



BSM Series Pneumatic & Hydraulic Actuator Systems for Valves and Dampers

WORLDWIDE AUTOMATION SOLUTIONS



The Fast-Track Manufacturer for
Actuators & Controls





Introduction

BSM Actuators & Controls

BSM Actuators & Controls is an independent manufacturer of pneumatic and hydraulic valve actuation packages with offices and its own production facility in Beugen, the Netherlands.

BSM Actuators Controls predominately serves the oil & gas industry with highly skilled and experienced personnel.

The specialist in engineered actuator solutions for standard and special applications.

Actuators

- ▣ Rotary or Linear
- ▣ Hydraulic, pneumatic or electric
- ▣ Double acting or spring return
- ▣ Direct gas and Gas over Oil
- ▣ Electro Hydraulic
- ▣ Submersible actuators

Additional

- ▣ Special designs for various applications
- ▣ Short term deliveries
- ▣ Engineering and Custom solutions
- ▣ Actuator control systems
- ▣ Severe temperature ranges
- ▣ Actuator to valve mounting facilities
- ▣ Alternative actuator materials
- ▣ Subsea

BSM Type BCS & Type BCX Pneumatic & Hydraulic Actuators

BSM Type BCS & Type BCX actuators provide highly reliable actuation for 90° valves and dampers based on the simplicity and reliability of the well proven cam yoke mechanism. The modular design of the Type BCS & Type BCX allow for the simple removal of the piston cylinder and / or spring cylinder for routine maintenance without having to disconnect the actuator from the valve. The cover of the main actuator body can also be removed to allow easy access to the cam mechanism for inspection or preventative maintenance. BSM Type BCS & Type BCX actuators are available for both pneumatic and hydraulic applications in either double acting or spring return configurations with a full range of control accessories. Materials of construction include in either steel construction (Type BCS) or 316 stainless steel construction (Type BCX) with drive shafts of 316 or 17-4PH stainless steel.

Design Criteria

ROTATION

0° to 90° rotation with adjustable end stops $\pm 2\frac{1}{2}^\circ$.

TORQUE RANGE

Double Acting : 75 to 30,000 Nm / Spring Return : 30 to 25,000 Nm (Spring End).

INGRESS PROTECTION

Weatherproof to IP65 / 66.

AMBIENT TEMPERATURE RANGE

Nitrile Seals: -20°C to +60°C / Viton Seals: -20°C to +130°C / EPDM 70 Seals: -40°C to +130°C.

Optional – Other temperature versions available on request.

Pneumatic Actuator

OPERATING MEDIA

Air (dry or lubricated) or non-corrosive gas operating media.

SUPPLY PRESSURE RANGE

2 to 10 barg.

