

### Technical Data Sheet

## CALPEX PUR-KING

### Flexible Pre-Insulated Pipe System



February 3, 2026

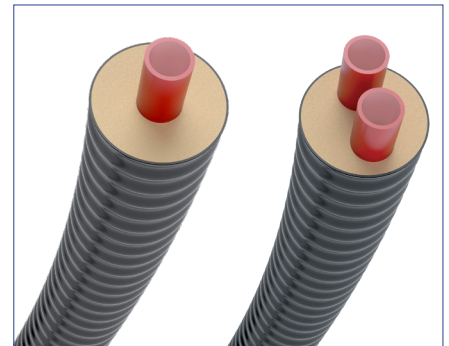
#### GENERAL PRODUCT INFORMATION

CALPEX PUR-KING district heating pipe system for operating temperatures up to max. 203°F at a max. operating pressure of 65/100 psi, consisting of:

- CALPEX PUR-KING district heating pipes
- CALPEX PUR-KING form pieces
- CALPEX PUR-KING accessories

CALPEX PUR-KING is a flexible PEXa pipe system with integrated oxygen barrier and CFC-free PUR insulation, designed for efficient hot or chilled water transfer. Delivered in coils cut to required lengths, the pipes are installation-ready and can be laid underground largely without joints. The system meets top standards for district and local heating and is equally suited for cooling networks, agriculture, food technology, irrigation, and mining.

Available in UNO and DUO configurations, CALPEX PUR-KING provides rapid installation with continuous coils and minimal joints. Reliable, pressure-tested connections are achieved with compression sleeve or screw fittings. Its robust LLD-PE outer jacket and optimized insulation reduce heat loss and protect against mechanical damage. Application fields include district heating, chilled water, hydronic and process piping, geexchange, and outdoor wood boilers.



#### DESIGN

##### Carrier Pipe

Material	High-density polyethylene (PE-HD), peroxide crosslinked (PEXa)
Oxygen barrier	Organic (EVOH), heat-stabilized
Standard ASTM pipes	NSF 61 certified, ASTM F876 and F877 for all pipes 3/4" - 2" 160 psi @73.4°F, 100 psi @180°F, 80 psi @203°F, max. short term exposure 150 psi @210°F (48 hr)
Standard metric pipes	DIN 16892/16893 and EN 12318-2 Series for all pipes 25-140 mm 125 psi @73°F, 80 psi @180°F, 65 psi @203°F, max. short term exposure 87 psi @212°F (100 hr)
Pipe series	SDR 9 for ASTM pipes / SDR 11 for metric pipes
Density	932-935 kg/m <sup>3</sup> , ISO 1183
Thermal conductivity	0.38 W/mK, ASTM C1113

##### Outer Jacket

Material	Seamlessly extruded linear low-density polyethylene (LLD-PE), UV-resistant for 20 years
Density	57.3–57.6 lb/ft <sup>3</sup> (918–922 kg/m <sup>3</sup> ), ISO 1183, ASTM D792
Thermal conductivity	2.3 Btu·in/(h·ft <sup>2</sup> ·°F) @122°F (0.33 W/mK) acc. DIN 52612

##### Insulation

Material	CFC-free polyurethane foam (PUR)
Density	3.1 lb/ft <sup>3</sup> (50 kg/m <sup>3</sup> ) acc. EN 253
Thermal conductivity	≤0.14 Btu·in/(h·ft <sup>2</sup> ·°F) @122°F (≤0.0199 W/mK) acc. EN 253 and ISO 8497
Water absorption	≤ 10 %, EN 15632-1
Structure	Closed cellular structure ≥90%

