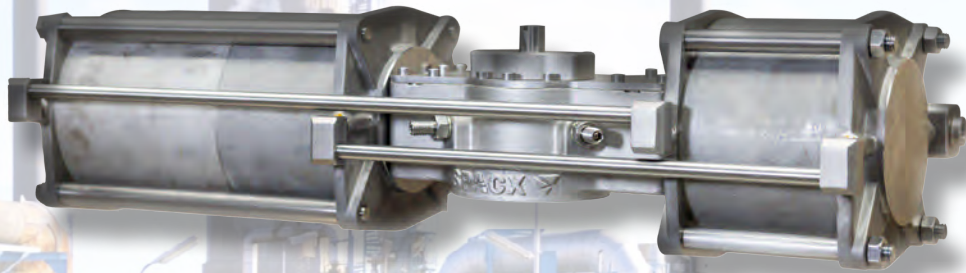


SPACX

Actuators & Controls



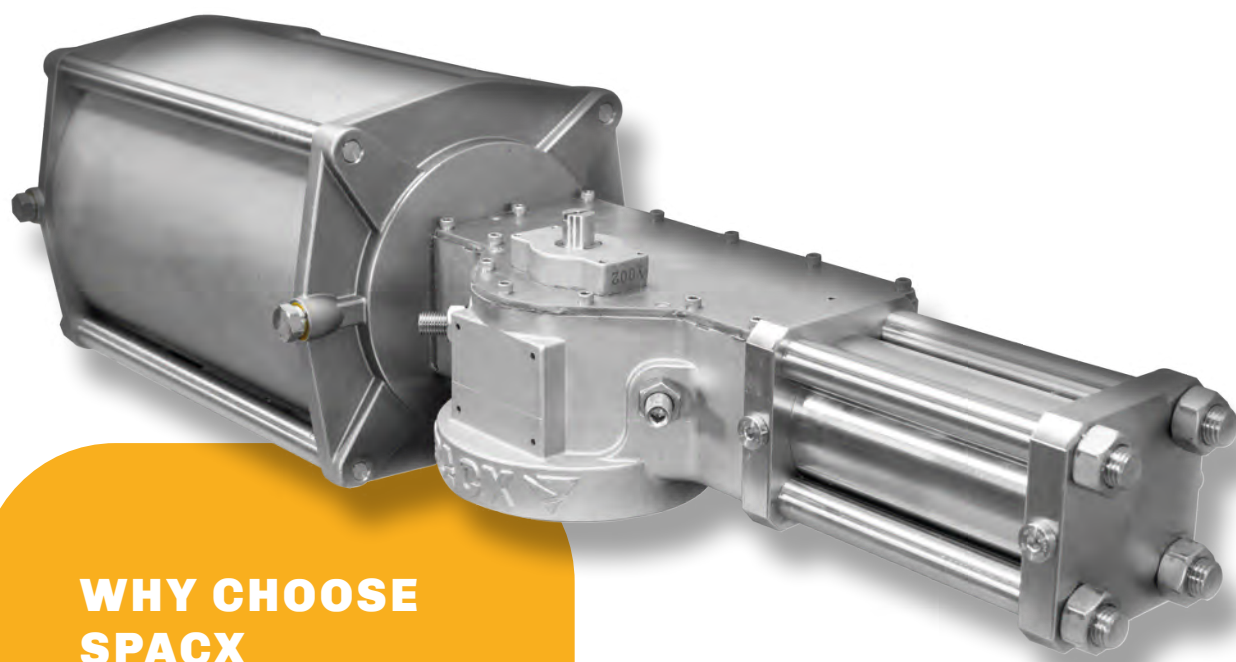
HEAVY DUTY VALVE ACTUATOR BYX SERIES

ABOUT US

Spacx Actuators & Controls is a valve actuator manufacturing company based in Boxmeer, The Netherlands. Using all specified actuator brands we supply valve automation systems to Exploration and Production contractors, Oil and Gas companies, Valve Manufacturers and Valve Dealers. In addition, we specialize in manufacturing our own standard line and customized valve actuators inclu-

ding control systems for the Oil and Gas and the Offshore Industry.

As an independent solution provider we can automate any brand, size and type of valve. Also, Spacx Actuators & Controls is the Benelux distributor for Emerson Bettis, Biffi, Elomatic and Hytork actuators and supplies.



