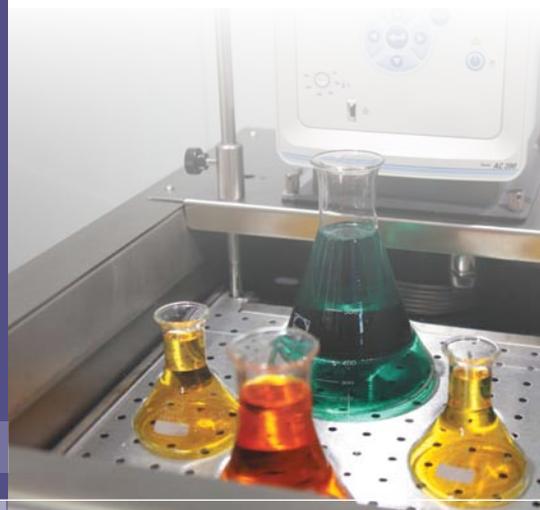


Highlighting innovative design features  
and useful applications information for  
**Thermo Scientific Liquid Temperature Control**

**Thermo**  
S C I E N T I F I C

# smart notes

▶ **selection**



**BATH CIRCULATORS**

**SIZE vs. COOLING**

**Q** I want to use a bath circulator to immerse my vessels. How do I select the right size bath for my application?

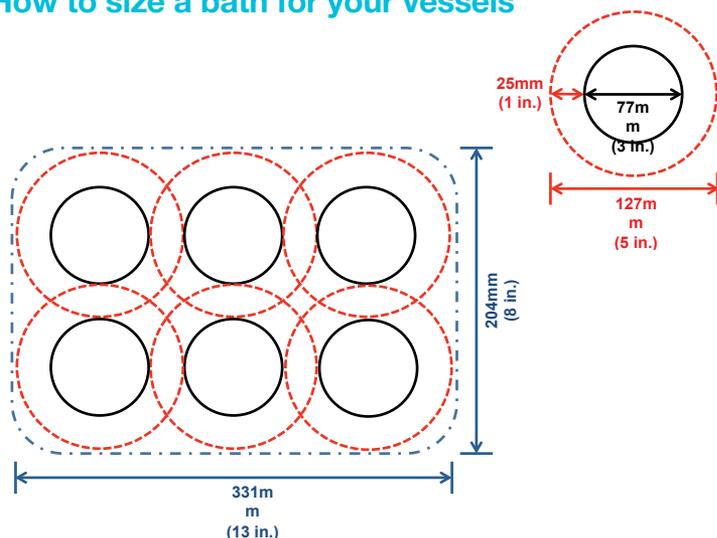
**A**

Define the minimum bath opening and depth to accommodate your vessels. Start by measuring the vessel footprint and then add a 25 mm (1 in.) buffer to allow for circulation around it. Arrange multiple vessels in a pattern that maintains the buffer and measure the new footprint including the buffer. Finally, compare it to the bath openings available. The bath needs to be deep enough for good heat transfer, yet not so deep that your vessels float or sink.



For applications requiring test tubes, Thermo Scientific™ racks are available in a variety of configurations to accommodate test tube diameters. Once the correct size test tube rack is selected, a corresponding bath that meets the temperature range and fits that rack can be selected.

### How to size a bath for your vessels



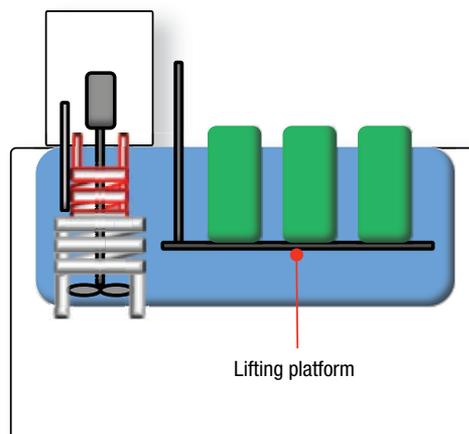
For other vessels or objects to be placed in the bath, the critical dimensions must be determined. In this example we are using a vessel with a 77 mm (3 in.) diameter. To this we will add 50 mm (2 in.) to the original diameter leaving 25 mm (1 in.) around the vessel for circulation. This gives you a critical dimension of 127 mm (5 in.). The bath opening should be at least 127 mm x 127 mm (5 in. x 5 in.) to accommodate this application.

If multiple vessels are going to be in the bath, they should be arranged with the added circulation space included. The clearance circles can be overlapped to avoid doubling the distance between the vessels. The outside dimensions are now the critical dimensions for the bath opening.

### Summary

- ▶ Size does matter when choosing a bath circulator for your vessels. Be sure to size the bath based on the size of the vessel and the space needed for circulation. Utilizing the available accessories will ensure the perfect fit for your application.

### Using a lifting platform accessory



If the bath needed is the right size for your vessels, but too deep, the bath depth can be controlled by using the lifting platform accessory. This gives you a height-adjustable platform, allowing the vessels to be submerged to the proper depth.

Visit [thermoscientific.com/tctechlibrary](http://thermoscientific.com/tctechlibrary) for product brochures and detailed application notes.

[thermoscientific.com/tc](http://thermoscientific.com/tc)

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