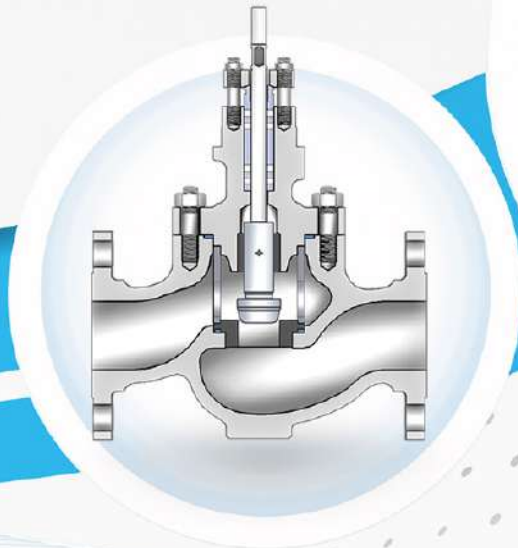
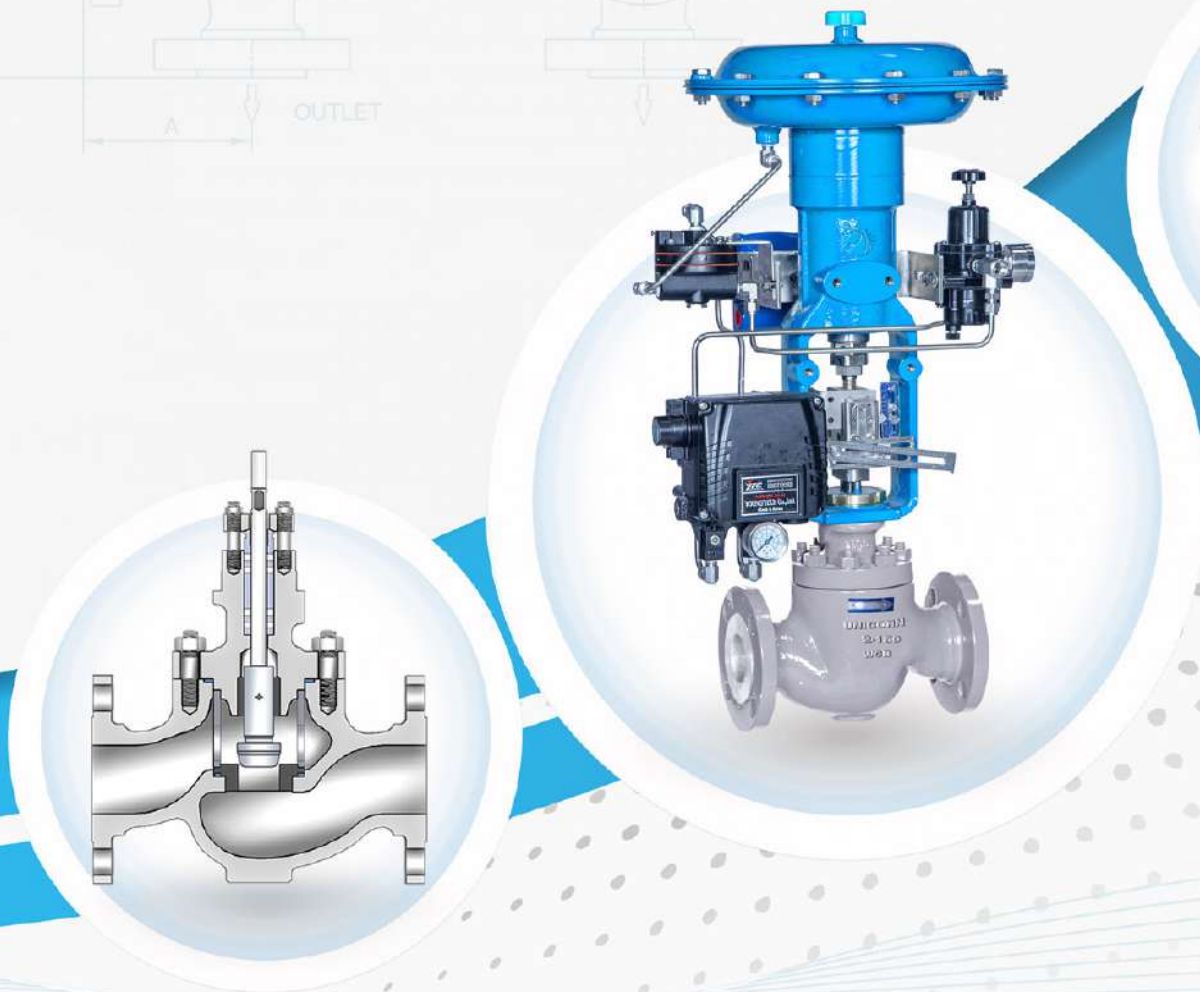
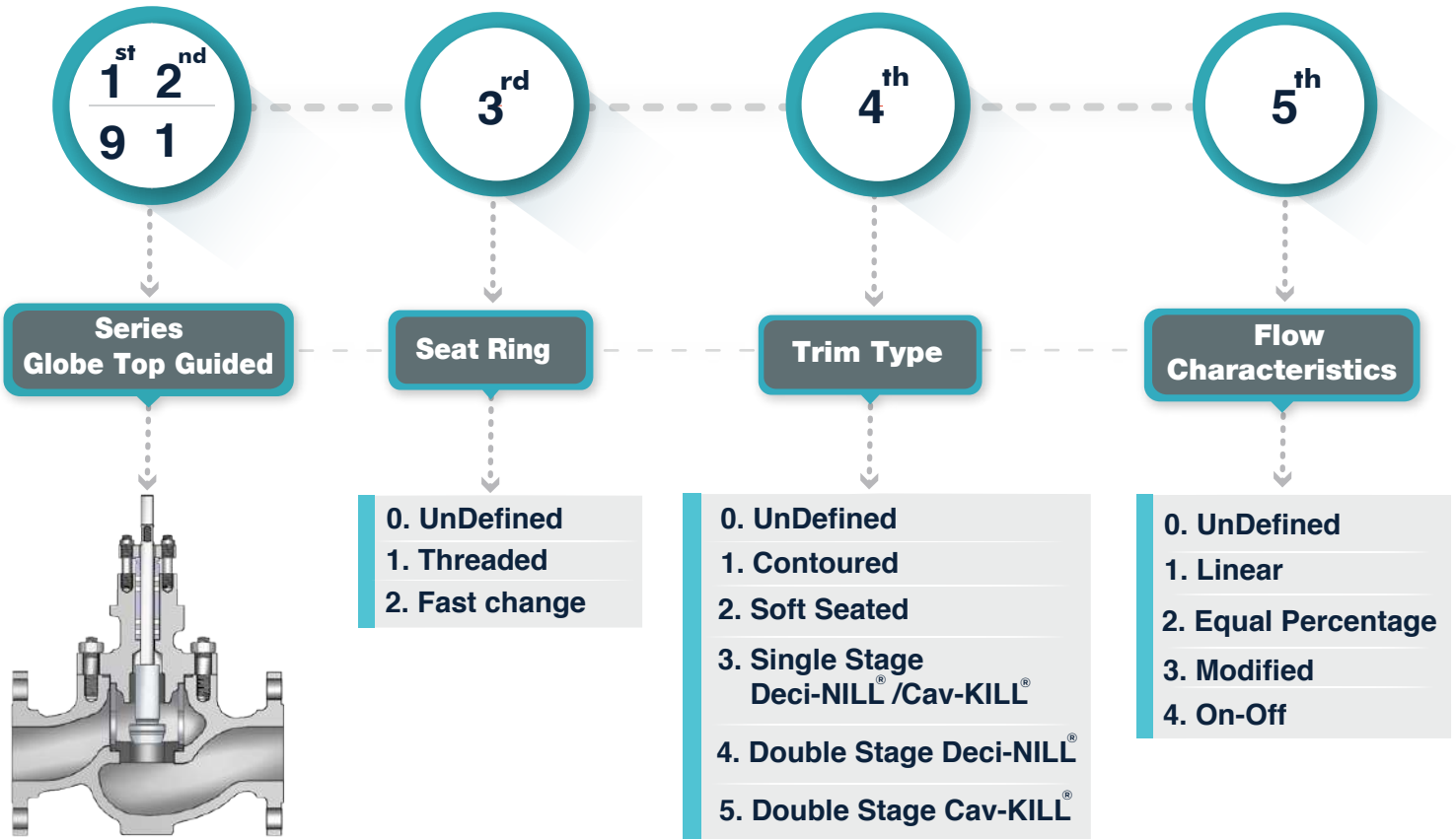