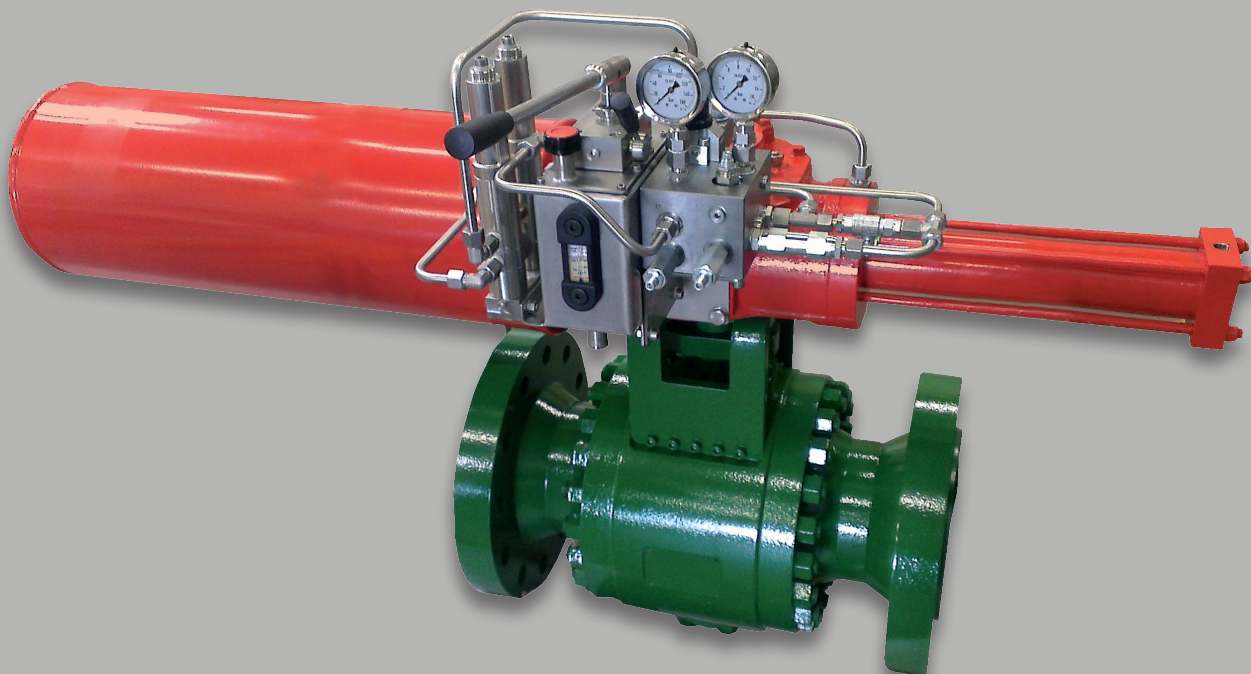
Hydraulic Actuator

OPERATING MEDIA

Mineral oil or equal operating fluid.

SUPPLY PRESSURE RANGE

Low : 2 to 10 barg / High : 10 to 210 barg



Standard Features

MECHANISM

The cam yoke design offers simple, backlash free operation providing extended life of seals and components.

HIGH INTEGRITY CONSTRUCTION

All actuators only utilize steel and stainless steel materials for all actuator components (no iron) and are fully tested on assembly to provide superior operational life.

MODULAR DESIGN

The simple removal of the pneumatic piston cylinder and / or spring cylinder allows for routine maintenance without having to disconnect the actuator from the process valve.

PAINT FINISH

As standard, Type BCS steel actuators are finished with an offshore 2-pack epoxy paint finish (other paint specifications available on request) and Type BCX 316 stainless steel actuators are supplied in a natural finish.

LONG SPRING LIFE

All springs are stress relieved after forming to ensure a long life.

WHOLE LIFE COST

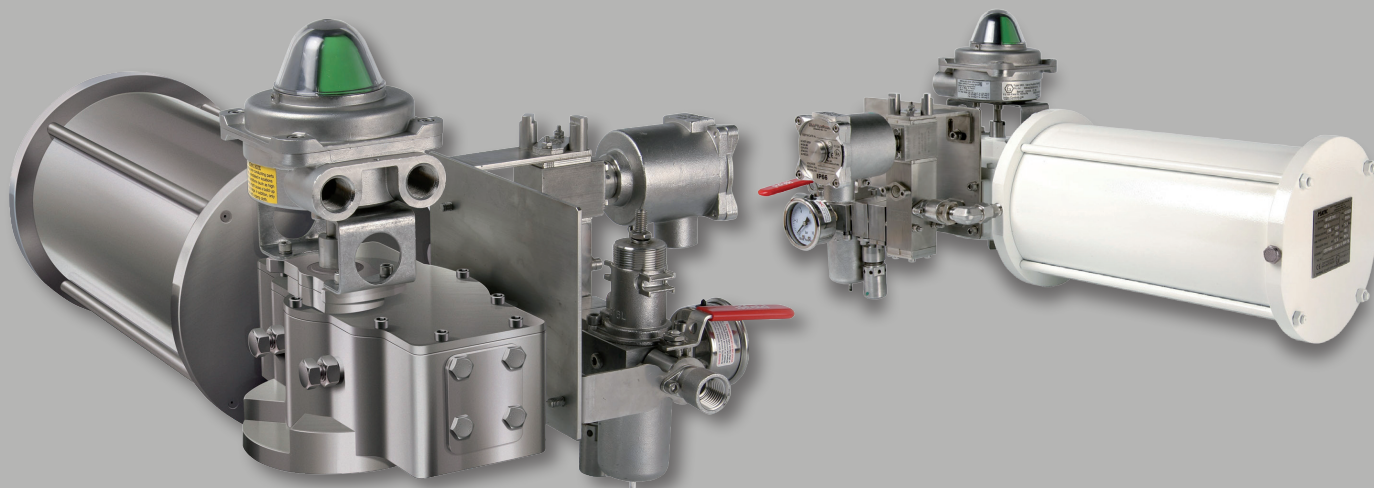
Type BCS & Type BCX actuators are exceptionally low wearing providing low maintenance and the optimum Whole Life Cost solution for the customer.