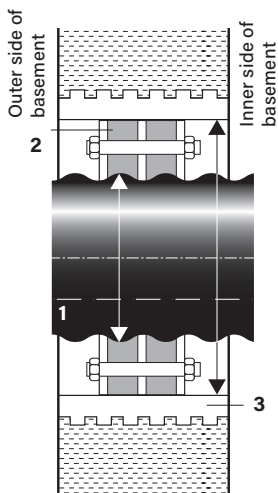
**FITTINGS AND ACCESSORIES**

- 90° house entry bend (5.2 x 3.6 ft)
- Y-pipes with PE or steel carrier pipe
- Screw fittings for PE – male thread, weld end, straight or T-coupling
- Press fittings for PE – male thread, weld end, straight or T-coupling
- Clip shell or sleeve joints
- Shrink, EPDM or PE end caps
- Wall penetrations with annular or labyrinth seals

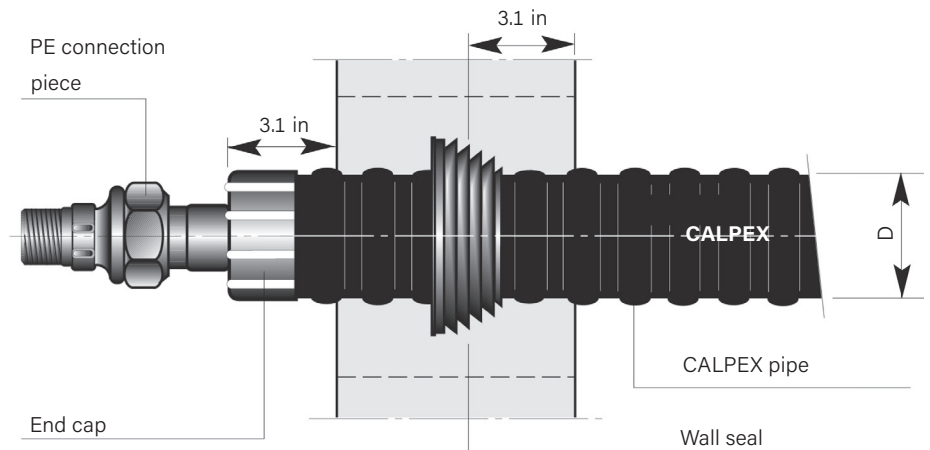


**WALL PENETRATION**

**Standard**



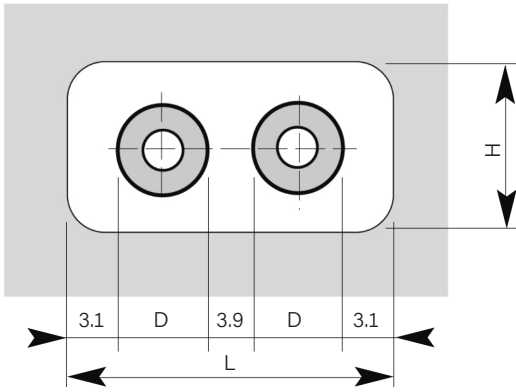
**Wall leadthrough**



- 1 CALPEX PUR-KING heating pipe
- 2 Annular seal, double sealing 2x 40 mm, Shore hardness 35
- 3 Sleeve pipe (fiber cement) or coated core drill hole

Outer Jacket Ø D in (mm)	Core Drilling Ø K in (mm)
3.07 (78)	5.91 (150)
3.66 (93)	5.91 (150)
4.45 (113)	7.87 (200)
5.03 (128)	7.87 (200)
5.63 (143)	7.87 (200)
6.42 (163)	9.84 (250)
7.20 (183)	9.84 (250)
8.00 (202)	11.81 (300)

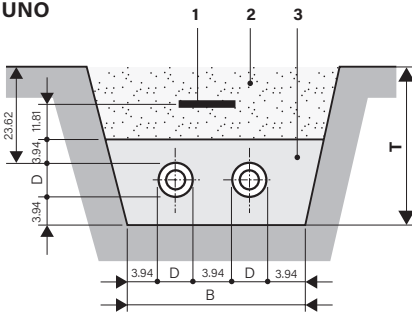
**Wall opening**



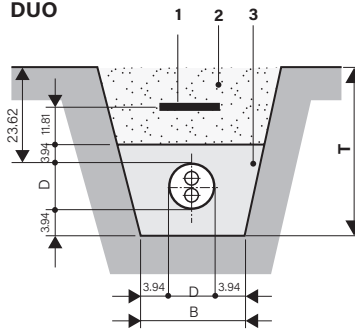
Outer casing Ø D in	L min in	H min in
3.1	17.7	9.8
3.7	19.7	9.8
4.4	19.7	11.8
5.0	21.7	11.8
5.6	23.6	13.8
6.4	25.6	13.8
7.2	26.4	15.0
8.0	28.3	15.7

