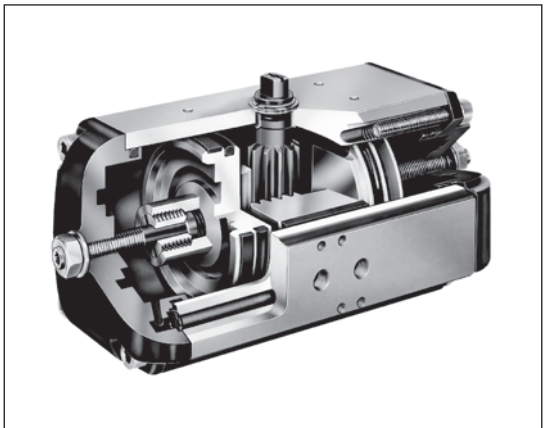
AUTOMAX SUPERNOVA SERIES

PNEUMATIC RACK & PINION ACTUATORS



Double Acting Version

The Flowserve S Series SuperNova pneumatic actuator is the latest development of the previous version, which won worldwide praise for its reliability, versatility and safety.

Rugged yet compact construction combined with new technical solutions make this product extremely reliable in the severest of operating conditions. Furthermore, an entire range of accessories manufactured by Flowserve Automax enable users to rely on a single partner for all their valve automation system components.

1.Replaceable top and bottom pinion bearings designed to withstand the toughest working conditions. The materials used ensure optimum operating conditions between the pinion and body.

2.Steel pinion with a special gaseous nitride surface treatment affording higher resistance to corrosion than traditional coating methods.

3.Independent mechanical adjustable travel-stops to allow regulation of open and closed position. Continuous 0-90° regulation available on request.

4.Concentric springs; a solution of proven reliability we have used for over 10 years, eliminating the need to hold spares.

5.Stainless steel fastenings throughout, for long-term corrosion resistance.

MAIN FEATURES

• Aluminium alloy body internally and externally hard anodised.

• End caps oven-treated with ultra-thick polyurethane paint.

• Reversible action and modification of spring set without any special equipment while on site.

• Piston guide bearings with wide contact surfaces, increase efficiency and cycle life.

• Independent open and closed adjustment (standard across the whole range illustrated) is indispensable where different valve sealing systems are involved.

• Standard working temperatures: from -30°C to +80°C.

• The special construction design also allows for operation with non-lubricated air.

• Conforms to IEC 61508, 'SIL' information available.

• Valve and accessory connections according to the latest international standards:
A ISO 5211/DIN 3337 for valve connection;
B NAMUR for solenoid valve connection;
C NAMUR and VDI/VDE 3845 for limit switch, positioner and other accessories.

Operating Conditions

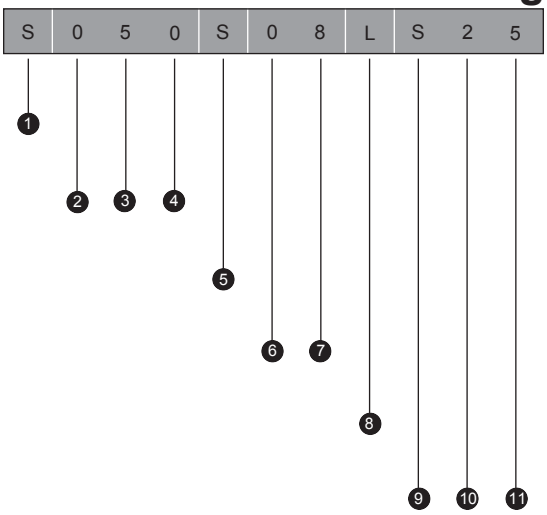
Pressure Limitation	10 bar maximum working pressure.
Media	Air or non-corrosive fluid. The media should have a dew point at least 10°C below the ambient operating temperature.
Temperature Range	Standard -30°C to +80°C Low temperature variant -50°C to +80°C High temperature variant -30°C to +150°C
Rotation (viewed from top)	Pinion rotates anti-clockwise when the centre chamber supply port (RHS) is pressurised. Reverse acting options available.
Travel (all sizes)	Average 100° total travel to provide nominal 5° over travel clockwise and anti clockwise. S250/S300 models - travel stops in outward direction only.
Extended Travel	180°, 140°, 120°. For further options consult your local Flowserve sales operation.
Adjustable Travel Stop	Standard on all 90° version. Optional on 140°. Open adjustment only on 180°.

Torque Outputs (Nm) - Double Acting Actuator

Model / Bore	Air Supply Pressure (bar)							
	2.5	3	4	5	5.5	6	7	8
S050D	8	9	13	16	17	19	22	25
S063D	15	18	24	29	32	35	41	47
S085D	31	37	49	61	67	73	86	98
S100D	56	68	90	113	124	135	158	180
S115D	94	112	150	187	206	225	262	300
S125D	133	160	213	266	292	319	372	425
S150D	239	287	383	478	526	574	670	765
S175D	375	428	570	713	784	856	998	1141
S200D	511	613	817	1021	1123	1225	1430	1634
S250D	1058	1270	1693	2116	2328	2539	2962	3386
S300D	1564	1877	2502	3128	3441	3754	4379	5005

