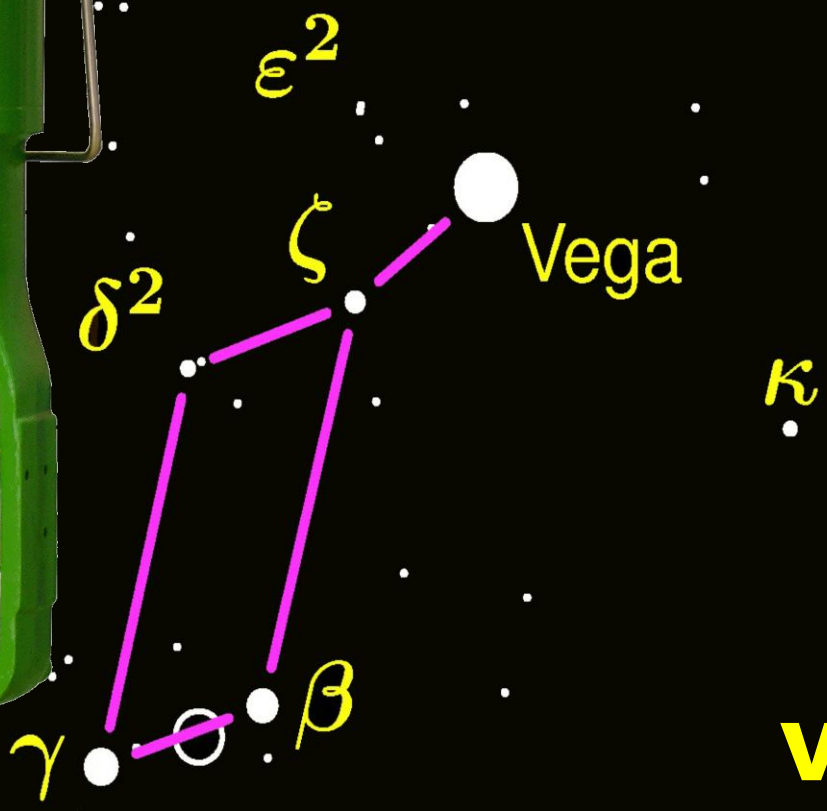
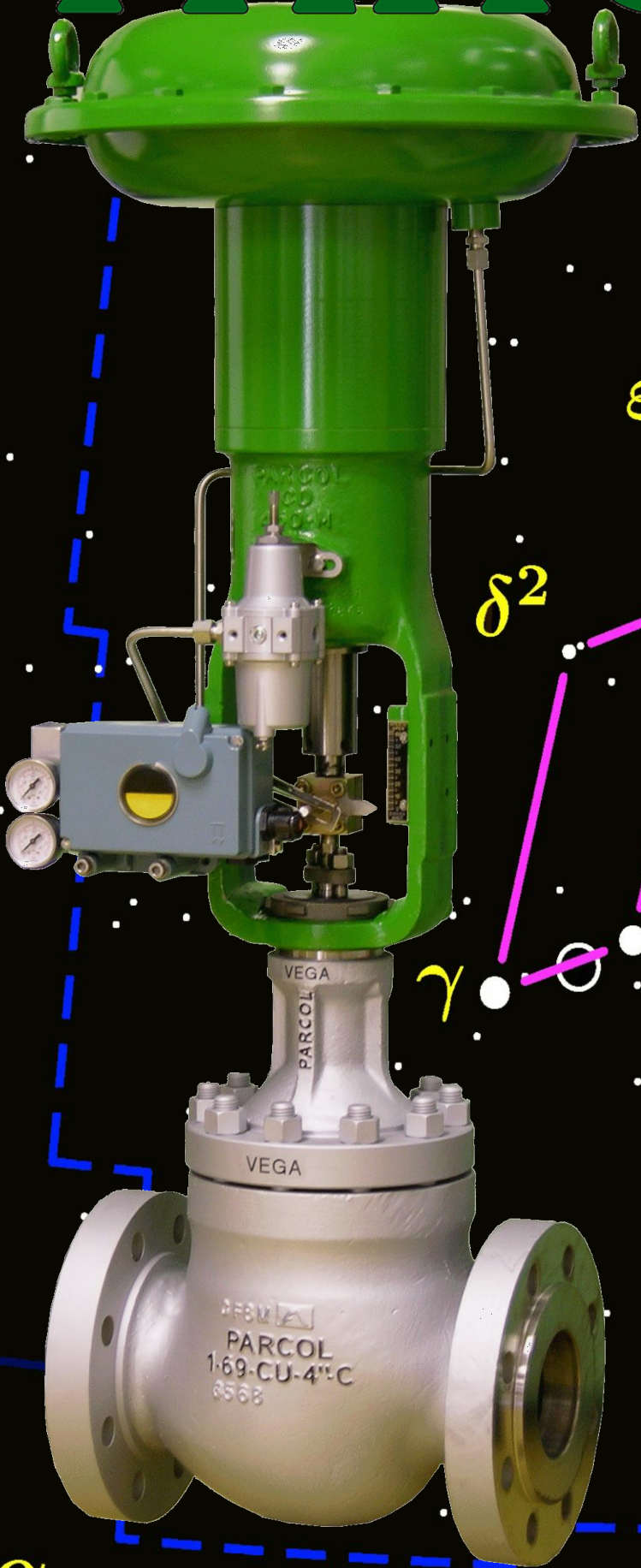


PARCOL



VeGA
CONTROL VALVE
1-6940 and 1-4640
SERIES

α

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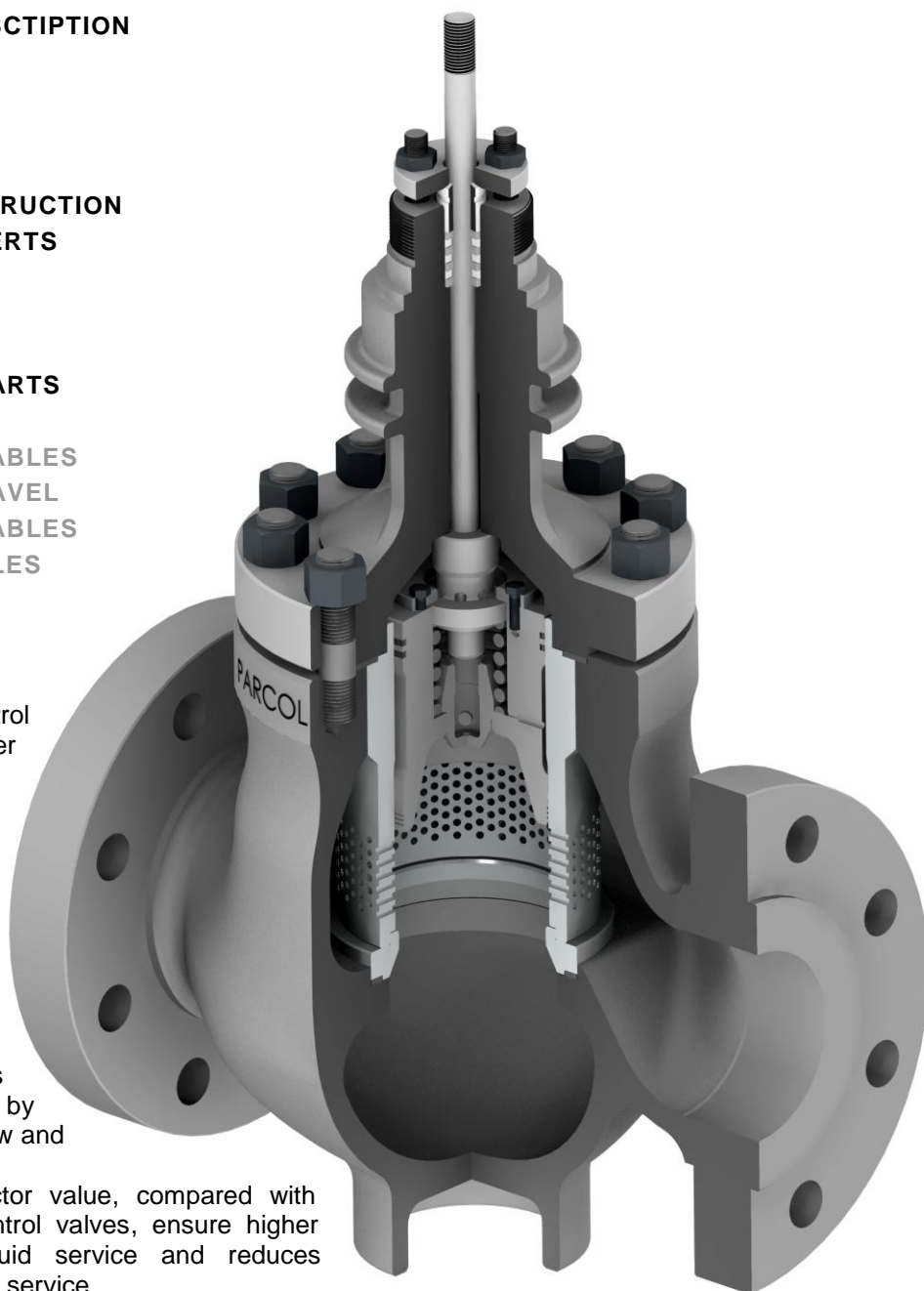
PRESSURE DROP TABLES

VeGA is the most **Versatile** control valve for **General Applications** ever designed by Parcol.

VeGA is a straight body single seat control valve with cage guided balanced plug, designed to withstand the most severe process conditions; the flow is mainly controlled by the special drilled cage, which acts as a continuous and full plug guide along the whole valve travel.

The special plug design allows improving valve rangeability by reducing minimum controllable flow and plug erosion.

The high pressure recovery factor value, compared with conventional Contoured plug control valves, ensure higher flow rates on compressible fluid service and reduces cavitation risk and effects on liquid service.



All versions have quick change trim with internal spring to extend the quick change design up to maximum working temperature.

Together with the standard trim, low noise trims and double cage trims are available respectively for critical service on compressible fluids (gas and vapor) and for high differential pressures or for cavitating service, where higher pressure recovery factor values are required.

Balanced Plug with Pilot execution allows to comply with IEC sealing class V up to 566°C for compressible fluids service; for incompressible fluids service, a special C-ring metallic seal is available to comply with IEC sealing class V without practical temperature limitations.

“Flow to close” configuration improves seat ring protection and increases seating force, making this solution particularly reliable.

Contoured unbalanced plugs are available up to DN 8” for dirty fluids service.

Bonnet style, finned and partially extended is specially designed to comply with all working conditions.

A special material configuration is available to comply with NACE MR0175 and MR0103 standards.

VeGA control valves are usually equipped with Parcol diaphragm spring return pneumatic actuators 1-X-290 and 1-X-250 series (pneumatic cylinders 1-X-400 series for DN 16” and over).

Electrical or hydraulic actuators are available on request.

MAIN FEATURES

- Wide range of sizes: from DN 1/2" to DN 24" ;
- Ratings from ANSI 150 up to ANSI 2500 (B10 to B100 for EN ratings);
- Wide operating temperature range (-55 °C to 566 °C, -196°C with optional extended bonnet);
- Quick change design up to maximum allowed working temperature;
- High flow capacity thanks to optimized body shape design;
- High rangeability thanks to **Cascade Clearance Flow (CCF)** plug design;
- Sealing class V IEC 60534-4 up to 566 °C for balanced plug with pilot ("flow to close" for compressible fluid applications) or metal C-ring seal for all applications;
- Unbalanced Contoured plug version available up to DN 8" for dirty fluids service;
- Soft seat ring insert, to comply with IEC 60534-4 leakage class VI;
- Partially extended, finned bonnet shape, to comply with all working temperatures.

GENERAL DATA

BODY

- Type: globe, straight way single port. Angle body version 1-4640 series is available on request.
- Construction: cast or forged (for small DN dimensions).
- Materials: wide material selection (from ASME and EN standards) is available, according to Material of Construction tables. Other materials are available on request.
- Sizes and ratings:
 - o **1-6941 Contoured Plug** series from DN 1/2" up to DN 8" , see table "Basic Ratings Availability";
 - o **1-6942 Contoured Integral Plug**, Stem Guided series from DN 1/2" up to DN 8" , up to ANSI 600;
 - o **1-6943 Cage Guided Plug** series from DN 3/4" up to DN 24" , see table "Basic Ratings Availability";
 - o **1-6948 Cage Balanced Plug** with **Pilot** series from DN 2" up to DN 24" , see table "Basic Ratings Availability".
- Connections:
 - o ANSI, EN flanged;
 - o BW ANSI B16.25;
 - o UNI EN 12627 butt welding ends;
 - o Socket welding & Threaded up to NPS 2";
- Ratings: according to EN 12516-1 and ASME B16.34 materials
 - o PN 10/16/25/40/63/100;
 - o see table "Basic Ratings Availability".

FLOW DIRECTION

- Flow over the plug on 1-6948 (balanced with pilot).
- Flow under the plug on 1-6941, 1-6942 and 1-6943.

BONNET

- Type: partially extended, finned. With bellows seal or extension bonnet for low temperature service (< -55 °C) on request (for series 1-6941 or 1-6943).
- Constructions: flanged type, cast or forged.
- Materials: same as body.

PLUG

- Sizes: full or reduced ports as per Cv table.
- Type: microflow or contoured, unbalanced, balanced with special Independent Throttling and Sealing (ITS) design with CCF to maximize valve reliability and reduce minimum controllable flow.
 - o **Contoured Plug Unbalanced**: port Ø3mm up to 8" for **1-6941**;
 - o **Contoured Integral Plug Unbalanced**: port Ø6mm up to 8" for **1-6942**;
 - o **Cage Guided Unbalanced**: port 1/2" up to 8", for **1-6943 series**;
 - o **Cage Guided Balanced**: port 1/2" up to 24", for **1-6943 series**;
 - o **Cage Guided Balanced with Pilot**: port 2" up to 24" for **1-6948 series**.
- Materials: see Material of Construction tables.

FLOW CHARACTERISTIC

- Linear (also suitable for on-off service).
- Equal percentage.

SEAT

- Mounting: free fitted into the body without screwing or forcing. Centered in the cage granting alignment with the plug, body and seat. Coupling sealed by means of a flat gasket.
- Materials: see Material of Construction tables.

CAGE

- Type: Single Cage for 1-6943 and 1-6948 series valve, Double Cage (only for 1-6943 series).
- Execution: **Not Balanced (NB)**, **Standard Balanced (Std)** and **Additional Gasket Balanced (AG)**, **High Temperature Balanced (HT)** for intermediate and high temperature service.
- Constructions: rolled or forged cylinder, drilled or V-ported, tightened between body and bonnet.
- Drilling:
 - o **Standard (ST)**, **Low Noise(LN)**, **Special Low Noise (XLN)**, **Double Cage (DC)** and **Duble Cage with Expansion (EDC)** for 1-6943 series;
 - o **Plug with Pilot Low Noise (PLN)** and **Plug with Pilot Special Low Noise (PXLN)** for 1-6948 series.
- Materials: see Material of Construction tables.

STEM PACKINGS

- TFK: PTFE aramid fibers reinforced packing up to 250°C – 150 bar.
- GRF: Pure flexible graphite packing without practical temperature limitation (max 400 °C in presence of oxidizing fluids).
- TFP: Pure braided PTFE packing (suitable for oxygen service) up to 200°C – 150 bar.
- Low Emission TA-LUFT compliant certified packings are available on request.
- Special executions supplied as option:
 - o Double packing with leak off lateral connection;
 - o Sand protection;
 - o Live Loading System with Belleville Washers;

For further details see Parcol technical Bulletin 1-VII.

LEAKAGE CLASSES

In accordance with IEC 60534-4 leakage classes, up to class VI for both balanced and unbalanced construction.

For erosive/corrosive fluids applications, special sealing class with **High Seating force (VHS)** is available to prevent wear of sealing surfaces.

BASIC RATINGS

Availability						
RATING						
ANSI	150	300	600	900	1500	2500
PN	10/16	15/40	63/100			
DN						
1/2"	■	■	■	(1)		
3/4 "	■	■	■	■	■	■
1"	■	■	■	■	■	■
1.1/2"	■	■	■	■	■	■
2"	■	■	■	■	■	■
3"	■	■	■	■	■	■
4"	■	■	■	■	■	■
6"	■	■	■	■	■	(1)
8"	■	■	■	■	■	
10"	■	■	■	■	■	
12"	■	■	■	■	■	
14"	■	■	■	(1)		
16"	■	■	■			
20"	■	■	■			
24"	■	■	■			

(1) ON REQUEST

NUMBERING SYSTEM

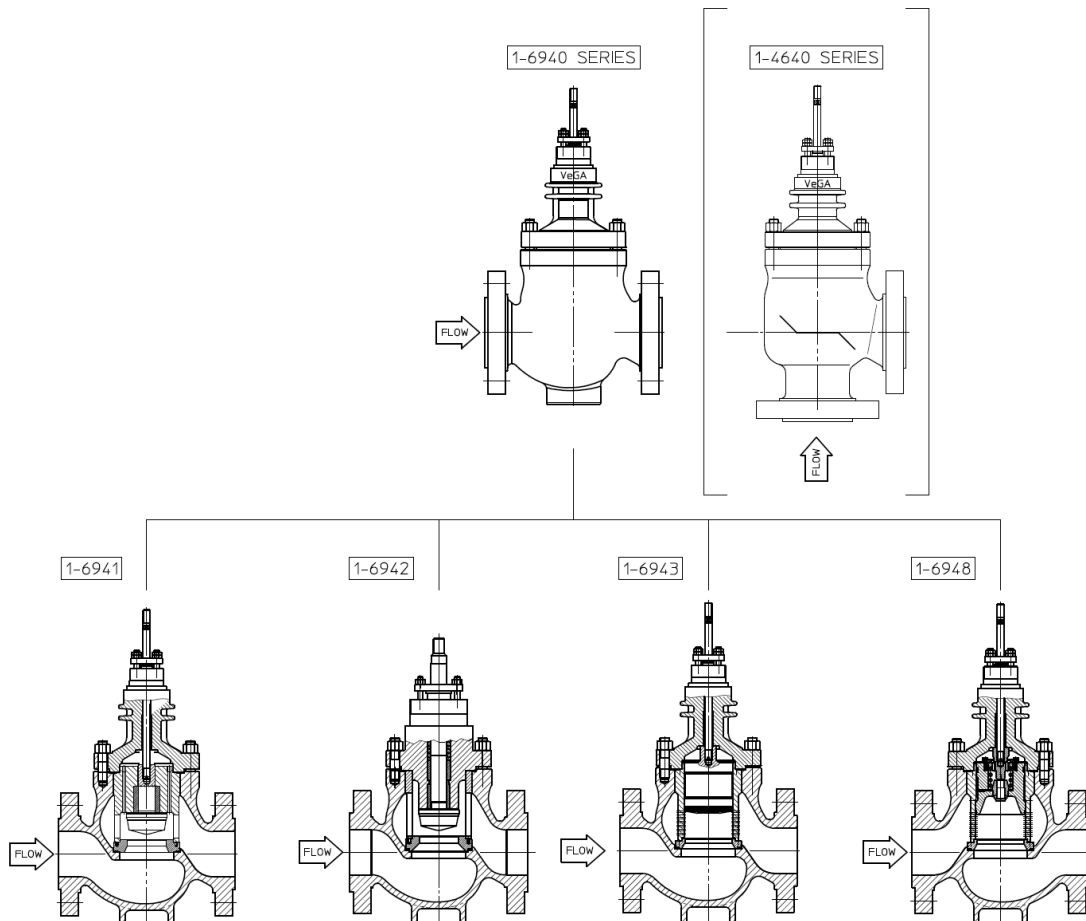
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Trim Type

1	contoured plug
2	contoured integral plug, stem guided
3	cage guided plug
8	cage balanced with pilot plug

Body Shape

1 - 6 9 4	straight body
1 - 4 6 4	angle body

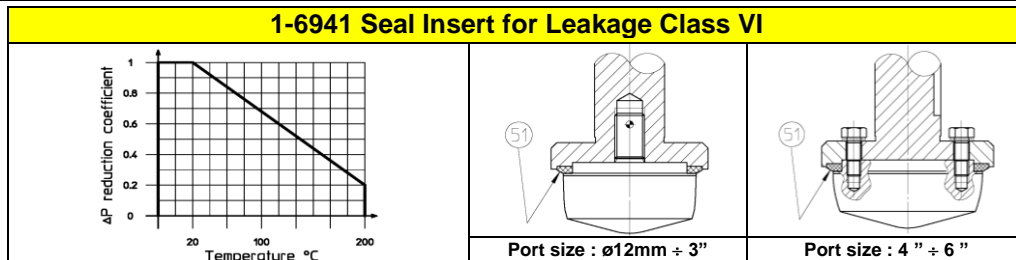


MATERIALS OF CONSTRUCTION

VeGA 1-6941 Control Valve Contoured Plug

		Carbon and CrMo Steels			Stainless Steels		NACE		
Temp. Range ⁽¹⁾		-29 ÷ +427°C	-29 ÷ +566°C	-29 ÷ +566°C	-196 ÷ +343°C	-196 ÷ +343°C	-29 ÷ +427°C	-196 ÷ +343°C	
Item	Description								
1	BODY	SA 216 WCC EN GP240GH	SA 217 WC9 EN G17CrMo9-10	SA 217 C12A	SA 351 CF8M EN GX5CrNiMo19-11-2	SA 351 CF3M EN GX2CrNiMo19-11-2	SA 216 WCC 22 HRC max	SA 351 CF8M 22 HRC max	
2	BONNET	SA 216 WCC EN GP240GH	SA 217 WC9 EN G17CrMo9-10	SA 217 C12A	SA 351 CF8M EN GX5CrNiMo19-11-2	SA 351 CF3M EN GX2CrNiMo19-11-2	SA 216 WCC 22 HRC max	SA 351 CF8M 22 HRC max	
		SA 105 or SA 350 LF2 EN P265GH	SA 182 F22 cl.3 EN 10CrMo9-10	SA 182 F91	SA 479 316 EN X5CrNiMo17-12-2	SA 479 316L EN X2CrNiMo17-12-2	SA 105 or SA 350 LF2 22 HRC max	SA 479 316 22 HRC max	
3	BODY STUD	SA 193 B7	SA 193 B16	SA 479 XM-19	SA 479 XM-19 SA193 B7		SA 193 B7	SA 479 XM-19 33 HRC max	
4	NUT	SA 194 gr.4	SA 194 gr.8		SA 194 gr.8		SA 194 gr.4	SA 194 gr.8	
		SA 194 gr.4		SA 194 gr.8		SA 194 gr.4			
5 ⁽²⁾	PLUG	A479 316		-	A 479 316	A 479 316L	A 479 316 22 HRC		
		A 182 F6NM Nitrided			A 479 316+ Stellite gr.6			A 182 F6NM 22 HRC max Nitrided	-
		A479 316+Stellite gr.6	-	-	-	A 479 316L+HVD1		A 479 316 22 HRC +Stellite	
6	SEAT	A479 316		-	A 479 316	A 479 316L	A 479 316 22HRC max		
		AISI 410 35 HRC			-	A 479 316	A 479 316L	A 182 F6NM 23 HRC max +Stellite	-
		A479 316+Stellite	-		A 479 316 + Stellite gr.6		A 479 316 22 HRC max +Stellite		
7	STEM**	A 479 316	A 479 XM-19		A 479 316	A 479 316L+HVD1	A 479 316 22 HRC max		
8 - 14	GASKET*	Asbestos Free Inorganic Fibre Up To 300°C – Stainless Steel Reinforced Graphite For Higher Temperatures							
9	GUIDE	A 351 CA6NM Nitrided			A 479 351 CF3M Cr Plated		A 351 CA6NM 22 HRC max Nitrided	A 351 CF3M 22 HRC max Cr Plated	
51	INSERT	PTFE							
12	PIN	AISI 300 SERIES			A 479 316L		AISI 300 SERIES 22 HRC max.		
27	PACKING*	TFK - aramid fibres reinforced PTFE rings GRF - Pure flexible graphite rings TFP - Pure PTFE rings							
36	BELLOW	AISI 316L							
37	EXTENSION	A 479 316	A 479 XM-19		A 479 316	A 479 316L	A 479 316 22 HRC max		
44	BELLOW CHAMBER	SA 105	SA 182 F22	SA 182 F91	SA 479 316	SA 479 316L	SA 105 22 HRC max	SA 479 316 22 HRC max	
45	ANTIROT. PIN	AISI 316L							
46	GASKET	Asbestos Free Inorganic Fibre Up To 300°C – Stainless Steel Reinforced Graphite For Higher Temperatures							
251	PLUG	AISI 316L							

		MICROFLOW TRIM						
Temp. Range		-29 ÷ +427°C	-29 ÷ +566°C	-29 ÷ +566°C	-196 ÷ +343°C	-196 ÷ +343°C	-29 ÷ +427°C	-196 ÷ +343°C
Item	Description							
5	PLUG	A 479 316 Hardened		-	A 479 316 Hardened	A 479 316L	A 479 316	
		A 479 316		-	A 479 316	-	A 182 F6NM 23 HRC max Nitrided	-
		A 182 F6NM Nitrided	-	-	A 182 F6NM Nitrided	-	A 479 316 Hardened 22 HRC max	
		A 479 316L Hardened	-	-	A 479 316L Hardened			
		A 479 S31803 Hardened	-	-	A479 S31803 Hardened	-		
6	SEAT	A 479 316		-	A 479 316	A 479 316L	A 479 316 22 HRC max	
		A 182 F6NM + Stellite	-	-	A 182 F6NM + Stellite	-	A 182 F6NM 23HRC max +Stellite	-
		A 479 316L + Stellite	-	-	A 479 316L + Stellite		-	-
		A 479 S31803 Hardened	-	-	A 479 S31803 Hardened	-	-	-



(1) When PED (97/23CE) is applicable, minimum working temperatures are:

- -20°C for SA216 WCC, SA 216WCB, SA 193 B7 and B16;
- 0°C for SA 217 WC9 and C12A;
- -30°C for A890 4A.

(2) Available also soft seat version for sealing class VI.