WHY CHOOSE SPACX ACTUATORS & CONTROLS?

High - quality products
Tailor made solutions.
Flexible service
Exemplary service

BYX SERIES

Spacx Actuators & Controls is the supplier of choice for clients who seek reliable, professional and fast delivery of actuators. Through their extensive knowledge and experience, Spacx Actuators & Controls can expertly advise its customers and provide a high quality product that meets the specifications and requirements of each client.

The Spacx management team is dedicated to implementing, facilitating and continuous improving our rigorous quality control systems. We adhere to quality control systems in all our activities.



OUR FACILITY

A Fully Equipped, Staffed, and Stocked Facility Handles Jobs of all Size and Scope.

Spacx's commitment to quality does not end with our dedication to service, speed, and product selection. Spacx Actuators & Controls is housed in a fully equipped, facility, staffed with highly skilled and experienced technicians. All of our customers' solutions are designed by our own dedicated CAD designer, and expertly built in house by technicians, at the direction of our engineers.

The Spacx facility is equipped with a machine shop, assembly area and test facility that meets the most demanding specifications. The facility is stocked with a sufficient inventory of raw material, actuators, actuator parts and control system accessories.

TYPICAL SPECIFICATIONS AND CONFIGURATIONS

Standard possible Configurations

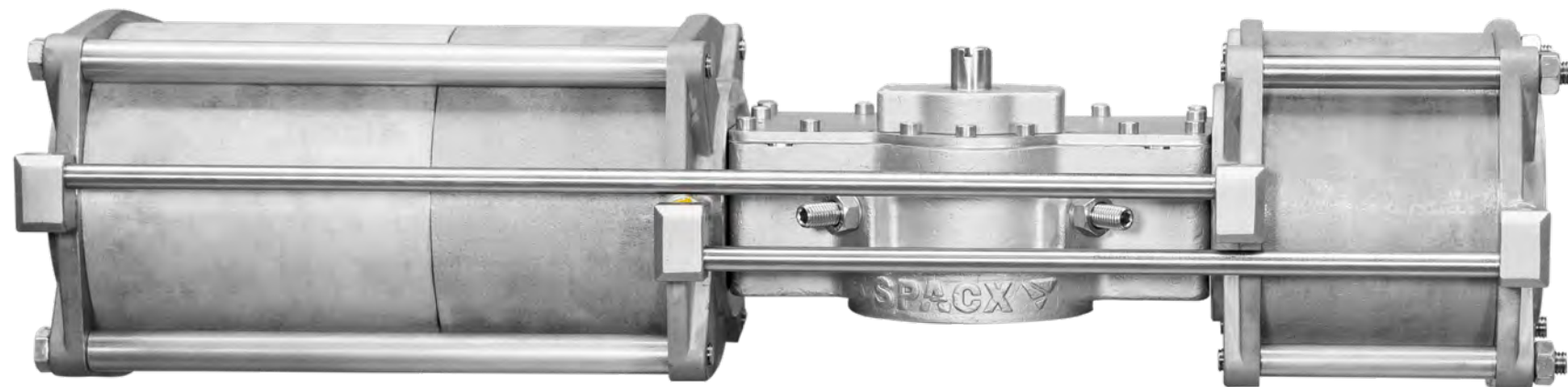
- . Double acting or Spring return
- . Symmetric or Canted Scotch Yoke
- . Hydraulic or Pneumatic
- . Fail open (CCW), Fail close (CW) or double acting (DA)
- . Low MAST configuration
- . Pneumatic on air, nitrogen or sweet natural gas

Optional Configurations

- . Manual override by means of handwheel or hydraulic handpump
- . Low and high temperature version -40°C to +160°C
- . High cycle and High speed available on request
- . Submersible version available on request
- . Bespoke coating systems
- . Wide range of controls possible.
- . Hydraulic partial stroke damper systems.
- . Sour gas medium

