BISQUE

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TRUMAN BREWERY LONDON UK

New Radiator Design Brief

Bisque is asking you to look at radiator design with the intention of creating some inspired new products. Whilst not wanting to limit creativity, to develop a really successful design you should consider the following four criteria:

1. Original / Innovative design
They should not look like any existing designs

2. Wide spread, long lasting appeal
You might like a hot pink radiator in the shape of a tree but will everybody else? Unlike furniture, people will typically only change radiators once or twice in a lifetime, so designs should not look quickly outdated.

A significant proportion of homes have traditional furniture and fabrics. Finding radiators that complement these can be difficult.

3. End use and installation
Consider where the radiator would be situated and how it will be used. Towel radiators should have sufficient space to hang towels.

To ensure a decent output, a room radiator should have surface area of at least $1m^2$. If the radiator is run from a green source (e.g. heat pumps) then temperatures will be lower and so the surface area should be closer to $2m^2$.

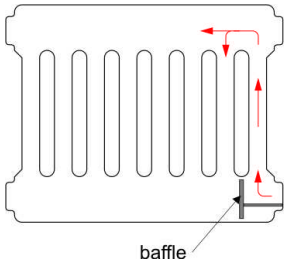
Designs which have only two connection points are easier to install and will look neater.

4. Manufacture and cost
It must be possible to manufacture the product with existing technology. Uncomplicated designs are cheaper to manufacture and are therefore more likely to sell in quantity. Designs with modular elements mean that a range of sizes can easily be produced.

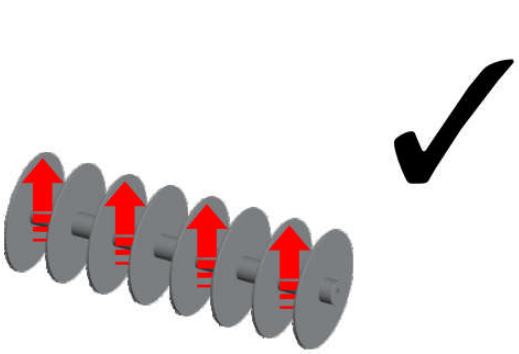
The following information will help you to design radiators that work.

Wet radiators
For maximum efficiency of heat transfer to the air, wet radiators are traditionally made from metal, generally steel. Radiators made from aluminium require special inhibitors to be added to the water to prevent corrosion.

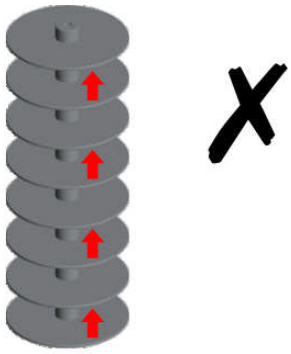
Water goes in one end and comes out the other, losing some of its heat in the process. Baffles are sometimes inserted to make sure the water circulates evenly throughout the whole radiator, and doesn't take the line of least resistance leaving part of the radiator cold



Horizontal tubes with fins at right angles allow the heated air to rise vertically between the fins. A vertical tube with horizontal fins will not work effectively because the heated air cannot rise and gets ‘clogged’.