**TRENCH PROFILE AND DIMENSIONS**

**UNO**



**DUO**



Dimensions in inch (cm)

Outer Jacket Ø D in (mm)	Width B in (cm)	Depth T in (cm)
3.07 (78)	17.72 (45)	31.50 (80)
3.66 (93)	19.69 (50)	31.50 (80)
4.45 (113)	21.65 (55)	33.46 (85)
5.03 (128)	21.65 (55)	33.46 (85)
5.63 (143)	23.62 (60)	33.46 (85)
6.42 (163)	25.59 (65)	35.43 (90)
7.20 (183)	27.56 (70)	37.40 (95)
8.00 (202)	29.53 (75)	37.40 (95)

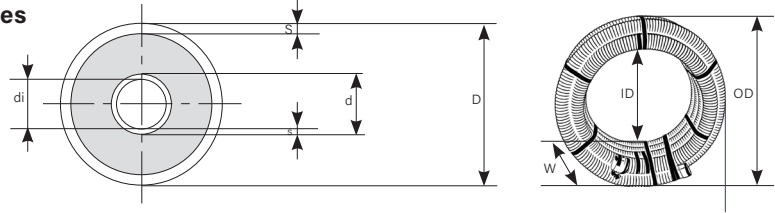
Outer Jacket Ø D in (mm)	Width B in (cm)	Depth T in (cm)
3.66 (93)	19.69 (50)	31.50 (80)
4.45 (113)	21.65 (55)	33.46 (85)
5.03 (128)	21.65 (55)	33.46 (85)
5.63 (143)	23.62 (60)	33.46 (85)
6.42 (163)	25.59 (65)	35.43 (90)
7.20 (183)	27.56 (70)	37.40 (95)
8.00 (202)	29.53 (75)	37.40 (95)

**BACKFILL MATERIAL**

CALPEX PUR-KING pipes must be surrounded with sand when installed underground. For calculation purposes, the soil type selection should be based on the properties of the native soil. Rounded, washed sand with a maximum grain size of 0.31" (8 mm) should be used. The pipes must be embedded with at least 4" (approx. 10 cm) of sand on all sides. In addition, CALPEX PUR-KING is suitable for H20 traffic load with a minimum cover of 24" (approx. 60 cm) beneath the road surface.

**ASSORTMENT**

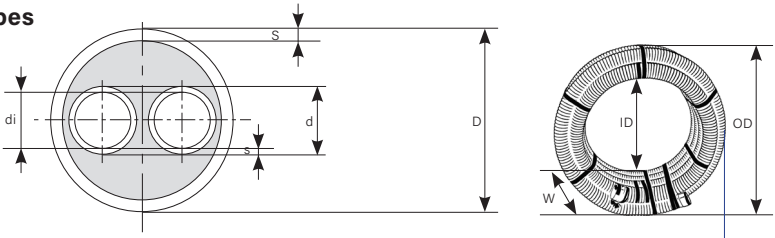
**CALPEX PUR-KING UNO - Preinsulated PEXa Pipes**



