

HELICAL HIGH AND EXTRUDED FINNED TUBE

Product information guide

INTRODUCTION

In our brand new, purpose built facility we have installed three fin tube machines, engineered and manufactured with the most up to date technology available.

The machines produce helical high and extruded fin tubes. Full details of scope of supply and our production range are set out in this brochure.

We also supply low fin tube, details of which are in a separate brochure.

7 Fin Types

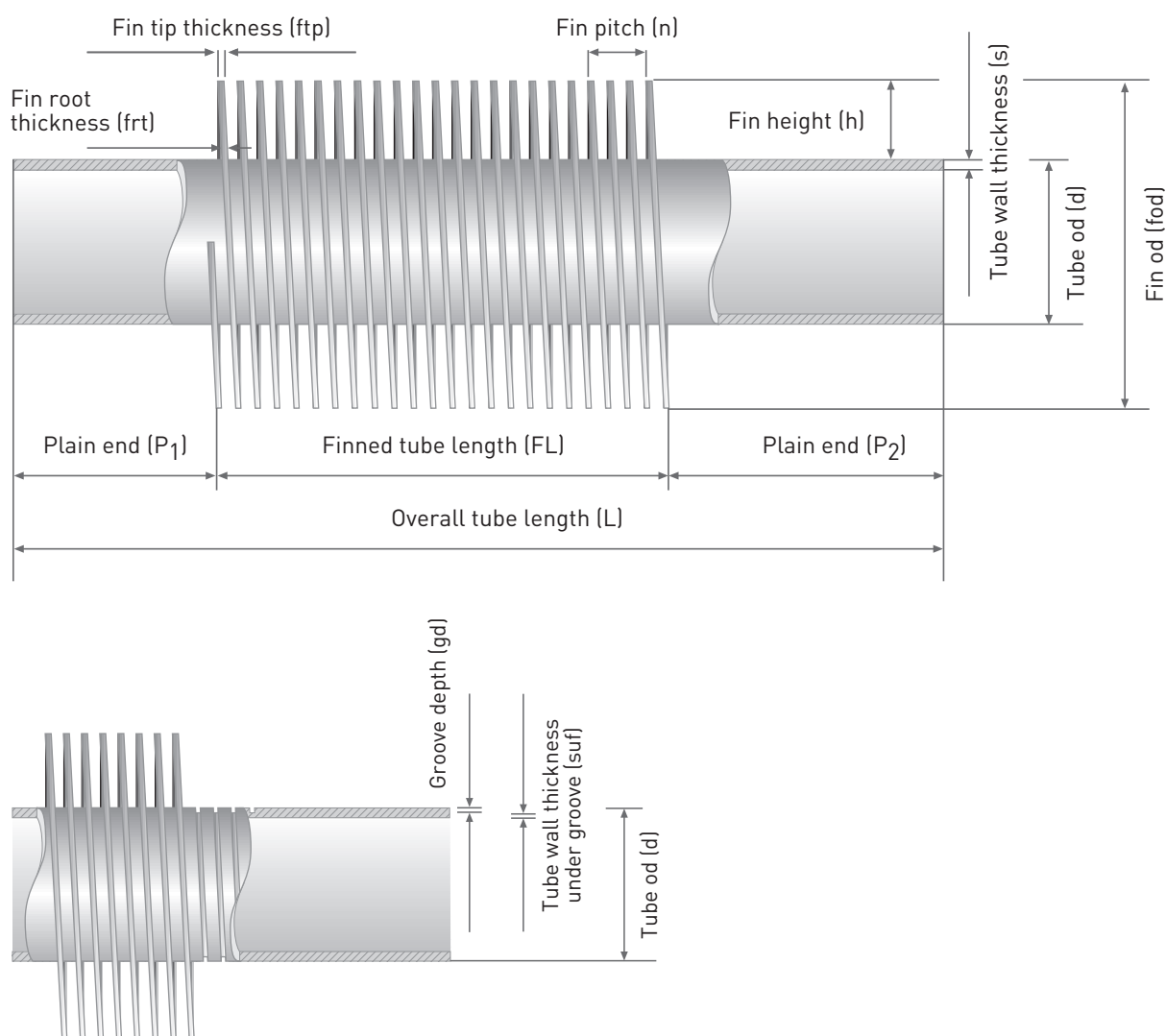
Applied Fins - Manufactured from Fin Strip

- G (Embedded/Grooved).
- L (Wrap On /L Foot).
- LL (Overlapped Footed/Double L).
- KL (Wrap On Knurled/Knurled L).
- KLL (Overlapped Footed Knurled/
Knurled Double L).

