

Valtek FlowAct

Multi-Spring High Performance Diaphragm Actuator

Type 250, 500, 700, 1500 & 3000

250 - 3000 cm², 0,25 - 60 kN

04/2025



Valtek FlowAct

Application

The pneumatic multi-spring actuator has a modular design and can be installed on control valves with direct or reverse action, for throttling or on/off operation. The radial arrangement of the springs allows a compact design. A fabric-reinforced rolling diaphragm with minimized stroke-dependent surface change ensures a constant force over the entire stroke. The modular design allows a variety of combinations with different yokes, springs and manual overrides.

Advantages

- Modular design
- Robust and compact design
- Low-maintenance design
- Fast response times
- Wide range of variants
- Short delivery times

Approvals

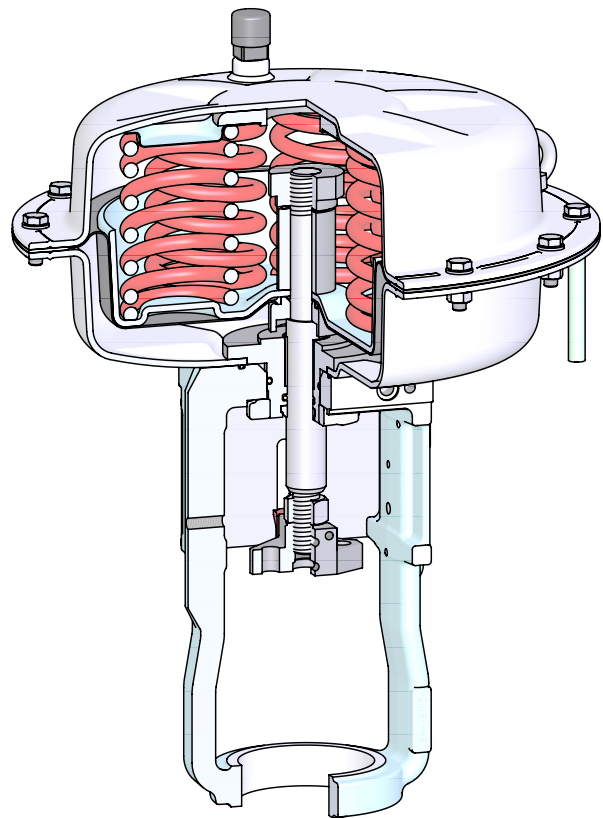
- ATEX
- DVGW (with FlowTop)
- SIL (with FlowTop, FlowPro and Valtek GS / CS)

Operation

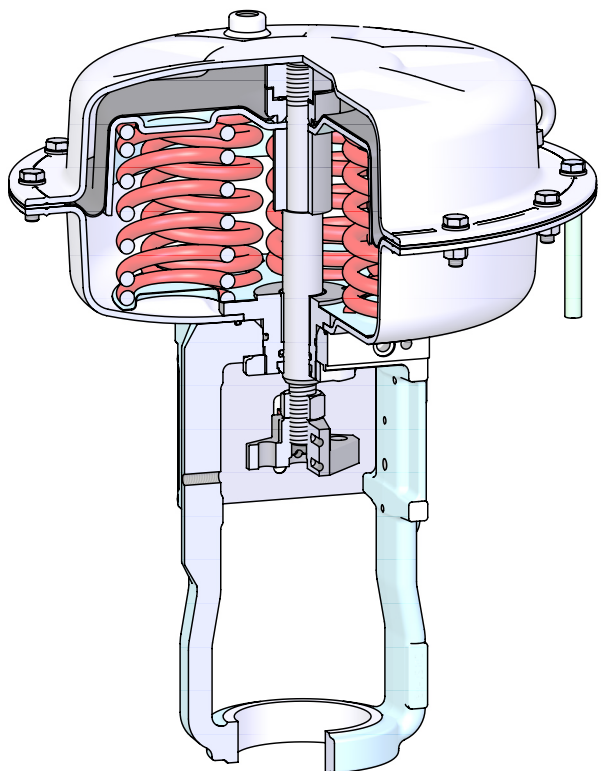
The actuator stem moves as soon as the diaphragm force exceeds the counterforce of the springs. There are two operational modes depending on the arrangement of the spring package:

1. Stem extends by air failure
2. Stem retracts by air failure

The control valve can be opened or closed with a rising signal. On air failure, the actuator is set back to the zero position by spring force (fail-safe-position).



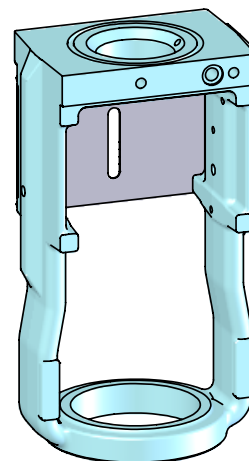
Stem extends by air failure



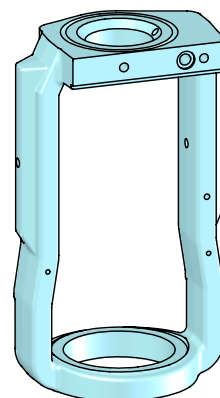
Stem retracts by air failure

Product features

- Multi-spring compact design
- Sizes: 250 / 500 / 700 / 1500 / 3000 cm² and 4500 cm² (on request)
- Actuating force up to 60,000 N (spring closes, higher actuating forces on request)
- Powder-coated steel Actuator
- Options are Manual override / Stroke limitation / Blading / VDI-VDE adapter / Low temperature down to -60 °C
- Radial spring arrangement permits a low mounting height
- Low volume between diaphragm and case gives fast response times
- Strong operating force by permissible pressure supply up to 6 barg / 87 psig
- Permissible ambient temperature -40 up to 80°C / -40 up to 176°F (standard, other range on request), operating in the limits temporarily allowed otherwise lifetime will be reduced
- Stroke range from 10 to 100 mm
- Stable guided stem
- Protection class IP 54, with air purging IP 64
- Fabric-reinforced roll-type diaphragm with minimum area variation which the stem position on loss in operating force for various stroke positions - linearity is retained.
- Stem bushing requires no maintenance
- Stable yoke in spheroidal cast-iron
- Positioner direct mounting without tubing (spring to close)
- Central mounting on the control valve
- Yoke and stem coupling with mounting surfaces according to NAMUR (DIN IEC 65 B CO)
- Top or side mounted hand wheel



MULTI-yoke



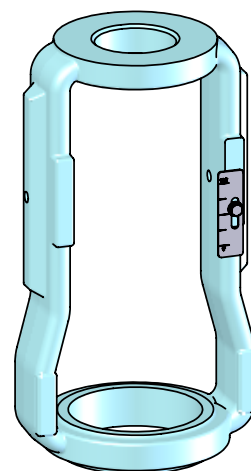
IAS-yoke (only for V701)

Accessories

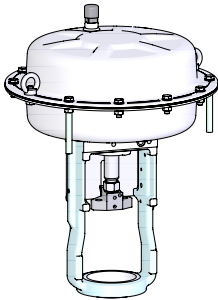
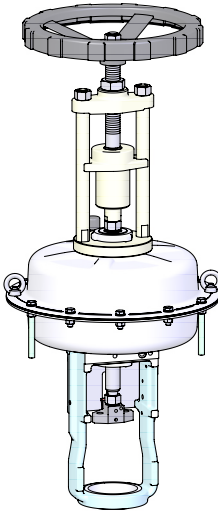
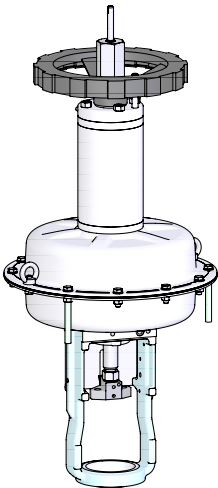
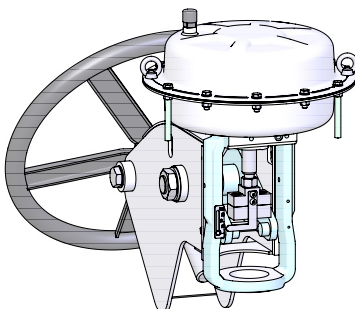
- Standards according to NAMUR
- Direct-mounting solenoid valves VDI/VDE 3845
- Direct-mounting positioner VDI/VDE 3847
- Direct-mounting positioner FlowAct Standard

Yoke types

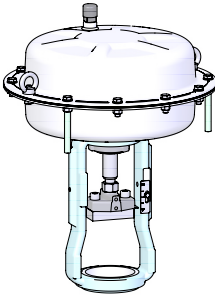
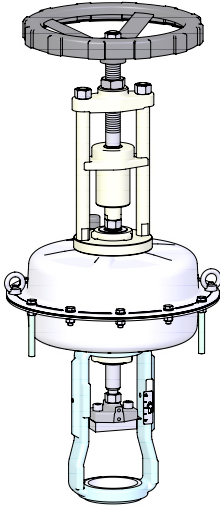
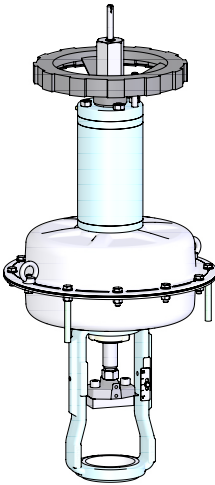
- MULTI-yoke, with internal air supply, mounting pad, interface for direct positioner and solenoid valve mounting
- IAS-yoke, with internal air supply, double mounting pads and interface for direct positioner mounting
- NAMUR-yoke, with double mounting pads