**Dimensions SDR 9**

Types	Carrier Pipe PEXa - SDR 9				Outer Jacket		CALPEX PUR-KING					
	Avg. Outer Diam. d in (mm)	Min. Wall Thickness s in (mm)	Avg. Inner Diam. di in (mm)	Capacity gal/ft (l/m)	Outer Diam. D in (mm)	Wall Thickness S in (mm)	R value °F·ft·h/BTU	Weight lb/ft (kg/m)	Min. Bend Radius ft (m)	Coil Size ODxW/ID in (mm)	Max.Coil Length L ft (m)	
0.75"/3.07"	0.875 (22.22)	0.097 (2.47)	0.6804 (17.28)	0.0189 (0.2356)	3.07 (78.00)	0.08 (1.90)	17.66	0.8 (1.2)	2.4 (0.7)	96 x 44 / 49 (2439 x 1118 / 1245)	2300 (701)	
1.00"/3.07"	1.125 (28.58)	0.125 (3.18)	0.8747 (22.22)	0.0316 (0.3939)	3.07 (78.00)	0.08 (1.90)	14.17	0.8 (1.2)	2.4 (0.7)	96 x 44 / 49 (2439 x 1118 / 1245)	2300 (701)	
1.25"/3.07"	1.375 (34.92)	0.153 (3.88)	1.0696 (27.16)	0.0467 (0.5827)	3.07 (78.00)	0.08 (1.90)	11.34	0.9 (1.4)	2.4 (0.7)	96 x 44 / 49 (2439 x 1118 / 1245)	2300 (701)	
1.00"/3.66"	1.125 (28.58)	0.125 (3.18)	0.8747 (22.22)	0.0316 (0.3939)	3.66 (93.00)	0.08 (2.10)	16.67	1.0 (1.5)	2.5 (0.8)	96 x 45 / 55 (2439 x 1143 / 1397)	1400 (427)	
1.25"/3.66"	1.375 (34.92)	0.153 (3.88)	1.0696 (27.16)	0.0467 (0.5827)	3.66 (93.00)	0.08 (2.10)	13.83	1.1 (1.6)	2.6 (0.8)	96 x 45 / 55 (2439 x 1143 / 1397)	1400 (427)	
1.50"/3.66"	1.625 (41.28)	0.181 (4.59)	1.2638 (32.1)	0.0650 (0.8118)	3.66 (93.00)	0.08 (2.10)	11.52	1.3 (2.0)	3.0 (0.9)	96 x 45 / 55 (2439 x 1143 / 1397)	1400 (427)	
1.50"/4.45"	1.625 (41.28)	0.181 (4.59)	1.2638 (32.1)	0.0650 (0.8118)	4.45 (113.00)	0.09 (2.30)	14.29	1.3 (1.9)	2.8 (0.9)	96 x 46 / 55 (2439 x 1169 / 1397)	985 (300)	
2.00"/4.45"	2.125 (53.98)	0.236 (6.0)	1.6528 (41.98)	0.1114 (1.3906)	4.45 (113.00)	0.09 (2.30)	9.35	1.5 (2.2)	3.0 (0.9)	96 x 46 / 55 (2439 x 1169 / 1397)	985 (300)	

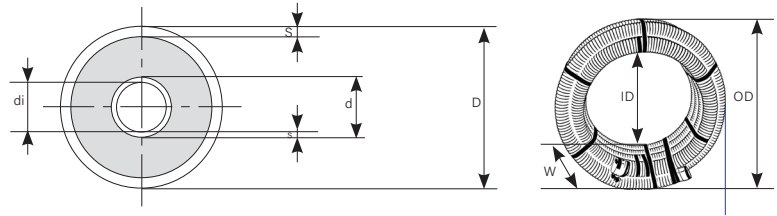
**CALPEX PUR-KING DUO - Preinsulated PEXa Pipes**



