

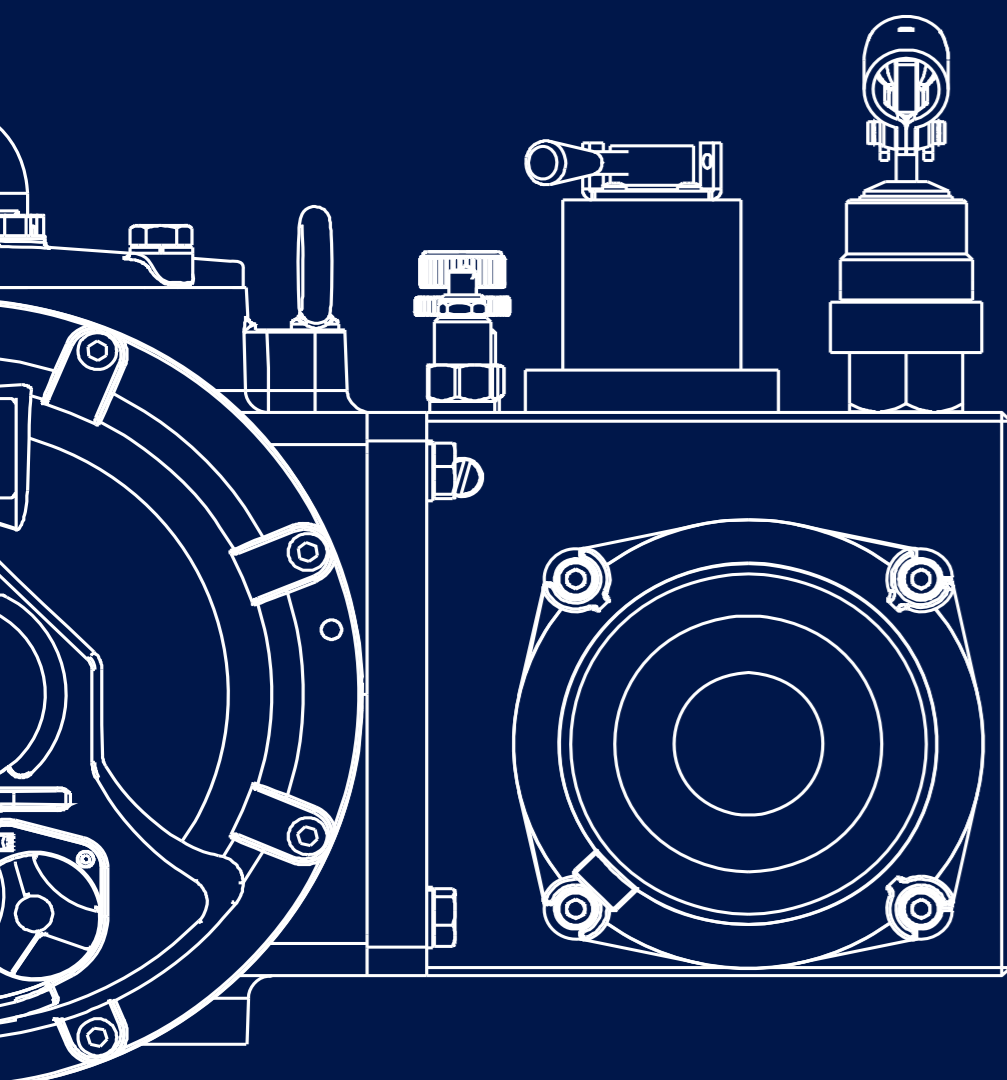
The complete solution



The BC PREMIUM label guarantees "The complete solution", with many options and possible configurations to fit at best very specific needs. Decades of return on experience from very demanding applications such as nuclear qualified valves actuation have shaped our technical orientations and our commitment to quality and safety.

The BC PREMIUM label reflects this long-lasting experience and in-depth expertise, working with the most demanding markets, where the ability to design customized solutions has always been decisive. It is the guarantee of quality and security for installations' actuation in the case of **severe environment, demanding operational constraints and critical applications.**