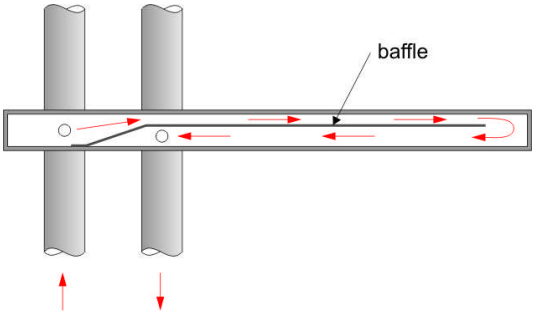


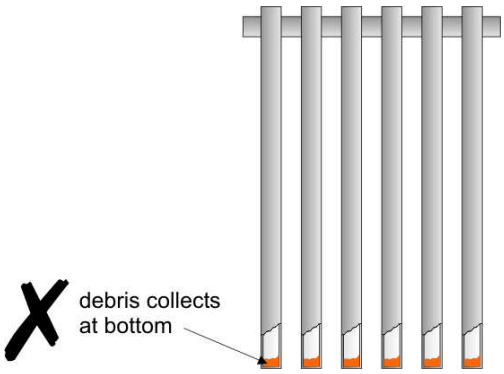
horizontal tube with vertical fins



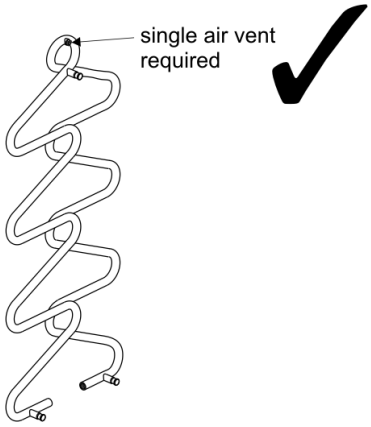
vertical tube with horizontal fins

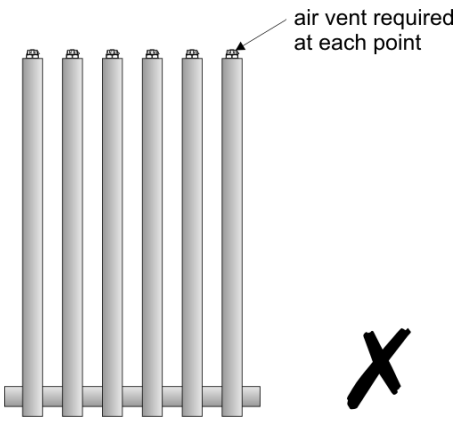
Horizontal tubes with dead ends should be avoided, although baffles can be inserted to make the water flow through the whole pipe. Vertical tubes with dead ends at the bottom should be avoided, as any debris in the system will collect there and result in corrosion.





In radiators, air will often get trapped at the highest point and a means of venting the air out is required (air vent). Vertical tubes with dead ends at the top should be avoided, as a row of these would require an air vent at the top of each tube.

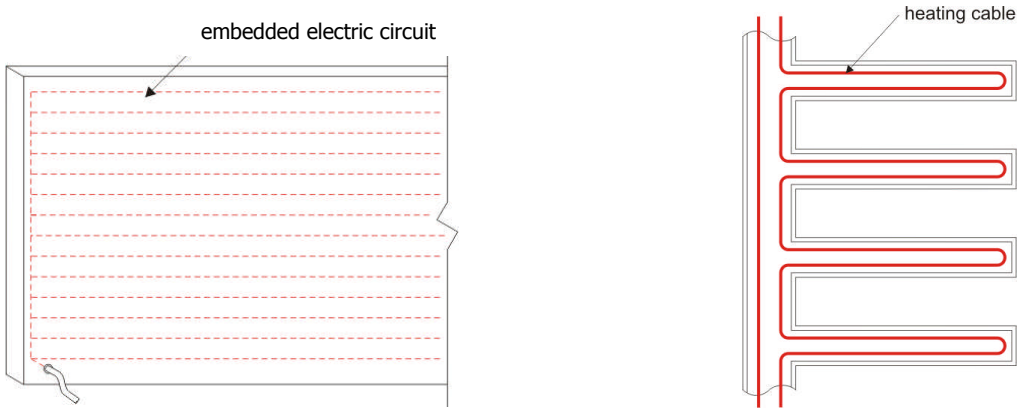




How the radiator connects to the pipework is also an important consideration. Ugly pipework should be kept to a minimum. Most pipework comes up from the floor or through the wall at low level.

Electric radiators
These fall into two categories, wet electric and dry electric. The former are radiators containing water or oil, which is heated by means of an electric element. With these, many of the design guidelines outlined above for wet radiators, must be considered.

Dry electric heaters contain no liquid. The most common form is a simple convector, where a high temperature element is encased in a metal shell. More liberating methods include embedding a heating circuit in a material such as resin or glass (the material must be able to expand and contract with the heat), or using by insulated heating cable fed into steel tubes.



Electric radiators have many advantages. Having no liquid they are able to take more adventurous forms. They are also easier to install and if run from a programmer, can maximise energy efficiency. However, they are often more expensive to make, can be costly to run if not properly controlled and in the UK only account for 2% of the heating market.

More about Bisque

Founded in 1979 by Geoffrey Ward, Bisque introduced the concept of stylish radiators to the UK.

It was Bisque who pioneered towel radiators (virtually unheard of 30 years ago), introduced colour finishes and who commissioned such innovative, award-winning designs as the revolutionary Hot Spring and the charismatic Archibald towel radiator.

Bisque continue to remain at the cutting edge of radiator design and were recently voted one of the CoolBrands of 2009/2010.

Major milestones in Bisque's design history:

1979
Bisque founded.
UK radiators were almost universally traditional steel pressed steel panels.

1980s
Bisque champion towel radiators, colour finishes and publish the first radiator brochure designed for home owners. Bisque's images present radiators as objects of beauty.

1997
Hot Spring radiator launched
Designed by Paul Priestman and Geoffrey Ward for Bisque
Selected as a Millennium product by the Design Council in 1999
International Design Effectiveness Award 2001
Purchased by the Philadelphia Museum of Art

2001
Hot Hoop radiator launched
Designed by Paul Preistman for Bisque
Made by leading UK suppliers of stainless steel yacht equipment

2002
Power Plant electric radiator launched

2003
Zanzibar radiator launched
Designed in Italy by Francesco Dori and Mario Talin for Bisque

2008
Archibald towel radiator launched
Designed by Leo Salzedo for Bisque (winner of designboom competition Radical Radiators of the Future)