

Heat Exchangers



Energy and heat saving and recovery initiatives are an effective means of minimising your energy use and maximising the reliability and self-sufficiency of your energy supply.

They also present your company in a positive light to your customers and may help to mitigate future compliance costs and emissions taxes.

Heat Exchangers



We began constructing carbon steel finned tube heat exchangers in the late 1980's for our high temperature kilns.

As the timber drying market evolved, with lower kiln air temperatures, carbon steels were replaced by stainless steels in our heat exchanger designs.

Over time we developed considerable expertise for finned tube heat exchangers, supplying coils not only for kilns, but for heatplant preheat, process heat recovery and the exacting requirements of the dairy industry.

We have supplied finned tube heat exchangers ranging from 100KW to over 25MW capacity.

Using our own in-house designed software we refine our designs to allow the design of purpose built coils to suit a customer's requirements, for high pressure hot water, high and low pressure steam and thermal oil, and a variety of air side gases.

Designs take into account the specific requirements of the hot and cold process streams.

Our heat exchanger design also involves the careful selection of heater coil materials, relevant welding procedures, allowances for thermal expansion, provision of coil support, and testing & inspection requirements.



Features

- We can provide for the necessary piping, valve harnesses, trapping, and control requirements for the heater coils.
- Design capability to meet specific and customised site requirements.
- Often we can retro-fit a new and improved performance heat exchanger into existing locations, thus saving installation costs.



Benefits

- Risk reduction as all Windsor heat exchangers are guaranteed for thermal performance, workmanship and materials
- Proven designs and constant innovations to meet evolving technology
- Faster delivery to Australasian customers
- Local support and service





Fabrication & inspection

All heater coils are manufactured in our factories to Australian or ASME codes, and the requirements of the OSH Code of Practice.

We supply full documentation with each coil, and can supply weld maps if required.

Third party inspection (including full internal endoscopic inspection of welds) can be provided where necessary.

Materials

All heat exchangers are manufactured from high quality tube manufactured in stainless or carbon steel.

Fine base tube diameter is generally 3/4" or 1" but other sizes can be provided.

Finning is aluminium, either of the G-fin (wound into a groove on the tube and swage locked) or extruded type.

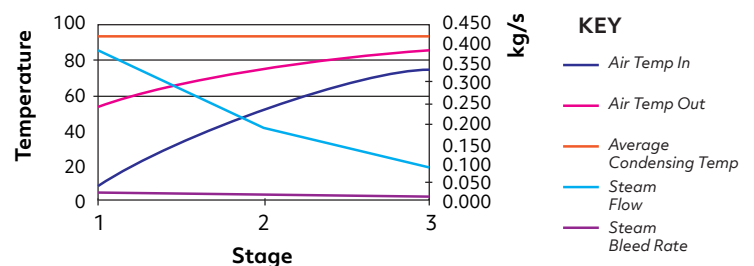
Both have their advantages and disadvantages. We can provide advice as to the most suitable base tube and fin type for your application.



Thermal Design

Provided below are typical technical details normally supplied representing duty points i.e. Nominal, Best Case and Worse Case.

Airflow	70700 kg/hr
Supply Steam	1 Bar
Air/steam mass ratio	0.05 kgair/kgsteam
Humidity ratio	0.0076 kgw/kgair
Air side DP	738 Pa
Tube side DP	749 Pa
Total Steam Inflow	2542 kg/hr
Total steam Outflow	150 kg/hr
Bleed Steam	6.2%





Two Windsor waste steam recovery units at a pulp mill in New Zealand.

Waste refiner steam was originally discharged to the atmosphere is now used to preheat pulp drier air.

"Windsor really got involved and wanted to understand our process. The units they supplied have delivered beyond our expectation and through good design have not caused any disturbance to our process. We look forward to installing more of this type of equipment to reduce our heating loads."

- Bruce Ayling, Manager - Engineering Development, Pulp division, Pan Pac Forest Products.

Please contact our Wellington sales office for these products:

3A Broken Hill Rd, Porirua, Wellington 5022, New Zealand

Ph: +64 4 232 8080

wellington.sales@windsor.co.nz