

Ridgeline

Ridgeline + P1 – Data Sheet

Description

Ridgeline™ is a premium corrugated stainless steel piping system engineered for all plumbing applications, including hot and cold water plumbing, central heating systems and feed-return (outdoor) plumbing of Air Source Heat Pump's. The system comprises:

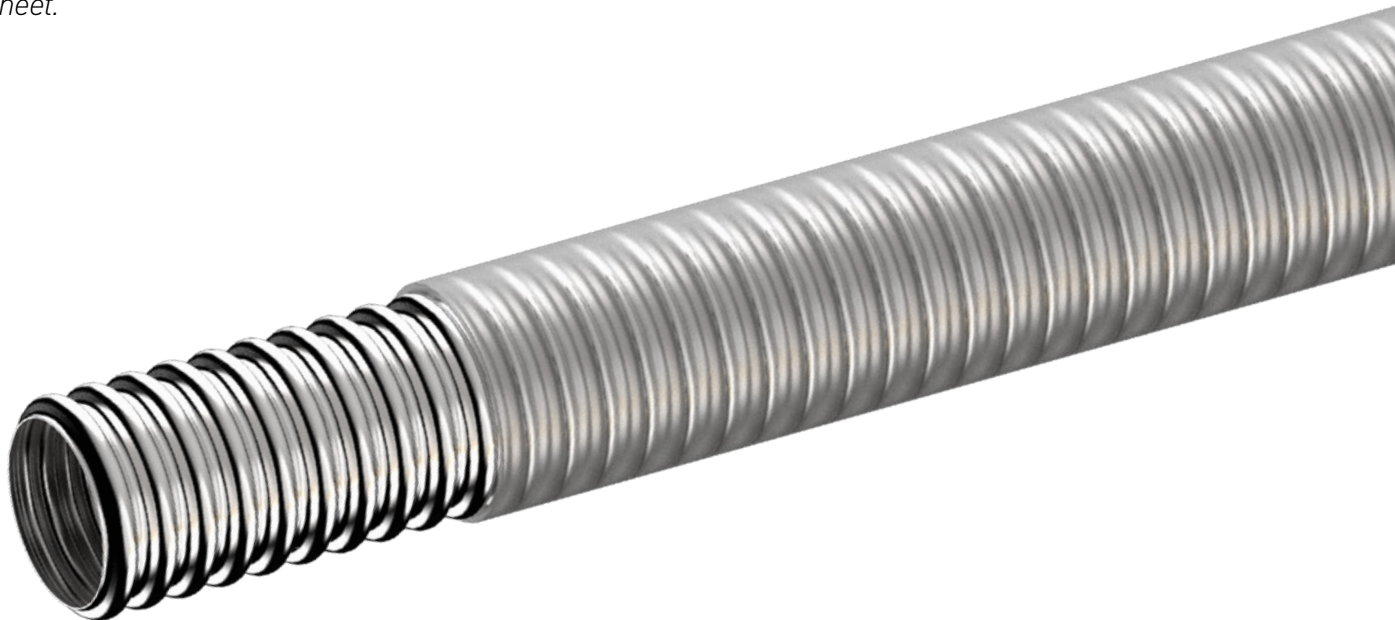
Piping Core Construction:

- Primary Layer: Marine grade 316L stainless steel with engineered corrugations that provide maximum flexibility while delivering superior crush and burst performance.
- Protective Layer: High-grade polyethylene (PE) outer sleeve that protects the stainless steel from building materials containing chlorides, and makes pulling the tube through concealed spaces much easier. This layer makes no contact with drinking water.

P1™ Fitting Connection System:

- Robust metal-on-metal seal with a secondary elastomer
- Available in a large range of fittings in all sizes (R-15, R-22, R-28, R-32 (HP), R-35, R-42, R-54)

Note: Ridgeline is also compatible with our Ridglock range of fittings, outlined in the Ridgeline + Ridglock Data Sheet.



