



Control valve sizing coefficients

Published by
Neles Finland Oy (part of Valmet)

P.O. Box 304,
FI-01301 VANTAA
Finland

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Produced and printed in Finland

CONTENTS

CONTROL VALVE FLOW COEFFICIENTS	6
NOMENCLATURE USED IN THE CONTROL VALVE SIZING COEFFICIENT TABLES	7

ROTARY GLOBE VALVES

ZX-LIN, ZXH-LIN	ROTARYGLOBE CONTROL VALVE, LINEAR TRIM	8
ZX-E%, ZXH-E%	ROTARYGLOBE CONTROL VALVE, EQUAL PERCENTAGE TRIM	9
ZX-B, ZXH-B	ROTARYGLOBE CONTROL VALVE, BALANCED TRIM	10

ECCENTRIC ROTARY PLUG VALVES

FI-FTO	FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-OPEN	11
FI-FTC	FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-CLOSE	12
FI-FTO-O	FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-CLOSE, NON-CROSSING SHAFT	13
FI-FTC-O	FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-CLOSE, NON-CROSSING SHAFT	14
Q-FI	FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	15

V-PORT SEGMENT VALVES

RA	METAL SEATED V-PORT SEGMENT VALVE	16
RE, RE-ANSI600	METAL SEATED V-PORT SEGMENT VALVE	18
Q-RA	METAL SEATED V-PORT SEGMENT VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	21
Q-RE	METAL SEATED V-PORT SEGMENT VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	23
R2_S	METAL SEATED V-PORT SEGMENT VALVE FOR MEDIUM CONSISTENCY PULP	25

GLOBE VALVES

GU-STD-LIN	SERIES GU GLOBE CONTROL VALVES, UNBALANCED STANDARD TRIM, LINEAR	26
GU-STD-EQ	SERIES GU GLOBE CONTROL VALVES, UNBALANCED STANDARD TRIM, EQUAL PERCENTAGE	27
GU-TEN1-LIN	SERIES GU GLOBE CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, LINEAR	28
GU-TEN1-EQ	SERIES GU GLOBE CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE	29
GU-MCR-LIN	SERIES GU GLOBE CONTROL VALVES, UNBALANCED MICRO TRIM, LINEAR	30
GB-STD-LIN	SERIES GB GLOBE CONTROL VALVES, BALANCED STANDARD TRIM, LINEAR	31
GB-STD-EQ	SERIES GB GLOBE CONTROL VALVES, BALANCED STANDARD TRIM, EQUAL PERCENTAGE	32
GB-TEN1-LIN	SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 1 TRIM, LINEAR	33
GB-TEN1-EQ	SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE	34
GB-TEN2-LIN	SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 2 TRIM, LINEAR	35
GB-TEN2-EQ	SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 2 TRIM, EQUAL PERCENTAGE	36
GM-BAL-LIN	SERIES GM GLOBE CONTROL VALVES, BALANCED OMEGA TRIM, LINEAR	37
GM-BAL-EQ	SERIES GM GLOBE CONTROL VALVES, BALANCED OMEGA TRIM, EQUAL PERCENTAGE	38
AU-STD-LIN	SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED STANDARD TRIM, LINEAR	41
AU-STD-EQ	SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED STANDARD TRIM, EQUAL PERCENTAGE	42
AU-TEN1-LIN	SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, LINEAR	43
AU-TEN1-EQ	SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE	44
AU-MCR-LIN	SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED MICRO TRIM, LINEAR	45
AB-STD-LIN	SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED STANDARD TRIM, LINEAR	46
AB-STD-EQ	SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED STANDARD TRIM, EQUAL PERCENTAGE	48
AB-TEN1-LIN	SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 1 TRIM, LINEAR	50
AB-TEN1-EQ	SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE	52
AB-TEN2-LIN	SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 2 TRIM, LINEAR	54
AB-TEN2-EQ	SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 2 TRIM, EQUAL PERCENTAGE	56
AM-BAL-LIN	SERIES AM ANGLE PATTERN CONTROL VALVES, BALANCED OMEGA TRIM, LINEAR	58
AM-BAL-EQ	SERIES AM ANGLE PATTERN CONTROL VALVES, BALANCED OMEGA TRIM, EQUAL PERCENTAGE	60
GW-STD-LIN	SERIES GW GLOBE CONTROL VALVES, 3-WAY, LINEAR	62

BALL VALVES

XMBV, XMBV-600, M1, M2	FULL BORE BALL VALVE	63
Q-XMBV, Q-M1, Q-M2	FULL BORE BALL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	64
XMBV-R	REDUCED BORE BALL VALVE	65
XG, M1-TRUN, M2-TRUN	FULL BORE BALL VALVE, TRUNNION MOUNTED, RATING ANSI 300	66
XM, M1-TRUN, M2-TRUN	FULL BORE BALL VALVE, TRUNNION MOUNTED, RATING ANSI 150	67
XHG	FULL BORE BALL CONTROL VALVE, RATING ANSI 900	68
Q-XG, Q-M1-TRUN, Q-M2-TRUN	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	69
Q2-XG	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT	70
Q2H-XG	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT	71

Q-XM, Q-M1-TRUN, Q-M2-TRUN	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	72
Q2-XM	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT	73
Q2H-XM	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT	74
Q-XHG	FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 900	75
T5	TOP5, ROTARY CONTROL VALVE, TOP ENTRY	76
Q-T5	TOP5, ROTARY CONTROL VALVE, TOP ENTRY WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	77
Q2-T5	REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT	78
Q2H-T5	REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT	79
QA-T5	TOP5, ROTARY CONTROL VALVE, TOP ENTRY WITH Q-TRIM AND ATTENUATOR PLATE FOR NOISE AND CAVITATION ABATEMENT	80
T25	TOP5, ROTARY CONTROL VALVE, FULL PORT, TOP ENTRY	81
Q-T25	TOP5, ROTARY CONTROL VALVE, FULL PORT, TOP ENTRY WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT	82
T5G	TOP ENTRY ROTARY CONTROL VALVE, SERIES T2, RATING ANSI 900	83
Q-T5G	TOP ENTRY ROTARY CONTROL VALVE, SERIES T2 WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 900	84
T2G	TOP ENTRY ROTARY VALVE, SERIES T2, FULL PORT, RATING ANSI 900	85
Q-T2G	TOP ENTRY ROTARY VALVE, SERIES T2 WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, FULL PORT, RATING ANSI 900	86
T2H	TOP ENTRY ROTARY VALVE, SERIES T2, FULL PORT, RATING ANSI 1500	87
Q-T2H	TOP ENTRY ROTARY VALVE, SERIES T2 WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, FULL PORT, RATING ANSI 1500	88
D1	FULL BORE BALL CONTROL VALVE, RATING ANSI 600	89
D2	FULL BORE BALL CONTROL VALVE, RATING ANSI 150, ANSI 300	89
Q-D1	FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 600	90
Q-D2	FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 150, ANSI 300	91
QLM-D1	FULL BORE BALL CONTROL VALVE, WITH LIQUID QLM-TRIM FOR CAVITATION ABATEMENT, RATING ANSI 600	92
QLM-D2	FULL BORE BALL CONTROL VALVE, WITH LIQUID QLM-TRIM FOR CAVITATION ABATEMENT, RATING ANSI 150, ANSI 300	92
Q2-D1	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT	93
Q2H-D1	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT	94
Q2-D2	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT	95
Q2H-D2	FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT	96
D5F	REDUCED BORE BALL CONTROL VALVE, RATING ANSI 600	97
D5	REDUCED BORE BALL CONTROL VALVE, RATING ANSI 150, ANSI 300	97
Q-D5	REDUCED BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 150, ANSI 300	98
Q-D5F	FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 600	99
Q2-D5	REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT	100
Q2H-D5	REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT	101
Q2-D5F	REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT	102
Q2H-D5F	REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT	103
E	CERAMIC CONTROL VALVE	104
4000	SERIES 4000 FULL BORE BALL VALVES	105
4000 STD	SERIES 4000 STANDARD BORE BALL VALVES	106
5150	SERIES 5150 BALL VALVES, STANDARD BORE	107
5300	SERIES 5300 BALL VALVES, STANDARD BORE	108
7150, 7300, 7150-TRUN, 7300-TRUN	SERIES 7000 BALL VALVES, STANDARD BORE	109
9150, 9300, 9150-TRUN, 9300-TRUN	SERIES 9000 BALL VALVES, FULL BORE	110
J4A	SERIES J4 REDUCED BORE BALL VALVES	111
J4B	SERIES J4 FULL BORE BALL VALVES	112
J715, J730	SERIES J7 BALL VALVES, REDUCED BORE	113
J915, J930	SERIES J9 BALL VALVES, FULL BORE	114

HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVES

L-ANSI150	NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND DIN PN10-25	115
S-L-ANSI 150	BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND DIN PN10-25	116
L-ANSI 300	NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 300 AND DIN PN40	117
S-L-ANSI 300	BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 300, DIN PN40	118
LW/LG-ANSI 150	NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND EN PN10-25	119
S-LW/LG-ANSI 150	BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND EN PN10-25	120
LW/LG-ANSI 300	NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 300 AND EN PN40	121
S-LW/LG-ANSI 300	BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 300, EN PN40	122
L12	NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, PROCESS RATED	123
L6-ANSI 150	NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND DIN PN10-16	124
S-L6-ANSI 150	BALANCED NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND DIN PN10-16	125
L6-ANSI 300	NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 300, DIN PN40	126
S-L6-ANSI 300	BALANCED NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 300, DIN PN40	127
L6-ANSI 600	NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 600, EN PN100	128
S-L6-ANSI 600	BALANCED NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 600, EN PN100	129
815-SH-DWN, 815-SH-UP	WAFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 150	130
830-SH-DWN, 830-SH-UP	WAFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 300	131
860-SH-DWN, 860-SH-UP	WAFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 600	132
835-SH-DWN, 835-SH-UP	WAFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 150	133
JA	SERIES JA BUTTERFLY VALVES, CONCENTRIC DISC	134
BWX_C	NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 150	135
BWX_D	NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 300	136
BWX_F	NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 600	137
BWH_G/D, BWH_G/F, BWH_G/G	NELES B-SERIES, METAL SEATED ECCENTRIC HIGH TEMP VALVE, RATING 900	138
BWH_H/D, BWH_H/F, BWH_H/G, BWH_H/H	NELES B-SERIES, METAL SEATED ECCENTRIC HIGH TEMP VALVE, RATING 1500	140
BWH_I/D, BWH_I/F, BWH_I/G; BWH_I/H	NELES B-SERIES, METAL SEATED ECCENTRIC HIGH TEMP VALVE, RATING 2500	143
BWL_C	NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 150	146
BN150	NELES B-SERIES, SOFT SEATED ECCENTRIC VALVE, RATING ANSI 150	147
BO150	NELES B-SERIES, CENTRIC HIGH CYCLE BUTTERFLY VALVE SOFT SEATED, RATING ANSI 150	148
INITIAL OPENINGS (HOFOR THE VALVES		149

Control valve flow coefficients

C_v -values presented in these control valve sizing coefficient tables are based on laboratory measurements using room temperature water according to the following phases:

- 1 Valve is mounted in a straight pipeline and pressure drop Δp_{total} is measured at the flow rate q , as shown in figure 1.
- 2 Valve is taken off the pipeline, and the upstream and downstream pipes are joined together, and pressure drop Δp_{pipe} is measured at the same flow rate q used in previous measurement.

Pressure drop caused by a valve alone Δp_{valve} is then:

$$\Delta p_{\text{valve}} = \Delta p_{\text{total}} - \Delta p_{\text{pipe}}$$

C_v -value of the valve is:

$$C_v = \frac{q}{N_1 \cdot \sqrt{\Delta p_{\text{valve}}}}$$

where $N_1 = 0.865$ for units $[\text{m}^3/\text{h}]$, $[\text{bar}]$
 $= 1.0$ for units $[\text{gpm}]$, $[\text{psi}]$

While valve nominal size is smaller than attached piping, the effect of the reducer(s) to the valve capacity is taken account using F_p factor and then replacing C_v with $F_p * C_v$, which is calculated by Nelprof using standard sizing equations. In a case where pipe diameter D is the same size on both side of the valve, the following graph (figure 2) can be used for a quick evaluation.

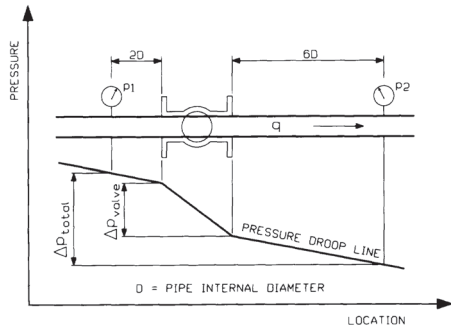


Figure 1. Arrangement of C_v -value measurement.

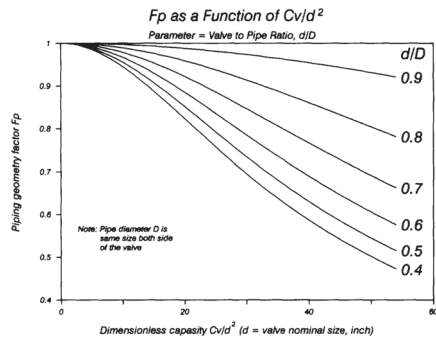


Figure 2. F_p factor as a function of C_v/d^2 .

Nomenclature used in the control valve sizing coefficient tables

Marking used to identify reduced C_v -trims

The reduced C_v -trims can be identified from the '/' sign after the valve nominal size in the SIZE column in the C_v -tables. The number after the '/' sign represents the reduction number of the C_v -trim. For example, in the C_v -table for R-series V-port segment valves, the marking 25/1 (1/1) in the size column represents the first reduced C_v -trim for the R-series size DN 25 (1") V-port segment valve. Correspondingly, the marking 25/4 (1/4) represents the fourth reduction.

In Nelprof, enter the '/' sign and reduction number after valve nominal size for the valve size. For example, for first reduction for a DN 25 (1") valve size, enter 25/1 or 1"/1 for valve size.

Other nomenclature

C_v = Valve flow coefficient, which represents valve capacity

h = Relative opening, which is calculated for rotary type of valves as follows:
 $h = 100\% * (\text{actual opening in degrees} - h_0) / (\text{maximum opening in degrees} - h_0)$
 where the h_0 represents the initial opening in degrees. Some rotary valves have to be opened by the amount of initial opening h_0 before the fluid begins to flow through the valve. The initial opening values for different valve styles are listed at the end of this book.

C_v/d^2 = C_v divided by the square of the valve inlet diameter d in inches

The factors F_L , x_T , and z are presented as a function of C_v/d^2 in order to count for different geometries in different size control valves. The C_v/d^2 values correspond to average C_v/d^2 relation of the valve at 10 % opening intervals, and can be used for rough manual calculations as such. The Nelprof program interpolates sizing factors based on accurate C_v/d^2 values

F_L = Pressure recovery factor according to standards IEC 60534 and ISA S75

x_T = Pressure drop ratio factor according to standards IEC 60534 and ISA S75

z = Valve specific characteristic pressure drop ratio used in hydrodynamic noise prediction according to standard VDMA 24442

ΔL_f = Hydrodynamic noise coefficient, which is a valve type related factor in control valve hydrodynamic noise prediction

x_f = Pressure drop ratio, which is calculated as follows:
 $x_f = (p_1 - p_2) / (p_1 - p_v)$, in which p_v represents vapor pressure.
 Hydrodynamic noise coefficient ΔL_f affects liquid fluid control valve noise level only if pressure drop ratio x_f is greater than z

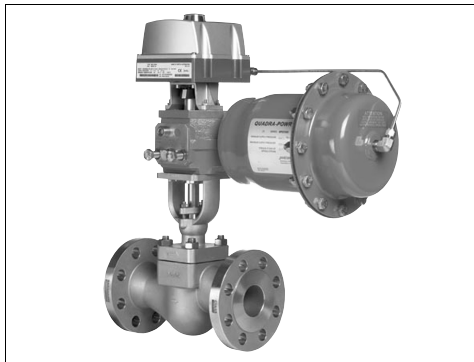
X_R = Scaled pressure drop ratio for cavitating flow, which is calculated as follows:
 $X_R = (x_f - z) / (1 - z)$

ΔL_g = Aerodynamic noise coefficient, which is a valve type related factor in control valve aerodynamic noise prediction

x = Pressure drop ratio, which is calculated as follows: $x = (p_1 - p_2) / p_1$

ROTARYGLOBE CONTROL VALVE, LINEAR TRIM (Nelprof™ code ZX-LIN, ZXH-LIN)

RotaryGlobe control valve is designed to control a wide range of process liquids, gases and vapors. Its reliable and rugged construction with variety of different trim choices makes the RotaryGlobe an ideal choice for general, difficult and even severe service control valve applications in wide range of industries. Temperature range -80 ... +425 °C. Flanged, ANSI 150...1500 / PN 10 - 100.



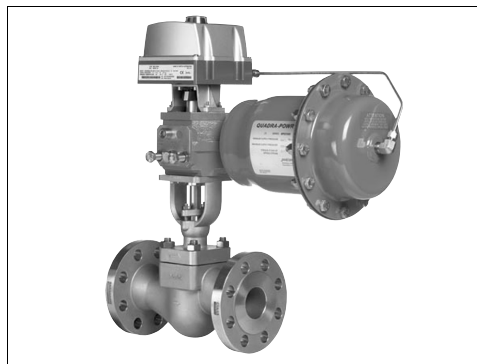
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.2	0.36	0.65	0.94	1.19	1.45	1.68	1.99	2.32	2.5
15/1	0.5/1	0.15	0.32	0.44	0.56	0.66	0.76	0.87	0.93	1	1.15
15/2	0.5/2	0.02	0.04	0.079	0.115	0.153	0.19	0.22	0.245	0.268	0.3
15/3	0.5/3	0.01	0.02	0.028	0.04	0.052	0.06	0.068	0.075	0.095	0.1
20	0.75	0.303	1	1.53	2.09	2.74	3.67	4.35	4.98	5.54	6
20/1	0.75/1	0.2	0.36	0.65	0.94	1.19	1.45	1.68	1.99	2.32	2.5
20/2	0.75/2	0.15	0.32	0.44	0.56	0.66	0.76	0.87	0.93	1	1.15
20/3	0.75/3	0.02	0.04	0.079	0.115	0.153	0.19	0.22	0.245	0.268	0.3
20/4	0.75/4	0.01	0.02	0.028	0.04	0.052	0.06	0.068	0.075	0.095	0.1
25	1	0.78	2	3.23	4.47	5.76	6.98	8.2	9.15	10.4	12
25/1	1/1	0.303	1	1.53	2.09	2.74	3.67	4.35	4.98	5.54	6
25/2	1/2	0.2	0.36	0.65	0.94	1.19	1.45	1.68	1.99	2.32	2.5
25/3	1/3	0.15	0.32	0.44	0.56	0.66	0.76	0.87	0.93	1	1.15
25/4	1/4	0.02	0.04	0.079	0.115	0.153	0.19	0.22	0.245	0.268	0.3
25/5	1/5	0.01	0.02	0.028	0.04	0.052	0.06	0.068	0.075	0.095	0.1
40	1.5	2.58	5.24	8.29	11.73	15.6	20.8	24.3	27.1	29	31
40/1	1.5/1	1.26	2.8	4.3	5.7	7.2	8.9	10.5	12	13.5	15
40/2	1.5/2	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7
40/3	1.5/3	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3
50	2	2.58	5.24	8.29	11.73	15.6	20.8	24.3	27.1	29	31
50/1	2/1	1.26	2.8	4.3	5.7	7.2	8.9	10.5	12	13.5	15
50/2	2/2	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7
50/3	2/3	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3
80	3	5.5	11	16.5	22	27.5	33	38.5	44	49.5	55
80/1	3/1	3.5	7	10.5	14	17.5	21	24.5	28	31.5	35
80/2	3/2	1.8	3.6	5.4	7.2	9	10.8	12.6	14.4	16.2	18
100	4	11.5	23	34.5	46	57.5	69	80.5	92	103.5	115
100/1	4/1	7	14	21	28	35	42	49	56	63	70
100/2	4/2	3.5	7	10.5	14	17.5	21	24.5	28	31.5	35

C _v /d ²	0.22	0.70	1.65	2.81	4.06	5.34	6.43	6.95	7.8	12.0
F _L	0.93	0.93	0.92	0.86	0.85	0.84	0.83	0.83	0.83	0.83
x _T	0.69	0.69	0.72	0.63	0.61	0.62	0.65	0.69	0.71	0.70
z	0.70	0.63	0.50	0.37	0.36	0.35	0.31	0.30	0.28	0.28

ROTARYGLOBE CONTROL VALVE, EQUAL PERCENTAGE TRIM (Nelprof™ code ZX-E%, ZXH-E%)

RotaryGlobe control valve is designed to control a wide range of process liquids, gases and vapors. Its reliable and rugged construction with variety of different trim choices makes the RotaryGlobe an ideal choice for general, difficult and even severe service control valve applications in wide range of industries. Temperature range -80 ... +425 °C. Flanged, ANSI 150...1500 / PN 10 - 100.



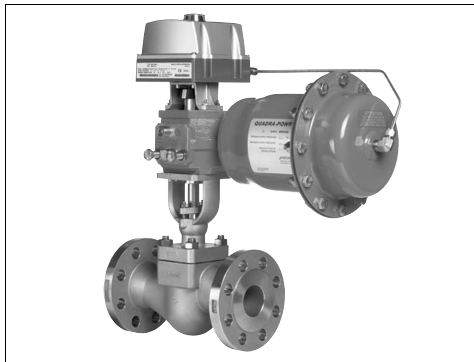
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.161	0.367	0.639	0.997	1.438	1.949	2.566	3.185	3.773	4.3
15/1	0.5/1	0.086	0.171	0.277	0.39	0.551	0.78	1.064	1.4	1.78	2.21
15/2	0.5/2	0.006	0.012	0.033	0.071	0.122	0.184	0.263	0.378	0.614	1.07
20	0.75	0.161	0.367	0.639	0.997	1.438	1.949	2.566	3.185	3.773	4.3
20/1	0.75/1	0.086	0.171	0.277	0.39	0.551	0.78	1.064	1.4	1.78	2.21
20/2	0.75/2	0.006	0.012	0.033	0.071	0.122	0.184	0.263	0.378	0.614	1.07
25	1	0.204	0.523	0.865	1.416	2.138	3.048	4.164	5.394	7.036	9
25/1	1/1	0.161	0.367	0.639	0.997	1.438	1.949	2.566	3.185	3.773	4.3
25/2	1/2	0.086	0.171	0.277	0.39	0.551	0.78	1.064	1.4	1.78	2.21
25/3	1/3	0.006	0.012	0.033	0.071	0.122	0.184	0.263	0.378	0.614	1.07
40	1.5	0.754	1.546	2.604	4.102	6.083	8.353	12.39	17.27	21.62	26
40/1	1.5/1	0.353	0.734	1.239	2.008	2.826	3.93	5.427	7.426	9.441	11.5
50	2	0.754	1.546	2.604	4.102	6.083	8.353	12.39	17.27	21.62	26
50/1	2/1	0.353	0.734	1.239	2.008	2.826	3.93	5.427	7.426	9.441	11.5
80	3	1.04	2.67	4.42	7.24	10.93	15.58	21.28	27.57	35.96	46
80/1	3/1	0.73	1.86	3.08	5.04	7.60	10.84	14.81	19.18	25.02	32
100	4	1.81	4.65	7.69	12.59	19.00	27.09	37.01	47.95	64.54	80
100/1	4/1	1.22	3.14	5.19	8.50	12.83	18.29	24.98	32.36	42.22	54

C _v /d ²	0.22	0.70	1.65	2.81	4.06	5.34	6.43	6.95	7.8	12.0
F _L	0.93	0.93	0.92	0.86	0.85	0.84	0.83	0.83	0.83	0.83
x _T	0.69	0.69	0.72	0.63	0.61	0.62	0.65	0.69	0.71	0.70
z	0.70	0.63	0.50	0.37	0.36	0.35	0.31	0.30	0.28	0.28

ROTARYGLOBE CONTROL VALVE, BALANCED TRIM (Nelprof™ code ZX-B, ZXH-B)

RotaryGlobe control valve is designed to control a wide range of process liquids, gases and vapors. Its reliable and rugged construction with variety of different trim choices makes the RotaryGlobe an ideal choice for general, difficult and even severe service control valve applications in wide range of industries. Balanced trim for aerodynamic noise and liquid cavitation attenuation. Temperature range -80 ... +425 °C. Flanged, ANSI 150...1500 / PN 10 - 100.



