



HC4 Top Works

Manual Bonnets, Actuators & Accessories

The Saunders HC4 range of manual and actuated Top Works provides industry-leading features with ergonomic, compact design. Ease of operation and high temperature resistant materials (polymer and stainless steel) compliment a wide choice of modular options.

HC4 Manual Bonnets

Black PES Performance Bonnet

Black PES (Polyethersulphone) Performance Bonnet

Designed for the most demanding applications and featuring PES, a high performance thermoplastic material with excellent chemical resistance, to ensure long life and high reliability.

Fully autoclavable, the PES bonnet is available across the size range DN15–DN80.

The PES Performance Bonnet offers several key features:

- High integrity, ergonomic handwheel. Design ensures comfortable operation and precise control
- Fully autoclavable to 140°C
- 'O' Ring seal prevents both the escape of product and the potential ingress of contaminants
- Shrouded bonnet construction provides maximum containment and diaphragm support for critical applications
- Modular options available including padlocking facility, proximity sensors, 'V' notch vent plugs and limit open stop version
- Fully FDA conforming materials of construction
- Limit closing stop to provide process/flow control option



Padlock Option

The padlocking facility can be supplied to order or is available in kit form for retro-fitting to the bonnet sub-assembly or whole valve.

Limit open stop option

Limit open stop bonnet to facilitate effective running of system under normal capacity.

Limit closing stop option

A fully adjustable limit closing stop is fitted as standard to all 'Performance' bonnets. The limit closure stop is located under the handwheel and is adjusted by first removing the handwheel fixing screw and the handwheel assembly.

HC4 Manual Bonnet Assemblies

Polymer and Stainless Steel

The best all-round choice for your application

The unique needs of the Clean Processing Industries have been considered in every aspect of design. Our manual bonnet range incorporates:

- Hi-tech polymer materials that are lightweight and corrosion resistant
- Truly autoclavable models
- Modular options to suit all application needs
- Stainless steel and polymer options that are contoured for ease of cleaning

Stainless Steel Bonnet Assembly

Constructed from materials which fulfil all FDA requirements, this bonnet offers the best possible levels of security, durability and corrosion resistance.



- Represents a high integrity solution for situations where coated or plastic bonnets would be unacceptable
- Features smooth contours and an electropolished surface to eliminate bug traps
- Fully autoclavable up to 140°C to ensure maximum levels of sterility
- Supplied with PES (polyethersulphone) handwheel to offer high temperature performance and excellent chemical resistance
- Available in size range DN15–DN150
- Suitable for Steam-in-Place (SIP)

Stainless Steel Sealed Bonnet Assembly

Meeting all FDA requirements, this is the optimum solution in bonnet assemblies for the Biopharm market.



- Thrust pad and 'O' rings apart, completely constructed from stainless steel ensuring long life and providing the ultimate in security, reliability and corrosion resistance
- Fully sealed, with a primary seal that provides absolute containment for critical applications
- Electropolished to meet both aesthetic and aseptic requirements
- Operational at temperatures up to 160°C
- Suitable for Steam-in-Place (SIP)
- Available in size range DN15–DN80

White Epoxy Coated Bonnet

This consistently popular bonnet is the economic solution for applications which do not require high temperature steam autoclaving.



- Suitable for washing externally with semi-corrosive fluids
- Engineered in sizes DN15–DN100 with a white epoxy coating
- Features an easily cleaned surface, which is free from pits or crevices
- Suitable for Steam-in-Place (SIP)

Pure Performance Bonnet

Available only in size DN8 (4 bolt), this bonnet is produced in PPS (Poly-phenylenesulphide). Features include:

- Built in overclosure stop for greater process control
- 'O' Ring seal preventing ingress of foreign material and providing containment of process media
- 4-Bolt design providing optimum sealing capability
- Fully autoclavable up to 140°C



HC4 Pneumatic Valve Actuation

EC, SSC & ECX

Compact Actuators that provide reliable remote control

Saunders EC and SSC Pneumatic Actuators facilitate remote operation of the valve, either as a simple alternative to manual bonnet assemblies or as an integral part of the control system. Both are compact piston style actuators with excellent chemical and temperature resistance.

The versatile and robust design derived from the use of high technology materials of construction, results in an actuator suitable for a wide range of process industry applications.

EC Actuator

The EC is manufactured by injection moulding in PES (polyethersulphone), which has a temperature range of -10° to +100°C ambient (autoclave maximum 150°C). Actuators can be supplied as spring close, spring open or double acting with various spring pack options for a variety of pressure requirements.



EC Actuator mounted on a ZDT valve
Size range: DN8 – DN50

All three operation modes, double acting, spring to close and spring to open feature the same physical dimensions for a given valve size. This provides uniform compact envelope dimensions and outstanding economic benefits particularly for spring return failsafe actuation.

Field conversion of manual valves to power actuation can be readily achieved 'in-line' without special tools or modification.

SSC Actuator

With the same flexibility as the EC Actuator, the SSC has been manufactured with a 316L stainless steel investment cast housing. Suitable for a wide range of demanding applications the SSC provides excellent resistance to both chemical and steam duties.



SSC Actuator
Size range: DN8 – DN50

ECX Actuator

Saunders ECX type actuators are designed to offer an extension to the EC size range whilst still maintaining the compact envelope size. The housing is manufactured in coated silicon aluminium for optimum chemical resistance and long life. With an extensive range of spring packs available we can offer an actuator to suit a wide range of pressure and flow variations.

Available in spring close, spring open and double acting modes of operation to suit process needs. A wide range of options including switches, positioners, limit stop and visual open/close indication are also available.