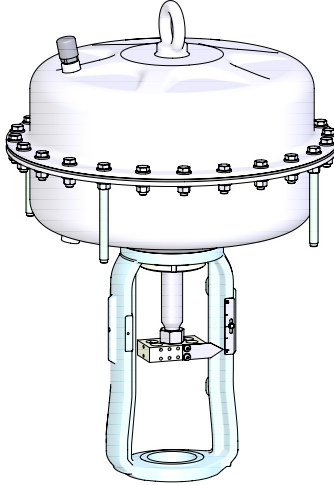
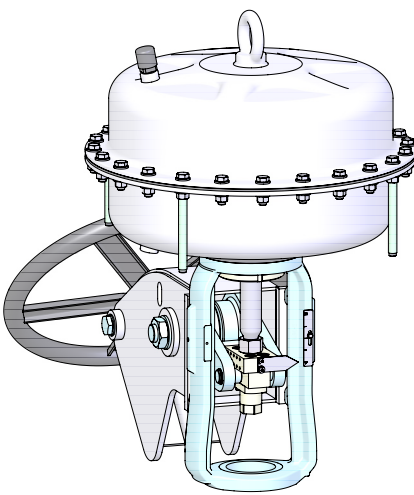
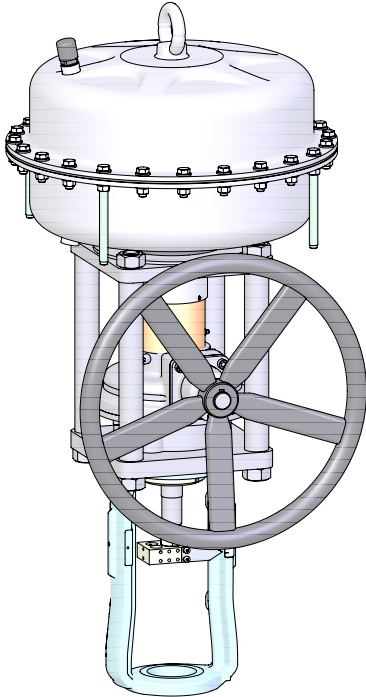
NAMUR-Yoke

Design / Code		Yoke Code	Size / Code		Hand wheel	Model
Actuator with MULTI function yoke ¹⁾	I I D	G T T	250 500 700	253 503 701	without Code O	
	I I D	G T T	250 500	253 503	light Code L	
	I I D	G T T	250 500 700	253 503 701	heavy Code H	
Actuator with IAS yoke	I	G	250 500 700	253 503 701	side Code S	

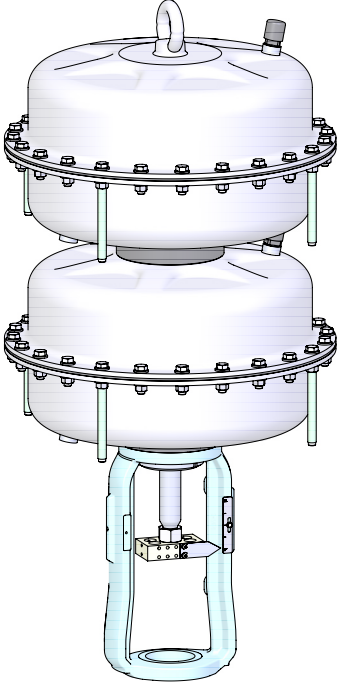
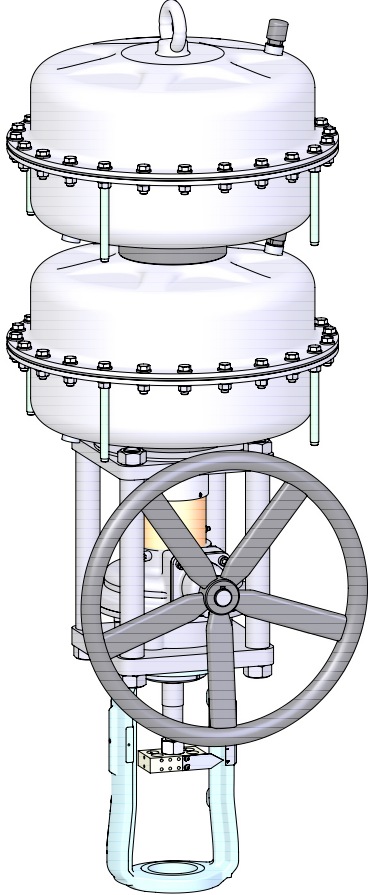
¹⁾ for integrated mounting of the positioner Code G and T and solenoid valve Code T only

Design / Code		Yoke Code	Size / Code		Hand wheel	Model
Actuator with NAMUR yoke	P P C P	E ²⁾ B B D	250 500 700	253 503 701	without Code O	
	P C P	B B D	250 500	253 503	light Code L	
	P P C P	E ²⁾ B B D	250 500 700	253 503 701	heavy Code H	

²⁾ E yoke only for V701 series and SS design !

Design / Code		Yoke Code	Size / Code		Hand wheel	Model
Actuator with NAMUR yoke	P P C	B D B	1500	1502	without Code O	
	P P C	B D B	1500	1502	side ¹⁾ Code S	
	P P C	B D B	1500	1502	central Code Z	

¹⁾ The side mounted handwheel is designed for 39 kN, however, the hand forces will be clearly exceeded the hand forces for manually operated valves !

Design / Code		Yoke Code	Size / Code		Hand wheel	Model
Actuator with NAMUR yoke	P P	B D	3000	3002	without Code 0	
	P P	B D	3000	3002	central Code Z	

Positioning Force for Actuator Size - 250 to 700 (DIN)

Effective Area		Stroke		Spring Range		Yoke Type Code			Stem extends by Air failure			Stem retracts by Air failure	
cm ²	Code	mm	Code	bar	Code				nec. Air Supply (bar)	max. Air Supply (bar)	max. Force (N)	max. Air Supply (bar)	max. Force (N)
250	253	10	M	0,8 - 1,6	MU	T	B	D	2,0	2,5	2 000	6,0	11 000
				1,4 - 2,4	IY				2,8	3,0	3 500	6,0	9 000
				2,7 - 4,1	CW*				4,5	5,0	6 750	6,0	4 750
		20	A	0,2 - 1,0	AD				1,4	2,0	500	6,0	12 500
				0,5 - 1,9	BL				2,3	2,5	1 250	6,0	10 250
				1,0 - 2,4	DY				2,8	3,0	2 500	6,0	9 000
				1,5 - 2,7	VC*				3,1	3,5	3 750	6,0	8 250
				1,5 - 3,8	VI*				4,2	4,5	3 750	6,0	5 500
				2,0 - 4,8	FY*				5,2	5,5	5 000	6,0	3 000
				0,2 - 1,0	AD				1,4	2,0	1 000	6,0	25 000
				0,5 - 1,9	BL				2,3	2,5	2 500	6,0	20 500
				1,0 - 2,4	DY				2,8	3,0	5 000	6,0	18 000
				1,5 - 2,7	VC*				3,1	3,5	7 500	6,0	16 500
500	503	20	A	1,5 - 3,8	VI*	G	B	D	4,2	4,5	7 500	6,0	11 000
				2,0 - 4,8	FY*				5,2	5,5	10 000	6,0	6 000
				0,2 - 1,0	AD				1,4	2,0	1 000	6,0	25 000
				0,5 - 1,9	BL				2,3	2,5	2 500	6,0	20 500
				1,0 - 2,4	DY				2,8	3,0	5 000	6,0	18 000
		40	B	1,5 - 2,7	VC*				3,1	3,5	7 500	6,0	16 500
				1,5 - 3,8	VI*				4,2	4,5	7 500	6,0	11 000
				2,0 - 4,8	FY*				5,2	5,5	10 000	6,0	6 000
				1,8 - 2,7	JC*				3,1	3,5	12 600	6,0	23 100
				2,3 - 3,4	TD*				3,8	4,0	16 100	6,0	18 200
700	701	20	A	3,0 - 4,2	RJ*		T	B	4,6	5,0	21 000	6,0	12 600
		40	B	0,2 - 1,0	AD				1,4	2,0	1 400	6,0	35 000
				0,5 - 1,9	BL				2,3	2,5	3 500	6,0	28 700
				1,0 - 2,4	DY				2,8	3,0	7 000	6,0	25 200
				1,5 - 2,7	VC*				3,1	3,5	10 500	6,0	23 100
				1,5 - 3,8	VI*				4,2	4,5	10 500	6,0	15 400
				2,0 - 4,8	FY*				5,2	5,5	14 000	6,0	8 400
		60	C	0,2 - 1,0	AD				1,4	2,0	1 400	6,0	35 000
				0,5 - 1,9	BL				2,3	2,5	3 500	6,0	28 700
				1,0 - 2,4	DY				2,8	3,0	7 000	6,0	25 200
				1,5 - 3,8	VI*				4,2	4,5	10 500	6,0	15 400
				2,0 - 4,8	FY*				5,2	5,5	14 000	6,0	8 400

Attention:

- The max. air supply has picked out for a long operating life !
- Max. allowable stem-force for type V726, V738, V740, V724, V760, C726 and V701
Stem Ø = 12 mm → 13 500 N, Ø = 16 mm → 23 000 N, Ø = 20 mm → 39 000 N
- Max. design pressure for the actuators → 6 bar!