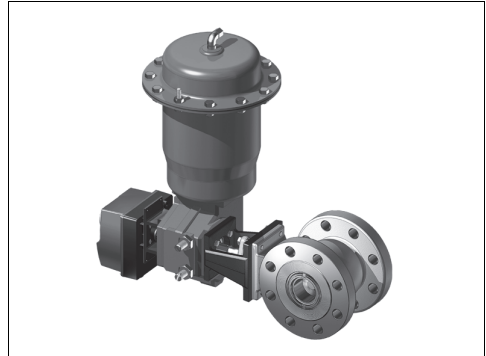
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.2	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2
20	0.75	0.23	0.51	0.78	1.14	1.63	2.3	2.74	3.23	3.81	4.66
20/1	0.75/1	0.2	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2
25	1	0.23	0.51	0.78	1.14	1.63	2.3	2.74	3.23	3.81	4.66
25/1	1/1	0.2	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2
40	1.5	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13
40/1	1.5/1	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6
50	2	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13
50/1	2/1	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4	6
80	3	2.8	5.60	8.40	11.20	14.00	16.80	19.6	22.4	25.2	28
80/1	3/1	1.3	2.60	3.90	5.20	6.50	7.80	9.1	10.4	11.7	13
100	4	5.2	10.40	15.60	20.80	26.00	31.20	36.4	41.6	46.8	52
100/1	4/1	2.8	5.60	8.40	11.20	14.00	16.80	19.6	22.4	25.2	28

C _v /d ²	0.18	0.36	0.55	0.98	1.68	2.35	2.98	3.81	4.66	8.89
F ₁	0.97	0.97	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.95
x _T	0.75	0.75	0.75	0.75	0.73	0.71	0.74	0.74	0.75	0.75
z	0.69	0.69	0.69	0.61	0.60	0.59	0.48	0.48	0.41	0.41

FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-OPEN (Nelprof™ code FI-FTO)

The Finetrol eccentric rotary plug control valve in standard flow direction (flow-to-open = flow through the seat ring and past the plug) is a rotary control valve with eccentric, 90 degree rotation, contoured plug. Finetrol is suitable for controlling liquids, gases and steam in a very wide range of services. Temperature range -200 ... +425 °C. One reduction (50 % of full port Cv) per size is available. However, for DN 25 (1") valve, three different reductions are provided. Flanged ANSI 150...600 sizes DN 25...250 (1"...10"), PN10...PN40 sizes DN25...250 (1"...10").



C_v-Values with metal seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	1.09	2.01	2.97	3.86	4.97	6.19	8.04	10.1	12.4	14.5
25/1	1/1	0.74	1.65	2.13	2.66	3.18	3.72	4.58	5.72	7.01	7.9
25/2	1/2	0.42	0.84	1.26	1.68	2.10	2.52	2.94	3.36	3.78	4.2
25/3	1/3	0.10	0.20	0.31	0.41	0.54	0.67	0.83	1.02	1.26	1.55
25/4	1/4	0.03	0.06	0.10	0.14	0.185	0.235	0.285	0.345	0.42	0.5
40	1.5	2.1	4.6	7.5	10.2	13.7	17.6	21.7	26	29.4	31
40/1	1.5/1	2.1	4.6	6.2	7.4	9.4	11.4	13.5	14.8	15.2	15.5
50	2	4.3	9	14	19	25	31	39	45	50	52
50/1	2/1	3.8	8	10	13	16	19	23	25	25.5	26
80	3	10	20	30	41	52	66	85	103	121	137
80/1	3/1	10	20	26	32	40	48	57	63	65	66
100	4	17	35	50	70	89	113	145	176	206	239
100/1	4/1	17	35	48	58	73	88	104	114	117	120
150	6	49	103	160	216	272	328	380	434	485	520
150/1	6/1	37	75	104	125	158	191	226	247	254	260
200	8	75	151	220	301	388	499	603	719	823	870
200/1	8/1	58	128	175	211	267	323	383	419	431	440
250	10	115	231	336	460	593	763	922	1099	1258	1330
250/1	10/1	85	188	271	326	412	500	592	647	666	680

C _v /d ²	1.12	2.26	3.29	4.53	5.81	7.38	9.44	11.44	13.44	15.00
F _L	0.91	0.89	0.87	0.85	0.83	0.82	0.80	0.78	0.77	0.76
x _T	0.62	0.62	0.62	0.62	0.61	0.60	0.56	0.52	0.45	0.40
z	0.50	0.46	0.40	0.37	0.36	0.35	0.34	0.32	0.29	0.24

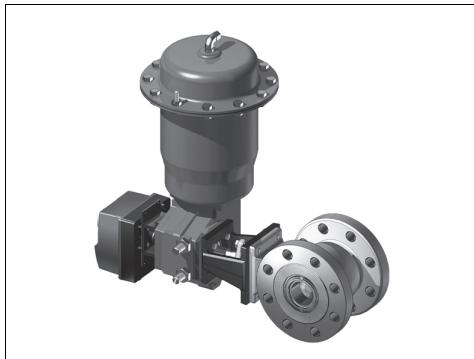
C_v-Values with soft seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.9	1.7	2.6	3.3	4.3	5.3	6.9	8.7	10.7	12.5
40	1.5	2.1	4.6	6.5	8.8	12	15	19	22	25	27
50	2	3.7	7.8	12	16	22	27	34	39	43	45
80	3	10	20	26	32	41	52	67	81	95	107
100	4	17	35	48	58	74	94	121	146	171	199
150	6	35	80	119	140	174	205	250	310	353	406
200	8	63	128	186	254	327	421	509	607	694	734
250	10	96	193	281	385	496	638	771	919	1052	1113

C _v /d ²	1.12	2.26	3.29	4.53	5.81	7.38	9.44	11.44	13.44	15.00
F _L	0.91	0.89	0.87	0.85	0.83	0.82	0.80	0.78	0.77	0.76
x _T	0.62	0.62	0.62	0.62	0.61	0.60	0.56	0.52	0.45	0.40
z	0.50	0.46	0.40	0.37	0.36	0.35	0.34	0.32	0.29	0.24

FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-CLOSE (Nelprof™ code FI-FTC)

The Finetrol eccentric rotary plug control valve in reverse flow direction (flow-to-close = flow past the plug and through the seat ring). Recommended flow direction for erosive services and flashing duty, and when there is a vacuum down-stream of the valve. Finetrol is suitable for controlling liquids, gases and steam in a very wide range of services. Temperature range -200 ... +425 °C. One reduction (50 %) per size is available. Flanged ANSI 150...600 sizes DN 25...250 (1"...10"), PN10...PN40 sizes DN25...250 (1"-10").



C_v-Values with metal seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.71	1.83	3.12	4.33	5.55	7.33	10.1	13.5	15.5	16.5
25/1	1/1	0.71	1.65	2.13	2.66	3.18	3.72	4.58	5.72	7.01	7.9
40	1.5	1.2	3.7	7.2	11.0	15.6	20.5	26.9	33	37	39
40/1	1.5/1	1.2	3.7	6.2	7.5	9.4	11.4	13.5	14.8	15.2	15.5
50	2	3.1	8.8	14	19	25	34	47	56	61	62
50/1	2/1	3.1	8.0	10	13	16	19	23	25	26	26
80	3	6.7	17	29	41	52	69	95	127	146	155
80/1	3/1	6.7	17	26	32	40	49	57	63	65	66
100	4	11	29	50	70	89	118	162	217	250	265
100/1	4/1	11	29	48	58	73	88	104	114	117	120
150	6	25	64	109	151	193	256	351	471	542	575
150/1	6/1	25	64	104	125	158	191	226	247	254	260
200	8	58	128	197	278	371	475	586	725	887	1050
200/1	8/1	58	128	175	211	267	323	383	419	431	440
250	10	85	188	289	408	544	697	859	1063	1301	1540
250/1	10/1	85	188	271	326	412	500	592	647	666	680

C _v /d ²	0.74	1.91	3.26	4.52	5.79	7.66	10.56	14.11	16.22	17.77
F _L	0.80	0.76	0.72	0.70	0.68	0.67	0.65	0.61	0.58	0.56
x _T	0.51	0.51	0.49	0.48	0.47	0.46	0.39	0.32	0.25	0.19
z	0.45	0.39	0.34	0.30	0.25	0.21	0.16	0.15	0.15	0.15

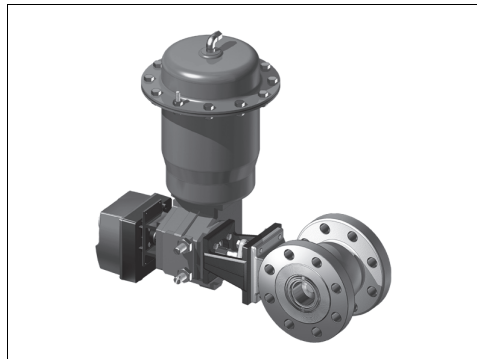
C_v-Values with soft seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.7	1.7	2.8	3.9	5	6.6	9.1	12	14	15
40	1.5	1.2	3.7	6.5	9.9	14	19	24	30	33	35
50	2	2.8	7.9	13	17	23	31	42	51	55	56
80	3	6.7	17	26	32	40	49	64	86	99	105
100	4	11	29	48	58	73	88	116	156	179	190
150	6	34	70	103	141	179	211	242	287	330	359
200	8	58	128	175	211	267	323	383	451	552	653
250	10	85	188	271	326	412	500	592	656	803	950

C _v /d ²	0.74	1.91	3.26	4.52	5.79	7.66	10.56	14.11	16.22	17.77
F _L	0.80	0.76	0.72	0.70	0.68	0.67	0.65	0.61	0.58	0.56
x _T	0.51	0.51	0.49	0.48	0.47	0.46	0.39	0.32	0.25	0.19
z	0.45	0.39	0.34	0.30	0.25	0.21	0.16	0.15	0.15	0.15

FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-CLOSE, NON-CROSSING SHAFT (Nelprof™ code FI-FTO-O)

The Finetrol eccentric rotary plug control valve in flow-to-open (= flow through the seat ring and past the plug) flow direction is a rotary control valve with eccentric, 90 degree rotation, contoured plug. Finetrol with non-crossing shaft design is suitable for controlling liquids, especially slurries and also gases and steam in a very wide range of services. Temperature range -50 ... +425 °C. Flanged ANSI 300 sizes 12" (DN300), PN40 size DN300 (12").



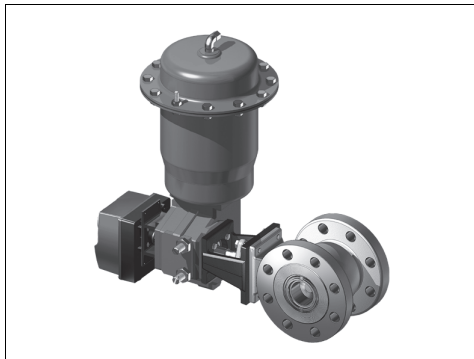
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
300	12	195	446	770	1226	1641	2050	2390	2822	3139	3155

C _v /d ²	1.354	3.097	5.347	8.514	11.396	14.236	16.597	19.597	21.799	21.910
F _L	0.800	0.780	0.750	0.680	0.640	0.600	0.580	0.560	0.500	0.500
x _T	0.530	0.510	0.490	0.450	0.380	0.300	0.270	0.230	0.220	0.220
z	0.350	0.300	0.250	0.180	0.180	0.170	0.150	0.130	0.120	0.120

FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, FLOW-TO-CLOSE, NON-CROSSING SHAFT (Nelprof™ code FI-FTC-O)

The Finetrol eccentric rotary plug control valve in flow-to-close (= flow past the plug and through the seat ring) flow direction is a rotary control valve with eccentric, 90 degree rotation, contoured plug. Recommended flow direction for erosive services and flashing duty, and when there is a vacuum down-stream of the valve. Finetrol with non-crossing shaft design is suitable for controlling liquids, especially slurries, and also gases and steam in a very wide range of services. Temperature range -50 ... +425 °C. Flanged ANSI 300 size 12" (DN300), PN40 size DN300 (12").



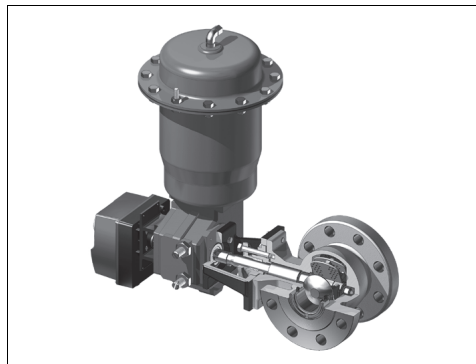
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
300	12	234	549	882	1261	1601	1884	2167	2490	2774	2806

C _v /d ²	1.625	3.813	6.125	8.757	11.118	13.083	15.049	17.292	19.264	19.486
F _L	0.780	0.750	0.730	0.700	0.670	0.640	0.600	0.570	0.550	0.550
x _T	0.530	0.510	0.490	0.450	0.380	0.330	0.290	0.260	0.230	0.230
z	0.210	0.200	0.200	0.200	0.200	0.200	0.180	0.160	0.150	0.150

FINETROL™, ECCENTRIC ROTARY PLUG CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-FI)

The Finetrol rotary plug control valve fitted with aerodynamic noise and liquid cavitation attenuating Q-Trim in flow-to-open position. Suitable for controlling liquids, gases, and steam in a very wide range of services. Temperature range is -200 ... +425 °C. Flanged ANSI 150...600 sizes DN 50...250 (2"....10"), PN10...PN40 sizes DN25...250 (1"-10").



C_v-Values with metal seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.9	5.8	8.9	11.8	14.5	17.3	20.3	23.1	26.5	31
50/1	2/1	2.7	5.5	7.9	10.0	12.1	14	16	18	20	22
80	3	7.9	15.6	24	32	39	47	55	63	72	84
80/1	3/1	7.8	15.0	20.2	25.5	30.8	35.6	40.8	45.7	51	56
100	4	13	27	41	55	68	80	94	107	123	144
100/1	4/1	13	25	34	43	52	60	69	78	87	95
150	6	29	57	89	118	145	173	203	231	265	310
150/1	6/1	28	55	76	96	116	133	153	171	191	210
200	8	51	100	154	206	253	293	353	402	461	540
200/1	8/1	49	98	126	159	193	226	259	286	319	350
250	10	79	156	240	320	394	455	549	625	717	840
250/1	10/1	78	153	199	250	303	355	406	449	501	550
C _v /d ²	0.88	1.73	2.67	3.56	4.38	5.21	6.10	6.90	8.00	9.33	
F _L	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
x _T	0.76	0.76	0.75	0.74	0.73	0.72	0.70	0.69	0.66	0.64	
z	0.50	0.50	0.50	0.50	0.49	0.49	0.49	0.48	0.48	0.47	

C_v-Values with soft seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.4	4.7	7.2	10	12	14	16	19	22	25
80	3	7.1	14	22	29	35	41	49	56	64	75
100	4	12.2	24	37	50	61	73	85	100	111	130
150	6	28	54	83	110	136	162	190	216	248	290
200	8	49	98	141	189	232	269	324	369	423	496
250	10	78	153	219	292	360	416	501	571	655	767
C _v /d ²	0.88	1.73	2.67	3.56	4.38	5.21	6.10	6.90	8.00	9.33	
F _L	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
x _T	0.76	0.76	0.75	0.74	0.73	0.72	0.70	0.69	0.66	0.64	
z	0.50	0.50	0.50	0.50	0.49	0.49	0.49	0.48	0.48	0.47	

METAL SEATED V-PORT SEGMENT VALVE (Nelprof™ code RA)

This new generation control valve is based on R1-series and carries the appreciated qualities of this design. Improvements are made in trim and stem packing to reduce friction and eliminate mechanical clearances. The new RA is the valve, which can truly help to improve process performance and reduce variability. Available with small Cv trims. Available in wafer bodies to fit ANSI 150 and 300; DIN 10, 16, 25 and 40; and JIS 10, 16 and 20 pipe flanges



C_v-Values with metal seat S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.52	1.13	2.23	3.83	5.95	8.58	11.7	16.2	24.1	45
25/1	1/1	0.48	0.89	1.4	2.09	2.91	4.06	5.63	7.66	10.7	15
25/2	1/2	0.241	0.445	0.649	0.883	1.17	1.54	2.04	2.77	3.76	5
25/3	1/3	0.1	0.2	0.31	0.41	0.54	0.67	0.83	1.02	1.26	1.55
25/4	1/4	0.03	0.06	0.1	0.14	0.185	0.235	0.285	0.345	0.42	0.5
40	1.5	1.3	3.3	6.4	11.1	17.2	24.8	33.9	46.5	69.3	110
50	2	2.0	5.0	10.0	17.2	26.6	38.4	52.5	72.4	108	180
65	2.5	3.3	8.0	15.9	27.3	42.3	61	83.4	114	170	280
80	3	5	12	23	39	61	88	121	165	246	420
100	4	8	19	37	63	98	141	193	264	393	620
150	6	14	34	67	115	178	258	352	484	719	1260
200	8	23	55	109	187	290	418	571	784	1164	2030
250	10	35	87	171	294	455	658	900	1236	1831	3210

C _v /d ²	0.59	1.45	2.86	4.93	7.64	11.00	15.07	20.67	30.80	48.90
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.40	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.20	0.16

C_v-Values with metal seat 1S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.79	1.77	3.17	4.97	7.35	10.3	14.7	21.8	23.2	24
40	1.5	0.72	2.38	4.81	8.12	12.7	17.8	24.2	37.8	53.7	58
50	2	1.42	4.72	9.55	16.1	25.2	35.2	48.0	75.1	107	115
65	2.5	2.61	8.61	16.6	25.4	39.1	55.5	72.9	97.7	147	210
80	3	4.24	14.0	27.1	41.3	63.6	90.3	119	160	239	342
100	4	6.33	20.9	40.3	61.7	94.8	134	177	238	357	510
150	6	14.4	47.6	91.6	140	216	306	402	542	812	1160
200	8	23.7	78.4	151	231	355	505	663	892	1337	1910
250	10	37.8	125	241	369	567	805	1058	1425	2135	3050

C _v /d ²	0.59	1.45	2.86	4.93	7.64	11.0	15.07	20.67	30.80	48.90
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.40	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.20	0.16

C_v-Values with soft seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.693	1.55	2.77	4.35	6.43	9.03	12.9	19.1	20.3	21
25 \ 1	1 \ 1	0.48	0.89	1.4	2.09	2.91	4.06	5.63	7.66	10.7	15
25 \ 2	1 \ 2	0.241	0.445	0.649	0.883	1.17	1.54	2.04	2.77	3.76	5
25 \ 3	1 \ 3	0.1	0.2	0.31	0.41	0.54	0.67	0.83	1.02	1.26	1.55
25 \ 4	1 \ 4	0.03	0.06	0.1	0.14	0.185	0.235	0.285	0.345	0.42	0.5
40	1.5	0.756	2.5	5.06	8.54	13.4	18.7	25.4	39.8	56.5	61
50	2	1.36	4.51	9.13	15.4	24.1	33.7	45.9	71.8	102	110
65	2.5	2.67	8.82	17	26	40	56.8	74.6	100	151	215
80	3	4.22	13.9	26.9	41.1	63.2	89.8	118	159	238	340
100	4	6.45	21.3	41.1	62.9	96.7	137	180	243	364	520
150	6	13.3	43.9	84.5	129	199	282	371	500	749	1070
200	8	21.8	72.2	139	213	327	465	611	822	1232	1760
250	10	35.1	116	224	342	526	747	982	1322	1981	2830

CV/d2	0.59	1.45	2.86	4.93	7.64	11	15.07	20.67	30.8	48.9
FL	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
xT	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.4	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.2	0.16

METAL SEATED V-PORT SEGMENT VALVE (Nelprof™ code RE, RE-ANSI600)

Neles RE series V-port segment valves are economical high performance valves in a quarterturn design.

Carefully designed V-ported segment, low torque requirements and clearance-free movement result in good control performance.

Sizes DN 25...800 (1"...32"), available in flanged bodies to fit ANSI 150 and 300 (600 in 1"); PN 10, 16, 25 and 40 (63 and 100 in DN25); and JIS 10, 16 and 20 pipe flanges.

Small Cv trims available for DN25 / NPS01.



C_v-Values with metal seat S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.52	1.13	2.23	3.83	5.95	8.58	11.7	16.2	24.1	45
25/1	1/1	0.48	0.89	1.40	2.09	2.91	4.06	5.63	7.66	10.7	15
25/2	1/2	0.241	0.445	0.649	0.883	1.17	1.54	2.04	2.77	3.76	5
25/3	1/3	0.10	0.20	0.31	0.41	0.54	0.67	0.83	1.02	1.26	1.55
25/4	1/4	0.03	0.06	0.10	0.14	0.185	0.235	0.285	0.345	0.42	0.5
40	1.5	1.33	3.27	6.44	11.1	17.2	24.8	33.9	46.5	69.3	110
50	2	2.05	5.07	10.0	17.2	26.6	38.4	52.5	72.4	108	180
65	2.5	3.26	8.02	15.9	27.3	42.3	61.0	83.4	114	170	280
80	3	4.73	11.6	23.0	39.4	61.0	88.2	121	165	246	420
100	4	7.57	18.6	36.8	63.1	97.7	141	193	264	393	620
150	6	13.9	34.1	67.2	115	178	258	352	484	719	1260
200	8	22.5	55.3	109	187	290	418	571	784	1164	2030
250	10	35.3	86.9	171	294	455	658	900	1236	1831	3210
300	12	49.8	123	243	418	648	937	1278	1754	2601	4490
350	14	63.9	158	311	534	827	1193	1628	2237	3320	6440
400	16	85.4	210	414	713	1106	1599	2180	2989	4432	8510
500	20	130.6	321	633	1090	1692	2446	3334	4571	6778	13020
600	24	198	486	958	1649	2560	3701	5045	6916	10255	19700
700	28	254	624	1230	2118	3288	4753	6479	8882	13171	25300
800	32	321	789	1556	2679	4159	6012	8195	11234	16659	32000

C _v /d ²	0.59	1.45	2.86	4.93	7.64	11.00	15.07	20.67	30.80	48.90
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.40	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.20	0.16

C_v-Values with metal seat 1S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.79	1.77	3.17	4.97	7.35	10.3	14.7	21.8	23.2	24
40	1.5	0.756	2.5	5.06	8.54	13.4	18.7	25.4	39.8	56.5	61
50	2	1.42	4.72	9.55	16.1	25.2	35.2	48.0	75.1	107	115
65	2.5	2.61	8.61	16.6	25.4	39.1	55.5	72.9	97.7	147	210
80	3	4.24	14.0	27.1	41.3	63.6	90.3	119	160	239	342
100	4	6.33	20.9	40.3	61.7	94.8	134	177	238	357	510
150	6	14.4	47.6	91.6	140	216	306	402	542	812	1160
200	8	23.7	78.4	151	231	355	505	663	892	1337	1910
250	10	37.8	125	241	369	567	805	1058	1425	2135	3050
300	12	53.8	178	343	525	807	1146	1506	2026	3038	4340
350	14	77.1	255	491	753	1157	1642	2158	2904	4354	6220
400	16	103	342	658	1008	1549	2199	2891	3890	5831	8330
500	20	126	310	611	1051	1632	2360	3216	4409	6539	12560
600	24	198	486	958	1649	2560	3701	5045	6916	10255	19700
700	28	254	624	1230	2118	3288	4753	6479	8882	13171	25300
800	32	321	789	1556	2679	4159	6012	8195	11234	16659	32000

C _v /d ²	0.59	1.45	2.86	4.93	7.64	11.00	15.07	20.67	30.80	48.90
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.40	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.20	0.16

C_v-Values with soft seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.693	1.55	2.77	4.35	6.43	9.03	12.9	19.1	20.3	21
25/1	1/1	0.48	0.89	1.40	2.09	2.91	4.06	5.63	7.66	10.7	15
25/2	1/2	0.241	0.445	0.649	0.883	1.17	1.54	2.04	2.77	3.76	5
25/3	1/3	0.10	0.20	0.31	0.41	0.54	0.67	0.83	1.02	1.26	1.55
25/4	1/4	0.03	0.06	0.10	0.14	0.185	0.235	0.285	0.345	0.42	0.5
40	1.5	0.756	2.50	5.06	8.54	13.4	18.7	25.4	39.8	56.5	61
50	2	1.36	4.51	9.13	15.4	24.1	33.7	45.9	71.8	102	110
65	2.5	2.67	8.82	17.0	26.0	40.0	56.8	74.6	100	151	215
80	3	4.22	13.9	26.9	41.1	63.2	89.8	118	159	238	340
100	4	6.45	21.3	41.1	62.9	96.7	137	180	243	364	520
150	6	13.3	43.9	84.5	129	199	282	371	500	749	1070
200	8	21.8	72.2	139	213	327	465	611	822	1232	1760
250	10	35.1	116	224	342	526	747	982	1322	1981	2830
300	12	50.6	167	322	494	759	1077	1416	1905	2856	4080
350	14	71.3	236	454	696	1070	1518	1995	2685	4025	5750
400	16	94.6	313	603	923	1419	2014	2648	3563	5341	7630
500	20	145	479	922	1412	2170	3080	4050	5450	8169	11670
600	24	198	486	958	1649	2560	3701	5045	6916	10255	19700
700	28	254	624	1230	2118	3288	4753	6479	8882	13171	25300
800	32	321	789	1556	2679	4159	6012	8195	11234	16659	32000

C _v /d ²	0.59	1.45	2.86	4.93	7.64	11.00	15.07	20.67	30.80	48.90
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.40	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.20	0.16

C_v-Values with metal seat A

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.80	3.30	7.6	14.0	22.0	31.0	43.0	57.0	85	130
80	3	2.10	9.0	20.0	37.0	58.0	84.0	116	154	229	350
100	4	3.30	14.0	31.0	57.0	90.0	129	179	237	353	540
150	6	6.7	28.0	64.0	116	183	263	364	484	719	1100
200	8	11.0	46.0	105	189	300	430	595	791	1176	1800
250	10	18.0	77.0	175	315	499	716	992	1319	1960	3000
300	12	46.0	113.0	224	385	597	864	1178	1671	2398	4140
350	14	60.0	148.0	291	499	773	1115	1522	2091	3103	6020
400	16	80.0	198.0	390	672	1042	1507	2054	2817	4177	8020
500	20	124.0	305.0	601	1036	1608	2324	3168	4343	6440	12370
600	24	198.0	486.0	958	1649	2560	3701	5045	6916	10255	19700
700	28	254	624	1230	2118	3288	4753	6479	8882	13171	25300
800	32	321	789	1556	2679	4159	6012	8195	11234	16659	32000

C _v /d ²	0.59	1.45	2.86	4.93	7.64	11.00	15.07	20.67	30.80	48.90
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.40	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.20	0.16

METAL SEATED V-PORT SEGMENT VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-RA)

The R-series V-port segment control valves equipped with aerodynamic noise and liquid cavitation attenuating Q-Trim. Pressure/temperature rating equal to RA-series valves. Provides very high rangeability and capability to handle impure fluids and light pulp stock - features, which are not normally found in anti-noise/anti-cavitation valves. The most economical Q-Trim valve in our range. Sizes DN 50...400 (2"...16"). Available in wafer and flanged bodies to fit ANSI 150 and 300, DIN 10, 16, 25 and 40; and JIS 10, 16 and 20 pipe flanges.



