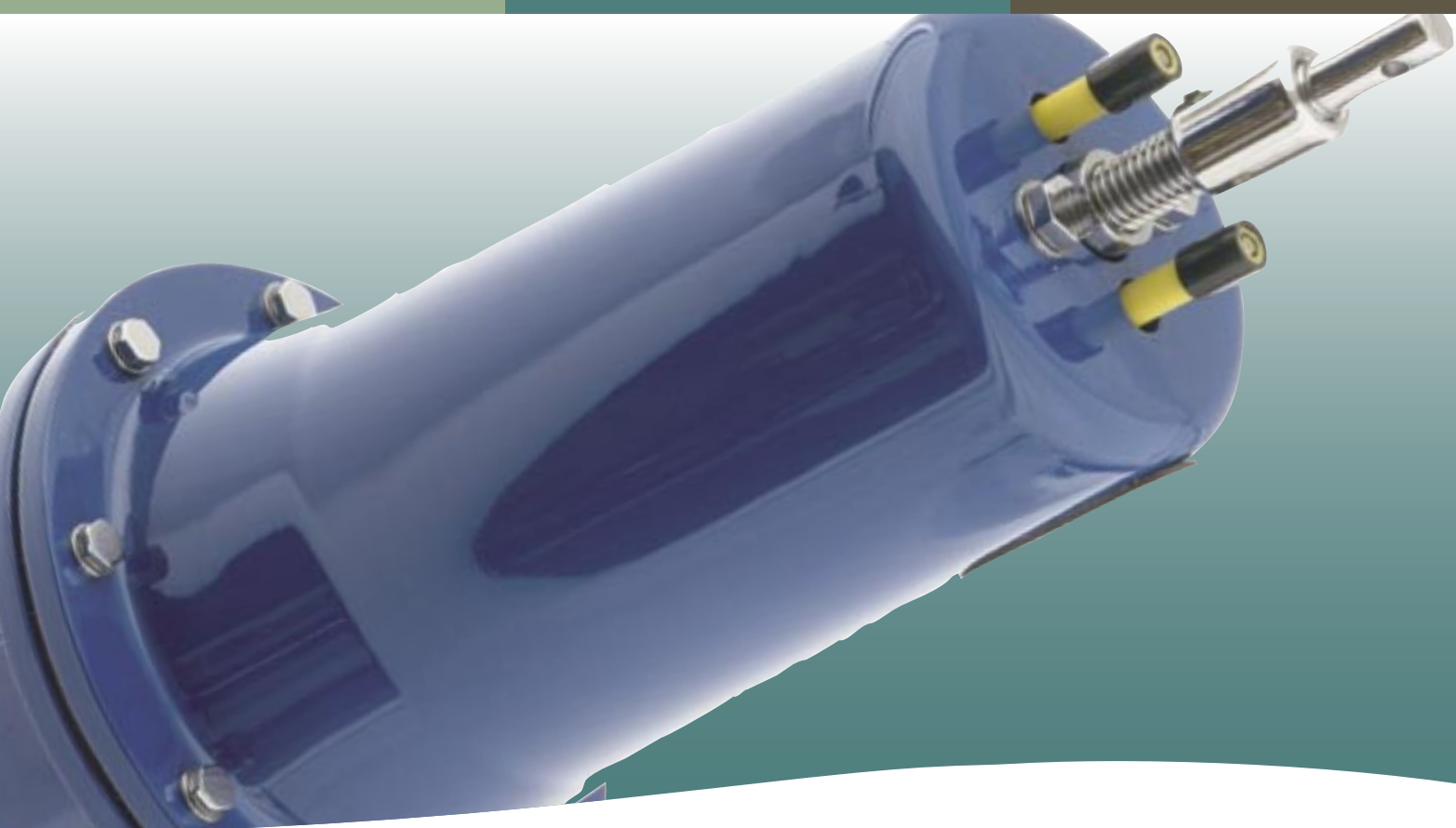


brands you trust.



