VICTOR® EDGE SERIES 2.0: THE NEXT GENERATION IN INDUSTRIAL GAS CONTROL.

VICTOR®
AN ESAB® BRAND

INNOVATION.

How do you make the best better? You listen to your customers' needs, deliver what they ask for, and in the process, redefine world-class industrial gas control.

- Fully enclosed modular gauges for better protection and easier replacement
- Intuitive gauge faces that communicate operational information
- Offset high pressure and low pressure for faster identification and differentiation

PERFORMANCE.

Any regulator can do the job. The EDGE Series 2.0 just does it better, more consistently, and for years of confident use.

- More consistent flow over a wide range of cylinder pressures
- Newly designed stainless steel diaphragm with improved flex provided exceptional precision and endurance
- Reassuring five-year warranty

SAFETY.

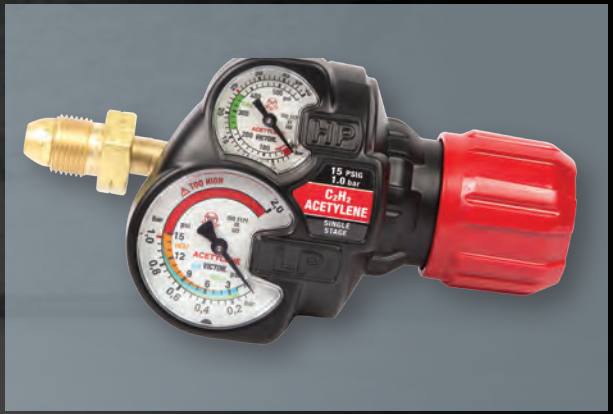
For more than 100 years, Victor has pushed the envelope to deliver uncompromising safety features that are built in to its products, and the EDGE Series 2.0 continues to deliver on that promise.

- SLAM™ (Shock Limitation and Absorption Mechanism) technology built in to the adjusting knob is designed to protect the regulator in the event of a cylinder fall
- High-strength alloy gauge guard offers added protection against damage
- Designed to pass ISO and CGA Oxygen Impact Tests, as well as the stringent ASTM G-175 Promoted Ignition Test

EASE OF USE.

Simpler. More intuitive. Easier to operate. EDGE Series 2.0 takes the guesswork out of gas control.

- Significantly improved cylinder valve clearance for easier connecting and disconnecting
- Improved knob design that is easier to grip with better tactile feel
- Improved gauge visibility with more information
- Extra-large 2.5 in. delivery gauge (allows users to focus on the gauge they adjust)