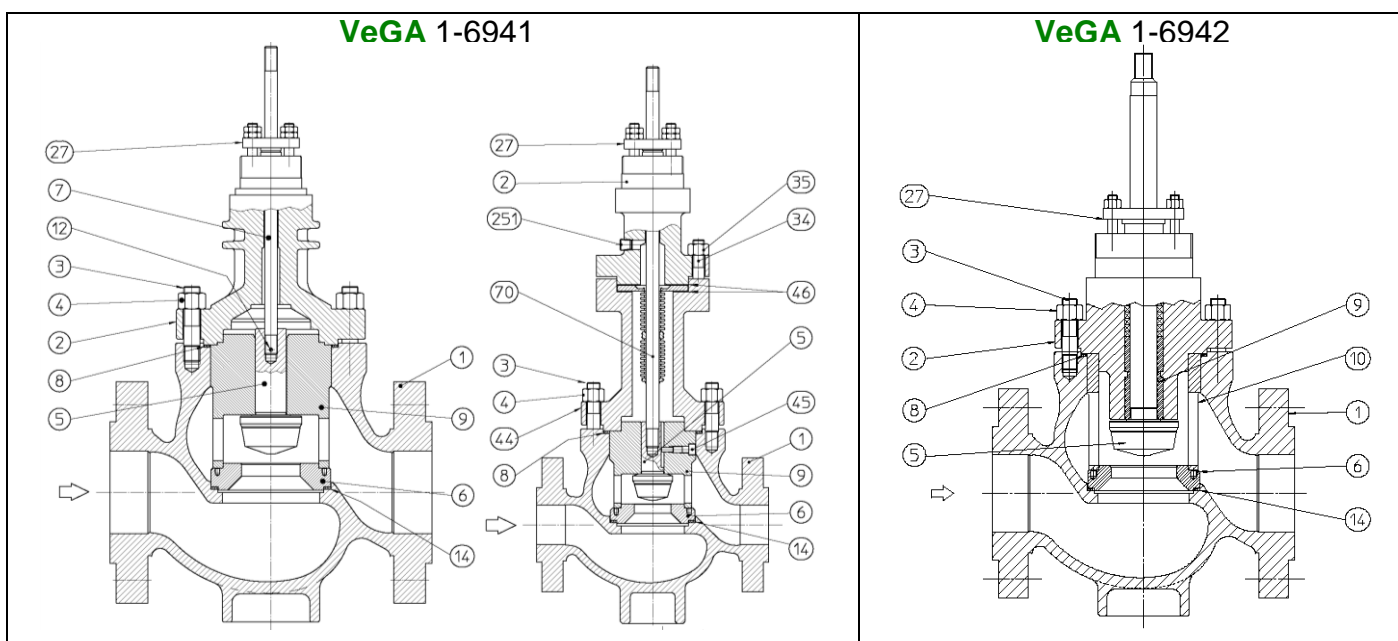
* Suggested as spare part for commissioning and start-up.

** Suggested as spare part for the first two years.

VeGA 1-6942 Control Valve Contoured Integral Plug, Stem Guided

		Carbon Steels		Stainless Steels		NACE	
Temperature Range ⁽¹⁾		-29 ÷ +427°C		-55 ÷ +343°C		-29 ÷ +427°C	
Item	Description						
1	BODY	SA 216 WCC EN GP240GH	SA 351 CF8M EN GX5CrNiMo19-11-2	SA 351 CF3M EN GX2CrNiMo19-11-2	SA 216 WCC 22 HRC max	SA 351 CF8M 22 HRC max	
2	BONNET	SA 105 or SA 350 LF2 EN GP240GH	SA 479 316 EN X5CrNiMo17-12-2	SA 479 316L EN X2CrNiMo17-12-2	SA 105 or SA 350 LF2 22HRC max	SA 479 316 22 HRC max	
3	BODY STUD	SA 193 B7	-55<T<-29: SA 479 XM19 -29<T<343: SA 193 B7		SA 193 B7	SA 479 XM19	
4	NUT	SA 194 gr.4	-55<T<-29: SA 194 gr.8 -29<T<343: SA 194 gr.4		SA 194 gr.4	SA 194 gr.8	
5	PLUG and STEM**	A 479 316	A 479 316	A 479 316L	A 479 316 22 HRC max		
		A 479 316+Stellite	A 479 316+Stellite	A 479 316L+HVD1 A479 S32550 Hardened	A 479 316 22 HRC max +Stellite		
		A 479 316	A 479 316	A 479 316L	A 479 316 22 HRC max		
6	SEAT**	A 479 316+Stellite	A 479 316+Stellite	A 479 316L+HVD1 A479 S32550 Annealed	A 479 316 22 HRC max +Stellite		
		A 479 316	A 479 316	A 479 316L	A 479 316 22 HRC max		
8-14	GASKET*	AISI 321 + GRAPHITE					
9	GUIDE	S21800	S21800	HASTELLOY C276 A479 S32550 Annealed	S 21800		
10	CAGE	A 105	A 479 316L		A105 22 HRC max	A479 316L 22 HRC max	
27	PACKING*	TFK - aramid fibres reinforced PTFE GRF - Pure flexible graphite TFP - Pure PTFE					

		MICROFLOW TRIM			
Temperature Range		-29 ÷ +427°C		-55 ÷ +343°C	
Item	Description				
5	PLUG	A 479 316	A 479 316 + Stellite	A 479 S32550	A 479 316 22 HRC max
		A 479 316 + Stellite	A 479 XM 19	Hardened	A 479 316 22 HRC max +Stellite
		A 479 XM 19	A 479 XM 19		A 479 XM 19 35 HRC max
6	SEAT	A 479 316	A 479 316 + Stellite	A 479 S32550	A 479 316 22 HRC max
		A 479 316 + Stellite	A 479 316 + Stellite	Hardened	A 479 316 22 HRC max +Stellite
9	GUIDE	S21800	S21800	A 479 S32550 Annealed	S21800



(1) When PED (97/23CE) is applicable, minimum working temperatures are:

- 20°C for SA216 WCC, SA 216WCB, SA 193 B7 and B16;
- 0°C for SA 217 WC9 and C12A;
- 30°C for A890 4A.

* Suggested as spare part for commissioning and start-up.

** Suggested as spare part for the first two years.

VeGA 1-6943 Control Valve Cage Guided

Temperature Range ⁽¹⁾ Item Description		Carbon and CrMo Steels			Stainless Steels		NACE	
		-29 ÷ +427°C	-29 ÷ +566°C	-29 ÷ +566°C	-196 ÷ +343°C	-196 ÷ +343°C	-29 ÷ +427°C	-196 ÷ +343°C
1	BODY	SA 216 WCC EN GP240GH	SA 217 WC9 EN G17CrMo9-10	SA 217 C12A	SA 351 CF8M EN GX60NiMo19-112	SA 351 CF3M EN GX20NiMo19-112	SA 216 WCC 22HRC max	SA 351 CF8M 22HRC max
2	BONNET	SA 216 WCC	SA 217 WC9	SA 217 C12A	SA 351 CF8M	SA 351 CF3M	SA 216 WCC 22HRC max	SA 351 CF8M 22HRC max
		SA 105 or SA 350LF2	SA 182 F22 cl.3	SA 182 F91	SA 479 316	SA 479 316L	SA 105 or SA 350 LF2 22HRC max	SA 479 316 22HRC max
3	BODY STUD	SA 193 B7	SA 193 B16 SA 479 XM-19	SA 479 XM-19	SA 479 XM-19 SA 193 B7		SA 193 B7	SA 479 XM-19
4	NUT	SA 194 gr.4	SA 194 gr.8	SA 194 gr.8	SA 194 gr.8 SA 194 gr.4		SA 194 gr.4	SA 194 gr.8
5	PLUG**	A 182 F6NM Nitrided			A 479 316	A 479 316 +Stellite gr.6	A 182 F6NM 23HRC max Nitrided	A 479 316 22HRC max +Stellite gr.6
6	SEAT**	AISI 410 35 HRC		-	A 479 316	A 479 316 +Stellite gr.6	DN ≤ 3": A 479 316 22 HRC max +Stellite gr.6	A 479 316 22 HRC max
		For DN ≤ 3": A 479 316 +Stellite gr.6			A 479 316	A 479 316L		
		For DN > 3": A 182 F6NM +Stellite gr.6			A 479 316 +Stellite gr.6	A 479 316L +HVD1	DN > 3": A 182 F6NM 22 HRC max +Stellite gr.6	A 479 316 22 HRC max +Stellite gr.6
7	STEM**	A 479 316	A 479 XM-19		A 479 316	A 479 316L	A 479 316 HRC22 max	
8-14-16	GASKET*	AISI 321 + GRAFITE						
9	CAGE	A 351 CA6NM Nitrided			A 479 316 Cr plated	A 479 316 Cr plated A 479 316L Cr plated	A 351 CA6NM 23HRC max Nitrided	A 479 316 22HRC max Cr plated
10	DISC SPRING	INCONEL 718 Hardened						
11	ADAPTER	A 105 or A 350LF2	A 182 F22		A 479 316L		A 105 or A 350 LF2 22 HRC max	A 479 316L 22 HRC max
12	PIN	AISI 300 SERIES			A479 316L		AISI 300 SERIES	
15-18	SPACER	A 105 or A 350LF2	A 182 F22		A 182 F316L		A 105 or A 350 LF2 22 HRC max	A 479 316L 22 HRC max
27	PACKING*	TFK - aramid fibres reinforced PTFE						
		GRF - Pure flexible graphite						
		TFP – Pure PTFE						
28	SCREW	A4 EN ISO3506				A4 EN ISO3506 22 HRC max		
29	STOP WASHER	A 479 304 Annealed						A 479 304 Annealed 22HRC max.
30	PLUG FLANGE	A 182 F6NM 240-300HB			A 479 316	A 479 316 A 479 316L	A 182 F6NM 23HRC max Nitrided	A 479 316 F6NM 22HRC max
33	RETAINING RING	A 182 F6NM 240-300 HB			A 479 316	A 479 316 A 479 316L	A 182 F6NM 23HRC max Nitrided	A 479 316 F6NM 22HRC max
34	STOP RING	INCONEL X 750						
111	FLANGE	A 182 F6NM 240-300 HB			A 479 316	A 479 316 A 479 316L	A 182 F6NM 23HRC max	A 479 316 22HRC max
112	SCREW	A4 50 EN ISO 3506						A4 50 EN ISO 3506 22 HRC max
113	RING NUT	A 182 F6NM 240-300 HB			A 479 316	A 479 316 A 479 316L	A 182 F6NM 23HRC max	A 479 316 22HRC max
114	STOP WASHER	A 479 304 Annealed						A 479 304 Annealed 22HRC max.

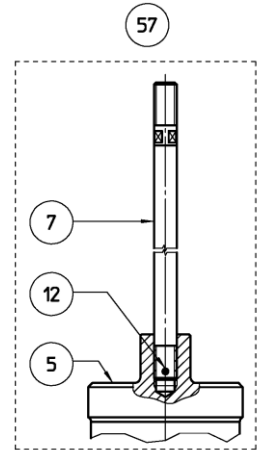
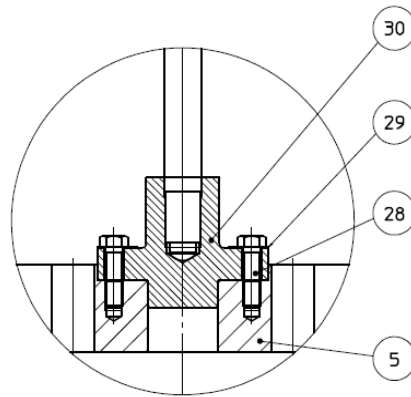
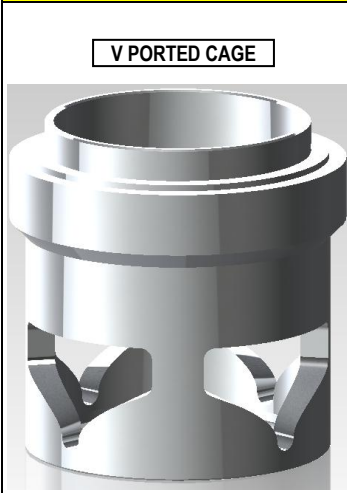
(1) When PED (97/23CE) is applicable, minimum working temperatures are:

- -20°C for SA216 WCC, SA 216WCB, SA 193 B7 and B16;
- 0°C for SA 217 WC9 and C12A;
- -30°C for A890 4A.

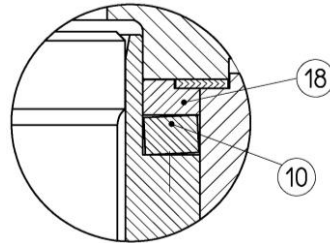
* Suggested as spare part for commissioning and start-up.

** Suggested as spare part for the first two years.

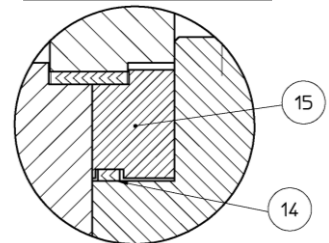
VeGA 1-6943 Control Valve Cage Guided



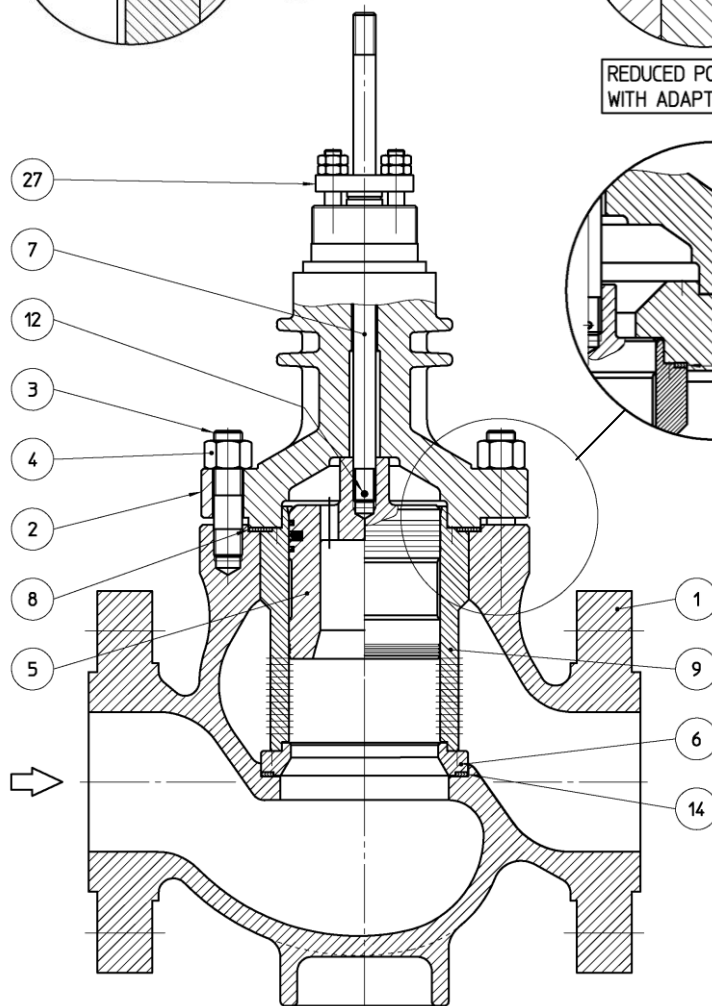
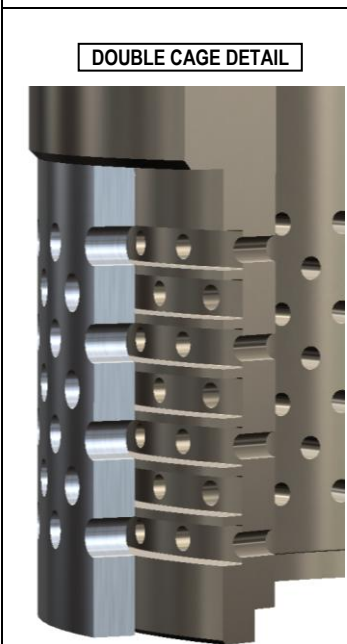
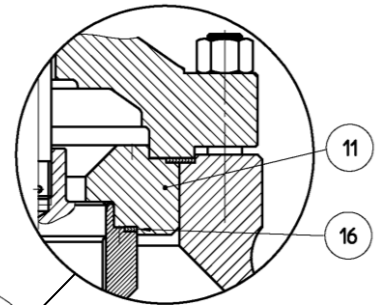
HT VERSION WITH BELLEVILLE WASHER



AG VERSION WITH ADDED GASKET



REDUCED PORT VALVE WITH ADAPTOR DETAIL



VeGA 1-6943 Seat Leakage Availability And Balancing Seal Inserts

Sealing config. code		metallic seat					soft seat		
		N	S	B	D	C	R	P	U
TYPE		Not balanced	Graphite loaded pressure energized PTFE ring	Loaded PTFE + back-up	Energized carbon graphite rings	Carbon graphite rings energ. wt flexible graphit + back seal	Metallic C-ring balanced plug	Soft Seat, non balanced plug	Soft Seat, balanced plug (Graph. Loaded pressure energ. PTFE ring)
Max leakage class		V	V	V	IV	IV S1	V	VI	VI
Temp. range		as for mat. class	-50 ÷ +280°C	-50 ÷ +280°C	-120 ÷ 566°C	-120 ÷ 566°C	-196 ÷ 566°C	-196 ÷ +200°C	-50 ÷ +200°C
Port size		1/2" ÷ 8"	1 1/2" ÷ 24"	1.1/2" ÷ 4"	1 1/2" ÷ 24"	1.1/2" ÷ 24"	1 1/2" ÷ 24"	1/2" ÷ 24"	1 1/2" ÷ 24"
Item	Description	Δp (bar) see tabulated values							
19	SOFT SEAT	-	-	-	-	-	-	PTFE	PTFE
32	SEAL RING	-	Graphite Loaded PTFE	-	-	-	-	-	Graphite Loaded PTFE
37	SEAL RING	-	-	Graphite Loaded PTFE	-	-	-	-	-
46	RING SPRING	-	-	-	Carbon Graphite	-	-	-	-
47	SEAL RING	-	-	-	-	Carbon Graphite	-	-	-
48	BACK SEAL	-	-	-	-	Flexible graphite	-	-	-
49	SCRAPER RING	-	-	-	A 182 F6NM Hardened	A 182 F6NM Hardened	A 182 F6NM Hardened	-	-
					A479 316	A479 316	A479 316		
					A479 316L	A479 316L	A479 316L		
110	SEAL RING	-	-	-	-	-	INCONEL Silver Plated	-	-

VeGA 1-6943 Seat Type

Metallic Seat		
Standard		
Max Sealing class:	V	
Soft Seat Insert		
Used for code	P	
Max Sealing class:	VI	

VeGA 1-6943 Balancing Seal Inserts

Energized Carbon Graphite Rings			
Used for code	D		
Max sealing class:	IV		

Carbon Graphite Rings and Back Seal			
Used for code	C		
Max sealing class:	IV s1		

Metallic C-ring			
Used for code	R		
Max sealing class:	V		

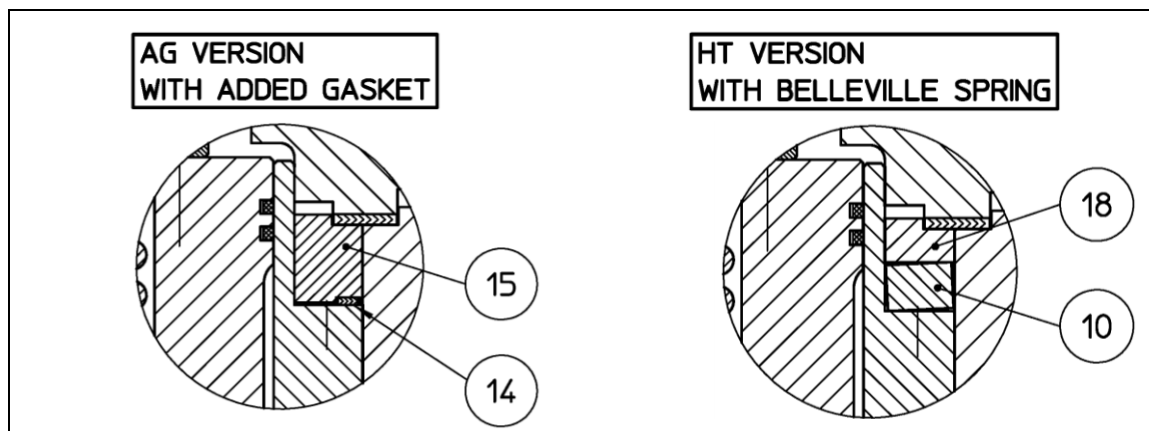
Pressure Energized PTFE Ring			
Used for code	S		
Max sealing class:	VI		

Loaded PTFE+ back up				
Used for Code	B			
Max Sealing class:	V			

Soft Seat, balanced plug				
Used for Code	U			
Max Sealing class:	VI			

VeGA 1-6948 Control Valve⁽²⁾

Temperature Range ⁽¹⁾		Carbon and CrMo Steels			Stainless Steels	
		-29 ÷ +427°C	-29 ÷ +566°C	-29 ÷ +566°C	-196 ÷ +343°C	-196 ÷ +343°C
Item	Description					
1	BODY	SA 216 WCC GP240GH	SA 217 WC9 G17CrMo9-10	SA 217 C12A	SA 351 CF8M EN GX5 CrNiMo19-11-2	SA 351 CF3M EN GX2 CrNiMo19-11-2
2	BONNET	SA 216 WCC SA 105 or SA350 LF2	SA 217 WC9	SA 217 C12A	SA 351 CF8M	SA 351 CF3M
3	BODY STUD	SA 193 B7	SA 193 B16 SA 479 XM-19	SA 479 XM-19	SA 479 XM-19 SA 193 B7	
4	NUT	SA 194 gr.4	SA 194 gr.8		SA 194 gr.8 SA 194 gr.4	
5	PLUG**	A 182 F6NM Nitrided			A 479 316 + Stellite gr.6	A 479 316L + HVD1
6	SEAT**	AISI 410 35HRC			-	
		-	DN≤3": A 479 316 + Stellite gr.6		A 479 316 + Stellite gr.6	A 479 316L + HVD1
		-	DN>3": A 182 F6NM + Stellite gr.6			
7	STEM**	A 479 316	A 479 316 A 479 XM-19	A 479 XM-19	A 479 316	A 479 316L
8-14	GASKET*	AISI 321 + GRAFITE				
9	CAGE	A 351 CA6NM Nitrided			A 479 316L Cr plated	
10	DISC SPRING	INCONEL 718 Hardened				
12	PIN	AISI 300 SERIES			A 479 316L	
18	SPACER	A 105	A 182 F22	A 192 F91	A 479 316L	
27	PACKING*	TFK - aramid fibres reinforced PTFE GRF - Pure flexible graphite TFP - Pure PTFE				
28	SCREW	EN ISO 3506 A2-70				
29	WASHER	A 479 304 Annealed				
30	FLANGE	A 182 F6NM Hardened			A 479 316	A 479 316L
31	PILOT	A 182 F6NM + Nitrided			A 479 316L + Stellite gr.6	
32	SPRIG	INCONEL X750 TTT				
49	SEAL RING*	A 182 F6NM Hardened			A 479 316L	



⁽¹⁾ When PED (97/23CE) is applicable, minimum working temperatures are:

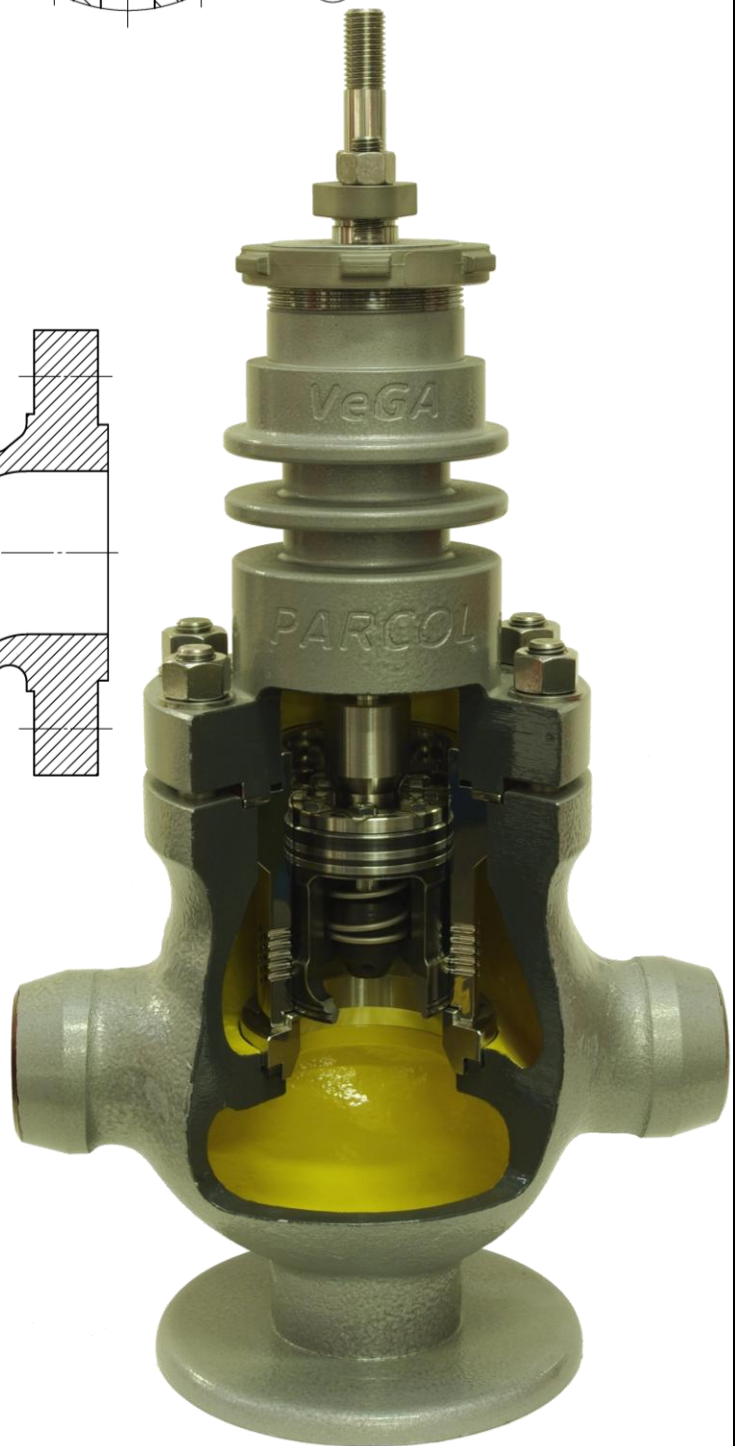
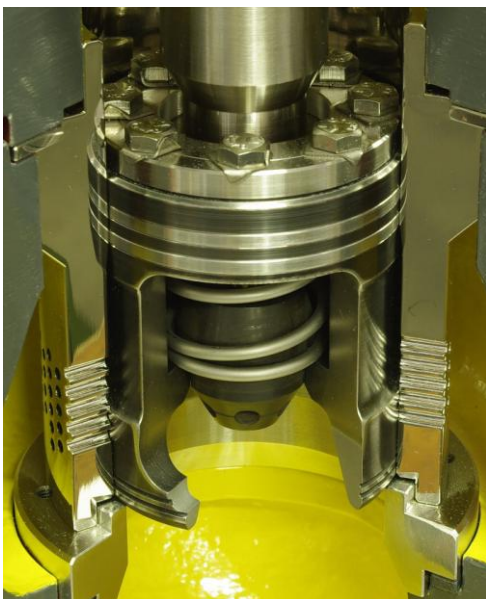
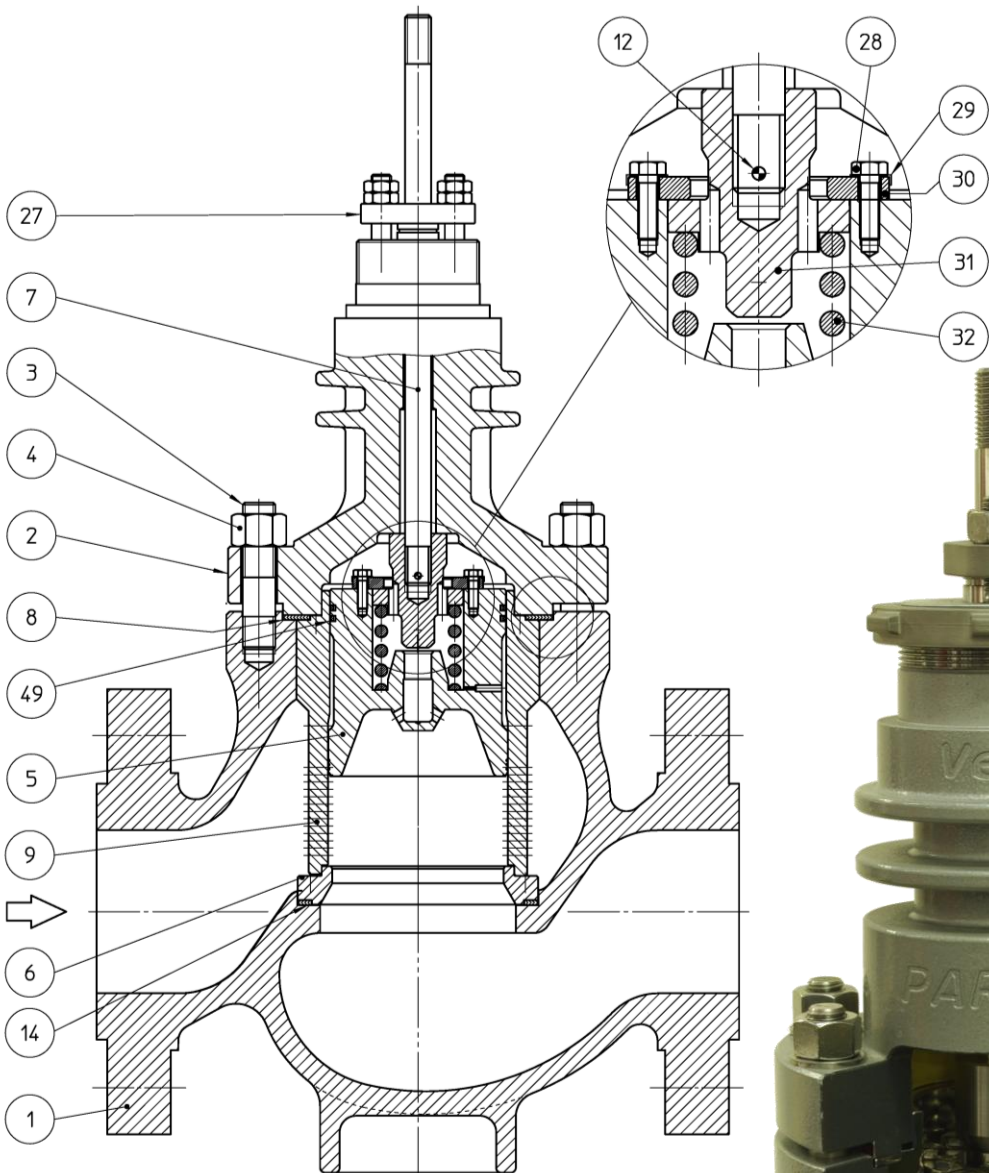
- -20°C for SA216 WCC, SA 216WCB, SA 193 B7 and B16,
- 0°C for SA 217 WC9 and C12A;
- -30°C for A890 4A..