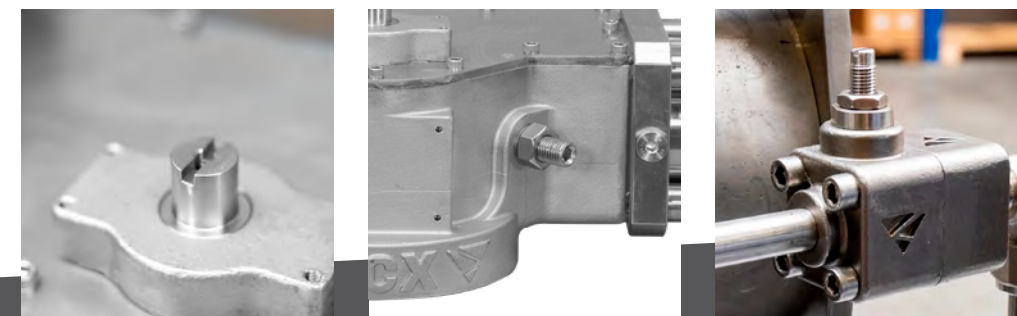
Specifications/Standards

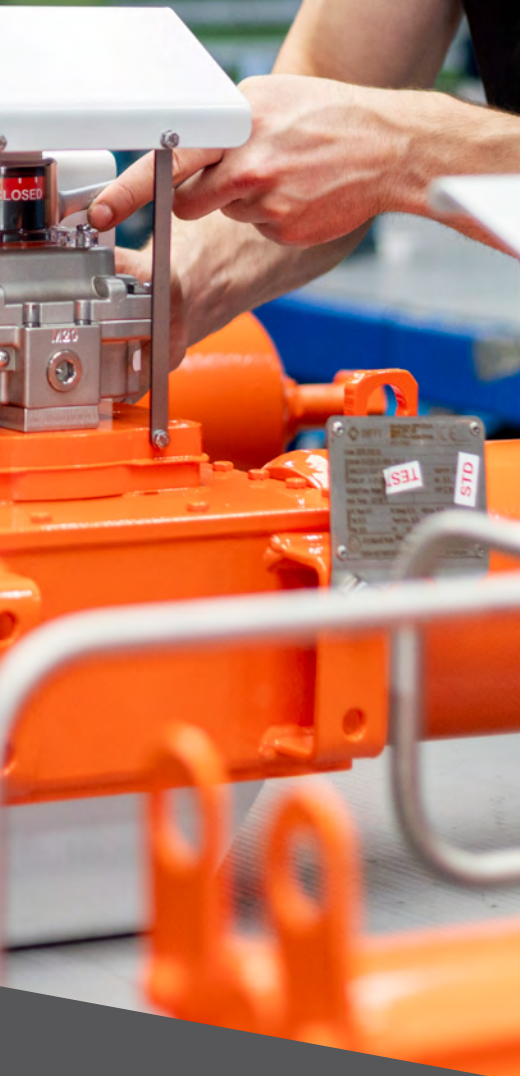
- . Manufacturing to ISO 9001:2015
- . Output Torques up to 20100NM
- . Operating pressure range Pneumatic 3-12 barg, hydraulic 40-220 barg
- . Cylinder Design pressure Pneumatic 16 barg, hydraulic 345 barg
- . Heavy duty designed lifetime expectancy 30 years.
- . ATEX 2014/34/EU
- . IP66/IP67(m)
- . SS316 for maximum protection against corrosion.
- . PED 2014/68/EU
- . Casted housings up to 3500NM, Fabricated housings from 3500NM onwards
- . Drive interface to ISO5211
- . Machine directive 2009/42/EC
- . Fully serviceable without the need of special tools.
- . NAMUR top mounting configuration for valve monitoring
- . Guide bar to support transverse loads
- . External travel stops 90° +-5°
- . Low cost of ownership



Applications/Industries

- . On/off control of Quarter turn ball, butterfly, damper or plug type valves,
- . Modulating control of Quarter turn ball, butterfly, damper or plug type valves
- . Biofuels
- . Oil&Gas E&P, offshore/onshore, midstream/upstream
- . Petrochemical
- . Shipbuilding
- . Chemical
- . Water treatment





BYX-SERIES DESIGN FEATURES

Created with its users interest in mind, the BYX-series heavy duty valve actuators offer many significant benefits

1 DESIGN The Actuator design is considered to be fully assembled with normal available hand tools. completely without any welding avoiding welding procedures, qualifications and inspection.

2 SAFE SPRING The actuator springs are precompressed and fitted to the actuator as a sub-module. allowing for safe service and disassembly of the actuator without the need to relax the spring first. Please read the manual prior to disassembly of the actuator.

3 DUAL PISTONS The piston opposed spring module allows for a smaller size pneumatic power module on the opposite side of the actuator. Furthermore it allows for a construction to reduce maximum output torque for valves that have a low MAST value.