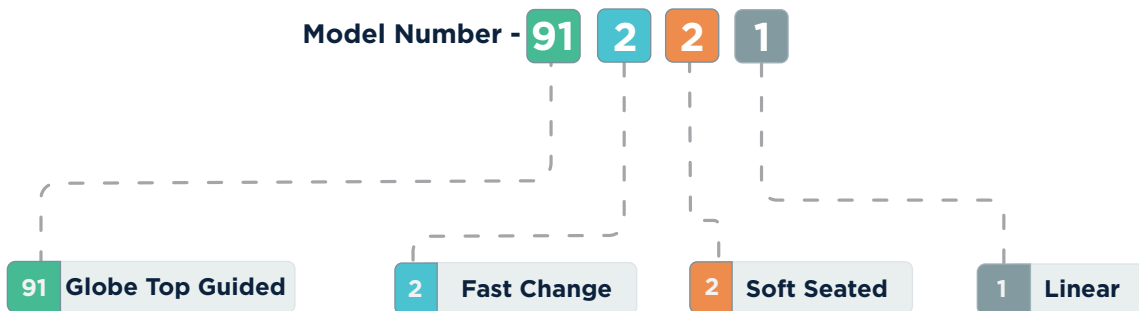
## 91000 SERIES CONTROL VALVES TOP GUIDIED



## 91000-Series Valve Code



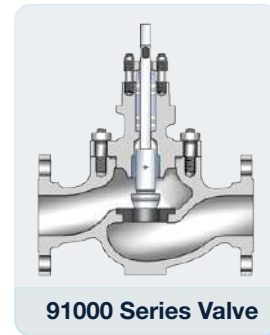
## Sample Model Numbering



### Note:

® Trade names noted throughout are for reference only. Unicorn valves reserves the right to supply trade named material or its equivalent.

**SERIES - 91000** is a single seated valve, featured by rigid top guiding of the plug. The optimum design configuration ensures very good flow control and stability. The simple design makes it easy to maintain with minimum replaceable parts.



## MAIN FEATURES

Heavy top guiding eliminates trim vibration and ensures plug stability under large pressure drop.

Compact single seat, Streamlined flow path having high flow capacity and low pressure recovery

Rating ASME Class 150 thru 2500

Flow characteristic: Linear, Equal Percentage, or Customised

Flow capacity: Full, Medium and Reduced ports / areas are available

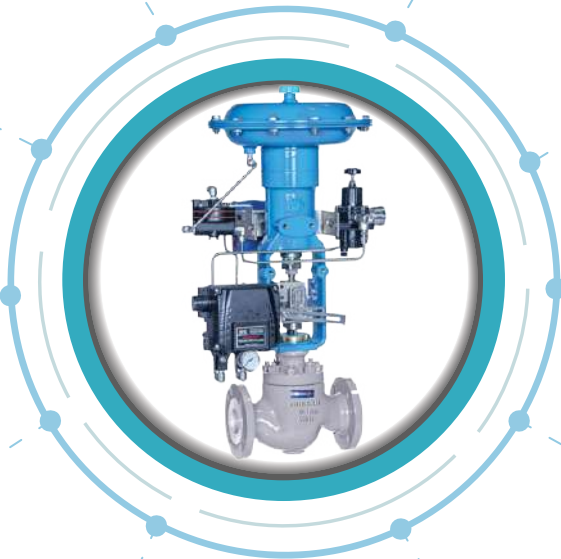
Bonnet type: Bolted

End Connection: RF,RJ,Tongue & groove Flanges, Butt Weld end. SW and Threaded ends is upto and including 2"

Rangeability 50:1

Trim design Dec-NILL<sup>®</sup> and Cav-KILL<sup>®</sup> with multi holes on cage / plug to reduce noise and control cavitation respectively

Leakage Class: Standard is ANSI Class IV as per ANSI/FCI 70.2. Class V & VI are also available on request