⁽²⁾ Balanced plug with pilot 1-6948 series control valves are specifically designed for service on compressible fluids

* Suggested as spare part for commissioning and start-up.

** Suggested as spare part for the first two years.

VeGA 1-6948 Control Valve

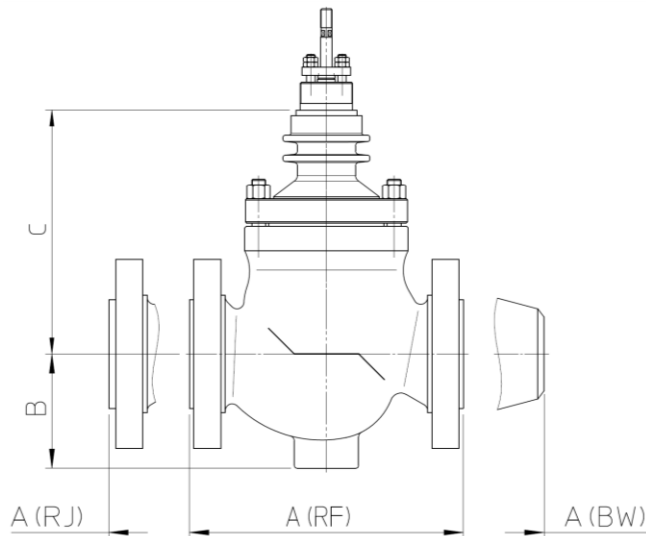


VALVE DIMENSIONS⁽¹⁾

Dimension A																					
FLANGED & BW																			SW & SCREWED		
DN	ANSI 150			ANSI 300			ANSI 600			ANSI 900			ANSI 1500			ANSI 2500			ANSI		
	RF	RJ	BW	RF	RJ	BW	RF	RJ	BW	RF	RJ	BW	RF	RJ	BW	RF	RJ	BW	300	600	
1/2"	184	-	203	190	201	203	203	203	203											-	-
3/4"	184	-	206	194	207	206	206	206	206	273	273	279	273	273	279	318	318	318		-	-
1"	184	197	210	197	210	210	210	210	210	273	273	279	273	273	279	318	318	318		-	-
1.1/2"	222	235	251	235	248	251	251	251	251	333	333	330	333	333	330	381	384	359	251	251	
2"	254	267	286	267	283	286	286	289	286	375	378	375	375	378	375	413	416	400	286	286	
3"	298	311	337	317	333	337	337	340	337	441	444	460	460	463	460	660	666	498			
4"	352	365	394	368	384	394	394	397	394	511	514	530	530	533	530	737	747	575			
6"	451	464	508	473	489	508	508	511	508	714	717	768	768	774	768						
8"	543	556	610	568	584	610	610	613	610	781	784	832	838	848	832						
10"	673	686	752	708	724	752	752	755	752	864	867	991	991	1001	991						
12"	737	750	819	775	791	819	819	822	819	1016	1019	1130	1130	1146	1130						
14"	889	902	1029	927	943	1029	972	975	1029												
16"	1016	1029	1108	1057	1073	1108	1108	1111	1108												
20"	1278	1291	1420	1320	1333	1420	1400	1413	1460												
24"	1680	1693	1680	1724	1746	1724	1800	1809	1800												

Dimension B						
DN	ANSI					
	150	300	600	900	1500	2500
1/2"	61	61	61	-	-	-
3/4"	70	70	70	70	70	75
1"	70	70	70	80	80	85
1.1/2"	100	100	100	110	110	125
2"	122	122	122	135	135	150
3"	150	150	150	170	170	165
4"	160	160	160	200	200	190
6"	200	200	205	210	220	
8"	200	200	220	250	260	
10"	258	258	265	300	335	
12"	290	290	300	330	370	
14"	320	325	340			
16"	380	380	360			
20"	490	490	500			
24"	520	520	580			

Dimension C ⁽²⁾					
ANSI					
150	300	600	900	1500	2500
150	164	164	164	-	-
164	188	188	188	218	218
188	188	188	218	218	242
188	188	188	218	218	242
250	250	250	280	280	320
290	290	290	310	310	360
330	330	330	340	370	400
380	380	380	400	410	450
430	430	430	460	460	
480	480	480	520	530	
620	620	620	670	670	
710	710	710	760	760	
820	820	820			
950	950	950			
1080	1080	1080			
1260	1260	1260			

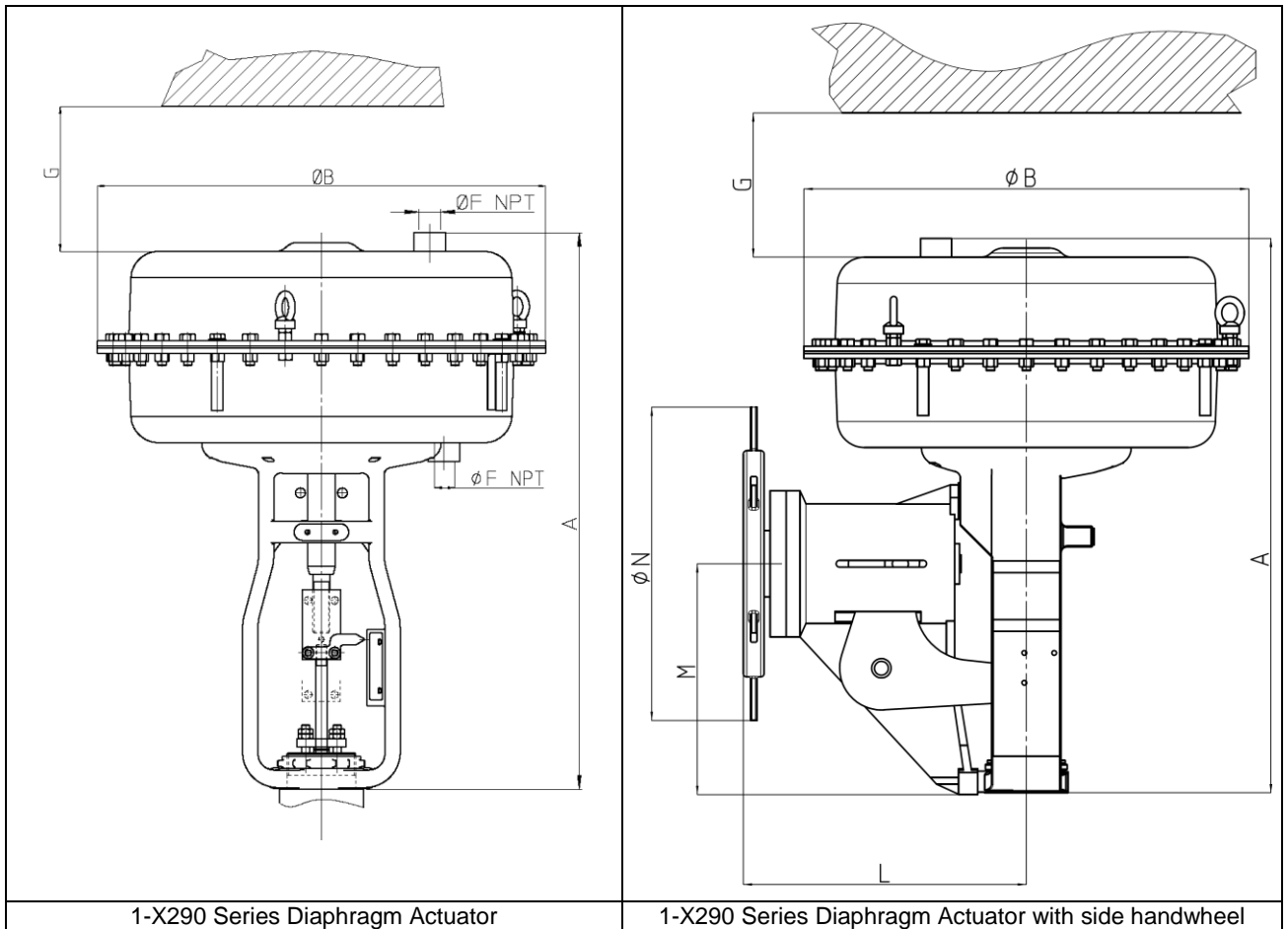


⁽¹⁾ Dimensions in mm. See following page drawings for dimensions positioning.

⁽²⁾ Approximate value, for more accurate value contact Parcol

ACTUATOR DIMENSIONS⁽³⁾

1-X-290 Diaphragm Actuator Series



1-X290 Series Diaphragm Actuator

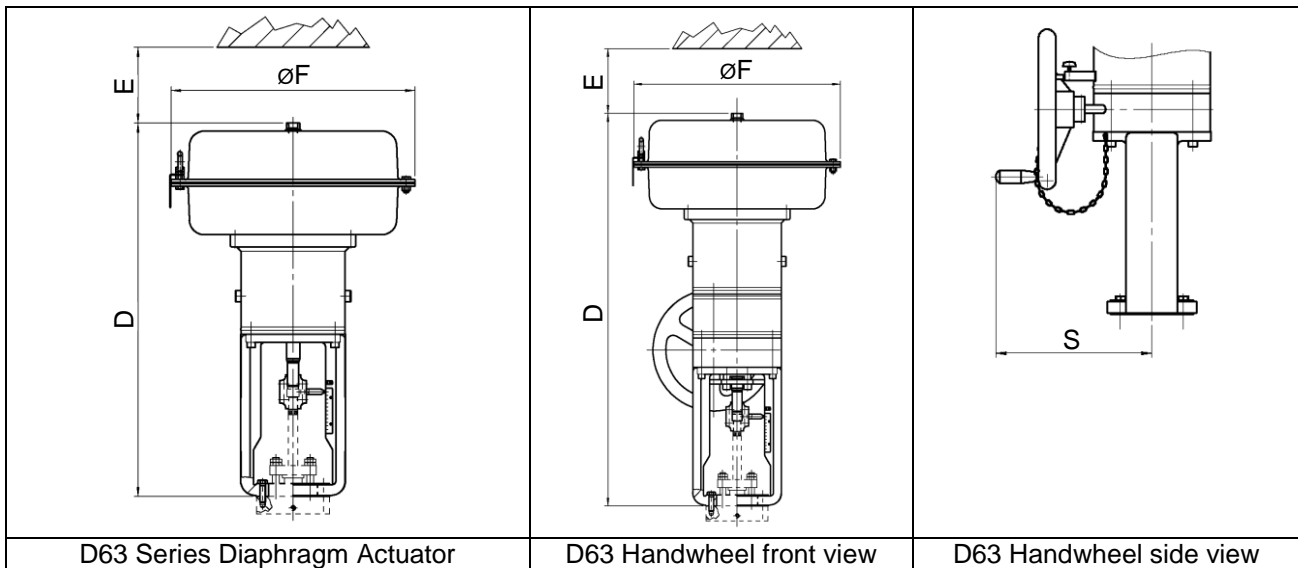
1-X290 Series Diaphragm Actuator with side handwheel

1-X-290 Diaphragm Series Overall Dimensions

TYPE	D25	D33	D39	D46	D63-D63MM
A	487	510	574	644	796
B	262	333	395	465	640
D	M12	M12	M18x1.5	M18x1.5	M24x2
F	1/4"	1/2"	3/4"	3/4"	1"
G	150	150	250	250	300
L	300	300	365	365	455
M	200	200	252	252	330
N	380	380	470	570	570

(3) See Parcol Actuators bulletins 1-X290, 1-X250 and 1-X400 for further information

1-X-250 Diaphragm Actuator Series



D63 Series Diaphragm Actuator

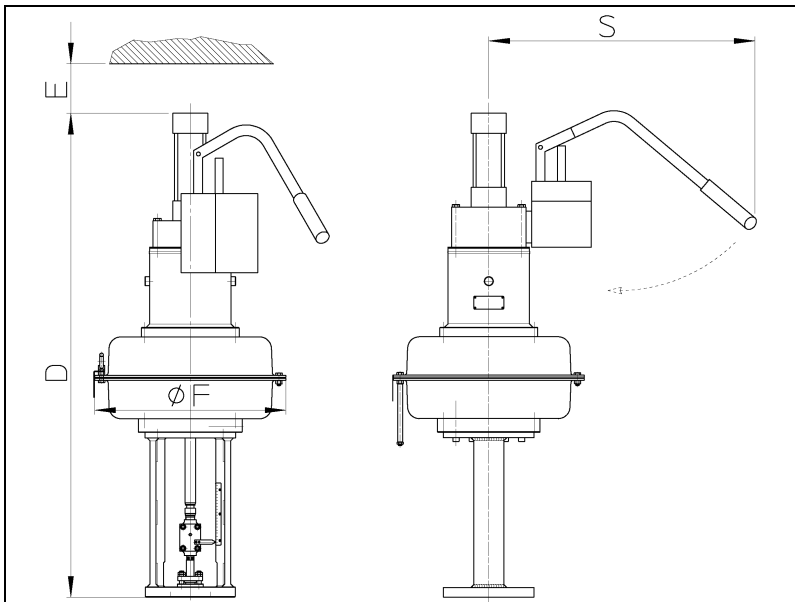
D63 Handwheel front view

D63 Handwheel side view

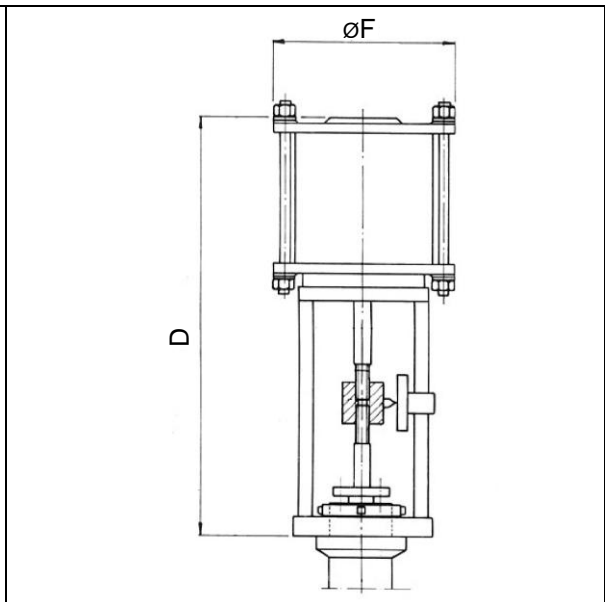
1-X-250 Diaphragm Series Overall Dimensions

D63 TYPE		D		E	øF	S
		Direct	Reverse			
stroke ≤120mm	Standard	985	1022	350	640	-
	With side handwheel	1211	1248	350	640	365
	With H.M.O.	1385	1422	350	640	905
stroke >120mm	Standard	1370	1407	450	640	-
	With side handwheel	1686	1723	450	640	365
	With H.M.O.	1870	1907	450	640	905

1-X-250 Diaphragm Actuator Series 1-X-400 Cylinder Series



D63 actuator with Hydraulic Manual Operator (H.M.O.)
with damping functions



1-X-400 series
Pneumatic Cylinder Actuators

1-X-400 Cylinder Series Overall Dimensions

TYPE	D		øF
	Direct	Reverse	
C450	2010	1975	575
With side handwheel	2488	2453	575
C600	2090	2055	748
With side handwheel	2568	2595	748

MASSES⁽⁴⁾

PARCOL Actuators ⁽⁵⁾						
SERIES	TYPE	Direct	Reverse	Handwheel (to be added)		
				Side	Top	
1-X-290	D25	15	15	+10	+6	
1-X-290	D33	22	22	+10	+6	
1-X-290	D39	33	33	+19	+15	
1-X-290	D46	54	54	+19	+15	
1-X-290	D63	120	120	+13	-	
1-X-250	D63	stroke≤120mm	185	215	+40 both fo hadwheel and HMO	
		stroke>120mm	220	250	+60 both fo hadwheel and HMO	
1-X-400	C450	540		+110		
1-X-400	C600	1016		+140		

VeGA Valves											
DN	Flanged						BW				
	ANSI 150	ANSI 300	ANSI 600	ANSI 900	ANSI 1500	ANSI 2500	ANSI 300	ANSI 600	ANSI 900	ANSI 1500	ANSI 2500
1/2"	15	15	15				13	13			
3/4"	16	20	20	40	40	47	15	15	40	40	47
1"	18	22	22	45	45	53	15	15	45	45	48
1.1/2"	41	43	46	60	60	74	43	43	55	55	70
2"	48	60	63	102	102	143	57	57	93	93	130
3"	75	94	100	180	180	340	88	88	170	164	315
4"	110	120	135	260	260	500	110	110	243	236	457
6"	210	250	300	420	560	on request	260	280	380	520	on request
8"	295	345	432	680	980		322	392	620	900	
10"	479	576	789	1200	1700		543	726	1120	1560	
12"	690	805	1100	1580	2250		760	1080	1470	2020	
14"	1040	1240	1650				1180	1570			
16"	1450	1700	2100			1630	1990				
20"	2900	3300	3900			3260	3730				
24"	3400	4100	5000			4050	4780				

⁽⁴⁾ Masses in kg

⁽⁵⁾ See Parcol Actuators bulletins 1-X-290, 1-X-250 and 1-X-400 for further information

OPTIONS

- Cleaning for Oxygen Service
 - Reducers
 - Electric or hydraulic actuators
 - Special materials
 - Body drain connections
 - Special tools
 - Cold box for cryo service
-

SUGGESTED SPARE PARTS

Components suggested as spare parts for commissioning and start-up⁽⁶⁾:

- body gaskets
- packing
- soft balancing inserts (PTFE / Graphite)

Two years suggested spare parts⁽⁷⁾:

- plug
 - seat
 - stem
 - metallic balancing inserts
 - electrical accessories (2% per type)
-

SPECIAL TOOLS

(provided as options)

- blow out
- blow through/flushing
- pressure testing kit
- acid washing kit
- special trim for blowing

⁽⁶⁾See also part list where *

⁽⁷⁾See also part list where **



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**VEGA 1-6940 SERIES CAGE CONTROL VALVES
SECTION B**

—
CV, F_L , X_T VERSUS TRAVEL TABLES



PARCOL

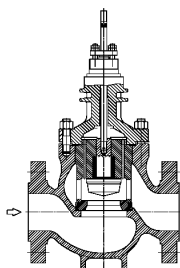
SECTION A – GENERAL DESCRIPTION

SECTION B – TECHNICAL TABLES
Cv, FL, XT VERSUS TRAVEL

	Page
1-6941 and 1-6942 Type: Microflow– Flow to Open	
- MF-L Flow To Open Linear flow characteristic ⁽¹⁾	3
- MF-E Flow To Open Equal percentage flow characteristic	3
1-6941 and 1-6942 Type: Contoured Plug – Flow to Open	
- CP-L Flow To Open Linear flow characteristic ⁽¹⁾	4
- CP-E Flow To Open Equal percentage flow characteristic	5
1-6943 Type: Standard Series – Flow to Open	
- ST-L Standard Linear flow characteristic	6
- ST-E Standard Equal percentage flow characteristic	7
- LN-L Low Noise Linear flow characteristic	8
- LN-E Low Noise Equal percentage flow characteristic	9
- XLN-L Special Low Noise Linear flow characteristic	10
- XLN-E Special Low Noise Equal percentage flow characteristic	11
- DC-L Double Cage Linear flow characteristic	12
- DC-E Double Cage Equal percentage flow characteristic	13
- EDC-L Double Cage with Expansion Linear flow characteristic	14
- EDC-E Double Cage with Expansion Equal percentage flow characteristic	15
1-6948 Type: Balanced with Pilot - Flow to Close	
- PLN-L Low Noise Linear flow characteristic	16
- PLN-E Low Noise Equal percentage flow characteristic	16
- PXLN-L Special Low Noise Linear flow characteristic	17
- PXLN-E Special Low Noise Equal percentage flow characteristic	17

SECTION C – TECHNICAL TABLES
PRESSURE DROP TABLES

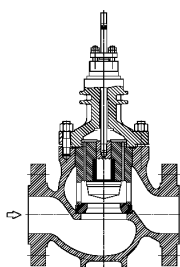
⁽¹⁾For on off services linear plug is provided



VeGA valve 1-6941 Type - $C_v F_L x_T$

MF-L Trim type: Microflow-flow to open
Flow characteristic: **LINEAR**

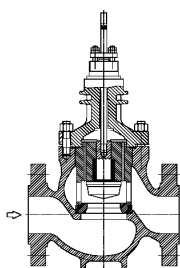
					TRAVEL %											
DN [in]	Port [mm]	Plug type ⁽¹⁾	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Press. rec. factor F_L					0.98	0.97	0.97	0.96	0.96	0.95	0.95	0.94	0.94	0.93	0.93	0.93
Press. diff. ratio fact. x_T					0.91	0.89	0.86	0.84	0.82	0.79	0.77	0.75	0.73	0.71	0.68	
1/2 3/4 1	Ø3	F	3	17	0.0071	0.0094	0.0139	0.0184	0.0229	0.0274	0.032	0.0365	0.041	0.0455	0.05	
					0.0072	0.0111	0.0188	0.0264	0.0341	0.0417	0.0494	0.057	0.0647	0.0723	0.08	
	Ø4	F	4	17	0.01	0.0163	0.0289	0.0416	0.0542	0.0668	0.0795	0.0921	0.105	0.117	0.13	
					0.01	0.0195	0.0384	0.0574	0.0763	0.0953	0.114	0.133	0.152	0.171	0.19	
	Ø6	F	6	17	0.0181	0.0324	0.0611	0.0897	0.118	0.147	0.176	0.204	0.233	0.261	0.29	
					0.0182	0.0383	0.0785	0.119	0.159	0.199	0.239	0.279	0.32	0.36	0.4	



VeGA valve 1-6941 and 1-6942 Type - $C_v F_L x_T$

MF-L Trim type: Microflow-flow to open
Flow characteristic: **LINEAR**

					TRAVEL %										
DN [in]	Port [mm]	Plug type ⁽¹⁾	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Press. rec. factor F_L					0.98	0.98	0.97	0.96	0.96	0.95	0.94	0.94	0.93	0.92	0.92
Press. diff. ratio fact. x_T					0.91	0.90	0.88	0.86	0.84	0.82	0.80	0.78	0.75	0.72	0.68
1/2 3/4 1	Ø6	C	6	17	0.028	0.0599	0.125	0.19	0.255	0.32	0.385	0.45	0.515	0.58	0.645
					0.028	0.0791	0.182	0.285	0.388	0.491	0.593	0.696	0.799	0.902	1
	Ø9	C	9.05	17	0.0401	0.124	0.297	0.468	0.639	0.811	0.982	1.15	1.32	1.5	1.67
					0.0401	0.169	0.432	0.694	0.955	1.22	1.48	1.74	2	2.26	2.52
	Ø12	C	12.05	17	0.0601	0.267	0.683	1.1	1.51	1.93	2.34	2.76	3.17	3.59	4

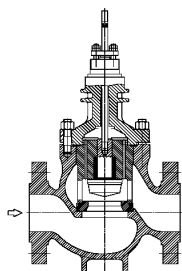


VeGA valve 1-6941 and 1-6942 Type - $C_v F_L x_T$

MF-E Trim type: Microflow-flow to open
Flow characteristic: **EQUAL PERCENTAGE**

					TRAVEL %										
DN [in]	Port [mm]	Plug type ⁽¹⁾	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Press. rec. factor F_L					0.98	0.98	0.97	0.96	0.96	0.95	0.94	0.94	0.93	0.92	0.92
Press. diff. ratio fact. x_T					0.91	0.90	0.88	0.86	0.84	0.82	0.80	0.78	0.75	0.72	0.68
1/2 3/4 1	Ø6	C	6	17	0.028	0.0331	0.046	0.064	0.0891	0.124	0.172	0.24	0.333	0.464	0.645
					0.028	0.036	0.0506	0.0721	0.105	0.152	0.222	0.324	0.472	0.689	1
	Ø9	C	9.05	17	0.04	0.0482	0.0715	0.106	0.157	0.233	0.346	0.512	0.759	1.12	1.67
					0.04	0.0487	0.0723	0.11	0.167	0.253	0.382	0.575	0.866	1.3	2.52
	Ø12	C	12.05	17	0.0594	0.0718	0.107	0.164	0.256	0.394	0.602	0.916	1.39	2.12	4

