{PE} = 0.33 W/mK

Loss of heat during operation:

$$Q = U [T_B - T_E] \text{ [W/m]}$$

U = Coefficient of heat transmission [W/mK]

T_B = Average operating transmission [°C]

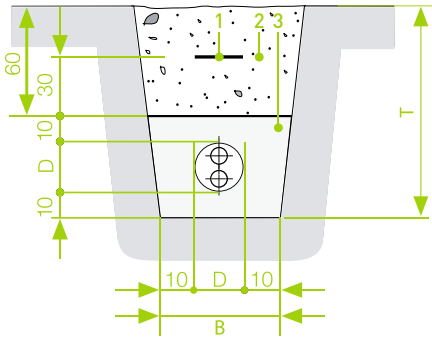
T_E = Average ground temperature [°C]

VL = Flow

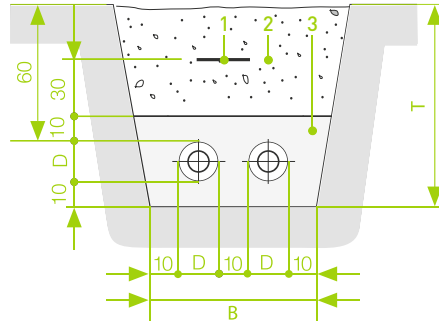
RL = Return

TRENCH DIMENSIONS ENERPIPE CaldoPEX

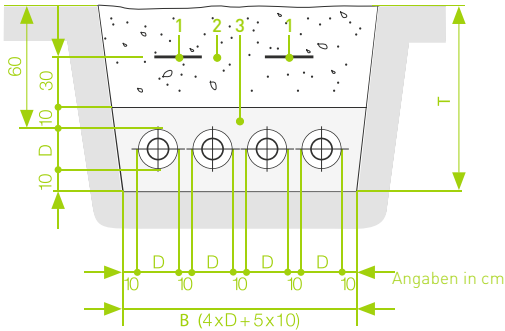
CaldoPEX double
1 Pipe



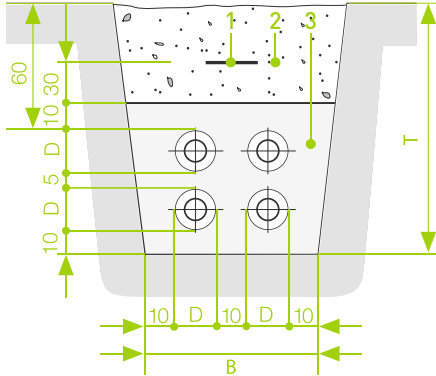
CaldoPEX single
2 Pipes



CaldoPEX single
4 Pipes



CaldoPEX single
4 Pipes



- 1 Underground warning tape
- 2 Digging material able to compact
- 3 Washed sand, grain size maximum 8 mm

SLW 30 ± 300 kN total load according to DIN 1072; for operational demands by higher traffic stress (for example SLW 60) a load sharing superstructure according to RSt075 is required.

Without traffic stress the minimum trench depth T can be reduced by 20 cm.

Specification in cm

Laying depth: maximum laying depth 2,6 m. Larger laying depth need our accordance!

LONG-TERM BEHAVIOUR Lifetime calculation

Operating temperature °C	Heating (PN 6 / SDR 11)				Sanitary (PN 10/ SDR 7,4)			
	1. Jear [bar]	10. Jears [bar]	25. Jears [bar]	50. Jears [bar]	1. Jears [bar]	10. Jears [bar]	25. Jears [bar]	50. Jears [bar]
10	17,90	17,40	17,20	17,10	28,30	27,60	27,30	27,10
20	15,80	15,40	15,20	15,10	25,10	24,40	24,20	24,00
30	14,00	13,70	13,50	13,40	22,30	21,70	21,40	21,30
40	12,50	12,10	12,00	11,90	19,80	19,30	19,10	18,90
50	11,10	10,80	10,70	10,60	17,70	17,20	17,00	16,80
60	9,90	9,70	9,50	9,50	15,80	15,30	15,20	15,00
70	8,90	8,60	8,50	8,50	14,10	13,70	13,60	13,40
80	8,00	7,70	7,60	7,00	12,70	12,30	12,10	10,80
90	7,20	6,90	6,00	5,40	11,40	11,00	10,60	10,20
95	6,80	6,50	5,80	5,30	10,80	10,30	10,00	9,60