C_v-Values with metal seat S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.07	2.51	4.52	6.9	10.2	14.2	19	26	35.6	47
65	2.5	2.2	5.1	9.3	14.2	20.9	29	39	53	73	96
80	3	3.6	8.4	15.2	23.2	34.3	47.6	64	88	120	160
100	4	5.7	13.3	24.1	36.8	54.3	75.3	101	139	190	250
150	6	12	29	52	80	118	163	219	300	412	540
200	8	20	47	85	130	191	265	357	488	669	880
250	10	34	80	145	222	328	455	611	836	1146	1510

C _v /d ²	0.40	0.94	1.69	2.58	3.81	5.29	7.11	9.72	13.33	17.33
F _L	0.95	0.95	0.95	0.95	0.95	0.93	0.90	0.86	0.79	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.74	0.67	0.60	0.51	0.40
z	0.49	0.49	0.49	0.48	0.47	0.45	0.42	0.38	0.34	0.28

C_v-Values with metal seat 1S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.68	1.6	2.89	4.4	6.51	9.06	12.1	16.6	22.7	30
65	2.5	1.64	3.85	6.95	10.7	15.7	21.8	29.3	40	54.8	72
80	3	2.92	6.83	12.4	18.9	27.9	38.7	52	71.1	97.5	130
100	4	4.77	11.2	20.2	30.9	45.6	63.3	84.8	117	160	210
150	6	11.4	26.8	48.3	73.7	109	151	203	278	381	500
200	8	18.9	44.3	80	123	180	250	337	460	631	830
250	10	32.7	76.7	138	212	313	434	583	797	1093	1440

C _v /d ²	0.3988	0.9355	1.6888	2.5777	3.8111	5.2888	7.1111	9.7222	13.333	17.333
F _L	0.95	0.95	0.95	0.95	0.95	0.93	0.9	0.86	0.79	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.74	0.67	0.6	0.51	0.4
z	0.49	0.49	0.49	0.48	0.47	0.45	0.42	0.38	0.34	0.28

C_v-Values with soft seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.36	1.18	2.38	4.02	6.29	8.8	12	18.7	26.6	28.7
65	2.5	0.92	3.02	5.83	8.91	13.7	19.5	25.6	34.3	51.8	73.7
80	3	1.61	5.3	10.3	15.7	24.1	34.2	45	60.6	90.7	130
100	4	2.6	8.59	16.6	25.4	39	55.2	72.6	98	147	210
150	6	5.7	18.8	36.2	55.3	85.3	121	159	214	321	459
200	8	9.45	31.3	60.3	92.3	142	202	265	356	534	763
250	10	16.5	54.6	105	161	247	351	462	622	932	1331
C _v /d ²	0.59	1.45	2.86	4.93	7.64	11	15.07	20.67	30.8	48.9	
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42	
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.4	0.32	0.16	
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.2	0.16	

METAL SEATED V-PORT SEGMENT VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-RE)

The R-series V-port segment control valves equipped with aerodynamic noise and liquid cavitation attenuating Q-Trim. Pressure/temperature rating equal to RE-series valves. Provides very high rangeability and capability to handle impure fluids and light pulp stock - features, which are not normally found in anti-noise/anti-cavitation valves. The most economical Q-Trim valve in our range.

Sizes DN 50...800 (2"...32"), available in flanged bodies to fit ANSI 150 and 300, PN 10, 16, 25 and 40; and JIS 10, 16 and 20 pipe flanges.



Cv-Values with metal seat S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.07	2.51	4.52	6.9	10.2	14.2	19	26	35.6	47
65	2.5	2.19	5.13	9.26	14.2	20.9	29.0	39	53.3	73.1	96
80	3	3.59	8.4	15.2	23.2	34.3	47.6	64.0	87.5	120	160
100	4	5.68	13.3	24.1	36.8	54.3	75.3	101	139	190	250
150	6	12.3	28.9	52.2	79.6	118	163	219	300	412	540
200	8	20.0	47.0	84.8	130	191	265	357	488	669	880
250	10	34.3	80.4	145	222	328	455	611	836	1146	1510
300	12	49	114	206	315	466	646	868	1190	1630	2140
350	14	72	167	303	462	684	948	1273	1746	2371	3160
400	16	95	221	401	611	905	1254	1685	2310	3164	4180
500	20	150	349	633	965	1429	1980	2661	3647	4996	6600
600	24	210	488	885	1349	1998	2769	3721	5101	6987	9230
700	28	311	724	1314	2003	2966	4110	5523	7571	10370	13700
800	32	321	789	1552	2366	3503	4854	6523	8942	12248	16181

C_v/d^2	0.40	0.94	1.69	2.58	3.81	5.29	7.11	9.72	13.33	17.33
F_L	0.95	0.95	0.95	0.95	0.95	0.93	0.9	0.86	0.79	0.64
x_T	0.82	0.83	0.83	0.82	0.79	0.74	0.67	0.6	0.51	0.4
z	0.49	0.49	0.49	0.48	0.47	0.45	0.42	0.38	0.34	0.28

Cv-Values with metal seat 1S

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.68	1.60	2.89	4.4	6.51	9.06	12.1	16.6	22.7	30
65	2.5	1.64	3.85	6.95	10.7	15.7	21.8	29.3	40.0	54.8	72
80	3	2.92	6.83	12.4	18.9	27.9	38.7	52.0	71.1	97.5	130
100	4	4.77	11.2	20.2	30.9	45.6	63.3	84.8	117	160	210
150	6	11.4	26.8	48.3	73.7	109	151	203	278	381	500
200	8	18.9	44.3	80.0	123	180	250	337	460	631	830
250	10	32.7	76.7	138	212	313	434	583	797	1093	1440
300	12	47.4	110	199	305	451	625	840	1151	1577	2070
350	14	69.5	161	292	446	660	915	1229	1685	2288	3050
400	16	93	216	392	598	886	1227	1649	2260	3096	4090
500	20	145	337	611	931	1379	1911	2568	3520	4822	6370
600	24	210	488	885	1349	1998	2769	3721	5101	6987	9230
700	28	311	724	1314	2003	2966	4110	5523	7571	10370	13700
800	32	321	789	1552	2366	3503	4854	6523	8942	12248	16181

C_v/d^2	0.40	0.94	1.69	2.58	3.81	5.29	7.11	9.72	13.33	17.33
F_L	0.95	0.95	0.95	0.95	0.95	0.93	0.9	0.86	0.79	0.64
x_T	0.82	0.83	0.83	0.82	0.79	0.74	0.67	0.6	0.51	0.4
z	0.49	0.49	0.49	0.48	0.47	0.45	0.42	0.38	0.34	0.28

C_v-Values with soft seat

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.36	1.18	2.38	4.02	6.29	8.80	12.0	18.7	26.6	28.7
65	2.5	0.92	3.02	5.83	8.91	13.7	19.5	25.6	34.3	51.8	73.7
80	3	1.61	5.30	10.3	15.7	24.1	34.2	45.0	60.6	90.7	130
100	4	2.60	8.59	16.6	25.4	39.0	55.2	72.6	98.0	147	210
150	6	5.70	18.8	36.2	55.3	85.3	121	159	214	321	459
200	8	9.45	31.3	60.3	92.3	142	202	265	356	534	763
250	10	16.5	54.6	105	161	247	351	462	622	932	1331
300	12	24.1	79.6	154	235	362	513	675	908	1361	1945
350	14	35.0	116	223	342	525	745	979	1318	1975	2821
400	16	46.5	154	296	453	697	989	1301	1750	2623	3748
500	20	73.5	243	467	716	1100	1561	2053	2763	4141	5916
600	24	210	488	885	1349	1998	2769	3721	5101	6987	9230
700	28	311	724	1314	2003	2966	4110	5523	7571	10370	13700
800	32	321	789	1552	2366	3503	4854	6523	8942	12248	16181

C _v /d ²	0.40	0.94	1.69	2.58	3.81	5.29	7.11	9.72	13.33	17.33
F _L	0.95	0.95	0.95	0.95	0.95	0.93	0.9	0.86	0.79	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.74	0.67	0.6	0.51	0.4
z	0.49	0.49	0.49	0.48	0.47	0.45	0.42	0.38	0.34	0.28

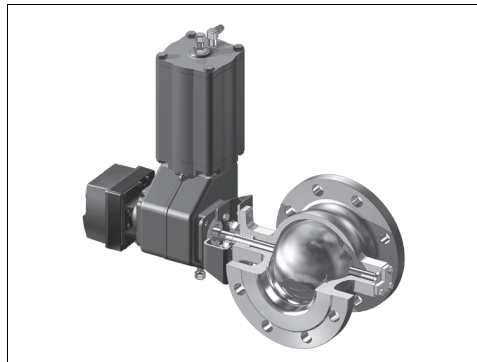
C_v-Values with metal seat A

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.90	2.10	3.80	5.7	8.5	12.0	16	22	30.0	39
80	3	3.40	7.9	14.0	22.0	32.0	45.0	60.0	82.0	113	150
100	4	5.00	12.0	21.0	32.0	48.0	66.0	89	122	167	220
150	6	11.0	27.0	48.0	74.0	109	151	203	278	381	500
200	8	19.0	45.0	81.0	123	181	252	339	463	635	835
250	10	32.0	76.0	136	209	308	428	575	786	1078	1420
300	12	45.0	105.0	190	290	429	595	799	1095	1501	1970
350	14	67.0	156.0	283	431	639	885	1188	1630	2213	2950
400	16	90.0	208.0	378	576	853	1182	1588	2177	2982	3940
500	20	143.0	332.0	601	917	1358	1881	2528	3465	4746	6270
600	24	210	488	885	1349	1998	2769	3721	5101	6987	9230
700	28	311	724	1314	2003	2966	4110	5523	7571	10370	13700
800	32	321	789	1552	2366	3503	4854	6523	8942	12248	16181

C _v /d ²	0.40	0.94	1.69	2.58	3.81	5.29	7.11	9.72	13.33	17.33
F _L	0.95	0.95	0.95	0.95	0.95	0.93	0.9	0.86	0.79	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.74	0.67	0.6	0.51	0.4
z	0.49	0.49	0.49	0.48	0.47	0.45	0.42	0.38	0.34	0.28

METAL SEATED V-PORT SEGMENT VALVE FOR MEDIUM CONSISTENCY PULP (Nelprof™ code R2_S)

The R-series V-port segment control valves have characterized flow opening to provide optimum inherent equal percentage flow characteristics. Continuous segment/seat contact and concentric rotation provide easy handling of fibrous fluids and very high flow rates. The flow path of the valve is continuously enlarged towards valve outlet to assure free flow of thick slurries or fibrous fluids.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	4.73	11.6	23.0	39.4	61.0	88.2	121	165	246	420
100	4	7.6	18.6	36.8	63.1	97.7	141	193	264	393	620
150	6	14	34	67	115	178	258	352	484	719	1260
200	8	23	55	109	187	290	418	571	784	1164	2030
250	10	35	87	171	294	455	658	900	1236	1831	3210
300	12	50	123	243	418	648	937	1278	1754	2601	4490
350	14	63.9	158	311	534	827	1193	1628	2237	3320	6440
400	16	85.4	210	414	713	1106	1599	2180	2989	4432	8510

C _v /d ²	0.59	1.45	2.86	4.93	7.64	11.0	15.07	20.67	30.80	48.90
F _L	0.94	0.93	0.92	0.88	0.85	0.81	0.78	0.72	0.61	0.42
x _T	0.64	0.64	0.63	0.62	0.59	0.54	0.49	0.40	0.32	0.16
z	0.44	0.43	0.41	0.38	0.35	0.31	0.28	0.25	0.20	0.16

SERIES GU GLOBE CONTROL VALVES, UNBALANCED STANDARD TRIM, LINEAR (Nelprof™ code GU-STD-LIN)

Series globe-single seated, top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. Quick change trim and top entry construction for easy in-line maintenance. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.531	1.268	1.949	2.659	3.377	4.085	4.764	5.510	6.672	7.00
15/1	0.5/1	0.358	0.744	1.225	1.610	1.992	2.365	2.719	3.049	3.411	4.00
15/2	0.5/2	0.278	0.532	0.785	1.069	1.319	1.520	1.707	1.879	2.033	2.30
15/3	0.5/3	0.190	0.356	0.515	0.669	0.819	0.971	1.150	1.275	1.377	1.50
15/4	0.5/4	0.092	0.172	0.249	0.324	0.397	0.470	0.542	0.612	0.683	0.80
15/5	0.5/5	0.055	0.105	0.154	0.202	0.251	0.300	0.351	0.401	0.452	0.50
15/6	0.5/6	0.035	0.065	0.095	0.124	0.153	0.182	0.211	0.240	0.270	0.30
20	0.75	0.845	1.678	2.573	3.311	4.036	4.743	5.425	6.179	7.609	9.00
20/1	0.75/1	0.347	0.819	1.402	2.167	2.779	3.388	3.977	4.530	5.031	5.50
20/2	0.75/2	0.294	0.742	1.078	1.403	1.731	2.125	2.372	2.597	2.799	3.00
20/3	0.75/3	0.237	0.438	0.628	0.811	0.987	1.155	1.317	1.470	1.615	2.00
20/4	0.75/4	0.125	0.241	0.358	0.478	0.599	0.721	0.842	0.964	1.084	1.20
20/5	0.75/5	0.078	0.148	0.215	0.284	0.352	0.420	0.490	0.559	0.630	0.70
20/6	0.75/6	0.048	0.089	0.129	0.169	0.207	0.245	0.284	0.322	0.360	0.40
25	1	1.288	2.619	4.023	5.415	6.826	8.125	8.899	10.246	11.931	13.50
25/1	1/1	0.773	1.538	2.307	3.147	3.919	4.679	5.415	6.122	7.003	8.50
25/2	1/2	0.463	0.939	1.433	1.937	2.458	3.020	3.519	3.997	4.441	5.40
25/3	1/3	0.277	0.562	0.857	1.160	1.468	1.772	2.071	2.358	2.658	3.10
25/4	1/4	0.178	0.367	0.566	0.775	0.988	1.201	1.408	1.606	1.789	2.00
25/5	1/5	0.114	0.230	0.348	0.468	0.589	0.711	0.831	0.949	1.065	1.20
25/6	1/6	0.070	0.138	0.207	0.276	0.344	0.413	0.482	0.550	0.619	0.80
40	1.5	2.636	5.382	8.457	11.766	15.220	18.767	21.562	24.090	26.500	28.00
40/1	1.5/1	1.625	3.160	4.699	6.250	7.896	9.519	11.120	12.681	14.181	16.00
40/2	1.5/2	0.946	1.885	2.860	3.860	4.875	5.884	6.901	7.918	8.855	10.50
40/3	1.5/3	0.565	1.128	1.720	2.333	2.955	3.579	4.190	4.779	5.332	6.00
40/4	1.5/4	0.369	0.743	1.135	1.543	1.961	2.379	2.788	3.182	3.549	4.00
40/5	1.5/5	0.188	0.377	0.573	0.777	0.985	1.194	1.400	1.598	1.784	2.20
40/6	1.5/6	0.123	0.239	0.355	0.472	0.590	0.710	0.828	0.946	1.063	1.20
50	2	4.130	9.242	14.478	19.708	25.087	30.564	35.974	40.012	44.642	49.00
50/1	2/1	2.274	4.969	7.877	10.938	13.724	16.509	19.277	22.026	24.965	28.00
50/2	2/2	1.264	2.764	4.372	6.054	7.773	9.527	11.227	12.727	14.317	17.00
50/3	2/3	0.816	1.779	2.804	3.860	4.927	5.981	7.006	7.980	8.889	10.00
80	3	9.958	21.061	32.395	42.652	52.980	63.698	76.666	86.071	91.149	100.00
80/1	3/1	5.353	11.637	18.738	26.583	33.661	40.457	47.179	53.741	60.338	70.00
80/2	3/2	3.465	7.212	11.200	15.378	19.686	24.058	28.448	31.986	35.659	42.00
80/3	3/3	2.171	4.467	6.858	9.318	11.806	14.291	16.726	19.075	21.290	25.00
100	4	12.667	27.122	47.273	66.038	85.993	106.882	127.853	147.470	167.929	190.00
100/1	4/1	7.319	15.766	25.332	36.426	51.054	63.296	75.776	88.317	103.943	120.00
100/2	4/2	7.018	13.838	20.643	27.411	34.071	43.442	50.854	57.090	63.090	72.00
100/3	4/3	4.032	8.164	12.452	16.817	21.179	25.440	29.513	33.306	37.671	42.00
150	6	28.431	57.146	86.052	112.257	136.072	159.161	181.587	212.574	263.118	295.00
150/1	6/1	16.090	32.010	47.670	63.090	78.180	93.110	105.760	117.420	137.910	165.00
150/2	6/2	8.775	17.429	25.904	34.147	42.126	49.781	57.066	63.938	71.485	85.00
150/3	6/3	4.321	9.065	14.143	19.449	24.875	30.315	35.638	40.718	45.424	50.00

C _v /d ²	0.055	1.122	1.734	2.346	2.954	3.559	4.129	4.685	5.327	28.000
F _T	0.940	0.930	0.910	0.900	0.890	0.885	0.880	0.875	0.870	0.770
x _T	0.640	0.610	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.580
z	0.650	0.650	0.650	0.645	0.640	0.635	0.630	0.625	0.615	0.250

SERIES GU GLOBE CONTROL VALVES, UNBALANCED STANDARD TRIM, EQUAL PERCENTAGE (Nelprof™ code GU-STD-EQ)

Series globe-single seated, top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. Quick change trim and top entry construction for easy in-line maintenance. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.164	0.355	0.562	0.888	1.378	2.163	3.417	4.842	6.441	7.00
15/1	0.5/1	0.057	0.159	0.307	0.488	0.780	1.456	2.173	2.884	3.533	4.00
15/2	0.5/2	0.083	0.155	0.228	0.336	0.585	0.941	1.370	1.702	2.005	2.30
15/3	0.5/3	0.048	0.092	0.137	0.202	0.350	0.560	0.818	1.113	1.329	1.50
15/4	0.5/4	0.020	0.037	0.057	0.083	0.161	0.280	0.413	0.538	0.656	0.80
15/5	0.5/5	0.009	0.022	0.035	0.054	0.096	0.168	0.253	0.334	0.414	0.50
15/6	0.5/6	0.005	0.011	0.020	0.033	0.063	0.105	0.150	0.197	0.245	0.30
20	0.75	0.239	0.452	0.668	1.069	1.849	2.928	4.022	5.229	7.131	9.00
20/1	0.75/1	0.057	0.198	0.399	0.669	1.109	1.785	2.787	3.712	4.739	5.50
20/2	0.75/2	0.050	0.169	0.276	0.453	0.776	1.204	1.802	2.352	2.723	3.00
20/3	0.75/3	0.044	0.093	0.150	0.214	0.405	0.684	0.999	1.299	1.667	2.00
20/4	0.75/4	0.034	0.061	0.086	0.131	0.248	0.418	0.620	0.817	1.011	1.20
20/5	0.75/5	0.012	0.029	0.051	0.082	0.142	0.234	0.340	0.451	0.580	0.70
20/6	0.75/6	0.009	0.019	0.030	0.044	0.082	0.141	0.207	0.271	0.333	0.40
25	1	0.268	0.568	0.913	1.549	2.754	4.657	7.075	9.487	11.626	13.50
25/1	1/1	0.118	0.287	0.507	0.825	1.557	2.695	4.140	5.605	7.028	8.50
25/2	1/2	0.073	0.185	0.331	0.525	0.966	1.672	2.647	3.588	4.366	5.40
25/3	1/3	0.027	0.090	0.186	0.317	0.583	0.997	1.520	2.050	2.540	3.10
25/4	1/4	0.030	0.075	0.134	0.215	0.397	0.670	1.002	1.354	1.701	2.00
25/5	1/5	0.025	0.053	0.077	0.131	0.248	0.433	0.643	0.853	1.056	1.20
25/6	1/6	0.011	0.025	0.041	0.073	0.143	0.239	0.345	0.462	0.589	0.80
40	1.5	0.453	1.124	2.000	3.071	5.909	10.566	16.175	21.567	25.661	28.00
40/1	1.5/1	0.226	0.582	1.056	1.694	3.155	5.364	7.974	10.692	13.438	16.00
40/2	1.5/2	0.203	0.437	0.705	1.021	1.877	3.245	4.930	6.712	8.593	10.50
40/3	1.5/3	0.086	0.219	0.398	0.617	1.131	2.022	3.169	4.256	5.211	6.00
40/4	1.5/4	0.053	0.141	0.262	0.412	0.789	1.363	2.078	2.828	3.453	4.00
40/5	1.5/5	0.031	0.076	0.134	0.210	0.391	0.691	1.071	1.431	1.736	2.20
40/6	1.5/6	0.027	0.056	0.085	0.128	0.234	0.396	0.588	0.784	0.981	1.20
50	2	1.209	2.459	3.305	5.116	9.421	16.828	26.550	36.591	44.523	49.00
50/1	2/1	0.315	0.817	1.505	2.870	5.482	9.305	13.774	18.306	23.170	28.00
50/2	2/2	0.171	0.467	0.882	1.633	3.179	5.473	8.207	11.089	13.683	17.00
50/3	2/3	0.146	0.369	0.662	1.023	1.894	3.286	5.007	6.711	8.407	10.00
80	3	2.007	4.467	7.366	12.276	22.522	38.624	62.018	79.573	90.094	100.00
80/1	3/1	1.004	2.505	4.499	6.963	12.945	23.649	36.145	47.819	58.698	70.00
80/2	3/2	0.727	1.606	2.636	3.946	7.530	13.569	21.257	28.974	34.990	42.00
80/3	3/3	0.355	0.887	1.588	2.455	4.505	8.075	12.547	16.822	20.779	25.00
100	4	2.896	6.719	11.479	17.159	29.352	56.255	86.653	120.896	153.844	190.00
100/1	4/1	1.558	3.765	6.626	10.108	18.418	32.827	55.269	77.526	98.631	120.00
100/2	4/2	1.450	3.050	4.822	8.099	14.857	24.200	35.222	49.808	61.142	72.00
100/3	4/3	0.882	1.818	2.839	4.443	8.424	14.384	21.124	27.793	34.167	42.00
150	6	4.225	9.715	16.432	25.732	49.583	89.691	140.008	195.766	256.778	295.00
150/1	6/1	2.829	6.733	11.683	17.723	31.528	53.903	88.375	113.113	140.553	165.00
150/2	6/2	1.364	3.606	6.678	10.620	17.821	28.656	42.883	57.380	71.534	85.00
150/3	6/3	0.911	1.895	2.949	4.261	7.768	13.680	21.418	29.715	37.963	50.00

C _v /d ²	0,011	0,256	0,423	0,670	1,186	2,020	3,079	4,138	5,158	28,000
F _T	0.940	0.940	0.930	0.930	0.920	0.900	0.890	0.880	0.870	0.770
x _T	0.640	0.630	0.620	0.610	0.610	0.600	0.600	0.600	0.600	0.580
z	0.650	0.650	0.650	0.650	0.650	0.645	0.640	0.630	0.620	0.250

SERIES GU GLOBE CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, LINEAR (Nelprof™ code GU-TEN1-LIN)