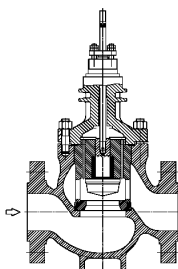
¹⁾C=contoured, F=flatted



VeGA valve 1-6941 and 1-6942 Type - Cv F_L x_T

**CP-L Trim type: Contoured plug-flow to open
Flow characteristic: LINEAR**

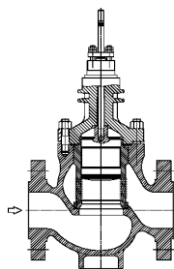
				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Press. recovery factor F_L				0.97	0.97	0.96	0.96	0.95	0.95	0.94	0.93	0.92	0.91	0.90
Press. diff. ratio factor x_T				0.90	0.89	0.88	0.86	0.84	0.82	0.79	0.76	0.72	0.67	0.62
1/2	1/2	15.1	17	0.159	0.42	0.951	1.49	2.04	2.6	3.16	3.74	4.32	4.91	5.57
3/4	3/4	19.1	17	0.221	0.664	1.57	2.48	3.41	4.36	5.32	6.29	7.46	8.76	9.95
	1/2	15.1	17	0.159	0.444	1.02	1.59	2.16	2.73	3.3	3.87	4.45	5.02	5.59
1	1	23.1	17	0.265	0.891	2.16	3.44	4.75	6.08	7.43	8.8	10.2	11.6	13.1
	3/4	19.1	17	0.222	0.743	1.79	2.84	3.89	4.94	5.98	7.03	8.08	9.13	10.2
	1/2	15.1	17	0.16	0.444	1.02	1.59	2.16	2.73	3.3	3.88	4.45	5.02	5.59
1.1/2	1.1/2	35.1	25	0.506	1.91	4.75	7.64	10.6	13.6	16.6	19.7	22.8	26	29.1
	1.1/4	28.1	25	0.371	1.53	3.85	6.17	8.49	10.8	13.1	15.5	17.8	20.1	22.4
	1	23.1	25	0.265	1.05	2.61	4.18	5.74	7.3	8.87	10.4	12	13.6	15.1
	3/4	19.1	25	0.222	0.743	1.79	2.84	3.89	4.94	5.98	7.03	8.08	9.13	10.2
	1/2	15.1	25	0.16	0.444	1.02	1.59	2.16	2.73	3.3	3.88	4.45	5.02	5.59
	1/2	15.1	25	0.0887	0.225	0.499	0.772	1.05	1.32	1.59	1.87	2.14	2.41	2.69
2	2	45.2	25	0.953	3.13	7.56	12.1	16.7	21.3	26	30.8	35.7	40.4	47.1
	1.1/2	35.1	25	0.524	2.64	6.2	9.76	13.3	16.9	20.4	24	27.5	31	34.3
	1.1/4	28.1	25	0.371	1.57	3.99	6.46	8.96	11.5	14.1	16.7	19.4	22.1	24.8
	1	23.1	25	0.265	1.05	2.61	4.18	5.74	7.3	8.87	10.4	12	13.6	15.1
	3/4	19.1	25	0.222	0.743	1.79	2.84	3.89	4.94	5.98	7.03	8.08	9.13	10.2
	1/2	15.1	25	0.16	0.444	1.02	1.59	2.16	2.73	3.3	3.88	4.45	5.02	5.59
3	1/2	15.1	25	0.0887	0.225	0.499	0.772	1.05	1.32	1.59	1.87	2.14	2.41	2.69
	3	72.3	34	1.56	7.03	18	29.1	40.4	51.9	63.5	75.4	87.4	99.2	111
	2.1/2	60.2	34	1.13	5.74	15	24.2	33.5	42.8	52	61.3	70.5	79.6	88.5
	2	45.2	34	0.953	3.94	9.94	15.9	21.9	27.9	34	40	46	52	58
	1.1/2	35.1	34	0.524	2.64	6.2	9.76	13.3	16.9	20.4	24	27.5	31	34.3
	1.1/4	28.1	34	0.371	1.57	3.99	6.46	8.96	11.5	14.1	16.7	19.4	22.1	24.8
4	1	23.1	34	0.265	1.05	2.61	4.18	5.74	7.3	8.87	10.4	12	13.6	15.1
	3	72.3	45	1.64	8.87	23.4	37.8	52.3	66.8	81.3	95.8	110	124	138
	2.1/2	60.2	45	1.13	6.7	17.9	29	40.2	51.4	62.5	73.7	84.9	96	107
	2	45.2	45	0.953	3.94	9.94	15.9	21.9	27.9	34	40	46	52	58
	1.1/2	35.1	45	0.524	2.64	6.2	9.76	13.3	16.9	20.4	24	27.5	31	34.3
6	1.1/4	28.1	45	0.371	1.57	3.99	6.46	8.96	11.5	14.1	16.7	19.4	22.1	24.8
	3	72.3	60	3.02	11.2	27.7	44.1	60.6	77	93.5	110	126	143	176
	2.1/2	60.2	60	2.1	7.93	19.6	31.2	42.9	54.5	66.2	77.8	89.5	101	125



VeGA valve 1-6941 and 1-6942 Type - Cv F_L x_T

**CP-E Trim type: Contoured plug-flow to open
Flow characteristic: EQUAL PERCENTAGE**

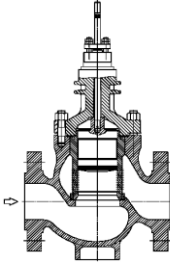
				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Press. recovery factor F _L				0.97	0.97	0.96	0.96	0.96	0.95	0.94	0.93	0.92	0.91	0.90
Press. diff. ratio factor x _T				0.90	0.89	0.88	0.86	0.84	0.82	0.80	0.77	0.72	0.67	0.62
1/2	1/2	15.1	17	0.158	0.19	0.277	0.403	0.585	0.851	1.24	1.8	2.96	4.37	5.66
3/4	3/4	19.1	17	0.221	0.269	0.396	0.588	0.874	1.3	1.92	3.48	5.71	8.22	9.99
	1/2	15.1	17	0.158	0.192	0.279	0.409	0.598	0.876	1.28	1.88	2.75	4.02	5.53
1	1	23.1	17	0.264	0.326	0.498	0.753	1.14	1.74	2.64	4.01	6.58	9.86	12.9
	3/4	19.1	17	0.221	0.268	0.402	0.601	0.902	1.35	2.02	3.03	5.07	7.77	10.4
	1/2	15.1	17	0.158	0.19	0.278	0.407	0.595	0.869	1.27	1.85	2.71	3.95	5.51
1.1/2	1.1/2	35.1	25	0.517	0.63	0.983	1.52	2.36	3.65	5.65	8.75	14.2	21.4	28.6
	1.1/4	28.1	25	0.359	0.454	0.703	1.09	1.67	2.58	3.97	6.13	10.2	15.8	22
	1	23.1	25	0.264	0.328	0.506	0.784	1.21	1.86	2.87	4.4	6.65	10.3	15.1
	3/4	19.1	25	0.221	0.268	0.402	0.601	0.902	1.35	2.02	3.03	5.07	7.77	10.4
	1/2	15.1	25	0.158	0.19	0.278	0.407	0.595	0.869	1.27	1.85	2.71	3.95	5.51
	1/2	15.1	25	0.0883	0.107	0.153	0.218	0.312	0.447	0.64	0.916	1.31	1.88	2.69
2	2	45.2	25	0.914	1.15	1.77	2.7	4.11	6.26	9.54	16.1	25.8	36.7	45.8
	1.1/2	35.1	25	0.515	1.06	1.55	2.29	3.37	4.97	7.33	10.8	17.3	25.3	33.1
	1.1/4	28.1	25	0.36	0.455	0.705	1.09	1.69	2.61	4.03	6.23	10.4	16.5	23.7
	1	23.1	25	0.264	0.328	0.506	0.784	1.21	1.86	2.87	4.4	6.65	10.3	15.1
	3/4	19.1	25	0.221	0.268	0.402	0.601	0.902	1.35	2.02	3.03	5.07	7.77	10.4
	1/2	15.1	25	0.158	0.192	0.279	0.409	0.598	0.876	1.28	1.88	2.75	4.02	5.53
3	1/2	15.1	25	0.0883	0.107	0.153	0.218	0.312	0.447	0.64	0.916	1.31	1.88	2.69
	3	72.3	34	1.66	5.08	7.32	10.6	15.2	22	31.7	45.7	66.8	90.2	112
	2.1/2	60.2	34	1.13	1.37	2.28	3.67	5.87	9.42	15.1	26.6	46.3	68.3	88.4
	2	45.2	34	0.93	1.17	1.82	2.84	4.43	6.89	10.7	16.7	27	41.7	58.1
	1.1/2	35.1	34	0.515	1.06	1.55	2.29	3.37	4.97	7.33	10.8	17.3	25.3	33.1
	1.1/4	28.1	34	0.36	0.455	0.705	1.09	1.69	2.61	4.03	6.23	10.4	16.5	23.7
4	1	23.1	34	0.264	0.328	0.506	0.784	1.21	1.86	2.87	4.4	6.65	10.3	15.1
	4	86.3	45	2.71	4.03	9.62	19	32.3	49.6	70.9	95.2	127	158	187
	3	72.3	45	1.7	2.05	3.3	5.34	8.57	13.8	22.1	39.6	72.3	107	138
	2.1/2	60.2	45	1.13	1.44	2.3	3.74	6.06	9.81	15.9	25.7	48.4	78.1	107
	2	45.2	45	0.93	1.17	1.82	2.84	4.43	6.89	10.7	16.7	27	41.7	58.1
	1.1/2	35.1	45	0.515	1.06	1.55	2.29	3.37	4.97	7.33	10.8	17.3	25.3	33.1
6	1.1/4	28.1	45	0.36	0.455	0.705	1.09	1.69	2.61	4.03	6.23	10.4	16.5	23.7
	6	130.4	60	5.13	8.03	20	40	68.3	105	151	201	271	334	388
	5	110.4	60	3.98	6.48	16.1	32.2	54.6	83.4	119	158	211	264	312
	4	86.3	60	2.71	4.31	11	22	37.5	57.4	81.7	110	142	188	232
	3	72.3	60	1.7	2.05	3.3	5.34	8.57	13.8	22.1	39.6	72.3	107	138
8	2 1/2	60.2	60	1.07	1.44	2.3	3.74	6.06	9.81	15.9	25.7	48.4	78.1	107
	8	165.4	76	7.05	11.1	30.4	62.6	108	168	241	335	441	543	629
	6	130.4	76	5.13	8.49	22.1	44.6	76.2	117	166	224	287	377	455
	5	110.4	76	3.98	6.6	16.7	33.5	57	87.3	124	168	217	284	354
8	4	86.3	76	2.7	4.31	11	22	37.5	57.4	81.7	110	142	188	232



VeGA valve 1-6943 Type - Cv F_L x_T

ST-L Trim type: Standard
Flow characteristic: LINEAR

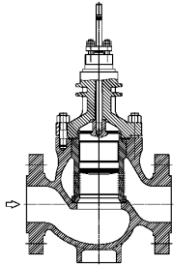
				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Press. recovery factor F _L				0.94	0.94	0.94	0.94	0.93	0.93	0.92	0.92	0.92	0.91	0.91
Press. diff. ratio factor x _T				0.78	0.78	0.77	0.77	0.76	0.74	0.74	0.73	0.72	0.71	0.71
3/4	3/4	18.5	17	0.186	0.198	0.217	1.09	2.4	3.87	5.45	6.83	7.62	8.17	8.5
	1/2	12.5	17	0.13	0.138	0.147	0.728	1.57	2.25	3.18	4.26	5.11	5.85	5.93
	3/8	9	17	0.0559	0.059	0.0707	0.423	0.903	1.33	1.78	2.34	2.8	3.3	3.75
1	3/4	18.5	17	0.186	0.198	0.217	1.09	2.4	3.87	5.5	6.95	8.64	9.33	9.62
	1/2	12.5	17	0.13	0.138	0.147	0.728	1.57	2.25	3.18	4.27	5.15	5.97	6.67
	3/8	9	17	0.0559	0.059	0.0707	0.423	0.903	1.33	1.78	2.34	2.8	3.3	3.78
1.1/2	1.1/2	37.5	34	0.351	0.383	1.8	5.26	9.75	14.3	19.8	26.1	29.3	31.8	33.3
	1	27.5	34	0.262	0.286	1.95	5.05	8.19	11	14.4	18.5	22.6	24.5	24.9
				0.262	0.286	1.53	3.86	6.21	8.56	10.7	12.8	15	17.1	19.2
				0.262	0.286	1.12	2.67	4.24	5.82	7.43	9.26	11.4	13.6	15.7
3/4	18.5	17	0.186	0.198	0.217	1.09	2.4	3.87	5.5	7	8.81	10.4	11.5	
2	2	64	34	1.21	1.21	7.59	20.5	34.5	43.2	47.5	52.7	58.2	62.9	68.1
				1.21	1.21	4.4	13	22.9	32.5	40.9	44.4	47.8	51.4	55.2
	1.1/2	37.5	34	0.351	0.383	1.8	5.26	9.75	14.3	20	26.8	34.3	38	39.3
	1	27.5	34	0.262	0.286	1.95	5.05	8.19	11	14.4	18.6	22.9	26.5	29.4
0.262				0.286	1.53	3.86	6.21	8.56	10.7	12.8	15	17.1	19.3	
0.262				0.286	1.12	2.67	4.24	5.82	7.43	9.26	11.4	13.6	15.7	
3	3	82	45	1.54	1.57	13.9	36.4	58.4	80.9	97.6	105	114	122	130
				1.21	1.21	7.59	20.5	34.9	49.6	60.9	73.7	87	95.3	101
	2	64	34	1.21	1.21	4.4	13	22.9	32.8	42.9	52.2	61.2	70	79
				0.351	0.383	1.8	5.26	9.75	14.3	20	26.9	34.8	41.7	46.8
4	4	103.5	60	2.74	2.77	25.4	64.8	99.7	136	163	175	189	203	212
				1.54	1.57	13.9	36.4	58.4	81.7	102	121	142	157	165
	2	64	34	1.21	1.21	7.59	20.5	34.9	49.6	61	74.3	88.2	99.5	113
				1.21	1.21	4.4	13	22.9	32.8	42.9	52.2	61.3	70.5	79.8
6	6	125.5	60	3.01	3.03	21.5	66.5	126	190	247	295	334	366	392
	4	103.5	60	2.74	2.77	25.4	64.8	99.8	137	174	207	240	276	301
	3	82	45	1.54	1.57	13.9	36.4	58.4	81.7	102	122	144	166	185
8	8	160.5	76	5.13	5.15	39.5	112	208	311	402	478	541	592	632
	6	125.5	60	3.01	3.01	21.2	65.1	124	190	251	306	354	395	428
	4	103.5	60	2.74	2.77	25.4	64.8	99.8	137	174	207	242	279	305
10	10	214.5	100	8.42	9.09	80.7	225	412	609	774	904	1010	1080	1150
	8	160.5	76	5.13	5.13	38.9	110	204	311	410	500	578	644	700
	6	125.5	60	3.01	3.01	21.2	65.2	125	192	257	317	371	419	460
12	12	242.5	120	11.1	13	113	303	542	790	997	1160	1270	1360	1430
	10	214.5	100	8.42	9.05	79.5	221	406	608	788	937	1060	1150	1230
	8	160.5	76	5.13	5.13	38.9	110	205	314	418	514	600	675	740
14	14	291.5	150	12.5	12.5	105	367	715	1090	1390	1620	1790	1920	2010
	12	242.5	120	11.1	13	114	305	552	822	1060	1260	1420	1550	1650
	10	214.5	100	8.42	9.05	79.6	222	410	622	817	988	1130	1250	1350
16	16	341.5	200	16.5	16.5	201	646	1180	1690	2060	2300	2470	2580	2660
	14	291.5	150	12.5	12.5	105	368	724	1120	1470	1740	1950	2120	2240
	12	242.5	120	11.1	13	114	305	556	835	1090	1310	1490	1640	1760
20	20	440.5	250	26.2	31.6	414	1130	1970	2790	3420	3860	4170	4390	4540
	16	341.5	200	16.5	16.5	202	655	1240	1860	2400	2830	3150	3400	3590
24	24	521.5	300	39.8	46.6	585	1610	2830	4000	4900	5520	5950	6250	6460
	20	440.5	250	26.2	31.6	414	1140	2030	2980	3780	4410	4890	5250	5520



VeGA valve 1-6943 Type - Cv F_L x_T

ST-E Trim type: Standard
Flow characteristic: EQUAL PERCENTAGE

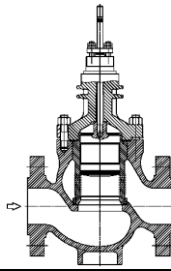
				TRAVEL %											
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Press. recovery factor F_L				0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.91	0.91	0.91	0.90
Press. diff. ratio factor x_T				0.78	0.78	0.78	0.77	0.76	0.75	0.74	0.73	0.71	0.70	0.69	
3/4	3/4	18.5	17	0.186	0.198	0.211	0.648	1.33	2.2	3.37	4.45	6	7.26	7.88	
	1/2	12.5	17	0.13	0.138	0.145	0.339	0.707	1.19	1.95	2.88	4	5.14	5.9	
	3/8	9	17	0.0559	0.059	0.0678	0.244	0.616	1.08	1.53	2.11	2.75	3.3	3.75	
1	3/4	18.5	17	0.186	0.198	0.211	0.648	1.33	2.2	3.37	4.45	6	7.26	7.88	
	1/2	12.5	17	0.13	0.138	0.145	0.339	0.707	1.19	1.95	2.88	4	5.19	6.05	
	3/8	9	17	0.0559	0.059	0.0678	0.244	0.616	1.08	1.53	2.11	2.75	3.3	3.78	
1.1/2	1.1/2	37.5	34	0.351	0.383	0.857	2.11	4.03	6.64	11	16.8	23.2	28	30.7	
	1	27.5	34	0.262	0.286	0.702	1.88	3.44	5.74	8.85	12.2	16.4	20.9	24.4	
	3/4	18.5	17	0.262	0.286	0.702	1.48	2.64	4.22	6.16	8.83	11.7	14.8	18.3	
2	2	64	34	1.21	1.21	2.81	6.05	9.65	14.9	21.6	31.5	41.9	46.1	51.4	
	1.1/2	37.5	34	1.21	1.21	2.28	4.62	8.88	14	18.4	25.2	33.6	41	44.8	
	1	27.5	34	0.351	0.383	0.857	2.11	4.03	6.64	11	16.8	23.5	30.7	36.8	
3	3	82	45	1.54	1.57	4.67	11.2	21.5	33.7	46.3	62.4	82.5	99.3	107	
	2	64	34	1.54	1.57	3.64	7.98	14.9	25.2	36.8	47.9	62.7	77.6	90.4	
	1.1/2	37.5	34	1.21	1.21	2.81	6.05	9.65	14.9	21.6	31.8	44.8	56.3	69.5	
4	4	103.5	60	1.21	1.21	2.28	4.62	8.88	14	18.4	25.3	33.9	42.6	52.1	
	3	82	45	0.351	0.383	0.857	2.11	4.03	6.64	11	16.8	23.5	31	38	
	2	64	34	2.74	2.77	8.43	20.8	37.9	58.1	82.8	112	144	167	178	
6	6	125.5	60	2.74	2.77	6.55	14.8	26.3	44.6	67.9	93	118	142	158	
	4	103.5	60	1.54	1.57	4.67	11.2	21.5	33.7	46.3	62.5	83.4	104	123	
	3	82	45	1.54	1.57	3.64	7.98	14.9	25.2	36.8	47.9	62.8	78.3	91.6	
8	8	160.5	76	1.21	1.21	2.81	6.05	9.65	14.9	21.6	31.8	44.8	56.3	70	
	6	125.5	60	1.21	1.21	2.28	4.62	8.88	14	18.4	25.3	33.9	42.6	52.1	
	4	103.5	60	3.01	3.03	12.8	28.1	50.9	87.2	140	205	262	309	347	
10	10	214.5	100	3.42	3.43	11.8	26.4	47.6	74.4	101	139	178	216	259	
	8	160.5	76	2.74	2.77	8.43	20.8	37.9	58.1	82.8	112	146	182	209	
	6	125.5	60	1.54	1.57	4.67	11.2	21.5	33.7	46.3	62.5	83.4	104	124	
12	12	242.5	120	1.54	1.57	3.64	7.98	14.9	25.2	36.8	47.9	62.8	78.3	91.6	
	10	214.5	100	3.01	3.03	12.8	28.1	50.9	87.2	140	205	262	309	347	
	8	160.5	76	3.42	3.43	11.8	26.4	47.6	74.4	101	139	178	217	262	
14	14	291.5	150	2.74	2.77	8.43	20.8	37.9	58.1	82.8	112	146	182	210	
	12	242.5	120	2.74	2.77	6.55	14.8	26.3	44.6	67.9	93	119	143	162	
	10	214.5	100	1.54	1.57	4.67	11.2	21.5	33.7	46.3	62.5	83.4	104	124	
16	16	341.5	200	1.54	1.57	3.64	7.98	14.9	25.2	36.8	47.9	62.8	78.3	91.6	
	14	291.5	150	5.13	5.15	20.4	41.6	77	135	220	327	421	498	560	
	12	242.5	120	3.01	3.01	12.6	27.4	49.3	83.9	135	201	263	317	363	
20	20	440.5	250	3.42	3.43	11.8	26.4	47.6	74.4	101	139	178	217	262	
	16	341.5	200	2.74	2.77	8.43	20.8	37.9	58.1	82.8	112	146	182	210	
	14	291.5	150	2.74	2.77	6.55	14.8	26.3	44.6	67.9	93	119	143	162	
24	24	521.5	300	8.42	9.03	37.2	76.4	147	264	436	641	811	941	1040	
	20	440.5	250	5.13	5.13	20.1	40.6	74.5	130	213	321	424	513	589	
	16	341.5	200	3.01	3.01	12.6	27.4	49.3	84.2	136	204	270	329	381	
30	30	609.5	350	3.42	3.43	11.8	26.4	47.6	74.4	101	139	178	217	262	
	24	521.5	300	11.1	12.7	48.2	97.7	188	338	559	839	1090	1290	1440	
	20	440.5	250	8.42	8.98	36.6	74.5	142	256	426	644	846	1020	1160	
36	36	761.5	400	16.5	16.5	89.4	204	384	665	1060	1520	1910	2170	2360	
	30	609.5	350	12.5	12.5	60	141	270	477	775	1140	1440	1670	1820	
	24	521.5	300	11.1	12.7	48.2	97.7	188	339	564	853	1120	1340	1520	
48	48	1016.5	500	26.2	29.9	172	367	680	1160	1830	2610	3270	3730	4060	
	36	761.5	400	16.5	16.5	89.5	204	386	674	1090	1640	2170	2600	2930	
	30	609.5	350	39.8	44.5	219	476	916	1620	2600	3760	4720	5380	5830	
60	60	1311.5	500	26.2	29.9	172	368	683	1170	1880	2760	3580	4220	4720	
	48	1016.5	500	26.2	29.9	172	368	683	1170	1880	2760	3580	4220	4720	
	36	761.5	400	26.2	29.9	172	368	683	1170	1880	2760	3580	4220	4720	



VeGA valve 1-6943 Type – Cv F_L x_T

**LN-L Trim type: Low Noise
Flow characteristic: LINEAR**

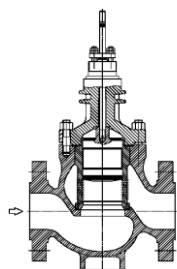
				TRAVEL %											
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Pressure recovery factor F _L				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.93
Press. diff. ratio factor x _T				0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.76	
3/4	3/4	18.5	17	0.185	0.197	0.213	1.69	3.6	5.28	6.84	7.57	8.12	8.48	8.75	
	1/2	12.5	17	0.13	0.139	0.163	1.25	2.42	3.5	4.53	5.31	5.84	5.9	5.93	
	3/8	9	17	0.0559	0.059	0.0767	0.758	1.47	2.14	2.68	3.1	3.45	3.73	4	
1	3/4	18.5	17	0.185	0.197	0.213	1.69	3.6	5.32	6.97	8.59	9.27	9.59	9.81	
	1/2	12.5	17	0.13	0.139	0.163	1.25	2.42	3.5	4.55	5.35	5.99	6.52	6.81	
	3/8	9	17	0.0559	0.059	0.0767	0.758	1.47	2.14	2.68	3.1	3.46	3.76	4.03	
1.1/2	1.1/2	37.5	34	0.351	0.383	5.5	13.5	20.7	26.4	29.3	31.6	33.1	34.3	35.4	
	1	27.5	34	0.262	0.286	3.5	8.34	12.8	17.2	21.4	24	24.5	24.8	25.1	
				0.262	0.286	1.89	4.32	6.83	9.29	11.6	13.9	16.1	18.3	20.6	
				0.262	0.286	1.54	3.4	5.31	7.21	9.07	10.8	12.5	14.3	16	
3/4	18.5	17	0.185	0.197	0.213	1.69	3.6	5.32	7.03	8.75	10.3	11.6	12.6		
2	2	64	34	1.21	1.21	9.17	21.6	33.9	42.2	46.4	50.7	55.3	59.8	64.7	
				1.21	1.21	6.33	14.3	22.6	31.2	39.7	43.4	46.5	49.6	53	
	1.1/2	37.5	34	0.351	0.383	5.5	13.5	20.9	27.7	34.7	37.9	39.9	40.7		
	1	27.5	34	0.262	0.286	3.5	8.34	12.8	17.3	21.6	24.8	27.4	29.5	30.1	
				0.262	0.286	1.89	4.32	6.83	9.29	11.6	13.9	16.1	18.4	20.8	
3	3	82	45	1.54	1.57	17.4	38.5	59.8	79.6	96.1	104	112	120	127	
3	2	64	34	1.21	1.21	9.17	21.6	34.3	46.5	58.1	68.6	79.9	90.5	97.3	
				1.21	1.21	6.33	14.3	22.6	31.4	40.8	49.2	57.6	65.3	73.6	
	1.1/2	37.5	34	0.351	0.383	5.5	13.5	20.9	27.9	35.3	41.6	47	51.2	55.1	
4	4	103.5	60	2.74	2.77	28.1	61.4	93.8	124	153	167	179	191	203	
	3	82	45	1.54	1.57	17.4	38.5	59.8	80.3	99.3	118	137	153	162	
	2	64	34	1.21	1.21	9.17	21.6	34.3	46.5	58.1	69.1	80.8	92	104	
				1.21	1.21	6.33	14.3	22.6	31.4	40.8	49.2	57.6	65.6	74.2	
6	6	125.5	60	3.42	3.43	35	76.7	117	158	197	233	269	306	341	
	4	103.5	60	2.74	2.77	28.1	61.4	93.8	125	155	185	214	243	273	
	3	82	45	1.54	1.57	17.4	38.5	59.8	80.3	99.5	119	138	158	178	
8	8	160.5	76	5.75	5.77	65.8	130	196	261	323	380	437	496	553	
	6	125.5	60	3.42	3.43	35	76.7	117	158	197	234	272	310	347	
	4	103.5	60	2.74	2.77	28.1	61.4	93.8	125	155	185	215	245	276	
10	10	214.5	100	9.45	11.5	120	234	350	467	573	677	776	879	962	
	8	160.5	76	5.75	5.77	65.8	130	196	261	323	382	442	503	562	
	6	125.5	60	3.42	3.43	35	76.7	117	158	197	234	272	310	348	
12	12	242.5	120	12.4	22.2	175	329	486	646	784	920	1060	1200	1310	
	10	214.5	100	9.45	11.5	120	234	350	467	575	683	782	885	989	
	8	160.5	76	5.75	5.77	65.8	130	196	261	323	382	442	503	563	
14	14	291.5	150	16.6	17.4	187	421	656	894	1110	1310	1520	1720	1860	
	12	242.5	120	12.4	22.2	175	329	486	646	786	928	1070	1210	1350	
	10	214.5	100	9.45	11.5	120	234	350	467	575	683	785	892	998	
16	16	341.5	200	21.8	23.1	315	683	1050	1400	1720	2050	2260	2400	2540	
	14	291.5	150	16.6	17.4	187	421	656	894	1110	1320	1520	1730	1950	
	12	242.5	120	12.4	22.2	175	329	486	646	786	928	1070	1220	1360	
20	20	440.5	250	36.5	52.8	617	1190	1770	2330	2820	3330	3810	4090	4310	
	16	341.5	200	21.8	23.1	315	683	1050	1410	1740	2080	2410	2740	3060	
24	24	521.5	300	55.2	78.5	912	1770	2630	3420	4160	4910	5570	5940	6250	
	20	440.5	250	36.5	52.8	617	1190	1770	2330	2850	3370	3880	4400	4910	