EDGE 2.0 NEXT GENERATION PRESSURE REGULATOR

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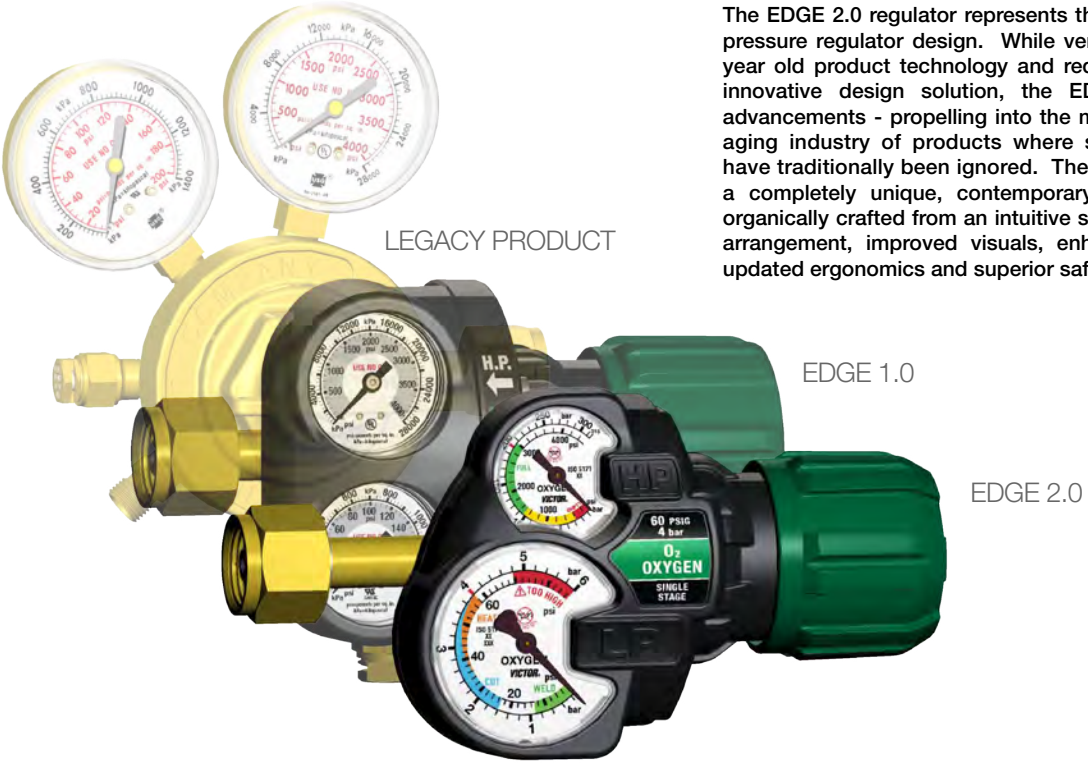


The EDGE 2.0 regulator represents the next generation in gas pressure regulator design. While version 1.0 took a hundred year old product technology and redefined it into a modern, innovative design solution, the EDGE 2.0 makes further advancements - propelling into the modern world a stagnant, aging industry of products where style and "curb appeal" have traditionally been ignored. The EDGE 2.0 encompasses a completely unique, contemporary styling that has been organically crafted from an intuitive staggered pressure gauge arrangement, improved visuals, enhanced user experience, updated ergonomics and superior safety and performance.

EVOLVING AN INDUSTRY

Nearly every industrial product in the world has evolved over time. Styling has become sleeker, more modern. Ergonomics designed into the product to improve user experience. Modern materials used, modern technology applied. Modern tools such as CAD design, mechanical analysis and flow simulations have all been utilized to create better, safer, higher performing, more useful products.

Contrary to the industrial norm, however, evolution within the century-old technology of gas pressure regulators has been virtually nonexistent. It has been consistently ignored, while other industrial products continued to evolve around it. This has resulted in most gas pressure regulators looking exactly the same as they did 10 years ago, 20 years ago, even 50 years ago. This despite the fact that these products serve dangerous environments, require many forms of user interaction, and are subjected to some of the highest levels of abuse and mishandling of any industrial product.

The EDGE series of regulators, culminating in the EDGE 2.0, have taken on the task of bringing the modern world into the gas pressure regulator. Version 1.0 created a new vision for what a gas pressure regulator is supposed to look like - the vision of a compact, robust, safer and easier to use device.

Version 2.0 goes further. It's not just about basic utility or functional requirements. It's not about simply being easier to use. It's about user experience. It's about intuitiveness. It's about purposeful styling that feels modern and looks rugged. It's creating a visual that simply cannot be mistaken for any other product in the world, thereby creating customer desire and delight in ownership.