6,50 = Values extrapolated

10,30 = Values extrapolated



CaldoPEX single Heating PN 6

Typ	DN	Zoll ["]	Inner pipe PEX d x s [mm]	Outer case D x s1 [mm]	Minimum Bend radius [m]	Volume Inner pipe [l/m]	Weight [kg/m]	max. delivery length* Jumbo-Ring Maxi-Ring [m]	
25/76	20	3/4	25 x 2.3	76 x 2.0	0,70	0,32	0,90	520	780
PLUS 25/91	20	1 1/3	25 x 2.3	91 x 2.2	0,80	0,32	1,01	370	570
32/76	25	1	32 x 2.9	76 x 2.0	0,70	0,53	1,00	520	780
PLUS 32/91	25	1	32 x 2.9	111 x 2.4	0,90	0,53	1,29	271	401
40/91	32	1 1/4	40 x 3.7	91 x 2.2	0,80	0,83	1,39	370	570
PLUS 40/111	32	1 1/4	40 x 3.7	126 x 2.7	1,00	0,83	2,16	192	291
50/111	40	1 1/2	50 x 4.6	111 x 2.4	0,90	1,30	1,97	271	401
PLUS 50/126	40	1 1/2	50 x 4.6	126 x 2.7	1,00	1,30	2,34	192	291
63/126	50	2	63 x 5.8	126 x 2.7	1,00	2,07	2,60	192	291
PLUS 63/142	50	2	63 x 5.8	142 x 3.0	1,10	2,07	3,09	140	224
75/142	65	2 1/2	75 x 6.8	142 x 3.0	1,10	2,96	3,39	140	224
PLUS 75/162	65	2 1/2	75 x 6.8	162 x 3.2	1,10	2,96	4,56	92	149
90/162	80	3	90 x 8.2	162 x 3.2	1,20	4,25	4,56	92	149
PLUS 90/182	80	3	90 x 8.2	182 x 3.3	1,40	4,25	4,90	52	89
110/162	100	4	110 x 10.0	162 x 3.2	1,20	6,36	5,10	92	149
110/182	100	4	110 x 10.0	182 x 3.3	1,40	6,36	5,68	52	89
PLUS 110/182	100	4	110 x 10.0	202 x 3.3	1,40	6,36	3,39	46	89
125/182	125	5	125 x 11.4	182 x 3.3	1,40	8,20	6,37	52	89
140/202	125	5	140 x 12.7	202 x 3.3	1,40	6,36	7,60	46	80
160/250	150	6	160 x 14.6	250 x 3.9	-	13,43	11,31	12	12