General Description	
Product Range	See Table 1
Valve End Connection Types	See Table 2
Body Type	High Capacity Globe
Material of Construction	Carbon Steel
	Alloy steel
	Stainless Steel
	Duplex / Super Duplex SS
	Exotic alloys
Packing Material	Polymeric -46°C to 232°C
	Graphite -196°C to 538°C
Guide Type	Heavy Top Guided
Flow Capacity	Full
	Reduced
	Low
Trim Type	Contoured
	Single Stage Deci-NILL®
	Double Stage Deci-NILL®
	Single Stage Cav-KILL®
	Double Stage Cav-KILL®
Flow Characteristic	Linear
	Equal Percentage
	Other Characteristic
Seat Type	Threaded
	Fast Change
Leakage Class as per ANSI/FCI 70.2	IV
	V
	VI (Soft Seat)
Valve Stroke	See Table 3
Actuator Types <sup>(1)</sup>	Spring Diaphragm
	Piston Cylinder
	Electrical Actuators
Hand Wheel	Optional
Temperature Range <sup>(2)</sup>	-196°C to +593°C
Special Applications <sup>(3)</sup>	Bellow Seal
	Cryogenic Service
	Oxygen Service
	NACE Application
	Low Emission

Product Range		Table -1					
Valve Inches	Size mm	ASME Class					
		150	300	600	900	1500	2500
0.5	15	●	●	●	●	●	●
0.75	20	●	●	●	●	●	●
1	25	●	●	●	●	●	●
1.5	40	●	●	●	●	●	●
2	50	●	●	●	●	●	●
2.5	65	●	●	●	●	●	●
3	80	●	●	●	●	●	●
4	100	●	●	●	●	●	●
6	150	●	●	●	●	●	●
8	200	●	●	●	●	●	●

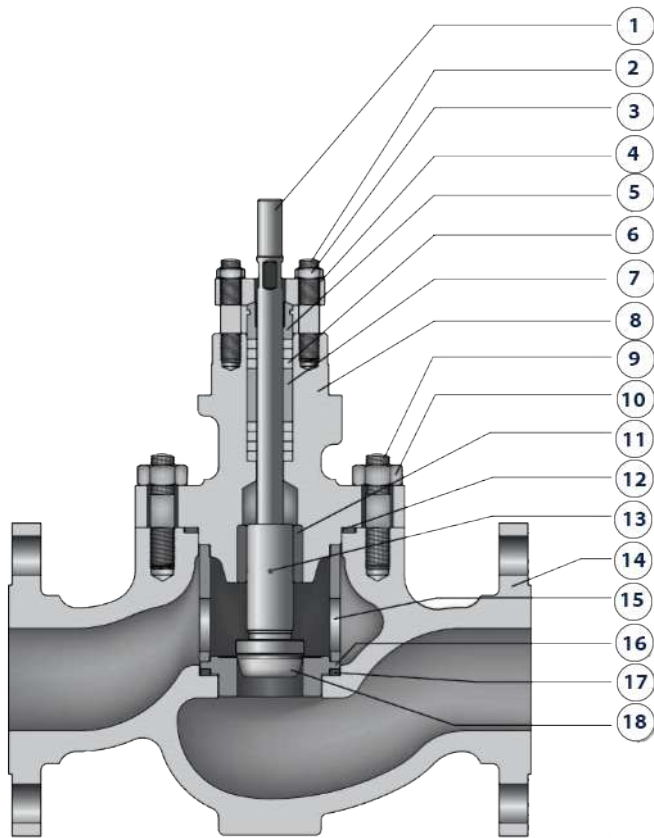
End Connection			Table-2	
Connection Type	Valve Size			
	0.5" to 2"	2.5" to 8"		
Flanged Rised Face	●	●		
Flanged Ring Type Joint	●	●		
Flanged Tongue & Groove	●	●		
Butt Weld End	●	●		
Socket Weld End	●			
Threaded End	●			

Valve Stroke				Table-3	
Valve Size		Valve Stroke			
Inches	mm	Inches	mm		
0.5	15	0.50	12.7		
0.75	20	0.75	19.05		
1	25	0.75	19.05		
1.5	40	0.75	19.05		
2	50	0.75	19.05		
2.5	65	0.75	19.05		
3	80	1.5	38.10		
4	100	1.5	38.10		
6	150	2	50.8		
8	200	2.5	63.50		

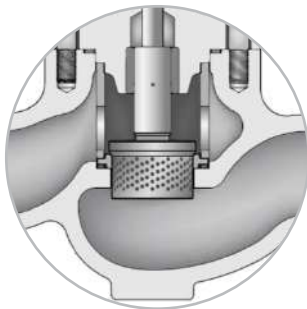
**Notes:**

1. Spring Diaphragm actuator(Single acting type) is standard. Piston cylinder (Single & Double acting type) and Electric actuators are available on request.
2. The brief details of Body,Bonnet,Trim, Stem, Bolt&Nut materials with applicable temperature are given in the tables 4,5,6 and 7.
3. Special application valves are available on request.

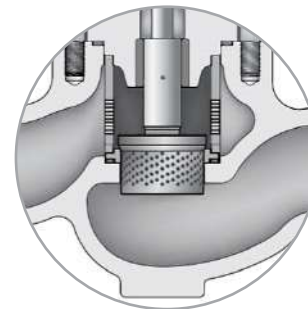
# STANDARD CONSTRUCTION



Part. No	Part Name
1	Valve Stem
2	Packing Stud
3	Packing Stud Nut
4	Packing Flange
5	Packing Follower
6	Packing
7	Packing Spacer
8	Bonnet
9	Body Stud
10	Body Stud Nut
11	Guide Bush
12	Body Gasket
13	Plug Pin
14	Body
15	Cage
16	Seat Ring
17	Seat Ring Gasket
18	Plug

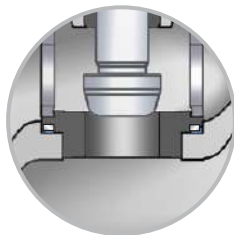


**Single Stage Deci-NILL® & Cav-KILL®  
(Noise Reduction & Cavitation Control)**

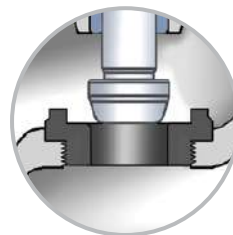


**Double Stage Deci-NILL® & Cav-KILL®  
(Noise Reduction & Cavitation Control)**

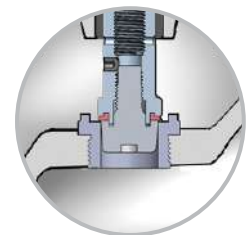
## Seat Rings & Plug Type



**1.Fast Change Seat Ring**



**2.Threaded Seat Ring**



**3.Soft Seated Plug**

### Notes :

- 2. For Deci-NILL (Noise reduction) flow direction aids to Open.
- 3. For Cav-KILL (Cavitation control) flow direction aids to Close.