*last updated 03/16

Automax Actuator Coding



❶ AUTOMAX ACTUATOR CODING	
S	*European SuperNova 050-300*

❷ ❸ ❹ SIZE
050, 063, 085, 100, 115, 125, 150, 175, 200, 250, 300

❺ OPERATION	
C	*Spring Return FCCW (Fail Counterclockwise)*
D	*Double Acting*
F	*Double Acting, 140° Rotation, Adjustment 135° (Special Body, Double Stroke Adjustment)*
M	*Double Acting, 180° Rotation*
S	*Spring Return FCW (Standard Fail Clockwise)*
T	*Double Acting, 120° Rotation*
W	*Double Acting Reverse Action (Counterclockwise Rotation)*

❻ ❼ SPRING CONFIGURATION
04, 05, 06, 07, 08, 09, 10, 11, 12

❽ TEMPERATURE	
Blank	*Standard Temperature, Nitrile 'O' Rings*
L	*Low Temperature, Fluorosilicon 'O' Rings*
H	*High Temperature, Viton 'O' Rings*

❾ ❿ ⓫ SPECIAL VERSIONS	
Blank	*No Special Variation*
C	*Corrosive Environment, Stainless Steel Pinion and Snap Ring*
E	*Epoxy Coated*
R	*0 to 100% Stroke Adjustment*
S	*Special Please Consult Office*
V	*Special Coating*

Torque Outputs (Nm) - Spring Return Actuator (50 - 300)

Model / Bore	Springs			Air Supply Pressure (Bar)														
	Spring Set	Spring Start	Torque End	2.5		3		4		5		5.5		6		7		
				Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	
S050S_ _	04	*5*	3	4	2	6	4											
	05	*6*	4			5	3	8	6									
	06	*7*	5					7	5	10	8							
	07	*8*	6					6	4	9	7	11	8					
	08	*10*	7							8	4	10	6	11	7			
	09	*12*	8									8	4	10	5	13	8	
S063S_ _	05	*10*	6	8	4	11	7											
	06	*12*	8			9	5	15	11									
	07	*13*	9			8	3	14	9	19	15							
	08	*15*	10					12	7	18	13	21	16					
	10	*19*	13							15	9	18	12	21	14			
	12	*23*	15											19	11	24	16	
S085S_ _	05	*20*	13	16	9	22	15											
	06	*24*	16			19	11	31	23									
	07	*28*	19			16	7	28	19	40	31							
	08	*32*	21					26	14	38	26	44	32					
	10	*40*	27							32	18	38	24	44	30			
	12	*48*	32											38	22	50	34	
S100S_ _	05	*37*	25	29	17	40	28											
	06	*44*	29			35	20	57	42									
	07	*51*	34			30	12	52	34	74	56							
	08	*59*	39					47	27	69	49	80	60					
	10	*74*	49							59	33	70	44	81	55			
	12	*88*	59											71	40	93	62	
S115S_ _	05	*61*	40	49	28	67	46											
	06	*73*	49			59	33	96	70									
	07	*85*	57			50	21	87	57	124	94							
	08	*97*	65					79	49	115	81	134	100					
	10	*121*	81							98	56	117	74	135	93			
	12	*146*	97											118	66	154	103	
S125S_ _	05	*86*	57	70	40	96	66											
	06	*103*	69			84	48	136	100									
	07	*120*	80			72	30	124	82	176	134							
	08	*138*	92					112	63	164	115	190	141					
	10	*172*	115							139	80	165	106	191	132			
	12	*207*	138											167	95	219	147	
S150S_ _	05	*155*	103	126	71	173	118											
	06	*186*	124			151	86	244	179									
	07	*217*	145			129	53	222	147	316	240							
	08	*248*	165					201	114	295	208	342	254					
	10	*310*	207							251	143	297	189	344	236			
	12	*372*	248											301	171	395	265	
S175S_ _	05	*235*	152	189	102	259	172											
	06	*285*	181			228	119	368	259									
	07	*328*	214			194	74	333	214	473	353							
	08	*378*	243					303	161	442	301	512	370					
	10	*471*	305							377	203	447	273	517	342			
	12	*563*	367											452	246	591	385	
S200S_ _	05	*331*	200	269	152	368	252											
	06	*397*	264			322	183	522	382									
	07	*464*	309			275	112	475	312	675	512							
	08	*529*	353					429	244	628	444	728	543					
	10	*662*	441							536	304	636	404	736	504			
	12	*794*	529											643	365	843	565	
S250S_ _	05	*620*	268	753	384													
	06	*744*	322	697	254	904	461											
	07	*868*	383			840	331	1254	745									
	08	*991*	445					1189	615									
	09	*1115*	510					1121	485									
	10	*1239*	576							1465	769							
	11	*1363*	645							1393	638	1600	845					
	12	*1487*	716							1319	508	1526	715	1733	922	2147	1336	
S300S_ _	05	*1043*	446	1062	435	1368	741											
	06	*1252*	535			1274	522											
	07	*1460*	636					1780	914									
	08	*1669*	740					1671	695									
	09	*1878*	848							2170	1088							
	10	*2086*	958							2055	869	2361	1175					
	11	*2295*	1072									2241	956	2547	1262			
	12	*2504*	1189											2423	1043	3035	1655	

NOTES:
_ _ = Spring Set Number ☐ = Spring / Air Torque Balanced

*last updated 03/16