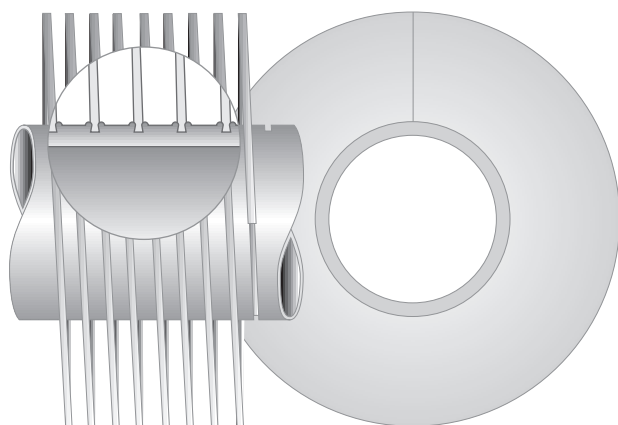
Extruded Fins – Manufactured from Tube

- EX (Extruded).
- EXS (Extruded Serrated).

Fin Tube Nomenclature



'G' (Embedded) Fin



Product Benefits

- High performance and efficiency.
- Use at high operating temperature.
- Can be used for low and high temperature applications.
- Dimensionally stable.
- Resists high loads and shocks, both mechanically and thermally.

Fin Contact:

Mechanical bond (fin embedded in tube groove).

Maximum Tube Wall Operating Temperature: 400°C.

Type of Service: High temperature.

Manufacture

Fin strip is rolled in a uniform taper, helically wound into a plowed groove into the tube wall and simultaneously backfilled (by flat rotating discs) on both sides to lock the fin to the tube. No tube material is removed. This gives an excellent bond with high pull out loads.

Fin Material: Aluminium/Copper/Carbon Steel.

Core Tube Material: Carbon Steel/ Carbon Alloy Steel/Stainless Steel/ Nickel Alloys/ Copper/Copper Alloys.

Tube diameter: 5/8" (15.875mm) to 2" (50.8mm).

Tube Wall Thickness: > 0.065" (1.65mm) depending on tube material and outside diameter.

Tube Overall Length: 300mm to 20000mm.

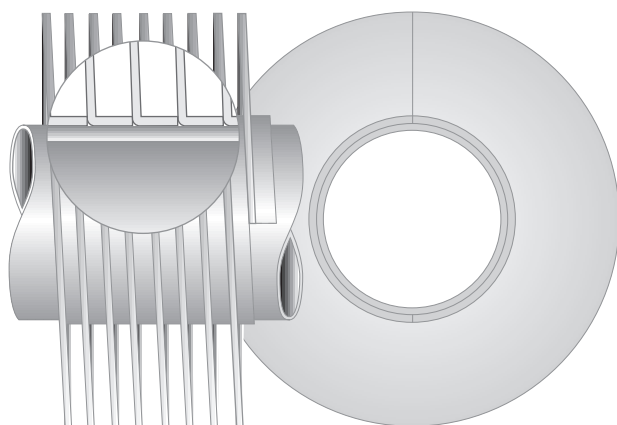
Fin Heights: 1/4" (6.35mm) to 1" (25.4mm).

Fin Pitches: 5 to 13 fins per inch.

Fin Strip Thickness: 0.012" (0.30mm) to 0.020" (0.50mm).

Other fin configurations are possible.
Please enquire.

'L' (Wrap On /L Foot) Fin



Product Benefits

- Economic solution.
- Relative thin wall core tubes can be used.
- Some atmospheric corrosion protection of the core tube.
- Enhanced heat transfer with the L foot.

Fin Contact: Interference fit.

Maximum Tube Wall Operating Temperature: 130°C.

Type of Service: Low temperature.

Manufacture

Fin strip is pre-formed into an accurately controlled L shape, rolled in a uniform taper, and helically wound under tension onto a tube. The foot of one fin butts up against the next fin and there is no gap between the fins giving a degree of coverage to the core tube.