Series globe-single seated, top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. The trim design is a multi-hole are located on the cage wall. The pressure reduces as it passes multi-hole. This gives good resistance to cavitation on high pressure drop applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v -Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.531	1.268	1.949	2.659	3.377	4.085	4.764	5.510	6.672	7.00
15/1	0.5/1	0.358	0.744	1.225	1.610	1.992	2.365	2.719	3.049	3.411	4.00
15/2	0.5/2	0.278	0.532	0.785	1.069	1.319	1.520	1.707	1.879	2.033	2.30
15/3	0.5/3	0.190	0.356	0.515	0.669	0.819	0.971	1.150	1.275	1.377	1.50
15/4	0.5/4	0.092	0.172	0.249	0.324	0.397	0.470	0.542	0.612	0.683	0.80
15/5	0.5/5	0.055	0.105	0.154	0.202	0.251	0.300	0.351	0.401	0.452	0.50
15/6	0.5/6	0.035	0.065	0.095	0.124	0.153	0.182	0.211	0.240	0.270	0.30
20	0.75	0.845	1.678	2.573	3.311	4.036	4.743	5.425	6.179	7.609	9.00
20/1	0.75/1	0.347	0.819	1.402	2.167	2.779	3.388	3.977	4.530	5.031	5.50
20/2	0.75/2	0.294	0.742	1.078	1.403	1.731	2.125	2.372	2.597	2.799	3.00
20/3	0.75/3	0.237	0.438	0.628	0.811	0.987	1.155	1.317	1.470	1.615	2.00
20/4	0.75/4	0.125	0.241	0.358	0.478	0.599	0.721	0.842	0.964	1.084	1.20
20/5	0.75/5	0.078	0.148	0.215	0.284	0.352	0.420	0.490	0.559	0.630	0.70
20/6	0.75/6	0.048	0.089	0.129	0.169	0.207	0.245	0.284	0.322	0.360	0.40
25	1	1.288	2.619	4.023	5.415	6.826	8.125	8.899	10.246	11.931	13.50
25/1	1/1	0.773	1.538	2.307	3.147	3.919	4.679	5.415	6.122	7.003	8.50
25/2	1/2	0.463	0.939	1.433	1.937	2.458	3.020	3.519	3.997	4.441	5.40
25/3	1/3	0.277	0.562	0.857	1.160	1.468	1.772	2.071	2.358	2.658	3.10
25/4	1/4	0.178	0.367	0.566	0.775	0.988	1.201	1.408	1.606	1.789	2.00
25/5	1/5	0.114	0.230	0.348	0.468	0.589	0.711	0.831	0.949	1.065	1.20
25/6	1/6	0.070	0.138	0.207	0.276	0.344	0.413	0.482	0.550	0.619	0.80
40	1.5	2.636	5.382	8.457	11.766	15.220	18.767	21.562	24.090	26.500	28.00
40/1	1.5/1	1.625	3.160	4.699	6.250	7.896	9.519	11.120	12.681	14.181	16.00
40/2	1.5/2	0.946	1.885	2.860	3.860	4.875	5.884	6.901	7.918	8.855	10.50
40/3	1.5/3	0.565	1.128	1.720	2.333	2.955	3.579	4.190	4.779	5.332	6.00
40/4	1.5/4	0.369	0.743	1.135	1.543	1.961	2.379	2.788	3.182	3.549	4.00
40/5	1.5/5	0.188	0.377	0.573	0.777	0.985	1.194	1.400	1.598	1.784	2.20
40/6	1.5/6	0.123	0.239	0.355	0.472	0.590	0.710	0.828	0.946	1.063	1.20
50	2	4.130	9.242	14.478	19.708	25.087	30.564	35.974	40.012	44.642	49.00
50/1	2/1	2.274	4.969	7.877	10.938	13.724	16.509	19.277	22.026	24.965	28.00
50/2	2/2	1.264	2.764	4.372	6.054	7.773	9.527	11.227	12.727	14.317	17.00
50/3	2/3	0.816	1.779	2.804	3.860	4.927	5.981	7.006	7.980	8.889	10.00
80	3	9.958	21.061	32.395	42.652	52.980	63.698	76.666	86.071	91.149	100.00
80/1	3/1	5.353	11.637	18.738	26.583	33.661	40.457	47.179	53.741	60.338	70.00
80/2	3/2	3.465	7.212	11.200	15.378	19.686	24.058	28.448	31.986	35.659	42.00
80/3	3/3	2.171	4.467	6.858	9.318	11.806	14.291	16.726	19.075	21.290	25.00
100	4	12.667	27.122	47.273	66.038	85.993	106.882	127.853	147.470	167.929	190.00
100/1	4/1	7.319	15.766	25.332	36.426	51.054	63.296	75.776	88.317	103.943	120.00
100/2	4/2	7.018	13.838	20.643	27.411	34.071	43.442	50.854	57.090	63.090	72.00
100/3	4/3	4.032	8.164	12.452	16.817	21.179	25.440	29.513	33.306	37.671	42.00

C_v/d^4	0.055	1.122	1.734	2.346	2.954	3.559	4.129	4.685	10.000	28.000
F_L	0.950	0.950	0.947	0.943	0.940	0.935	0.930	0.928	0.910	0.910
x_T	0.550	0.550	0.550	0.555	0.565	0.580	0.600	0.615	0.750	0.750
z	0.65	0.65	0.65	0.645	0.64	0.635	0.63	0.625	0.57	0.37

SERIES GU GLOBE CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE (Nelprof™ code GU-TEN1-EQ)

Series globe-single seated, top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. The trim design is a multi-hole are located on the cage wall. The pressure reduces as it passes multi-hole. This gives good resistance to cavitation on high pressure drop applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.164	0.355	0.562	0.888	1.378	2.163	3.417	4.842	6.441	7.00
15/1	0.5/1	0.057	0.159	0.307	0.488	0.780	1.456	2.173	2.884	3.533	4.00
15/2	0.5/2	0.083	0.155	0.228	0.336	0.585	0.941	1.370	1.702	2.005	2.30
15/3	0.5/3	0.048	0.092	0.137	0.202	0.350	0.560	0.818	1.113	1.329	1.50
15/4	0.5/4	0.020	0.037	0.057	0.083	0.161	0.280	0.413	0.538	0.656	0.80
15/5	0.5/5	0.009	0.022	0.035	0.054	0.096	0.168	0.253	0.334	0.414	0.50
15/6	0.5/6	0.005	0.011	0.020	0.033	0.063	0.105	0.150	0.197	0.245	0.30
20	0.75	0.239	0.452	0.668	1.069	1.849	2.928	4.022	5.229	7.131	9.00
20/1	0.75/1	0.057	0.198	0.399	0.669	1.109	1.785	2.787	3.712	4.739	5.50
20/2	0.75/2	0.050	0.169	0.276	0.453	0.776	1.204	1.802	2.352	2.723	3.00
20/3	0.75/3	0.044	0.093	0.150	0.214	0.405	0.684	0.999	1.299	1.667	2.00
20/4	0.75/4	0.034	0.061	0.086	0.131	0.248	0.418	0.620	0.817	1.011	1.20
20/5	0.75/5	0.012	0.029	0.051	0.082	0.142	0.234	0.340	0.451	0.580	0.70
20/6	0.75/6	0.009	0.019	0.030	0.044	0.082	0.141	0.207	0.271	0.333	0.40
25	1	0.268	0.568	0.913	1.549	2.754	4.657	7.075	9.487	11.626	13.50
25/1	1/1	0.118	0.287	0.507	0.825	1.557	2.695	4.140	5.605	7.028	8.50
25/2	1/2	0.073	0.185	0.331	0.525	0.966	1.672	2.647	3.588	4.366	5.40
25/3	1/3	0.027	0.090	0.186	0.317	0.583	0.997	1.520	2.050	2.540	3.10
25/4	1/4	0.030	0.075	0.134	0.215	0.397	0.670	1.002	1.354	1.701	2.00
25/5	1/5	0.025	0.053	0.077	0.131	0.248	0.433	0.643	0.853	1.056	1.20
25/6	1/6	0.011	0.025	0.041	0.073	0.143	0.239	0.345	0.462	0.589	0.80
40	1.5	0.453	1.124	2.000	3.071	5.909	10.566	16.175	21.567	25.661	28.00
40/1	1.5/1	0.226	0.582	1.056	1.694	3.155	5.364	7.974	10.692	13.438	16.00
40/2	1.5/2	0.203	0.437	0.705	1.021	1.877	3.245	4.930	6.712	8.593	10.50
40/3	1.5/3	0.086	0.219	0.398	0.617	1.131	2.022	3.169	4.256	5.211	6.00
40/4	1.5/4	0.053	0.141	0.262	0.412	0.789	1.363	2.078	2.828	3.453	4.00
40/5	1.5/5	0.031	0.076	0.134	0.210	0.391	0.691	1.071	1.431	1.736	2.20
40/6	1.5/6	0.027	0.056	0.085	0.128	0.234	0.396	0.588	0.784	0.981	1.20
50	2	1.209	2.459	3.305	5.116	9.421	16.828	26.550	36.591	44.523	49.00
50/1	2/1	0.315	0.817	1.505	2.870	5.482	9.305	13.774	18.306	23.170	28.00
50/2	2/2	0.171	0.467	0.882	1.633	3.179	5.473	8.207	11.089	13.683	17.00
50/3	2/3	0.146	0.369	0.662	1.023	1.894	3.286	5.007	6.711	8.407	10.00
80	3	2.007	4.467	7.366	12.276	22.522	38.624	62.018	79.573	90.094	100.00
80/1	3/1	1.004	2.505	4.499	6.963	12.945	23.649	36.145	47.819	58.698	70.00
80/2	3/2	0.727	1.606	2.636	3.946	7.530	13.569	21.257	28.974	34.990	42.00
80/3	3/3	0.355	0.887	1.588	2.455	4.505	8.075	12.547	16.822	20.779	25.00
100	4	2.896	6.719	11.479	17.159	29.352	56.255	86.653	120.896	153.844	190.00
100/1	4/1	1.558	3.765	6.626	10.108	18.418	32.827	55.269	77.526	98.631	120.00
100/2	4/2	1.450	3.050	4.822	8.099	14.857	24.200	35.222	49.808	61.142	72.00
100/3	4/3	0.882	1.818	2.839	4.443	8.424	14.384	21.124	27.793	34.167	42.00

C _v /d ²	0.011	0.256	0.423	0.670	1.186	2.020	3.079	4.138	10.000	28.000
F _L	0.950	0.950	0.950	0.950	0.950	0.945	0.940	0.930	0.910	0.910
x _T	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.600	0.750	0.750
z	0.65	0.65	0.65	0.65	0.65	0.65	0.64	0.63	0.57	0.37

SERIES GU GLOBE CONTROL VALVES, UNBALANCED MICRO TRIM, LINEAR (Nelprof™ code GU-MCR-LIN)

The micro trim design is seat guided construction, capable of handling high pressure drops, without instability problems. This trim design has an inherent characteristic of linear and has excellent rangeability. It is an ideal selection for the control of very low flow rates. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Value

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.0015	0.0029	0.0115	0.0226	0.0352	0.0493	0.0606	0.0713	0.0842	0.1000
15/1	0.5/1	0.0012	0.0018	0.0052	0.0115	0.0182	0.0273	0.0352	0.0447	0.0522	0.0600
15/2	0.5/2	0.0004	0.0007	0.0018	0.0036	0.0061	0.0091	0.0127	0.0167	0.0211	0.0300
15/3	0.5/3	0.0003	0.0004	0.0008	0.0013	0.0023	0.0032	0.0047	0.0060	0.0079	0.0100
15/4	0.5/4	0.00010	0.00040	0.00050	0.00090	0.00150	0.00200	0.00290	0.00390	0.00470	0.00600
15/5	0.5/5	0.00005	0.00020	0.00035	0.00050	0.00080	0.00110	0.00150	0.00200	0.00250	0.00300
20	0.75	0.0015	0.0029	0.0115	0.0226	0.0352	0.0493	0.0606	0.0713	0.0842	0.1000
20/1	0.75/1	0.0012	0.0018	0.0052	0.0115	0.0182	0.0273	0.0352	0.0447	0.0522	0.0600
20/2	0.75/2	0.0004	0.0007	0.0018	0.0036	0.0061	0.0091	0.0127	0.0167	0.0211	0.0300
20/3	0.75/3	0.0003	0.0004	0.0008	0.0013	0.0023	0.0032	0.0047	0.0060	0.0079	0.0100
20/4	0.75/4	0.00010	0.00040	0.00050	0.00090	0.00150	0.00200	0.00290	0.00390	0.00470	0.00600
20/5	0.75/5	0.00005	0.00020	0.00035	0.00050	0.00080	0.00110	0.00150	0.00200	0.00250	0.00300
25	1	0.0015	0.0029	0.0115	0.0226	0.0352	0.0493	0.0606	0.0713	0.0842	0.1000
25/1	1/1	0.0012	0.0018	0.0052	0.0115	0.0182	0.0273	0.0352	0.0447	0.0522	0.0600
25/2	1/2	0.0004	0.0007	0.0018	0.0036	0.0061	0.0091	0.0127	0.0167	0.0211	0.0300
25/3	1/3	0.0003	0.0004	0.0008	0.0013	0.0023	0.0032	0.0047	0.0060	0.0079	0.0100
25/4	1/4	0.00010	0.00040	0.00050	0.00090	0.00150	0.00200	0.00290	0.00390	0.00470	0.00600
25/5	1/5	0.00005	0.00020	0.00035	0.00050	0.00080	0.00110	0.00150	0.00200	0.00250	0.00300

C _v /d ²	0.003	0.015	0.023	0.031	0.039	0.046	0.054	0.062	0.069	0.400
F _L	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.970	0.970
x _T	0.840	0.840	0.840	0.840	0.840	0.840	0.840	0.840	0.840	0.840
z	0.955	0.865	0.77	0.705	0.66	0.63	0.6	0.58	0.56	0.37

SERIES GB GLOBE CONTROL VALVES, BALANCED STANDARD TRIM, LINEAR (Nelprof™ code GB-STD-LIN)

Series globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. The standard cage trim is designed with a specially represented window shape cage and balanced plug. The window shape defines the flow path through the valve and the flow characteristic of the valve. The balancing holes are located in the top of the plug. This trim is suited for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	4.9	13.9	22.2	30.3	39.5	48.6	57.3	64.7	69.5	74.0
50/1	2/1	3.5	7.6	12.5	17.3	22.4	27.6	33.1	38.5	43.6	48.0
50/2	2/2	2.6	5.2	7.7	10.3	12.9	15.4	18.0	20.6	23.2	26.0
50/3	2/3	1.6	3.2	4.8	6.3	7.9	9.5	11.1	12.7	14.3	16.0
80	3	8.0	22.0	39.0	59.0	75.0	90.0	105.0	119.0	130.0	142.0
80/1	3/1	6.2	16.6	26.9	36.9	46.6	56.8	67.4	78.0	87.8	98.0
80/2	3/2	4.5	11.1	16.6	22.2	27.7	33.3	38.8	44.4	49.9	56.0
80/3	3/3	3.4	6.7	10.1	13.5	16.8	20.2	23.6	26.9	30.3	34.0
100	4	19.3	41.5	74.4	105.3	133.4	164.5	187.6	206.4	219.3	230.0
100/1	4/1	8.0	25.4	43.1	60.4	77.2	93.8	110.7	127.6	143.9	160.0
100/2	4/2	6.0	17.0	25.5	34.1	42.6	51.1	59.6	68.1	76.6	86.0
100/3	4/3	5.2	10.3	15.4	20.6	25.7	30.9	36.0	41.2	46.3	52.0
150	6	23.0	62.0	123.5	181.0	229.1	269.3	315.2	349.9	370.1	380.0
150/1	6/1	12.0	40.9	71.4	101.4	130.6	158.9	186.7	214.7	242.2	275.0
150/2	6/2	9.5	29.7	44.6	59.4	74.3	89.1	104.0	118.8	133.7	150.0
150/3	6/3	8.0	17.8	26.7	35.6	44.6	53.5	62.4	71.3	80.2	90.0
200	8	28.2	94.2	185.6	288.0	377.1	449.1	514.1	571.9	590.0	600.0
200/1	8/1	14.5	52.5	108.0	172.0	232.0	299.0	365.0	417.0	430.0	455.0
200/2	8/2	10.0	45.0	75.4	100.6	125.7	150.9	176.0	201.2	226.3	254.0
200/3	8/3	9.0	30.1	45.1	60.2	75.2	90.3	105.3	120.4	135.4	152.0
250	10	45.9	189.3	329.3	461.8	583.3	689.9	778.5	847.7	897.9	950.0
250/1	10/1	25.0	103.6	183.3	260.7	337.5	414.1	489.4	562.3	631.5	700.0
250/2	10/2	17.0	78.8	118.2	157.6	197.0	236.4	275.8	315.2	354.6	398.0
250/3	10/3	12.0	46.7	70.1	93.5	116.8	140.2	163.6	186.9	210.3	238.0
300	12	93.2	250.0	463.3	660.0	840.0	990.0	1115.0	1205.0	1250.0	1270.0
300/1	12/1	66.7	167.8	276.8	382.9	485.5	586.9	692.1	796.9	893.0	970.0
300/2	12/2	25.0	108.9	163.4	218.0	272.3	326.7	381.2	435.6	490.1	550.0
300/3	12/3	17.0	67.3	101.0	134.6	168.3	202.0	235.6	269.3	302.9	340.0
350	14	127.4	407.5	673.4	915.6	1128.5	1316.5	1474.2	1593.1	1671.4	1740.0
350/1	14/1	91.3	233.3	393.0	548.1	696.8	838.0	976.4	1105.4	1221.2	1300.0
350/2	14/2	52.0	153.7	230.5	307.3	384.1	460.9	537.8	614.6	691.4	776.0
350/3	14/3	27.0	91.9	137.8	183.7	229.7	275.6	321.6	367.5	413.4	464.0
400	16	189.0	497.0	891.8	1248.0	1535.4	1791.5	1950.0	2063.0	2161.6	2215.0
400/1	16/1	101.3	276.5	448.1	615.0	779.1	941.9	1101.6	1255.7	1398.9	1530.0
400/2	16/2	71.0	186.1	279.2	372.2	465.3	558.4	651.4	744.5	837.5	940.0
400/3	16/3	47.0	112.5	168.7	224.9	281.2	337.4	393.6	449.9	506.1	568.0
450	18	230.4	605.8	1087.1	1521.3	1871.6	2183.8	2377.0	2514.7	2634.9	2700.0
450/1	18/1	125.8	343.4	556.4	763.8	967.6	1169.7	1368.0	1559.4	1737.2	1900.0
450/2	18/2	86.1	225.7	338.6	451.4	564.3	677.2	790.0	902.9	1015.7	1140.0
450/3	18/3	56.3	134.6	202.0	269.3	336.6	403.9	471.2	538.6	605.9	680.0
500	20	350.0	880.0	1500.0	2200.0	2860.0	3425.0	3900.0	4270.0	4560.0	4700.0
500/1	20/1	175.0	438.0	730.0	1035.0	1325.0	1600.0	1870.0	2125.0	2370.0	2500.0
500/2	20/2	93.0	245.0	410.0	585.0	755.0	925.0	1085.0	1250.0	1405.0	1500.0
500/3	20/3	55.0	150.0	245.0	350.0	450.0	545.0	645.0	740.0	835.0	900.0
600	24	715.0	2025.0	3120.0	4010.0	4720.0	5285.0	5740.0	6050.0	6300.0	6400.0
600/1	24/1	205.0	620.0	1060.0	1525.0	1960.0	2365.0	2750.0	3105.0	3430.0	3700.0
600/2	24/2	120.0	385.0	650.0	925.0	1185.0	1440.0	1685.0	1925.0	2150.0	2350.0
600/3	24/3	50.0	200.0	355.0	510.0	665.0	810.0	960.0	1100.0	1245.0	1350.0

C _v /d ²	0.118	1.188	1.987	2.769	3.499	4.201	4.850	5.440	5.936	18.500
F ₁	0.890	0.888	0.885	0.883	0.880	0.878	0.875	0.872	0.870	0.840
x _T	0.742	0.736	0.726	0.724	0.711	0.711	0.702	0.696	0.690	0.690
z	0.450	0.350	0.300	0.250	0.240	0.235	0.233	0.230	0.226	0.200

SERIES GB GLOBE CONTROL VALVES, BALANCED STANDARD TRIM, EQUAL PERCENTAGE (Nelprof™ code GB-STD-EQ)

Series globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. The standard cage trim is designed with a specially represented window shape cage and balanced plug. The window shape defines the flow path through the valve and the flow characteristic of the valve. The balancing holes are located in the top of the plug. This trim is suited for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.0	4.0	6.0	9.0	14.0	21.0	33.0	50.0	66.0	71.0
50/1	2/1	1.1	3.3	5.5	7.6	9.8	12.8	17.9	26.3	39.7	50.0
50/2	2/2	0.6	1.2	1.6	2.5	4.6	8.2	12.9	17.7	21.6	24.0
50/3	2/3	0.3	0.7	0.9	1.5	2.7	4.8	7.5	10.4	12.6	14.0
80	3	4.0	8.5	14.5	22.0	33.5	51.0	75.0	108.0	128.0	138.0
80/1	3/1	2.5	3.7	6.6	11.1	18.4	29.4	45.6	67.7	92.0	110.0
80/2	3/2	1.2	2.5	3.3	5.2	9.5	17.0	26.8	37.0	45.0	50.0
80/3	3/3	0.8	1.6	2.1	3.3	6.1	10.9	17.2	23.7	28.8	32.0
100	4	5.6	12.9	23.4	36.9	59.6	86.5	128.2	163.9	188.6	210.0
100/1	4/1	2.8	6.7	11.7	17.9	28.6	46.2	71.9	105.8	141.2	160.0
100/2	4/2	2.0	4.1	5.5	8.5	15.6	27.9	44.0	60.6	73.8	82.0
100/3	4/3	1.2	2.5	3.3	5.2	9.5	17.0	26.8	37.0	45.0	50.0
150	6	6.5	15.0	27.7	47.1	77.1	123.8	198.5	265.2	316.0	340.0
150/1	6/1	3.4	11.1	22.0	32.3	50.4	81.7	126.8	187.4	246.3	270.0
150/2	6/2	3.3	6.8	9.1	14.1	25.9	46.2	73.0	100.5	122.3	136.0
150/3	6/3	2.0	4.1	5.5	8.5	15.6	27.9	44.0	60.6	73.8	82.0
200	8	6.5	23.0	45.0	83.0	138.0	220.0	325.0	445.0	510.0	560.0
200/1	8/1	5.6	19.0	39.0	58.0	94.0	148.0	222.0	310.0	405.0	450.0
200/2	8/2	4.0	11.7	15.8	24.4	44.9	80.2	126.6	174.5	212.3	236.0
200/3	8/3	3.0	7.1	9.5	14.7	27.0	48.3	76.2	105.0	127.7	142.0
250	10	8.1	33.2	65.7	124.4	216.8	350.1	493.2	619.9	747.6	830.0
250/1	10/1	6.5	26.5	47.1	76.2	126.3	219.8	343.2	460.0	566.2	655.0
250/2	10/2	6.1	18.6	25.0	38.7	71.2	127.2	200.6	276.5	336.4	374.0
250/3	10/3	5.5	11.1	15.0	23.2	42.6	76.2	120.2	165.6	201.5	224.0
300	12	22.4	64.3	111.1	179.8	303.1	546.8	795.0	996.0	1155.0	1240.0
300/1	12/1	15.5	44.7	73.7	110.5	174.2	277.6	441.3	650.5	837.5	960.0
300/2	12/2	12.8	26.0	35.0	54.2	99.7	178.1	281.1	387.4	471.4	524.0
300/3	12/3	7.7	15.6	21.0	32.5	59.8	106.8	168.4	232.1	282.5	314.0
350	14	24.7	82.3	158.3	266.7	427.0	693.9	1015.8	1277.2	1514.7	1650.0
350/1	14/1	18.9	60.2	103.2	164.8	260.6	405.5	630.9	903.9	1141.5	1275.0
350/2	14/2	16.2	37.1	49.8	77.1	142.0	253.6	400.2	551.5	671.1	746.0
350/3	14/3	10.9	22.2	29.8	46.1	84.9	151.6	239.2	329.7	401.2	446.0
400	16	35.1	100.4	167.0	268.4	471.0	849.3	1265.1	1603.9	1911.6	2090.0
400/1	16/1	26.3	73.0	119.6	175.7	287.0	477.7	773.1	1125.4	1432.4	1680.0
400/2	16/2	20.9	42.4	57.0	88.3	162.6	290.3	458.1	631.4	768.2	854.0
400/3	16/3	12.5	25.4	34.2	52.9	97.5	174.1	274.7	378.5	460.6	512.0
450	18	45.3	129.7	215.7	346.7	608.5	1097.2	1634.3	2072.0	2469.5	2700.0
450/1	18/1	29.8	82.6	135.2	198.7	324.6	540.3	874.3	1272.8	1620.0	1900.0
450/2	18/2	27.8	56.6	76.1	117.8	217.0	387.6	611.5	842.8	1025.5	1140.0
450/3	18/3	16.6	33.8	45.4	70.3	129.4	231.2	364.8	502.7	611.7	680.0
500	20	80.0	210.0	435.0	895.0	1690.0	2670.0	3480.0	4105.0	4540.0	4700.0
500/1	20/1	50.0	135.0	227.0	400.0	685.0	1080.0	1475.0	1845.0	2200.0	2500.0
500/2	20/2	28.0	80.0	135.0	195.0	320.0	568.0	830.0	1085.0	1330.0	1500.0
500/3	20/3	17.0	60.0	110.0	180.0	275.0	395.0	530.0	665.0	795.0	900.0
600	24	100.0	390.0	860.0	1700.0	3010.0	4250.0	5140.0	5750.0	6135.0	6400.0
600/1	24/1	55.0	215.0	400.0	670.0	1055.0	1595.0	2205.0	2765.0	3275.0	3700.0
600/2	24/2	30.0	150.0	315.0	535.0	805.0	1135.0	1480.0	1815.0	2130.0	2350.0
600/3	24/3	20.0	105.0	205.0	340.0	500.0	685.0	880.0	1075.0	1265.0	1350.0