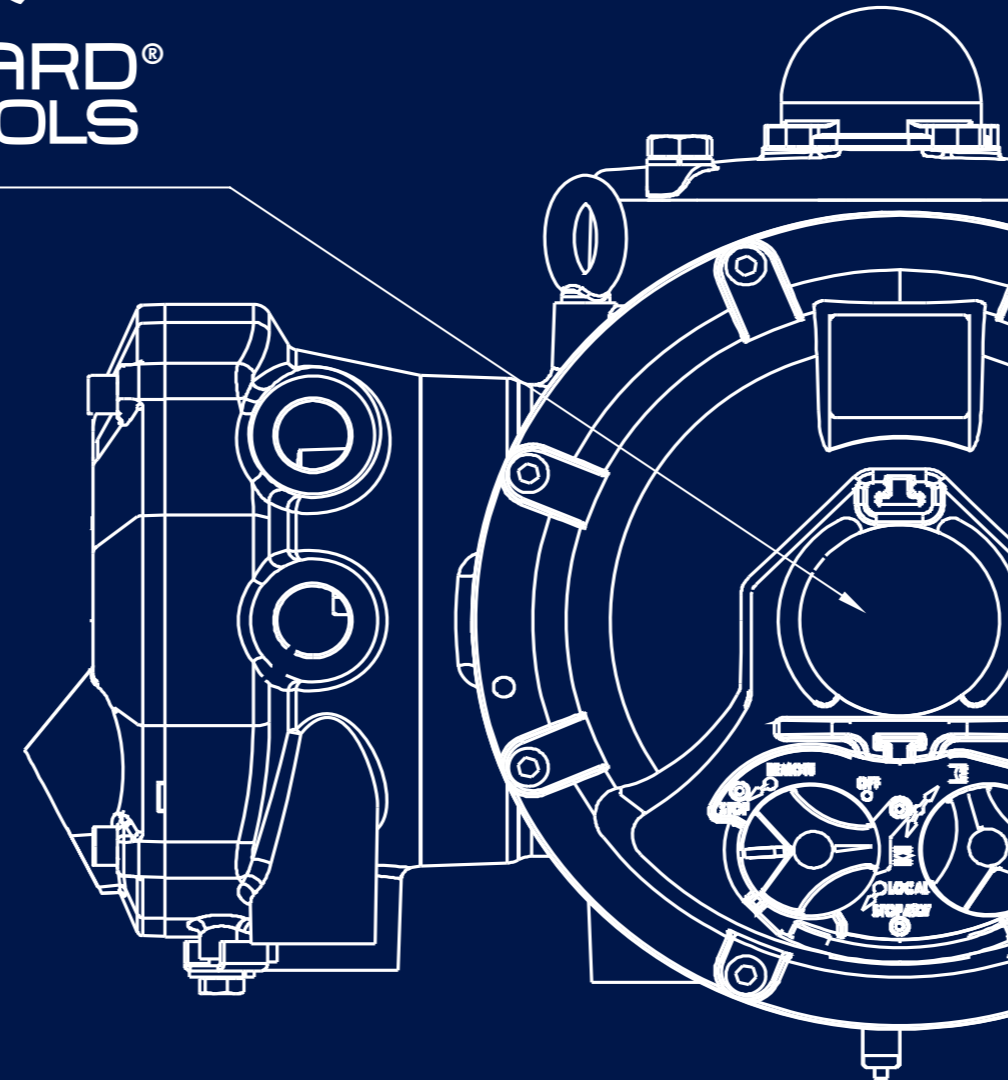
Fail-safe actuators are to be used in case of critical processes, safety issues or all other kind of applications where the risks are such that, driving the device to its safety position must be possible at any time, even in the absence of power supply. With the combination of modern electric and power of hydraulics, Bernard Controls FSE is specifically well adapted for ESD valves such as high-pressure ball-valve or triple-offset butterfly valves.



LABEL



**BERNARD[®]
CONTROLS**



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New

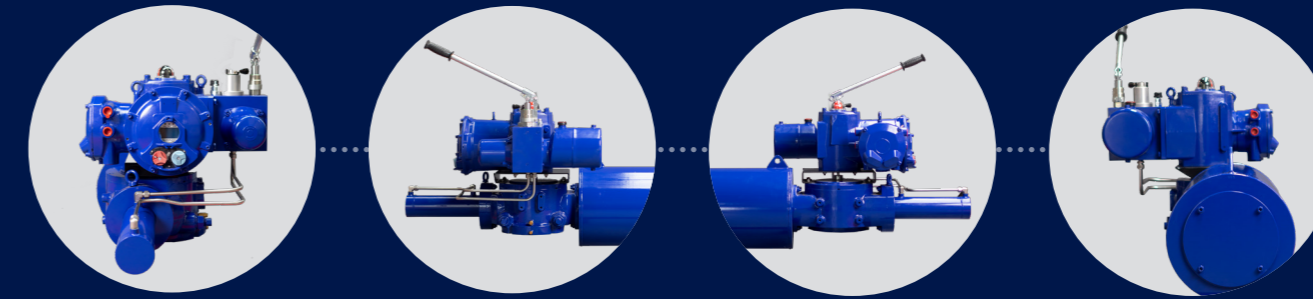
**Special Design & Expertise
Fail-safe Electric Actuators
FSE RANGE**