* Yoke and actuator housing in stainless steel only for PE, PB and PD design

[illegible]

Force in both home positions - for Three Way Valves only	
nec. Air (bar)	max. Force (N)
1,2	500
2,4	1 250
3,4	2 500
4,2	3 750
5,3	3 750
1,2	1 000
2,4	2 500
3,4	5 000
4,2	7 500
5,3	7 500
1,2	1 000
2,4	2 500
3,4	5 000
4,2	7 500
5,3	7 500
4,5	12 600
5,7	16 100
1,2	1 400
2,4	3 500
3,4	7 000
4,2	10 500
5,3	10 500
1,2	1 400
2,4	3 500
3,4	7 000
5,3	10 500

Positioning Force for Actuator Size - 1500 (DIN)

Effective Area		Stroke		Spring Range		Yoke Type Code				Stem extends by Air failure			Stem retracts by Air failure	
cm ²	Code	mm	Code	bar	Code					nec. Air Supply (bar)	max. Air Supply (bar)	max. Force (N)	max. Air Supply (bar)	max. Force (N)
1500	1502	20	A	0,8 - 1,6	MU					2,0	2,5	12 000	5,6	60 000
				1,5 - 2,1	VP					2,5	3,0	22 500	6,0	58 500
		40	B	0,2 - 1,0	AD					1,4	2,0	3 000	5,0	60 000
				0,4 - 2,0	GF					2,4	3,0	6 000	6,0	60 000
				0,75 - 1,4	KI					1,8	2,0	11 250	5,4	60 000
				1,2 - 2,5	NZ					2,9	3,5	18 000	6,0	53 000
				1,5 - 2,7	VC					3,1	3,5	22 500	6,0	49 500
				2,0 - 3,5	FS					3,9	4,5	30 000	6,0	37 500
				2,6 - 4,2	AJ					4,6	5,0	39 000	6,0	27 000
		60	C	0,2 - 1,0	AD					1,4	2,0	3 000	5,0	60 000
				0,4 - 2,0	GF					2,4	3,0	6 000	6,0	60 000
				0,8 - 1,4	KI					1,8	2,0	11 250	5,4	60 000
				1,5 - 2,7	VC					3,1	3,5	22 500	6,0	49 500
				1,9 - 3,2	LM					3,6	4,0	28 500	6,0	42 000
				2,0 - 3,5	FS					3,9	4,5	30 000	6,0	37 500
				2,6 - 4,2	AJ					4,6	5,0	39 000	6,0	27 000
		80	D	0,2 - 1,0	AD					1,4	2,0	3 000	5,0	60 000
				0,4 - 2,0	GF					2,4	3,0	6 000	6,0	60 000
				0,8 - 1,4	KI					1,8	2,0	11 250	5,4	60 000
				1,5 - 2,7	VC					3,1	3,5	22 500	6,0	49 500
				2,0 - 3,5	FS					3,9	4,5	30 000	6,0	37 500
				2,6 - 4,2	AJ					4,6	5,0	39 000	6,0	27 000
		100	E	0,9 - 1,9	HL					2,3	2,5	13 500	5,9	60 000
				1,2 - 2,6	NA					3,0	3,5	18 000	6,0	51 000
				1,8 - 3,8	JI					4,2	4,5	27 000	6,0	33 000
				2,0 - 4,3	FL					4,7	5,0	30 000	6,0	25 500

[illegible]

Force in both home positions - for Three Way Valves only	
nec. Air (bar)	max. Force (N)
2,4	12 000
3,6	22 500
1,2	3 000
2,4	6 000
2,2	11 250
3,7	18 000
4,2	22 500
5,5	30 000
1,2	3 000
2,4	6 000
2,2	11 250
4,2	22 500
5,1	28 500
5,5	30 000
1,2	3 000
2,4	6 000
2,2	11 250
4,2	22 500
5,5	30 000
2,8	13 500
3,8	18 000
5,6	27 000

Positioning Force for Actuator Size - 3000 (DIN)

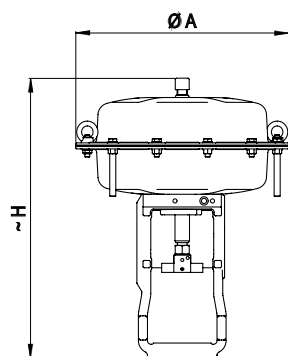
Effective Area		Stroke		Spring Range		Yoke Type Code			Stem extends by Air failure			Stem retracts by Air failure	
cm ²	Code	mm	Code	bar	Code				nec. Air Supply (bar)	max. Air Supply (bar)	max. Force (N)	max. Air Supply (bar)	max. Force (N)
3000	3002	40	B	0,2 - 1,0	AD				1,4	2,0	6 000	3,0	60 000
				0,4 - 2,0	GF			B	2,4	3,0	12 000	4,0	60 000
				0,75 - 1,4	KI			D	1,8	2,0	22 500	3,4	60 000
				1,0 - 2,4	DY				2,8	3,0	30 000	4,4	60 000
				1,3 - 2,1	EP				2,5	3,0	39 000	4,1	60 000
				2,0 - 3,5	FS				3,9	4,5	60 000	5,5	60 000
		60	C	0,2 - 1,0	AD				1,4	2,0	6 000	3,0	60 000
				0,4 - 2,0	GF			B	2,4	3,0	12 000	4,0	60 000
				0,75 - 1,4	KI				1,8	2,0	22 500	3,4	60 000
				1,0 - 2,4	DY				2,8	3,0	30 000	4,4	60 000
				1,3 - 2,1	EP				2,5	3,0	39 000	4,1	60 000
				2,0 - 3,5	FS				3,9	4,5	60 000	5,5	60 000
		80	D	0,2 - 1,0	AD				1,4	2,0	6 000	3,0	60 000
				0,4 - 2,0	GF			B	2,4	3,0	12 000	4,0	60 000
				0,75 - 1,4	KI			D	1,8	2,0	22 500	3,4	60 000
				1,0 - 2,4	DY				2,8	3,0	30 000	4,4	60 000
				1,3 - 2,1	EP				2,5	3,0	39 000	4,1	60 000
				2,0 - 3,5	FS				3,9	4,5	60 000	5,5	60 000
		100	E	0,9 - 1,9	HL				2,3	2,5	27 000	3,9	60 000
				1,2 - 2,6	NA			B	3,0	3,5	36 000	4,6	60 000
				1,8 - 3,8	JI				4,2	4,5	54 000	5,8	60 000
				2,0 - 4,3	FL				4,7	5,0	60 000	6,0	51 000

Stem retracts by Air failure (bar / N)										
1,6	1,8	2,0	2,2	2,5	2,8	3,2	3,6	4,0	4,5	5,0
18 000	24 000	30 000	36 000	45 000	54 000					
			6 000	15 000	24 000	36 000	48 000	60 000		
18 000	24 000	30 000	36 000	45 000	54 000					
			6 000	15 000	24 000	36 000	48 000	60 000		
18 000	24 000	30 000	36 000	45 000	54 000					
			6 000	15 000	24 000	36 000	48 000	60 000		
18 000	24 000	30 000	36 000	45 000	54 000					
			6 000	15 000	24 000	36 000	48 000	60 000		
		3 000	9 000	18 000	27 000	39 000	51 000			

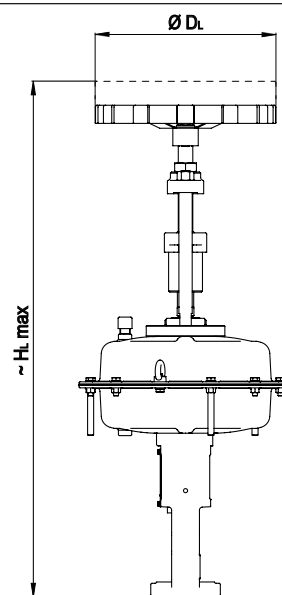
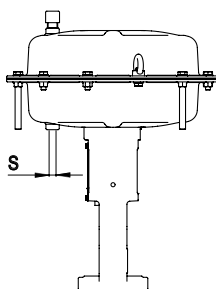
Force in both home positions - for Three Way Valves only	
nec. Air (bar)	max. Force (N)
1,2	6 000
2,4	12 000
2,2	22 500
3,4	30 000
3,4	39 000
5,5	60 000
1,2	6 000
2,4	12 000
2,2	22 500
3,4	30 000
3,4	39 000
5,5	60 000
1,2	6 000
2,4	12 000
2,2	22 500
3,4	30 000
3,4	39 000
5,5	60 000
2,8	27 000
3,8	36 000
5,6	54 000

Dimensions - DIN-Units

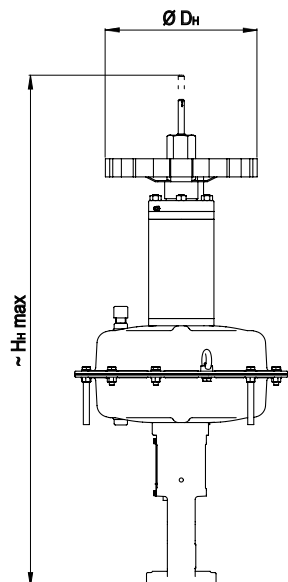
MULTI - Yoke design, Type IT, DT, IG



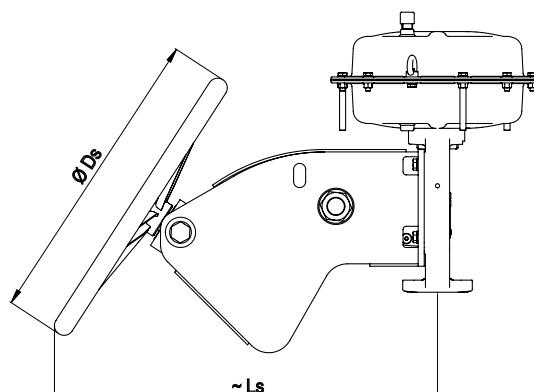
Standard MULTI yoke actuator - Type IT



IT - Actuator with hand wheel "light"



IT - Actuator with hand wheel "heavy"

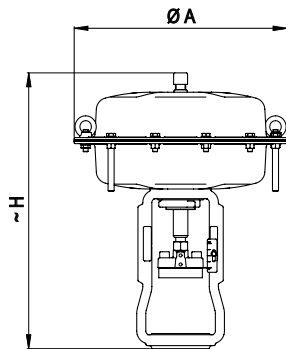


IG - Actuator with hand wheel "side"