Fin Material: Aluminium/Copper.

Core Tube Material: Carbon Steel/ Carbon Alloy Steel/Stainless Steel/ Nickel Alloys/ Copper/Copper Alloys/Titanium.

Tube diameter: 1/2" (12.7mm) to 2" (50.8mm).

Tube Wall Thickness: > 0.035" (0.889mm) depending on tube material and outside diameter.

Tube Overall Length: 300mm to 20000mm.

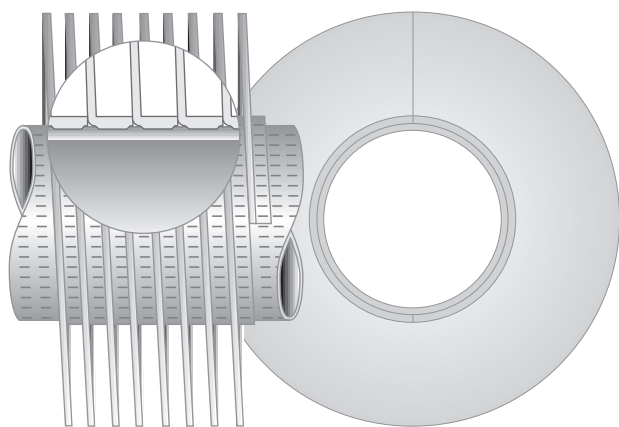
Fin Heights: 3/8" (9.525mm) to 1" (25.4mm).

Fin Pitches: 5 to 12 fins per inch.

Fin Strip Thickness: 0.012" (0.30mm) to 0.020" (0.50mm).

Other fin configurations are possible. Please enquire.

'KL' (Wrap On Knurled/Knurled L) Fin



Product Benefits

- Medium temperature applications.
- Increased fin to tube bond.
- Greater thermal contact than standard L fin.
- Added heat transfer performance due to the knurling.
- Increased atmospheric corrosion protection of the core tube.
- Good stability.

Fin Contact: Interference fit with mechanical pressed knurled bond.

Maximum Tube Wall Operating Temperature: 260°C.

Type of Service: Medium temperature.

Manufacture

Fin strip is pre-formed into an accurately controlled L shape, rolled in a uniform taper, and helically wound under tension onto a core tube. Knurling tools both proceed and follow the laying down of the fin foot. The foot of the fin is knurled into the pre-knurled tube giving a tight bond.

Fin Material: Aluminium/Copper.

Core Tube Material: Carbon Steel/ Carbon Alloy Steel/Stainless Steel/ Nickel Alloys/ Copper/Copper Alloys/Titanium.

Tube diameter: 1/2" (12.7mm) to 2" (50.8mm).

Tube Wall Thickness: > 0.049" (1.244mm) depending on tube material and outside diameter.

Tube Overall Length: 300mm to 20000mm.

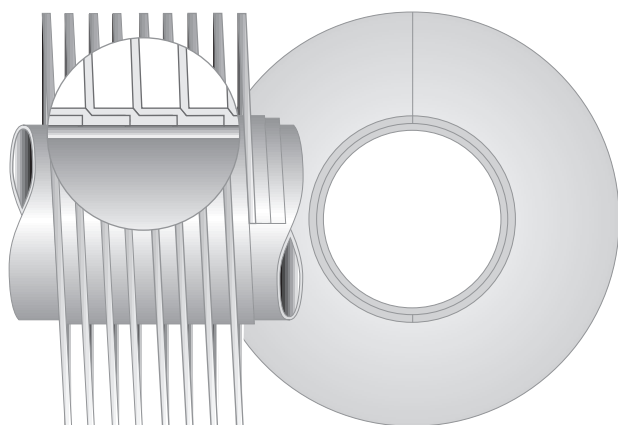
Fin Heights: 1/4" (6.35mm) to 1" (25.4mm).

Fin Pitches: 5 to 12 fins per inch.

Fin Strip Thickness: 0.012" (0.30mm) to 0.020" (0.50mm).

Other fin configurations are possible. Please enquire.

'LL' (Overlapped Footed/Double L) Fin



Product Benefits

- Economic alternative to Extruded fin tubes.
- Relative thin wall core tubes can be used.
- Greater atmospheric corrosion protection of the core tube (complete coverage of the core tube).
- Enhanced heat transfer with the LL foot.