**Maximum and Minimum Temperature Limits For Body & Bonnet Materials / Table 4**

Body/Bonnet Materials	-320°F	-238°F	-148°F	-50°F	-20°F	300°F	450°F	650°F	750°F	800°F	850°F	1000°F	1050°F	1100°F
	-196°C	-150°C	-100°C	-46°C	-29°C	149°C	232°C	343°C	400°C	427°C	454°C	538°C	566°C	593°C
ASTM A 216 Gr. WCB/A 105														
ASTM A 216 Gr. WCC														
ASTM A 217 Gr. C5														
ASTM A 217 Gr. C6														
ASTM A 217 Gr. WC9														
ASTM A 217 Gr. C12														
ASTM A 217 Gr. C12A														
ASTM A 352 Gr. LCC														
ASTM A 351 Gr. CF8														
ASTM A 351 Gr. CF8M														
ASTM A 351 Gr. CF3														
ASTM A 351 Gr. CF3M														
ASTM A 995 Gr. 4A														
ASTM A 995 Gr. 5A														
ASTM A 995 Gr. 6A														

**Maximum and Minimum Temperature Limits For Stem Materials / Table 5**

Stem Material	-320°F	-238°F	-148°F	-50°F	-20°F	300°F	450°F	650°F	750°F	800°F	850°F	1000°F	1050°F	1100°F
	-196°C	-150°C	-100°C	-46°C	-29°C	149°C	232°C	343°C	400°C	427°C	454°C	538°C	566°C	593°C
A479 Ty 304														
A479 Ty 316														
A479 Ty 316L														
A638 Gr. 660														
Nirtonic-50UNS S20910														
Super Duplex UNS 32750														
Inconel 625														
SA-479-XM-19 (S20910)														
A564-630 (17-4 PH) Cond. H1075														

**Maximum and Minimum Temperature Limits For Trim Materials / Table 6**

Trim materials	-320°F	-238°F	-148°F	-50°F	-20°F	300°F	450°F	650°F	750°F	800°F	850°F	1000°F	1050°F	1100°F
	-196°C	-150°C	-100°C	-46°C	-29°C	149°C	232°C	343°C	400°C	427°C	454°C	538°C	566°C	593°C
A743 GR CA6NM Class B														
A743 GR CA6NM C-B Chrom Plated														
SA-479-XM-19 (S20910)														
ASTM A 479 Ty 304														
ASTM A 479 Ty 304 Stellite Seat														
ASTM A 479 Ty 304 Full Stellite														
ASTM A 479 Ty 316														
ASTM A 479 Ty 316 Stellite Seat														
ASTM A 479 Ty 316 Full Stellite														
ASTM A276 Ty 440														
ASTM A 351 Gr. CF8														
ASTM A 351 Gr. CF8M														
Monel														
Hastealloy Grade B														
Hastealloy Grade c														
ASTM A 564 Ty 630 (17-4PH)														

**Maximum and Minimum Temperature Limits For Stud, Bolt & Nut Materials / Table 7**

Stud/Bolt Materials	Nut Materials	-320°F	-238°F	-148°F	-50°F	-20°F	300°	450°F	650°F	750°F	800°F	850°F	1000°F	1050°F	1100°F
		-196°C	-150°C	-100°C	-46°C	-29°C	149°C	232°C	343°C	400°C	427°C	454°C	538°C	566°C	593°C
A193 Gr B7	A194 Gr 2H														
A193 Gr B7M	A194 Gr 2HM														
A193 Gr B8	A194 Gr 8														
A193 Gr B8 CL 2	A194 Gr 8														
A193 Gr B8M	A194 Gr 8M														
A193 Gr B16	A194 Gr 8														
A320 Gr L7	A194 Gr 4 or 7														
A320 Gr B8(CL 1&2)	A194 Gr 8														
A320 Gr B8M(CL 1&2)	A194 Gr 8M														
A453 Gr 660	A194 Gr 8														

\*For other materials contact manufacturer



## Contoured Trim

Series - 91211

Flow Characteristic : Linear

Body Rating : ASME Class 150-2500

Direction : Flow To Open (FTO)