ES Modular Actuator

CRANE[®]

ChemPharma Flow Solutions

www.cranepharmasolutions.com

Saunders ES Modular Actuators from Crane.

Experience.

Crane and Saunders have a history of technical innovation from world-class engineers. Innovative product designs are thoroughly tested for reliable, extended service life.

Light weight.

ES Modular actuators are light weight for easier, more economical installation and more compact system design. They are manufactured from cast aluminum and finished with a tough polyester coating.

Corrosion resistant.

ES Modular actuators provide high corrosion resistance for longer service life.

Greater economy.

Cost of ownership has been reduced through standardization of the actuator spring cases and an interchangeable bonnet assembly.

More accessories, more flexibility.

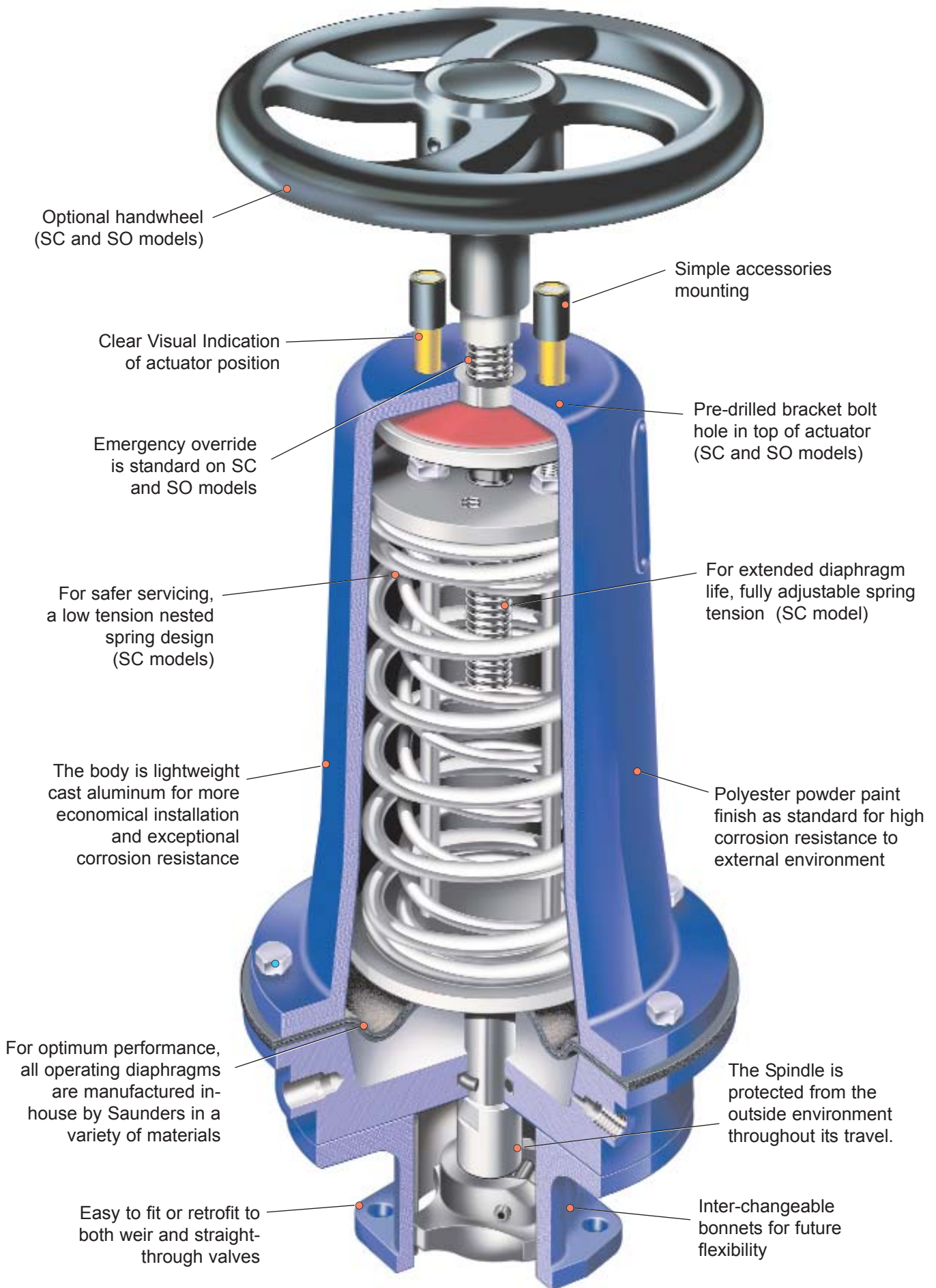
With A growing number of accessory options, ES Modular actuators can be tailored to meet your specific requirements. These include solenoid valves, limit-switch units, and positioners.