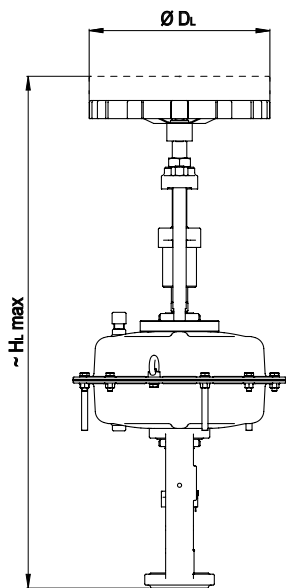
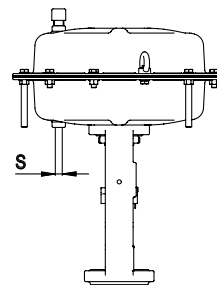
Designation	Actuator Size	250		500		700		
	Stroke mm	10	20	20	40	20	40	60
Ø A	mm	260		355		390		
~ H	mm	340		425	465	500	505	535
S = air connection	in.	G 1/4 for Type IT, IG			G 1/2 for Type DT			
Ø D _L	mm	200		300		-		
~ H _L max	mm	580	590	845	855			
Ø D _H	mm	200		250		350		
~ H _H max	mm	565	575	835	850	970	980	1 000
Ø D _S	mm	200		500				
~ L _S	mm	210		655				
~ Weight	kg	11		23		33		39
~ Weight with hand wheel "light"	kg	16		31		-		
~ Weight with hand wheel "heavy"	kg	19		31		55	61	
~ Weight with hand wheel "side"	kg	16		53		63		69

Dimensions - DIN-Units

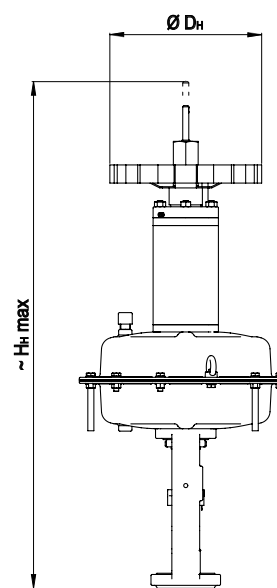
NAMUR - Yoke design, Type PB, CB, PD



Standard NAMUR yoke actuator - Type PB



PB - Actuator with hand wheel "light"

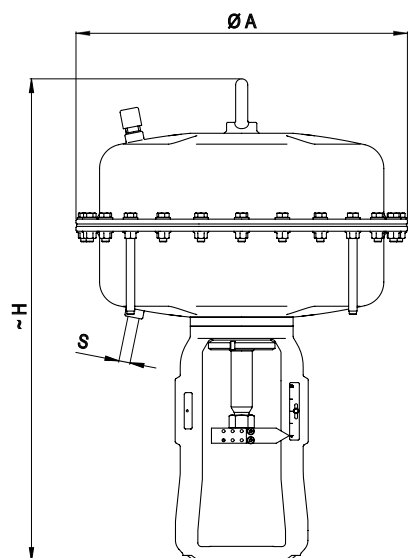


PB - Actuator with hand wheel "heavy"

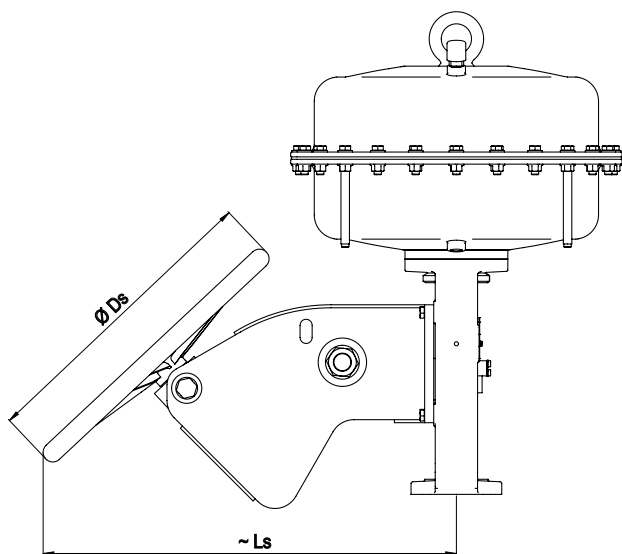
Designation	Actuator Size	250		500		700		
	Stroke mm	10	20	20	40	20	40	60
Ø A	mm	260		355		390		
~ H	mm	335		420	460	465	500	560
S = air connection	in.	G 1/4 for Type PB, PD, CB			G1/4 for Type PB, PD / G 1/2 for Type CB			
Ø DL	mm	200		300		-		
~ HL max	mm	610	620	810	795			
Ø DH	mm	200		250		350		
~ HH max	mm	590	600	800	845	935	975	1 055
~ Weight	kg	10		21	22	31		44
~ Weight with hand wheel "light"	kg	15		29	30	-		
~ Weight with hand wheel "heavy"	kg	17		30	31	52	53	59

Dimensions - DIN-Units

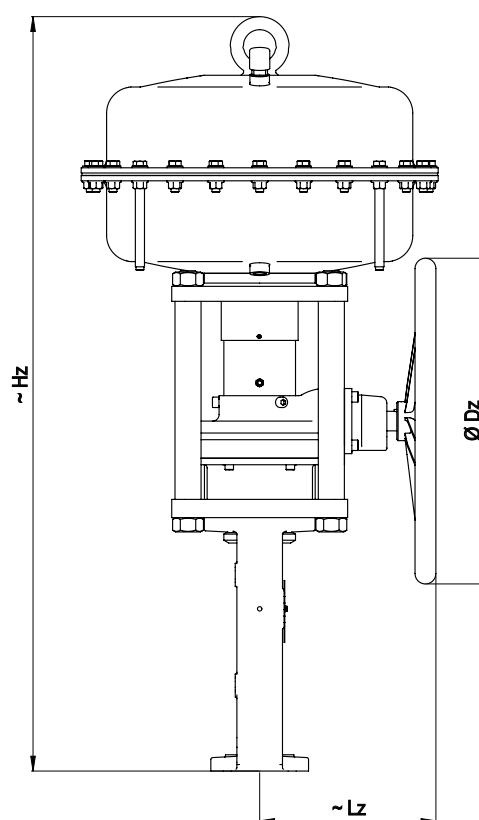
NAMUR - Yoke design, Type PB, PD



Standard NAMUR yoke actuator - Type PB



PB - Actuator with hand wheel "side"

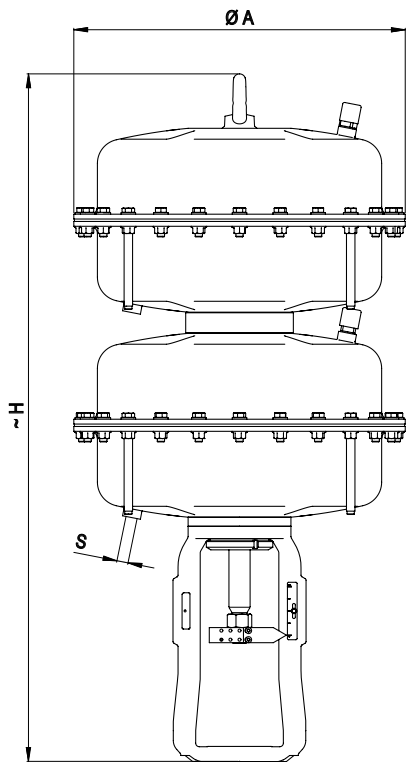


PB - Actuator with hand wheel "centric"

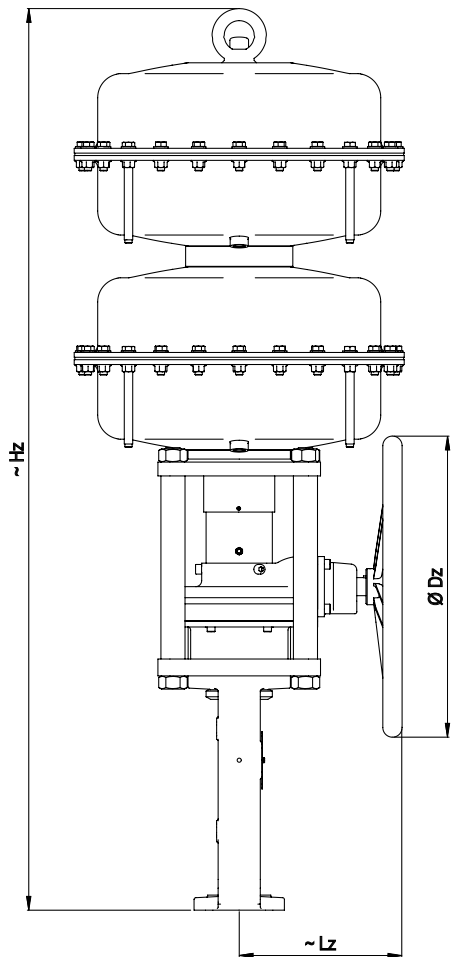
Designation	Actuator Size	1500				
	Stroke mm	20	40	60	80	100
Ø A	mm	548				
~ H	mm	800				
S = air connection	in.	G 1/2				
Ø Ds	mm	500				
~ Ls	mm	685				
~ Hz	mm	1160				
Ø Dz	mm	500				
~ Lz	mm	270				
~ Weight	kg	125				
~ Weight with hand wheel "side"	kg	170				
~ Weight with hand wheel "centric"	kg	210				