Valve Size		ASME Class	% Lift				10	20	30	40	50	60	70	80	90	100		
Inches	mm		Orific $\phi$		Travel		Rated Cv											
			Inches	mm	Inches	mm												
0.75-1	20-25	150-1500	0.125	3.2	0.75	19.05	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1		
			0.25	6.36	0.75	19.05	0.02	0.04	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2		
			0.25	6.36	0.75	19.05	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.3		
			0.25	6.36	0.75	19.05	0.04	0.08	0.12	0.16	0.2	0.24	0.28	0.32	0.36	0.4		
			0.25	6.36	0.75	19.05	0.06	0.12	0.18	0.24	0.3	0.36	0.42	0.48	0.54	0.6		
			0.25	6.36	0.75	19.05	0.08	0.16	0.24	0.32	0.4	0.48	0.56	0.64	0.72	0.8		
				150-2500	0.25	6.36	0.75	19.05	0.17	0.34	0.51	0.68	0.85	1.02	1.2	1.4	1.5	1.7
					0.38	9.53	0.75	19.05	0.38	0.76	1.1	1.5	1.9	2.3	2.7	3.0	3.4	3.8
					0.5	12.7	0.75	19.05	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6
					0.81	21	0.75	19.05	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13
1.5	40	150-2500	0.25	6.36	0.75	19.05	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.09	0.1	0.11		
			0.25	6.36	0.75	19.05	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.3		
			0.25	6.36	0.75	19.05	0.06	0.12	0.18	0.24	0.3	0.36	0.42	0.48	0.54	0.6		
			0.25	6.36	0.75	19.05	0.17	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.7		
			0.38	9.53	0.75	19.05	0.38	0.76	1.1	1.5	1.9	2.3	2.7	3.0	3.4	3.8		
			0.5	12.7	0.75	19.05	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6		
			0.81	21	0.75	19.05	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13		
			1.25	32	0.75	19.05	2.6	5.2	7.8	10.4	13	15.6	18.2	20.8	23.4	26		
			1.49	38	0.75	19.05	3.4	6.8	10.2	13.6	17	20.4	23.8	27.2	30.6	34		
			2	50	150-2500	0.25	6.36	0.75	19.05	0.01	0.02	0.03	0.04	0.06	0.07	0.08	0.09	0.10
0.25	6.36	0.75				19.05	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.3		
0.25	6.36	0.75				19.05	0.06	0.12	0.18	0.24	0.3	0.36	0.42	0.48	0.54	0.6		
0.25	6.36	0.75				19.05	0.17	0.34	0.51	0.68	0.85	1.02	1.19	1.36	1.53	1.7		
0.38	9.53	0.75				19.05	0.38	0.76	1.1	1.5	1.9	2.3	2.7	3.0	3.4	3.8		
0.5	12.7	0.75				19.05	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6		
0.81	21	0.75				19.05	1.4	2.8	4.2	5.6	7	8.4	9.8	11.2	13	14		
1.25	32	0.75				19.05	2.6	5.2	7.8	10.4	13	15.6	18.2	20.8	23	26		
1.49	38	0.75				19.05	3.5	7	10.5	14	17.5	21	24.5	28	32	35		
1.63	41	0.75				19.05	4.5	9	13.5	18	22.5	27	31.5	36	41	45		
3	80	150-1500	1.25	32	1.5	38.1	3.1	6.2	9.3	12.4	15.5	18.6	21.7	24.8	28	31		
			1.63	41	1.5	38.1	4.6	9.2	13.8	18.4	23	27.6	32.2	36.8	41	46		
			2.63	66.5	1.5	38.1	11	22	33	44	55	66	77	88	99	110		
4	100		1.63	41	1.5	38.1	4.9	9.8	14.7	19.6	24.5	29.4	34.3	39.2	44	49		
			2.63	66.5	1.5	38.1	11.3	22.6	33.9	45.2	56.5	67.8	79.1	90.4	102	113		
			3.5	89	1.5	38.1	19.5	39	58.5	78	97.5	117	136.5	156	175.5	195		
6	150		150-600	2.63	66.5	2	50.8	12.6	25.2	37.8	50.4	63	75.6	88	101	113	126	
				3.5	89	2	50.8	20.8	42	62	83	104	125	146	166	187	208	
				5	127	2	50.8	39.8	79.6	119	159	199	239	279	318	358	398	

## Contoured Trim

## Series - 91212

Flow Characteristic : Equal Percentage

Body Rating : ASME Class 150-2500

Direction : Flow To Open (FTO)

Valve Size		ASME Class	% Lift		Travel		10	20	30	40	50	60	70	80	90	100
Inches	mm		Orific $\phi$													
			Inches	mm	Inches	mm	Rated Cv									
0.75-1	20-25	150-2500	0.25	6.36	0.75	19.05	0.05	0.07	0.11	0.16	0.24	0.36	0.53	0.78	1.15	1.7
			0.38	9.53	0.75	19.05	0.11	0.17	0.25	0.37	0.54	0.8	1.2	1.7	2.6	3.8
			0.5	12.7	0.75	19.05	0.18	0.26	0.39	0.57	0.85	1.3	1.9	2.7	4.1	6
			0.81	21	0.75	19.05	0.37	0.55	0.81	1.2	1.8	2.6	3.9	5.7	8.4	12.5
1.5	40		0.25	6.36	0.75	19.05	0.05	0.07	0.11	0.16	0.24	0.36	0.53	0.78	1.2	1.7
			0.38	9.53	0.75	19.05	0.11	0.17	0.25	0.37	0.54	0.8	1.2	1.7	2.6	3.8
			0.5	12.7	0.75	19.05	0.18	0.26	0.39	0.57	0.85	1.3	1.9	2.7	4.1	6
			0.81	21	0.75	19.05	0.40	0.59	0.87	1.3	1.9	2.8	4.2	6.2	9.1	13.5
			1.25	32	0.75	19.05	0.8	1.2	1.7	2.5	3.7	5.5	8.1	12	17.8	26
2	50		1.63	42	0.75	19.05	1.1	1.6	2.3	3.5	5.1	7.6	11.2	16.6	24.5	36
			0.25	6.4	0.75	19.05	0.05	0.07	0.11	0.16	0.24	0.35	0.52	0.77	1.1	1.7
			0.38	9.5	0.75	19.05	0.1	0.2	0.2	0.4	0.5	0.8	1.2	1.7	2.6	3.8
		0.5	12.7	0.75	19.05	0.18	0.26	0.39	0.57	0.85	1.3	1.9	2.7	4.1	6	
		0.81	21	0.75	19.05	0.46	0.68	1.0	1.5	2.20	3	5	7	11	15.6	
		1.25	32	0.75	19.05	0.78	1.2	1.7	2.5	3.7	5.5	8	12	18	26	
3	80	1.49	38	0.75	19.05	1.04	1.5	2.3	3.3	4.9	7.3	11	16	24	35	
		1.63	41	0.75	19.05	1.34	2.0	2.9	4.3	6.4	9	14	21	31	45	
		1.25	32	1.5	38.1	0.93	1.4	2.0	3.0	4.4	6.6	10	14	21	31	
		1.63	41	1.5	38.1	1.4	2.0	3.0	4.4	6.6	10	14	21	31	46	
4	100	2.63	66.5	1.5	38.1	3.2	4.8	7.1	10.5	15	23	34	50	74	109	
		1.63	41	1.5	38.1	1.4	2.1	3.1	4.6	7	10	15	22	33	48	
		2.63	66.5	1.5	38.1	3.3	4.9	7	11	16	23	35	51	76	112	
6	150	3.5	89	1.5	38.1	5.8	8.5	13	19	28	41	60	89	132	195	
		2.63	66.5	2	50.8	3.7	5.5	8	12	18	26	39	57	85	125	
		3.5	89	2	50.8	6.2	9	13	20	29	44	64	95	141	208	
			5	127	2	50.8	12	18	26	52	57	85	125	185	273	404