C _v /d ²	0.047	0.315	0.510	0.799	1.334	2.214	3.392	4.662	5.767	17.750
F ₁	0.890	0.890	0.890	0.889	0.887	0.885	0.880	0.876	0.871	0.842
x _T	0.740	0.740	0.740	0.740	0.730	0.730	0.720	0.720	0.700	0.700
z	0.450	0.430	0.410	0.385	0.340	0.280	0.240	0.230	0.227	0.200

SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 1TRIM, LINEAR (Nelprof™ code GB-TEN1-LIN)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	3.0	11.8	19.7	26.6	33.2	39.0	43.8	47.7	50.8	52.0
50/1	2/1	1.9	7.7	13.0	17.7	22.4	26.8	31.0	34.8	38.3	40.0
50/2	2/2	1.2	4.8	8.1	11.2	14.3	17.2	20.1	22.8	25.4	27.0
50/3	2/3	0.4	1.7	2.9	4.0	5.2	6.3	7.4	8.5	9.6	10.0
80	3	7.5	23.0	36.9	49.9	61.9	73.2	82.9	91.2	98.0	102.0
80/1	3/1	4.7	14.6	23.7	32.4	40.6	48.8	56.4	63.6	70.4	75.0
80/2	3/2	2.4	7.6	12.4	17.1	21.7	26.2	30.5	34.8	38.9	40.0
80/3	3/3	1.2	3.9	6.4	8.9	11.3	13.8	16.1	18.4	20.7	21.0
100	4	8.5	32.6	55.1	75.9	95.6	113.8	130.5	144.6	156.2	160.0
100/1	4/1	5.3	20.4	34.8	48.3	61.5	74.1	86.7	98.5	109.6	120.0
100/2	4/2	2.9	11.3	19.5	27.3	34.9	42.4	49.9	57.1	64.2	70.0
100/3	4/3	1.9	7.6	13.2	18.5	23.8	28.9	34.2	39.2	44.1	46.0
150	6	13.8	54.4	95.1	134.3	170.9	204.3	234.1	259.9	281.9	290.0
150/1	6/1	9.0	35.2	61.8	88.2	114.1	139.2	163.1	185.7	206.9	220.0
150/2	6/2	4.9	18.9	33.1	47.3	61.6	75.9	90.1	104.1	117.9	130.0
150/3	6/3	2.9	10.8	18.8	26.9	35.0	43.2	51.4	59.5	67.7	75.0
200	8	19.7	87.1	152.3	213.7	271.5	323.2	368.8	409.4	444.2	460.0
200/1	8/1	12.7	56.0	98.8	140.5	181.6	220.5	257.3	292.4	324.9	340.0
200/2	8/2	6.4	28.0	49.5	70.8	92.4	113.6	134.4	155.2	175.5	195.0
200/3	8/3	3.6	15.6	27.5	39.3	51.4	63.3	75.1	87.1	99.0	105.0
250	10	39.7	122.6	206.9	287.7	361.2	430.8	493.5	548.0	597.7	630.0
250/1	10/1	25.7	78.3	132.7	186.4	237.5	288.4	337.1	382.2	426.0	460.0
250/2	10/2	14.2	41.5	69.9	98.4	126.0	154.4	182.4	209.4	236.8	255.0
250/3	10/3	8.4	23.2	38.6	54.1	69.1	84.6	100.2	115.3	130.8	140.0
300	12	76.8	216.1	351.6	478.6	594.1	696.7	786.2	863.1	928.4	980.0
300/1	12/1	48.9	136.8	224.6	310.8	394.0	473.3	548.1	617.8	682.3	735.0
300/2	12/2	25.2	68.8	112.8	156.8	200.8	244.4	287.5	330.0	371.7	405.0
300/3	12/3	15.4	40.7	66.1	91.7	117.4	143.1	168.8	194.5	220.0	240.0
350	14	89.2	275.6	460.6	634.1	789.1	929.1	1050.3	1151.4	1237.4	1300.0
350/1	14/1	56.5	174.0	293.5	410.7	521.9	629.9	731.6	824.7	912.3	985.0
350/2	14/2	29.7	90.1	152.1	214.2	274.8	336.1	396.5	454.9	513.1	565.0
350/3	14/3	16.4	48.4	81.3	114.3	146.8	179.9	212.9	245.3	278.2	310.0
400	16	121.6	332.6	546.9	756.9	949.0	1121.7	1274.6	1402.5	1508.5	1580.0
400/1	16/1	73.6	198.0	326.6	458.4	586.9	712.2	834.3	948.3	1055.2	1145.0
400/2	16/2	41.5	108.3	177.2	248.6	319.8	391.4	464.1	535.3	605.7	670.0
400/3	16/3	26.9	68.0	110.1	153.6	197.1	241.1	286.2	330.8	375.6	415.0
450	18	161.6	442.0	726.9	1006.0	1261.3	1490.8	1694.1	1864.0	2004.9	2100.0
450/1	18/1	93.2	250.7	413.6	580.5	743.2	901.9	1056.5	1200.8	1336.2	1450.0
450/2	18/2	53.9	140.6	230.1	322.7	415.2	508.2	602.6	695.1	786.5	870.0
450/3	18/3	33.7	85.2	137.9	192.5	247.0	302.2	358.6	414.5	470.7	520.0
500	20	215.4	589.3	969.2	1341.4	1681.7	1987.8	2258.8	2485.4	2673.2	2800.0
500/1	20/1	128.6	345.8	570.4	800.6	1025.2	1244.0	1457.2	1656.3	1843.1	2000.0
500/2	20/2	74.3	194.0	317.3	445.2	572.7	701.0	831.2	958.7	1084.8	1200.0
500/3	20/3	46.6	118.0	191.0	266.5	342.0	418.4	496.6	574.0	651.7	720.0
600	24	307.7	841.9	1384.6	1916.3	2402.5	2839.7	3226.8	3550.5	3818.9	4000.0
600/1	24/1	180.1	484.1	798.6	1120.9	1435.2	1741.6	2040.1	2318.9	2580.3	2800.0
600/2	24/2	105.3	274.8	449.5	630.6	811.3	993.1	1177.6	1358.1	1536.8	1700.0
600/3	24/3	64.8	163.9	265.3	370.1	475.0	581.1	689.7	797.2	905.1	1000.0

C _v /d ²	0.056	0.902	1.509	2.093	2.652	3.181	3.677	4.127	10.500	13.320
F _T	0.912	0.915	0.917	0.920	0.923	0.926	0.929	0.930	0.925	0.920
x _T	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.645	0.650
z	0.445	0.425	0.410	0.395	0.380	0.365	0.355	0.345	0.195	0.140

SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE (Nelprof™ code GB-TEN1-EQ)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits - 29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.4	2.4	4.4	8.1	13.7	20.5	28.3	36.4	44.1	50.0
50/1	2/1	0.4	2.4	4.2	5.9	9.5	14.6	20.4	25.7	30.7	35.0
50/2	2/2	0.2	1.0	2.3	4.0	6.2	8.9	11.9	14.8	17.7	20.0
50/3	2/3	0.2	1.0	2.2	3.4	4.5	5.7	6.8	7.9	9.0	10.0
80	3	0.7	2.7	6.3	12.5	20.9	31.5	43.6	57.0	71.1	82.0
80/1	3/1	0.7	2.7	4.7	8.5	14.8	23.6	33.3	42.5	51.3	58.0
80/2	3/2	0.7	2.7	4.7	8.5	13.3	18.1	22.6	27.1	31.3	35.0
80/3	3/3	0.3	1.4	3.1	5.5	8.0	10.5	12.9	15.3	17.6	20.0
100	4	1.0	5.2	9.5	17.1	30.3	48.2	71.3	95.5	117.5	135.0
100/1	4/1	0.5	2.6	6.3	13.0	22.3	34.2	48.8	65.1	82.1	95.0
100/2	4/2	0.5	2.6	4.8	8.7	15.6	24.6	33.8	42.5	51.1	58.0
100/3	4/3	0.5	2.6	4.8	8.5	12.6	16.6	20.7	24.6	28.5	32.0
150	6	1.6	7.5	16.2	33.1	58.4	91.7	131.8	172.1	208.6	235.0
150/1	6/1	1.6	7.5	13.4	22.2	39.2	64.5	92.9	120.7	147.3	170.0
150/2	6/2	0.9	3.8	6.8	11.1	19.5	32.0	48.7	67.1	85.4	100.0
150/3	6/3	0.9	3.8	6.8	11.1	18.8	26.9	35.0	43.2	51.4	58.0
200	8	1.5	12.8	35.3	68.6	113.2	167.1	227.7	288.0	341.3	370.0
200/1	8/1	1.5	8.5	21.5	45.3	80.7	122.9	163.9	204.1	242.0	265.0
200/2	8/2	0.8	4.3	10.8	22.6	40.3	63.6	91.9	122.8	152.7	170.0
200/3	8/3	0.8	4.3	8.0	15.1	28.0	44.6	61.2	78.0	94.6	105.0
250	10	4.2	19.1	48.4	91.6	147.0	216.6	295.8	370.8	441.5	500.0
250/1	10/1	4.2	12.2	31.1	63.9	109.2	165.6	221.2	273.6	325.3	370.0
250/2	10/2	4.2	12.2	21.5	43.8	73.9	105.0	136.0	166.0	196.5	225.0
250/3	10/3	2.9	6.8	11.5	22.6	39.3	57.3	75.4	93.0	111.1	125.0
300	12	7.4	26.7	75.3	153.7	260.7	391.7	527.8	648.9	754.0	840.0
300/1	12/1	7.4	18.8	52.7	116.3	202.8	289.5	373.5	453.9	529.8	600.0
300/2	12/2	4.5	10.2	27.1	58.6	104.8	156.2	207.5	258.3	308.3	355.0
300/3	12/3	4.5	10.2	27.1	52.5	78.0	103.7	129.4	155.1	180.7	205.0
350	14	6.7	30.7	93.6	195.6	332.7	504.5	687.7	849.2	992.0	1110.0
350/1	14/1	6.7	21.0	67.3	152.6	264.7	378.6	489.2	593.3	693.8	785.0
350/2	14/2	4.0	11.1	34.1	76.5	137.3	207.6	277.7	345.7	414.0	480.0
350/3	14/3	4.0	11.1	34.1	70.6	107.0	144.2	181.4	217.9	255.1	290.0
400	16	9.4	44.5	125.3	258.1	439.8	664.3	890.8	1090.8	1263.7	1400.0
400/1	16/1	9.4	30.8	94.0	207.6	349.8	493.0	635.9	771.9	901.1	1020.0
400/2	16/2	6.1	16.7	47.8	102.8	180.1	263.7	349.8	434.9	519.6	600.0
400/3	16/3	6.1	16.7	47.8	90.1	132.6	175.8	220.2	264.5	309.0	350.0
450	18	12.7	60.4	170.1	350.2	596.8	901.6	1209.0	1480.4	1715.0	1900.0
450/1	18/1	12.0	39.2	119.8	264.6	445.8	628.3	810.5	983.8	1148.5	1300.0
450/2	18/2	9.1	25.0	72.0	133.6	234.1	342.8	454.7	565.3	675.5	780.0
450/3	18/3	8.2	25.0	64.2	120.9	178.0	236.1	295.8	355.1	415.0	470.0
500	20	16.8	79.5	223.8	460.8	785.3	1186.3	1590.8	1947.9	2256.6	2500.0
500/1	20/1	16.6	54.3	165.9	366.3	617.2	869.9	1122.2	1362.2	1590.2	1800.0
500/2	20/2	12.8	35.0	100.0	188.5	330.1	483.5	641.3	797.3	952.6	1100.0
500/3	20/3	11.3	34.0	88.7	167.2	246.2	326.5	409.0	491.1	573.9	650.0
600	24	24.1	114.5	322.2	663.6	1130.9	1708.2	2290.7	2805.0	3249.4	3600.0
600/1	24/1	23.5	76.9	235.0	519.0	874.4	1232.4	1589.9	1929.8	2252.8	2550.0
600/2	24/2	18.1	49.3	140.9	265.6	465.1	681.3	903.6	1123.4	1342.4	1550.0
600/3	24/3	15.7	47.1	122.9	231.6	340.9	452.0	566.3	680.0	794.6	900.0

C _v /d ²	0.013	0.163	0.381	0.734	1.225	1.810	2.437	4.100	10.500	12.490
F _L	0.912	0.912	0.913	0.915	0.916	0.919	0.922	0.930	0.925	0.922
x _T	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.645	0.650
z	0.445	0.440	0.433	0.425	0.415	0.400	0.385	0.370	0.195	0.150

SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 2 TRIM, LINEAR (Nelprof™ code GB-TEN2-LIN)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.9	10.7	17.7	24.2	30.1	35.5	40.3	44.4	47.7	50.0
50/1	2/1	1.7	6.2	10.4	14.4	18.2	21.8	25.3	28.6	31.8	35.0
50/2	2/2	1.0	3.8	6.5	9.0	11.5	13.9	16.2	18.4	20.6	23.0
50/3	2/3	0.4	1.3	2.3	3.2	4.1	5.0	5.9	6.8	7.6	8.0
80	3	7.7	22.4	36.0	48.5	60.4	71.2	80.9	89.2	96.2	100.0
80/1	3/1	4.9	14.5	23.5	31.9	40.1	47.9	55.4	62.6	69.3	74.0
80/2	3/2	2.0	6.0	9.9	13.7	17.4	21.0	24.5	27.9	31.3	33.0
80/3	3/3	1.0	3.1	5.1	7.1	9.0	10.9	12.8	14.7	16.5	18.0
100	4	8.4	30.4	50.7	70.3	88.6	105.9	121.7	135.9	148.0	155.0
100/1	4/1	5.7	20.6	34.7	48.4	61.4	74.2	86.4	98.2	109.3	115.0
100/2	4/2	2.8	10.5	17.9	25.2	32.2	39.1	45.9	52.6	59.1	65.0
100/3	4/3	1.6	6.1	10.4	14.7	18.8	23.0	27.1	31.1	35.1	38.0
150	6	13.9	49.6	85.4	120.4	153.7	184.6	212.9	238.3	260.7	280.0
150/1	6/1	9.8	34.6	59.7	84.8	109.4	133.3	156.3	178.1	198.6	215.0
150/2	6/2	5.2	18.1	31.1	44.2	57.4	70.6	83.7	96.6	109.5	120.0
150/3	6/3	2.9	9.9	16.9	24.0	31.1	38.3	45.4	52.6	59.8	67.0
200	8	18.9	74.7	130.1	183.2	233.6	280.3	323.3	362.1	397.0	425.0
200/1	8/1	13.3	52.3	91.5	129.9	167.5	203.6	238.4	271.2	302.3	330.0
200/2	8/2	7.2	28.0	49.1	70.0	91.0	111.6	132.2	152.3	172.3	190.0
200/3	8/3	3.9	15.0	26.2	37.3	48.6	59.7	70.9	82.1	93.2	100.0
250	10	36.1	109.6	182.6	253.6	321.1	384.4	442.8	496.3	544.7	590.0
250/1	10/1	25.4	76.3	127.3	178.0	227.6	275.8	322.2	366.6	408.7	450.0
250/2	10/2	13.4	38.7	64.1	89.6	115.2	140.6	166.0	191.1	215.9	240.0
250/3	10/3	7.8	21.1	34.5	47.9	61.4	74.9	88.4	101.9	115.4	130.0
300	12	70.4	195.0	317.4	433.7	541.5	639.4	726.8	803.7	870.7	920.0
300/1	12/1	48.9	134.7	220.6	304.8	386.4	464.3	537.9	606.7	670.7	720.0
300/2	12/2	24.0	64.4	105.2	146.1	186.9	227.5	267.7	307.5	346.5	380.0
300/3	12/3	14.6	37.9	61.3	84.8	108.5	132.1	155.8	179.5	203.0	220.0
350	14	82.7	253.5	421.0	580.2	727.6	860.9	979.3	1082.4	1171.0	1240.0
350/1	14/1	56.1	171.5	286.8	400.0	509.6	614.4	713.5	806.2	892.2	970.0
350/2	14/2	29.7	89.5	149.6	209.8	269.8	329.4	388.1	446.0	502.7	550.0
350/3	14/3	16.0	46.9	78.0	109.2	140.5	171.8	203.1	234.4	265.6	290.0
400	16	114.4	310.6	510.7	705.8	889.4	1057.2	1206.6	1336.4	1446.8	1530.0
400/1	16/1	72.5	193.6	318.8	445.4	570.9	693.6	811.7	924.1	1030.0	1130.0
400/2	16/2	40.2	104.0	169.8	236.9	305.0	373.5	442.0	510.3	578.0	640.0
400/3	16/3	25.7	64.4	104.0	144.2	185.1	226.4	268.2	310.1	352.3	390.0
450	18	142.1	385.7	634.2	876.5	1104.5	1312.9	1498.4	1659.6	1796.7	1900.0
450/1	18/1	86.6	231.3	380.9	532.1	682.1	828.6	969.7	1104.1	1230.5	1350.0
450/2	18/2	50.2	130.0	212.2	296.1	381.2	466.8	552.5	637.9	722.5	800.0
450/3	18/3	31.6	79.3	127.9	177.5	227.8	278.7	330.0	381.7	433.6	480.0
500	20	186.9	507.5	834.5	1153.3	1453.3	1727.4	1971.5	2183.7	2364.0	2500.0
500/1	20/1	112.3	299.8	493.7	689.7	884.2	1074.1	1257.0	1431.2	1595.1	1750.0
500/2	20/2	65.9	170.7	278.5	388.7	500.3	612.7	725.2	837.2	948.3	1050.0
500/3	20/3	41.5	104.0	167.9	233.0	299.0	365.8	433.2	501.0	569.1	630.0
600	24	272.9	741.0	1218.4	1683.8	2121.8	2522.1	2878.4	3188.2	3451.5	3650.0
600/1	24/1	163.6	436.8	719.4	1005.0	1288.4	1565.1	1831.7	2085.4	2324.3	2550.0
600/2	24/2	96.1	248.7	405.9	566.4	729.0	892.8	1056.7	1220.0	1381.8	1530.0
600/3	24/3	60.6	151.9	245.2	340.2	436.6	534.2	632.6	731.6	831.0	920.0

C _v /d ²	0.060	0.824	1.370	1.901	2.413	2.900	3.358	7.000	10.500	12.500
F _T	0.922	0.925	0.928	0.931	0.934	0.937	0.938	0.940	0.936	0.932
x _T	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.660	0.690
z	0.460	0.435	0.420	0.410	0.400	0.390	0.380	0.300	0.230	0.180

SERIES GB GLOBE CONTROL VALVES, BALANCED TENDRIL 2 TRIM, EQUAL PERCENTAGE (Nelprof™ code GB-TEN2-EQ)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.4	1.8	3.8	7.5	12.6	18.8	26.0	33.7	41.3	47.0
50/1	2/1	0.4	1.8	3.2	5.2	8.8	13.8	19.0	24.0	28.7	33.0
50/2	2/2	0.2	0.9	2.0	3.5	5.5	7.8	10.4	13.4	16.4	19.0
50/3	2/3	0.2	0.9	1.8	2.8	3.7	4.6	5.5	6.3	7.2	8.0
80	3	0.6	2.2	5.7	11.4	19.2	28.7	39.8	52.1	65.2	74.0
80/1	3/1	0.6	2.2	3.9	7.8	14.0	22.0	31.8	41.5	50.8	56.0
80/2	3/2	0.6	2.2	3.9	7.8	12.6	17.2	21.7	26.1	30.3	33.0
80/3	3/3	0.3	1.1	2.7	4.7	6.7	8.6	10.5	12.4	14.3	16.0
100	4	0.8	4.3	11.1	23.1	39.3	59.7	81.2	101.5	119.9	130.0
100/1	4/1	0.4	3.4	9.0	17.2	27.6	40.3	54.3	68.2	81.5	92.0
100/2	4/2	0.4	2.2	3.9	8.0	14.5	22.9	30.9	38.9	46.6	52.0
100/3	4/3	0.4	2.2	3.9	7.2	10.4	13.6	16.8	19.9	23.0	25.0
150	6	1.3	8.6	23.1	45.0	74.2	108.9	142.8	174.6	203.8	230.0
150/1	6/1	1.3	5.2	15.0	32.0	55.2	79.2	102.7	125.7	147.9	165.0
150/2	6/2	0.7	2.7	7.6	15.9	28.0	42.3	56.7	71.0	85.3	95.0
150/3	6/3	0.7	2.6	5.1	11.0	18.1	25.2	32.3	39.4	46.6	52.0
200	8	1.2	10.7	30.1	59.2	98.1	145.6	198.0	247.2	293.1	330.0
200/1	8/1	1.2	6.5	20.2	43.8	77.0	113.0	148.4	182.6	215.8	245.0
200/2	8/2	0.7	3.3	10.1	21.9	38.6	59.9	82.3	104.4	126.4	145.0
200/3	8/3	0.7	2.8	6.8	15.8	27.0	38.1	49.4	60.5	71.7	80.0
250	10	4.6	15.5	44.0	90.9	155.6	226.1	293.7	357.5	416.9	470.0
250/1	10/1	3.6	10.8	29.8	60.8	104.1	152.1	199.4	245.6	290.4	330.0
250/2	10/2	2.5	9.0	21.4	39.9	64.1	89.6	115.2	140.6	166.0	190.0
250/3	10/3	2.5	4.7	11.2	23.6	38.5	53.5	68.4	83.5	98.5	110.0
300	12	6.9	35.8	90.7	171.8	277.6	395.8	506.6	607.9	698.8	770.0
300/1	12/1	5.0	17.9	55.5	119.2	200.4	280.9	359.3	434.7	506.3	570.0
300/2	12/2	3.3	9.8	28.4	60.0	104.1	151.5	198.7	245.6	291.9	330.0
300/3	12/3	3.3	9.8	28.3	51.7	75.2	98.8	122.5	146.1	169.8	190.0
350	14	6.0	31.3	105.7	231.2	392.6	549.2	695.0	828.1	947.1	1050.0
350/1	14/1	4.4	21.2	70.7	154.2	255.2	355.1	452.6	546.9	637.3	720.0
350/2	14/2	2.8	11.2	35.8	77.3	134.5	194.7	254.8	314.4	373.4	430.0
350/3	14/3	2.8	11.2	35.8	69.2	102.8	136.5	170.2	203.9	237.6	270.0
400	16	8.9	47.1	146.4	312.3	509.8	702.4	883.9	1050.2	1198.5	1320.0
400/1	16/1	6.8	32.2	97.4	205.7	336.5	468.3	598.6	725.3	846.8	960.0
400/2	16/2	4.8	17.4	49.4	101.9	173.1	248.1	324.2	400.7	477.0	550.0
400/3	16/3	4.8	17.4	47.8	82.0	116.9	152.3	188.1	224.3	260.7	295.0
450	18	11.4	60.6	188.5	402.2	656.5	904.6	1138.4	1352.5	1543.6	1700.0
450/1	18/1	8.7	40.9	123.7	261.4	427.6	595.1	760.7	921.8	1076.1	1220.0
450/2	18/2	7.0	25.4	69.6	133.4	226.6	324.8	424.4	524.5	624.5	720.0
450/3	18/3	7.0	25.4	69.6	119.6	170.4	222.0	274.2	326.9	380.1	430.0
500	20	14.8	78.5	244.0	520.5	849.6	1170.7	1473.2	1750.3	1997.6	2200.0
500/1	20/1	11.2	52.6	159.2	336.4	550.2	765.8	978.9	1186.2	1384.9	1570.0
500/2	20/2	9.3	33.7	92.3	176.0	299.0	428.6	559.9	692.0	824.0	950.0
500/3	20/3	9.3	33.7	92.3	158.5	225.9	294.2	363.4	433.4	503.8	570.0
600	24	22.1	117.7	366.0	780.8	1274.5	1756.0	2209.9	2625.4	2996.4	3300.0
600/1	24/1	16.4	77.1	233.3	492.9	806.1	1121.9	1434.1	1737.7	2028.8	2300.0
600/2	24/2	13.6	49.0	134.4	252.0	428.1	613.6	801.6	990.7	1179.6	1360.0
600/3	24/3	13.6	49.0	134.4	230.8	328.9	428.4	529.2	631.0	733.6	830.0

C _v /d ⁴	0.010	0.147	0.379	0.752	1.235	1.767	2.310	7.000	10.500	11.750
F _L	0.922	0.922	0.923	0.925	0.928	0.931	0.934	0.941	0.936	0.934
x _T	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.660	0.680
z	0.460	0.455	0.450	0.440	0.430	0.415	0.400	0.300	0.230	0.200