The Saunders offering is not just about product: it is about service. So if this short-form product guide leaves any technical question unanswered, please contact us today. We are eager to help.

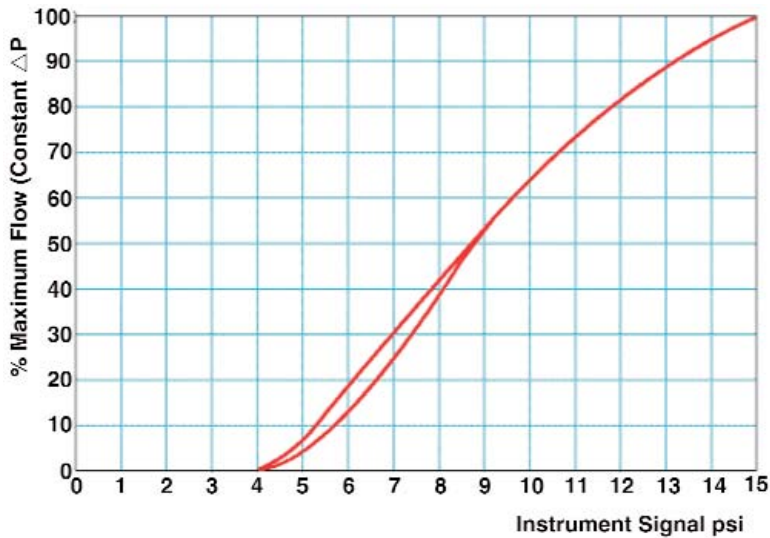
Due to constant product improvements, details shown in this brochure are subject to change.

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Pneumatic Valve Actuation - Valve Throttling and Flow Control

Hysteresis for weir type diaphragm valve fitted with actuator plus valve positioner



Saunders diaphragm valves offer excellent control capabilities within a broad range of pressure, flow or level control applications.

Rangeability (ratio of maximum flow vs. minimum control flow) of Saunders weir type valves is 35:1 extending beyond the range of most process and service control systems.

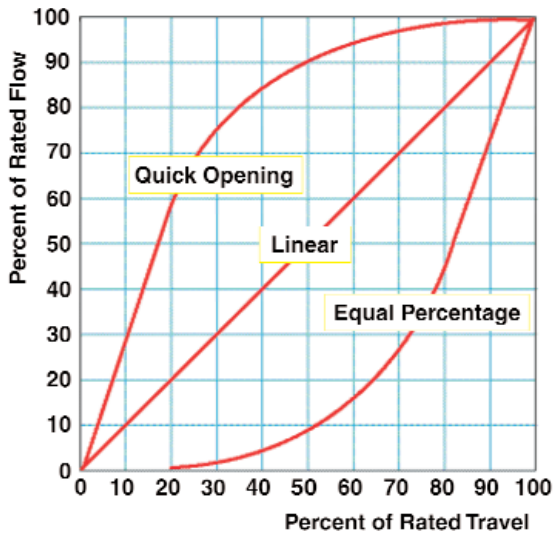
The positive shut-off characteristics of the valve can, in many instances, eliminate the need for independent block valves, a major component in the piping system cost.