Fin Contact: Interference fit.

Maximum Tube Wall Operating Temperature: 180°C.

Type of Service: Low temperature, corrosive atmospheric environment applications.

Manufacture

Fin strip is pre-formed into an accurately controlled stepped double L shape, rolled in a uniform taper, and helically wound under tension onto a tube. The foot of one fin overlaps the foot of the next fin giving complete coverage of the core tube.

Fin Material: Aluminium/Copper.

Core Tube Material: Carbon Steel/ Carbon Alloy Steel/Stainless Steel/ Nickel Alloys/ Copper/Copper Alloys/Titanium.

Tube diameter: 1/2" (12.7mm) to 2" (50.8mm).

Tube Wall Thickness: > 0.035" (0.889mm) depending on tube material and outside diameter.

Tube Overall Length: 300mm to 20000mm.

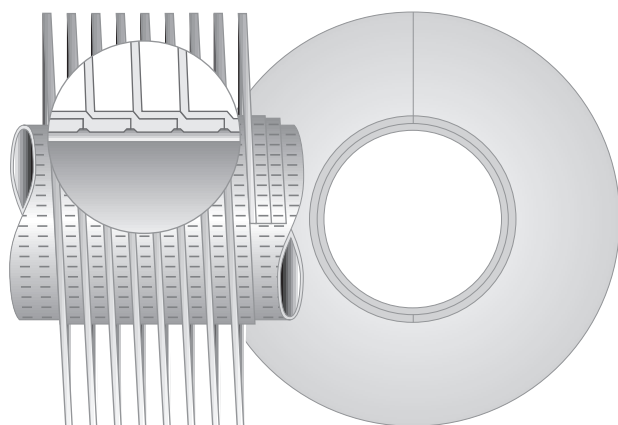
Fin Heights: 1/4" (6.35mm) to 1" (25.4mm).

Fin Pitches: 5 to 12 fins per inch.

Fin Strip Thickness: 0.012" (0.30mm) to 0.020" (0.50mm).

Other fin configurations are possible. Please enquire.

'KLL' (Overlapped Footed Knurled/Knurled Double L) Fin



Product Benefits

- Medium temperature applications.
- Increased fin to tube bond.
- Greater thermal contact than standard L fin.
- Added heat transfer performance due to the knurling.
- Increased atmospheric corrosion protection of the core tube.
- Good stability.

Fin Contact: Interference fit with mechanical pressed knurled bond.

Maximum Tube Wall Operating Temperature: 260°C.

Type of Service: Medium temperature, severe atmospheric corrosive environment.

Manufacture

Fin strip is pre-formed into an accurately controlled stepped double L shape, rolled in a uniform taper, and helically wound under tension onto a tube. The foot of one fin overlaps the foot of the next fin giving complete coverage of the core tube. Knurling tools both proceed and follow laying down of the double fin foot. The foot of the fin is knurled into the pre-knurled tube. An additional tool completes the double foot knurling. This gives a tight bond.

Fin Material: Aluminium/Copper.

Core Tube Material: Carbon Steel/ Carbon Alloy Steel/Stainless Steel/ Nickel Alloys/ Copper/Copper Alloys/Titanium.

Tube diameter: 1/2" (12.7mm) to 2" (50.8mm).

Tube Wall Thickness: > 0.049" (1.244mm) depending on tube material and outside diameter.

Tube Overall Length: 300mm to 20000mm.

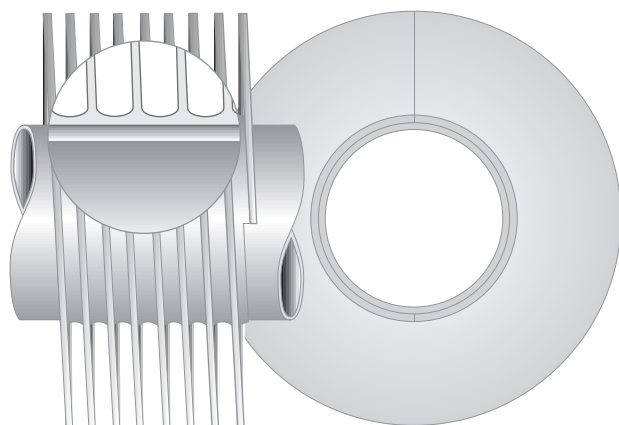
Fin Heights: 1/4" (6.35mm) to 1" (25.4mm).