VeGA valve 1-6943 Type – Cv F_L x_T

**LN-E Trim type: Low Noise
Flow characteristic: EQUAL PERCENTAGE**

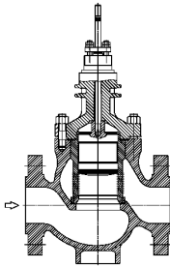
				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Pressure recovery factor F_L				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93
Press. diff. ratio factor x_T				0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.76	0.76	0.76
3/4	3/4	18.5	17	0.185	0.197	0.208	0.799	1.56	2.59	3.76	4.98	6.3	7.31	7.97
	1/2	12.5	17	0.13	0.139	0.148	0.44	0.943	1.62	2.4	3.36	4.47	5.27	5.85
	3/8	9	17	0.0559	0.059	0.0673	0.222	0.528	0.9	1.31	1.84	2.41	2.89	3.27
				0.0559	0.059	0.0673	0.204	0.401	0.708	1.09	1.51	2.08	2.57	2.93
1	3/4	18.5	17	0.185	0.197	0.208	0.799	1.56	2.59	3.76	5	6.35	7.85	9.15
	1/2	12.5	17	0.13	0.139	0.148	0.44	0.943	1.62	2.4	3.36	4.49	5.31	5.94
	3/8	9	17	0.0559	0.059	0.0673	0.222	0.528	0.9	1.31	1.84	2.41	2.89	3.27
				0.0559	0.059	0.0673	0.204	0.401	0.708	1.09	1.51	2.08	2.57	2.93
1.1/2	1.1/2	37.5	34	0.351	0.383	1.24	3.03	5.88	9.81	15.1	20.2	26	29	31.7
	1	27.5	34	0.262	0.286	0.823	2.05	4.04	6.84	10.2	14	18.3	22.3	24.5
				0.262	0.286	0.823	1.63	2.79	4.5	6.38	8.88	11.1	13.4	15.8
	3/4	18.5	17	0.185	0.197	0.208	0.799	1.56	2.59	3.76	5	6.38	7.94	9.65
2	2	64	34	1.21	1.21	2.35	4.75	8.55	13.8	20.8	28.6	38	43.5	47.8
	1.1/2	37.5	34	0.351	0.383	1.24	3.03	5.88	9.81	15.1	20.3	26.6	33.4	38
	1	27.5	34	0.262	0.286	0.823	2.05	4.04	6.84	10.2	14	18.4	22.6	25.7
				0.262	0.286	0.823	1.63	2.79	4.5	6.38	8.88	11.1	13.4	15.8
3	3	82	45	1.54	1.57	4.21	8.74	15.8	25.9	37.9	53.7	72.8	91.6	103
				1.54	1.57	2.9	6.02	11	17.8	26.5	37	49.6	64	79.2
	2	64	34	1.21	1.21	2.35	4.75	8.55	13.8	20.8	28.7	38.5	48.8	60.4
	1.1/2	37.5	34	0.351	0.383	1.24	3.03	5.88	9.81	15.1	20.3	26.8	33.9	41
4	4	103.5	60	2.74	2.77	9.11	18.1	34.2	53.2	78.5	108	138	162	174
	3	82	45	1.54	1.57	4.21	8.74	15.8	25.9	37.9	53.7	73.2	92.8	112
				1.54	1.57	2.9	6.02	11	17.8	26.5	37	49.6	64.1	79.8
	2	64	34	1.21	1.21	2.35	4.75	8.55	13.8	20.8	28.7	38.5	48.8	60.4
6	6	125.5	60	3.42	3.43	9.77	22.3	40	64.5	97.3	136	177	214	251
	4	103.5	60	2.74	2.77	9.11	18.1	34.2	53.2	78.5	109	139	169	199
				1.54	1.57	4.21	8.74	15.8	25.9	37.9	53.7	73.2	92.8	112
	3	82	45	1.54	1.57	2.9	6.02	11	17.8	26.5	37	49.6	64.1	79.8
8	8	160.5	76	5.75	5.77	17.8	40.1	73.8	118	174	240	305	364	421
	6	125.5	60	3.42	3.43	9.77	22.3	40	64.5	97.3	136	177	215	253
				2.74	2.77	9.11	18.1	34.2	53.2	78.5	109	139	169	200
	4	103.5	60	2.74	2.77	9.11	18.1	34.2	53.2	78.5	109	139	169	200
10	10	214.5	100	9.45	9.8	28.2	65.2	122	197	293	412	524	627	729
	8	160.5	76	5.75	5.77	17.8	40.1	73.8	118	174	240	305	365	425
				3.42	3.43	9.77	22.3	40	64.5	97.3	136	177	215	253
	6	125.5	60	3.42	3.43	9.77	22.3	40	64.5	97.3	136	177	215	253
12	12	242.5	120	12.4	14.1	42.9	99.6	184	301	443	602	748	889	1030
	10	214.5	100	9.45	9.8	28.2	65.2	122	197	293	412	524	630	735
				5.75	5.77	17.8	40.1	73.8	118	174	240	305	365	425
	8	160.5	76	5.75	5.77	17.8	40.1	73.8	118	174	240	305	365	425
14	14	291.5	150	16.6	17.4	39.2	104	208	350	537	763	997	1200	1410
	12	242.5	120	12.4	14.1	42.9	99.6	184	301	443	602	749	895	1040
				9.45	9.8	28.2	65.2	122	197	293	412	524	630	736
	10	214.5	100	9.45	9.8	28.2	65.2	122	197	293	412	524	630	736
16	16	341.5	200	21.8	23.1	96.2	190	373	577	861	1180	1520	1850	2150
	14	291.5	150	16.6	17.4	39.2	104	208	350	537	763	997	1210	1420
				12.4	14.1	42.9	99.6	184	301	443	602	749	895	1040
	12	242.5	120	12.4	14.1	42.9	99.6	184	301	443	602	749	895	1040
20	20	440.5	250	36.5	39.8	153	335	581	932	1360	1870	2420	2930	3430
	16	341.5	200	21.8	23.1	96.2	190	373	577	861	1180	1530	1870	2200
				24	521.5	300	55.2	59.2	198	476	891	1440	2130	2970
20	440.5	250	36.5	39.8	153	335	581	932	1360	1870	2430	2960	3470	



VeGA valve 1-6943 Type - Cv F_L x_T

XLN-L Trim type: Special Low Noise
Flow characteristic: LINEAR

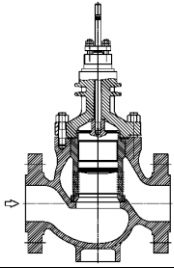
				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Pressure recovery factor F_L				0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.93
Press. diff. ratio factor x_T				0.78	0.78	0.78	0.77	0.77	0.77	0.76	0.76	0.76	0.76	0.75
3/4	3/4	18.5	17	0.182	0.192	0.204	1.14	2.23	3.33	4.37	5.31	6.27	7.06	7.49
	1/2	12.5	17	0.129	0.136	0.144	0.842	1.63	2.37	3.09	3.81	4.48	5.03	5.51
	3/8	9	17	0.0555	0.0581	0.0649	0.501	0.984	1.43	1.89	2.31	2.66	2.95	3.21
1	3/4	18.5	17	0.182	0.192	0.204	1.14	2.23	3.33	4.37	5.35	6.31	7.27	8.24
	1/2	12.5	17	0.129	0.136	0.144	0.842	1.63	2.37	3.09	3.81	4.5	5.07	5.55
	3/8	9	17	0.0555	0.0581	0.0649	0.501	0.984	1.43	1.89	2.31	2.66	2.95	3.21
1.1/2	1	27.5	34	0.345	0.383	3.39	8.11	12.7	17.4	21.3	25.5	27.5	29.4	31
				0.258	0.286	2.14	5.22	8.29	11	13.7	16.4	19.1	21.6	23.7
				0.258	0.286	1.21	2.75	4.29	5.81	7.34	8.87	10.3	11.7	13.1
	3/4	18.5	17	0.182	0.192	0.204	1.14	2.23	3.33	4.37	5.35	6.34	7.34	8.35
2	1.1/2	37.5	34	1.19	1.21	5.89	13.2	20.4	28	34.9	41.2	43.8	46.5	49
				0.345	0.383	3.39	8.11	12.7	17.4	21.5	25.9	29.8	34.3	37.2
	1	27.5	34	0.258	0.286	2.14	5.22	8.29	11	13.7	16.4	19.3	21.9	23.9
				0.258	0.286	1.21	2.75	4.29	5.81	7.34	8.87	10.3	11.7	13.1
3	3	82	45	1.52	1.57	10.9	23.4	36	48.8	61.5	74	85.1	95.5	101
	2	64	34	1.19	1.21	5.89	13.2	20.4	28.1	35.3	43.3	50	57.2	63.6
	1.1/2	37.5	34	0.345	0.383	3.39	8.11	12.7	17.4	21.5	26	30.1	34.7	38.8
4	4	103.5	60	2.7	2.77	18.5	37	56.9	77	96.3	116	134	151	163
	3	82	45	1.52	1.57	10.9	23.4	36	48.8	61.6	74.5	86	97.6	109
	2	64	34	1.19	1.21	5.89	13.2	20.4	28.1	35.3	43.3	50	57.2	63.8
6	6	125.5	60	3.36	3.43	23	46.3	71	96.3	120	146	172	194	216
	4	103.5	60	2.7	2.77	18.5	37	56.9	77	96.3	116	135	153	171
	3	82	45	1.52	1.57	10.9	23.4	36	48.8	61.6	74.5	86	97.6	109
8	8	160.5	76	5.75	5.77	38.9	76.5	112	150	187	225	264	300	335
	6	125.5	60	3.36	3.43	23	46.3	71	96.3	120	146	172	194	217
	4	103.5	60	2.7	2.77	18.5	37	56.9	77	96.3	116	135	153	171
10	10	214.5	100	9.45	9.47	78	147	217	287	358	433	502	567	629
				9.45	9.47	55.1	101	148	195	242	292	338	387	436
	8	160.5	76	5.75	5.77	38.9	76.5	112	150	187	225	264	300	335
				3.36	3.43	23	46.3	71	96.3	120	146	172	194	217
12	12	242.5	120	12.4	16.8	116	216	317	417	520	624	720	808	899
				9.45	9.47	78	147	217	287	358	433	502	568	633
	10	214.5	100	9.45	9.47	55.1	101	148	195	242	292	338	387	436
				5.75	5.77	38.9	76.5	112	150	187	225	264	300	335
14	14	291.5	150	16.5	17.4	126	275	425	576	730	885	1030	1160	1300
				12.4	16.8	116	216	317	417	520	624	720	811	905
	12	242.5	120	9.45	9.47	78	147	217	287	358	433	502	568	633
				9.45	9.47	55.1	101	148	195	242	292	338	387	436
16	16	341.5	200	21.6	23.1	203	428	655	888	1120	1340	1540	1750	1950
	14	291.5	150	16.5	17.4	126	275	425	576	730	885	1030	1170	1310
	12	242.5	120	12.4	16.8	116	216	317	417	520	624	720	811	905
20	20	440.5	250	36.1	41.8	395	743	1110	1460	1830	2190	2500	2820	3130
	16	341.5	200	21.6	23.1	203	428	655	888	1120	1350	1550	1770	1970
24	24	521.5	300	55.2	62	571	1070	1580	2110	2620	3130	3590	4040	4500
	20	440.5	250	36.1	41.8	395	743	1110	1460	1830	2190	2510	2840	3170



VeGA valve 1-6943 Type - $C_v F_L x_T$

XLN-E Trim type: Special Low Noise
Flow characteristic: EQUAL PERCENTAGE

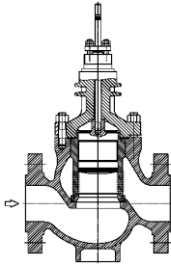
				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Pressure recovery factor F_L				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93
Press. diff. ratio factor x_T				0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.76	0.76	0.75	0.75
3/4	3/4	18.5	17	0.182	0.192	0.204	0.58	1.01	1.61	2.27	3.05	3.92	4.77	5.79
	1/2	12.5	17	0.129	0.136	0.144	0.324	0.64	1.09	1.66	2.26	2.96	3.67	4.44
	3/8	9	17	0.0555	0.0581	0.0649	0.158	0.353	0.597	0.903	1.23	1.59	2.04	2.49
				0.0555	0.0581	0.0649	0.152	0.272	0.475	0.739	1.02	1.37	1.72	2.12
1	3/4	18.5	17	0.182	0.192	0.204	0.58	1.01	1.61	2.27	3.05	3.92	4.79	5.84
	1/2	12.5	17	0.129	0.136	0.144	0.324	0.64	1.09	1.66	2.26	2.96	3.67	4.45
	3/8	9	17	0.0555	0.0581	0.0649	0.158	0.353	0.597	0.903	1.23	1.59	2.04	2.49
				0.0555	0.0581	0.0649	0.152	0.272	0.475	0.739	1.02	1.37	1.72	2.12
1.1/2	1.1/2	37.5	34	0.345	0.383	0.886	1.95	3.51	5.96	8.81	12.6	16.3	20.6	24.9
	1	27.5	34	0.258	0.286	0.596	1.37	2.6	4.24	6.32	8.85	11.6	14.3	17.2
				0.258	0.286	0.596	1.11	1.83	2.83	3.91	5.45	7.02	8.55	10.1
2	3/4	18.5	17	0.182	0.192	0.204	0.58	1.01	1.61	2.27	3.05	3.92	4.79	5.85
	2	64	34	1.19	1.21	1.88	3.31	5.39	8.66	12.5	17.5	22.6	29.2	36.6
				0.345	0.383	0.886	1.95	3.51	5.96	8.81	12.6	16.3	20.8	25.1
	1	27.5	34	0.258	0.286	0.596	1.37	2.6	4.24	6.32	8.85	11.6	14.3	17.3
3	3	82	45	1.52	1.57	3.14	5.84	10	16	23	32.3	43.7	56.4	69.9
				1.52	1.57	2.36	4.22	7.15	11.2	16.3	22.5	29.8	38.1	48.4
	2	64	34	1.19	1.21	1.88	3.31	5.39	8.66	12.5	17.5	22.6	29.4	37
				0.345	0.383	0.886	1.95	3.51	5.96	8.81	12.6	16.3	20.8	25.2
4	4	103.5	60	2.7	2.77	6.7	11.6	21.4	33.1	47.3	64.9	85.1	104	125
	3	82	45	1.52	1.57	3.14	5.84	10	16	23	32.3	43.7	56.4	70.2
				1.52	1.57	2.36	4.22	7.15	11.2	16.3	22.5	29.8	38.1	48.4
2	64	34	1.19	1.21	1.88	3.31	5.39	8.66	12.5	17.5	22.6	29.4	37	
6	6	125.5	60	3.36	3.43	7.36	14.3	25.1	40.1	58.6	81.1	106	131	158
	4	103.5	60	2.7	2.77	6.7	11.6	21.4	33.1	47.3	64.9	85.1	105	125
				1.52	1.57	3.14	5.84	10	16	23	32.3	43.7	56.4	70.2
3	82	45	1.52	1.57	2.36	4.22	7.15	11.2	16.3	22.5	29.8	38.1	48.4	
8	8	160.5	76	5.75	5.77	12.4	25.5	43.8	69	99.6	136	174	210	253
	6	125.5	60	3.36	3.43	7.36	14.3	25.1	40.1	58.6	81.1	106	131	158
	4	103.5	60	2.7	2.77	6.7	11.6	21.4	33.1	47.3	64.9	85.1	105	125
10	10	214.5	100	9.45	9.47	20.9	43.7	78	124	181	253	319	390	468
				9.45	9.47	18.6	34.5	57.3	86.9	123	169	217	273	335
	8	160.5	76	5.75	5.77	12.4	25.5	43.8	69	99.6	136	174	210	253
				3.36	3.43	7.36	14.3	25.1	40.1	58.6	81.1	106	131	158
12	12	242.5	120	12.4	13.2	31.8	68.7	123	195	286	388	489	589	698
				9.45	9.47	20.9	43.7	78	124	181	253	319	390	468
	10	214.5	100	9.45	9.47	18.6	34.5	57.3	86.9	123	169	217	273	335
				5.75	5.77	12.4	25.5	43.8	69	99.6	136	174	210	253
14	14	291.5	150	16.5	17.4	31.1	72.9	138	228	346	489	641	793	961
	12	242.5	120	12.4	13.2	31.8	68.7	123	195	286	388	489	589	698
				9.45	9.47	20.9	43.7	78	124	181	253	319	390	468
10	214.5	100	9.45	9.47	18.6	34.5	57.3	86.9	123	169	217	273	335	
16	16	341.5	200	21.6	23.1	68.2	124	237	364	533	731	956	1190	1420
	14	291.5	150	16.5	17.4	31.1	72.9	138	228	346	489	641	793	961
				12.4	13.2	31.8	68.7	123	195	286	388	489	589	698
20	20	440.5	250	36.1	37.6	108	218	373	583	850	1150	1510	1870	2250
	16	341.5	200	21.6	23.1	68.2	124	237	364	533	731	956	1190	1420
				16.5	17.4	31.1	72.9	138	228	346	489	641	793	961
24	24	521.5	300	55.2	56.4	142	305	549	880	1280	1770	2290	2800	3330
	20	440.5	250	36.1	37.6	108	218	373	583	850	1150	1510	1870	2250
				21.6	23.1	68.2	124	237	364	533	731	956	1190	1420



VeGA valve 1-6943 Type - Cv F_L x_T

DC-L Trim type: Double Cage for liquid service
Flow characteristic: LINEAR

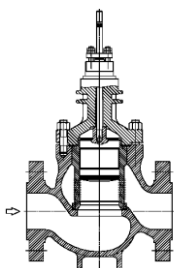
				TRAVEL %											
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Pressure recovery factor F_L				0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955
Press. diff. ratio factor x_T				0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	
3/4	3/4	18.5	17	0.185	0.197	0.214	1.66	2.7	3.6	4.28	4.96	5.25	5.62	5.82	
	1/2	12.5	17	0.13	0.138	0.153	1.3	2.13	2.85	3.42	3.97	4.15	4.34	4.36	
	3/8	9	17	0.0558	0.0586	0.071	0.822	1.37	1.8	2.14	2.49	2.68	2.92	3.04	
1	3/4	18.5	17	0.185	0.197	0.214	1.66	2.7	3.63	4.34	5.28	5.81	6.42	6.62	
	1/2	12.5	17	0.13	0.138	0.153	1.3	2.13	2.86	3.44	4.1	4.45	4.9	5	
	3/8	9	17	0.0558	0.0586	0.071	0.822	1.37	1.8	2.14	2.5	2.69	2.94	3.07	
1.1/2	1.1/2	37.5	34	0.351	0.382	4.79	7.17	10.3	13.4	16	17.9	19.4	20.6	21.3	
	1	27.5	34	0.262	0.285	3.96	5.84	8.33	10.8	13.1	15	16.6	17.7	17.8	
	3/4	18.5	17	0.185	0.197	0.214	1.66	2.7	3.64	4.37	5.39	6.11	7.06	7.58	
	1/2	12.5	17	0.13	0.138	0.153	1.3	2.13	2.87	3.45	4.12	4.5	4.98	5.21	
2	2	64	34	1.21	1.21	7.56	11.7	16.3	21.4	25.5	28.4	30.8	32.4	34.2	
	1.1/2	37.5	34	0.351	0.382	4.79	7.17	10.3	13.5	16.3	19	21.8	24.7	25.6	
	1	27.5	34	0.262	0.285	3.96	5.84	8.33	10.9	13.2	15.4	17.5	19.6	20.5	
3	3	82	45	1.54	1.57	13.6	20.4	29.5	38.5	47.1	55.1	62.2	67.5	70.3	
	2	64	34	1.21	1.21	7.56	11.7	16.3	21.6	26.7	31.2	36.2	40.6	45.2	
	1.1/2	37.5	34	0.351	0.382	4.79	7.17	10.3	13.5	16.3	19.1	22.1	25.4	27.1	
4	4	103.5	60	2.74	2.76	19.4	32.7	45.1	57	70.2	84.2	97.1	108	113	
	3	82	45	1.54	1.57	13.6	20.4	29.5	38.6	47.4	55.7	63.8	70.7	77.9	
	2	64	34	1.21	1.21	7.56	11.7	16.3	21.6	26.7	31.2	36.2	40.6	45.4	
6	6	125.5	60	3.42	3.42	25.8	39.3	55.8	74	91.9	108	124	143	156	
	4	103.5	60	2.74	2.76	19.4	32.7	45.1	57	70.4	84.8	98.6	111	121	
	3	82	45	1.54	1.57	13.6	20.4	29.5	38.6	47.4	55.7	63.9	70.9	78.4	
8	8	160.5	76	5.75	5.75	46.9	72.3	100	132	164	191	218	249	274	
	6	125.5	60	3.42	3.42	25.8	39.3	55.8	74	91.9	108	124	143	156	
	4	103.5	60	2.74	2.76	19.4	32.7	45.1	57	70.4	84.8	98.6	111	121	
10	10	214.5	100	9.45	10.7	66.5	118	165	207	250	298	348	397	433	
	8	160.5	76	5.75	5.75	46.9	72.3	100	132	164	191	219	250	276	
	6	125.5	60	3.42	3.42	25.8	39.3	55.8	74	91.9	108	124	143	156	
12	12	242.5	120	12.4	18.5	92.2	172	251	328	401	467	527	584	641	
	10	214.5	100	9.45	10.7	66.5	118	165	207	250	298	348	398	436	
	8	160.5	76	5.75	5.75	46.9	72.3	100	132	164	191	219	250	276	
14	14	291.5	150	16.6	17.4	106	198	296	400	507	610	705	790	865	
	12	242.5	120	12.4	18.5	92.2	172	251	328	401	467	529	588	647	
	10	214.5	100	9.45	10.7	66.5	118	165	207	250	298	348	398	436	
16	16	341.5	200	21.8	23	159	342	510	673	830	984	1120	1250	1400	
	14	291.5	150	16.6	17.4	106	198	296	400	507	610	706	794	870	
	12	242.5	120	12.4	18.5	92.2	172	251	328	401	467	529	588	647	
20	20	440.5	250	36.5	45.8	348	587	845	1100	1360	1590	1820	2020	2270	
	16	341.5	200	21.8	23	159	342	510	673	832	990	1130	1270	1430	
24	24	521.5	300	55.2	68.2	531	906	1300	1690	2080	2430	2770	3100	3430	
	20	440.5	250	36.5	45.8	348	587	845	1100	1360	1600	1830	2040	2290	



VeGA valve 1-6943 Type - Cv F_L x_T

**DC-E Trim type: Double Cage for liquid service
Flow characteristic: EQUAL PERCENTAGE**

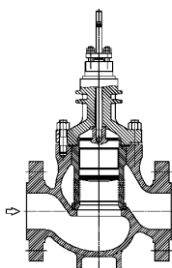
				TRAVEL %											
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Pressure recovery factor F_L				0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955
Press. diff. ratio factor x_T				0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	
3/4	3/4	18.5	17	0.185	0.197	0.205	0.526	0.834	1.3	1.71	2.43	3.01	3.76	4.29	
	1/2	12.5	17	0.13	0.138	0.145	0.385	0.62	0.968	1.28	1.81	2.25	2.83	3.27	
	3/8	9	17	0.0558	0.0586	0.0657	0.226	0.401	0.68	0.935	1.33	1.64	2.03	2.24	
1	3/4	18.5	17	0.185	0.197	0.205	0.526	0.834	1.3	1.71	2.43	3.02	3.79	4.32	
	1/2	12.5	17	0.13	0.138	0.145	0.385	0.62	0.968	1.28	1.81	2.25	2.83	3.29	
	3/8	9	17	0.0558	0.0586	0.0657	0.226	0.401	0.68	0.935	1.33	1.64	2.03	2.24	
1.1/2	1.1/2	37.5	34	0.351	0.382	1.12	1.87	3.22	4.9	6.76	9.08	11.8	14.8	16.5	
	1	27.5	34	0.262	0.285	1.02	1.68	2.83	4.27	5.81	7.73	9.93	12.5	13.9	
	3/4	18.5	17	0.185	0.197	0.205	0.526	0.834	1.3	1.71	2.43	3.02	3.79	4.34	
	1/2	12.5	17	0.13	0.138	0.145	0.385	0.62	0.968	1.28	1.81	2.25	2.83	3.29	
2	2	64	34	1.21	1.21	2.48	3.88	5.9	8.53	12.2	15.7	20.5	25.3	29	
	1.1/2	37.5	34	0.351	0.382	1.12	1.87	3.22	4.9	6.76	9.09	11.8	14.9	16.6	
	1	27.5	34	0.262	0.285	1.02	1.68	2.83	4.27	5.81	7.73	9.96	12.6	14	
3	3	82	45	1.54	1.57	3.97	6.51	10.9	16	22.3	30.3	38.7	46.6	54.4	
	2	64	34	1.21	1.21	2.48	3.88	5.9	8.53	12.2	15.8	20.6	25.6	31.2	
	1.1/2	37.5	34	0.351	0.382	1.12	1.87	3.22	4.9	6.76	9.09	11.8	14.9	16.7	
4	4	103.5	60	2.74	2.76	6.09	11.8	17.9	25.3	35.9	49.6	64.3	78	87.9	
	3	82	45	1.54	1.57	3.97	6.51	10.9	16	22.3	30.3	38.8	46.8	54.9	
	2	64	34	1.21	1.21	2.48	3.88	5.9	8.53	12.2	15.8	20.6	25.6	31.2	
6	6	125.5	60	3.42	3.42	9.38	15.6	24.8	37.4	51.8	66.6	84	105	120	
	4	103.5	60	2.74	2.76	6.09	11.8	17.9	25.3	35.9	49.6	64.4	78.3	88.6	
	3	82	45	1.54	1.57	3.97	6.51	10.9	16	22.3	30.3	38.8	46.8	54.9	
8	8	160.5	76	5.75	5.75	16.7	28.9	44.8	67.2	93.2	120	149	185	212	
	6	125.5	60	3.42	3.42	9.38	15.6	24.8	37.4	51.8	66.6	84	105	120	
	4	103.5	60	2.74	2.76	6.09	11.8	17.9	25.3	35.9	49.6	64.4	78.3	88.6	
10	10	214.5	100	9.45	9.68	20.2	42.2	66.6	94.9	130	174	226	280	323	
	8	160.5	76	5.75	5.75	16.7	28.9	44.8	67.2	93.2	120	149	185	212	
	6	125.5	60	3.42	3.42	9.38	15.6	24.8	37.4	51.8	66.6	84	105	120	
12	12	242.5	120	12.4	13.5	25.8	56.7	96.3	147	208	274	342	409	473	
	10	214.5	100	9.45	9.68	20.2	42.2	66.6	94.9	130	174	226	280	323	
	8	160.5	76	5.75	5.75	16.7	28.9	44.8	67.2	93.2	120	149	185	212	
14	14	291.5	150	16.6	17.4	35.1	72.9	125	197	287	388	490	589	674	
	12	242.5	120	12.4	13.5	25.8	56.7	96.3	147	208	274	342	409	473	
	10	214.5	100	9.45	9.68	20.2	42.2	66.6	94.9	130	174	226	280	323	
16	16	341.5	200	21.8	23	51.1	120	196	292	414	559	712	863	1020	
	14	291.5	150	16.6	17.4	35.1	72.9	125	197	287	388	490	589	674	
	12	242.5	120	12.4	13.5	25.8	56.7	96.3	147	208	274	342	409	473	
20	20	440.5	250	36.5	38.3	111	211	343	502	704	930	1180	1420	1680	
	16	341.5	200	21.8	23	51.1	120	196	292	414	559	712	863	1030	
24	24	521.5	300	55.2	57.8	168	324	523	765	1080	1420	1800	2180	2540	
	20	440.5	250	36.5	38.3	111	211	343	502	704	930	1180	1420	1690	