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> FSE range

The complete solution for fail-safe electric actuation



Product overview

Mechanical position indicator

- > As an option
- > Check the position of your valve at a glance



Cable entries

- > 7 cable entries as standard
- > Separate and segregated double sealed terminal enclosure

Spring

- > Together with the configurable ESD function, ensures fail close, fail open or fail freeze options

Removable lever for manual operation

- > As an option

Large LCD display

- > For user-friendly commissioning and local commands
- > Clear status, no abbreviations
- > Includes pressure indication



User-friendly local commands

- > through 2 buttons
- > Can be inhibited remotely

Product specifications

- From 25 to 600 000 Nm for rotary and from 1.2 to 8 000 kN force for linear actuator
- Integrated Control
- BC Duty & Modulating Classification
 - > On-Off: Class A
 - > Inching/Positioning: Class B
 - > Modulating/Régulation: Class III
- IP67
- Corrosive environment: C5-M
- Operating temp.: -20...+60°C (Low T° option -50°C / High T° option +70°C)
- Explosion proof (ATEX, IEC Ex)
- ESD, SIL 3

Oil circuitry

- > Considerably minimized
- > Reduced risks of leakage

Hydraulic cylinder

- > High pressure device to provide a smaller, more compact solution

What is fail-safe ?

The activation of an emergency signal triggers the immediate opening, closing or freeze of the backup device, without the need of any external power source and using a full mechanical spring return.

Product benefits

THE COMPLETE COMBINATION OF MODERN ELECTRICS AND POWER OF HYDRAULICS

• Security at all levels & Easy maintenance

- > Protect your installation and maximize site protection, thanks to BERNARD CONTROLS actuators' smart functions
- > In case of power failure to the solenoid, the spring will drive the FSE and valve to the safety position. When the power supply is restored (no resetting of the spring is required), the actuator is immediately available for normal operation
- > Partial stroking : check the availability of the connected MOVs by executing of a very short return travel, and get a warning if problems occurs.
- > Easy to install : the FSE is self contained, it only requires electrical power
- > Reduced maintenance : actuators are lubricated for the product lifetime and do not require any periodic maintenance
- > Extending life time of the valve : no "Hard Closing", slamming the Valve into the seat
- > Fieldbus available as an option, including common market standard protocols : Profibus, Modbus, Foundation Fieldbus, Hart...

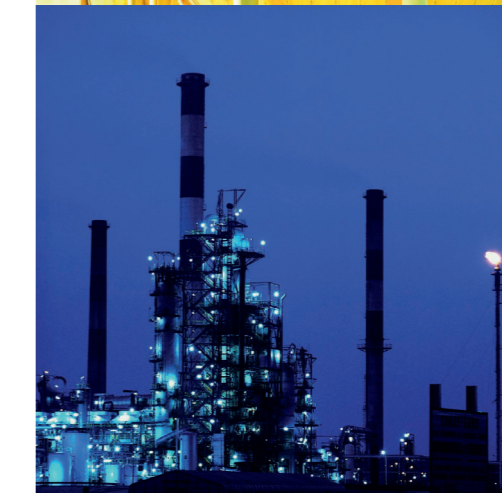
- > Compact and optimized design, reduced complexity with increased flexibility & functionality: no need of air compressors, filtration and drye, no multiple leak paths
- > Easy control system: all components are integrated in the manifold
- > A considerably minimized and enclosed oil circuitry to ensure zero leakages and no external contamination
- > Very precise hydraulic control
- > No mix of hazardous area equipment, EEx d, EEx ia components, with multiple cables & termination points

• User-friendly & intuitive controls

- > No complex control systems, with multiple products for the manifold system
- > Non intrusive settings thanks to the integrated control
- > LCD display gives a clear status of the actuator and of the control system, including pressure indication. Menu guided settings using clear messages, without abbreviations
- > 2 LEDs (red/green, freely assigned) indicate the position (close/open) at ends of travel, and direction of running (blinking)
- > Local commands with two selectors, which can be inhibited remotely if needed
- > Advanced monitoring and diagnostic functions of the integrated control: Emergency Shutdown (ESD), Partial Stroke Test (PST), timer, alarm customization, operation monitoring...

• Unique design & enhanced performances

- > IP67, double-sealing protection, coating C5-M as standard
- > Address all type of applications: wide torque range from 25Nm to 600 000Nm for rotary and from 1.2 up to 8 000 kN force for linear actuator.



Full range description, product specifications and technical data on BERNARD CONTROLS' website.