

The Ridgeline logo features the word "Ridgeline" in a white, sans-serif font. A small blue and green icon, resembling a stylized mountain or a leaf, is positioned above the letter 'i' in "Ridgeline".

**Ridgeline**

TECHNICAL RESOURCE

AIR SOURCE HEAT PUMP FLOW AND RETURN

# Heat Pump Pipework Specifier Guide.

A practical resource for specifying corrugated 316L stainless steel pipework on heat-pump projects — route quality, insulation, sizing and project proof.

ISSUE 1 · RIDGELINETUBES.COM

## THE BRIEF

# Why heat-pump pipework deserves its own specification.

Air source heat pumps place different demands on pipework than a simple like-for-like boiler replacement. Flow rate, pressure drop, route length, insulation and external exposure all affect system confidence.

The pipework brief should not stop at material selection. It should define the route, insulation, support, protection, fittings and evidence pack required for the job. Treating the pipework as a system specification, not a commodity SKU choice, is the difference between a heat pump that performs and a heat pump that disappoints.

<b>316L stainless steel</b>	<b>ASHP flow and return</b>	<b>Long continuous runs</b>	<b>Fewer hidden fittings</b>	<b>UK designed</b>
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WHERE IT FITS

# Where Ridgeline fits in a heat-pump install.

Three application zones where corrugated 316L stainless steel earns its place over rigid copper or plastic alternatives.

Outdoor unit to plant room	Flow and return pipework	Check size against flow and pressure-drop requirements	Fast routing on retrofit projects
Plant room and cylinder area	Connections and distribution runs	Keep fittings accessible where practical	Clearer project handover and easier proof pack
External routes	Insulated flow and return	Protect and insulate according to project design	Less disruption through building fabric

Sizing must be confirmed against the heat-pump manufacturer's flow and pressure-drop requirements and the Ridgeline data sheet for the chosen tube. Ridgeline R-32 HP is positioned for the 28mm-class hydraulic range typical of domestic ASHP installs.

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ON THE PROJECT

# Specifier checklist.

Six things to confirm before pipework goes on the spec sheet. Treat each as a deliverable, written, signed, included in the project pack.

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**01**

**Confirm system parameters**

Heat-pump output, required flow rate and route length signed off by the heating designer.

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**02**

**Size from data, not assumption**

Select tube size using Ridgeline technical data and the heat-pump manufacturer's hydraulic schedule.

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**03**

**Specify insulation per zone**

External, unheated and concealed runs all need explicit insulation specification, material, thickness, vapour barrier.

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**04**

**Keep critical fittings accessible**

Service valves, drain points and primary connections should remain reachable for commissioning and future maintenance.

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**05**

**Build the proof pack**

Data sheets, approval certificates and installation instructions all included before issue for construction.

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**06**

**Use technical support**

Ask Ridgeline technical support to review unusual routes, long external runs or uncertain sizing before pipework is ordered.

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Items 01–03 sit with the heating designer. Items 04–06 sit with the project specifier and installer.

**SUGGESTED SPECIFICATION WORDING**

*Ridgeline corrugated 316L stainless steel plumbing tube for air source heat pump flow and return applications, installed with Ridgeline-approved fittings in accordance with manufacturer data sheets, installation instructions, approval documents and project design requirements.*

Edit project-specific tube size, fitting system and insulation references into this wording before issuing for construction.

**Insulation and external run notes.**

Ridgeline solves the routing problem. Insulation still solves the heat-loss problem. Both must be specified.

External flow and return must be insulated according to the system design, manufacturer guidance, and local climate exposure.

Vapour barriers matter. Failed vapour barriers on heat-pump pipework cause condensation, corrosion of fittings and long-term insulation collapse.

Penetrations through walls and external skin should be sealed and protected against UV, mechanical damage and rodent attack.

Long continuous runs reduce fittings, but support spacing and clipping still matter, especially on vertical rises and through joist runs.

For external pre-insulated routes, confirm thermal performance against project U-values rather than relying on factory-default values alone.

READ FURTHER

# Useful links and technical proof.



Ridgeline R-32 HP — corrugated 316L stainless steel tube positioned for ASHP primary flow and return pipework.

## Read further.

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- **Heat-pump pipework guide** [ridgelinepipes.com/technical-guides/pipework-for-air-source-heat-pumps/](https://ridgelinepipes.com/technical-guides/pipework-for-air-source-heat-pumps/)

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  - **Flexible stainless steel for heat pumps** [ridgelinepipes.com/technical-guides/flexible-stainless-steel-pipe-for-heat-pumps/](https://ridgelinepipes.com/technical-guides/flexible-stainless-steel-pipe-for-heat-pumps/)

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  - **316L stainless steel plumbing** [ridgelinepipes.com/technical-guides/316l-stainless-steel-plumbing/](https://ridgelinepipes.com/technical-guides/316l-stainless-steel-plumbing/)

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  - **Technical downloads (data sheets, certificates, install guides)** [ridgelinepipes.com/technical-downloads/](https://ridgelinepipes.com/technical-downloads/)

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  - **Request a sample** [ridgelinepipes.com/request-a-sample/](https://ridgelinepipes.com/request-a-sample/)

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  - **Talk to the technical team** [ridgelinepipes.com/contact/](https://ridgelinepipes.com/contact/)
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For current product data, approvals and installation guidance, use [ridgelinepipes.com/technical-downloads/](https://ridgelinepipes.com/technical-downloads/) and speak to the Ridgeline technical team before final specification.