Dimensions of Ridgeline tube

	R-15	R-22	R-28	R-32-HP	R-35	R-42	R-54
Outer Diameter (with cover)	15 mm	22 mm	28 mm	32mm	38 mm	50 mm	61 mm
Inner Diameter	11 mm	18 mm	23 mm	27mm	33 mm	41 mm	51 mm
Tubing Wall Thickness	0.25 mm	0.25 mm	0.25 mm	0.25mm	0.30 mm	0.30 mm	0.30 mm
Polyethylene Cover Thickness	0.80 mm	0.80 mm	0.80 mm	0.80mm	0.80 mm	0.80 mm	0.80 mm

Lengths, weight and handling

Ridgeline pipe is available in lengths from 25m up to 500m. Long continuous lengths are ideal for project work, enabling precise measurement and cutting on-site to minimise waste. Shorter lengths are supplied in convenient boxed coils.

For efficient handling of longer lengths, our dedicated spool roller system ensures tangle-free dispensing. Check weight of long length spools to ensure site suitability.

Reduced weight per m (vs. copper) reduces risk of theft on site.

Materials

- Corrugated tubing: 1.4404 (316L) stainless steel conforming to BS/EN 10088
- Target 80% recycled content in stainless steel

Working Parameters

- Suitable for indoor and outdoor use.
- Can be buried without additional protection or sleeving.
- Working pressure: 15 bar at 20°C, 10 bar at 150°C.

Corrosion Protection & Pressure Testing

- Superior corrosion resistance compared to copper tube in UK drinking water conditions (verified through independent testing at Lancaster University)
- Engineered for domestic water systems
- All installations must be pressure tested to relevant standards before commissioning

Freeze Protection

- Corrugated design provides superior resistance to single freeze events compared to rigid tube
- Corrugations can accommodate expanding ice
- Protection against freezing should always be primary approach
- Long continuous runs without fittings recommended in freeze-risk areas
- Repeated freeze/thaw cycles may cause permanent deformation

Insulation / Lagging

- For many applications insulation / lagging may be required
- Insulation type and thickness should be tailored to specific installation needs for optimal performance
- The polyethylene cover ensures smooth, effortless application of your chosen insulation
- Ridgeline design supports customised insulation solutions for a secure fit

Damage and Repair

Damage to Corrugated Tube

- If the tube becomes damaged it can be repaired by using a Union fitting.

Damage to Outer Sleeve Layer

In locations where the tube may contact building materials containing chlorides (screed floor, plaster, cement):

- Any damage causing a hole in the cover must be repaired
- Use self-amalgamating silicone tape (available from Ridgeline)

Installation Parameters

Bend Radius

- Corrugated design enables exceptional flexibility without kinking
- Bend Radius is the diameter of the tube and can achieve adjacent (back-to-back) bends where required
- Full kink resistance maintained even at extremely tight bends
- No special tools needed for bending
- 90 degree bends possible instead of elbow fittings

Support Spacing

- Pipe supports and clips should be installed at the below recommended intervals:

R-15	R-22	R-28	R-32-HP	R-35	R-42	R-54
1.2 m	1.8 m	1.8 m	2.5 m	2.5 m	2.5 m	2.5 m

Required Tools

- Metal wheel pipe cutter
- Utility knife (for removing protective cover)
- Spanner/wrench for RidgeLock™ connections

Connection Assembly

- Tighten with two spanners until resistance increases significantly. The corrugated tube self-flares against the brass seat to create the primary seal, whilst the O-ring abuts the collapsed tube to form a secondary seal.

P1™ Fittings

P1 Mechanical fittings create a metal-on-metal seal with secondary elastomer backup.

- Available for R-15mm – R-54mm tube sizes
- Available in a wide range of fitting options

P1 fittings range	R-15	R-22	R-28	R-32-HP	R-35	R-42	R-54
Male BSP	✓	✓	✓	✓	✓	✓	✓
Female BSP	✓	✓	✓	✓	✓	✓	✓
Female Elbow BSP	✓	✓	✓	✓	✓	✓	
Copper Union	✓	✓	✓	✓	✓	✓	✓
Copper Elbow	✓	✓	✓	✓	✓	✓	✓
Tee	✓	✓	✓	✓	✓	✓	
Reducing Tee	✓	✓	✓	✓	✓	✓	✓
P1 to Ridgeline	✓	✓	✓				

Interrelation with Other Systems

Copper Integration

- P1: Wide range of copper unions, elbows and tees available”

Plastic System Connection:

- Connect via male/female BSP thread combination

WRAS and KIWA Reg 4

Ridgeline™ tube + P1 fittings are approved to WRAS and KIWA Reg 4.