4 DRIVE MODULE The actuators drive module is available in 4 sizes covering torque output range from 20NM up to 3600NM end of spring

5 INGRESS PROTECTION BYX-Series actuator meet IP66/67 specifications

6 NAMUR Output shaft for position monitoring to NAMUR VDI/VDE-3845 standard 80x30x20 for all drive module sizes.

7 DRIVE SHAFT The drive shaft is designed to prevent blow-out with male or female square output as standard.

8 HOUSINGS Drive modules all feature a casted housing, avoiding any welding to stress or torque transferring parts.

9 VALVE INTERFACE The actuator valve interface meets the dimensional requirements of ISO5211 to the relevant torque requirements

10 ACCESSORIES Each actuator has a provision for attachment of a control system

11 MATERIAL All outer material are in SS316 or better for optimum corrosion resistance

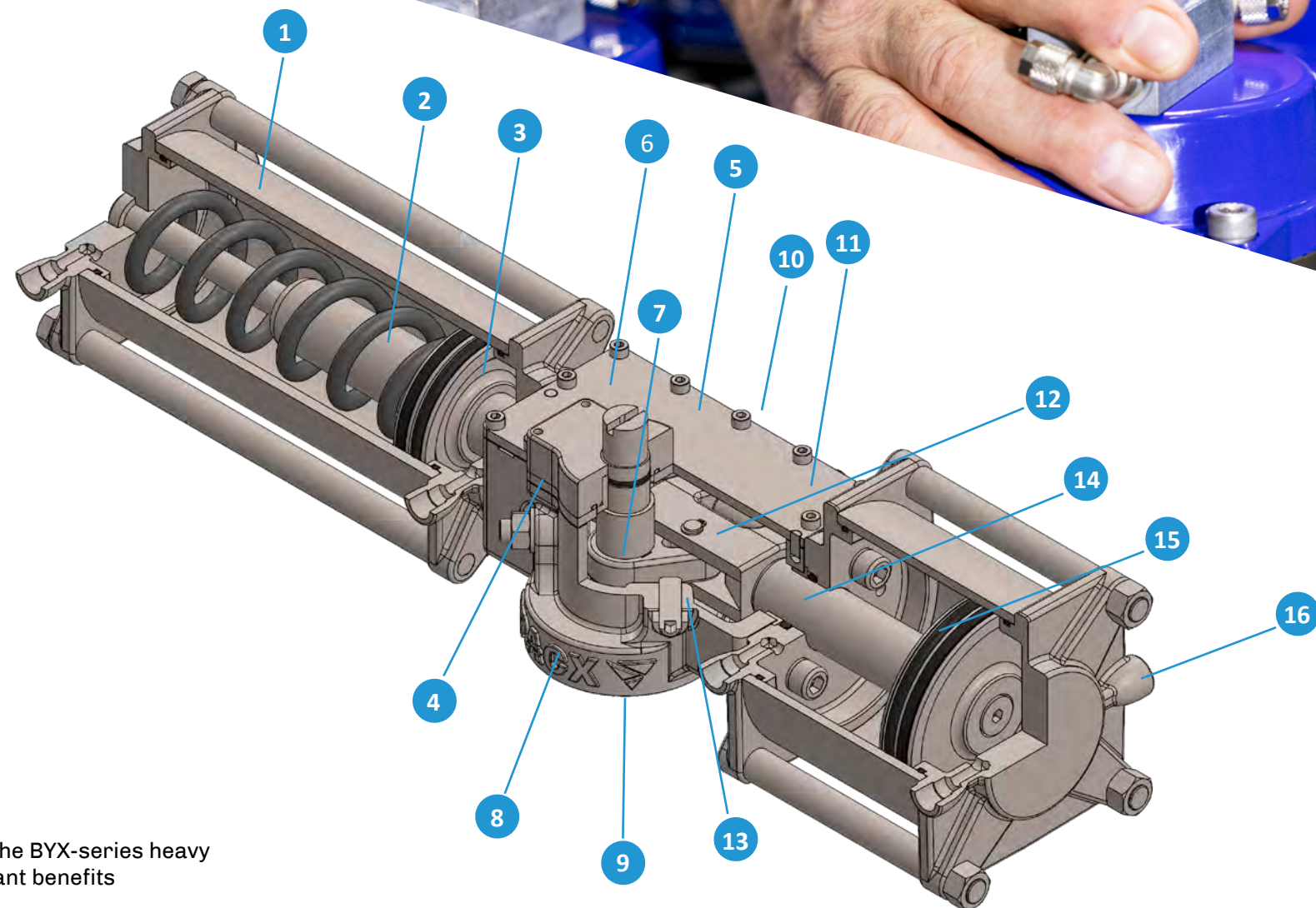
12 LUBRICANT The actuator is sufficiently lubricated for the lifetime expectancy.