LEGACY REGULATORS: EARLY 1900s - PRESENT

EDGE 2.0 REGULATOR: 2017 -

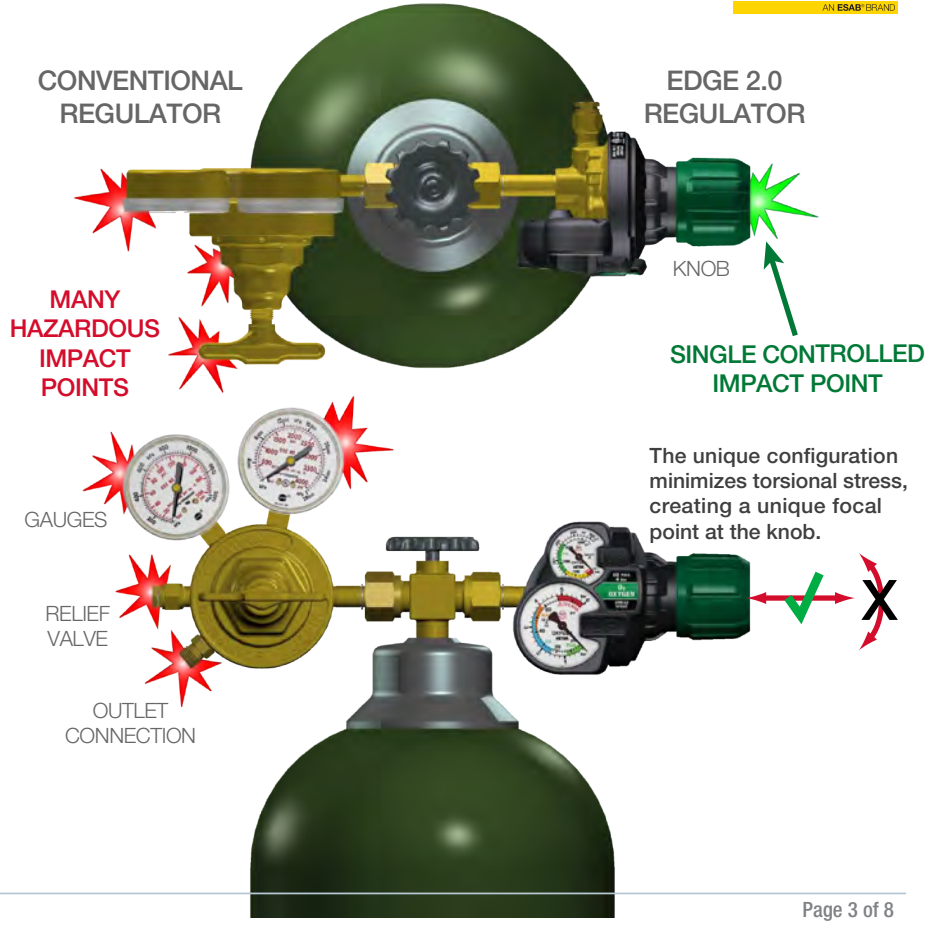
Compared to traditional legacy product, the EDGE 2.0 pressure regulator pulls in and integrates all of the typically protruded components, tucking them into the body of the regulator itself. This significantly reduces the number of critical component impact points, which results in a safer product, less likely to be damaged from environmental abuse.

At the heart of this are the gauges (the pressure indicators) - the most sensitive, and thereby most commonly damaged part, of a gas pressure regulator. Traditional regulators place the gauges up and out, away from the regulator, putting the most delicate part of the regulator into the most vulnerable position possible.

EDGE 2.0 integrates the gauges, placing them within the profile of the regulator itself for the best possible protection.

In addition, the unique arrangement of the regulator results in *all* features critical to regulator integrity to be located within the gas cylinder profile for further protection:

- High and Low Pressure Gauges
- Diaphragm Assembly
- Seat Mechanism
- Safety Relief Device
- Outlet and Entire Hose End Connection