**Dimensions SDR 9**

Types	Carrier Pipe PEXa - SDR 9				Outer Jacket		CALPEX PUR-KING					
	Avg. Outer Diam. d in (mm)	Min. Wall Thickness s in (mm)	Avg. Inner Diam. di in (mm)	Capacity gal/ft (l/m)	Outer Diam. D in (mm)	Wall Thickness S in (mm)	R value °F·ft·h/BTU	Weight lb/ft (kg/m)	Min. Bend Radius ft (m)	Coil Size ODxW/ID in (mm)	Max.Coil Length L ft (m)	
2x0.75"/3.66"	0.875 (22.22)	0.097 (2.47)	0.6804 (17.28)	0.0189 (0.2356)	3.66 (93.00)	0.08 (2.10)	11.32	0.3 (0.4)	3.0 (0.9)	96 x 45 / 55 (2439 x 1143 / 1397)	1400 (427)	
2x1.00"/4.45"	1.125 (28.58)	0.125 (3.18)	0.8747 (22.22)	0.0316 (0.3939)	4.45 (113.00)	0.09 (2.30)	11.07	0.6 (0.9)	3.3 (1.0)	96 x 46 / 55 (2439 x 1169 / 1397)	985 (300)	
2x1.25"/5.03"	1.375 (34.92)	0.153 (3.88)	1.0696 (27.16)	0.0467 (0.5827)	5.03 (128.00)	0.10 (2.70)	10.02	0.8 (1.2)	3.3 (1.0)	96 x 47 / 60 (2439 x 1194 / 1524)	700 (213)	
2x1.50"/6.42"	1.625 (41.28)	0.181 (4.59)	1.2638 (32.1)	0.0650 (0.8118)	6.42 (163.00)	0.13 (3.20)	11.43	1.2 (1.8)	4.0 (1.2)	96 x 47 / 71 (2439 x 1194 / 1803)	300 (91)	
2x2.00"/7.20"	2.125 (53.98)	0.236 (6.0)	1.6528 (41.98)	0.1114 (1.3906)	7.20 (183.00)	0.13 (3.30)	7.08	1.8 (2.7)	4.4 (1.4)	96 x 47 / 79 (2439 x 1194 / 2007)	120 (37)	

**CALPEX PUR-KING UNO - Preinsulated PEXa Pipes**

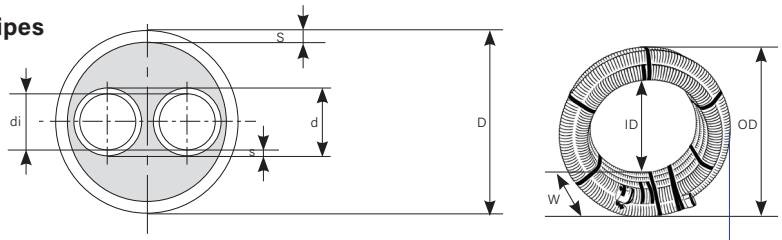


**Dimensions SDR 11**

Types	Carrier Pipe PEXa - SDR 11				Outer Jacket		CALPEX PUR-KING					
	Avg. Outer Diam. d in (mm)	Min. Wall Thickness s in (mm)	Avg. Inner Diam. di in (mm)	Capacity gal/ft (l/m)	Outer Diam. D in (mm)	Wall Thickness S in (mm)	R value °F·ft·h/BTU	Weight lb/ft (kg/m)	Min. Bend Radius ft (m)	Coil Size ODxW/ID in (mm)	Max.Coil Length L ft (m)	
25/76	0.990 (25.20)	0.091 (2.30)	0.808 (20.60)	0.0263 (0.327)	3.07 (78.00)	0.08 (1.90)	16.48	0.8 (1.2)	1.6 (0.5)	96 x 44 / 49 (2464 x 1118 / 1245)	2300 (701)	
32/76	1.266 (32.20)	0.114 (2.90)	1.038 (26.40)	0.0434 (0.539)	3.07 (78.00)	0.08 (1.90)	13.11	0.8 (1.2)	1.6 (0.5)	96 x 44 / 49 (2464 x 1118 / 1245)	2300 (701)	
40/91	1.583 (40.20)	0.146 (3.70)	1.291 (32.80)	0.0672 (0.835)	3.66 (93.00)	0.08 (2.10)	12.54	0.9 (1.4)	2.6 (0.8)	96 x 45 / 55 (2464 x 1143 / 1397)	1400 (427)	
50/111	1.978 (50.30)	0.181 (4.60)	1.616 (41.10)	0.1052 (1.307)	4.45 (113.00)	0.09 (2.30)	12.18	1.3 (2.0)	3.0 (0.9)	96 x 46 / 55 (2464 x 1169 / 1397)	985 (300)	
63/126	2.492 (63.30)	0.228 (5.80)	2.035 (51.70)	0.1683 (2.075)	5.03 (128.00)	0.10 (2.70)	10.68	1.7 (2.6)	3.3 (1.0)	96 x 47 / 60 (2464 x 1194 / 1524)	700 (213)	
75/142	2.967 (75.40)	0.268 (6.80)	2.431 (61.80)	0.2384 (2.961)	5.63 (143.00)	0.12 (3.00)	9.89	2.3 (3.4)	3.5 (1.1)	96 x 47 / 74 (2464 x 1194 / 1880)	350 (107)	
90/162	3.561 (90.50)	0.323 (8.20)	2.915 (74.10)	0.3425 (4.254)	6.42 (163.00)	0.13 (3.20)	9.09	3.1 (4.6)	4.0 (1.2)	96 x 47 / 71 (2439 x 1194 / 1803)	300 (91)	
110/162	4.350 (110.50)	0.394 (10.00)	3.563 (90.50)	0.5123 (6.362)	6.42 (163.00)	0.13 (3.20)	6.31	3.8 (5.7)	4.0 (1.2)	96 x 47 / 71 (2439 x 1194 / 1803)	300 (91)	
125/182*	4.945 (125.60)	0.449 (11.40)	4.047 (102.80)	0.6537 (8.203)	7.20 (183.00)	0.13 (3.30)	6.16	4.8 (7.2)	4.5 (1.4)	99 x 47 / 79 (2540 x 1194 / 2007)	120 (37)	
140/202*	5.537 (140.70)	0.500 (12.70)	4.51 (115.30)	0.83 (10.315)	8.00 (202.00)	0.13 (3.30)	5.98	5.6 (8.4)	4.5 (1.4)	99 x 46 / 83 (2540 x 1169 / 2108)	115 (35)	