Fin Pitches: 5 to 12 fins per inch.

Fin Strip Thickness: 0.012" (0.30mm) to 0.020" (0.50mm).

Other fin configurations are possible. Please enquire.

'EX' (Extruded) Fin



Product Benefits

- Relative thin wall core tubes can be used.
- Excellent heat transfer performance (100% contact between tube and fin).
- Excellent atmospheric corrosion (complete coverage of the core tube).
- Airtight fin to tube bond.
- Robust fins resist mechanical damage.
- Can be cleaned with high pressure water/steam.

Fin Contact: Interference fit with mechanically solid pressed bond.

Maximum Tube Wall Operating Temperature: 300°C.

Type of Service: Medium temperature, severe atmospheric corrosive environment.

Manufacture

The fins are rotary cold rolled from a smooth thick walled hollow blank tube slid over the core tube. Three multi spindle disc packs extrude the hollow blank tube into helical high fins. During this process the inner diameter of the hollow blank tube is reduced and at the same time pressed on the core tube. This results in a mechanically solid joint.

Fin Material: Aluminium/Copper.

Core Tube Material: Carbon Steel/ Carbon Alloy Steel/Stainless Steel/ Nickel Alloys/ Copper/Copper Alloys/Titanium.

Tube diameter: 3/4" (19.05mm) to 2" (50.8mm).

Tube Wall Thickness: > 0.042" (1.067mm) depending on tube material and outside diameter.

Tube Overall Length: 1000mm to 20000mm.

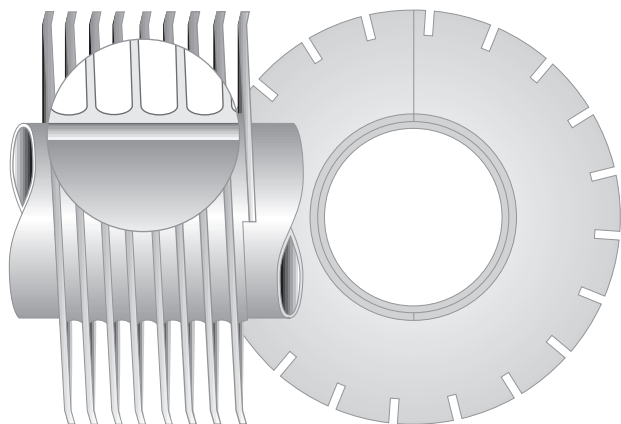
Fin Heights: 1/2" (12.7mm) and 5/8" (15.875mm).

Fin Pitches: 8 to 11 fins per inch.

Average Fin Thickness: 0.016" (0.40mm).

Other fin configurations are possible. Please enquire.

'EXS' (Extruded Serrated) Fin



Product Benefits

- Relative thin wall core tubes can be used.
- Excellent heat transfer performance (100% contact between tube and fin).
- Excellent atmospheric corrosion (complete coverage of the core tube).
- Airtight fin to tube bond.
- Robust fins resist mechanical damage.
- Can be cleaned with high pressure water/steam.

Fin Contact: Interference fit with mechanically solid pressed bond.

Maximum Tube Wall Operating Temperature: 300°C.

Type of Service: Medium temperature, severe atmospheric corrosive environment.

Manufacture

The fins are rotary cold rolled from a smooth thick walled hollow blank tube slid over the core tube. Three multi spindle disc packs extrude the hollow blank tube into helical high fins. During this process the inner diameter of the hollow blank tube is reduced and at the same time pressed on the core tube. This results in a mechanically solid joint. Longitudinal slots are cut into the outer periphery with inclined fin tips.

Fin Material: Aluminium.

Core Tube Material: Carbon Steel/ Carbon Alloy Steel/Stainless Steel/ Nickel Alloys/ Copper/Copper Alloys/Titanium.

Tube diameter: 1" (25.4mm).

Tube Wall Thickness: > 0.042" (1.067mm) depending on tube material and outside diameter.

Tube Overall Length: 1000mm to 20000mm.

Fin Heights: 5/8" (15.875mm).

Fin Pitches: 8 to 11 fins per inch.

Average Fin Thickness: 0.016" (0.40mm).

Other fin configurations are possible.
Please enquire.



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