13 TRAVEL STOPS Stroke adjustment by travel stops that are +/- 5 degrees independently adjustable in both directions.

14 BEARINGS Low friction replaceable bearings improving efficiency

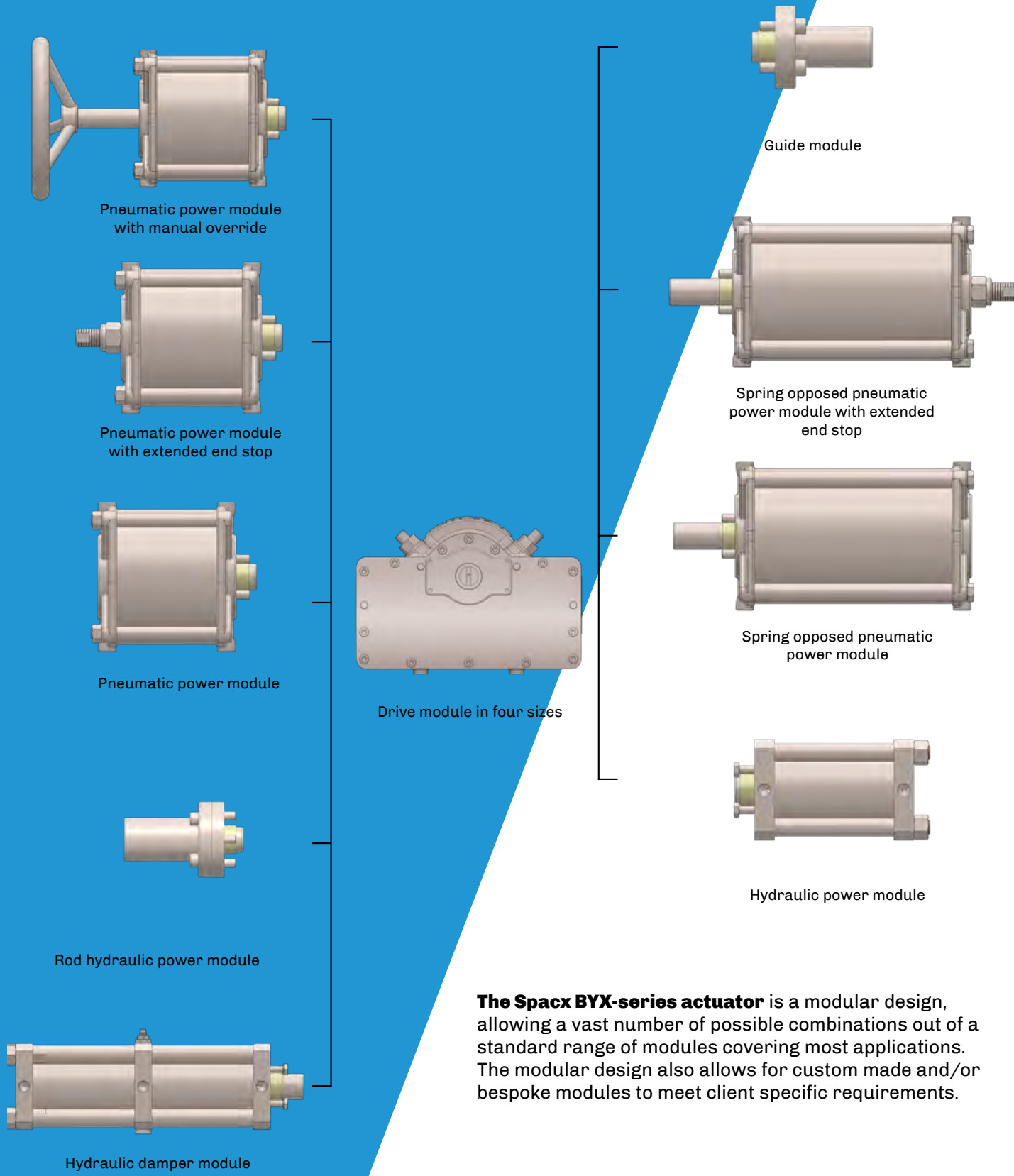
15 SEALS Low friction and low wear piston guide band and seals for optimum sealing and lifetime expectancy. Standard temperature range between -20°C and 80°C