MOUNTING CONNECTIONS

The mounting to valves or dampers is according to ISO 5211 and the fitting of positioners & valve monitoring systems is according to VDI / VDE 3845.

Available Options

- ▶ High & low temperature versions.
- ▶ Jackscrew manual override.
- ▶ Hydraulic manual override.



BSM Type BLS & Type BLX Pneumatic & Hydraulic Actuators

BSM Type BLS & Type BLX actuators are individually engineered from a standard design to provide the optimum output performance and highly reliable actuation for linear valves such as gate, globe and rising stem ball valves. The compact design of the Type BLS & Type BLX actuators allow for a short overall dimensions as well as the possibility to close couple actuators to valves if required. An integrated valve bonnet and stem can be provided where overall envelope dimensions need to be reduced further.

BSM Type BLS & Type BLX actuators are available for both pneumatic and hydraulic applications in either double acting or spring return configurations with a full range of control accessories. Materials of construction include in either steel construction (Type BLS) or 316 stainless steel construction (Type BLX) with drive shafts of 316 or 17-4PH stainless steel.

Actuator Design Criteria

STROKE

Up to 350mm with adjustable end stops.

THRUST RANGE

Acting : Maximum 400,000 N / Spring Return : Maximum 180,000 N (Spring End).

INGRESS PROTECTION

Weatherproof to IP67.

AMBIENT TEMPERATURE RANGE

Seals: -20°C to +80°C.

Optional – Other temperature versions available on request.

Pneumatic Actuator

OPERATING MEDIA

Air (dry or lubricated) or non-corrosive gas operating media.

SUPPLY PRESSURE RANGE

2 to 10 barg.

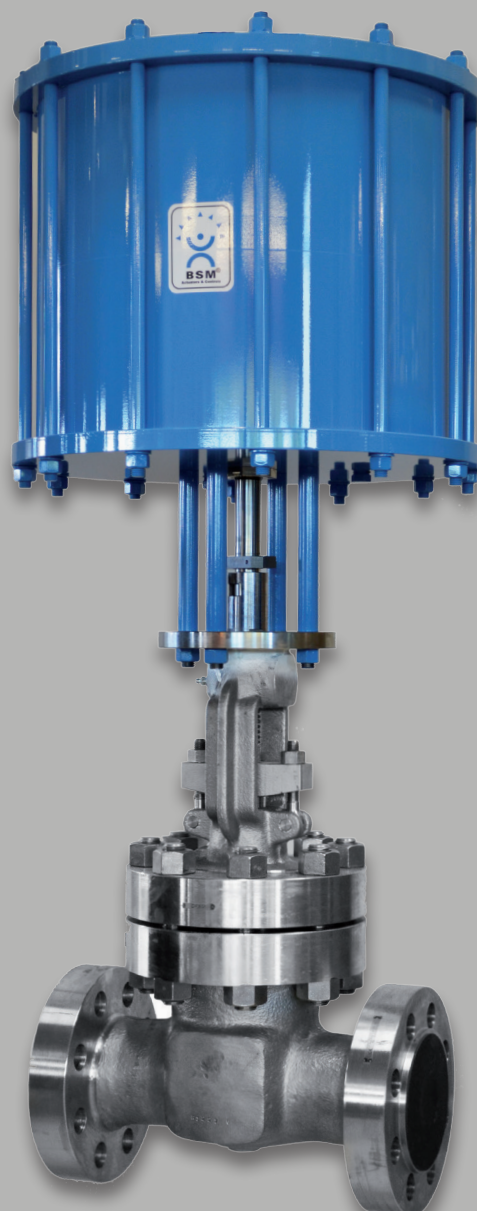
Hydraulic Actuator

OPERATING MEDIA

Mineral oil or equal operating fluid.

SUPPLY PRESSURE RANGE

Low : 2 to 10 barg / High : 10 to 210 barg



Standard Features

COMPACT DESIGN

Using a design which directly couples the spring to the piston, a shorter overall dimension is ensured.

INTEGRATED BONNET

If required, the lower mounting flange of the actuator can be combined to act as the bonnet of the valve and the valve stem can be adapted to connect directly to the actuator piston. This design configuration provides a clean and simple engineered solution when installation space is limited.

