



**AIR BLAST**  
**WATER COOLERS**

Many industries, heavy as well as light, still rely on mains water supplies from their regional authorities to fulfil their cooling requirements. However, this has become increasingly impractical and expensive. Water metering, effluent charges and a growing need to be independent from the disruptions to main supplies caused by drought and frost now make the purchase of an industrial cooling system an attractive and economical proposition.

F&R Products' range of air blast water coolers has many advantages over other means of cooling liquids:

- Low running costs
- A completely closed circuit
- No corrosion problems
- No clogging of cooling pipes and waterways
- No expensive water treatment systems required
- No water loss
- Low maintenance costs
- Quiet in operation
- Substantial heat recovery
- Fully packaged equipment

## THE EQUIPMENT

We have 12 models in our range of air blast coolers with duties ranging from 1.5kW to 200kW. There is no need for any extra plumbing whatsoever – just connect up the clearly marked water fittings to your existing ring main. Furthermore, F&R Products can manufacture air blast coolers to any specification and size to suit your particular requirements.

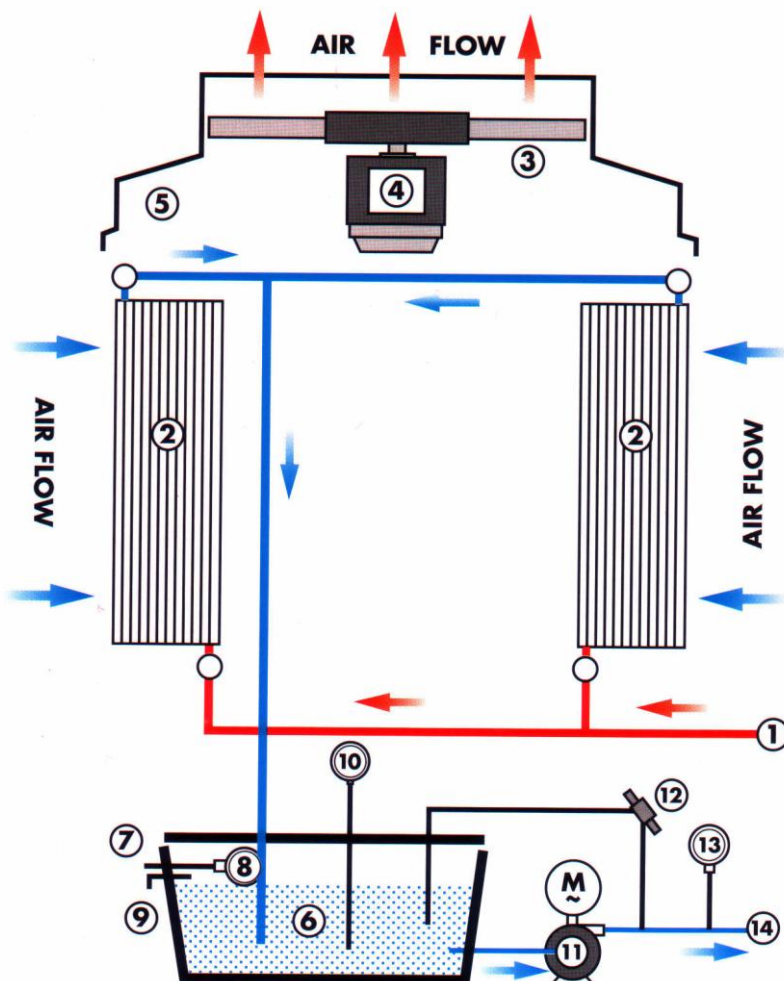
## FEATURES

The design concept of total packaging is evident throughout the range of air blast coolers. The basic features are as follows:

- Heat Exchange Module – High efficiency radiators of non-ferrous construction, pressure tested to 15 bar as standard.
- Motor Fan Unit – Totally enclosed motor's with axial fans fixed with a keyed boss to the motor shaft. The fan cowling is specially fitted to give minimum clearance and thus high volumetric efficiency.
- Water Pumps (stainless steel) – All of centrifugal, monobloc construction, fitted with mechanical seals and close coupled to totally enclosed fan cooled motors. A wide range available to allow for considerable design flexibility.
- Framework – Of welded metal construction, panelled to give a neat finish.