ECX Actuator with visual indicator
Size range: DN65 – DN150



ECX Actuator with Module Switchbox
Size range: DN65 – DN150

Pneumatic Actuators for Larger Valves

EV & ES Modular

The EV and ES actuator range directly replaces manual bonnet assemblies and may be ordered as part of a whole valve or separately to convert a manual valve to automatic operation. Installation may be carried out with the valve body in the pipeline.

Saunders EV and ES actuators are designed with close coupled bonnet assemblies and have complete flexibility of performance. Several different actuator models may be provided for each valve size to suit different application requirements. The range allows valve closure against the maximum valve working pressures and can be successfully used for modulating control duties in addition to more normal isolation functions.



EV Actuator
Size range: DN15 – DN150

Failsafe closing actuators are fully adjustable, i.e. spring compression can be externally adjusted to provide optimum diaphragm forces and hence provide extremely long diaphragm life in service.

Many accessory options are available which include solenoid valves, remote indication devices (switches or sensors) to suit environmental conditions such as hazardous services. Limit stops and positioners and many other devices may be offered to allow usage within particular control systems. EV and ES actuators are provided with a tough epoxy coating which gives maximum durability, even in exposed locations.



ES Modular
Size range: DN15 – DN200

Actuation Accessories

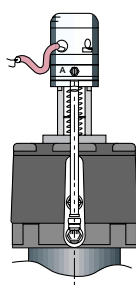
Overview

MODEL	SIZE RANGE	STYLE	MATERIAL	SOLENOID	SWITCH BOX	POSITIONER	AIR FILTER	HANDWHEEL
EC	DN8-50	A, AFP	PES	✓	✓	✓	X	X
SSC	DN8-50	A, AFP	316 C12	✓	✓	✓	X	✓
ECX	DN65-150	A, AFP	SiAl Coated	✓	✓	X	✓	X
EV	DN15-150	A, AFP, KB	SiAl Coated	✓	✓	✓	✓	X
ES	DN15-200	A, AFP, KB	SiAl Coated	✓	✓	✓	✓	✓

✓ = Available X = Not available

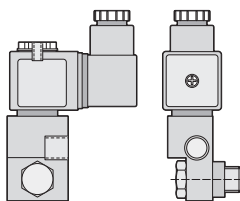
Mini Positioner

For control application on the EC and SSC the VIAPOS mini offers both pneumatic, electro-pneumatic and digital inputs with sensor feedback option and linear mounting design providing a compact control solution.



Solenoid Valves

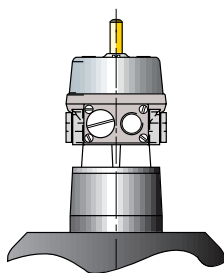
A wide range of locally mounted banjo solenoid valves can be fitted to the Saunders actuator range with a manual override option and various hazardous area classifications. The solenoid range is designed to cover all requirements.



Module Switchbox

This highly modular switchbox option is available for EC/SSC & ECX actuator ranges. The switchbox offers a wide range of V3 mechanical and proximity sensors with space for up to 4 switch, integral solenoid valve & ASI* interface.

*ASI Interface can be retrofitted.



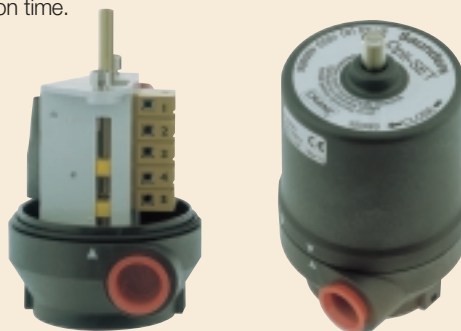
SSC Manual Over-Ride

For extra security the SSC can be supplied with an emergency manual over-ride manufactured from stainless steel. Contact us for further information.



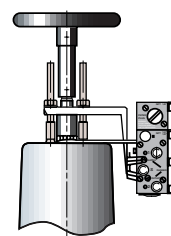
Opti-SET

Suitable for EC and SSC actuators. It is a unique valve position monitoring unit designed for use with Saunders EC actuated diaphragm valve sizes DN8 to DN50. It provides quick and easy installation and commissioning, compactness and reliability. The Opti-SET unit automatically sets by stroking the actuator, significantly reducing installation cost and validation time.



ES Positioner

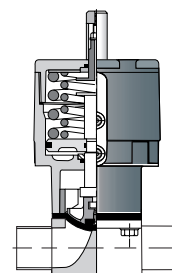
Providing precise control of the flow through the valve. This long life corrosion resistant range suits a wide variety of applications with reliability and accuracy. Available as pneumatic, electro pneumatic, intrinsically safe and explosion proof, together with a variety of feedback options.



↑ Shown mounted to ES Actuator

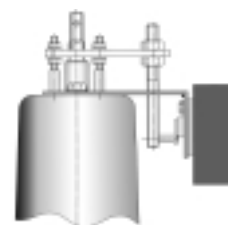
EC & SSC Limit Open Stop

The EC/SSC limit open stop can be supplied to order and offers a fully adjustable travel stop. With the removal of the plastic indicator the limit stop is easily accessible.



007 Switchbox

Manufactured from polyester coated aluminium. This switchbox is used for the ES and EV linear actuators. It has the capability for up to 4 switches and can incorporate internal solenoid valve and ASI system.



↑ Shown mounted to ES Actuator

This Product Leaflet is one of a set detailing the complete range of Saunders brand Diaphragm Valves, Diaphragms and Accessories. For further information, or to request additional data, please contact us. Due to constant product improvements, details shown in this publication are subject to change. Saunders® is a registered trademark of Crane Process Flow Technologies Ltd. Crane® is a registered trademark of Crane Corporation.

CRANE

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