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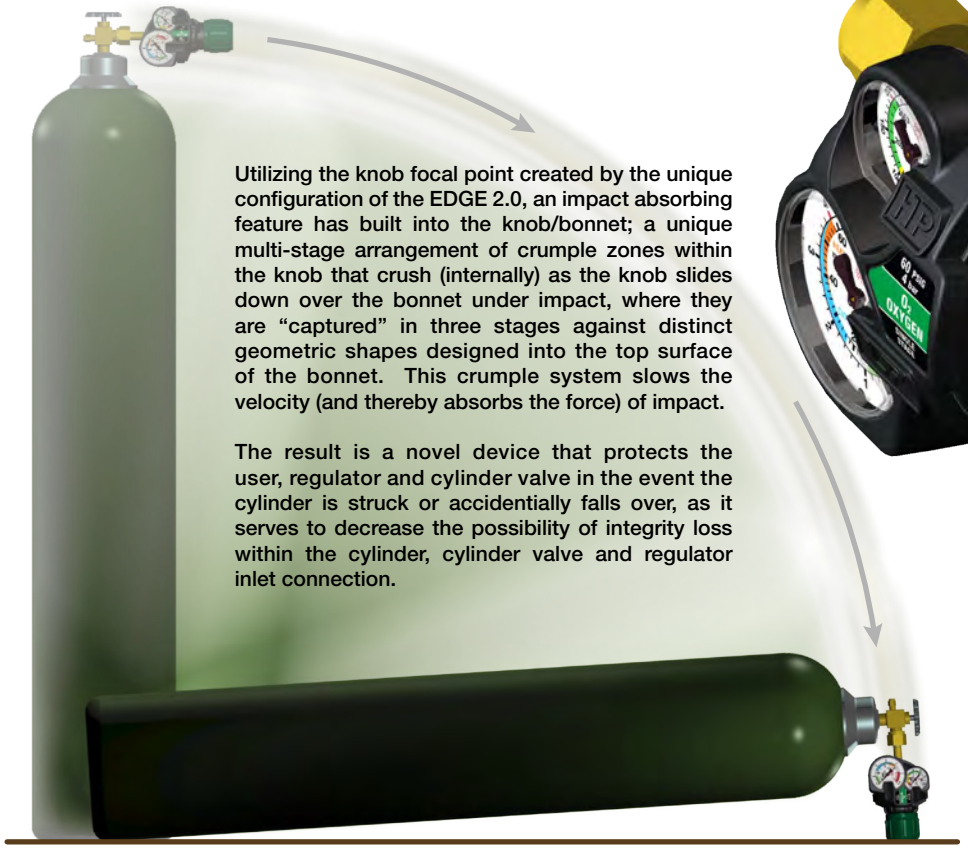


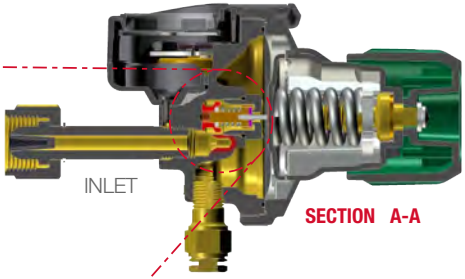
Utilizing the knob focal point created by the unique configuration of the EDGE 2.0, an impact absorbing feature has built into the knob/bonnet; a unique multi-stage arrangement of crumple zones within the knob that crush (internally) as the knob slides down over the bonnet under impact, where they are “captured” in three stages against distinct geometric shapes designed into the top surface of the bonnet. This crumple system slows the velocity (and thereby absorbs the force) of impact.

The result is a novel device that protects the user, regulator and cylinder valve in the event the cylinder is struck or accidentially falls over, as it serves to decrease the possibility of integrity loss within the cylinder, cylinder valve and regulator inlet connection.

