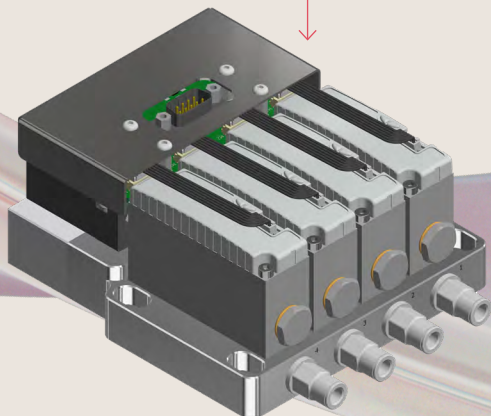




Breakthrough
engineering for
a better world

Reducing the Cost and Footprint of a critical Bioreactor Component

CHIPREG MFC
Manifold



**Life
Science**

Our product brands:
IMI Adaptas
IMI FAS

Building a low footprint, accurate, supply chain optimized and cost-effective mass flow controlling manifold for a bioreactor manufacturer

Too many components, too many suppliers

By carefully controlling the flow of air, oxygen, nitrogen, and carbon dioxide, a mass flow controller helps to maintain the perfect environment for cell growth in a bioreactor.

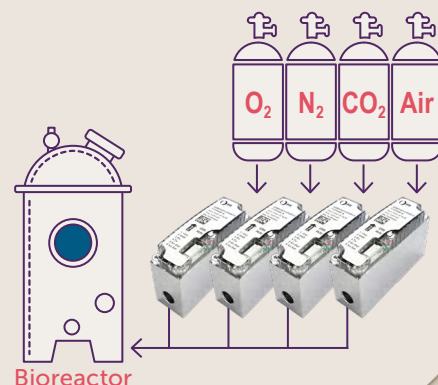
Having a complex mass flow control assembly quickly drives up the costs and installation time – and increases the chances of leaks and other faults.

This was the challenge facing one bioreactor manufacturer. Their mass flow controller required a tangled web of

tubes, fittings, and cables, making it both large and difficult to assemble.

Adding to this complexity, the manufacturer also needed to source the components from no fewer than five different suppliers, which drove up costs and made it difficult to track down the causes of faults.

The manufacturer was searching for a more compact solution that would cut their assembly time, load, and cost, have a smaller footprint, and reduce the risk of leaks and faults.



Small, simple, and more flexible than ever



Size



Performance



Efficiency



By working with IMI Life Science, the manufacturer swapped five suppliers for one partner – and received a simple yet flexible solution they could rely on.

The solution was based on 4 standard IMI mass flow controllers, with some smart adjustments to help streamline the final product.

IMI created a custom manifold design that significantly reduced the number of tubes, connectors, and cables in the flow control solution. This reduced the footprint of the controller by 70%, saving valuable space in the bioreactor.

Fewer components meant fewer connections, thus fewer gas leaks from the controller.

Most importantly, IMI takes charge of 100% of the mass flow controllers, valves, and manifold assemblies. IMI sources all the components with traceability, assembles at its factories, and tests the control solution to ensure it is 100% leak free¹. By the time the flow control assembly arrives at the manufacturer's facilities, it is ready to go. All the manufacturer needs to do is plug it into place.

Instead of juggling five suppliers, the manufacturer now only has to deal with one partner – which means any question or issue is quickly resolved, with support from IMI's team of expert engineers.

It's also a significant cost-saver: the final solution costs 50% less than the original one.

But a lower cost doesn't mean a reduction in performance. The original solution only allowed users to control gas flow down to 1% of the full flow range. While IMI's new solution supports control down to 0.05% of the full flow range.

This improvement in resolution increases the mass flow control range, thus lowering the need for a scale-up operation.

Streamlined, cost-effective, and reliable, the new solution is an all-round upgrade for the manufacturer.



¹ According to contract specifications