## Single Stage Deci-NILL® /Cav-KILL®

## Series - 91231 / 91241

Flow Characteristic: Linear

Body Rating : ASME Class 150-2500

Direction : Flow To Open (FTO) & Flow To Close(FTC)

Valve Size		ASME Class	% Lift		Travel		10	20	30	40	50	60	70	80	90	100
Inches	mm		Orific $\phi$													
			Inches	mm	Inches	mm	Rated Cv									
0.75-1	20-25	150-2500	0.94	24	0.75	19.05	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4
			0.94	24	0.75	19.05	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9
1.5	40		1.25	32	0.75	19.05	0.8	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8
			1.25	32	0.75	19.05	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
2	50		1.25	32	0.75	19.05	0.8	1.6	2.4	3.2	4	4.8	5.6	6.4	7.2	8
			1.25	32	0.75	19.05	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
3	80		1.63	41	0.75	19.05	2.6	5.2	7.8	10.4	13	15.6	18.2	20.8	23.4	26
			2.63	66.5	1.5	38.1	4.8	9.6	14.4	19.2	24	28.8	33.6	38.4	43.2	48
4	100		2.63	66.5	1.5	38.1	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75
			2.63	66.5	1.5	38.1	6.3	12.6	18.9	25.2	31.5	37.8	44.1	50.4	56.7	63
6	150		3.5	89	1.5	38.1	10	20	30	40	50	60	70	80	90	100
			5	127	2	50.8	15	30	45	60	75	90	105	120	135	150
			5	127	2	50.8	20	40	60	80	100	120	140	160	180	200



## Contoured Trim

## Series - 91211

Flow Characteristic : Linear

Body Rating : ASME Class 150-2500

Direction : Flow To Close (FTC)

				% Lift				10	20	30	40	50	60	70	80	90	100	
Valve Size		ASME Class	Orific Ø		Travel		Rated Cv											
Inches	mm		Inches	mm	Inches	mm												
0.75-1	20-25	150-2500	0.25	6.36	0.75	19.05	0.23	0.35	0.48	0.62	0.77	0.94	1.11	1.30	1.50	1.7		
			0.38	9.53	0.75	19.05	0.51	0.76	1.04	1.33	1.6	2.0	2.3	2.7	3.1	3.8		
			0.5	12.7	0.75	19.05	0.81	1.2	1.7	2.2	2.7	3.3	3.9	4.5	5.2	6		
			0.81	21	0.75	19.05	1.6	2.5	3.3	4.3	5.4	6.5	7.7	9	10	12		
1.5	40		0.25	6.36	0.75	19.05	0.23	0.35	0.48	0.62	0.77	0.94	1.11	1.3	1.5	1.7		
			0.38	9.53	0.75	19.05	0.51	0.8	1.04	1.33	1.65	2	2.33	2.7	3.1	3.8		
			0.5	12.7	0.75	19.05	0.81	1.2	1.7	2.2	2.7	3.3	3.9	4.6	5.2	6		
			0.81	21	0.75	19.05	1.77	2.6	3.6	4.6	5.7	6.9	8.2	9.5	11	12.5		
			1.25	32	0.75	19.05	3.42	5.1	7.0	9.1	11.4	14	16.4	19	22	25		
2	50		1.49	38	0.75	19.05	4.8	7.2	9.8	12.7	15.8	19.1	23	27	31	35		
			0.25	6.36	0.75	19.05	0.23	0.35	0.48	0.62	0.77	0.94	1.11	1.3	1.5	1.7		
			0.38	9.53	0.75	19.05	0.51	0.77	1.04	1.33	1.65	2	2.3	2.7	3.1	3.5		
		0.5	12.7	0.75	19.05	0.81	1.2	1.7	2.2	2.7	3.3	3.9	4.6	5.2	6			
		0.81	21	0.75	19.05	2.05	3.1	4.2	5.4	6.7	8.2	9.7	11.3	13	15			
		1.25	32	0.75	19.05	3.55	5.3	7.3	9.4	11.8	14.2	16.9	20	23	26			
3	80	1.49	38	0.75	19.05	4.79	7.2	9.8	12.7	16	19	23	27	31	35			
		1.63	41	0.75	19.05	6.29	9	13	17	21	25	30	35	40	46			
		1.25	32	1.5	38.1	4.2	6.4	8.7	11.3	14.1	17.1	20.3	24	27.4	31			
4	100	1.63	41	1.5	38.1	6.4	9.6	13.2	17.0	21.2	26	30.5	36	41	47			
		2.63	66.5	1.5	38.1	15	23	31	40	50	60	72	84	96	110			
		1.63	41	1.5	38.1	6.69	10.07	13.79	17.8	22.2	27	32	37.4	43.2	49			
6	150	2.63	66.5	1.5	38.1	15.5	23.2	31.7	41.0	51.1	61.9	73.5	85.8	99	113			
		3.5	89	1.5	38.1	27	40	55	71	88	106	126	147	170	194			
		2.63	66.5	2	50.8	17.2	25.9	35.4	45.7	56.9	68.9	81.8	95.6	110	126			
		3.5	89	2	50.8	28.6	42.7	58.2	75.1	93.5	113.3	134.5	157.1	181	207			
		5	127	2	50.8	55	82	112	145	180	218	259	303	349	398			

## Contoured Trim

Series - 91212

Flow Characteristic : Equal Percentage

Body Rating : ASME Class 150-2500

Direction : Flow To Close (FTC)