VeGA valve 1-6943 Type - Cv F_L x_T

EDC-L Trim type: Double Cage with expansion for liquid service
Flow characteristic: **LINEAR**

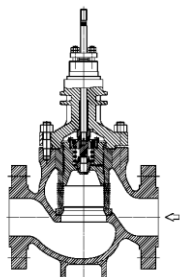
						TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	F_L	x_T	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
3/4	3/4	18.5	17	0.982	0.944	0.185	0.185	0.194	1.5	2.45	3.26	3.88	4.49	4.75	5.09	5.27
	1/2	12.5	17	0.982	0.944	0.13	0.13	0.14	1.2	1.96	2.63	3.15	3.66	3.82	4	4.01
	3/8	9	17	0.982	0.944	0.0558	0.0558	0.066	0.764	1.27	1.68	1.99	2.31	2.49	2.72	2.83
1	3/4	18.5	17	0.982	0.944	0.185	0.185	0.194	1.5	2.45	3.29	3.93	4.78	5.26	5.82	5.99
	1/2	12.5	17	0.982	0.944	0.13	0.13	0.14	1.2	1.96	2.64	3.17	3.78	4.1	4.51	4.6
	3/8	9	17	0.982	0.944	0.0558	0.0558	0.066	0.764	1.27	1.68	1.99	2.32	2.51	2.74	2.85
1.1/2	1.1/2	37.5	34	0.982	0.944	0.351	0.351	4.07	6.09	8.73	11.4	13.6	15.2	16.4	17.5	18.1
	1	27.5	34	0.982	0.944	0.262	0.262	3.38	4.99	7.11	9.25	11.2	12.8	14.1	15.1	15.2
	3/4	18.5	17	0.982	0.944	0.185	0.185	0.194	1.5	2.45	3.3	3.96	4.88	5.54	6.39	6.87
	1/2	12.5	17	0.982	0.944	0.13	0.13	0.14	1.2	1.96	2.64	3.17	3.8	4.15	4.59	4.8
2	2	64	34	0.981	0.940	1.21	1.21	6.37	9.83	13.7	18	21.5	24	25.9	27.3	28.8
	1.1/2	37.5	34	0.982	0.944	0.351	0.351	4.07	6.09	8.76	11.5	13.8	16.1	18.5	21	21.7
	1	27.5	34	0.982	0.944	0.262	0.262	3.38	4.99	7.12	9.28	11.3	13.1	14.9	16.7	17.5
3	3	82	45	0.981	0.940	1.54	1.54	10.6	16	23.1	30.2	37	43.2	48.8	53	55.2
	2	64	34	0.981	0.940	1.21	1.21	6.37	9.84	13.8	18.2	22.5	26.3	30.5	34.2	38.1
	1.1/2	37.5	34	0.982	0.944	0.351	0.351	4.07	6.09	8.76	11.5	13.9	16.2	18.8	21.6	23
4	4	103.5	60	0.982	0.944	2.74	2.74	14.2	24	33	41.8	51.4	61.7	71.2	79.1	82.6
	3	82	45	0.981	0.940	1.54	1.54	10.6	16	23.1	30.3	37.2	43.7	50.1	55.5	61.2
	2	64	34	0.981	0.940	1.21	1.21	6.37	9.84	13.8	18.2	22.5	26.3	30.5	34.2	38.3
6	6	125.5	60	0.982	0.944	3.42	3.42	18	27.5	39	51.7	64.3	75.3	86.8	100	109
	4	103.5	60	0.982	0.944	2.74	2.74	14.2	24	33	41.8	51.6	62.2	72.3	81.2	88.4
	3	82	45	0.981	0.940	1.54	1.54	10.6	16	23.1	30.3	37.2	43.7	50.1	55.6	61.6
8	8	160.5	76	0.983	0.948	5.75	5.75	30.6	47.2	65.7	86.3	107	125	143	162	179
	6	125.5	60	0.982	0.944	3.42	3.42	18	27.5	39	51.7	64.3	75.3	86.8	100	109
	4	103.5	60	0.982	0.944	2.74	2.74	14.2	24	33	41.8	51.6	62.2	72.3	81.2	88.4
10	10	214.5	100	0.983	0.948	9.45	9.45	47.2	84	117	147	177	212	247	282	307
	8	160.5	76	0.983	0.948	5.75	5.75	30.6	47.2	65.7	86.3	107	125	143	163	180
	6	125.5	60	0.982	0.944	3.42	3.42	18	27.5	39	51.7	64.3	75.3	86.8	100	109
12	12	242.5	120	0.981	0.940	12.4	14.1	70.1	131	191	249	305	355	401	444	488
	10	214.5	100	0.983	0.948	9.45	9.45	47.2	84	117	147	177	212	247	283	309
	8	160.5	76	0.983	0.948	5.75	5.75	30.6	47.2	65.7	86.3	107	125	143	163	180
14	14	291.5	150	0.981	0.940	16.6	16.6	79.6	149	222	301	381	458	529	593	649
	12	242.5	120	0.981	0.940	12.4	14.1	70.1	131	191	249	305	355	402	447	492
	10	214.5	100	0.983	0.948	9.45	9.45	47.2	84	117	147	177	212	247	283	309
16	16	341.5	200	0.982	0.944	21.8	21.8	114	245	364	481	593	704	804	895	1000
	14	291.5	150	0.981	0.940	16.6	16.6	79.6	149	222	301	381	458	530	596	653
	12	242.5	120	0.981	0.940	12.4	14.1	70.1	131	191	249	305	355	402	447	492
20	20	440.5	250	0.982	0.944	36.5	36.5	246	415	596	777	959	1130	1280	1430	1600
	16	341.5	200	0.982	0.944	21.8	21.8	114	245	364	481	595	708	812	906	1020
24	24	521.5	300	0.982	0.944	55.2	55.2	371	633	908	1180	1450	1700	1940	2170	2400
	20	440.5	250	0.982	0.944	36.5	36.5	246	415	596	777	959	1130	1290	1440	1620



VeGA valve 1-6943 Type - Cv F_L x_T

EDC-E Trim type: Double Cage with expansion for liquid service
Flow characteristic: EQUAL PERCENTAGE

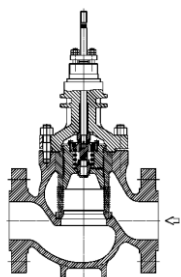
						TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	F _L	x _T	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
3/4	3/4	18.5	17	0.982	0.944	0.185	0.185	0.185	0.46	0.726	1.13	1.49	2.11	2.62	3.27	3.73
	1/2	12.5	17	0.982	0.944	0.13	0.13	0.13	0.34	0.545	0.851	1.13	1.59	1.98	2.49	2.87
	3/8	9	17	0.982	0.944	0.0558	0.0558	0.0587	0.202	0.358	0.607	0.836	1.19	1.46	1.81	2
1	3/4	18.5	17	0.982	0.944	0.185	0.185	0.185	0.46	0.726	1.13	1.49	2.11	2.63	3.29	3.76
	1/2	12.5	17	0.982	0.944	0.13	0.13	0.13	0.34	0.545	0.851	1.13	1.59	1.98	2.49	2.89
	3/8	9	17	0.982	0.944	0.0558	0.0558	0.0587	0.202	0.358	0.607	0.836	1.19	1.46	1.81	2
1.1/2	1.1/2	37.5	34	0.982	0.944	0.351	0.351	0.902	1.51	2.6	3.96	5.47	7.34	9.51	12	13.3
	1	27.5	34	0.982	0.944	0.262	0.262	0.831	1.37	2.31	3.48	4.73	6.29	8.09	10.2	11.3
	3/4	18.5	17	0.982	0.944	0.185	0.185	0.185	0.46	0.726	1.13	1.49	2.11	2.63	3.29	3.77
	1/2	12.5	17	0.982	0.944	0.13	0.13	0.13	0.34	0.545	0.851	1.13	1.59	1.98	2.49	2.89
2	2	64	34	0.981	0.940	1.21	1.21	2	3.14	4.77	6.89	9.83	12.7	16.6	20.5	23.4
	1.1/2	37.5	34	0.982	0.944	0.351	0.351	0.902	1.51	2.6	3.96	5.47	7.35	9.55	12.1	13.4
	1	27.5	34	0.982	0.944	0.262	0.262	0.831	1.37	2.31	3.48	4.73	6.29	8.11	10.2	11.4
3	3	82	45	0.981	0.940	1.54	1.54	3.01	4.94	8.23	12.1	16.9	23	29.4	35.4	41.3
	2	64	34	0.981	0.940	1.21	1.21	2	3.14	4.77	6.89	9.83	12.7	16.7	20.7	25.2
	1.1/2	37.5	34	0.982	0.944	0.351	0.351	0.902	1.51	2.6	3.96	5.47	7.35	9.55	12.1	13.5
4	4	103.5	60	0.982	0.944	2.74	2.74	4.31	8.38	12.7	17.9	25.4	35.2	45.6	55.3	62.2
	3	82	45	0.981	0.940	1.54	1.54	3.01	4.94	8.23	12.1	16.9	23	29.4	35.5	41.7
	2	64	34	0.981	0.940	1.21	1.21	2	3.14	4.77	6.89	9.83	12.7	16.7	20.7	25.2
6	6	125.5	60	0.982	0.944	3.42	3.42	6.43	10.7	17	25.6	35.5	45.7	57.6	72.2	82.2
	4	103.5	60	0.982	0.944	2.74	2.74	4.31	8.38	12.7	17.9	25.4	35.2	45.7	55.5	62.8
	3	82	45	0.981	0.940	1.54	1.54	3.01	4.94	8.23	12.1	16.9	23	29.4	35.5	41.7
8	8	160.5	76	0.983	0.948	5.75	5.75	10.7	18.5	28.6	42.9	59.5	76.5	95.4	118	136
	6	125.5	60	0.982	0.944	3.42	3.42	6.43	10.7	17	25.6	35.5	45.7	57.6	72.2	82.2
	4	103.5	60	0.982	0.944	2.74	2.74	4.31	8.38	12.7	17.9	25.4	35.2	45.7	55.5	62.8
10	10	214.5	100	0.983	0.948	9.45	9.45	14	29.4	46.4	66.1	90.4	121	157	195	225
	8	160.5	76	0.983	0.948	5.75	5.75	10.7	18.5	28.6	42.9	59.5	76.5	95.4	118	136
	6	125.5	60	0.982	0.944	3.42	3.42	6.43	10.7	17	25.6	35.5	45.7	57.6	72.2	82.2
12	12	242.5	120	0.981	0.940	12.4	12.4	19.1	42.1	71.6	109	154	203	254	304	352
	10	214.5	100	0.983	0.948	9.45	9.45	14	29.4	46.4	66.1	90.4	121	157	195	225
	8	160.5	76	0.983	0.948	5.75	5.75	10.7	18.5	28.6	42.9	59.5	76.5	95.4	118	136
14	14	291.5	150	0.981	0.940	16.6	16.6	25.9	53.9	92	145	212	287	362	435	497
	12	242.5	120	0.981	0.940	12.4	12.4	19.1	42.1	71.6	109	154	203	254	304	352
	10	214.5	100	0.983	0.948	9.45	9.45	14	29.4	46.4	66.1	90.4	121	157	195	225
16	16	341.5	200	0.982	0.944	21.8	21.8	35.1	82.6	135	201	284	383	489	592	702
	14	291.5	150	0.981	0.940	16.6	16.6	25.9	53.9	92	145	212	287	362	435	497
	12	242.5	120	0.981	0.940	12.4	12.4	19.1	42.1	71.6	109	154	203	254	304	352
20	20	440.5	250	0.982	0.944	36.5	36.5	75.6	144	234	342	480	634	802	965	1150
	16	341.5	200	0.982	0.944	21.8	21.8	35.1	82.6	135	201	284	383	489	592	706
24	24	521.5	300	0.982	0.944	55.2	55.2	113	217	350	513	721	951	1210	1460	1700
	20	440.5	250	0.982	0.944	36.5	36.5	75.6	144	234	342	480	634	802	965	1150



VeGA valve 1-6948 Type - Cv F_L x_T

PLN-L Trim type: Plug with Pilot - Low Noise
Flow characteristic: LINEAR

DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	TRAVEL %											
				5% *	10% *	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Pressure recovery factor F _L				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Press. diff. ratio factor x _T				0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.77	0.77	
2	2	65.5	34	0	0	1.21	4.06	11.5	23.4	34.6	41.9	45.9	50	54	
3	3	83.5	45	0	0	1.57	7.68	25.3	46.2	66.7	85.1	96.5	104	110	
4	4	105.5	60	0	2.71	3.43	21.3	51.6	83.3	114	142	159	170	180	
6	6	127.5	60	0	0	3.46	20.9	57.9	97.7	137	176	211	245	277	
8	8	162.5	76	0	5.75	7.39	39.2	97.1	155	214	272	324	374	465	
10	10	216.5	100	0	9.45	25.7	108	16.3	339	454	559	658	754	851	
12	12	244.5	120	0	12.4	43.2	159	307	456	604	737	863	989	1110	
14	14	294.5	150	0	16.5	39.7	216	437	660	883	1100	1320	1530	1730	
16	16	344.5	200	0	21.7	104	413	773	1130	1460	1760	2050	2210	2330	
20	20	443.5	250	36.2	36.4	325	850	1410	1980	2470	2950	3430	3790	4000	
24	24	524.5	300	55.2	55.3	491	1280	2140	2970	3700	4420	5120	5570	5860	

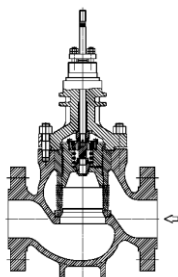


VeGA valve 1-6948 Type - Cv F_L x_T

PLN-E Trim type: Plug with Pilot - Low Noise
Flow characteristic: EQUAL PERCENTAGE

DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	TRAVEL %											
				5% *	10% *	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Pressure recovery factor F _L				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93
Press. diff. ratio factor x _T				0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.76	0.76	0.75
2	2	65.5	34	0	0	1.21	2.62	5.84	10.4	16.5	23.1	31.1	39.8	44.2	
3	3	83.5	45	0	0	1.57	4.96	10.5	18.8	31	46.2	61.6	79.2	94.5	
4	4	105.5	60	0	2.71	3.17	10.5	21.1	36.1	52.1	73.3	100	129	153	
6	6	127.5	60	0	0	3.46	14.1	30.3	54.8	83.4	120	159	196	229	
8	8	162.5	76	0	5.75	8.32	25.7	57.4	98.1	151	212	275	332	385	
10	10	216.5	100	0	9.45	15	43.7	95.4	169	266	379	494	594	690	
12	12	244.5	120	0	12.4	22.1	62.4	134	237	365	509	653	782	908	
14	14	294.5	150	0	16.5	26.8	98.1	206	358	560	781	1000	1220	1430	
16	16	344.5	200	0	21.7	53	141	280	456	701	977	1310	1620	1920	
20	20	443.5	250	36.2	36.4	108	285	534	857	1270	1810	2330	2810	3280	
24	24	524.5	300	55.2	55.3	189	424	801	1290	1900	2610	3360	4090	4800	

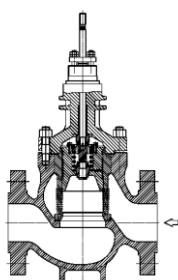
*When Cv value is not indicated pilot plug is open and main plug is still closed.



VeGA valve 1-6948 Type - $C_v F_L x_T$

PXLN-L Trim type: Plug with Pilot - Special Low Noise
Flow characteristic: LINEAR

				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5% *	10% *	20%	30%	40%	50%	60%	70%	80%	90%	100%
Pressure recovery factor F_L				0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.93
Press. diff. ratio factor x_T				0.78	0.78	0.78	0.77	0.77	0.77	0.76	0.76	0.76	0.75	0.75
2	2	65.5	34	0	0	1.21	3.31	7.6	15	22.1	29	36	40.4	43
3	3	83.5	45	0	0	1.57	5.46	16.5	28.9	41	53	64.8	76.4	86.9
4	4	105.5	60	0	2.72	4.54	15.3	33.8	52.6	71.2	90	109	126	142
6	6	127.5	60	0	0	3.46	15.4	38.2	62	85.7	109	133	156	179
8	8	162.5	76	0	5.75	9.61	34.4	70.9	106	142	178	213	249	285
10	10	216.5	100	0	9.45	20.1	70.3	138	206	274	341	410	477	538
12	12	244.5	120	0	12.4	33.9	111	207	302	397	491	586	675	756
14	14	294.5	150	0	16.5	33.1	148	290	434	576	717	862	1000	1140
16	16	344.5	200	0	21.7	74.3	267	491	713	932	1150	1360	1550	1730
20	20	443.5	250	36.2	36.4	218	547	891	1240	1590	1930	2250	2540	2830
24	24	524.5	300	55.2	55.3	324	799	1310	1810	2320	2820	3280	3700	4130



VeGA valve 1-6948 Type - $C_v F_L x_T$

PXLN-E Trim type: Plug with Pilot - Special Low Noise
Flow characteristic: EQUAL PERCENTAGE

				TRAVEL %										
DN [in]	Port [in]	Φ Seat [mm]	Travel [mm]	5% *	10% *	20%	30%	40%	50%	60%	70%	80%	90%	100%
Pressure recovery factor F_L				0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.93
Press. diff. ratio factor x_T				0.78	0.78	0.78	0.78	0.77	0.77	0.76	0.76	0.75	0.75	0.74
2	2	65.5	34	0	0	1.21	2.26	4.4	8.44	13.4	18.7	25	31.6	38.4
3	3	83.5	45	0	0	1.57	3.87	9.36	17.6	26.7	36.8	48.7	61	73
4	4	105.5	60	0	2.72	3.06	9.18	18.3	29.9	43.9	61.2	80.3	99.3	118
6	6	127.5	60	0	0	3.46	10.5	20.5	35.6	55.1	78.4	102	125	149
8	8	162.5	76	0	5.75	7.33	17.7	36.4	59.3	89	125	159	195	232
10	10	216.5	100	0	9.45	13	30.7	63.3	112	173	239	309	376	442
12	12	244.5	120	0	12.4	21.1	51.9	99	166	249	341	435	530	624
14	14	294.5	150	0	16.5	23.8	70.3	141	240	369	510	655	796	937
16	16	344.5	200	0	21.7	42	116	226	378	573	792	1020	1240	1420
20	20	443.5	250	36.2	36.4	101	228	413	652	966	1310	1650	2000	2310
24	24	524.5	300	55.2	55.3	137	326	583	933	1390	1880	2390	2890	3340

*When C_v value is not indicated pilot plug is open and main plug is still closed.



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VeGA 1-6940 SERIES CAGE CONTROL VALVES
SECTION C
—
PRESSURE DROP TABLES



PARCOL

SECTION A – GENERAL DESCRIPTION

SECTION B – TECHNICAL TABLES
CV, F_L, X_T VERSUS TRAVEL

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⁽¹⁾Tabulated values refers to room temperature conditions. Temperature influence on balancing inserts performances has not been taken into account. See relevant documentation for further information.

Maximum differential pressures $\Delta P = P_1 - P_2$ are calculated under the assumption $P_2 = 0$. When P_2 is significantly higher than zero please contact Parcol Technical Department.

⁽²⁾Flatted plugs available only for 1-6941 type, max rating ANSI 600 for DN1/2".

1-6941 Type

Trim Type Microflow
 Leakage class IV IEC 60534-4

DN in	Port In	Plug Type ⁽¹⁾	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)						
					Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar				
1/2 3/4 1	Ø3mm	F	17	1-X-290 D25	17	÷	43	60	332				-	
					11	÷	29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20	÷	29	40	430				-
	Ø 4mm	F	17	1-X-290 D25	17	÷	43	60	332				-	
					11	÷	29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20	÷	29	40	430				-
	Ø 6mm	F	17	1-X-290 D25	17	÷	43	60	332				-	
					11	÷	29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20	÷	29	40	430				-
	Ø 6mm	C	17	1-X-290 D25	17	÷	43	60	332				-	
					11	÷	29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20	÷	29	40	430				-
	Ø 9mm	C	17	1-X-290 D25	17	÷	43	60	322				-	
					11	÷	29	60	200	3	÷	13	40	430
			17	1-X-290 D33	20	÷	29	40	430				-	
Ø 12mm	C	17	1-X-290 D25	17	÷	43	60	192	7	÷	26	60	401	
				11	÷	29	40	119	3	÷	13	40	314	
			17	1-X-290 D33	20	÷	29	40	430	7	÷	13	40	430

⁽¹⁾C=Contoured, F=Flatted

1-6941 Type

Trim Type Contoured
 Leakage class IV IEC 60534-4

DN in	Port in	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)							
				Spring range psi		Supply psi	ΔP shut-off bar	Spring range psi		Supply psi	ΔP shut-off bar			
1/2 3/4 1	1/2	17	1-X-290 D25	17	÷	43	60	126	7	÷	26	60	264	
				11	÷	29	40	78	3	÷	13	40	207	
		17	1-X-290 D33	30	÷	44	60	430	13	÷	27	60	430	
				20	÷	29	40	279	7	÷	13	40	381	
3/4 1	3/4	17	1-X-290 D25	17	÷	43	60	75	7	÷	26	60	163	
				11	÷	29	40	44	3	÷	13	40	126	
		17	1-X-290 D33	30	÷	44	60	286	13	÷	27	60	318	
				20	÷	29	40	186	7	÷	13	40	252	
1	1	17	1-X-290 D25	17	÷	43	60	51	7	÷	26	60	113	
				11	÷	29	40	30	3	÷	13	40	88	
		17	1-X-290 D33	30	÷	44	60	194	13	÷	27	60	216	
				20	÷	29	40	125	7	÷	13	40	171	
1.1/2 2	1/2	25	1-X-290 D33	23	÷	44	60	334	7	÷	26	60	430	
				15	÷	29	40	216	4	÷	13	40	394	
		25	1-X-290 D39	25	÷	45	60	430					-	
				16	÷	30	40	320	4	÷	14	40	430	
	25	1-X-290 D46	22	÷	31	40	430					-		
	3/4	25	1-X-290 D33	23	÷	44	60	214	7	÷	26	60	321	
				15	÷	29	40	139	4	÷	13	40	253	
		25	1-X-290 D39	25	÷	45	60	318	7	÷	28	60	418	
				16	÷	30	40	206	4	÷	14	40	336	
		1	25	1-X-290 D33	23	÷	44	60	149	7	÷	26	60	223
					15	÷	29	40	96	4	÷	13	40	176
	25		1-X-290 D39	25	÷	47	60	222	7	÷	28	60	291	
				16	÷	30	40	143	4	÷	14	40	234	
	1 1/4	25	1-X-290 D33	32	÷	47	60	430	16	÷	31	60	392	
				22	÷	31	40	288	8	÷	15	40	329	
		25	1-X-290 D39	23	÷	44	60	102	7	÷	26	60	153	
				15	÷	29	40	65	4	÷	13	40	120	
	25	1-X-290 D39	25	÷	45	60	152	7	÷	28	60	200		
			16	÷	30	40	98	4	÷	14	40	160		
	1 1/2	25	1-X-290 D46	32	÷	47	60	301	16	÷	31	60	269	
				22	÷	31	40	197	8	÷	15	40	225	
		25	1-X-290 D33	23	÷	44	60	64	7	÷	26	60	97	
				15	÷	29	40	40	4	÷	13	40	76	
2	25	1-X-290 D39	25	÷	45	60	98	7	÷	28	60	130		
			16	÷	30	40	63	4	÷	14	40	104		
	25	1-X-290 D46	32	÷	47	60	195	16	÷	31	60	175		
			22	÷	31	40	128	8	÷	15	40	146		
2	2	25	1-X-290 D33	23	÷	44	60	39	7	÷	26	60	59	
				15	÷	29	40	24	4	÷	13	40	46	
		25	1-X-290 D39	25	÷	45	60	60	7	÷	28	60	79	
				16	÷	30	40	38	4	÷	14	40	63	
25	1-X-290 D46	32	÷	47	60	119	16	÷	31	60	106			
		22	÷	31	40	78	8	÷	15	40	89			