Additional Applications

Compressed air

- Compatible with compressed air. Other gases please contact us.

Air Source Heat Pump: Flow and Return

- Ridgeline + P1 is ideally suited to flow and return pipework for air source heat pump systems.
- Available in coils up to 400m, enables long continuous runs with no intermediate fittings required - only the connection at each end.
- R-32-HP (heat-pump) is an optimised tube diameter specifically for use with most ASHP's.

Solar thermal flow and return

- Ridgeline + P1 is also perfectly suited to flow and return pipework for solar thermal systems.
- Available in coils up to 400m, enables long continuous runs with no intermediate fittings required - only the connection at each end.
- For solar thermal applications, Ridgeline + P1 can withstand temperature spikes of up to 200°C, provided the correct specialist gaskets are specified. At 200°C, system pressure must not exceed 9 bar. Please contact us when ordering so the correct gasket specification can be supplied, and correct system installation can be confirmed.

Ridgeline + P1 for heat pump and solar thermal flow and return applications may also be referred to as Ridgeline HEAT-Connect. This is not a separate system - it is Ridgeline tube used with P1 fittings.

Specialist Variants

The Ridgeline plumbing system, including pipe, RidgeLock™ and P1™ fittings, are designed for a range of plumbing applications. We also offer specialist variants:

- Ridgeline Underfloor: Specifically designed for underfloor heating systems
- Ridgeline Flexis: Flexible connectors to replace braided rubber flexis

Note: These specialist variants are not directly compatible with regular Ridgeline pipe or RidgeLock™ and P1™ fittings. Please contact us for more information.

Pressure drop

Pressure drop (Pascals) and velocity (m/s) is given below for different flow rates and tube diameters..

Flow (L/min)	Flow L/ sec	R-15		R-22		R-28		R-32-HP		R-35		R-42		R-54	
		m/s	Pa	m/s	Pa	m/s	Pa	m/s	Pa	m/s	Pa	m/s	Pa	m/s	Pa
2.50	0.0417	0.44	797	0.16	56	0.10	15	0.07	7	0.05	2	0.03	1	0.02	0
5.00	0.0833	0.88	3,137	0.33	216	0.20	58	0.15	25	0.10	9	0.07	3	0.04	1
7.50	0.1250	1.32	7,019	0.49	480	0.30	128	0.22	54	0.15	19	0.10	7	0.06	2
10.00	0.1667	1.75	12,443	0.65	847	0.40	225	0.29	95	0.19	33	0.13	12	0.08	3
12.50	0.2083	2.19	19,410	0.82	1,317	0.50	349	0.36	147	0.24	51	0.17	18	0.10	5
15.00	0.2500	2.63	27,918	0.98	1,891	0.60	500	0.44	211	0.29	73	0.20	26	0.12	7
17.50	0.2917	3.07	37,968	1.15	2,568	0.70	679	0.51	286	0.34	98	0.23	35	0.14	10
20.00	0.3333	3.51	49,560	1.31	3,349	0.80	885	0.58	373	0.39	128	0.27	46	0.16	13
22.50	0.3750	3.95	62,695	1.47	4,233	0.90	1,118	0.65	471	0.44	161	0.30	58	0.18	16
25.00	0.4167	4.38	77,371	1.64	5,221	1.00	1,378	0.73	580	0.49	199	0.33	71	0.20	20
27.50	0.4583	4.82	93,590	1.80	6,312	1.10	1,666	0.80	701	0.54	240	0.36	85	0.22	24
30.00	0.5000	5.26	111,350	1.96	7,507	1.20	1,981	0.87	833	0.58	28	0.40	101	0.24	28
50.00	0.8333							1.46	2,301	0.97	783	0.66	278	0.41	76
100.00	1.6667									1.95	3,106	1.33	1,102	0.82	300
150.00	2.5000									2.92	6,969	1.99	2,472	1.22	672
200.00	3.3333											2.65	4,387	1.63	1,191
300.00	5.0000											3.98	9,856	2.45	2,673



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