The inherent flow characteristics illustrated shows linearity up to 60% of travel (80% of flow).

The chart illustrates installed characteristics affected by the dynamic friction loss for the remainder of the piping system.

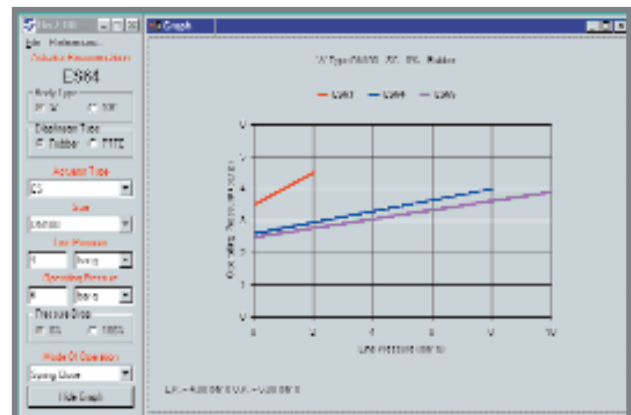
Pressure recovery factor = 0.7.

Valve characteristic curves



Actuator with digital foundation fieldbus positioner

% flow/% travel, weir type diaphragm valve

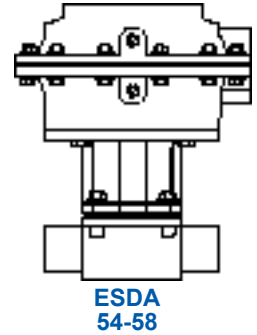
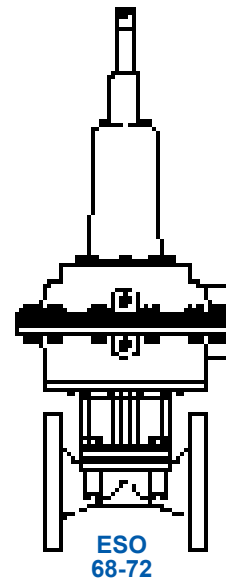
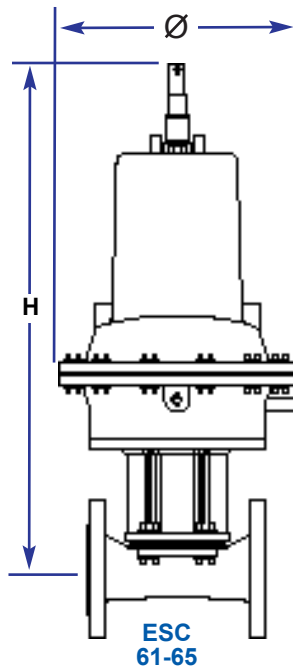


On/Off Actuation Selection Software

To use this software, you simply enter your process data into the selection boxes. The program sizes the actuator to suit your specific requirements.

ES Modular Actuators Technical Data

Standard Materials	
CAST IRON BONNETS	ASTM A48: Class 30C & ASTM A126: Class A
ALUMINUM COVERS & LOWER CYLINDERS	ASTM B179: S12A-B
STAINLESS STEEL SPINDLES	ASTM A582: Type 303



Ø = Actuator Diameter/Width
H = Actuator Height

Table shows diameter/width of actuators and the maximum height of the actuator from the center of the valve flange or pipeline.