Dimensions - DIN-Units

NAMUR - Yoke design, Type PB, PD



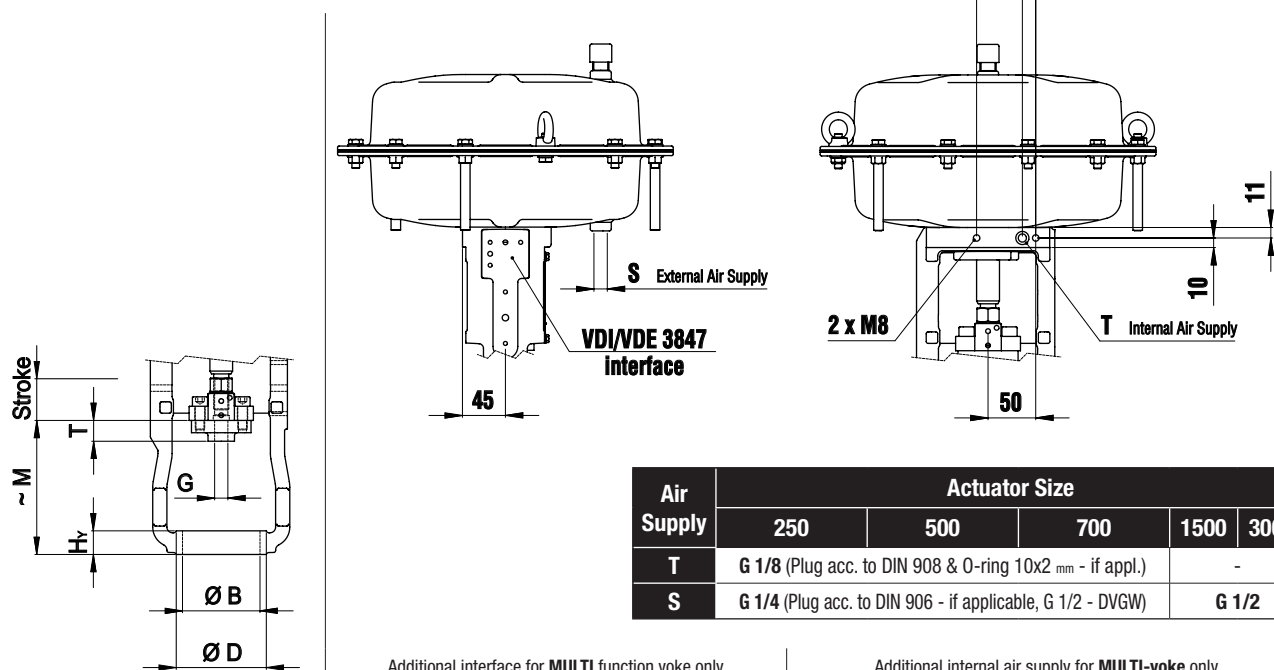
Standard NAMUR yoke actuator - Type PB



PB - Actuator with hand wheel "centric"

Designation	Actuator Size	3000			
	Stroke mm	40	60	80	100
Ø A	mm	548			
~ H	mm	1140			
S = air connection	in.	2 x G 1/2			
~ Hz	mm	1500			
Ø Dz	mm	500			
~ Lz	mm	270			
~ Weight	kg	230			
~ Weight with hand wheel "centric"	kg	315			

Yoke - connection dimensions (mm)



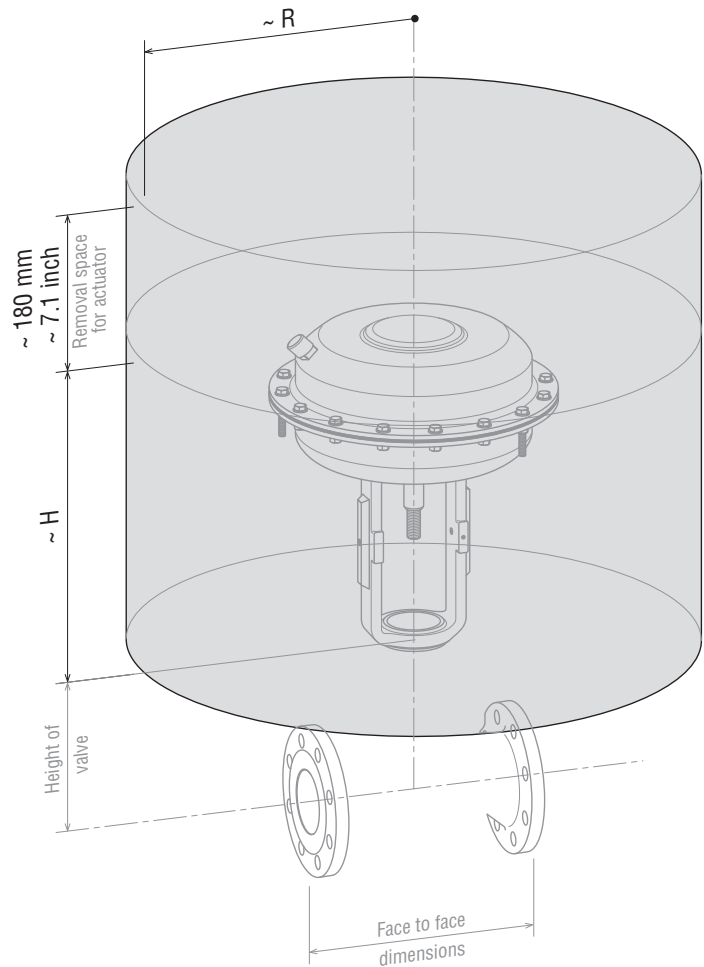
Yoke dimen- sions		IAS-Yoke for						MULTI-Yoke for						NAMUR-Yoke for											
		Valtek GS						FlowTop, Valtek CS						FlowTop						FlowPro ¹⁾ , VariCool					
Size	Stroke	Ø B	~ M	G	T	Ø D	H _V	Ø B	~ M	G	T	Ø D	H _V	Ø B	~ M	G	T	Ø D	H _V	Ø B	~ M	G	T	Ø D	H _V
250	10	-						65	110	M12	23	95	20	-						-					
	20	49	106	M12	18	75	20	65	105	M12	23	95	20	65	105	M12	12	95	20	82	150	M16	16	115	25
		65	106	M16	18	90	20																		
500	20	49	144	M12	54	75	20	65	105	M12	23	115	20	65	105	M12	16	95	20	82	150	M16	16	115	25
		65	145	M16	59	90	20																		
	40	82	140	M20	22	110	25	82	140	M16	25	115	25	82	140	M16	16	115	25	82	140	M20	20	115	25
700	20	49	144	M12	54	75	20	65	105	M12	23	115	20	65	105	M12	16	95	20	82	150	M16	16	115	25
		65	145	M16	59	90	20																		
	40	82	140	M20	22	110	25	82	140	M16	25	115	25	82	140	M16	16	115	25	82	140	M20	20	115	25
	60	82	148	M20	34	110	25	-						82	150	M20	20	125	25	-					
1500	20	-												65	105	M12	29	110	20	82	150	M16	20	110	20
	40													82	140	M16	29	105	25	82	140	M20	29	105	25
	60													82	150	M20	29	105	25	-					
	80													82	140	M20	29	105	25	82	140	M20	29	105	25
	100													82	140	M20	29	105	25	-					
														3000	40	82	140	M16	29	105	25	82	140	M20	29
3000	60	82	150	M20	29	105	25	-																	
	80	82	140	M20	29	105	25	82	140	M20	29	105	25												
	100	82	140	M20	29	105	25	-																	
		82	140	M20	29	105	25	-																	

¹⁾ ATTENTION: FlowPro with Nominal Size DN 25 or 1", Stroke 20 mm:

Packing Design -> adjustable -> Ø B = 65 mm, M = 105 mm, G = M12, Ø D = 95 mm and H_V = 20 mm only !

Packing Design -> spring loadet -> Ø B = 82 mm, M = 170 mm, G = M12 only !

Minimum Clearance Zone



Actuator Size		~ R				~ H max	
		without accessories	accessories direct mounted	accessories NAMUR - mounted	with side mounted hand wheel	without hand wheel	with top mounted hand wheel
250	mm	135	195	290	-	335	595
500	mm	180	195	330	-	460	870
700	mm	205	205	345	-	600	925
1500	mm	275	-	415	685	800	-
3000	mm	275	-	415	685	1140	-

Positioning Force for Actuator Size - 250 to 700 (ASME)

Effective Area		Stroke		Spring range		Yoke Type Code				Stem extends by Air failure			Stem retracts by Air failure		
inch ²	Code	inch	Code	psig	Code					nec. Air Supply (psig)	max. Air Supply (psig)	max. Force (lbs)	max. Air Supply (psig)	max. Force (lbs)	
38.8	253	0.4	M	12 - 23	MU	G	T	B	D	29	36	450	87	2 473	
				20 - 35	IY					41	44	787	87	2 023	
				39 - 59	CW*					65	73	1 517	87	1 068	
		0.8	A	3 - 15	AD					20	29	112	87	2 810	
				7 - 28	BL					33	36	281	87	2 304	
				15 - 35	DY					41	44	562	87	2 023	
				22 - 39	VC*					45	51	843	87	1 855	
				22 - 55	VI*					61	65	843	87	1 236	
				29 - 70	FY*					75	80	1 124	87	674	
										20	29	225	87	5 620	
77.5	503	0.8	A	3 - 15	AD					33	36	562	87	4 609	
				7 - 28	BL					41	44	1 124	87	4 047	
				15 - 35	DY					45	51	1 686	87	3 709	
				22 - 39	VC*					61	65	1 686	87	2 473	
				22 - 55	VI*					75	80	2 248	87	1 349	
				29 - 70	FY*					20	29	225	87	5 620	
		1.6	B	3 - 15	AD	33	36	562	87	4 609					
				7 - 28	BL	41	44	1 124	87	4 047					
				15 - 35	DY	45	51	1 686	87	3 709					
				22 - 39	VC*	61	65	1 686	87	2 473					
				22 - 55	VI*	75	80	2 248	87	1 349					
				29 - 70	FY*	45	51	2 833	87	5 193					
						55	58	3 619	87	4 092					
						67	73	4 721	87	2 833					
109	701	0.8	A	26 - 39	JC*	T	B		20	29	315	87	7 868		
				33 - 49	TD*				33	36	787	87	6 452		
				44 - 61	RJ*				41	44	1 574	87	5 665		
		1.6	B	3 - 15	AD				45	51	2 360	87	5 193		
				7 - 28	BL				61	65	2 360	87	3 462		
				15 - 35	DY				75	80	3 147	87	1 888		
				22 - 39	VC*				20	29	315	87	7 868		
				22 - 55	VI*				33	36	787	87	6 452		
				29 - 70	FY*				41	44	1 574	87	5 665		
		2.4	C	3 - 15	AD				61	65	2 360	87	3 462		
				7 - 28	BL				75	80	3 147	87	1 888		
				15 - 35	DY										
				22 - 55	VI*										
				29 - 70	FY*										

Attention:

- The max. air supply has picked out for a long operating life !
- Max. allowable stem-force for type V726, V738, V740, V724, V760, C726 and V701
Stem Ø = 12 mm → 3 035 lbs, Ø = 16 mm → 5 170 lbs, Ø = 20 mm → 8 767 lbs
- Max. design pressure for the actuators → 87 psig !