Valve Size		ASME Class	% Lift				Rated Cv										
Inches	mm		Orific $\phi$		Travel		10	20	30	40	50	60	70	80	90	100	
			Inches	mm	Inches	mm											
0.75-1	20-25	150-2500	0.25	6.36	0.75	19.05	0.10	0.10	0.19	0.21	0.29	0.48	0.77	1.05	1.46	1.7	
			0.38	9.53	0.75	19.05	0.19	0.19	0.29	0.37	0.65	1.1	1.7	2.4	3.2	3.8	
			0.5	12.7	0.75	19.05	0.29	0.38	0.48	0.61	1.03	1.7	2.7	3.8	5.0	6	
			0.81	21	0.75	19.05	0.58	0.77	1.15	1.4	2.2	4.1	6.5	8.8	10.4	12	
1.5	40		0.25	6.36	0.75	19.05	0.10	0.10	0.19	0.21	0.29	0.48	0.77	1.05	1.5	1.7	
			0.38	9.53	0.75	19.05	0.19	0.19	0.29	0.37	0.65	1.1	1.7	2.4	3.2	3.8	
			0.5	12.7	0.75	19.05	0.29	0.38	0.48	0.61	1.03	1.7	2.7	3.8	5.0	6	
			0.81	21	0.75	19.05	0.58	0.77	1.05	1.4	2.2	3.7	5.8	8.2	10.8	13	
			1.25	32	0.75	19.05	1.2	1.5	2.1	2.6	4.3	7.1	11.1	16	20.8	26	
2	50		1.63	42	0.75	19.05	1.9	2.3	3.4	4.1	6.5	12	19	26	30	35	
			0.25	6.4	0.75	19.05	0.10	0.10	0.19	0.21	0.29	0.48	0.77	1.05	1.5	1.7	
			0.38	9.5	0.75	19.05	0.2	0.2	0.3	0.4	0.7	1.1	1.7	2.4	3.2	3.8	
		0.5	12.7	0.75	19.05	0.29	0.38	0.48	0.61	1.03	1.7	2.7	3.8	5.0	6		
		0.81	21	0.75	19.05	0.67	0.96	1.2	1.6	2.57	4	7	9	13	15		
		1.25	32	0.75	19.05	1.15	1.5	2.2	2.6	4.4	7.4	12	16	22	26		
3	80	1.49	38	0.75	19.05	1.23	1.9	3.5	5.9	9.2	13.2	18	24	31	38		
		1.63	41	0.75	19.05	2.49	3.1	4.4	5.4	8.5	16	25	34	40	46		
		1.25	32	1.5	38.1	1.34	1.9	2.6	3.3	5.3	8.9	14	20	26	31		
4	100	1.63	41	1.5	38.1	2.1	2.9	4.0	5.0	8.0	13	21	30	39	47		
		2.63	66.5	1.5	38.1	5.8	7.4	10.5	12.9	20	38	60	80	96	109		
		1.63	41	1.5	38.1	2.2	3.0	4.1	5.2	8	14	22	31	41	49		
6	150	2.63	66.5	1.5	38.1	5.0	6.8	10	12	19	32	50	71	94	112		
		3.5	89	1.5	38.1	10.1	13.0	19	23	36	67	105	142	170	194		
		2.63	66.5	2	50.8	5.6	7.7	11	13	22	36	56	80	105	125		
		3.5	89	2	50.8	9.2	13	18	22	36	59	92	131	173	207		
		5	127	2	50.8	21	27	39	47	74	137	218	292	347	398		

# FLOW CO-EFFICIENT (Cv) VALUES\*

## Double Stage Cav-KILL®

Series - 91251

Flow Characteristic : Linear

Body Rating : ASME Class 150-2500

Direction : Flow To Close(FTC)

Valve Size		ASME Class	% Lift				10	20	30	40	50	60	70	80	90	100
Inches	mm		Orific $\phi$		Travel		Rated Cv									
			Inches	mm	Inches	mm										
0.75-1	20-25	150-2500	0.81	21	0.75	19.05	0.4	0.7	1.1	1.5	1.8	2.2	2.5	2.9	3.3	3.6
			0.81	21	0.75	19.05	0.6	1.2	1.8	2.4	3.0	3.6	4.1	4.7	5.3	5.9
1.5	40		1.25	32	0.75	19.05	0.8	1.6	2.4	3.2	4.1	4.9	5.7	6.5	7	8
			1.25	32	0.75	19.05	1.3	2.6	3.9	5.3	6.6	7.9	9	11	12	13
2	50		1.25	32	0.75	19.05	1.3	2.6	3.9	5.3	6.6	7.9	9	11	12	13
			1.63	41	0.75	19.05	2.1	4.1	6.2	8.3	10	12	14	17	19	21
3	80		2.63	66.5	1.5	38.1	4.0	8.0	11.9	15.9	20	24	28	32	36	40
			2.63	66.5	1.5	38.1	6.3	12.5	19	25	31	38	44	50	56	63
4	100		2.63	66.5	1.5	38.1	5.3	10.5	16	21	26	32	37	42	47	53
			3.5	89	1.5	38.1	8.3	17	25	33	42	50	58	67	75	83
6	150	150-600	5	127	2	50.8	13	25	38	50	63	75	88	100	113	125

