Fluid Automation Solutions
for Low Ambient Temperature Applications
ASCO Numatics provides numerous valves, cylinders, and other fluid automation products with proven reliability in extremely low ambient temperatures. Specify them for certified performance in the planet’s coldest, most challenging environments.

**Presenting ASCO Numatics solutions**

**The trusted choice for low temperatures**

Industry generates a constant demand for fluid automation products that perform well in ever-lower temperatures — frequently under harsh conditions, unattended, and at remote sites that render repair or replacement difficult. ASCO Numatics responds.

Our standard solutions provide trouble-free operation at ambient temperatures down to -40° F (-40° C), with some constructions suitable for even more frigid conditions. ASCO Numatics solenoid valves, cylinders, and other ultra-reliable offerings have been proven over more than 40 years in colder regions worldwide. Today, many of our offerings benefit from technological breakthroughs designed to combat low-temperature challenges such as seal shrinkage, brittleness, and slow response due to dormancy caused by infrequent operation.

Result: our products are the preferred choice for specifying engineers and managers at original equipment manufacturers (OEMs), engineering houses, and plants for use from the northern U.S. and Canada to the North Sea and Siberia.

**Documented compliance**

ASCO Numatics has invested significant resources in complying with industry standards for low-temperature options used in general purpose, safety shutoff, ordinary, and hazardous applications.

Our offerings are tested for performance in the lowest-temperature environments. Products carry applicable approvals from agencies, standards organizations, and equipment directives worldwide — including Underwriters Laboratories (UL), Canadian Standards Association (CSA), Factory Mutual (FM), Explosive Atmospheres (ATEX), and Gosudarstvenny Standart (GOST). Selected constructions can produce third-party certifications including Canadian Registration Number (CRN) and Safety Integrity Level (SIL).

**More advantages**

**Complete solutions.** Our standard low-temperature solutions handle valve and actuator operating conditions down to -40° F (-40° C). We also have valve constructions available that provide reliable performance at ambient temperatures as low as -58° F (-50° C).

**Superior support.** We’re committed to maintaining the industry’s most expert, responsive technical support. Robust hiring policies add representatives and engineering staff as customer needs evolve.

**Assured availability.** You can quickly choose and obtain the right product for your needs. Consult our dedicated catalog of products for use in low ambient temperatures at www.ascovalve.com/lowambient. Use our online product selector and online configurator. Or call our experienced representatives. You can order many low-temperature offerings via our industry-leading ASCO and Numatics quick-shipment programs.
ASCO Numatics solenoid valves and cylinders configured for low-temperature operation have seen proven service all across the colder parts of the globe. ASCO three-way and four-way solenoid valves are ideal for use as pilot valves in oil and gas exploration and processing. These valves are in service from Canadian oil sands to offshore platforms in the North Sea to the frigid oil fields of Alaska, Ukraine, and Siberia. They drive process valve actuators in flare stacks, line heaters, treater burners, incinerators, pipeline gas analyzers and leak detectors, and other critical equipment.

ASCO two-way safety shutoff solenoid valves are the industry standard for natural gas use. These industrial combustion applications include grain drying and air exchanger equipment, as well as use in comfort heating, rooftop heating, and air makeup heating systems, particularly in the north central U.S. and Canada.

Like ASCO valves, Numatics cylinders carry standard ratings for operation down to -40° F (-40° C). Ideal for actuating process devices such as knife gate valves, they’re used in some of the above applications — and also expand the ASCO Numatics presence into an even wider array of low-ambient-temperature tasks and locations.

They operate dependably in poultry, meatpacking, ice cream, and other food preparation plants, where frozen products move on conveyors. And in power plants located in cold climates, cylinders in bag houses help automate handling of bags to collect dust and other debris.

Numatics cylinders are also vital to vehicular applications, including trailer truck fifth wheel assemblages and fire trucks that operate in cold climates. They help move components on windshield and tire testing beds, as well as in aftermarket exhaust and braking systems. For railroad freight cars, Numatics cylinders provide reliable operation of discharge gates even in frigid conditions. Result: trouble-free handling of commodities such as coal and ore.

When the thermometer plunges to -40° F (-40° C), Numatics cylinders help drivers adjust sun visors that would otherwise be frozen in place. And in similar conditions in Siberia, Numatics cylinders keep things moving at aluminum smelting plants.

In fact, Numatics products can go lower than that. Many of our pilot valves, cylinders/actuators, and filters/regulators are actually rated for service in extremely low ambient temperatures — down to -58° F (-50° C). Around the globe and across the temperature range, ASCO Numatics products provide high-reliability fluid automation performance.
Key solutions

ASCO Solenoid Pilot Valves
These industry-leading products provide ensured performance where you need them most. Utilize three-way and four-way models as pilot valves to drive process valve actuators used in flare stacks, line heaters, treater burners, incinerators, analyzers, and more. They’re especially suited for oil and gas installations located in the world’s most frigid climates. Optional enclosures are available for use in hazardous locations.