CaldoPEX double Heating PN 6

Typ	DN	Zoll ["]	Inner pipe PEX d x s [mm]	Outer case D x s1 [mm]	Minimum Bend radius [m]	Volume Inner pipe [l/m]	Weight [kg/m]	max. delivery length* Jumbo-Ring Maxi-Ring [m]	
25 + 25/ 91	20 + 20	2 x 3/4	2 x 25 x 2.3	91 x 2,2	0,80	2 x 0,32	1,34	370	590
PLUS 25+25/111	20 + 20	2 x 3/4	2 x 25 x 2.3	111 x 2,4	0,90	2 x 0,32	1,50	271	401
32 + 32/111	25 + 25	2 x 1	2 x 32 x 2.9	111 x 2,4	0,90	2 x 0,53	1,87	271	401
PLUS 32+32/126	25 + 25	2 x 1	2 x 32 x 2.9	126 x 2,7	1,00	2 x 0,53	1,99	192	291
40 + 40/126	32 + 32	2 x 1 1/4	2 x 40 x 3.7	126 x 2,7	1,00	2 x 0,83	2,48	192	291
PLUS 40+40/142	32 + 32	2 x 1 1/4	2 x 40 x 3.7	142 x 3,0	1,10	2 x 0,83	2,43	140	224
50 + 50/162	40 + 40	2 x 1 1/2	2 x 50 x 4.6	162 x 3,2	1,20	2 x 1,30	3,96	92	149
PLUS 50+50/182	40 + 40	2 x 1 1/2	2 x 50 x 4.6	182 x 3,3	1,40	2 x 1,30	4,04	52	89
63 + 63/182	50 + 50	2 x 2	2 x 63 x 5.8	182 x 3,3	1,40	2 x 2,07	5,28	52	89

CaldoPEX single Sanitary PN 10

Typ	DN	Zoll ["]	Inner pipe PEX d x s [mm]	Outer case D x s1 [mm]	Minimum Bend radius [m]	Volume Inner pipe [l/m]	Weight [kg/m]	max. delivery length* Jumbo-Ring Maxi-Ring [m]	
22/76	16	5/8	22 x 3,0	76 x 2,0	0,45	0,201	0,96	520	780
28/76	20	3/4	28 x 4,0	76 x 2,0	0,50	0,314	1,06	520	780
32/ 76	25	1	32 x 4,4	76 x 2,0	0,50	0,423	1,12	520	780
40/ 91	32	1 1/4	40 x 5,5	91 x 2,2	0,55	0,660	1,56	370	570
50/111	40	1 1/2	50 x 6,9	111 x 2,4	0,60	1,029	2,25	271	401
63/126	50	2	63 x 8,7	126 x 2,7	1,00	1,633	3,06	192	291

CaldoPEX double Sanitary PN 10

Typ	DN	Zoll ["]	Inner pipe PEX d x s [mm]	Outer case D x s1 [mm]	Minimum Bend radius [m]	Volume Inner pipe [l/m]	Weight [kg/m]	max. delivery length* Jumbo-Ring Maxi-Ring [m]	
28 + 22/91	20 + 16	3/4 + 5/8	28 x 4,0 + 22 x 3,0	91 x 2,2	0,55	0,314 + 0,201	1,47	370	570
32 + 22/111	25 + 16	1 + 5/8	32 x 4,4 + 22 x 3,0	111 x 2,4	0,60	0,423 + 0,201	1,95	271	401
40 + 28/126	32 + 20	1 1/4 + 3/4	40 x 5,5 + 28 x 4,0	126 x 2,7	1,00	0,660 + 0,314	2,60	192	291
50 + 32/126	40 + 25	1 1/2 + 1	50 x 6,9 + 32 x 4,4	126 x 2,7	1,00	1,029 + 0,423	2,96	192	291

- On request we also produce other dimensions or custom products from 500 m of length
- Longer or shorter delivery lengths on reel can be delivered on request
- Ring dimensions: Jumbo-Ring: outer diameter 2800 mm x width 800 mm
Maxi-Ring: outer diameter 2800 mm x width 1200 mm

* Delivery in parts is possible

Please contact us for further information about effective heat utilization!

Express your requirements and send them by e-mail, Fax or simply just call us

Company: _____ Name: _____

Address: _____ P.O. box/City: _____

Phone: _____ email: _____

Your message for us: _____



FIBRE GLASS PIPES & HEATING PIPES

Together a perfect team.

Simply Biomass Ltd.
 Unit 6, Sheldon Business Park, Chippenham, SN14 0SQ.
 Telephone : 01249 446600
 Fax: 01249 655566
 e-mail: sales@simplybiomass.co.uk

† † † @ h0 " @ U ° ∞ # \ y M