1-6941 Type

Trim Type Contoured
 Leakage class IV IEC 60534-4

DN in	Port in	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
3	1	34	1-X-290 D39	25 ÷ 45	60	223	12 ÷ 28	60	288
				17 ÷ 30	40	144	6 ÷ 14	40	232
	34	1-X-290 D46	24 ÷ 44	60	319	7 ÷ 26	60	430	
			16 ÷ 29	40	208	4 ÷ 14	40	351	
	1 1/4	34	1-X-290 D39	25 ÷ 45	60	153	12 ÷ 28	60	197
				17 ÷ 30	40	99	6 ÷ 14	40	159
	34	1-X-290 D46	24 ÷ 44	60	219	7 ÷ 26	60	300	
			16 ÷ 29	40	143	4 ÷ 14	40	240	
	1 1/2	34	1-X-290 D39	25 ÷ 45	60	99	12 ÷ 28	60	128
				17 ÷ 30	40	64	6 ÷ 14	40	103
	34	1-X-290 D46	24 ÷ 44	60	142	7 ÷ 26	60	195	
			16 ÷ 29	40	92	4 ÷ 14	40	156	
	2	34	1-X-290 D39	25 ÷ 45	60	60	12 ÷ 28	60	78
				17 ÷ 30	40	39	6 ÷ 14	40	62
	34	1-X-290 D46	24 ÷ 44	60	86	7 ÷ 26	60	119	
			16 ÷ 29	40	56	4 ÷ 14	40	95	
	2 1/2	34	1-X-290 D39	25 ÷ 45	60	34	12 ÷ 28	60	44
				17 ÷ 30	40	22	6 ÷ 14	40	35
	34	1-X-290 D46	24 ÷ 44	60	49	7 ÷ 26	60	67	
			16 ÷ 29	40	32	4 ÷ 14	40	54	
	3	34	1-X-290 D39	25 ÷ 45	60	23	12 ÷ 28	60	30
				17 ÷ 30	40	15	6 ÷ 14	40	24
	34	1-X-290 D46	24 ÷ 44	60	34	7 ÷ 26	60	47	
			16 ÷ 29	40	22	4 ÷ 14	40	37	
4	1 1/4	45	1-X-290 D39	19 ÷ 47	60	115	7 ÷ 28	60	195
				13 ÷ 31	40	73	4 ÷ 14	40	157
	45	1-X-290 D46	24 ÷ 44	60	220	12 ÷ 28	60	295	
			16 ÷ 30	40	144	6 ÷ 14	40	238	
	45	1-X-290 D63	22 ÷ 41	60	420			-	
			15 ÷ 27	40	277	3 ÷ 13	40	430	
	1 1/2	45	1-X-290 D39	19 ÷ 47	60	74	7 ÷ 28	60	126
				13 ÷ 31	40	47	4 ÷ 14	40	102
	45	1-X-290 D46	24 ÷ 44	60	143	12 ÷ 28	60	192	
			16 ÷ 30	40	93	6 ÷ 14	40	154	
	45	1-X-290 D63	22 ÷ 41	60	273	7 ÷ 26	60	430	
			15 ÷ 27	40	180	3 ÷ 13	40	339	
	2	45	1-X-290 D39	19 ÷ 47	60	45	7 ÷ 28	60	77
				13 ÷ 31	40	28	4 ÷ 14	40	62
	45	1-X-290 D46	24 ÷ 44	60	87	12 ÷ 28	60	117	
			16 ÷ 30	40	56	6 ÷ 14	40	94	
	45	1-X-290 D63	22 ÷ 41	60	167	7 ÷ 26	60	263	
			15 ÷ 27	40	110	3 ÷ 13	40	207	
	2 1/2	45	1-X-290 D39	19 ÷ 47	60	25	7 ÷ 28	60	43
				13 ÷ 31	40	16	4 ÷ 14	40	35
	45	1-X-290 D46	24 ÷ 44	60	49	12 ÷ 28	60	66	
			16 ÷ 30	40	32	6 ÷ 14	40	53	
	45	1-X-290 D63	22 ÷ 41	60	95	7 ÷ 26	60	149	
			15 ÷ 27	40	62	3 ÷ 13	40	118	

1-6941 Type

Trim Type Contoured
 Leakage class IV IEC 60534-4

DN in	Port in	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)			
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar	
4	3	45	1-X-290 D39	19 ÷ 47	60	17	7 ÷ 28	60	30	
				13 ÷ 31	40	11	4 ÷ 14	40	24	
		45	1-X-290 D46	24 ÷ 44	60	34	12 ÷ 28	60	46	
				16 ÷ 30	40	22	6 ÷ 14	40	37	
		45	1-X-290 D63	22 ÷ 41	60	66	7 ÷ 26	60	104	
				15 ÷ 27	40	43	3 ÷ 13	40	82	
	4	45	1-X-290 D39	19 ÷ 47	60	12	7 ÷ 28	60	21	
				13 ÷ 31	40	7	4 ÷ 14	40	16	
		45	1-X-290 D46	24 ÷ 44	60	23	12 ÷ 28	60	32	
				16 ÷ 30	40	15	6 ÷ 14	40	25	
		45	1-X-290 D63	22 ÷ 41	60	46	7 ÷ 26	60	72	
				15 ÷ 27	40	30	3 ÷ 13	40	57	
6	2 1/2	60	1-X-290 D46	19 ÷ 48	60	38	7 ÷ 28	60	65	
				13 ÷ 32	40	24	4 ÷ 14	40	52	
		60	1-X-290 D63	21 ÷ 42	60	91	10 ÷ 26	60	148	
				14 ÷ 28	40	60	5 ÷ 13	40	116	
	3	60	1-X-290 D46	19 ÷ 48	60	26	7 ÷ 28	60	45	
				13 ÷ 32	40	16	4 ÷ 14	40	36	
		60	1-X-290 D63	21 ÷ 42	60	63	10 ÷ 26	60	103	
				14 ÷ 28	40	41	5 ÷ 13	40	81	
	4	60	1-X-290 D46	19 ÷ 48	60	18	7 ÷ 28	60	31	
				13 ÷ 32	40	11	4 ÷ 14	40	25	
		60	1-X-290 D63	21 ÷ 41	60	44	10 ÷ 26	60	72	
				14 ÷ 28	40	28	5 ÷ 13	40	56	
	5	60	1-X-290 D46	19 ÷ 48	60	11	7 ÷ 28	60	19	
				13 ÷ 32	40	7	4 ÷ 14	40	15	
		60	1-X-290 D63	21 ÷ 42	60	27	10 ÷ 26	60	44	
				14 ÷ 28	40	17	5 ÷ 13	40	34	
	6	60	1-X-290 D46	19 ÷ 48	60	7	7 ÷ 28	60	13	
				13 ÷ 32	40	5	4 ÷ 14	40	11	
		60	1-X-290 D63	21 ÷ 42	60	19	10 ÷ 26	60	31	
				14 ÷ 28	40	12	5 ÷ 13	40	24	
	8	4	76	1-X-290 D63	15 ÷ 42	60	30	7 ÷ 26	60	70
					10 ÷ 28	40	20	3 ÷ 13	40	55
		5	76	1-X-290 D63	15 ÷ 42	60	18	7 ÷ 26	60	43
					10 ÷ 28	40	12	3 ÷ 13	40	34
6		76	1-X-290 D63	15 ÷ 42	60	13	7 ÷ 26	60	31	
				10 ÷ 28	40	9	3 ÷ 13	40	24	
8		76	1-X-290 D63	15 ÷ 42	60	8	7 ÷ 26	60	19	
				10 ÷ 28	40	5	3 ÷ 13	40	15	

1-6941 Type

Trim Type	Microflow	
Leakage class	V & VI	IEC 60534-4

DN in	Port in	Plug Type ⁽¹⁾	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)				
					Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar		
1/2 3/4 1	Ø3mm	F	17	1-X-290 D25	17 ÷ 43	60	332				-	
					11 ÷ 29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20 ÷ 29	40	430				-
	Ø4mm	F	17	1-X-290 D25	17 ÷ 43	60	332					-
					11 ÷ 29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20 ÷ 29	40	430				-
	Ø6mm	F	17	1-X-290 D25	17 ÷ 43	60	332					-
					11 ÷ 29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20 ÷ 29	40	430				-
	Ø6mm	C	17	1-X-290 D25	17 ÷ 43	60	332					-
					11 ÷ 29	40	209	3	÷	13	40	430
				17	1-X-290 D33	20 ÷ 29	40	430				-
	Ø9mm	C	17	1-X-290 D25	17 ÷ 43	60	285					-
					11 ÷ 29	40	163	3	÷	13	40	430
				17	1-X-290 D33	20 ÷ 29	40	430				-
	Ø12mm	C	17	1-X-290 D25	17 ÷ 43	60	163	7	÷	26	60	372
11 ÷ 29					40	90	3	÷	13	40	286	
30 ÷ 44					60	430						-
20 ÷ 29					40	411	7	÷	13	40	430	

⁽¹⁾C=Contoured, F=Flatted

1-6941 Type

Trim Type Contoured
 Leakage class V & VI IEC 60534-4

DN in	Port In	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring psi	Supply psi	ΔP shut-off bar
1/2 3/4 1	1/2	17	1-X-290 D25	17 ÷ 43	60	103	7 ÷ 26	60	241
				11 ÷ 29	40	54	3 ÷ 13	40	184
		17	1-X-290 D33	30 ÷ 44	60	410	13 ÷ 27	60	430
				20 ÷ 29	40	256	7 ÷ 13	40	358
3/4 1	3/4	17	1-X-290 D25	17 ÷ 43	60	56	7 ÷ 26	60	144
				11 ÷ 29	40	25	3 ÷ 13	40	108
		17	1-X-290 D33	30 ÷ 44	60	267	13 ÷ 27	60	299
				20 ÷ 29	40	167	7 ÷ 13	40	234
1	1	17	1-X-290 D25	17 ÷ 43	60	36	7 ÷ 26	60	98
				11 ÷ 29	40	14	3 ÷ 13	40	72
		17	1-X-290 D33	30 ÷ 44	60	179	13 ÷ 27	60	201
				20 ÷ 29	40	109	7 ÷ 13	40	155
1.1/2 2	1/2	25	1-X-290 D33	23 ÷ 44	60	311	7 ÷ 26	60	430
				15 ÷ 29	40	193	4 ÷ 13	40	370
		25	1-X-290 D39	25 ÷ 45	60	430			-
				16 ÷ 30	40	297	4 ÷ 14	40	430
		25	1-X-290 D46	22 ÷ 31	40	430			-
	3/4	25	1-X-290 D33	23 ÷ 44	60	196	7 ÷ 26	60	302
				15 ÷ 29	40	120	4 ÷ 13	40	234
		25	1-X-290 D39	25 ÷ 45	60	300	7 ÷ 28	60	399
				16 ÷ 30	40	187	4 ÷ 14	40	317
		25	1-X-290 D46	32 ÷ 47	60	430			-
				22 ÷ 31	40	394	8 ÷ 15	40	430
	1	25	1-X-290 D33	23 ÷ 44	60	133	7 ÷ 26	60	208
				15 ÷ 29	40	80	4 ÷ 13	40	160
		25	1-X-290 D39	25 ÷ 45	60	206	7 ÷ 28	60	276
				16 ÷ 30	40	128	4 ÷ 14	40	219
		25	1-X-290 D46	32 ÷ 47	60	423	16 ÷ 31	60	377
				22 ÷ 31	40	272	8 ÷ 15	40	313
	1 1/4	25	1-X-290 D33	23 ÷ 44	60	89	7 ÷ 26	60	140
				15 ÷ 29	40	52	4 ÷ 13	40	107
		25	1-X-290 D39	25 ÷ 45	60	139	7 ÷ 28	60	187
				16 ÷ 30	40	85	4 ÷ 14	40	147
		25	1-X-290 D46	32 ÷ 47	60	288	16 ÷ 31	60	256
				22 ÷ 31	40	184	8 ÷ 15	40	212
1 1/2	25	1-X-290 D33	23 ÷ 44	60	53	7 ÷ 26	60	87	
			15 ÷ 29	40	30	4 ÷ 13	40	65	
	25	1-X-290 D39	25 ÷ 45	60	88	7 ÷ 28	60	119	
			16 ÷ 30	40	53	4 ÷ 14	40	93	
	25	1-X-290 D46	32 ÷ 47	60	185	16 ÷ 31	60	164	
			22 ÷ 31	40	117	8 ÷ 15	40	136	
2	25	1-X-290 D33	23 ÷ 44	60	30	7 ÷ 26	60	51	
			15 ÷ 29	40	16	4 ÷ 13	40	38	
	25	1-X-290 D39	25 ÷ 45	60	52	7 ÷ 28	60	71	
			16 ÷ 30	40	30	4 ÷ 14	40	55	
	25	1-X-290 D46	32 ÷ 47	60	111	16 ÷ 31	60	98	
			22 ÷ 31	40	70	8 ÷ 15	40	81	

1-6941 Type

Trim Type Contoured
 Leakage class V & VI IEC 60534-4

DN in	Port In	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
3	1	34	1-X-290 D39	25 ÷ 45	60	208	12 ÷ 28	60	272
				17 ÷ 30	40	129	6 ÷ 14	40	216
			1-X-290 D46	24 ÷ 44	60	304	7 ÷ 28	60	422
				16 ÷ 29	40	193	4 ÷ 14	40	335
	1 1/4	34	1-X-290 D39	25 ÷ 45	60	140	12 ÷ 28	60	184
				17 ÷ 30	40	86	6 ÷ 14	40	146
			1-X-290 D46	24 ÷ 44	60	206	7 ÷ 28	60	287
				16 ÷ 29	40	130	4 ÷ 14	40	227
	1 1/2	34	1-X-290 D39	25 ÷ 45	60	89	12 ÷ 28	60	117
				17 ÷ 30	40	53	6 ÷ 14	40	92
			1-X-290 D46	24 ÷ 44	60	132	7 ÷ 28	60	184
				16 ÷ 29	40	82	4 ÷ 14	40	146
	2	34	1-X-290 D39	25 ÷ 45	60	52	12 ÷ 28	60	70
				17 ÷ 30	40	30	6 ÷ 14	40	54
		34	1-X-290 D46	24 ÷ 44	60	78	7 ÷ 28	60	111
				16 ÷ 29	40	48	4 ÷ 14	40	87
	2 1/2	34	1-X-290 D39	25 ÷ 45	60	28	12 ÷ 28	60	38
				17 ÷ 30	40	15	6 ÷ 14	40	29
		34	1-X-290 D46	24 ÷ 44	60	43	7 ÷ 28	60	61
				16 ÷ 29	40	25	4 ÷ 14	40	48
	3	34	1-X-290 D39	25 ÷ 45	60	18	12 ÷ 28	60	25
				17 ÷ 30	40	10	6 ÷ 14	40	19
		34	1-X-290 D46	24 ÷ 44	60	29	7 ÷ 28	60	41
				16 ÷ 29	40	17	4 ÷ 14	40	32
4	1 1/4	45	1-X-290 D39	19 ÷ 47	60	102	7 ÷ 28	60	182
				13 ÷ 31	40	60	4 ÷ 14	40	144
		45	1-X-290 D46	24 ÷ 44	60	207	12 ÷ 28	60	282
				16 ÷ 30	40	131	6 ÷ 14	40	225
		45	1-X-290 D63	22 ÷ 41	60	407			-
				15 ÷ 27	40	264	3 ÷ 13	40	430
	1 1/2	45	1-X-290 D39	19 ÷ 47	60	64	7 ÷ 28	60	116
				13 ÷ 31	40	37	4 ÷ 14	40	91
		45	1-X-290 D46	24 ÷ 44	60	133	12 ÷ 28	60	181
				16 ÷ 30	40	83	6 ÷ 14	40	144
		45	1-X-290 D63	22 ÷ 41	60	263	7 ÷ 26	60	419
				15 ÷ 27	40	169	3 ÷ 13	40	328
	2	45	1-X-290 D39	19 ÷ 47	60	37	7 ÷ 28	60	69
				13 ÷ 31	40	20	4 ÷ 14	40	54
		45	1-X-290 D46	24 ÷ 44	60	79	12 ÷ 28	60	109
				16 ÷ 30	40	48	6 ÷ 14	40	86
		45	1-X-290 D63	22 ÷ 41	60	159	7 ÷ 26	60	254
				15 ÷ 27	40	101	3 ÷ 13	40	199

1-6941 Type

Trim Type Contoured
 Leakage class V & VI IEC 60534-4

DN in	Port In	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
4	2 1/2	45	1-X-290 D39	19 ÷ 47	60	19	7 ÷ 28	60	37
				13 ÷ 31	40	10	4 ÷ 14	40	29
		45	1-X-290 D46	24 ÷ 44	60	43	12 ÷ 28	60	60
				16 ÷ 30	40	26	6 ÷ 14	40	47
		45	1-X-290 D63	22 ÷ 41	60	88	7 ÷ 26	60	143
				15 ÷ 27	40	56	3 ÷ 13	40	111
	3	45	1-X-290 D39	19 ÷ 47	60	12	7 ÷ 28	60	25
				13 ÷ 31	40	6	4 ÷ 14	40	19
		45	1-X-290 D46	24 ÷ 44	60	29	12 ÷ 28	60	41
				16 ÷ 30	40	17	6 ÷ 14	40	32
		45	1-X-290 D63	22 ÷ 41	60	61	7 ÷ 26	60	99
				15 ÷ 27	40	38	3 ÷ 13	40	77
4	45	1-X-290 D39	19 ÷ 47	60	7	7 ÷ 28	60	16	
			13 ÷ 31	40	3	4 ÷ 14	40	12	
	45	1-X-290 D46	24 ÷ 44	60	19	12 ÷ 28	60	27	
			16 ÷ 30	40	11	6 ÷ 14	40	21	
	45	1-X-290 D63	22 ÷ 41	60	41	7 ÷ 26	60	68	
			15 ÷ 27	40	25	3 ÷ 13	40	52	
6	2 1/2	60	1-X-290 D46	19 ÷ 40	60	31	7 ÷ 28	60	59
				13 ÷ 32	40	18	4 ÷ 14	40	46
		60	1-X-290 D63	21 ÷ 40	60	85	10 ÷ 26	60	142
				14 ÷ 28	40	53	5 ÷ 13	40	110
	3	60	1-X-290 D46	19 ÷ 48	60	21	7 ÷ 28	60	40
				13 ÷ 32	40	11	4 ÷ 14	40	31
		60	1-X-290 D63	21 ÷ 42	60	58	10 ÷ 26	60	98
				14 ÷ 28	40	36	5 ÷ 13	40	76
	4	60	1-X-290 D46	19 ÷ 48	60	14	7 ÷ 28	60	27
				13 ÷ 32	40	7	4 ÷ 14	40	21
		60	1-X-290 D63	21 ÷ 42	60	39	10 ÷ 26	60	67
				14 ÷ 28	40	24	5 ÷ 13	40	52
	5	60	1-X-290 D46	19 ÷ 48	60	7	7 ÷ 28	60	15
				13 ÷ 32	40	3	4 ÷ 14	40	12
		60	1-X-290 D63	21 ÷ 42	60	23	10 ÷ 26	60	40
				14 ÷ 28	40	14	5 ÷ 13	40	31
	6	60	1-X-290 D46	19 ÷ 48	60	5	7 ÷ 28	60	10
				13 ÷ 32	40	2	4 ÷ 14	40	8
60		1-X-290 D63	21 ÷ 42	60	16	10 ÷ 26	60	28	
			14 ÷ 28	40	9	5 ÷ 13	40	22	
8	4	76	1-X-290 D63	15 ÷ 42	60	26	7 ÷ 26	60	66
				10 ÷ 28	40	15	3 ÷ 13	40	51
	5	76	1-X-290 D63	15 ÷ 42	60	15	7 ÷ 26	60	39
				10 ÷ 28	40	8	3 ÷ 13	40	30
	6	76	1-X-290 D63	15 ÷ 42	60	11	7 ÷ 25	60	28
				10 ÷ 28	40	6	3 ÷ 13	40	21
	8	76	1-X-290 D63	15 ÷ 42	60	6	7 ÷ 26	60	17
				10 ÷ 28	40	3	3 ÷ 13	40	13

1-6942 Type

Trim Type Microflow
 Leakage class IV IEC 60534-

DN in	Port in	Plug Type ⁽¹⁾	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
					Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
1/2 3/4 1	Ø6	C	17	1-X-290 D33	30 ÷ 44	60	430	13 ÷ 27	60	430
					20 ÷ 29	40	288	7 ÷ 13	40	391
				1-X-290 D39	22 ÷ 31	40	430	8 ÷ 15	40	430
	Ø9	C	17	1-X-290 D33	30 ÷ 44	60	430	13 ÷ 27	60	430
					20 ÷ 29	40	288	7 ÷ 13	40	391
				1-X-290 D39	22 ÷ 31	40	430	8 ÷ 15	40	430
Ø12	C	17	1-X-290 D33	30 ÷ 44	60	430	13 ÷ 27	60	430	
				20 ÷ 29	40	288	7 ÷ 13	40	391	
			1-X-290 D39	22 ÷ 31	40	430	8 ÷ 15	40	430	

⁽¹⁾C=Contoured, F=Flatted

1-6942 Type

Trim Type Contoured
 Leakage class IV IEC 60534-4

DN in	Port In	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
1/2 3/4 1	1/2	17	1-X-290 D33	30 ÷ 44	60	430	13 ÷ 27	60	430
				20 ÷ 29	40	279	7 ÷ 13	40	381
			1-X-290 D39	22 ÷ 31	40	430	8 ÷ 15	40	430
3/4 1	3/4	17	1-X-290 D33	30 ÷ 44	60	279	13 ÷ 27	60	311
				20 ÷ 29	40	180	7 ÷ 13	40	246
			1-X-290 D39	33 ÷ 47	60	430	16 ÷ 30	60	389
				22 ÷ 31	40	286	8 ÷ 15	40	322
1	1	17	1-X-290 D33	30 ÷ 44	60	194	13 ÷ 27	60	216
				20 ÷ 29	40	125	7 ÷ 13	40	171
			1-X-290 D39	33 ÷ 47	60	305	16 ÷ 30	60	271
				22 ÷ 31	40	199	8 ÷ 15	40	224
				25 ÷ 45	60	355	7 ÷ 28	60	430
1.1/2 2	1/2	25	1-X-290 D39	16 ÷ 30	40	230	4 ÷ 14	40	374
				22 ÷ 31	40	430	8 ÷ 15	40	430
			1-X-290 D46	22 ÷ 31	40	430	8 ÷ 15	40	430
	3/4	25	1-X-290 D39	25 ÷ 45	60	315	7 ÷ 28	60	414
				16 ÷ 30	40	203	4 ÷ 14	40	333
			1-X-290 D46	32 ÷ 47	60	430			-
				22 ÷ 31	40	409	8 ÷ 15	40	430
				25 ÷ 45	60	220	7 ÷ 28	60	289
				16 ÷ 30	40	141	4 ÷ 14	40	232
	1	25	1-X-290 D39	32 ÷ 47	60	430	16 ÷ 31	60	390
				22 ÷ 31	40	285	8 ÷ 15	40	326
			1-X-290 D46	25 ÷ 45	60	150	7 ÷ 28	60	198
				16 ÷ 30	40	97	4 ÷ 14	40	159
				32 ÷ 47	60	299	16 ÷ 31	60	267
				22 ÷ 31	40	196	8 ÷ 15	40	224
	1 1/4	25	1-X-290 D39	25 ÷ 45	60	97	7 ÷ 28	60	129
16 ÷ 30				40	62	4 ÷ 14	40	103	
1-X-290 D46			32 ÷ 47	60	194	16 ÷ 31	60	174	
			22 ÷ 31	40	127	8 ÷ 15	40	145	
			25 ÷ 45	60	97	7 ÷ 28	60	129	
			16 ÷ 30	40	62	4 ÷ 14	40	103	

1-6942 Type

Trim Type Contoured
 Leakage class IV IEC 60534-4

DN in	Port In	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)			
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar	
2	2	25	1-X-290 D39	25 ÷ 45	60	59	7 ÷ 28	60	78	
				16 ÷ 30	40	38	4 ÷ 14	40	63	
			1-X-290 D46	32 ÷ 47	60	118	16 ÷ 31	60	106	
				22 ÷ 31	40	77	8 ÷ 15	40	88	
3	1	34	1-X-290 D46	24 ÷ 44	60	317	7 ÷ 28	60	430	
				16 ÷ 29	40	206	4 ÷ 14	40	348	
			1-X-290 D63	19 ÷ 28	40	430	7 ÷ 14	40	430	
	1 1/4	34	1-X-290 D46	24 ÷ 44	60	214	7 ÷ 28	60	295	
				16 ÷ 29	40	138	4 ÷ 14	40	235	
			1-X-290 D63	28 ÷ 43	60	430			-	
	1 1/2	34	1-X-290 D46	19 ÷ 28	40	357	7 ÷ 14	40	430	
				24 ÷ 44	60	139	7 ÷ 28	60	192	
			1-X-290 D63	16 ÷ 29	40	90	4 ÷ 14	40	153	
	2	34	1-X-290 D46	28 ÷ 43	60	353	13 ÷ 28	60	406	
				19 ÷ 28	40	232	7 ÷ 14	40	326	
			1-X-290 D63	24 ÷ 44	60	85	7 ÷ 28	60	117	
				16 ÷ 29	40	54	4 ÷ 14	40	93	
			1-X-290 D63	28 ÷ 43	60	216	13 ÷ 28	60	248	
				19 ÷ 28	40	142	7 ÷ 14	40	199	
	2 1/2	34	1-X-290 D46	24 ÷ 44	60	48	7 ÷ 28	60	66	
				16 ÷ 29	40	31	4 ÷ 14	40	53	
			1-X-290D63	28 ÷ 43	60	123	13 ÷ 28	60	141	
	3	34	1-X-290 D46	19 ÷ 28	40	80	7 ÷ 14	40	113	
				24 ÷ 44	60	33	7 ÷ 28	60	46	
			1-X-290 D63	16 ÷ 29	40	21	4 ÷ 14	40	37	
	4	1 1/4	45	1-X-290 D63MM	28 ÷ 43	60	85	13 ÷ 28	60	98
					19 ÷ 28	40	56	7 ÷ 14	40	79
		1 1/2	45	1-X-290 D63MM	22 ÷ 41	60	288	7 ÷ 26	60	430
15 ÷ 27					40	188	3 ÷ 13	40	358	
2		45	1-X-290 D63MM	22 ÷ 41	60	267	7 ÷ 26	60	422	
				15 ÷ 27	40	174	3 ÷ 13	40	332	
2 1/2		45	1-X-290 D63MM	22 ÷ 41	60	163	7 ÷ 26	60	259	
				15 ÷ 27	40	106	3 ÷ 13	40	203	
3		45	1-X-290 D63MM	22 ÷ 41	60	93	7 ÷ 26	60	147	
				15 ÷ 27	40	60	3 ÷ 13	40	116	
4		45	1-X-290 D63MM	22 ÷ 41	60	64	7 ÷ 26	60	102	
				15 ÷ 27	40	42	3 ÷ 13	40	80	
6		2 1/2	60	1-X-290 D63MM	22 ÷ 41	60	45	7 ÷ 26	60	71
					15 ÷ 27	40	29	3 ÷ 13	40	56
		3	60	1-X-290 D63MM	21 ÷ 42	60	88	10 ÷ 26	60	145
					14 ÷ 28	40	57	5 ÷ 13	40	114
		4	60	1-X-290 D63MM	21 ÷ 42	60	61	10 ÷ 26	60	101
					14 ÷ 28	40	39	5 ÷ 13	40	79
		5	60	1-X-290 D63MM	21 ÷ 42	60	42	10 ÷ 26	60	70
					14 ÷ 28	40	27	5 ÷ 13	40	55
		6	60	1-X-290 D63MM	21 ÷ 42	60	26	10 ÷ 26	60	43
					14 ÷ 28	40	16	5 ÷ 13	40	33
		6	60	1-X-290 D63MM	21 ÷ 42	60	18	10 ÷ 26	60	31
					14 ÷ 28	40	12	5 ÷ 13	40	24

1-6942 Type

Trim Type Contoured
 Leakage class IV IEC 60534-4

DN in	Port In	Travel mm	Actuator type	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
8	4	76	1-X-290 D63MM	15 ÷ 42	60	29	7 ÷ 26	60	69
				10 ÷ 28	40	18	3 ÷ 13	40	54
	5	76	1-X-290 D63MM	15 ÷ 42	60	18	7 ÷ 26	60	42
				10 ÷ 28	40	11	3 ÷ 13	40	33
	6	76	1-X-290 D63MM	15 ÷ 42	60	13	7 ÷ 26	60	30
				10 ÷ 28	40	8	3 ÷ 13	40	23
	8	76	1-X-290 D63MM	15 ÷ 42	60	8	7 ÷ 26	60	18
				10 ÷ 28	40	5	3 ÷ 13	40	14

1-6943 TYPE

Plug Not-balanced Balancing seal None
 Leakage IV IEC 60534-4 Type Code N

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
3/8	17	1-X-290 D25	1500	17 ÷ 43	60	233	7 ÷ 26	60	430
				11 ÷ 29	40	146	3 ÷ 13	40	378
		1-X-290 D33	2500	20 ÷ 29	40	430	7 ÷ 13	40	430
1/2	17	1-X-290 D33	1500	30 ÷ 44	60	430	13 ÷ 27	60	430
				20 ÷ 29	40	302	7 ÷ 13	40	408
		1-X-290 D39	2500*	22 ÷ 31	40	430	8 ÷ 15	40	430
3/4	17	1-X-290 D33	1500	30 ÷ 44	60	242	13 ÷ 27	60	269
				20 ÷ 29	40	158	7 ÷ 13	40	214
		1-X-290 D39	2500	33 ÷ 47	60	373	16 ÷ 30	60	332
				22 ÷ 31	40	245	8 ÷ 15	40	275
1	34	1-X-290 D39	2500	25 ÷ 45	60	138	12 ÷ 28	60	178
				17 ÷ 30	40	90	6 ÷ 14	40	143
		1-X-290 D46	2500	24 ÷ 44	60	197	7 ÷ 28	60	269
				16 ÷ 29	40	129	4 ÷ 14	40	216
1 1/2	34	1-X-290 D39	2500	25 ÷ 45	60	79	12 ÷ 28	60	101
				17 ÷ 30	40	51	6 ÷ 14	40	82
		1-X-290 D46	2500	24 ÷ 44	60	112	7 ÷ 28	60	154
				16 ÷ 29	40	74	4 ÷ 14	40	123
2	34	1-X-290 D39	2500	25 ÷ 45	60	28	12 ÷ 28	60	37
				17 ÷ 30	40	18	6 ÷ 14	40	30
		1-X-290 D46	2500	24 ÷ 44	60	41	7 ÷ 28	60	56
				16 ÷ 29	40	27	4 ÷ 14	40	45
3	45	1-X-290 D39	2500	19 ÷ 47	60	13	7 ÷ 28	60	22
				13 ÷ 31	40	8	4 ÷ 14	40	18
		1-X-290 D46	2500	24 ÷ 44	60	25	12 ÷ 28	60	34
				16 ÷ 30	40	16	6 ÷ 14	40	27
4	60	1-X-290 D46	2500	19 ÷ 48	60	12	7 ÷ 28	60	21
				13 ÷ 32	40	7	4 ÷ 14	40	17
		1-X-290 D63	2500	21 ÷ 42	60	29	10 ÷ 26	60	48
				14 ÷ 28	40	19	5 ÷ 13	40	37
6	60	1-X-290 D46	2500	19 ÷ 48	60	8	7 ÷ 28	60	14
				13 ÷ 32	40	5	4 ÷ 14	40	11
		1-X-290 D63	2500	21 ÷ 42	60	20	10 ÷ 26	60	33
				14 ÷ 28	40	13	5 ÷ 13	40	26
8	76	1-X-290 D63	2500	15 ÷ 42	60	8	7 ÷ 26	60	20
				10 ÷ 28	40	5	3 ÷ 13	40	15

* AVAILABLE ONLY FOR RATING ANSI 2500.