* Yoke and actuator housing in stainless steel only for PE, PB and PD design

Stem retracts by Air failure (psig / lbs)										
23	26	29	32	36	41	46	52	58	65	73
	112	225	337	506	674	899	1 124	1 349	1 630	1 911
337	450	562	674	843	1 012	1 236	1 461	1 686	1 967	2 248
		56	169	337	506	731	955	1 180	1 461	1 742
674	899	1 124	1 349	1 686	2 023	2 473	2 923	3 372	3 934	4 496
		112	337	674	1 012	1 461	1 911	2 360	2 923	3 485
674	899	1 124	1 349	1 686	2 023	2 473	2 923	3 372	3 934	4 496
		112	337	674	1 012	1 461	1 911	2 360	2 923	3 485
					157	787	1 416	2 046	2 833	3 619
944	1 259	1 574	1 888	2 360	2 833	3 462	4 092	4 721	5 508	6 295
		157	472	944	1 416	2 046	2 675	3 305	4 092	4 878
944	1 259	1 574	1 888	2 360	2 833	3 462	4 092	4 721	5 508	6 295
		157	472	944	1 416	2 046	2 675	3 305	4 092	4 878

Force in both home positions - for Three Way Valves only	
nec. Air (psig)	max. Force (lbs)
17	112
35	281
49	562
61	843
77	843
17	225
35	562
49	1 124
61	1 686
77	1 686
17	225
35	562
49	1 124
61	1 686
77	1 686
65	2 833
83	3 619
17	315
35	787
49	1 574
61	2 360
77	2 360
17	315
35	787
49	1 574
77	2 360

Positioning Force for Actuator Size - 1500 (ASME)

Effective Area		Stroke		Spring Range		Yoke Type Code				Stem extends by Air failure			Stem retracts by Air failure	
inch ²	Code	inch	Code	psig	Code					nec. Air Supply (psig)	max. Air Supply (psig)	max. Force (lbs)	max. Air Supply (psig)	max. Force (lbs)
233	1502	0.8	A	12 - 23	MU					29	36	2 698	81	13 489
				22 - 30	VP					36	44	5 058	87	13 151
		1.6	B	3 - 15	AD					20	29	674	73	13 489
				6 - 29	GF					35	44	1 349	87	13 489
				11 - 20	KI					26	29	2 529	78	13 489
				17 - 36	NZ					42	51	4 047	88	11 915
				22 - 39	VC					45	51	5 058	87	11 128
				29 - 51	FS					57	65	6 744	87	8 430
				38 - 61	AJ					67	73	8 768	87	6 070
		2.4	C	3 - 15	AD					20	29	674	73	13 489
				6 - 29	GF					35	44	1 349	87	13 489
				11 - 20	KI					26	29	2 529	78	13 489
				22 - 39	VC					45	51	5 058	87	11 128
				28 - 46	LM					52	58	6 407	87	9 442
				29 - 51	FS					57	65	6 744	87	8 430
				38 - 61	AJ					67	73	8 768	87	6 070
		3.1	D	3 - 15	AD					20	29	674	73	13 489
				6 - 29	GF					35	44	1 349	87	13 489
				11 - 20	KI					26	29	2 529	78	13 489
				22 - 39	VC					45	51	5 058	87	11 128
				29 - 51	FS					57	65	6 744	87	8 430
				38 - 61	AJ					67	73	8 768	87	6 070
		3.9	E	13 - 28	HL					33	36	3 035	86	13 489
				17 - 38	NA					44	51	4 047	87	11 465
				26 - 55	JI					61	65	6 070	87	7 419
				29 - 62	FL					68	73	6 744	87	5 733

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Positioning Force for Actuator Size - 3000 (ASME)

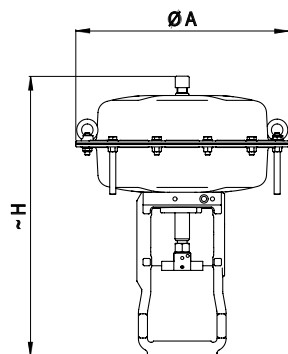
Effective Area		Stroke		Spring Range		Yoke Type Code		Stem extends by Air failure			Stem retracts by Air failure	
inch ²	Code	inch	Code	psig	Code			nec. Air Supply (psig)	max. Air Supply (psig)	max. Force (lbs)	max. Air Supply (psig)	max. Force (lbs)
465	3002	1.6	B	3 - 15	AD		B D	20	29	1 349	44	13 489
				6 - 29	GF			35	44	2 698	58	13 489
				11 - 20	KI			26	29	5 058	49	13 489
				15 - 35	DY			41	44	6 744	64	13 489
				19 - 30	EP			36	44	8 768	59	13 489
				29 - 51	FS			57	65	13 489	80	13 489
		2.4	C	3 - 15	AD		B	20	29	1 349	44	13 489
				6 - 29	GF			35	44	2 698	58	13 489
				11 - 20	KI			26	29	5 058	49	13 489
				15 - 35	DY			41	44	6 744	64	13 489
				19 - 30	EP			36	44	8 768	59	13 489
				29 - 51	FS			57	65	13 489	80	13 489
		3.1	D	3 - 15	AD		B D	20	29	1 349	44	13 489
				6 - 29	GF			35	44	2 698	58	13 489
				11 - 20	KI			26	29	5 058	49	13 489
				15 - 35	DY			41	44	6 744	64	13 489
				19 - 30	EP			36	44	8 768	59	13 489
				29 - 51	FS			57	65	13 489	80	13 489
		3.9	E	13 - 28	HL		B	33	36	6 070	57	13 489
				17 - 38	NA			44	51	8 093	67	13 489
				26 - 55	JI			61	65	12 140	84	13 489
				29 - 62	FL			68	73	13 489	87	11 465

Stem retracts by Air failure (psig / lbs)										
23	26	29	32	36	41	46	52	58	65	73
4 047	5 395	6 744	8 093	10 116	12 140					
			1 349	3 372	5 395	8 093	10 791	13 489		
4 047	5 395	6 744	8 093	10 116	12 140					
			1 349	3 372	5 395	8 093	10 791	13 489		
4 047	5 395	6 744	8 093	10 116	12 140					
			1 349	3 372	5 395	8 093	10 791	13 489		
4 047	5 395	6 744	8 093	10 116	12 140					
			1 349	3 372	5 395	8 093	10 791	13 489		
		674	2 023	4 047	6 070	8 768	11 465			

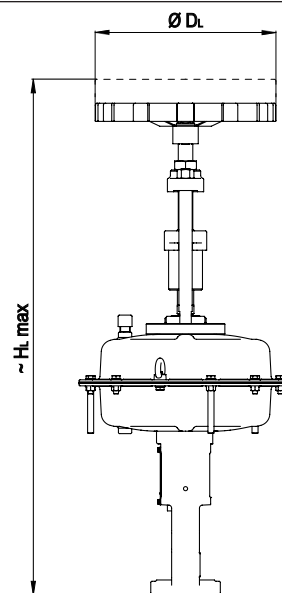
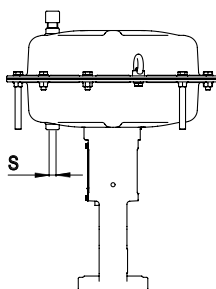
Force in both home positions - for Three Way Valves only	
nec. Air (psig)	max. Force (lbs)
17	1 349
35	2 698
31	5 058
49	6 744
49	8 768
80	13 489
17	1 349
35	2 698
31	5 058
49	6 744
49	8 768
80	13 489
17	1 349
35	2 698
31	5 058
49	6 744
49	8 768
80	13 489
41	6 070
55	8 093
81	12 140

Dimensions - ASME-Units

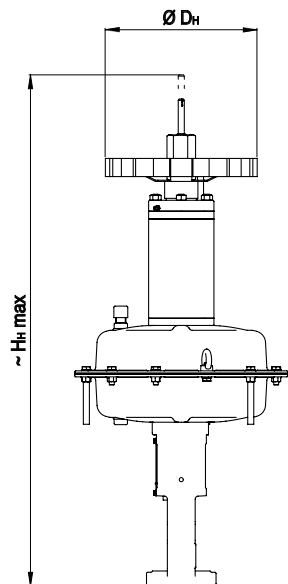
MULTI - Yoke design, Type IT, DT, IG



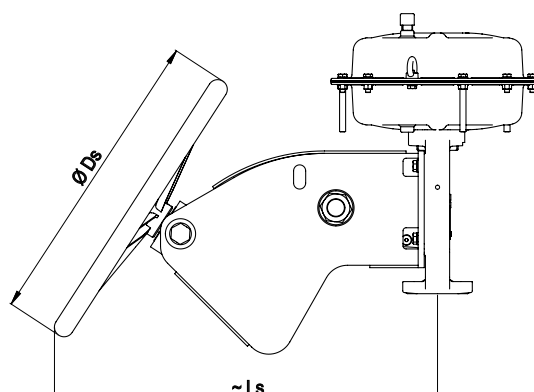
Standard MULTI yoke actuator - Type IT



IT - Actuator with hand wheel "light"



IT - Actuator with hand wheel "heavy"

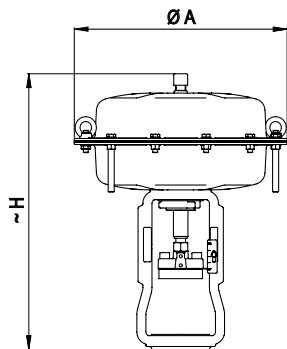


IG - Actuator with hand wheel "side"