SERIES GM GLOBE CONTROL VALVES, BALANCED OMEGA TRIM, LINEAR (Nelprof™ code GM-BAL-LIN)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide range-ability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.69	1.37	2.06	2.75	3.43	4.12	4.80	5.49	6.18	7.00
25/1	1/1	0.29	0.59	0.88	1.18	1.47	1.76	2.06	2.35	2.65	3.00
25/2	1/2	0.16	0.31	0.47	0.63	0.78	0.94	1.10	1.25	1.41	1.60
25/3	1/3	0.08	0.16	0.24	0.31	0.39	0.47	0.55	0.63	0.71	0.80
40	1.5	1.57	3.14	4.71	6.28	7.84	9.41	10.98	12.55	14.12	16.00
40/1	1.5/1	0.79	1.57	2.35	3.14	3.92	4.71	5.49	6.27	7.06	8.00
40/2	1.5/2	0.39	0.78	1.18	1.57	1.96	2.35	2.74	3.14	3.53	4.00
40/3	1.5/3	0.20	0.39	0.59	0.78	0.98	1.18	1.37	1.57	1.76	2.00
50	2	2.55	5.10	7.65	10.20	12.75	15.29	17.84	20.39	22.94	26.00
50/1	2/1	1.18	2.35	3.53	4.71	5.88	7.06	8.23	9.41	10.59	12.00
50/2	2/2	0.59	1.18	1.77	2.35	2.94	3.53	4.12	4.71	5.29	6.00
50/3	2/3	0.29	0.59	0.88	1.18	1.47	1.76	2.06	2.35	2.65	3.00
80	3	5.30	10.59	15.89	21.18	26.47	31.76	37.05	42.35	47.64	54.00
80/1	3/1	2.75	5.49	8.24	10.98	13.73	16.47	19.21	21.96	24.70	28.00
80/2	3/2	1.37	2.75	4.12	5.49	6.86	8.23	9.61	10.98	12.35	14.00
80/3	3/3	0.69	1.37	2.06	2.75	3.43	4.12	4.80	5.49	6.18	7.00
100	4	8.25	16.48	24.71	32.94	41.18	49.41	57.64	65.87	74.10	84.00
100/1	4/1	5.11	10.20	15.30	20.39	25.49	30.59	35.68	40.78	45.87	52.00
100/2	4/2	2.55	5.10	7.65	10.20	12.75	15.29	17.84	20.39	22.94	26.00
100/3	4/3	1.37	2.75	4.12	5.49	6.86	8.23	9.61	10.98	12.35	14.00
150	6	14.34	28.65	42.95	57.26	71.57	85.88	100.19	114.49	128.80	146.00
150/1	6/1	8.84	17.66	26.48	35.30	44.12	52.94	61.76	70.58	79.40	90.00
150/2	6/2	4.42	8.83	13.24	17.65	22.06	26.47	30.88	35.29	39.70	45.00
150/3	6/3	2.16	4.32	6.47	8.63	10.78	12.94	15.10	17.25	19.41	22.00
200	8	24.75	49.44	74.14	98.83	123.53	148.23	172.92	197.62	222.31	252.00
200/1	8/1	15.32	30.61	45.90	61.18	76.47	91.76	107.05	122.34	137.62	156.00
200/2	8/2	7.66	15.30	22.95	30.59	38.24	45.88	53.52	61.17	68.81	78.00
200/3	8/3	3.93	7.85	11.77	15.69	19.61	23.53	27.45	31.37	35.29	40.00
250	10	37.71	75.34	112.97	150.60	188.24	225.87	263.50	301.13	338.76	384.00
250/1	10/1	22.98	45.91	68.84	91.77	114.71	137.64	160.57	183.50	206.43	234.00
250/2	10/2	11.39	22.76	34.13	45.50	56.86	68.23	79.60	90.97	102.34	116.00
250/3	10/3	5.70	11.38	17.06	22.75	28.43	34.12	39.80	45.48	51.17	58.00
300	12	54.99	109.87	164.75	219.63	274.51	329.39	384.27	439.15	494.03	560.00
300/1	12/1	33.39	66.71	100.03	133.35	166.67	199.99	233.31	266.63	299.95	340.00
300/2	12/2	16.69	33.35	50.01	66.67	83.33	99.99	116.65	133.31	149.97	170.00
300/3	12/3	8.25	16.48	24.71	32.94	41.18	49.41	57.64	65.87	74.10	84.00
350	14	75.61	151.07	226.53	301.99	377.45	452.91	528.37	603.83	679.29	770.00
350/1	14/1	46.08	92.21	138.27	184.33	230.39	276.45	322.51	368.57	414.63	470.00
350/2	14/2	22.98	45.91	68.84	91.77	114.71	137.64	160.57	183.50	206.43	234.00
350/3	14/3	11.39	22.76	34.13	45.50	56.86	68.23	79.60	90.97	102.34	116.00

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
400	16	100.0	200.1	300.1	400.0	500.0	600.0	699.9	799.9	899.8	1020.0
400/1	16/1	60.8	121.6	182.4	243.2	303.9	364.7	425.4	486.2	547.0	620.0
400/2	16/2	36.5	73.0	109.4	145.9	182.4	218.8	255.3	291.7	328.2	372.0
400/3	16/3	22.0	43.9	65.9	87.9	109.8	131.8	153.7	175.7	197.6	224.0
450	18	115.5	230.7	346.0	461.2	576.5	691.7	807.0	922.2	1037.5	1176.0
450/1	18/1	69.7	139.3	208.9	278.5	348.0	417.6	487.2	556.8	626.4	710.0
450/2	18/2	41.2	82.4	123.6	164.7	205.9	247.0	288.2	329.4	370.5	420.0
450/3	18/3	24.7	49.4	74.1	98.8	123.5	148.2	172.9	197.6	222.3	252.0
500	20	151.2	302.1	453.1	604.0	754.9	905.8	1056.7	1207.7	1358.6	1540.0
500/1	20/1	90.2	180.5	270.7	360.8	451.0	541.1	631.3	721.5	811.6	920.0
500/2	20/2	54.4	108.7	163.0	217.3	271.6	325.9	380.2	434.4	488.7	554.0
500/3	20/3	32.4	64.7	97.1	129.4	161.8	194.1	226.4	258.8	291.1	330.0
600	24	225.4	451.3	676.7	902.1	1127.5	1352.9	1578.3	1803.7	2029.1	2300.0
600/1	24/1	137.2	274.7	411.9	549.1	686.3	823.5	960.7	1097.9	1235.1	1400.0
600/2	24/2	82.3	164.8	247.1	329.4	411.8	494.1	576.4	658.7	741.0	840.0
600/3	24/3	49.0	98.1	147.1	196.1	245.1	294.1	343.1	392.1	441.1	500.0

C_v/d^2	0.057	0.47	0.706	0.941	1.176	1.411	1.646	1.881	4.000	7.111
F_L	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
x_T	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
z	0.55	0.56	0.57	0.58	0.59	0.61	0.63	0.635	0.69	0.69

SERIES GM GLOBE CONTROL VALVES, BALANCED OMEGA TRIM, EQUAL PERCENTAGE (Nelprof™ code GM-BAL-EQ)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.15	0.22	0.32	0.48	0.71	1.05	1.55	2.29	3.38	5.00
25/1	1/1	0.07	0.11	0.16	0.24	0.35	0.52	0.77	1.14	1.69	2.50
25/2	1/2	0.04	0.05	0.08	0.11	0.17	0.25	0.37	0.55	0.81	1.20
25/3	1/3	0.02	0.03	0.04	0.06	0.08	0.13	0.19	0.27	0.41	0.60
40	1.5	0.30	0.44	0.65	0.96	1.41	2.09	3.09	4.57	6.76	10.00
40/1	1.5/1	0.18	0.26	0.39	0.57	0.85	1.25	1.86	2.74	4.06	6.00
40/2	1.5/2	0.09	0.13	0.19	0.29	0.42	0.63	0.93	1.37	2.03	3.00
40/3	1.5/3	0.04	0.07	0.10	0.14	0.21	0.31	0.46	0.69	1.01	1.50
50	2	0.53	0.79	1.16	1.72	2.55	3.76	5.57	8.23	12.17	18.00
50/1	2/1	0.33	0.48	0.71	1.05	1.56	2.30	3.40	5.03	7.44	11.00
50/2	2/2	0.15	0.22	0.32	0.48	0.71	1.05	1.55	2.29	3.38	5.00
50/3	2/3	0.06	0.09	0.13	0.19	0.28	0.42	0.62	0.91	1.35	2.00
80	3	1.12	1.66	2.46	3.63	5.37	7.95	11.75	17.38	25.70	38.00
80/1	3/1	0.71	1.05	1.55	2.30	3.39	5.02	7.42	10.98	16.23	24.00
80/2	3/2	0.35	0.52	0.78	1.15	1.70	2.51	3.71	5.49	8.11	12.00
80/3	3/3	0.18	0.26	0.39	0.57	0.85	1.25	1.86	2.74	4.06	6.00
100	4	1.80	2.60	3.90	5.70	8.50	12.50	18.60	27.40	40.60	60.00
100/1	4/1	1.10	1.60	2.30	3.40	5.10	7.50	11.10	16.50	24.30	36.00
100/2	4/2	0.53	0.79	1.16	1.72	2.55	3.76	5.57	8.23	12.17	18.00
100/3	4/3	0.30	0.40	0.60	0.90	1.30	1.90	2.80	4.10	6.10	9.00
150	6	3.10	4.50	6.70	9.90	14.70	21.70	32.20	47.60	70.30	104.00
150/1	6/1	1.90	2.80	4.10	6.10	9.10	13.40	19.80	29.30	43.30	64.00
150/2	6/2	0.90	1.40	2.10	3.10	4.50	6.70	9.90	14.60	21.60	32.00
150/3	6/3	0.50	0.70	1.00	1.50	2.30	3.30	4.90	7.30	10.80	16.00
200	8	5.20	7.70	11.40	16.80	24.90	36.80	54.40	80.50	119.00	176.00
200/1	8/1	3.20	4.70	7.00	10.30	15.30	22.60	33.40	49.40	73.00	108.00
200/2	8/2	1.60	2.40	3.50	5.20	7.60	11.30	16.70	24.70	36.50	54.00
200/3	8/3	0.80	1.20	1.70	2.60	3.80	5.60	8.30	12.30	18.30	27.00
250	10	7.90	11.70	17.30	25.60	37.90	56.00	82.90	122.60	181.20	268.00
250/1	10/1	4.90	7.20	10.60	15.70	23.20	34.30	50.70	75.00	110.90	164.00
250/2	10/2	2.40	3.60	5.30	7.80	11.60	17.10	25.40	37.50	55.50	82.00
250/3	10/3	1.20	1.70	2.60	3.80	5.70	8.40	12.40	18.30	27.00	40.00
300	12	11.50	17.10	25.20	37.30	55.20	81.60	120.60	178.30	263.70	390.00
300/1	12/1	7.00	10.30	15.30	22.60	33.40	49.40	73.00	107.90	159.60	236.00
300/2	12/2	3.50	5.20	7.60	11.30	16.70	24.70	36.50	54.00	79.80	118.00
300/3	12/3	1.80	2.60	3.90	5.70	8.50	12.50	18.60	27.40	40.60	60.00
350	14	16.00	23.60	34.90	51.60	76.40	112.90	167.00	246.90	365.20	540.00
350/1	14/1	9.70	14.30	21.20	31.40	46.40	68.60	101.40	150.00	221.80	328.00
350/2	14/2	4.90	7.20	10.60	15.70	23.20	34.30	50.70	75.00	110.90	164.00
350/3	14/3	2.40	3.60	5.30	7.80	11.60	17.10	25.40	37.50	55.50	82.00
400	16	21.00	31.10	45.90	67.90	100.40	148.50	219.60	324.70	480.10	710.00

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
400/1	16/1	12.70	18.80	27.80	41.10	60.80	89.90	133.00	196.60	290.80	430.00
400/2	16/2	6.30	9.40	13.80	20.50	30.30	44.80	66.20	97.90	144.70	214.00
400/3	16/3	3.10	4.60	6.90	10.10	15.00	22.20	32.80	48.50	71.70	106.00
450	18	31.20	45.76	67.60	114.40	208.00	343.20	561.60	790.40	936.00	1040.00
450/1	18/1	19.20	28.16	41.60	70.40	128.00	211.20	345.60	486.40	576.00	640.00
450/2	18/2	12.00	17.60	26.00	44.00	80.00	132.00	216.00	304.00	360.00	400.00
450/3	18/3	7.20	10.56	15.60	26.40	48.00	79.20	129.60	182.40	216.00	240.00
500	20	41.40	60.72	89.70	151.80	276.00	455.40	745.20	1048.80	1242.00	1380.00
500/1	20/1	25.20	36.96	54.60	92.40	168.00	277.20	453.60	638.40	756.00	840.00
500/2	20/2	15.60	22.88	33.80	57.20	104.00	171.60	280.80	395.20	468.00	520.00
500/3	20/3	9.60	14.08	20.80	35.20	64.00	105.60	172.80	243.20	288.00	320.00
600	24	61.80	90.64	133.90	226.60	412.00	679.80	1112.40	1565.60	1854.00	2060.00
600/1	24/1	37.20	54.56	80.60	136.40	248.00	409.20	669.60	942.40	1116.00	1240.00
600/2	24/2	22.80	33.44	49.40	83.60	152.00	250.80	410.40	577.60	684.00	760.00
600/3	24/3	13.80	20.24	29.90	50.60	92.00	151.80	248.40	349.60	414.00	460.00
C_v/d^2	0.012	0.078	0.116	0.178	0.278	0.425	0.65	0.946	2.000	5	
F_L	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
x_T	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
z	0.55	0.55	0.55	0.55	0.55	0.56	0.57	0.58	0.64	0.70	

SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED STANDARD TRIM, LINEAR (Nelprof™ code AU-STD-LIN)

Series angle pattern-unbalanced top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. Quick change trim and top entry construction for easy in-line maintenance. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.531	1.268	1.949	2.659	3.377	4.085	4.764	5.510	6.672	7.00
15/1	0.5/1	0.358	0.744	1.225	1.610	1.992	2.365	2.719	3.049	3.411	4.00
15/2	0.5/2	0.278	0.532	0.785	1.069	1.319	1.520	1.707	1.879	2.033	2.30
15/3	0.5/3	0.190	0.356	0.515	0.669	0.819	0.971	1.150	1.275	1.377	1.50
15/4	0.5/4	0.092	0.172	0.249	0.324	0.397	0.470	0.542	0.612	0.683	0.80
15/5	0.5/5	0.055	0.105	0.154	0.202	0.251	0.300	0.351	0.401	0.452	0.50
15/6	0.5/6	0.035	0.065	0.095	0.124	0.153	0.182	0.211	0.240	0.270	0.30
20	0.75	0.845	1.678	2.573	3.311	4.036	4.743	5.425	6.179	7.609	9.00
20/1	0.75/1	0.347	0.819	1.402	2.167	2.779	3.388	3.977	4.530	5.031	5.50
20/2	0.75/2	0.294	0.742	1.078	1.403	1.731	2.125	2.372	2.597	2.799	3.00
20/3	0.75/3	0.237	0.438	0.628	0.811	0.987	1.155	1.317	1.470	1.615	2.00
20/4	0.75/4	0.125	0.241	0.358	0.478	0.599	0.721	0.842	0.964	1.084	1.20
20/5	0.75/5	0.078	0.148	0.215	0.284	0.352	0.420	0.490	0.559	0.630	0.70
20/6	0.75/6	0.048	0.089	0.129	0.169	0.207	0.245	0.284	0.322	0.360	0.40
25	1	1.288	2.619	4.023	5.415	6.826	8.125	8.899	10.246	11.931	13.50
25/1	1/1	0.773	1.538	2.307	3.147	3.919	4.679	5.415	6.122	7.003	8.50
25/2	1/2	0.463	0.939	1.433	1.937	2.458	3.020	3.519	3.997	4.441	5.40
25/3	1/3	0.277	0.562	0.857	1.160	1.468	1.772	2.071	2.358	2.658	3.10
25/4	1/4	0.178	0.367	0.566	0.775	0.988	1.201	1.408	1.606	1.789	2.00
25/5	1/5	0.114	0.230	0.348	0.468	0.589	0.711	0.831	0.949	1.065	1.20
25/6	1/6	0.070	0.138	0.207	0.276	0.344	0.413	0.482	0.550	0.619	0.80
40	1.5	2.636	5.382	8.457	11.766	15.220	18.767	21.562	24.090	26.500	28.00
40/1	1.5/1	1.625	3.160	4.699	6.250	7.896	9.519	11.120	12.681	14.181	16.00
40/2	1.5/2	0.946	1.885	2.860	3.860	4.875	5.884	6.901	7.918	8.855	10.50
40/3	1.5/3	0.565	1.128	1.720	2.333	2.955	3.579	4.190	4.779	5.332	6.00
40/4	1.5/4	0.369	0.743	1.135	1.543	1.961	2.379	2.788	3.182	3.549	4.00
40/5	1.5/5	0.188	0.377	0.573	0.777	0.985	1.194	1.400	1.598	1.784	2.20
40/6	1.5/6	0.123	0.239	0.355	0.472	0.590	0.710	0.828	0.946	1.063	1.20
50	2	4.130	9.242	14.478	19.708	25.087	30.564	35.974	40.012	44.642	49.00
50/1	2/1	2.274	4.969	7.877	10.938	13.724	16.509	19.277	22.026	24.965	28.00
50/2	2/2	1.264	2.764	4.372	6.054	7.773	9.527	11.227	12.727	14.317	17.00
50/3	2/3	0.816	1.779	2.804	3.860	4.927	5.981	7.006	7.980	8.889	10.00
80	3	9.958	21.061	32.395	42.652	52.980	63.698	76.666	86.071	91.149	100.00
80/1	3/1	5.353	11.637	18.738	26.583	33.661	40.457	47.179	53.741	60.338	70.00
80/2	3/2	3.465	7.212	11.200	15.378	19.686	24.058	28.448	31.986	35.659	42.00
80/3	3/3	2.171	4.467	6.858	9.318	11.806	14.291	16.726	19.075	21.290	25.00
100	4	12.667	27.122	47.273	66.038	85.993	106.882	127.853	147.470	167.929	190.00
100/1	4/1	7.319	15.766	25.332	36.426	51.054	63.296	75.776	88.317	103.943	120.00
100/2	4/2	7.018	13.838	20.643	27.411	34.071	43.442	50.854	57.090	63.090	72.00
100/3	4/3	4.032	8.164	12.452	16.817	21.179	25.440	29.513	33.306	37.671	42.00
150	6	28.431	57.146	86.052	112.257	136.072	159.161	181.587	212.574	263.118	295.00
150/1	6/1	16.090	32.010	47.670	63.090	78.180	93.110	105.760	117.420	137.910	165.00
150/2	6/2	8.775	17.429	25.904	34.147	42.126	49.781	57.066	63.938	71.485	85.00
150/3	6/3	4.321	9.065	14.143	19.449	24.875	30.315	35.638	40.718	45.424	50.00

C _v /d ²	0.055	1.122	1.734	2.346	2.954	3.559	4.129	4.685	5.327	28.000
F _T	0.940	0.930	0.910	0.900	0.890	0.885	0.880	0.875	0.870	0.770
x _T	0.640	0.610	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.580
z	0.650	0.650	0.650	0.645	0.640	0.635	0.630	0.625	0.615	0.250

SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED STANDARD TRIM, EQUAL PERCENTAGE (Nelprof™ code AU-STD-EQ)

Series angle pattern-unbalanced top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. Quick change trim and top entry construction for easy in-line maintenance. Temperature limits -29...+260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.164	0.355	0.562	0.888	1.378	2.163	3.417	4.842	6.441	7.00
15/1	0.5/1	0.057	0.159	0.307	0.488	0.780	1.456	2.173	2.884	3.533	4.00
15/2	0.5/2	0.083	0.155	0.228	0.336	0.585	0.941	1.370	1.702	2.005	2.30
15/3	0.5/3	0.048	0.092	0.137	0.202	0.350	0.560	0.818	1.113	1.329	1.50
15/4	0.5/4	0.020	0.037	0.057	0.083	0.161	0.280	0.413	0.538	0.656	0.80
15/5	0.5/5	0.009	0.022	0.035	0.054	0.096	0.168	0.253	0.334	0.414	0.50
15/6	0.5/6	0.005	0.011	0.020	0.033	0.063	0.105	0.150	0.197	0.245	0.30
20	0.75	0.239	0.452	0.668	1.069	1.849	2.928	4.022	5.229	7.131	9.00
20/1	0.75/1	0.057	0.198	0.399	0.669	1.109	1.785	2.787	3.712	4.739	5.50
20/2	0.75/2	0.050	0.169	0.276	0.453	0.776	1.204	1.802	2.352	2.723	3.00
20/3	0.75/3	0.044	0.093	0.150	0.214	0.405	0.684	0.999	1.299	1.667	2.00
20/4	0.75/4	0.034	0.061	0.086	0.131	0.248	0.418	0.620	0.817	1.011	1.20
20/5	0.75/5	0.012	0.029	0.051	0.082	0.142	0.234	0.340	0.451	0.580	0.70
20/6	0.75/6	0.009	0.019	0.030	0.044	0.082	0.141	0.207	0.271	0.333	0.40
25	1	0.268	0.568	0.913	1.549	2.754	4.657	7.075	9.487	11.626	13.50
25/1	1/1	0.118	0.287	0.507	0.825	1.557	2.695	4.140	5.605	7.028	8.50
25/2	1/2	0.073	0.185	0.331	0.525	0.966	1.672	2.647	3.588	4.366	5.40
25/3	1/3	0.027	0.090	0.186	0.317	0.583	0.997	1.520	2.050	2.540	3.10
25/4	1/4	0.030	0.075	0.134	0.215	0.397	0.670	1.002	1.354	1.701	2.00
25/5	1/5	0.025	0.053	0.077	0.131	0.248	0.433	0.643	0.853	1.056	1.20
25/6	1/6	0.011	0.025	0.041	0.073	0.143	0.239	0.345	0.462	0.589	0.80
40	1.5	0.453	1.124	2.000	3.071	5.909	10.566	16.175	21.567	25.661	28.00
40/1	1.5/1	0.226	0.582	1.056	1.694	3.155	5.364	7.974	10.692	13.438	16.00
40/2	1.5/2	0.203	0.437	0.705	1.021	1.877	3.245	4.930	6.712	8.593	10.50
40/3	1.5/3	0.086	0.219	0.398	0.617	1.131	2.022	3.169	4.256	5.211	6.00
40/4	1.5/4	0.053	0.141	0.262	0.412	0.789	1.363	2.078	2.828	3.453	4.00
40/5	1.5/5	0.031	0.076	0.134	0.210	0.391	0.691	1.071	1.431	1.736	2.20
40/6	1.5/6	0.027	0.056	0.085	0.128	0.234	0.396	0.588	0.784	0.981	1.20
50	2	1.209	2.459	3.305	5.116	9.421	16.828	26.550	36.591	44.523	49.00
50/1	2/1	0.315	0.817	1.505	2.870	5.482	9.305	13.774	18.306	23.170	28.00
50/2	2/2	0.171	0.467	0.882	1.633	3.179	5.473	8.207	11.089	13.683	17.00
50/3	2/3	0.146	0.369	0.662	1.023	1.894	3.286	5.007	6.711	8.407	10.00
80	3	2.007	4.467	7.366	12.276	22.522	38.624	62.018	79.573	90.094	100.00
80/1	3/1	1.004	2.505	4.499	6.963	12.945	23.649	36.145	47.819	58.698	70.00
80/2	3/2	0.727	1.606	2.636	3.946	7.530	13.569	21.257	28.974	34.990	42.00
80/3	3/3	0.355	0.887	1.588	2.455	4.505	8.075	12.547	16.822	20.779	25.00
100	4	2.896	6.719	11.479	17.159	29.352	56.255	86.653	120.896	153.844	190.00
100/1	4/1	1.558	3.765	6.626	10.108	18.418	32.827	55.269	77.526	98.631	120.00
100/2	4/2	1.450	3.050	4.822	8.099	14.857	24.200	35.222	49.808	61.142	72.00
100/3	4/3	0.882	1.818	2.839	4.443	8.424	14.384	21.124	27.793	34.167	42.00
150	6	4.225	9.715	16.432	25.732	49.583	89.691	140.008	195.766	256.778	295.00
150/1	6/1	2.829	6.733	11.683	17.723	31.528	53.903	88.375	113.113	140.553	165.00
150/2	6/2	1.364	3.606	6.678	10.620	17.821	28.656	42.883	57.380	71.534	85.00
150/3	6/3	0.911	1.895	2.949	4.261	7.768	13.680	21.418	29.715	37.963	50.00

C _v /d ²	0.011	0.256	0.423	0.670	1.186	2.020	3.079	4.138	5.158	28.000
F _i	0.940	0.940	0.930	0.930	0.920	0.900	0.890	0.880	0.870	0.770
x _T	0.640	0.630	0.620	0.610	0.610	0.600	0.600	0.600	0.600	0.580
z	0.650	0.650	0.650	0.650	0.650	0.645	0.640	0.630	0.620	0.250

SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, LINEAR (Nelprof™ code AU-TEN1-LIN)