\* not made in the USA

**CALPEX PUR-KING DUO - Preinsulated PEXa Pipes**



**Dimensions SDR 11**

Types	Carrier Pipe PEXa - SDR 11				Outer Jacket		CALPEX PUR-KING					
	Avg. Outer Diam. d in (mm)	Min. Wall Thickness s in (mm)	Avg. Inner Diam. di in (mm)	Capacity gal/ft (l/m)	Outer Diam. D in (mm)	Wall Thickness S in (mm)	R value °F·ft·h/BTU	Weight lb/ft (kg/m)	Min. Bend Radius ft (m)	Coil Size ODxW/ID in (mm)	Max.Coil Length L ft (m)	
25+25/91	0.990 (25.20)	0.091 (2.30)	0.808 (20.60)	2x0.0263 (2x0.327)	3.60 (93.00)	0.08 (2.10)	10.58	0.9 (1.3)	2.0 (0.6)	96 x 45 / 55 (2464 x 1143 / 1397)	1400 (427)	
32+32/111	1.266 (32.20)	0.114 (2.90)	1.038 (26.40)	2x0.0434 (2x0.539)	4.40 (113.00)	0.09 (2.30)	10.24	1.3 (1.9)	2.0 (0.6)	96 x 46 / 55 (2464 x 1169 / 1397)	985 (300)	
40+40/126	1.583 (40.20)	0.146 (3.70)	1.291 (32.80)	2x0.0672 (2x0.835)	5.03 (128.00)	0.10 (2.70)	9.06	1.7 (2.5)	2.3 (0.7)	96 x 47 / 60 (2464 x 1194 / 1524)	700 (213)	
50+50/162	1.978 (50.30)	0.181 (4.60)	1.616 (41.10)	2x0.1052 (2x1.307)	6.42 (163.00)	0.13 (3.20)	9.72	2.7 (4.0)	3.5 (1.1)	96 x 47 / 71 (2464 x 1194 / 1803)	300 (91)	
63+63/182	2.967 (75.40)	0.268 (6.80)	2.431 (61.80)	2x0.1683 (2x2.075)	7.20 (183.00)	0.13 (3.30)	8.12	3.6 (5.3)	4.0 (1.2)	96 x 47 / 79 (2464 x 1194 / 2007)	120 (37)	