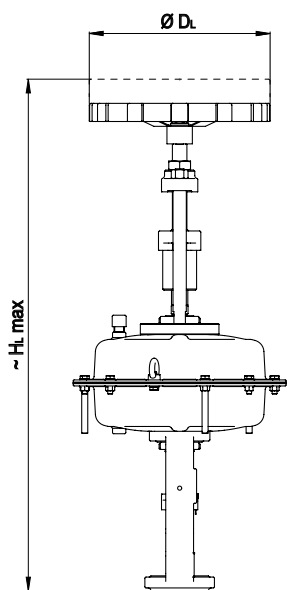
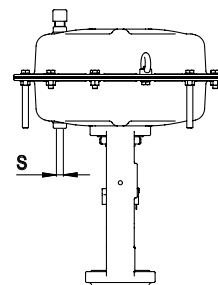
Designation	Actuator Size	250		500		700		
	Stroke inch	0.39	0.79	0.79	1.57	0.79	1.57	2.36
Ø A	inch	10.2		14.0		15.4		
~ H	inch	13.4		16.7	18.3	19.7	19.9	21.1
S = air connection	inch	G 1/4 for Type IT, IG		G 1/2 for Type DT				
Ø D _L	inch	7.9		11.8		-		
~ H _L max	inch	22.8	23.2	33.3	33.7			
Ø D _H	inch	7.9		9.9		13.8		
~ H _H max	inch	22.3	22.7	32.9	33.5	38.2	38.6	39.4
Ø D _S	inch	7.9		19.7				
~ L _S	inch	8.3		25.8				
~ Weight	lbs	24		50		72		85
~ Weight with hand wheel "light"	lbs	35		68		-		
~ Weight with hand wheel "heavy"	lbs	41		68		121	134	
~ Weight with hand wheel "side"	lbs	35		116		138		152

Dimensions - ASME-Units

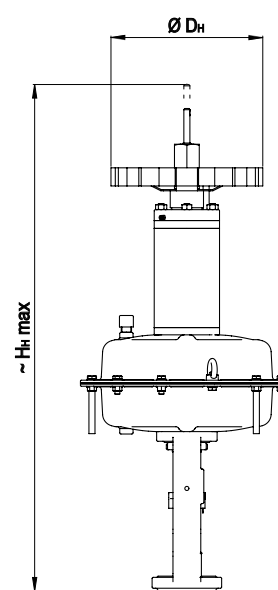
NAMUR - Yoke design, Type PB, CB, PD



Standard NAMUR yoke actuator - Type PB



PB - Actuator with hand wheel "light"

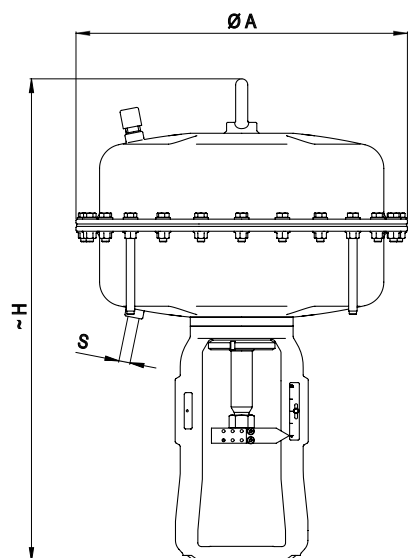


PB - Actuator with hand wheel "heavy"

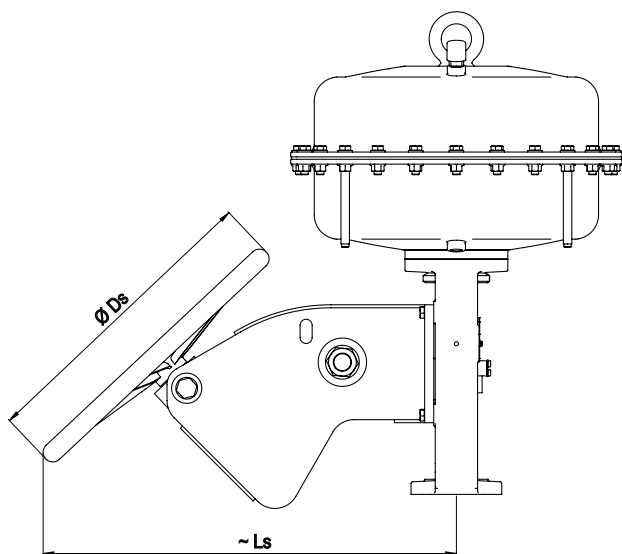
Designation	Actuator Size	250		500		700		
	Stroke inch	0.39	0.79	0.79	1.57	0.79	1.57	2.36
Ø A	inch	10.2		14.0		15.4		
~ H	inch	13.2		16.5	18.1	18.3	19.7	22.0
S = air connection	inch	G 1/4 for Type PB, PD, CB		G 1/4 for Type PB, PD / G 1/2 for Type CB				
Ø DL	inch	7.9		11.8		-		
~ HL max	inch	24.0	24.4	31.9	31.3			
Ø DH	inch	7.9		9.8		13.8		
~ HH max	inch	23.2	23.6	31.5	33.3	36.8	38.4	41.5
~ Weight	lbs	22		46	48	68		97
~ Weight with hand wheel "light"	lbs	33		63	66	-		
~ Weight with hand wheel "heavy"	lbs	37		66	68	114	116	130

Dimensions - ASME-Units

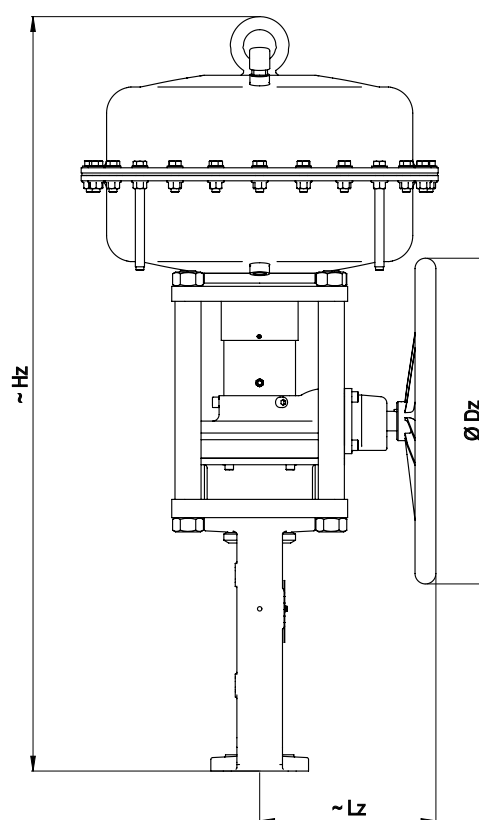
NAMUR - Yoke design, Type PB, PD



Standard NAMUR yoke actuator - Type PB



PB - Actuator with hand wheel "side"

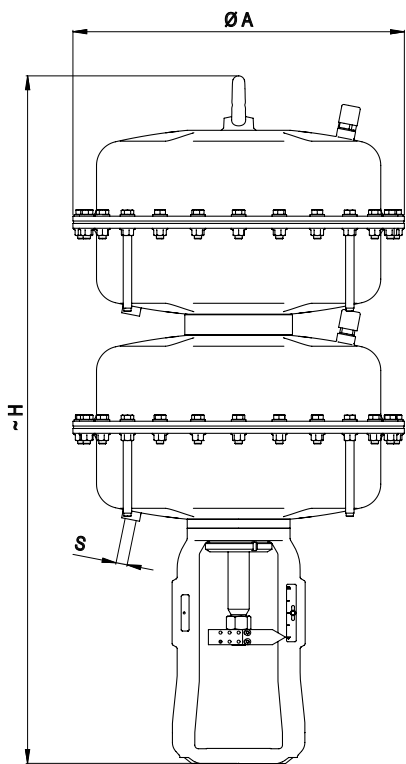


PB - Actuator with hand wheel "centric"

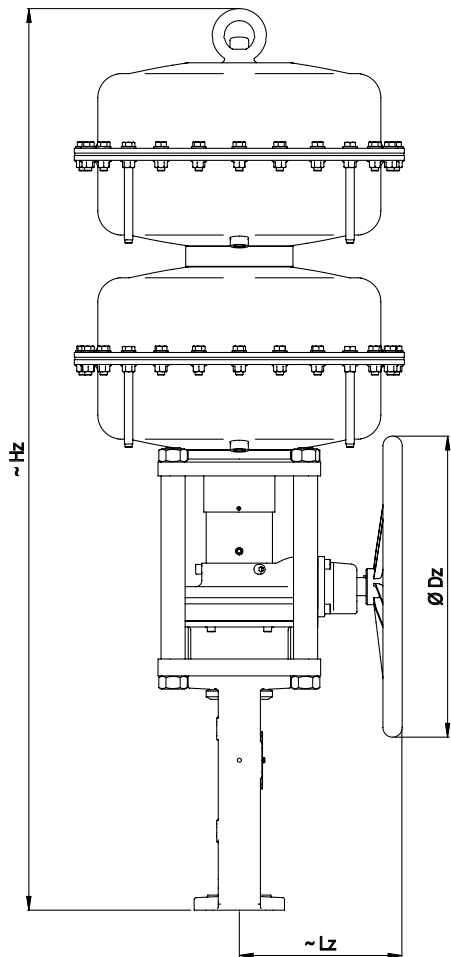
Designation	Actuator Size	1500				
	Stroke inch	0.79	1.57	2.36	3.15	3.94
Ø A	inch	21.6				
~ H	inch	31.5				
S = air connection	inch	G 1/2				
Ø Ds	inch	19.7				-
~ Ls	inch	27.0				
~ Hz	inch	45.7				
Ø Dz	inch	19.7				
~ Lz	inch	10.6				
~ Weight	lbs	275				
~ Weight with hand wheel "side"	lbs	374				-
~ Weight with hand wheel "centric"	lbs	462				

Dimensions - ASME-Units

NAMUR - Yoke design, Type PB, PD



Standard NAMUR yoke actuator - Type PB

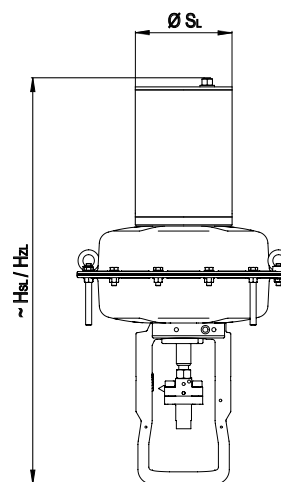


PB - Actuator with hand wheel "centric"