PAINT FINISH

As standard, Type BLS steel actuators are finished with an offshore 2-pack epoxy paint finish (other paint specifications available on request) and Type BLX 316 stainless steel actuators are supplied in a natural finish.

WHOLE LIFE COST

Type BLS & Type BLX actuators are exceptionally low wearing providing low maintenance and the optimum Whole Life Cost solution for the customer.

VALVE MOUNTING

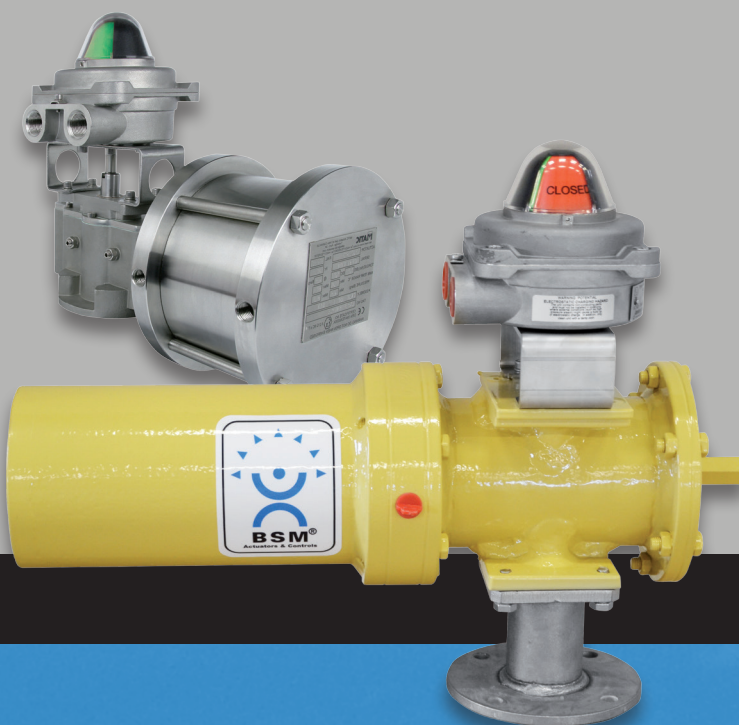
As standard actuators are offered with custom engineered pedestal or pillar solution in steel or stainless steel with an adjustable stem coupling to withstand and absorb all relevant mechanical forces.

Available Options

- ▶ High & low temperature versions.
- ▶ Jackscrew manual override.
- ▶ Hydraulic manual override.



BSM Series Pneumatic & Hydraulic Actuator Systems for Valves and Dampers



CONTROL SYSTEMS

The ancillary control systems for actuators are of fundamental importance for providing actuator performance, functionality and reliability. BSM has considerable experience in this field and can supply bespoke control systems for both pneumatic and hydraulic valve systems to satisfy all of the end client's operational requirements.

SOLENOID CONTROL

3/2-Way Single Coil, 5/2-Way Single or Dual Coil versions in both General Purpose and Hazardous Area Options (Ex ia, Ex d & Ex m) in either Stainless Steel, Brass or Aluminium Construction.

POSITION MONITORS

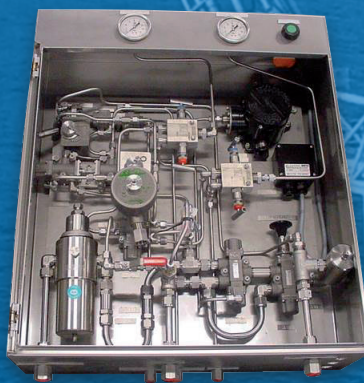
Mechanical or Proximity End of Travel Switch / Sensor, 4 to 20 mA Feedback or Bus Communication versions in both General Purpose and Hazardous Area Options (Ex ia & Ex d) in either Stainless Steel, Aluminium or Engineered Resin Construction.

POSITIONER CONTROL

Pneumatic, Electro-Pneumatic or Digital versions in both General Purpose and Hazardous Area Options (Ex ia & Ex d) in either Stainless Steel or Aluminium Construction.

MISCELLANEOUS CONTROLS

Speed Control, Pilot Valves, Quick Exhaust Systems, Partial Stroke Testing Systems, Pressure Relief Valves and Others.



BSM Actuators & Controls B.V.
Transportcentrum 2b, 5835 CT Beugen
PO Box 6875, 4802 HW Breda
The Netherlands

Phone: +31 (0)485 324739
Web: www.bsmac.com
Mail: Info@bsmac.com