## Double Stage Deci-NILL®

Series - 91241

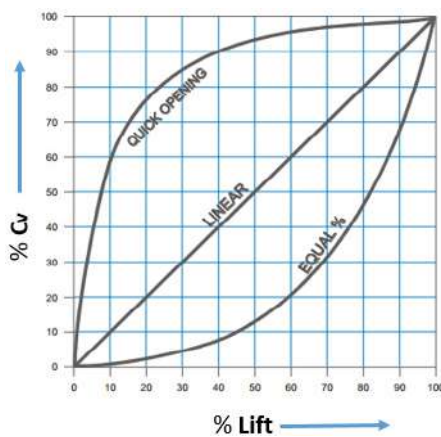
Flow Characteristic : Linear

Body Rating : ASME Class 150-2500

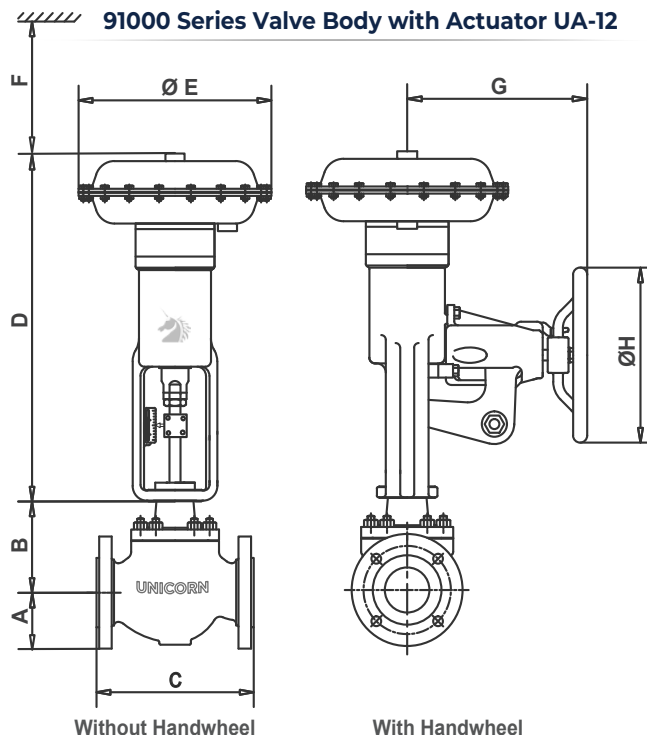
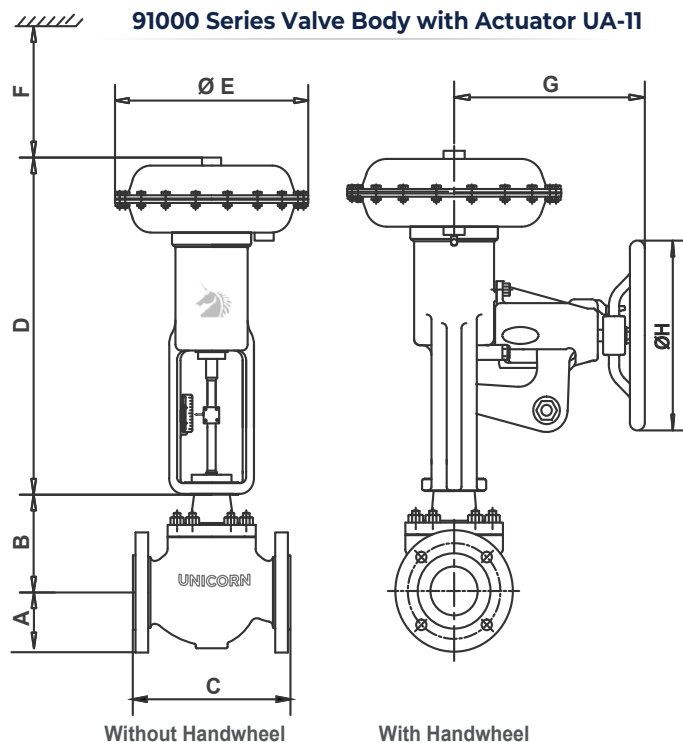
Direction : Flow To Open(FTO)

Valve Size		ASME Class	% Lift				10	20	30	40	50	60	70	80	90	100
Inches	mm		Orific $\phi$		Travel		Rated Cv									
			Inches	mm	Inches	mm										
0.75 - 1	20-25	150-2500	0.81	21	0.75	19.05	0.2	0.4	0.7	0.9	1.1	1.3	1.5	1.8	2	2.2
			0.81	21	0.75	19.05	0.4	0.9	1.3	1.7	2.2	2.6	3.0	3.5	3.9	4.3
1.5	40		0.81	21	0.75	19.05	0.2	0.4	0.7	0.9	1.1	1.3	1.5	1.8	2	2.2
			1.25	32	0.75	19.05	0.4	0.9	1.3	1.8	2.2	2.7	3	3.6	4	4.4
2	50		1.25	32	0.75	19.05	0.8	1.7	2.5	3.4	4.2	5.0	5.9	6.7	7.6	8.4
			1.25	32	0.75	19.05	0.4	0.9	1.3	1.8	2.2	2.7	3	3.6	4	4.4
3	80		1.63	41	0.75	19.05	0.9	1.7	2.6	3	4	5	6	6.9	7.8	8.6
			1.63	41	0.75	19.05	1.4	2.8	4.3	6	7	8.5	10	11	13	14
4	100		2.63	66.5	1.5	38.1	2.7	5.4	8	11	14	16	19	22	24	27
			2.63	66.5	1.5	38.1	4.2	8.5	13	17	21	25	30	34	38	42
4	100	2.63	66.5	1.5	38.1	4	8	12	16	20	24	28	32	36	40	
		3.5	89	1.5	38.1	6	12	19	25	31	37	43	49	56	62	

### Flow Characteristic



Flow Vs Lift



## Dimensions Of Valve

Valve Size		A						B				C					
Inches	mm	150	300	600	900	1500	2500	<=300	600	900-1500	2500	150	300	600	900	1500	2500
0.5	15	45	48	48	60	60	68	140	140	214	214	184	190	203	273	273	308
0.75	20	50	58	58	65	65	70	140	140	214	214	184	194	206	273	273	308
1	25	55	63	63	75	75	80	140	140	214	214	184	197	210	273	273	308
1.5	40	65	78	78	90	90	103	140	140	214	229	222	235	251	292	292	318
2	50	77	83	83	108	108	118	140	140	229	272	254	267	286	335	335	359
2.5	65	105	105	105	110	110	125	204	204	229	-	276	292	311	375	406	413
3	80	95	105	105	120	132	-	204	204	285	-	298	308	337	387	466	-
4	100	118	128	127	145	155	-	208	208	375	-	352	368	394	464	-	-
6	150	162	159	178	-	-	-	290	-	-	-	451	473	508	-	-	-
8	200	186	192	210	-	-	-	440	-	-	-	543	568	610	-	-	-

## Dimensions Of Actuator

Actuator Type	Actuator Model	Actuator Size	Actuator Stroke(inches)	Actuator Stroke(mm)	D	Ø E	F	G	Ø H
Spring Diaphragm	UA-11	30	0.75	19.05	470	335	112	230	250
	UA-12	30	0.75	19.05	510	335	112	230	250
	UA-11	35	1.5	38.1	575	386	112	290	300
	UA-12	35	1.5	38.1	635	386	112	290	300
	UA-11	40	2	50.8	740	452	170	408	450
	UA-12	40	2	50.8	840	452	170	408	450
	UA-11	45	2.5	63.5	780	532	180	408	450
	UA-12	45	2.5	63.5	1110	532	180	408	450
	UA-11	50	4	101.6	950	532	180	470	570
	UA-12	50	4	101.6	1240	532	180	470	570

### Note:

1. Actuator Model UA-11 is a Direct Actuator (Air To Close).
2. Actuator Model UA-12 is a Reverse Actuator (Air To Open).

\*Manufacturer reserves the right to change the dimensions and Cv values as part of continuous development.

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# UNICORN VALVES

Revolutionizing The Flow



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