16 DUAL PORTS All pneumatic and hydraulic actuators are equipped with a second supply port for the purpose of flushing or pressure sensors for diagnostic services



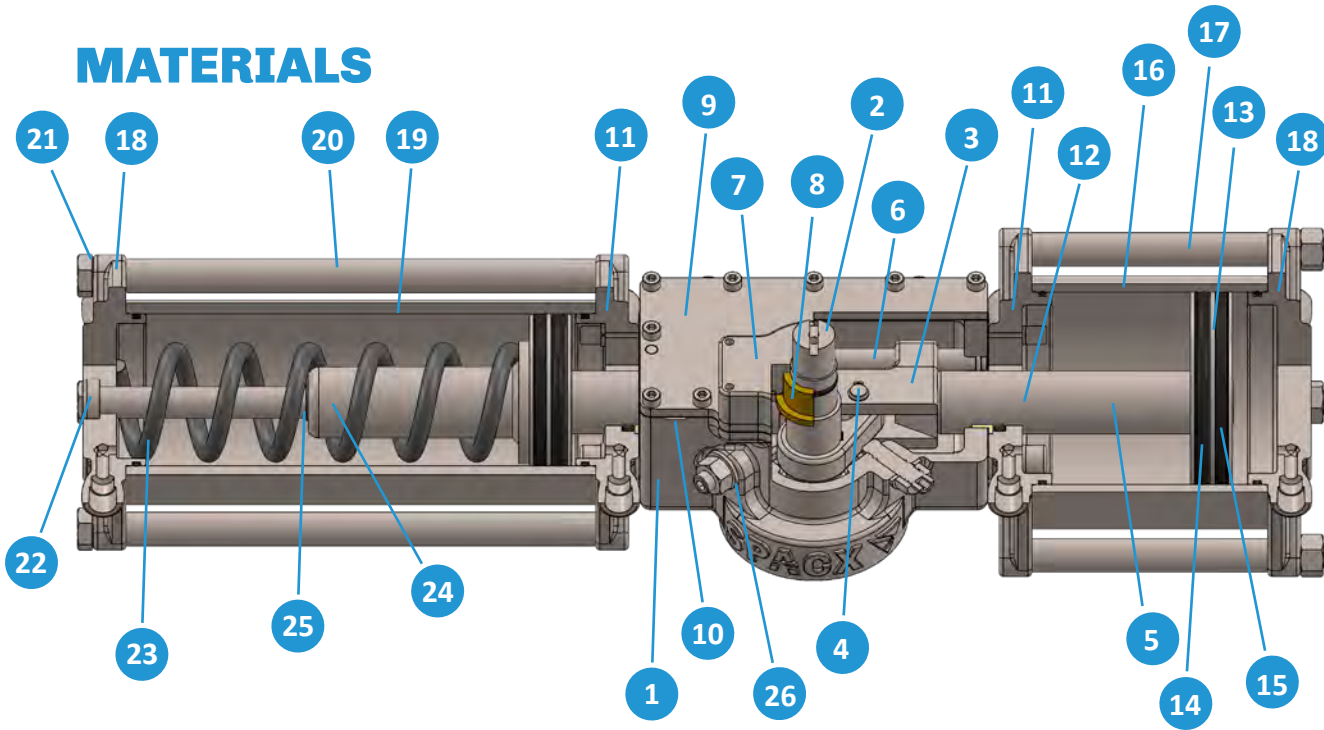


MODULAIR DESIGN



The Spacx BYX-series actuator is a modular design, allowing a vast number of possible combinations out of a standard range of modules covering most applications. The modular design also allows for custom made and/or bespoke modules to meet client specific requirements.