Model	Ø In. / DN	H - (Type A Valves) – Dimensions in Inches / DN												H - (Type KB Valves)														
		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"							
Fail Safe Spring CLOSING (ESC)	ES6 1	6.61	169	16.1 408	16.3 413	16.7 423	-	17.1 435	18.1 461									18.9 480	-	18.9 480								
	ES6 2	10.24	260	-	-	18.2 462	-	18.7 476	19.7 501	19.7 501	19.8 503							20.5 520	-	20.5 521	20.4 518	21.5 547						
	ES6 3	12.44	316	-	-	-	-	-	27.6 700	28.7 729	28.8 732	29.8 756						-	-	-	29.1 740	30.1 765	31.4 797	32.6 827				
	ES6 4	16.73	425	-	-	-	-	-	-	-	30.9 784	31.5 800	32.6 828	35.2 895					-	-	-	-	33.1 841	34.2 871	33.3 847	37.9 962		
	ES6 5	21.61	549	-	-	-	-	-	-	-	-	40.6 1031	41.7 1059	44.3 1125					-	-	-	-	-	-	44.7 1102	42.4 1078	47.0 1193	
Fail Safe Spring OPENING (ESO)	ES6 8	6.61	169	14.9 378	15.1 383	15.5 393	-	16.0 406	17.0 432									17.7 450	-	17.7 450								
	ES6 9	10.24	260	-	-	19.6 497	-	20.1 511	21.1 537	21.1 536	21.2 538							21.9 556	-	21.9 557	21.9 555	23.0 582						
	ES7 0	12.44	316	-	-	-	-	-	30.4 773	30.8 783	30.9 786	31.9 810						-	-	-	31.3 794	32.2 819	33.5 850	34.7 881				
	ES7 1	16.73	425	-	-	-	-	-	-	-	30.0 763	30.9 786	32.0 813	34.7 881					-	-	-	-	-	32.6 827	33.7 857	32.8 833	37.3 948	
	ES7 2	21.61	549	-	-	-	-	-	-	-	-	34.6 879	35.7 907	38.3 974					-	-	-	-	-	-	37.4 950	36.5 926	41.0 1041	
DOUBLE ACTING (ESDA)	ES5 4	6.61	169	6.1 155	6.3 160	6.7 170	-	7.2 183	8.2 209									8.9 227	-	8.9 227								
	ES5 5	10.24	260	-	-	8.7 222	-	9.3 235	9.7 246	10.2 259	10.7 271							11.0 280	-	11.1 281	11.0 280	12.1 307						
	ES5 6	12.44	316	-	-	-	-	-	12.0 306	12.4 315	12.5 318	14.1 357							-	-	-	12.8 326	13.8 351	15.0 382	16.3 413			
	ES5 7	16.73	425	-	-	-	-	-	-	-	13.2 336	14.3 363	14.9 378	17.5 444					-	-	-	-	-	15.7 400	16.9 430	16.0 406	20.5 521	
	ES5 8	21.61	549	-	-	-	-	-	-	-	-	15.0 382	16.1 410	18.9 479					-	-	-	-	-	-	17.8 453	16.9 429	21.4 544	
			INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"				1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"		
			DN	15	20	25	32	40	50	65	80	100	125	150				25	32	40	50	65	80	100	125	150		

ES Modular Actuators are also available for the K High-Flow range of straight through valves.

All dimensions are based on unlined bodies and bare-shaft actuators.

Add-on handwheel dimensions

ACTUATOR	Add-on In. / DN
68, 69, 70	0.55 14
61, 62, 63	0.55 14
71, 64	0.71 18

ES Modular Actuator Technical Data



Saunders ES Modular

Product Information

Suitable for 1/2" - 6" Saunders diaphragm valves, the ES Modular linear actuator range offers a robust and durable solution. Its reliability and longevity provide a low cost of ownership.

Size Range

1/2" to 6" DN 15 – DN150

Temperature Range

-4°F to +185°F -20°C to +85°C (external environment)

Coating

Polyester Coated

Options

Available as FAIL-SAFE spring close, FAIL-SAFE spring open and double acting.

Approvals

BS EN ISO 9001:2000

Suitability

Saunders Weir Type A, Saunders Straight Through Type K/KB and Saunders Aseptic Diaphragm Valves.

Accessories

Solenoid valve, switch box, positioners, air filter and handwheel.