1-6943 TYPE

Plug Balanced
Leakage class IV IEC 60534-4

Balancing seal
Max. Δp 200 bar
Type energ. carbon graphite rings
Code D

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)					AIR TO CLOSE (direct)				
				Spring range			Supply	ΔP shut-off	Spring range			Supply	ΔP shut-off
				psi			psi	bar	psi			psi	bar
1 1/2	34	1-X-290 D39	2500	17	÷	30	40	200	6	÷	14	40	200
2	34	1-X-290 D39	2500					-	12	÷	28	60	200
				17	÷	30	40	200	6	÷	14	40	112
		1-X-290 D46	2500					-	7	÷	28	60	200
								-	4	÷	14	40	180
3	45	1-X-290 D39	2500	19	÷	47	60	200	7	÷	28	60	170
				13	÷	31	40	157	4	÷	14	40	83
		1-X-290 D46	2500					-	12	÷	28	60	200
				16	÷	30	40	200	6	÷	14	40	109
4	60	1-X-290 D46	2500					-	7	÷	28	60	190
				13	÷	32	40	200	4	÷	14	40	93
		1-X-290 D63	2500					-	10	÷	26	60	200
								-	5	÷	13	40	163
6	60	1-X-290 D46	2500	19	÷	48	60	200	7	÷	28	60	149
				13	÷	32	40	197	4	÷	14	40	72
		1-X-290 D63	2500					-	10	÷	26	60	200
				14	÷	28	40	200	5	÷	13	40	127
8	76	1-X-290 D63	2500					-	7	÷	26	60	200
				10	÷	28	40	200	3	÷	13	40	105
10	100	1-X-250 D63	2500	15	÷	34	60	200	6	÷	30	60	182
12	120	1-X-250 D63	2500	15	÷	38	60	200	5	÷	34	60	180
14	150	1-X-250 D63	2500	15	÷	30	60	177	6	÷	30	60	128
16	200	1-X-250 D63	2500	10	÷	29	60	94	6	÷	30	60	103
				36	÷	58	87	200	36	÷	58	87	189
		1-X-400 C450	2500					-	15	÷	36	60	132
								-	7	÷	29	60	200
20	250	1-X-400 C450	2500	44	÷	65	87	200	29	÷	51	87	140
								-	15	÷	36	60	107
		1-X-400 C600	2500					-	22	÷	44	87	200
								-	15	÷	36	60	192
24	300	1-X-400 C450	2500	44	÷	65	87	158	36	÷	58	87	123
								-	15	÷	36	60	86
		1-X-400 C600	2500	29	÷	51	87	200	29	÷	51	87	200
								-	15	÷	36	60	153

1-6943 TYPE

Plug

Balanced

Balancing seal

Max. Δp

250 bar

Type

pressure energized PTFE

Code

S

Leakage class

IV

IEC 60534-4

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)					AIR TO CLOSE (direct)				
				Spring range psi			Supply psi	ΔP shut-off bar	Spring range psi			Supply psi	ΔP shut-off bar
1 1/2	34	1-X-290 D39	2500	17	÷	30	40	250	6	÷	14	40	250
2	34	1-X-290 D39	2500					-	12	÷	28	60	244
				17	÷	30	40	250	6	÷	14	40	116
		1-X-290 D46	2500					-	7	÷	28	60	250
								-	4	÷	14	40	189
3	45	1-X-290 D39	2500	19	÷	47	60	250	7	÷	28	60	178
				13	÷	31	40	188	4	÷	14	40	84
		1-X-290 D46	2500					-	12	÷	28	60	233
				16	÷	30	40	250	6	÷	14	40	112
4	60	1-X-290 D46	2500					-	7	÷	28	60	198
				13	÷	32	40	250	4	÷	14	40	95
		1-X-290 D63	2500					-	10	÷	26	60	250
								-	5	÷	13	40	169
6	60	1-X-290 D46	2500					-	7	÷	28	60	154
				13	÷	32	40	250	4	÷	14	40	73
		1-X-290 D63	2500					-	10	÷	26	60	250
								-	5	÷	13	40	131
8	76	1-X-290 D63	2500					-	7	÷	26	60	222
				10	÷	28	40	250	3	÷	13	40	108
10	100	1-X-250 D63	2500	15	÷	34	60	250	6	÷	30	60	189
12	120	1-X-250 D63	2500	15	÷	38	60	250	5	÷	34	60	186
14	150	1-X-250 D63	2500	15	÷	30	60	210	6	÷	30	60	131
16	200	1-X-250 D63	2500	10	÷	29	60	104	6	÷	30	60	105
				36	÷	58	87	250	36	÷	58	87	189
		1-X-400 C450	2500					-	15	÷	36	60	116
								-	22	÷	44	87	250
		1-X-400 C600	2500					-	15	÷	36	60	213
								-	15	÷	36	60	213
20	250	1-X-400 C450	2500	44	÷	65	87	250	36	÷	58	87	154
								-	15	÷	36	60	107
		1-X-400 C600	2500					-	29	÷	51	87	250
								-	15	÷	36	60	192
24	300	1-X-400 C450	2500	36	÷	58	87	189	36	÷	58	87	123
								-	15	÷	36	60	86
		1-X-400 C600	2500	29	÷	51	87	250	36	÷	58	87	220
								-	15	÷	36	60	153

1-6943 TYPE

Plug Balanced
Leakage class IV-S1 IEC 60534-4

Balancing seal
Max. Δp 200 bar
Type carbon graphite + back seal
Code C

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)						
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar				
2	34	1-X-290 D39	2500				-	12	÷	28	60	200	
				17	÷	30	40	200	6	÷	14	40	107
		1-X-290 D46	2500				-	4	÷	14	40	173	
3	45	1-X-290 D39	2500	19	÷	47	60	200	7	÷	28	60	165
				13	÷	31	40	138	4	÷	14	40	79
		1-X-290 D46	2500				-	12	÷	28	60	200	
				16	÷	30	40	200	6	÷	14	40	104
4	60	1-X-290 D46	2500	19	÷	48	60	200	7	÷	28	60	184
				13	÷	32	40	186	4	÷	14	40	89
		1-X-290 D63	2500				-	10	÷	26	60	200	
				14	÷	28	40	200	5	÷	13	40	157
6	60	1-X-290 D46	2500	19	÷	48	60	200	7	÷	28	60	144
				13	÷	32	40	168	4	÷	14	40	70
		1-X-290 D63	2500				-	10	÷	26	60	200	
				14	÷	28	40	200	5	÷	13	40	123
8	76	1-X-290 D63	2500				-	7	÷	26	60	200	
				10	÷	28	40	200	3	÷	13	40	101
10	100	1-X-250 D63	2500	15	÷	34	60	200	6	÷	30	60	176
12	120	1-X-250 D63	2500	15	÷	38	60	200	5	÷	34	60	174
14	150	1-X-250 D63	2500	15	÷	30	60	157	6	÷	30	60	124
16	200	1-X-250 D63	2500	10	÷	29	60	82	6	÷	30	60	100
				36	÷	58	87	200	29	÷	51	87	171
		1-X-400 C450	2500				-	15	÷	36	60	107	
		1-X-400 C600	2500				-	7	÷	29	60	200	
20	250	1-X-400 C450	2500	44	÷	65	87	190	29	÷	51	87	140
								-	15	÷	36	60	99
		1-X-600 C600	2500	29	÷	51	87	200	22	÷	44	87	200
							-	15	÷	36	60	188	
24	300	1-X-400 C450	2500	44	÷	65	87	143	36	÷	58	87	114
								-	15	÷	36	60	86
		1-X-400 C600	2500	29	÷	51	87	200	29	÷	51	87	200
							-	15	÷	36	60	153	

1-6943 TYPE

Plug	Not-balanced		Balancing seal
Leakage class	V	IEC 60534-4	Type Code
Leakage class	VI	IEC 60534-4	Code
			none
			N
			P

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)		
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar
3/8	17	1-X-290 D25	1500	17 ÷ 43	60	233	7 ÷ 26	60	430
				11 ÷ 29	40	146	3 ÷ 13	40	378
		1-X-290 D33	2500	20 ÷ 29	40	430	7 ÷ 13	40	430
1/2	17	1-X-290 D33	1500	30 ÷ 44	60	430	13 ÷ 27	60	430
				20 ÷ 29	40	302	7 ÷ 13	40	408
		1-X-290 D39	2500*	22 ÷ 31	40	430	8 ÷ 15	40	430
3/4	17	1-X-290 D33	1500	30 ÷ 44	60	242	13 ÷ 27	60	269
				20 ÷ 29	40	158	7 ÷ 13	40	214
		1-X-290 D39	2500	33 ÷ 47	60	373	16 ÷ 30	60	332
				22 ÷ 31	40	245	8 ÷ 15	40	275
1	34	1-X-290 D39	2500	25 ÷ 45	60	138	12 ÷ 28	60	178
				17 ÷ 30	40	88	6 ÷ 14	40	143
		1-X-290 D46	2500	24 ÷ 44	60	197	7 ÷ 28	60	269
				16 ÷ 29	40	129	4 ÷ 14	40	216
1 1/2	34	1-X-290 D39	2500	25 ÷ 45	60	76	12 ÷ 28	60	101
				17 ÷ 30	40	45	6 ÷ 14	40	79
		1-X-290 D46	2500	24 ÷ 44	60	112	7 ÷ 28	60	154
				16 ÷ 29	40	70	4 ÷ 14	40	123
2	34	1-X-290 D39	2500	25 ÷ 45	60	23	12 ÷ 28	60	32
				17 ÷ 30	40	13	6 ÷ 14	40	25
		1-X-290 D46	2500	24 ÷ 44	60	36	7 ÷ 28	60	52
				16 ÷ 29	40	21	4 ÷ 14	40	41
3	45	1-X-290 D39	2500	19 ÷ 47	60	8	7 ÷ 28	60	18
				13 ÷ 31	40	3	4 ÷ 14	40	14
		1-X-290 D46	2500	24 ÷ 44	60	21	12 ÷ 28	60	30
				16 ÷ 30	40	12	6 ÷ 14	40	23
4	60	1-X-290 D46	2500	19 ÷ 48	60	8	7 ÷ 28	60	18
				13 ÷ 32	40	4	4 ÷ 14	40	13
		1-X-290 D63	2500	21 ÷ 42	60	26	10 ÷ 26	60	45
				14 ÷ 28	40	16	5 ÷ 13	40	35
6	60	1-X-290 D46	2500	19 ÷ 48	60	5	7 ÷ 28	60	11
				13 ÷ 32	40	2	4 ÷ 14	40	8
		1-X-290 D63	2500	21 ÷ 42	60	17	10 ÷ 26	60	30
				14 ÷ 28	40	10	5 ÷ 13	40	23
8	76	1-X-290 D63	2500	15 ÷ 42	60	6	7 ÷ 26	60	17
				10 ÷ 28	40	3	3 ÷ 13	40	13

* AVAILABLE ONLY FOR RATING ANSI 2500.

1-6943 TYPE

Plug Balanced

Leakage class V IEC 60534-4

Leakage class VI IEC 60534-4

Balancing seal

Max. Δp 250 bar

Type pressure energized PTFE ring

Code S

Code U (S+P)

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)					AIR TO CLOSE (direct)				
				Spring range psi			Supply psi	ΔP shut-off bar	Spring range psi			Supply psi	ΔP shut-off bar
1 1/2	34	1-X-290 D39	2500	17	÷	30	40	250	6	÷	14	40	250
2	34	1-X-290 D39	2500					-	12	÷	28	60	244
				17	÷	30	40	250	6	÷	14	40	116
		1-X-290 D46	2500					-	7	÷	28	60	250
								-	4	÷	14	40	189
3	45	1-X-290 D39	2500	19	÷	47	60	250	7	÷	28	60	178
				13	÷	31	40	188	4	÷	14	40	84
		1-X-290 D46	2500					-	12	÷	28	60	233
				16	÷	30	40	250	6	÷	14	40	112
4	60	1-X-290 D46	2500					-	7	÷	28	60	198
				13	÷	32	40	250	4	÷	14	40	95
		1-X-290 D63	2500					-	10	÷	26	60	250
								-	5	÷	13	40	169
6	60	1-X-290 D46	2500					-	7	÷	28	60	154
				13	÷	32	40	250	4	÷	14	40	73
		1-X-290 D63	2500					-	10	÷	26	60	250
								-	5	÷	13	40	131
8	76	1-X-290 D63	2500					-	7	÷	26	60	222
				10	÷	28	40	250	3	÷	13	40	108
10	100	1-X-250 D63	2500	15	÷	34	60	250	6	÷	30	60	189
12	120	1-X-250 D63	2500	15	÷	38	60	250	5	÷	34	60	186
14	150	1-X-250 D63	2500	15	÷	30	60	210	6	÷	30	60	131
16	200	1-X-250 D63	2500					-	6	÷	30	60	141
				36	÷	58	87	250	36	÷	58	87	189
								-	15	÷	36	60	116
		1-X-400 C450	2500					-	22	÷	44	87	250
								-	15	÷	36	60	213
								-	15	÷	36	60	213
20	250	1-X-400 C450	2500	44	÷	65	87	250	36	÷	58	87	154
								-	15	÷	36	60	107
		1-X-400 C600	2500					-	29	÷	51	87	250
								-	15	÷	36	60	192
24	300	1-X-400 C450	2500	36	÷	58	87	189	36	÷	58	87	123
								-	15	÷	36	60	86
				29	÷	51	87	250	36	÷	58	87	220
		1-X-400 C600	2500					-	15	÷	36	60	153

1-6943 TYPE

Plug Balanced

Balancing seal
 Max. Δp 400 bar
 Type Loaded PTFE + back up
 Code B

Leakage V IEC 60534-4

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)				AIR TO CLOSE (direct)					
				Spring range psi		Supply psi	ΔP shut-off bar	Spring range psi		Supply psi	ΔP shut-off bar		
1 1/2	34	1-X-290 D39	2500	25	÷	45	60	400	12	÷	28	60	400
				17	÷	30	40	274	6	÷	14	40	256
		1-X-290 D46	2500	16	÷	29	40	397	4	÷	14	40	400
2	34	1-X-290 D39	2500	25	÷	45	60	384	12	÷	28	60	237
				17	÷	30	40	245	6	÷	14	40	113
		1-X-290 D46	2500	24	÷	44	60	400	7	÷	28	60	378
				16	÷	29	40	357	4	÷	14	40	184
3	45	1-X-290 D39	2500	19	÷	47	60	267	7	÷	28	60	173
				13	÷	31	40	167	4	÷	14	40	83
		1-X-290 D46	2500	24	÷	44	60	400	12	÷	28	60	227
				16	÷	30	40	336	6	÷	14	40	109
4	60	1-X-290 D46	2500	19	÷	48	60	370	7	÷	28	60	193
				13	÷	32	40	235	4	÷	14	40	93
		1-X-290 D63	2500					-	10	÷	26	60	338
				14	÷	28	40	400	5	÷	13	40	165
6	60	1-X-290 D46	2500	19	÷	48	60	282	7	÷	28	60	144
				13	÷	32	40	172	4	÷	14	40	108
		1-X-290 D63	2500					-	10	÷	26	60	254
				14	÷	28	40	400	5	÷	13	40	122
8	76	1-X-290 D63	2500	15	÷	42	60	355	7	÷	26	60	209
				10	÷	28	40	222	3	÷	13	40	100
10	100	1-X-250 D63	2500	15	÷	34	60	248	6	÷	30	60	177
12	120	1-X-250 D63	2500	15	÷	38	60	234	5	÷	34	60	175
14	150	1-X-250 D63	2500	15	÷	30	60	158	6	÷	30	60	123
16	200	1-X-250 D63	2500					-	6	÷	30	60	141
				44	÷	65	87	243	36	÷	58	87	172
		1-X-400 C450	2500					-	15	÷	36	60	106
				36	÷	58	87	400	36	÷	58	87	333
		1-X-400 C600	2500					-	15	÷	36	60	236
20	250	1-X-400 C450	2500	44	÷	65	87	195	29	÷	51	87	140
								-	15	÷	36	60	94
		1-X-400 C600	2500	44	÷	65	87	373	29	÷	51	87	250
								-	15	÷	36	60	192
24	300	1-X-400 C450	2500	44	÷	65	87	143	29	÷	51	87	111
								-	7	÷	29	60	75
		1-X-400 C600	2500	44	÷	65	87	276	36	÷	58	87	220
								-	15	÷	36	60	153

1-6943 TYPE

Plug Balanced

Balancing seal metallic C-ring

Leakage class V IEC 60534-4

Type Code R

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)			AIR TO CLOSE (direct)			C-Ring Max Δp bar
				Spring range psi	Supply psi	ΔP shut-off bar	Spring range psi	Supply psi	ΔP shut-off bar	
1 1/2	34	1-X-290 D39	2500	25 ÷ 45	60	350	12 ÷ 28	60	232	350
				17 ÷ 30	40	332			-	
1 1/2	34	1-X-290 D46	2500	16 ÷ 29	40	350	7 ÷ 28	60	350	350
							4 ÷ 14	40	143	
2	34	1-X-290 D39	2500	25 ÷ 45	60	345	12 ÷ 28	60	56	345
				17 ÷ 30	40	178			-	
2	34	1-X-290 D46	2500	16 ÷ 29	40	345	7 ÷ 28	60	179	345
									-	
3	45	1-X-290 D39	2500	19 ÷ 47	60	271	7 ÷ 28	60	68	329
				24 ÷ 44	60	329	12 ÷ 28	60	113	
3	45	1-X-290 D46	2500	16 ÷ 30	40	221			-	329
4	60	1-X-290 D46	2500	19 ÷ 48	60	263	7 ÷ 28	60	87	263
						-	10 ÷ 26	60	212	
4	60	1-X-290 D63	2500	14 ÷ 28	40	263	5 ÷ 13	40	63	263
6	60	1-X-290 D46	2500	19 ÷ 48	60	219	7 ÷ 28	60	58	219
						-	10 ÷ 26	60	159	
6	60	1-X-290 D63	2500	14 ÷ 28	40	219	5 ÷ 13	40	38	219
8	76	1-X-290 D63	2500	15 ÷ 42	60	173	7 ÷ 26	60	127	173
						-	3 ÷ 13	40	20	
10	100	1-X-250 D63	2500	15 ÷ 34	60	153	6 ÷ 30	60	81	153
12	120	1-X-250 D63	2500	15 ÷ 38	60	114	5 ÷ 34	60	86	136
14	150	1-X-250 D63	2500			-	6 ÷ 30	60	36	113
16	200	1-X-250 D63	2500			-	6 ÷ 30	60	18	97
				44 ÷ 65	87	93	29 ÷ 51	87	32	
16	200	1-X-400 C450	2500	22 ÷ 44	87	97	29 ÷ 51	87	97	97
						-	15 ÷ 36	60	70	
20	250	1-X-400 C600	2500	44 ÷ 65	87	57			-	75
				29 ÷ 51	87	75	36 ÷ 58	87	75	
						-	15 ÷ 36	60	37	
24	300	1-X-400 C600	2500	29 ÷ 51	87	64	36 ÷ 58	87	58	64
						-	7 ÷ 29	60	9	

1-6948 TYPE (FOR SERVICE ON COMPRESSIBLE FLUIDS ONLY)

Plug Balanced with pilot Balancing Seal Type -
 Leakage class V IEC 60534-4 Characteristic Linear

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)						AIR TO CLOSE (direct)					
				Spring range psi			Supply psi	ΔP shut-off bar		Spring range psi			Supply psi	ΔP shut-off bar	
				24	÷	44		A	B	7	÷	28		A	B
2	34	1-X-290 D46	2500	24	÷	44	60	300	300	7	÷	28	60	300	300
3	45	1-X-290 D46	2500	24	÷	44	60	163	122	12	÷	28	60	163	122
4	60	1-X-290 D46	2500	19	÷	48	60	82	62	7	÷	28	60	82	62
6	60	1-X-290 D63	2500	21	÷	42	60	100	75	10	÷	26	60	100	75
8	76	1-X-290 D63	2500	15	÷	42	60	49	37	7	÷	26	60	49	37
10	100	1-X-250 D63	2500	15	÷	34	40	31	23	6	÷	30	50	31	23
12	120	1-X-250 D63	2500	15	÷	38	45	33	25	6	÷	30	50	33	25
14	150	1-X-250 D63	2500	14	÷	28	35	15	11	6	÷	30	50	15	11
16	200	1-X-250 D63	2500	10	÷	29	35	7	5	6	÷	30	50	7	5
		1-X-400 C450	2500	22	÷	44	87	14	11	7	÷	29	87	14	11
20	250	1-X-400 C450	2500	22	÷	44	87	7	5	7	÷	29	87	7	5
		1-X-400 C600	2500	25	÷	44	87	13	10	11	÷	29	87	13	10
24	300	1-X-400 C450	2500	22	÷	44	87	3	2	7	÷	29	87	3	2
		1-X-400 C600	2500	22	÷	44	87	7	5	7	÷	29	87	7	5

For port size >3", hydraulic speed control is always suggested. For critical services such as atmospheric vent or similar, use shut-off ΔP form column "B" unless hydraulic speed control is provided: in this case values can be selected from column "A".

1-6948 TYPE (FOR SERVICE ON COMPRESSIBLE FLUIDS ONLY)

Plug Balanced with pilot Balancing Seal Type -
 Leakage class V IEC 60534-4 Characteristic Equal Percentage

Port in	Travel mm	Actuator type	Max. Rating	AIR TO OPEN (reverse)						AIR TO CLOSE (direct)					
				Spring range psi			Supply psi	ΔP shut-off bar		Spring range psi			Supply psi	ΔP shut-off bar	
				24	÷	44		A	B	7	÷	28		A	B
2	34	1-X-290 D46	2500	24	÷	44	60	300	300	7	÷	28	60	300	300
3	45	1-X-290 D46	2500	24	÷	44	60	300	300	12	÷	28	60	300	300
4	60	1-X-290 D46	2500	19	÷	48	60	246	185	7	÷	28	60	246	185
6	60	1-X-290 D63	2500	21	÷	42	60	300	226	10	÷	26	60	300	226
8	76	1-X-290 D63	2500	15	÷	42	60	149	112	7	÷	26	60	149	112
10	100	1-X-250 D63	2500	15	÷	34	40	93	70	6	÷	30	50	93	70
12	120	1-X-250 D63	2500	15	÷	38	45	99	74	6	÷	30	50	99	74
14	150	1-X-250 D63	2500	14	÷	28	35	46	35	6	÷	30	50	46	35
16	200	1-X-250 D63	2500	10	÷	29	35	21	16	6	÷	30	50	21	16
		1-X-400 C450	2500	22	÷	44	87	42	32	7	÷	29	87	42	32
20	250	1-X-400 C450	2500	22	÷	44	87	23	17	7	÷	29	87	23	17
		1-X-400 C600	2500	25	÷	44	87	40	30	11	÷	29	87	40	30
24	300	1-X-400 C450	2500	22	÷	44	87	11	8	7	÷	29	87	11	8
		1-X-400 C600	2500	22	÷	44	87	21	16	7	÷	29	87	21	16

For port size >3", hydraulic speed control is always suggested. For critical services such as atmospheric vent or similar, use shut-off ΔP form column "B" unless hydraulic speed control is provided: in this case values can be selected from column "A".



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