Designation	Actuator Size	3000			
	Stroke inch	1.57	2.36	3.15	3.94
Ø A	inch	21.6			
~ H	inch	44.9			
S = air connection	inch	2 x G 1/2			
~ Hz	inch	59.0			
Ø Dz	inch	19.7			
~ Lz	inch	10.6			
~ Weight	lbs	506			
~ Weight with hand wheel "centric"	lbs	693			

Dimensions - Adjustable Stroke Limitation

Designation			Actuator Size				
			250	500	700	1500	3000
DIN-Units	Ø SL	mm	108	160	160	180	180
	~ HSL	mm	460	675	715	1090	1430
	~ HZL	mm	-	-	-	1450	1790
	~ Weight without hand wheel	kg	15	36	46	152	257
	~ Weight with hand wheel "side"	kg	25	66	76	197	-
	~ Weight with hand wheel "centric"	kg	-	-	-	237	342
ASME-Units	Ø SL	inch	4.3	6.3	6.3	7.1	7.1
	~ HSL	inch	18.1	26.6	28.2	42.9	56.3
	~ HZL	inch	-	-	-	57.1	70.5
	~ Weight without hand wheel	lbs	33	79	101	335	567
	~ Weight with hand wheel "side"	lbs	55	145	168	434	-
	~ Weight with hand wheel "centric"	lbs	-	-	-	523	754

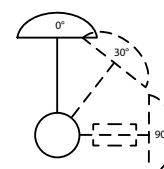


Required actuator support

Actuator Size	Bonnet Type / Code	Installation Position			
		0° - 30° angle		30° - 90° angle	
		Handwheel			
		without	with	without	with
250	Standard / N				
	Extension / R, K				
	Bellows seal / B, F				
	Insulating / I, T			•	•
500	Standard / N				
	Extension / R, K				
	Bellows seal / B, F				•
	Insulating / I, T		•	•	•
700	Standard / N				•
	Extension / R, K				•
	Bellows seal / B, F			•	•
	Insulating / I, T	upright only (0°)			
1500	Standard / N			•	•
	Extension / R, K			•	•
	Bellows seal / B, F		•	•	•
	Insulating / I, T	upright only (0°)			
3000	Standard / N		•	•	•
	Extension / R, K		•	•	•
	Bellows seal / B, F	•	•	•	•
	Insulating / I, T	upright only (0°)			

ATTENTION

- If support is required, the strong yoke center line has to be mounted in a vertically direction (see figure 90°) !
- The yoke must be aligned if the valve is mounted at an angle between 30° - 90° degrees !
- Check the accurate installation position of the accessory !
- The support must be designed to dynamically support the weight of the actuator. The support must not be rigid !
- Cryogenic valves must be supported at an angle of 25° !
- Further restrictions can be found in the technical bulletin for the valve series !



Pneumatic multi spring actuator - FlowAct order code

FlowAct					Order code									
					I	T	503	B	FY	O	Z	B	S	
Actuator design	Internal Air Supply for Yoke Code G, T and F				I									
	Internal Air Supply, DVGW application and for Yoke Code T				D									
	External Air Supply for Yoke Code E, B and D				P									
	External Air Supply, DVGW application and for Yoke Code B				C									
Yoke design	Without yoke				O									
	IAS - yoke for Valve-Series V701 with direct positioner interface only				G									
	MULTI - yoke for Valve-Series V726, V738, V740, D726, D738, D740, C726, C740 only				T									
	MULTI - yoke for Valve-Series 132 000 only				F									
	NAMUR - yoke for Valve-Series V701 and SS design only				E									
	NAMUR - yoke for Valve-Series V726, V738, V740, D726, D738, D740, C726, C740 only				B									
	NAMUR - yoke for Valve-Series V724, V760, V901 only				D									
Actuator size (cm ³ / <i>inch</i> ³)	250	38.75	Stroke	10, 20	0.39, 0.79	253								
	500	77.50	(mm/ <i>inch</i>)	20, 40	0.79, 1.57	503								
	700	108.50		20, 40, 60	0.79, 1.57, 2.36	701								
	1500	232.50		20, 40, 60, 80, 100	0.79, 1.57, 2.36, 3.15, 3.94	1502								
	3000	465.00		40, 60, 80, 100	1.57, 2.36, 3.15, 3.94	3002								
Material / Color	Carbon Steel	white, powder coated						B						
		blue, powder coated						A						
		yellow, powder coated						C						
		red, powder coated						R						
		special						X						
	Stainless Steel (SS)	whithout painting						N						
special						Y								
Spring range (<i>bar/psi</i>)	Stroke (mm) ¹⁾		Actuator	253	503	701	1502	3002						
	0,2 - 1,0	3 - 15	20, 40, 60, 80	Actuator force (N)	500	1 000	1 400	3 000	6 000					AD
	0,4 - 2,0	6 - 29	40, 60, 80					6 000	12 000					GF
	0,5 - 1,9	7 - 28	20, 40, 60		1 250	2 500	3 500							BL
	0,75 - 1,4	11 - 20	40, 60, 80					11 250	22 500					KI
	0,8 - 1,6	12 - 23	10, 20		2 000			12 000						MU
	0,9 - 1,9	13 - 28	100					13 500	27 000					HL
	1,0 - 2,4	15 - 35	20, 40, 60, 80		2 500	5 000	7 000		30 000					DY
	1,2 - 2,5	17 - 36	40 ²⁾					18 000						NZ
	1,2 - 2,6	17 - 38	100					18 000	36 000					NA
	1,3 - 2,1	19 - 30	40, 60, 80						39 000					EP
	1,4 - 2,4	20 - 35	10		3 500									IY
	1,5 - 2,1	22 - 30	20					22 500						VP
	1,5 - 2,7	22 - 39	20, 40, 60, 80		3 750	7 500	10 500	22 500						VC
	1,5 - 3,8	22 - 55	20, 40, 60		3 750	7 500	10 500							VI
	1,8 - 2,7	26 - 39	20				12 600							JC
	1,8 - 3,8	26 - 55	100					27 000	54 000					JI
	1,9 - 3,2	28 - 46	60 ²⁾					28 500						LM
	2,0 - 3,5	29 - 51	40, 60, 80					30 000	60 000					FS
	2,0 - 4,3	29 - 62	100					30 000	60 000					FL
	2,0 - 4,8	29 - 70	20, 40, 60		5 000	10 000	14 000							FY
	2,3 - 3,4	33 - 49	20				16 100							TD
	2,6 - 4,2	38 - 61	40, 60, 80					39 000						AJ
	2,7 - 4,1	39 - 59	10		6 750									CW
	3,0 - 4,2	44 - 61	20				21 000							RJ
Handwheel	without									O				
	top mounted "light design"									L				
	top mounted "heavy design"									H				
	top mounted "heavy design SS"									N				
	side mounted "light design"									S				
	central mounted "heavy design"									Z				
Stroke Limitation	not adjustable - "bottom"									E				
	not adjustable - "top"									F				
	"adjustable"									U				
Handwheel and Stroke Limitation	side mounted "light design" HW and "adjustable" SL for IG type only									A				
	central mounted "heavy design" HW and "adjustable" SL for 1502 and 3002 only									D				
Safety position at air failure	spring to close										Z			
	spring to open									A				
	fail in place by spring to close									S				
	fail in place by spring to open									T				
Stroke (mm/ <i>inch</i>)	10	0.39												M
	20	0.79												A
	40	1.57												B
	60	2.36												C
	80	3.15												D
	100	3.94												E
Temperatur Range	Standard	- 40 °C to + 80 °C												S
	Low	- 60 °C to + 80 °C												

¹⁾ Not every spring range / stroke combination are possible for each actuator size !

²⁾ For series D726, D738, D740 only !

**Headquarters**

Flowserve Corporation
5215 North O'Connor Blvd.
Suite 700
Irving, Texas 75039-5421 USA
Telephone: +1-937-890-5839

Flowserve Corporation

No. 35, Baiyu Road
Suzhou Industrial Park
Suzhou 215021, Jiangsu Province, PRC
Phone: +86-512-6288-1688
Fax: +86-512-6288-8737

Flowserve Pte Ltd.

No. 12 Tuas Avenue 20
Singapore 638824
Phone: +65 6879 8900
Fax: +65 6862 4940

Flowserve Corporation

Flow Control Division
1978 Foreman Drive
Cookeville, Tennessee 38501 USA
Phone: +931-432-4021
Fax: +931-432-5518

Flowserve Corporation

Flow Control Division
1350 North Mountain Springs Parkway
Springville, Utah 84663-0913 USA
Phone: +801-373-3028
Fax: +801-489-2228

Flowserve Flow Control (UK) Ltd.

Burrell Road
Haywards Heath
West Sussex United Kingdom
RH16 1TL
Phone: +44-1444-314400
Fax: +44-1444-314401

Flowserve Ahaus GmbH

von-Braun-Str. 19a
48683 Ahaus
Phone: +49-2561-686-119
Fax: +49-2561-686-109

Flowserve Flow Control GmbH

Actuators and Automation Center
Germany
Rudolf Plank Str. 2
D-76275 Ettlingen
Germany
Phone +49 (0)7243-103-0
Fax +49 (0)7243-103-222

Flowserve Flow Control Benelux BV

Rechtsaard 17
4703 RC Roosendaal NB Netherlands
Phone: +31-165-598-800
Fax: +31-165-555-670

Flowserve India Controls Pvt Ltd.

Plot No. 4, 1A, E.P.I.P, Road No. 8
Whitefield, Bengaluru
Karnataka 560066, India

Flow Control Division Brazil

Rua Tocantins, 128
09580-130 - São Caetano do Sul - SP
Brazil

Flowserve Control Valves GmbH

Kasernengasse 6
9500 Villach, Austria
Phone: +43-4242-41181-0
Fax: +43-4242-41181-50

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AITB001734_EN April 2025