



# Refurbishment and Spares

IWC has been active in the refurbishment of cooling towers for the past three decades and our turnkey solution ensures your plant runs optimally at all times. Since 2015, we have also been active in offering a full service program for Plate Heat Exchangers and Shell & Tube Heat Exchangers.

We offer a comprehensive range of spares and accessories for all cooling tower types, as well as a range of spares for most brands of Heat Exchangers.



## Refurbishment and Spares

Our industry recognised refurbishment solution includes the installation of fill material, drift eliminators, spray systems and nozzles as well as fan mechanicals. Old cooling towers can often be satisfactorily refurbished as an alternative to the purchase of a new tower.

IWC is also a registered asbestos removal contractor and has extensive experience in assessment and removal of asbestos products from cooling towers, and exchanging with suitable replacement components.

## Cooling Tower Refurbishment

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Our refurbishment solution includes the installation of fill material, drift eliminators, spray systems and nozzles as well as fan mechanicals.

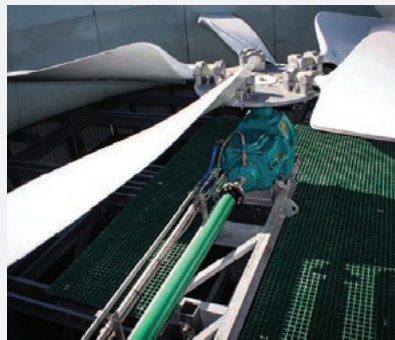
### Our refurbishment services includes:

- Site servicing of all makes and types of cooling towers
- Full refurbishment of all makes and types of cooling towers
- Refurbishment of fan blades
- Alignment of fan drives
- Performance testing of cooling towers

## Cooling Tower Components (spares)

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We offer a comprehensive range of spares and accessories for all cooling tower types, including fills, drift eliminators, electric motors, gearboxes, fans, as well as sprayers and nozzles.



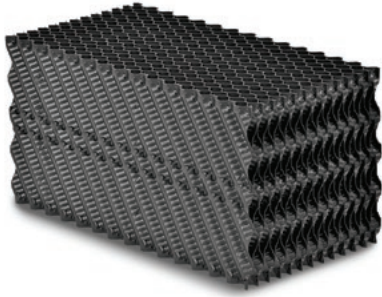
### Fan Rotating Assembly

IWC supplies a range of fans and fan equipment to retrofit almost any cooling tower or air-cooled heat exchanger. Our standard fan arrangement comprises an axial flow fan having either fiberglass or aluminium fan blades, right angle reduction gearboxes, steel, stainless steel or carbon fibre composite drive shafts and electrical motors supplied to our customers specifications.



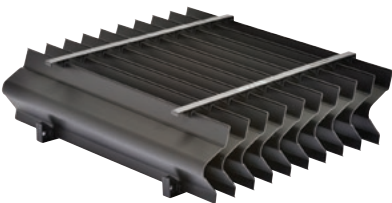
### Fan Rings or Fan Stacks

We provide fibreglass fan rings and fan stacks for both air-cooled heat exchangers as well as cooling towers. These are supplied complete with bell, circular or conical inlets. Pressure recovery diffusers/evasés are available as optional equipment.



### Cooling Tower Fills

We have a comprehensive range of cooling tower fills on offer. Our range of media covers all possible cooling tower operating conditions from very clean to extremely dirty recirculating water. Our fills are typically available in either PVC or polypropylene, with the exception of our splash grid fill that is only available in polypropylene. We also provide different types of trickle fill packs including our NC20. We also offer timber or stainless steel fill options.



### Drift Eliminators

A variety of drift eliminators are available depending on the customers emission requirements.

These typically include our S-Type (large cooling towers) & Honeycomb D15 (typical in package cooling towers). Drift eliminators can be provided in a range of materials with PVC and polypropylene being the industry standard. Stainless steel can be provided for high temperature and high fouling applications.

**EUROVENT certified products can be provided on request.**



### Water Distribution Systems

We have a range of cooling tower spray nozzles that have been developed by IWC specifically for use in both large concrete cooling towers as well as in package cooling towers.