3-STAGE
CRUMPLE SYSTEM

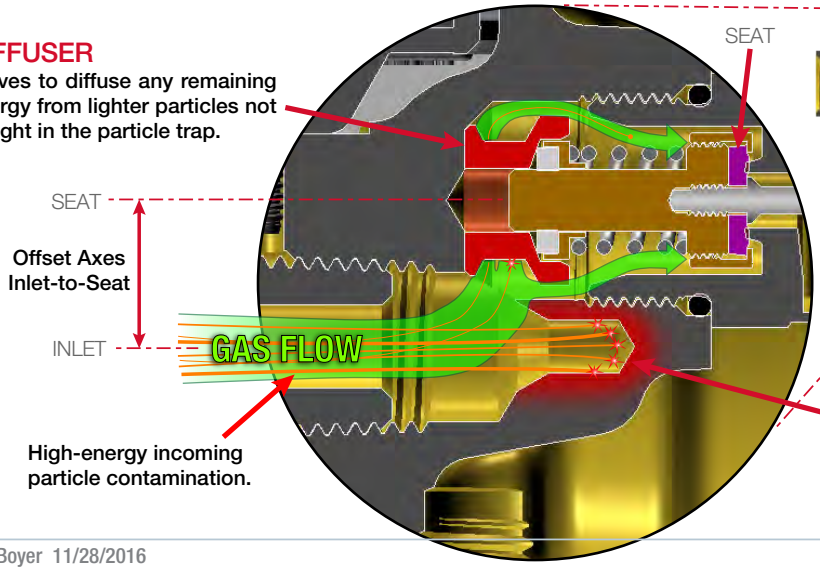
The EDGE 2.0 regulator exceeds industry standards for fault tolerance in oxygen use (resistance to catching fire/burning), passing both ISO and CGA "Heated Oxygen Impact" tests as well as the ASTM G175 "Promoted Ignition" test. Two unique design elements aid in making this possible, working together to diffuse the energy of ignited particle contamination passing into the regulator: the primary PARTICLE TRAP and the secondary DIFFUSER.

Together, these features minimize the amount of contaminant energy capable of reaching the seat, and in turn the energy capable of entering the low-pressure cavity and exiting the regulator. The result is low sensitivity and high resistance to ignited particles coming through the inlet in the event of accidental contamination, which significantly minimizes the chance of explosion or fire.



DIFFUSER

Serves to diffuse any remaining energy from lighter particles not caught in the particle trap.



High-energy incoming particle contamination.

PARTICLE TRAP

Captures and retains high energy particles which have sufficient mass to resist the change in direction that is caused by the unique design of the offset inlet connection.

Pressure indicators (”gauges”) are the most important user interactive feature of a pressure regulator. They provide critical information at a glance about the function of the regulator - the current status of the gas supply, the delivery pressure setting, whether something has gone wrong (needle not where it’s supposed to be), whether pressures are out of the operating range of the product, etc.

TRADITIONAL GAUGES

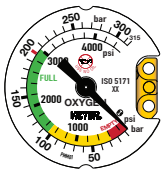
In traditional regulators, gauges are often ambiguous. As shown in the image to the right, which gauge is the gas supply? Which is the delivery? Is the product within normal operating range? None of those things are intuitively obvious, and determining which gauge is the high pressure (H.P.) supply and which one is the low pressure (L.P.) delivery requires the user to pause and actually read the numbers on the gauge.

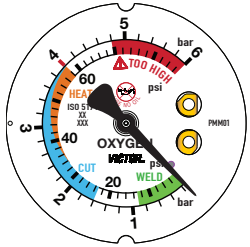
The EDGE 2.0 regulator has taken the concept of traditional gauges and transformed them into a more intuitive, more interactive user experience; through positioning, size and overall visuals.

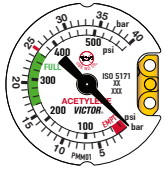
EDGE 2.0 GAUGES

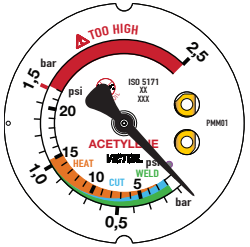
First, the more important L.P. gauge has been staggered forward of the H.P. gauge, emphasizing it as the primary focus. There’s no doubt now which gauge is which. The L.P. gauge has also been made larger, with higher resolution than the less important H.P. gauge (where operators typically reference needle position rather than actual numbers). This further improves differentiation, as the user’s focus is intuitively on the L.P. gauge. Lastly, gauges now have color coded bands and marks indicating typical operating ranges for processes, normal operating pressures (green/full, yellow/mostly full, red/nearing empty), when a regulator is operating out of spec, as well as the gas service.