MATERIALS



NO.	Part	Material
1	Body	SS316
2	Drive Shaft Assembly	Duplex
3	Yoke Cage	SS316
4	Yoke Pin	Duplex
5	Circlip	A4
6	Guide Bar	SS316
7	Bearing Carrier	SS316
8	Bearing	Bronze
9	Cover	SS316
10	Gasket	Nitrile
11	Intermediate Cap	SS316
12	Piston Rod	SS316
13	Piston	SS316

NO.	Part	Material
14	Guide Strip	PTFE
15	Seals	Nitrile
16	Air Cylinder	SS316
17	Tie-rod	SS316
18	End Cap	SS316
19	Spring Cylinder	SS316
20	Spring Tie-Rod	SS316
21	Hard wear	A4
22	Spring Tension Bar	A4
23	Spring	Chrome Alloy
24	Spring Bucket	SS316
25	Bearing	Polymer
26	Bonded Seal	A4-Nitrile

CONTROL SYSTEMS

SPACX CONTROL SYSTEMS FOR PNEUMATIC & HYDRAULIC ACTUATORS

CONTROL SYSTEMS

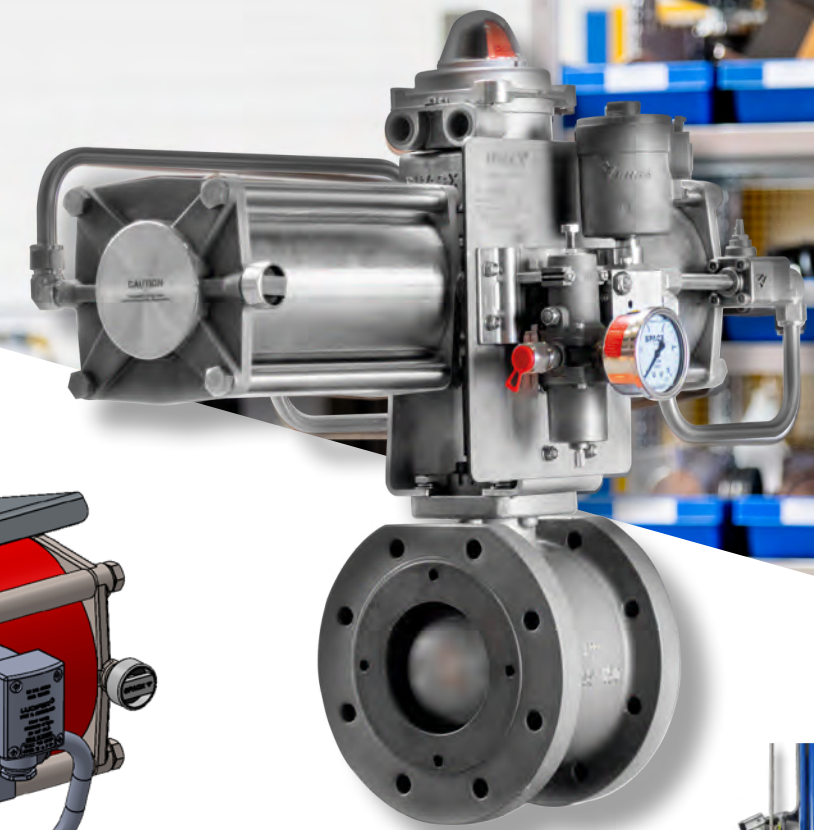
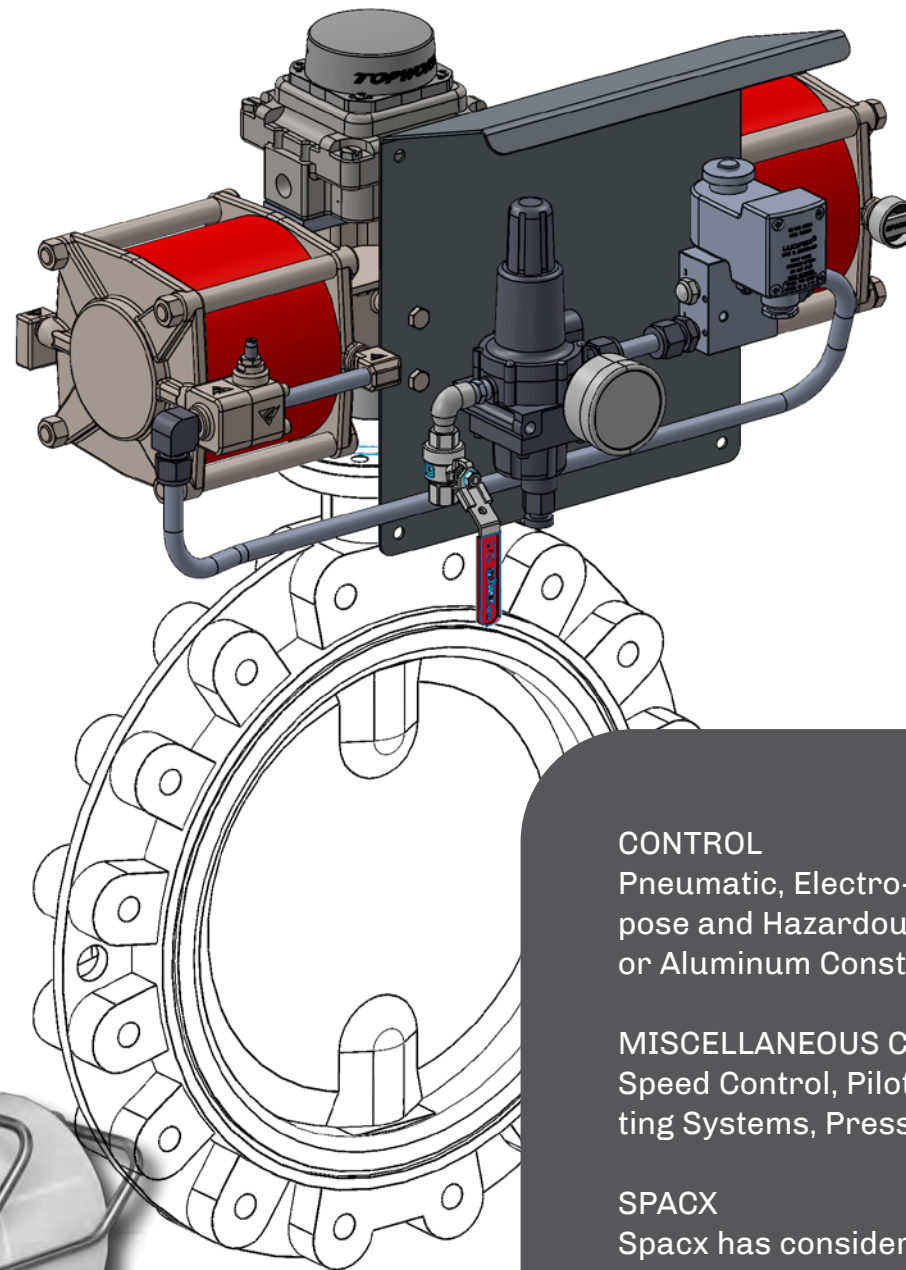
