

VENTILATOR FLOW CONTROL

Proportional flow control valves driven by the medical industry

COMPANY PROFILE

iQ Valves Co. was incorporated in 2005 after years of experience in the contract manufacturing and solenoid industries under the previous name Teknocraft Inc. The company has provided manufacturing and engineering services dealing with solenoid valve technology for the medical, instrumentation, and natural gas industries dating back to 1984. The company was a pioneering leader in the ventilator market in the late 80s, providing proportional valve design that has become an industry standard

With over 20 patents in the fluid flow category, iQ Valves has separated itself as a leader in fluid flow and proportional solenoid technology and innovation.

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iQvalves

Please visit our website for more information about our standard line of solenoid valve products and accompanying accessories for flow control. Not all products are listed on the website, and most products can be customized for OEM customer requests.

All products are designed, manufactured, and tested at our Melbourne, Florida facility. Machined parts for medical applications are sourced from ISO 13485 manufacturing facilities



WEB www.iqvalves.com CALL (321)729-9634





Flow Control Valves Customized Designs Engineered Solutions OEM Driven Patented Technology

ENGINEERED FOR HIGH FLOW AND PRECISION

Offering a wide range of proportional flow control solenoid valves for ventilator applications.

Selecting a prime ventilator component like a proportional solenoid valve can be a very intimidating and tiring experience. It doesn't have to be. We price ourselves in working with our customers on very short timelines. We can go from prototype to production in one month's time due to our vertical integration and the fact that most OEM customized valves are variants of our standard product line.

Design to Prototype

No Challenge Too Big

Our engineering team boasts decades of experience in designing valves for both ventilator and concentrator applications. There is no learning curve when getting off the ground.

Vertically Integrated Fastest Turnaround

We have an ISO 13485 certified manufacturing facility at our disposal at all times to be able to turn 50 prototypes into an order for thousands very quickly. Our facility boasts over 20,000 sqft of air conditioned space for our manufacturing and assembly operations.

OEM Production

Small or Large Scale

Many of our customers have needs that are unique to them. Whether it's individual serialization, special packaging, or readied stock on a blanket order. We pride ourselves on being agile enough to service the customers who need 50 valves the same way we are able to service the customer who needs 150,000 valves.

A UNIQUE OFFERING

iQ Valves offers the widest range of proportional solenoid valve options ranging from .004" to .625" orifices on standard products. These valves are used in lab instrumentation, medical devices, and general industrial applications.

Quality and Life Cycle Testing

Every proportional valve that leaves our facility is uniquely identified with a serial number. We retain the date of manufacture, testing and material information, as well as the flow curves to be able to refer to at a customer's request.

All valves are put through stringent life cycle testing that tests these solenoid valves into the millions of cycles.







The current ventilator market demands higher flows at varying

Valves has developed multiple pressure balanced designs which help maintain the

precision flow and tight hysteresis that is currently being demanded for by the medical ventilator market. These valves have undergone millions of cycles in life cycle testing, and

are made from proprietary materials which enhance performance. Depending on the

application, iQ has sealing methods that use either a compliant elastomeric seal or a hard

seal which does not use any elastomer at all. Our valves have been used in the industry

since the early 1990s, and have only been improved in both design and manufacturing

pressures, while not sacrificing performance. This is where the versatile

proportional valve offerings from iQ really differentiate themselves from the competition. iQ

Differing Ventilator and Valve Designs

Due to the vast differences in approaches over the years when it comes to ventilator design, we have offered two proportional valve types to make sure flow requirements are met, while still keeping the overall footprint and cost in mind.

Many ventilators will run off of an in room supply of both air and oxygen. This hospital supplied wall pressure can vary

based on location. With a fixed supply and varying inlet pressure ranges, we use our patented inlet pressure balancing technology to counteract any variances from hospital to hospital. These types of systems often use two proportional valves prior to blending that deliver optimal flow of around 150-180 slpm at around 25-35 psid.

The second approach uses an air blower and

oxygen supply being fed into a blender, which then moves downstream to a proportional valve at a much lower pressure. This valve faces two challenges: being able to deliver the flow with a much lower inlet pressure (eg. 1 psid), and being able to deal with any back pressure being created by the patient. The outlet pressure balancing of our PFCV allows us to address both issues while delivering premium flow performance.





Because no two designs are the same.

iQ Valves will work with you standard proportional valves to fit into your system's





Balanced PFCV (.625")

High flow, high precision.





Non-Isolated and Isolated **PFCV**

Depending on the application, iQ offers two versions of the same valve, with the latter being a diaphragm isolated valve where the media never touches the magnetic members. This valve also provides peak performance, and the most stable pressure balancing for extreme cases.

For the majority of ventilator applications, our recommendation would be to use our

internally balanced valve which offers great performance, less leak paths, and high flow at low pressures.

For more information on the different types of balanced valves we offer, please visit our website or give us a call for more

Orifice Size Range: .625" Hysteresis: < 10[°] **Time Response:** < 35 msec Pressure Range: 0 - 20 PSI Seal Material: Nitrile, FKM Temperature Range:

Function: 2 Way Normally Closed

Vetted Material: Al & 300 Series S luid: Gases & Liquids Voltage Range: 12 to 24 volts Lead Wires: 22 AWG 12" long



Balanced Tesla Proportional Big performance in a small package.





Cost Effective Flow Control Solution

Typically valves that pack this kind of flow in such a small package come at a premium. We designed this valve to be able to be produced in numbers and keep costs down. It gives you all the performance you need at price point that is superior to the competition.

The beauty of this valve is that it can be converted into many different footprints



Function: 2 Way Normally Closed Orifice Size Range: .187" Hysteresis: < 10% Time Response: < 35 msec Pressure Range: 0 - 135 PSI Seal Material: Nitrile, FKM Temperature Range:

Wetted Material: AI & 300 Series SS Fluid: Gases & Liquids Voltage Range: 12 to 24 volts Lead Wires: 22 AWG 12" long

to fit the customers needs. We offer these valves standard in a manifold mount configuration, but these can also be bought with other types of porting.

For more information regarding the availability, pricing, and other configurations, please give us a call so we can help quide your selection.