## SCHEMATIC DIAGRAM

Typical Air Blast Cooler Circuit



### No. Description

- |                      |                           |
|----------------------|---------------------------|
| 1. Unit inlet        | 9. Overflow               |
| 2. Heat exchanger    | 10. Temperature gauge     |
| 3. Fan               | 11. Pump                  |
| 4. Motor             | 12. Pressure relief valve |
| 5. Fan cowl          | 13. Pressure gauge        |
| 6. Reservoir         | 14. Unit outlet           |
| 7. Mains water inlet |                           |
| 8. Ball valve        |                           |

## COOLING CAPACITY

The cooling capacity of the heat exchangers is based on the outlet water temperature being 10°C above the ambient temperature. The rated cooling capacity will apply when there is a temperature differential between the inlet and the outlet of 10°C, e.g., in those conditions water would return to the cooling unit at 20°C above ambient. The heat extraction rate will vary according to the differential between the inlet and ambient temperatures. The greater this differential, the greater the heat extraction rate at the cooler.

## APPLICATIONS

There are many applications for our range of air blast coolers in both light and heavy industries, but they are particularly useful where cooling is required from high temperatures, such as with induction furnaces and air compressors. Here are just a few more uses:

- Water cooled welding appliances
- High frequency generators
- Hydraulic cooling of plastic moulding machines
- Vacuum pumps
- Oil cooling
- Hydraulic circuit cooling
- Heat recovery systems
- Degreasing systems
- Extrusion processes

## STANDARD FEATURES\*

Temperature gauge  
Pressure gauge  
Manual fill  
Waterproof (IP55)  
Copper pipework  
Sight glass  
Pressure relief valve  
Stainless steel pump (3 bar)

\* Models 15K – 200K

## OPTIONS

High pressure pump  
Level switch  
Over temperature thermostat  
Flow switch  
Water pressure switch  
Special electrics  
Mains bleed system  
Dual circuits  
Fan thermostat



## **AIR BLAST WATER COOLER STANDARD SPECIFICATION**

Cooling capacity: Extraction rates are based on cooling water to a temperature 10°C above ambient.

Unit Type	Rated Capacity Kcal/hr	Voltage	Water Pressure Bar	Pump Flow m <sup>3</sup> /hr	Reservoir Capacity Litres	Overall Dimensions Metric	Weight Kgs	Fan Motor Size kW
1.0K	860	240V 1Ph 50Hz	4.5	0.13	0	L390 W535 H500	20	10 watt
3K	2580	240V 1Ph 50Hz	2.5	0.26	0	L660 W480 H690	64	70 watt
6K	5160	415V 3Ph 50Hz	3.0	0.52	8	L692 W761 H675	91	0.18
15K	12,900	415V 3Ph 50Hz	3.0	1.3	20	L930 W1035 H1440	162	0.18
30K	25,800	415V 3Ph 50Hz	3.0	2.6	20	L930 W1035 H1440	207	0.75
50K	43,000	415V 3Ph 50Hz	3.0	4.3	115	L1310 W1397 H1925	318	1.5
75K	64,500	415V 3Ph 50Hz	3.0	6.45	115	L1310 W1397 H1925	340	1.5
100K	86,000	415V 3Ph 50Hz	3.0	8.6	115	L1310 W1397 H2230	408	2.2
125K	105,500	415V 3Ph 50Hz	3.0	10.5	115	L1310 W1397 H2230	590	4
150K	129,000	415V 3Ph 50Hz	3.0	12.9	115	L1310 W1397 H2230	635	4
175K	150,500	415V 3Ph 50Hz	3.0	15.0	115	L1770 W1770 H2460	850	6
200K	172,000	415V 3Ph 50Hz	3.0	17.2	115	L1770 W1770 H2460	907	7.5



### **F&R Products**

Richards Close, Wellington,  
Somerset, TA21 0BD, England

Telephone: 01823 663281

Facsimile: 01823 664378

E-mail: [sales@fandrproducts.co.uk](mailto:sales@fandrproducts.co.uk)

Web: [www.fandrproducts.co.uk](http://www.fandrproducts.co.uk)

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