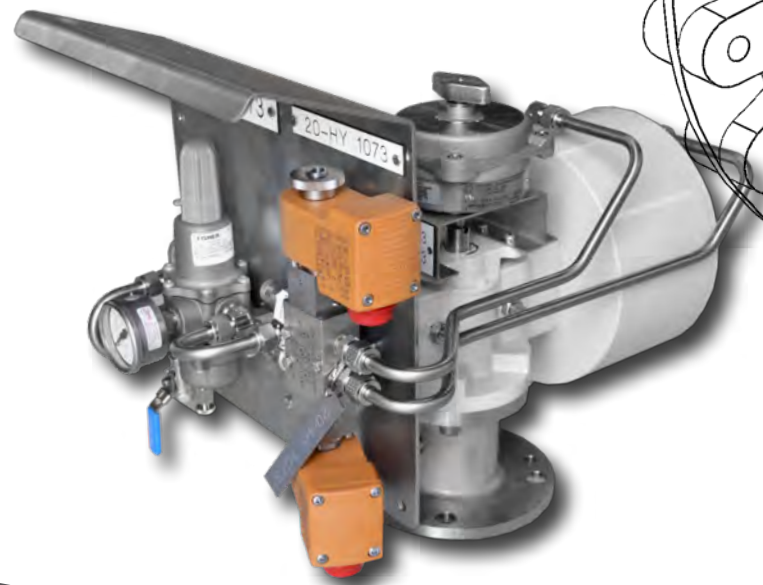
The ancillary control systems for actuators are of fundamental importance for providing actuator performance, functionality and reliability.

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 Aluminum 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, Aluminum or Engineered Resin Construction.



CONTROL

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

MISCELLANEOUS CONTROLS

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

SPACX

Spacx 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.

Self-contained hydraulic control system for monitoring pipeline pressures and providing shutdown capability where external power sources are not available.



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