ASCO Low Power Pilot Valves
ASCO’s innovative low-power solenoid models have been recently redesigned to deliver power consumption as low as 0.55 W. Apply them on pipelines or in other remote installations using solar panels or batteries, where minimum power consumption is a must. They allow power generation and power storage equipment size to be minimized, for considerable savings. Optional enclosures are available for use in hazardous locations.

ASCO Redundant Control System (RCS)
The fault-tolerant design (no single point of failure) of this redundant control pilot valve system makes it ideal for use in safety shutdown systems. Our RCS is widely utilized on exposed sites in refineries for distillation column burner management, as well as in reburners, hydrogen crackers, catalytic crackers, sulfur recovery units, and more.

ASCO Combustion Valves
Choose from the industry’s broadest line of solenoid and electrohydraulic fuel gas and oil valves to handle pilot and mainline fuel shutoff duties in combustion systems. ASCO’s modular shutoff valves outperform the competition in weight, size, flow, and power consumption. Get the modular flexibility to configure gas trains for your needs — from the small footprint permitted by our double solenoid models to the high flows of our double electric-actuated valves to our standard low ambient temperature of -40° F (-40° C).

ASCO Shutoff Specialty Valves
These high-reliability, compact components are ideal for use as safety shutoff valves, handling the flow of natural gas or propane in grain dryers and heating systems, as well as in line heaters and oil tank heaters. Some are designed to utilize full power (typically 11 W) only for the brief time required to initially open a valve, but drastically reduce power (to 0.5 W) while the valve stays open. So solar panels and batteries in remote locations can be downsized economically. These valves meet the metallurgical requirements of NACE MR-0175.

ASCO Pressure Sensors
ASCO provides a complete range of high-quality, long-life sensors for your process needs. Designed with high-strength stainless steel, these sensors offer ensured repeatability at demanding low ambient temperatures. They are suited for both ordinary and hazardous locations, with explosion-proof and intrinsically safe models.

ASCO Options and Accessories
Select from our wide variety of accessories and optional features to meet your specific application requirements in low ambient temperatures. For example, ASCO’s heavy-duty 316L stainless steel, high-flow-construction filter and regulator is designed for use in harsh environments, including oil and gas exploration, transmission and refining, water and wastewater treatment, chemicals, and more — with constructions good to -58° F (-50° C). ASCO’s explosion-proof junction box is used with solenoid-operated valves in hazardous locations; it cuts installation costs by eliminating use of a separate explosion-proof splice box to terminate solenoid valve wiring. The box features excellent corrosion protection and -40° F (-40° C) standard ambient temperature operation. Finally, ASCO’s quick exhaust and shuttle valves are designed with oversized orifices to allow rapid exhaust of cylinders, actuators, and clutches.

Numatics Cylinders
More than half our best-selling cylinders — including many that comply with National Fluid Power Association (NFPA) standards, and others used as actuators on process valves — can handle temperatures down to -58° F (-50° C). Diverse demanding applications range from tire testing beds, power plant bag houses, railroads, and cold storage units in food and beverage plants to refineries, oil and gas exploration, and transmission sites. Materials of constructions: aluminum, steel, and stainless steel. Customized cylinder solutions include models complete with integrated linear position feedback sensor rated to -58° F (-50° C) — ideal for automating process valves. One robust series of cylinders serves in demanding applications to actuate knife gate, wedge gate, globe, pinch, and slide valves. For example, when automating knife gate valves, these cylinders withstand the lowest temperatures and harshest conditions in water and wastewater treatment, power generation, pulp and paper, and mining.
Global leadership

ASCO Numatics, an Emerson company, offers comprehensive fluid automation solutions, including flow control and pneumatics products, for a wide range of industry-focused applications. The ASCO Numatics line comprises more than 50,000 valves, an extensive selection of air preparation equipment, and a comprehensive line of motion control products. The company is the world’s leading manufacturer of solenoid valves.

Emerson (NYSE: EMR), based in St. Louis, Missouri (USA), is a global leader in bringing technology and engineering together to provide innovative solutions for customers in industrial, commercial, and consumer markets through its network power, process management, industrial automation, climate technologies, and tools and storage businesses. Emerson has approximately 133,000 employees and 235 manufacturing locations worldwide.

For automation components that are tested, proven, and certified to deliver ultra-reliable performance in low-temperature conditions across the globe, call ASCO Numatics today!