Actuator Accessories

Product Type: Positioner

Product Information

Provides 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. A digital option is also available.

Product Type: Switch-box

Product Information

Highly modular switch-boxes are available for the ES Modular actuator range. It offers a wide range of V3 mechanical and proximity switches (I/S and EEXD options) with space for up to 4 switches, integral solenoid valve and AS-interface.

More accessory choices.

Saunders offers a wide variety of factory installed accessories.

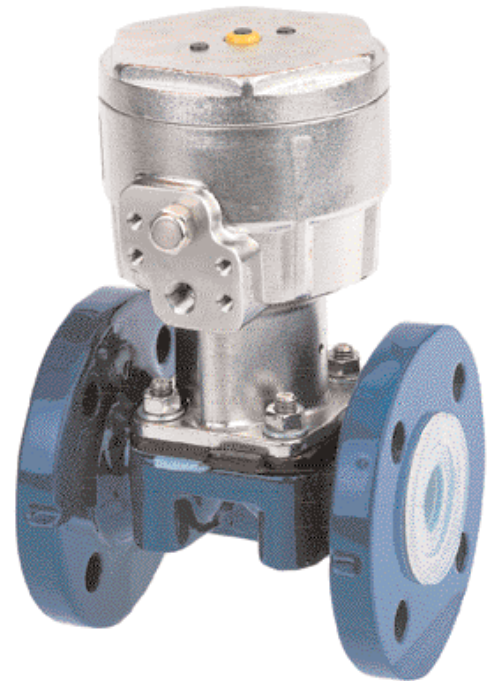
To inquire about the full range of available accessories, contact your nearest Saunders distributor or call 1-936-588-4447

Facing Page >>>

The actuator models available are outlined in the tables at the right in terms of valve size, valve type, and diaphragm type. In order to choose the right actuator the tables should be used in conjunction with the actuator performance graphs.

■ Non-modular size

Abbreviations	
ESM61	Actuator range
A	A type valves (weir type)
KB	KB type valves straight through type)
R	Rubber diaphragm
P	PTFE faced diaphragm



More actuators.

Saunders offers a broad range of additional actuators.

This includes compact EC and EX models, electric actuators, as well as ES and piston actuators for larger size valves.

FAIL-SAFE CLOSING ACTUATORS																
BODY SIZE		ESM61			ESM62			ESM63			ESM64			ESM65		
DN	inches	A	P	KB	A	P	KB	A	P	KB	A	P	KB	A	P	KB
		R	P	R	R	P	R	R	P	R	R	P	R	R	P	R
DN15	1/2															
DN20	3/4															
DN25	1															
DN32	1 1/4															
DN40	1 1/2															
DN50	2															
DN65	2 1/2															
DN80	3															
DN100	4															
DN125	5															
DN150	6															

FAIL-SAFE OPENING ACTUATORS																
BODY SIZE		ESM68			ESM69			ESM70			ESM71			ESM72		
DN	inches	A	P	KB	A	P	KB	A	P	KB	A	P	KB	A	P	KB
		R	P	R	R	P	R	R	P	R	R	P	R	R	P	R
DN15	1/2															
DN20	3/4															
DN25	1															
DN32	1 1/4															
DN40	1 1/2															
DN50	2															
DN65	2 1/2															
DN80	3															
DN100	4															
DN125	5															
DN150	6															

DOUBLE ACTING ACTUATORS																
BODY SIZE		ESM54			ESM55			ESM56			ESM57			ESM58		
DN	inches	A	P	KB	A	P	KB	A	P	KB	A	P	KB	A	P	KB
		R	P	R	R	P	R	R	P	R	R	P	R	R	P	R
DN15	1/2															
DN20	3/4															
DN25	1															
DN32	1 1/4															
DN40	1 1/2															
DN50	2															
DN65	2 1/2															
DN80	3															
DN100	4															
DN125	5															
DN150	6															



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