The combined effect is more intuitive gauges that create a safer regulator; because the operator spends less time looking at the regulator, thereby focusing more on performing the work task.



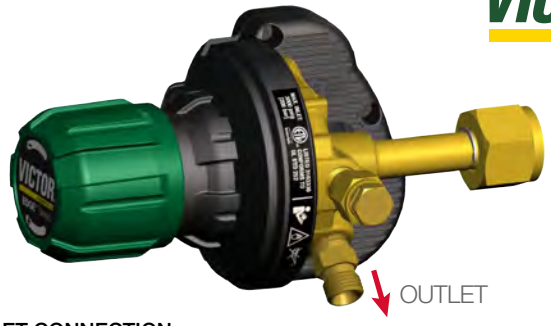






In addition to interfacing with the gauges, the user must also have easy access to the cylinder valve, easy access to the outlet connection, and be able to easily adjust the delivery pressure of the regulator via a knob or handle. All of these interfaces are important for a positive user experience, and EDGE 2.0 specifically addresses each in different ways.

CYLINDER VALVE/INLET ACCESS:
EDGE 2.0 has significantly improved cylinder valve clearance for easier connecting/disconnecting and opening/closing of the cylinder valve itself. The forward-shifted gauges and smooth slope on the back of the gauge housing ensures easy and clear access to the cylinder valve, with nothing on the regulator for the user's hand to run into.



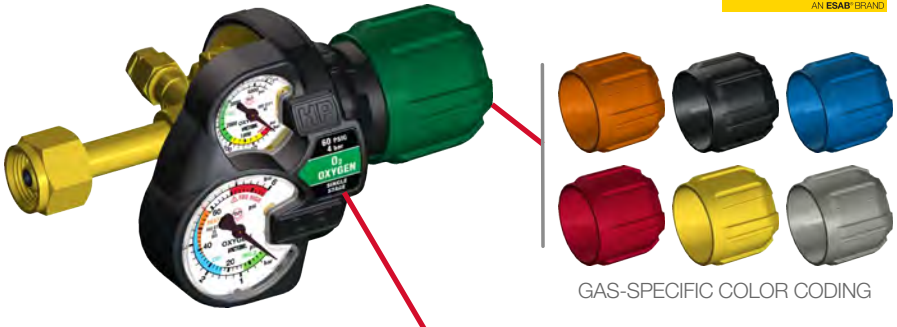
OUTLET CONNECTION:
The outlet points down, out the rear of the regulator; a safer placement, as it moves hose related hazards in a direction away from the user.

PRESSURE ADJUSTMENT:
An ergonomic knob design has been created and sized with a unique rib/scallop pattern for better/easier grip and overall tactile feel. In use, the knob points to the right, away from the user, for a more natural hand/body position while adjusting, as well as for better visibility of the gauges.

With the inherent dangers associated with pressurized gas equipment, it is extremely important that the equipment operator be able to quickly and easily identify the basic specifications for the product, as well as any important safety hazards associated with its use. Typical gas pressure regulators leave much of this information off the product, relying on the operator to figure out the product from text on the gauges or basic markings on the product, or from referencing the specific product model in a user manual.

The EDGE 2.0 regulator was designed with the philosophy that if the operator can more thoroughly understand the product - just by looking at it - the result will be a product that is more often used correctly for its intended purpose, as well as a work environment that is safer and less likely to experience gas-related accidents or injuries.

To this end, the EDGE 2.0 utilizes gas-specific color coding, gas chemical symbols (where possible) in addition to gas common names, global symbols instead of text for warnings such as “oxidizer”, “flammable” and “use no oil”; as well as clear product specifications, such as the delivery range, type of regulator, and maximum inlet pressure. Together, these features combine to create a product that’s significantly easier to understand and use correctly.



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