**Square Pattern Sprayers:** We offer three types of nozzles that are designed to distribute water evenly in a full cone square pattern with a minimum spray angle of 110°C. This implies that a single nozzle can be used to cover an area of 1m<sup>2</sup> with the nozzle tip 350mm above the packing or a square of 1.2 metres at a height of 400mm. The spray nozzles have been designed with profiled swirlers to give excellent water distribution at a low pressure drop. They cover flow rates of 8 – 35m<sup>3</sup>/hr between pressures of 1.5 – 6 metres of head. The spray nozzles can be fitted into standard 3" BSP metal or plastic fittings or used with the IWC strap-on saddles. We are also able to offer new distribution piping systems for any cooling tower made from PVC, polypropylene, various grades of stainless steel and other materials.

**Up & Down spray nozzles:** Our up and down spray nozzles are low pressure gravity fed sprayers designed to achieve excellent water distribution at low water pressures making them ideal for large field erected mechanical and natural draught cooling towers. The graduated spray nozzle makes nozzle sizing simple. These can be fitted to standard 2" BSP metal or plastic fittings but are ideally used with IWC's strap-on saddles that are available for a range of pipe diameters

## Asbestos Removal

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IWC is a registered asbestos removal contractor and has extensive experience in removing asbestos products from cooling towers.

Asbestos mining existed more than 4,000 years ago, but large-scale mining began at the end of the 19th century when manufacturers and builders began using asbestos for its desirable physical properties.

Asbestos is a set of six naturally occurring silicate minerals which all have in common thin fibrous crystals, with each visible fibre composed of millions of microscopic "fibrils" that can be released by abrasion and other processes. They are commonly known by their colours – blue, brown, white and green asbestos. Inhalation of asbestos fibres can cause serious and fatal illnesses including lung cancer, mesothelioma, and asbestosis (a type of pneumoconiosis). Concern of asbestos-related illness in modern times began with the 20th century and consequently asbestos trade and use were heavily restricted, phased out, or banned outright in an increasing number of countries.

Despite the severity of asbestos-related diseases, the material has extremely widespread use in many areas, one of which is as cooling tower components for fill, drift eliminators and distribution piping. A number of cooling towers, both natural draught and mechanical draught, in operation today still make use of asbestos products which will at some point need to be removed and disposed of.

IWC has vast experience and the necessary industry expertise to ensure that all asbestos material is safely removed and safely disposed of in line with the Asbestos Regulations. We can provide all the necessary replacement components suitable for operation in corrosive environments

## Heat Exchanger Refurbishment

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Our service includes equipment surveillance on site, chemical cleaning on site, monitoring of process performance and heat exchanger hardware on a monthly basis. We also offer a complete refurbishment at our service centre, and supply of gaskets and plates and components for the frame of PHE's.

### We offer replacement plates for most brands and models of plate heat exchangers:

- Replacement gaskets for most brands of plate heat exchangers in various materials e.g. nitrile, EPDM, butyl, Viton, hypalon and silicon
- Site servicing of heat exchangers e.g. dismantling, reassembly, and commissioning of plate heat exchangers
- In situ chemical cleaning or Cleaning in Place (CIP) of PHE's.
- Complete refurbishment program at our service centre comprising of:
  - High Pressure Washing to remove loose debris
  - Plate degreasing & descaling in heated baths
  - Plate inspection consisting of visual inspection for gasket groove distortion & dye pen testing for pinhole detection
  - Re-gasketing (clip-on or gluing and oven curing)
  - Pressure testing
  - Refurbishment of frame, including replacement of tie bars and frame plate repair and painting

## Heat Exchanger Components (spares)

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We can supply gaskets and plates for most brands of Heat Exchangers and offer 12 to 24 month warranty on the products, depending on the process in which the PHE's operate.

- Gaskets
- Plates
- Refurbishment of existing frame or supply of New Frame
- Replacement of tightening bolts (tie bars)





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