Series angle pattern-unbalanced top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. The trim design is a multi-hole are loacated on the cage wall. The pressure reduces as it passes multi-hole. This gives good resistance to cavitation on high pressure drop applications. Temperature limits - 29 ... +260 °Cwith standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.531	1.268	1.949	2.659	3.377	4.085	4.764	5.510	6.672	7.00
15/1	0.5/1	0.358	0.744	1.225	1.610	1.992	2.365	2.719	3.049	3.411	4.00
15/2	0.5/2	0.278	0.532	0.785	1.069	1.319	1.520	1.707	1.879	2.033	2.30
15/3	0.5/3	0.190	0.356	0.515	0.669	0.819	0.971	1.150	1.275	1.377	1.50
15/4	0.5/4	0.092	0.172	0.249	0.324	0.397	0.470	0.542	0.612	0.683	0.80
15/5	0.5/5	0.055	0.105	0.154	0.202	0.251	0.300	0.351	0.401	0.452	0.50
15/6	0.5/6	0.035	0.065	0.095	0.124	0.153	0.182	0.211	0.240	0.270	0.30
20	0.75	0.845	1.678	2.573	3.311	4.036	4.743	5.425	6.179	7.609	9.00
20/1	0.75/1	0.347	0.819	1.402	2.167	2.779	3.388	3.977	4.530	5.031	5.50
20/2	0.75/2	0.294	0.742	1.078	1.403	1.731	2.125	2.372	2.597	2.799	3.00
20/3	0.75/3	0.237	0.438	0.628	0.811	0.987	1.155	1.317	1.470	1.615	2.00
20/4	0.75/4	0.125	0.241	0.358	0.478	0.599	0.721	0.842	0.964	1.084	1.20
20/5	0.75/5	0.078	0.148	0.215	0.284	0.352	0.420	0.490	0.559	0.630	0.70
20/6	0.75/6	0.048	0.089	0.129	0.169	0.207	0.245	0.284	0.322	0.360	0.40
25	1	1.288	2.619	4.023	5.415	6.826	8.125	8.899	10.246	11.931	13.50
25/1	1/1	0.773	1.538	2.307	3.147	3.919	4.679	5.415	6.122	7.003	8.50
25/2	1/2	0.463	0.939	1.433	1.937	2.458	3.020	3.519	3.997	4.441	5.40
25/3	1/3	0.277	0.562	0.857	1.160	1.468	1.772	2.071	2.358	2.658	3.10
25/4	1/4	0.178	0.367	0.566	0.775	0.988	1.201	1.408	1.606	1.789	2.00
25/5	1/5	0.114	0.230	0.348	0.468	0.589	0.711	0.831	0.949	1.065	1.20
25/6	1/6	0.070	0.138	0.207	0.276	0.344	0.413	0.482	0.550	0.619	0.80
40	1.5	2.636	5.382	8.457	11.766	15.220	18.767	21.562	24.090	26.500	28.00
40/1	1.5/1	1.625	3.160	4.699	6.250	7.896	9.519	11.120	12.681	14.181	16.00
40/2	1.5/2	0.946	1.885	2.860	3.860	4.875	5.884	6.901	7.918	8.855	10.50
40/3	1.5/3	0.565	1.128	1.720	2.333	2.955	3.579	4.190	4.779	5.332	6.00
40/4	1.5/4	0.369	0.743	1.135	1.543	1.961	2.379	2.788	3.182	3.549	4.00
40/5	1.5/5	0.188	0.377	0.573	0.777	0.985	1.194	1.400	1.598	1.784	2.20
40/6	1.5/6	0.123	0.239	0.355	0.472	0.590	0.710	0.828	0.946	1.063	1.20
50	2	4.130	9.242	14.478	19.708	25.087	30.564	35.974	40.012	44.642	49.00
50/1	2/1	2.274	4.969	7.877	10.938	13.724	16.509	19.277	22.026	24.965	28.00
50/2	2/2	1.264	2.764	4.372	6.054	7.773	9.527	11.227	12.727	14.317	17.00
50/3	2/3	0.816	1.779	2.804	3.860	4.927	5.981	7.006	7.980	8.889	10.00
80	3	9.958	21.061	32.395	42.652	52.980	63.698	76.666	86.071	91.149	100.00
80/1	3/1	5.353	11.637	18.738	26.583	33.661	40.457	47.179	53.741	60.338	70.00
80/2	3/2	3.465	7.212	11.200	15.378	19.686	24.058	28.448	31.986	35.659	42.00
80/3	3/3	2.171	4.467	6.858	9.318	11.806	14.291	16.726	19.075	21.290	25.00
100	4	12.667	27.122	47.273	66.038	85.993	106.882	127.853	147.470	167.929	190.00
100/1	4/1	7.319	15.766	25.332	36.426	51.054	63.296	75.776	88.317	103.943	120.00
100/2	4/2	7.018	13.838	20.643	27.411	34.071	43.442	50.854	57.090	63.090	72.00
100/3	4/3	4.032	8.164	12.452	16.817	21.179	25.440	29.513	33.306	37.671	42.00

C _v /d ²	0.055	1.122	1.734	2.346	2.954	3.559	4.129	4.685	10.000	28.000
F ₁	0.950	0.950	0.947	0.943	0.940	0.935	0.930	0.928	0.910	0.910
x _T	0.550	0.550	0.550	0.555	0.565	0.580	0.600	0.615	0.750	0.750
z	0.65	0.65	0.65	0.645	0.64	0.635	0.63	0.625	0.57	0.37

SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE(Nelprof™ code AU-TEN1-EQ)

Series angle pattern-unbalanced top guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. The trim design is a multi-hole are located on the cage wall. The pressure reduces as it passes multi-hole. This gives good resistance to cavitation on high pressure drop applications. Temperature limits - 29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.164	0.355	0.562	0.888	1.378	2.163	3.417	4.842	6.441	7.00
15/1	0.5/1	0.057	0.159	0.307	0.488	0.780	1.456	2.173	2.884	3.533	4.00
15/2	0.5/2	0.083	0.155	0.228	0.336	0.585	0.941	1.370	1.702	2.005	2.30
15/3	0.5/3	0.048	0.092	0.137	0.202	0.350	0.560	0.818	1.113	1.329	1.50
15/4	0.5/4	0.020	0.037	0.057	0.083	0.161	0.280	0.413	0.538	0.656	0.80
15/5	0.5/5	0.009	0.022	0.035	0.054	0.096	0.168	0.253	0.334	0.414	0.50
15/6	0.5/6	0.005	0.011	0.020	0.033	0.063	0.105	0.150	0.197	0.245	0.30
20	0.75	0.239	0.452	0.668	1.069	1.849	2.928	4.022	5.229	7.131	9.00
20/1	0.75/1	0.057	0.198	0.399	0.669	1.109	1.785	2.787	3.712	4.739	5.50
20/2	0.75/2	0.050	0.169	0.276	0.453	0.776	1.204	1.802	2.352	2.723	3.00
20/3	0.75/3	0.044	0.093	0.150	0.214	0.405	0.684	0.999	1.299	1.667	2.00
20/4	0.75/4	0.034	0.061	0.086	0.131	0.248	0.418	0.620	0.817	1.011	1.20
20/5	0.75/5	0.012	0.029	0.051	0.082	0.142	0.234	0.340	0.451	0.580	0.70
20/6	0.75/6	0.009	0.019	0.030	0.044	0.082	0.141	0.207	0.271	0.333	0.40
25	1	0.268	0.568	0.913	1.549	2.754	4.657	7.075	9.487	11.626	13.50
25/1	1/1	0.118	0.287	0.507	0.825	1.557	2.695	4.140	5.605	7.028	8.50
25/2	1/2	0.073	0.185	0.331	0.525	0.966	1.672	2.647	3.588	4.366	5.40
25/3	1/3	0.027	0.090	0.186	0.317	0.583	0.997	1.520	2.050	2.540	3.10
25/4	1/4	0.030	0.075	0.134	0.215	0.397	0.670	1.002	1.354	1.701	2.00
25/5	1/5	0.025	0.053	0.077	0.131	0.248	0.433	0.643	0.853	1.056	1.20
25/6	1/6	0.011	0.025	0.041	0.073	0.143	0.239	0.345	0.462	0.589	0.80
40	1.5	0.453	1.124	2.000	3.071	5.909	10.566	16.175	21.567	25.661	28.00
40/1	1.5/1	0.226	0.582	1.056	1.694	3.155	5.364	7.974	10.692	13.438	16.00
40/2	1.5/2	0.203	0.437	0.705	1.021	1.877	3.245	4.930	6.712	8.593	10.50
40/3	1.5/3	0.086	0.219	0.398	0.617	1.131	2.022	3.169	4.256	5.211	6.00
40/4	1.5/4	0.053	0.141	0.262	0.412	0.789	1.363	2.078	2.828	3.453	4.00
40/5	1.5/5	0.031	0.076	0.134	0.210	0.391	0.691	1.071	1.431	1.736	2.20
40/6	1.5/6	0.027	0.056	0.085	0.128	0.234	0.396	0.588	0.784	0.981	1.20
50	2	1.209	2.459	3.305	5.116	9.421	16.828	26.550	36.591	44.523	49.00
50/1	2/1	0.315	0.817	1.505	2.870	5.482	9.305	13.774	18.306	23.170	28.00
50/2	2/2	0.171	0.467	0.882	1.633	3.179	5.473	8.207	11.089	13.683	17.00
50/3	2/3	0.146	0.369	0.662	1.023	1.894	3.286	5.007	6.711	8.407	10.00
80	3	2.007	4.467	7.366	12.276	22.522	38.624	62.018	79.573	90.094	100.00
80/1	3/1	1.004	2.505	4.499	6.963	12.945	23.649	36.145	47.819	58.698	70.00
80/2	3/2	0.727	1.606	2.636	3.946	7.530	13.569	21.257	28.974	34.990	42.00
80/3	3/3	0.355	0.887	1.588	2.455	4.505	8.075	12.547	16.822	20.779	25.00
100	4	2.896	6.719	11.479	17.159	29.352	56.255	86.653	120.896	153.844	190.00
100/1	4/1	1.558	3.765	6.626	10.108	18.418	32.827	55.269	77.526	98.631	120.00
100/2	4/2	1.450	3.050	4.822	8.099	14.857	24.200	35.222	49.808	61.142	72.00
100/3	4/3	0.882	1.818	2.839	4.443	8.424	14.384	21.124	27.793	34.167	42.00

C _v /d ²	0.011	0.256	0.423	0.670	1.186	2.020	3.079	4.138	10.000	28.000
F ₁	0.950	0.950	0.950	0.950	0.950	0.945	0.940	0.930	0.910	0.910
x _T	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.600	0.750	0.750
z	0.65	0.65	0.65	0.65	0.65	0.65	0.64	0.63	0.57	0.37

SERIES AU ANGLE PATTERN CONTROL VALVES, UNBALANCED MICRO TRIM, LINEAR (Nelprof™ code AU-MCR-LIN)

The micro trim design is seat guided construction, capable of handling high pressure drops, without instability problems. This trim design has an inherent characteristic of linear and has excellent rangeability. It is an ideal selection for the control of very low flow rates. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.0015	0.0029	0.0115	0.0226	0.0352	0.0493	0.0606	0.0713	0.0842	0.1000
15/1	0.5/1	0.0012	0.0018	0.0052	0.0115	0.0182	0.0273	0.0352	0.0447	0.0522	0.0600
15/2	0.5/2	0.0004	0.0007	0.0018	0.0036	0.0061	0.0091	0.0127	0.0167	0.0211	0.0300
15/3	0.5/3	0.0003	0.0004	0.0008	0.0013	0.0023	0.0032	0.0047	0.0060	0.0079	0.0100
15/4	0.5/4	0.00010	0.00040	0.00050	0.00090	0.00150	0.00200	0.00290	0.00390	0.00470	0.00600
15/5	0.5/5	0.00005	0.00020	0.00035	0.00050	0.00080	0.00110	0.00150	0.00200	0.00250	0.00300
20	0.75	0.0015	0.0029	0.0115	0.0226	0.0352	0.0493	0.0606	0.0713	0.0842	0.1000
20/1	0.75/1	0.0012	0.0018	0.0052	0.0115	0.0182	0.0273	0.0352	0.0447	0.0522	0.0600
20/2	0.75/2	0.0004	0.0007	0.0018	0.0036	0.0061	0.0091	0.0127	0.0167	0.0211	0.0300
20/3	0.75/3	0.0003	0.0004	0.0008	0.0013	0.0023	0.0032	0.0047	0.0060	0.0079	0.0100
20/4	0.75/4	0.00010	0.00040	0.00050	0.00090	0.00150	0.00200	0.00290	0.00390	0.00470	0.00600
20/5	0.75/5	0.00005	0.00020	0.00035	0.00050	0.00080	0.00110	0.00150	0.00200	0.00250	0.00300
25	1	0.0015	0.0029	0.0115	0.0226	0.0352	0.0493	0.0606	0.0713	0.0842	0.1000
25/1	1/1	0.0012	0.0018	0.0052	0.0115	0.0182	0.0273	0.0352	0.0447	0.0522	0.0600
25/2	1/2	0.0004	0.0007	0.0018	0.0036	0.0061	0.0091	0.0127	0.0167	0.0211	0.0300
25/3	1/3	0.0003	0.0004	0.0008	0.0013	0.0023	0.0032	0.0047	0.0060	0.0079	0.0100
25/4	1/4	0.00010	0.00040	0.00050	0.00090	0.00150	0.00200	0.00290	0.00390	0.00470	0.00600
25/5	1/5	0.00005	0.00020	0.00035	0.00050	0.00080	0.00110	0.00150	0.00200	0.00250	0.00300
C _v /d ²		0.003	0.015	0.023	0.031	0.039	0.046	0.054	0.062	0.069	0.400
F ₁		0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.970	0.970
x _T		0.840	0.840	0.840	0.840	0.840	0.840	0.840	0.840	0.840	0.840
z		0.955	0.865	0.77	0.705	0.66	0.63	0.6	0.58	0.56	0.37

SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED STANDARD TRIM, LINEAR (Nelprof™ code AB-STD-LIN)

Series angle pattern-balanced cage guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability. The standard cage trim is designed with a specially represented window shape cage and balanced plug. The window shape defines the flow path through the valve and the flow characteristic of the valve. The balancing holes are located in the top of the plug. This trim is suited for both high and low pressure drop application and is used in the majority of control applications. Temperature limits - 29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	8.1	16.1	24.1	32.2	40.2	48.2	56.3	64.3	72.3	82.0
50/1	2/1	7.3	14.5	21.8	29.0	36.3	43.5	50.8	58.0	65.3	74.0
50/2	2/2	4.3	8.6	12.9	17.3	21.6	25.9	30.2	34.5	38.8	44.0
50/3	2/3	2.6	5.1	7.6	10.2	12.7	15.3	17.8	20.4	22.9	26.0
80	3	17.1	34.1	51.2	68.2	85.3	102.3	119.4	136.5	153.5	174.0
80/1	3/1	10.2	20.4	30.6	40.8	51.0	61.2	71.4	81.6	91.7	104.0
80/2	3/2	6.1	12.2	18.2	24.3	30.4	36.5	42.5	48.6	54.7	62.0
80/3	3/3	3.9	7.8	11.8	15.7	19.6	23.5	27.4	31.4	35.3	40.0
100	4	27.5	54.9	82.4	109.8	137.3	164.7	192.1	219.6	247.0	280.0
100/1	4/1	16.7	33.4	50.0	66.7	83.3	100.0	116.7	133.3	150.0	170.0
100/2	4/2	9.8	19.6	29.4	39.2	49.0	58.8	68.6	78.4	88.2	100.0
100/3	4/3	6.3	12.6	18.8	25.1	31.4	37.6	43.9	50.2	56.5	64.0
150	6	46.2	92.2	138.3	184.3	230.4	276.5	322.5	368.6	414.6	470.0
150/1	6/1	27.9	55.7	83.6	111.4	139.2	167.0	194.9	222.7	250.5	284.0
150/2	6/2	16.7	33.4	50.0	66.7	83.3	100.0	116.7	133.3	150.0	170.0
150/3	6/3	9.8	19.6	29.4	39.2	49.0	58.8	68.6	78.4	88.2	100.0
200	8	79.5	158.9	238.3	317.7	397.1	476.4	555.8	635.2	714.6	810.0
200/1	8/1	49.1	98.1	147.1	196.1	245.1	294.1	343.1	392.1	441.1	500.0
200/2	8/2	31.4	62.8	94.1	125.5	156.9	188.2	219.6	250.9	282.3	320.0
200/3	8/3	19.6	39.2	58.8	78.4	98.0	117.6	137.2	156.8	176.4	200.0
250	10	122.8	245.3	367.8	490.3	612.8	735.3	857.8	980.3	1102.8	1250.0
250/1	10/1	74.6	149.1	223.6	298.1	372.6	447.0	521.5	596.0	670.5	760.0
250/2	10/2	45.2	90.3	135.3	180.4	225.5	270.6	315.7	360.7	405.8	460.0
250/3	10/3	27.5	54.9	82.4	109.8	137.3	164.7	192.1	219.6	247.0	280.0
300	12	177.7	355.1	532.5	709.9	887.3	1064.6	1242.0	1419.4	1596.8	1810.0
300/1	12/1	108.0	215.8	323.6	431.4	539.2	647.0	754.8	862.6	970.4	1100.0
300/2	12/2	66.8	133.4	200.1	266.7	333.3	400.0	466.6	533.3	599.9	680.0
300/3	12/3	41.2	82.4	123.6	164.7	205.9	247.0	288.2	329.4	370.5	420.0
350	14	248.4	496.4	744.3	992.3	1240.2	1488.1	1736.1	1984.0	2232.0	2530.0
350/1	14/1	150.9	302.1	453.1	604.0	754.9	905.8	1056.7	1207.7	1358.6	1540.0
350/2	14/2	92.1	184.4	276.5	368.7	460.8	552.9	645.0	737.1	829.3	940.0
350/3	14/3	56.9	113.8	170.6	227.5	284.3	341.2	398.0	454.8	511.7	580.0
400	16	290.1	580.8	870.8	1160.9	1451.0	1741.1	2031.2	2321.2	2611.3	2960.0
400/1	16/1	174.5	349.2	523.7	698.1	872.6	1047.0	1221.4	1395.9	1570.3	1780.0
400/2	16/2	105.9	211.9	317.7	423.6	529.4	635.3	741.1	846.9	952.8	1080.0
400/3	16/3	64.7	129.5	194.2	258.9	323.5	388.2	452.9	517.6	582.3	660.0
450	18	307.2	607.8	914.4	1228.4	1542.5	1856.5	2170.5	2484.5	2798.5	3160.0
450/1	18/1	167.7	335.4	503.1	670.8	838.5	1006.2	1173.9	1341.6	1509.3	1720.0
450/2	18/2	114.8	229.6	344.4	459.2	573.9	688.8	803.7	918.6	1033.5	1180.0
450/3	18/3	75.0	149.5	224.3	299.0	373.7	448.4	523.1	597.8	672.5	770.0

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
500	20	409.6	1077.0	1932.6	2704.5	3327.3	3882.3	4225.7	4470.6	4684.3	4800.0
500/1	20/1	220.7	602.4	976.2	1340.0	1697.5	2052.0	2400.0	2735.7	3047.7	3300.0
500/2	20/2	151.1	396.0	594.0	792.0	990.0	1188.0	1386.0	1584.0	1782.0	2000.0
500/3	20/3	99.3	237.6	356.4	475.2	594.0	712.8	831.6	950.4	1069.2	1200.0
600	24	591.6	1555.7	2791.5	3906.5	4806.1	5607.7	6103.8	6457.5	6766.2	6900.0
600/1	24/1	322.2	879.5	1425.2	1956.3	2478.3	2996.0	3504.0	3994.2	4449.6	4850.0
600/2	24/2	221.6	580.8	871.2	1161.6	1452.0	1742.4	2032.8	2323.2	2613.6	2900.0
600/3	24/3	143.4	343.2	514.8	686.4	858.0	1029.6	1201.2	1372.8	1544.4	1700.0

C_v/d^2	0.232	1.594	2.450	3.292	4.109	4.917	5.690	6.447	7.196	20.500
F_I	0.890	0.887	0.884	0.881	0.878	0.875	0.872	0.869	0.867	0.835
x_T	0.742	0.736	0.726	0.724	0.711	0.711	0.702	0.696	0.690	0.690
z	0.450	0.350	0.300	0.250	0.240	0.235	0.233	0.230	0.226	0.200

SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED STANDARD TRIM, EQUAL PERCENTAGE (Nelprof™ code AB-STD-EQ)

Series angle pattern-balanced cage guided globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide range-ability. The standard cage trim is designed with a specially represented window shape cage and balanced plug. The window shape defines the flow path through the valve and the flow characteristic of the valve. The balancing holes are located in the top of the plug. This trim is suited for both high and low pressure drop application and is used in the majority of control applications. Temperature limits 29 ... +260 °C with standard bonnet construction. ASME class 150-600. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.3	3.3	4.9	8.4	15.2	25.1	41.0	57.8	68.4	76.0
50/1	2/1	1.4	2.0	3.0	5.1	9.2	15.2	24.8	35.0	41.4	46.0
50/2	2/2	0.8	1.2	1.8	3.1	5.6	9.2	15.1	21.3	25.2	28.0
50/3	2/3	0.5	0.8	1.2	2.0	3.6	5.9	9.7	13.7	16.2	18.0
80	3	4.8	7.0	10.4	17.6	32.0	52.8	86.4	121.6	144.0	160.0
80/1	3/1	2.9	4.3	6.4	10.8	19.6	32.3	52.9	74.5	88.2	98.0
80/2	3/2	1.8	2.6	3.9	6.6	12.0	19.8	32.4	45.6	54.0	60.0
80/3	3/3	1.1	1.6	2.3	4.0	7.2	11.9	19.4	27.4	32.4	36.0
100	4	7.7	11.3	16.6	28.2	51.2	84.5	138.2	194.6	230.4	256.0
100/1	4/1	4.7	6.9	10.1	17.2	31.2	51.5	84.2	118.6	140.4	156.0
100/2	4/2	2.8	4.1	6.1	10.3	18.8	31.0	50.8	71.4	84.6	94.0
100/3	4/3	1.8	2.6	3.9	6.6	12.0	19.8	32.4	45.6	54.0	60.0
150	6	12.9	18.9	28.0	47.3	86.0	141.9	232.2	326.8	387.0	430.0
150/1	6/1	7.8	11.4	16.9	28.6	52.0	85.8	140.4	197.6	234.0	260.0
150/2	6/2	4.7	6.9	10.1	17.2	31.2	51.5	84.2	118.6	140.4	156.0
150/3	6/3	2.9	4.2	6.2	10.6	19.2	31.7	51.8	73.0	86.4	96.0
200	8	22.2	32.6	48.1	81.4	148.0	244.2	399.6	562.4	666.0	740.0
200/1	8/1	13.5	19.8	29.3	49.5	90.0	148.5	243.0	342.0	405.0	450.0
200/2	8/2	8.1	11.9	17.6	29.7	54.0	89.1	145.8	205.2	243.0	270.0
200/3	8/3	4.9	7.2	10.7	18.0	32.8	54.1	88.6	124.6	147.6	164.0
250	10	34.2	50.2	74.1	125.4	228.0	376.2	615.6	866.4	1026.0	1140.0
250/1	10/1	20.4	29.9	44.2	74.8	136.0	224.4	367.2	516.8	612.0	680.0
250/2	10/2	12.3	18.0	26.7	45.1	82.0	135.3	221.4	311.6	369.0	410.0
250/3	10/3	7.5	11.0	16.3	27.5	50.0	82.5	135.0	190.0	225.0	250.0
300	12	49.5	72.6	107.3	181.5	330.0	544.5	891.0	1254.0	1485.0	1650.0
300/1	12/1	30.0	44.0	65.0	110.0	200.0	330.0	540.0	760.0	900.0	1000.0
300/2	12/2	19.2	28.2	41.6	70.4	128.0	211.2	345.6	486.4	576.0	640.0
300/3	12/3	11.5	16.9	25.0	42.2	76.8	126.7	207.4	291.8	345.6	384.0
350	14	69.0	101.2	149.5	253.0	460.0	759.0	1242.0	1748.0	2070.0	2300.0
350/1	14/1	42.0	61.6	91.0	154.0	280.0	462.0	756.0	1064.0	1260.0	1400.0
350/2	14/2	25.2	37.0	54.6	92.4	168.0	277.2	453.6	638.4	756.0	840.0
350/3	14/3	15.6	22.9	33.8	57.2	104.0	171.6	280.8	395.2	468.0	520.0
400	16	81.0	118.8	175.5	297.0	540.0	891.0	1458.0	2052.0	2430.0	2700.0
400/1	16/1	49.2	72.2	106.6	180.4	328.0	541.2	885.6	1246.4	1476.0	1640.0
400/2	16/2	29.4	43.1	63.7	107.8	196.0	323.4	529.2	744.8	882.0	980.0
400/3	16/3	18.0	26.4	39.0	66.0	120.0	198.0	324.0	456.0	540.0	600.0

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
450	18	60.5	172.9	287.7	462.3	811.3	1462.9	2179.1	2762.7	3292.7	3600.0
450/1	18/1	39.7	110.1	180.3	264.9	432.7	720.4	1165.8	1697.0	2160.0	2500.0
450/2	18/2	37.1	75.5	101.5	157.1	289.3	516.7	815.4	1123.7	1367.3	1520.0
450/3	18/3	22.1	45.0	60.5	93.7	172.6	308.2	486.4	670.3	815.6	900.0
500	20	80.6	230.6	383.5	616.4	1081.7	1950.5	2905.5	3683.6	4390.3	4800.0
500/1	20/1	52.2	144.9	237.2	348.6	569.4	947.8	1533.9	2232.9	2842.1	3300.0
500/2	20/2	48.8	99.3	133.6	206.7	380.7	679.9	1072.8	1478.6	1799.1	2000.0
500/3	20/3	29.3	59.6	80.1	124.0	228.4	408.0	643.7	887.2	1079.4	1200.0
600	24	116.4	333.1	554.0	890.4	1562.5	2817.5	4196.8	5320.8	6341.5	6900.0
600/1	24/1	76.2	211.6	346.3	509.0	831.3	1383.8	2239.5	3260.1	4149.5	4850.0
600/2	24/2	71.6	145.7	195.9	303.2	558.3	997.2	1573.5	2168.6	2638.6	2900.0
600/3	24/3	42.3	86.1	115.7	179.2	329.9	589.3	929.8	1281.4	1559.2	1700.0
C_v/d^2	0.068	0.339	0.508	0.842	1.516	2.541	4.102	5.715	6.815	19.000	
F_L	0.890	0.890	0.889	0.888	0.887	0.883	0.878	0.872	0.868	0.840	
x_T	0.740	0.740	0.740	0.740	0.730	0.730	0.720	0.720	0.700	0.700	
z	0.450	0.430	0.410	0.385	0.340	0.280	0.240	0.230	0.227	0.200	

SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 1 TRIM, LINEAR (Nelprof™ code AB-TEN1-LIN)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits - 29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	3.0	11.8	19.7	26.6	33.2	39.0	43.8	47.7	50.8	52.0
50/1	2/1	1.9	7.7	13.0	17.7	22.4	26.8	31.0	34.8	38.3	40.0
50/2	2/2	1.2	4.8	8.1	11.2	14.3	17.2	20.1	22.8	25.4	27.0
50/3	2/3	0.4	1.7	2.9	4.0	5.2	6.3	7.4	8.5	9.6	10.0
80	3	7.5	23.0	36.9	49.9	61.9	73.2	82.9	91.2	98.0	102.0
80/1	3/1	4.7	14.6	23.7	32.4	40.6	48.8	56.4	63.6	70.4	75.0
80/2	3/2	2.4	7.6	12.4	17.1	21.7	26.2	30.5	34.8	38.9	40.0
80/3	3/3	1.2	3.9	6.4	8.9	11.3	13.8	16.1	18.4	20.7	21.0
100	4	8.5	32.6	55.1	75.9	95.6	113.8	130.5	144.6	156.2	160.0
100/1	4/1	5.3	20.4	34.8	48.3	61.5	74.1	86.7	98.5	109.6	120.0
100/2	4/2	2.9	11.3	19.5	27.3	34.9	42.4	49.9	57.1	64.2	70.0
100/3	4/3	1.9	7.6	13.2	18.5	23.8	28.9	34.2	39.2	44.1	46.0
150	6	13.8	54.4	95.1	134.3	170.9	204.3	234.1	259.9	281.9	290.0
150/1	6/1	9.0	35.2	61.8	88.2	114.1	139.2	163.1	185.7	206.9	220.0
150/2	6/2	4.9	18.9	33.1	47.3	61.6	75.9	90.1	104.1	117.9	130.0
150/3	6/3	2.9	10.8	18.8	26.9	35.0	43.2	51.4	59.5	67.7	75.0
200	8	19.7	87.1	152.3	213.7	271.5	323.2	368.8	409.4	444.2	460.0
200/1	8/1	12.7	56.0	98.8	140.5	181.6	220.5	257.3	292.4	324.9	340.0
200/2	8/2	6.4	28.0	49.5	70.8	92.4	113.6	134.4	155.2	175.5	195.0
200/3	8/3	3.6	15.6	27.5	39.3	51.4	63.3	75.1	87.1	99.0	105.0
250	10	39.7	122.6	206.9	287.7	361.2	430.8	493.5	548.0	597.7	630.0
250/1	10/1	25.7	78.3	132.7	186.4	237.5	288.4	337.1	382.2	426.0	460.0
250/2	10/2	14.2	41.5	69.9	98.4	126.0	154.4	182.4	209.4	236.8	255.0
250/3	10/3	8.4	23.2	38.6	54.1	69.1	84.6	100.2	115.3	130.8	140.0
300	12	76.8	216.1	351.6	478.6	594.1	696.7	786.2	863.1	928.4	980.0
300/1	12/1	48.9	136.8	224.6	310.8	394.0	473.3	548.1	617.8	682.3	735.0
300/2	12/2	25.2	68.8	112.8	156.8	200.8	244.4	287.5	330.0	371.7	405.0
300/3	12/3	15.4	40.7	66.1	91.7	117.4	143.1	168.8	194.5	220.0	240.0
350	14	89.2	275.6	460.6	634.1	789.1	929.1	1050.3	1151.4	1237.4	1300.0
350/1	14/1	56.5	174.0	293.5	410.7	521.9	629.9	731.6	824.7	912.3	985.0
350/2	14/2	29.7	90.1	152.1	214.2	274.8	336.1	396.5	454.9	513.1	565.0
350/3	14/3	16.4	48.4	81.3	114.3	146.8	179.9	212.9	245.3	278.2	310.0
400	16	121.6	332.6	546.9	756.9	949.0	1121.7	1274.6	1402.5	1508.5	1580.0
400/1	16/1	73.6	198.0	326.6	458.4	586.9	712.2	834.3	948.3	1055.2	1145.0
400/2	16/2	41.5	108.3	177.2	248.6	319.8	391.4	464.1	535.3	605.7	670.0
400/3	16/3	26.9	68.0	110.1	153.6	197.1	241.1	286.2	330.8	375.6	415.0

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
450	18	161.6	442.0	726.9	1006.0	1261.3	1490.8	1694.1	1864.0	2004.9	2100.0
450/1	18/1	93.2	250.7	413.6	580.5	743.2	901.9	1056.5	1200.8	1336.2	1450.0
450/2	18/2	53.9	140.6	230.1	322.7	415.2	508.2	602.6	695.1	786.5	870.0
450/3	18/3	33.7	85.2	137.9	192.5	247.0	302.2	358.6	414.5	470.7	520.0
500	20	215.4	589.3	969.2	1341.4	1681.7	1987.8	2258.8	2485.4	2673.2	2800.0
500/1	20/1	128.6	345.8	570.4	800.6	1025.2	1244.0	1457.2	1656.3	1843.1	2000.0
500/2	20/2	74.3	194.0	317.3	445.2	572.7	701.0	831.2	958.7	1084.8	1200.0
500/3	20/3	46.6	118.0	191.0	266.5	342.0	418.4	496.6	574.0	651.7	720.0
600	24	307.7	841.9	1384.6	1916.3	2402.5	2839.7	3226.8	3550.5	3818.9	4000.0
600/1	24/1	180.1	484.1	798.6	1120.9	1435.2	1741.6	2040.1	2318.9	2580.3	2800.0
600/2	24/2	105.3	274.8	449.5	630.6	811.3	993.1	1177.6	1358.1	1536.8	1700.0
600/3	24/3	64.8	163.9	265.3	370.1	475.0	581.1	689.7	797.2	905.1	1000.0
C_v/d^2	0.056	0.902	1.509	2.093	2.652	3.181	3.677	4.127	10.500	13.320	
F_L	0.912	0.915	0.917	0.920	0.923	0.926	0.929	0.930	0.925	0.920	
x_T	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.645	0.650	
z	0.445	0.425	0.410	0.395	0.380	0.365	0.355	0.345	0.195	0.140	

SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 1 TRIM, EQUAL PERCENTAGE (Nelprof™ code AB-TEN1-EQ)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide range-ability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29...+260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.4	2.4	4.4	8.1	13.7	20.5	28.3	36.4	44.1	50.0
50/1	2/1	0.4	2.4	4.2	5.9	9.5	14.6	20.4	25.7	30.7	35.0
50/2	2/2	0.2	1.0	2.3	4.0	6.2	8.9	11.9	14.8	17.7	20.0
50/3	2/3	0.2	1.0	2.2	3.4	4.5	5.7	6.8	7.9	9.0	10.0
80	3	0.7	2.7	6.3	12.5	20.9	31.5	43.6	57.0	71.1	82.0
80/1	3/1	0.7	2.7	4.7	8.5	14.8	23.6	33.3	42.5	51.3	58.0
80/2	3/2	0.7	2.7	4.7	8.5	13.3	18.1	22.6	27.1	31.3	35.0
80/3	3/3	0.3	1.4	3.1	5.5	8.0	10.5	12.9	15.3	17.6	20.0
100	4	1.0	5.2	9.5	17.1	30.3	48.2	71.3	95.5	117.5	135.0
100/1	4/1	0.5	2.6	6.3	13.0	22.3	34.2	48.8	65.1	82.1	95.0
100/2	4/2	0.5	2.6	4.8	8.7	15.6	24.6	33.8	42.5	51.1	58.0
100/3	4/3	0.5	2.6	4.8	8.5	12.6	16.6	20.7	24.6	28.5	32.0
150	6	1.6	7.5	16.2	33.1	58.4	91.7	131.8	172.1	208.6	235.0
150/1	6/1	1.6	7.5	13.4	22.2	39.2	64.5	92.9	120.7	147.3	170.0
150/2	6/2	0.9	3.8	6.8	11.1	19.5	32.0	48.7	67.1	85.4	100.0
150/3	6/3	0.9	3.8	6.8	11.1	18.8	26.9	35.0	43.2	51.4	58.0
200	8	1.5	12.8	35.3	68.6	113.2	167.1	227.7	288.0	341.3	370.0
200/1	8/1	1.5	8.5	21.5	45.3	80.7	122.9	163.9	204.1	242.0	265.0
200/2	8/2	0.8	4.3	10.8	22.6	40.3	63.6	91.9	122.8	152.7	170.0
200/3	8/3	0.8	4.3	8.0	15.1	28.0	44.6	61.2	78.0	94.6	105.0
250	10	4.2	19.1	48.4	91.6	147.0	216.6	295.8	370.8	441.5	500.0
250/1	10/1	4.2	12.2	31.1	63.9	109.2	165.6	221.2	273.6	325.3	370.0
250/2	10/2	4.2	12.2	21.5	43.8	73.9	105.0	136.0	166.0	196.5	225.0
250/3	10/3	2.9	6.8	11.5	22.6	39.3	57.3	75.4	93.0	111.1	125.0
300	12	7.4	26.7	75.3	153.7	260.7	391.7	527.8	648.9	754.0	840.0
300/1	12/1	7.4	18.8	52.7	116.3	202.8	289.5	373.5	453.9	529.8	600.0
300/2	12/2	4.5	10.2	27.1	58.6	104.8	156.2	207.5	258.3	308.3	355.0
300/3	12/3	4.5	10.2	27.1	52.5	78.0	103.7	129.4	155.1	180.7	205.0
350	14	6.7	30.7	93.6	195.6	332.7	504.5	687.7	849.2	992.0	1110.0
350/1	14/1	6.7	21.0	67.3	152.6	264.7	378.6	489.2	593.3	693.8	785.0
350/2	14/2	4.0	11.1	34.1	76.5	137.3	207.6	277.7	345.7	414.0	480.0
350/3	14/3	4.0	11.1	34.1	70.6	107.0	144.2	181.4	217.9	255.1	290.0
400	16	9.4	44.5	125.3	258.1	439.8	664.3	890.8	1090.8	1263.7	1400.0
400/1	16/1	9.4	30.8	94.0	207.6	349.8	493.0	635.9	771.9	901.1	1020.0
400/2	16/2	6.1	16.7	47.8	102.8	180.1	263.7	349.8	434.9	519.6	600.0
400/3	16/3	6.1	16.7	47.8	90.1	132.6	175.8	220.2	264.5	309.0	350.0

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
450	18	12.7	60.4	170.1	350.2	596.8	901.6	1209.0	1480.4	1715.0	1900.0
450/1	18/1	12.0	39.2	119.8	264.6	445.8	628.3	810.5	983.8	1148.5	1300.0
450/2	18/2	9.1	25.0	72.0	133.6	234.1	342.8	454.7	565.3	675.5	780.0
450/3	18/3	8.2	25.0	64.2	120.9	178.0	236.1	295.8	355.1	415.0	470.0
500	20	16.8	79.5	223.8	460.8	785.3	1186.3	1590.8	1947.9	2256.6	2500.0
500/1	20/1	16.6	54.3	165.9	366.3	617.2	869.9	1122.2	1362.2	1590.2	1800.0
500/2	20/2	12.8	35.0	100.0	188.5	330.1	483.5	641.3	797.3	952.6	1100.0
500/3	20/3	11.3	34.0	88.7	167.2	246.2	326.5	409.0	491.1	573.9	650.0
600	24	24.1	114.5	322.2	663.6	1130.9	1708.2	2290.7	2805.0	3249.4	3600.0
600/1	24/1	23.5	76.9	235.0	519.0	874.4	1232.4	1589.9	1929.8	2252.8	2550.0
600/2	24/2	18.1	49.3	140.9	265.6	465.1	681.3	903.6	1123.4	1342.4	1550.0
600/3	24/3	15.7	47.1	122.9	231.6	340.9	452.0	566.3	680.0	794.6	900.0
C_v/d^2	0.013	0.163	0.381	0.734	1.225	1.810	2.437	4.100	10.500	12.490	
F_L	0.912	0.912	0.913	0.915	0.916	0.919	0.922	0.930	0.925	0.922	
x_T	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.645	0.650	
z	0.445	0.440	0.433	0.425	0.415	0.400	0.385	0.370	0.195	0.150	

SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 2 TRIM, LINEAR (Nelprof™ code AB-TEN2-LIN)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide range-ability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29...+260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.9	10.7	17.7	24.2	30.1	35.5	40.3	44.4	47.7	50.0
50/1	2/1	1.7	6.2	10.4	14.4	18.2	21.8	25.3	28.6	31.8	35.0
50/2	2/2	1.0	3.8	6.5	9.0	11.5	13.9	16.2	18.4	20.6	23.0
50/3	2/3	0.4	1.3	2.3	3.2	4.1	5.0	5.9	6.8	7.6	8.0
80	3	7.7	22.4	36.0	48.5	60.4	71.2	80.9	89.2	96.2	100.0
80/1	3/1	4.9	14.5	23.5	31.9	40.1	47.9	55.4	62.6	69.3	74.0
80/2	3/2	2.0	6.0	9.9	13.7	17.4	21.0	24.5	27.9	31.3	33.0
80/3	3/3	1.0	3.1	5.1	7.1	9.0	10.9	12.8	14.7	16.5	18.0
100	4	8.4	30.4	50.7	70.3	88.6	105.9	121.7	135.9	148.0	155.0
100/1	4/1	5.7	20.6	34.7	48.4	61.4	74.2	86.4	98.2	109.3	115.0
100/2	4/2	2.8	10.5	17.9	25.2	32.2	39.1	45.9	52.6	59.1	65.0
100/3	4/3	1.6	6.1	10.4	14.7	18.8	23.0	27.1	31.1	35.1	38.0
150	6	13.9	49.6	85.4	120.4	153.7	184.6	212.9	238.3	260.7	280.0
150/1	6/1	9.8	34.6	59.7	84.8	109.4	133.3	156.3	178.1	198.6	215.0
150/2	6/2	5.2	18.1	31.1	44.2	57.4	70.6	83.7	96.6	109.5	120.0
150/3	6/3	2.9	9.9	16.9	24.0	31.1	38.3	45.4	52.6	59.8	67.0
200	8	18.9	74.7	130.1	183.2	233.6	280.3	323.3	362.1	397.0	425.0
200/1	8/1	13.3	52.3	91.5	129.9	167.5	203.6	238.4	271.2	302.3	330.0
200/2	8/2	7.2	28.0	49.1	70.0	91.0	111.6	132.2	152.3	172.3	190.0
200/3	8/3	3.9	15.0	26.2	37.3	48.6	59.7	70.9	82.1	93.2	100.0
250	10	36.1	109.6	182.6	253.6	321.1	384.4	442.8	496.3	544.7	590.0
250/1	10/1	25.4	76.3	127.3	178.0	227.6	275.8	322.2	366.6	408.7	450.0
250/2	10/2	13.4	38.7	64.1	89.6	115.2	140.6	166.0	191.1	215.9	240.0
250/3	10/3	7.8	21.1	34.5	47.9	61.4	74.9	88.4	101.9	115.4	130.0
300	12	70.4	195.0	317.4	433.7	541.5	639.4	726.8	803.7	870.7	920.0
300/1	12/1	48.9	134.7	220.6	304.8	386.4	464.3	537.9	606.7	670.7	720.0
300/2	12/2	24.0	64.4	105.2	146.1	186.9	227.5	267.7	307.5	346.5	380.0
300/3	12/3	14.6	37.9	61.3	84.8	108.5	132.1	155.8	179.5	203.0	220.0
350	14	82.7	253.5	421.0	580.2	727.6	860.9	979.3	1082.4	1171.0	1240.0
350/1	14/1	56.1	171.5	286.8	400.0	509.6	614.4	713.5	806.2	892.2	970.0
350/2	14/2	29.7	89.5	149.6	209.8	269.8	329.4	388.1	446.0	502.7	550.0
350/3	14/3	16.0	46.9	78.0	109.2	140.5	171.8	203.1	234.4	265.6	290.0
400	16	114.4	310.6	510.7	705.8	889.4	1057.2	1206.6	1336.4	1446.8	1530.0
400/1	16/1	72.5	193.6	318.8	445.4	570.9	693.6	811.7	924.1	1030.0	1130.0
400/2	16/2	40.2	104.0	169.8	236.9	305.0	373.5	442.0	510.3	578.0	640.0
400/3	16/3	25.7	64.4	104.0	144.2	185.1	226.4	268.2	310.1	352.3	390.0

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
450	18	142.1	385.7	634.2	876.5	1104.5	1312.9	1498.4	1659.6	1796.7	1900.0
450/1	18/1	86.6	231.3	380.9	532.1	682.1	828.6	969.7	1104.1	1230.5	1350.0
450/2	18/2	50.2	130.0	212.2	296.1	381.2	466.8	552.5	637.9	722.5	800.0
450/3	18/3	31.6	79.3	127.9	177.5	227.8	278.7	330.0	381.7	433.6	480.0
500	20	186.9	507.5	834.5	1153.3	1453.3	1727.4	1971.5	2183.7	2364.0	2500.0
500/1	20/1	112.3	299.8	493.7	689.7	884.2	1074.1	1257.0	1431.2	1595.1	1750.0
500/2	20/2	65.9	170.7	278.5	388.7	500.3	612.7	725.2	837.2	948.3	1050.0
500/3	20/3	41.5	104.0	167.9	233.0	299.0	365.8	433.2	501.0	569.1	630.0
600	24	272.9	741.0	1218.4	1683.8	2121.8	2522.1	2878.4	3188.2	3451.5	3650.0
600/1	24/1	163.6	436.8	719.4	1005.0	1288.4	1565.1	1831.7	2085.4	2324.3	2550.0
600/2	24/2	96.1	248.7	405.9	566.4	729.0	892.8	1056.7	1220.0	1381.8	1530.0
600/3	24/3	60.6	151.9	245.2	340.2	436.6	534.2	632.6	731.6	831.0	920.0
C_v/d^2	0.060	0.824	1.370	1.901	2.413	2.900	3.358	7.000	10.500	12.500	
F_L	0.922	0.925	0.928	0.931	0.934	0.937	0.938	0.940	0.936	0.932	
x_T	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.660	0.690	
z	0.460	0.435	0.420	0.410	0.400	0.390	0.380	0.300	0.230	0.180	

SERIES AB ANGLE PATTERN CONTROL VALVES, BALANCED TENDRIL 2 TRIM, EQUAL PERCENTAGE (Nelprof™ code AB-TEN2-EQ)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide range-ability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.4	1.8	3.8	7.5	12.6	18.8	26.0	33.7	41.3	47.0
50/1	2/1	0.4	1.8	3.2	5.2	8.8	13.8	19.0	24.0	28.7	33.0
50/2	2/2	0.2	0.9	2.0	3.5	5.5	7.8	10.4	13.4	16.4	19.0
50/3	2/3	0.2	0.9	1.8	2.8	3.7	4.6	5.5	6.3	7.2	8.0
80	3	0.6	2.2	5.7	11.4	19.2	28.7	39.8	52.1	65.2	74.0
80/1	3/1	0.6	2.2	3.9	7.8	14.0	22.0	31.8	41.5	50.8	56.0
80/2	3/2	0.6	2.2	3.9	7.8	12.6	17.2	21.7	26.1	30.3	33.0
80/3	3/3	0.3	1.1	2.7	4.7	6.7	8.6	10.5	12.4	14.3	16.0
100	4	0.8	4.3	11.1	23.1	39.3	59.7	81.2	101.5	119.9	130.0
100/1	4/1	0.4	3.4	9.0	17.2	27.6	40.3	54.3	68.2	81.5	92.0
100/2	4/2	0.4	2.2	3.9	8.0	14.5	22.9	30.9	38.9	46.6	52.0
100/3	4/3	0.4	2.2	3.9	7.2	10.4	13.6	16.8	19.9	23.0	25.0
150	6	1.3	8.6	23.1	45.0	74.2	108.9	142.8	174.6	203.8	230.0
150/1	6/1	1.3	5.2	15.0	32.0	55.2	79.2	102.7	125.7	147.9	165.0
150/2	6/2	0.7	2.7	7.6	15.9	28.0	42.3	56.7	71.0	85.3	95.0
150/3	6/3	0.7	2.6	5.1	11.0	18.1	25.2	32.3	39.4	46.6	52.0
200	8	1.2	10.7	30.1	59.2	98.1	145.6	198.0	247.2	293.1	330.0
200/1	8/1	1.2	6.5	20.2	43.8	77.0	113.0	148.4	182.6	215.8	245.0
200/2	8/2	0.7	3.3	10.1	21.9	38.6	59.9	82.3	104.4	126.4	145.0
200/3	8/3	0.7	2.8	6.8	15.8	27.0	38.1	49.4	60.5	71.7	80.0
250	10	4.6	15.5	44.0	90.9	155.6	226.1	293.7	357.5	416.9	470.0
250/1	10/1	3.6	10.8	29.8	60.8	104.1	152.1	199.4	245.6	290.4	330.0
250/2	10/2	2.5	9.0	21.4	39.9	64.1	89.6	115.2	140.6	166.0	190.0
250/3	10/3	2.5	4.7	11.2	23.6	38.5	53.5	68.4	83.5	98.5	110.0
300	12	6.9	35.8	90.7	171.8	277.6	395.8	506.6	607.9	698.8	770.0
300/1	12/1	5.0	17.9	55.5	119.2	200.4	280.9	359.3	434.7	506.3	570.0
300/2	12/2	3.3	9.8	28.4	60.0	104.1	151.5	198.7	245.6	291.9	330.0
300/3	12/3	3.3	9.8	28.3	51.7	75.2	98.8	122.5	146.1	169.8	190.0
350	14	6.0	31.3	105.7	231.2	392.6	549.2	695.0	828.1	947.1	1050.0
350/1	14/1	4.4	21.2	70.7	154.2	255.2	355.1	452.6	546.9	637.3	720.0
350/2	14/2	2.8	11.2	35.8	77.3	134.5	194.7	254.8	314.4	373.4	430.0
350/3	14/3	2.8	11.2	35.8	69.2	102.8	136.5	170.2	203.9	237.6	270.0
400	16	8.9	47.1	146.4	312.3	509.8	702.4	883.9	1050.2	1198.5	1320.0
400/1	16/1	6.8	32.2	97.4	205.7	336.5	468.3	598.6	725.3	846.8	960.0
400/2	16/2	4.8	17.4	49.4	101.9	173.1	248.1	324.2	400.7	477.0	550.0
400/3	16/3	4.8	17.4	47.8	82.0	116.9	152.3	188.1	224.3	260.7	295.0

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
450	18	11.4	60.6	188.5	402.2	656.5	904.6	1138.4	1352.5	1543.6	1700.0
450/1	18/1	8.7	40.9	123.7	261.4	427.6	595.1	760.7	921.8	1076.1	1220.0
450/2	18/2	7.0	25.4	69.6	133.4	226.6	324.8	424.4	524.5	624.5	720.0
450/3	18/3	7.0	25.4	69.6	119.6	170.4	222.0	274.2	326.9	380.1	430.0
500	20	14.8	78.5	244.0	520.5	849.6	1170.7	1473.2	1750.3	1997.6	2200.0
500/1	20/1	11.2	52.6	159.2	336.4	550.2	765.8	978.9	1186.2	1384.9	1570.0
500/2	20/2	9.3	33.7	92.3	176.0	299.0	428.6	559.9	692.0	824.0	950.0
500/3	20/3	9.3	33.7	92.3	158.5	225.9	294.2	363.4	433.4	503.8	570.0
600	24	22.1	117.7	366.0	780.8	1274.5	1756.0	2209.9	2625.4	2996.4	3300.0
600/1	24/1	16.4	77.1	233.3	492.9	806.1	1121.9	1434.1	1737.7	2028.8	2300.0
600/2	24/2	13.6	49.0	134.4	252.0	428.1	613.6	801.6	990.7	1179.6	1360.0
600/3	24/3	13.6	49.0	134.4	230.8	328.9	428.4	529.2	631.0	733.6	830.0
C_v/d^2	0.010	0.147	0.379	0.752	1.235	1.767	2.310	2.700	3.000	3.300	3.600
F_L	0.922	0.922	0.923	0.925	0.928	0.931	0.934	0.941	0.936	0.934	0.934
x_T	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.660	0.680
z	0.460	0.455	0.450	0.440	0.430	0.415	0.400	0.300	0.230	0.200	0.200

SERIES AM ANGLE PATTERN CONTROL VALVES, BALANCED OMEGA TRIM, LINEAR (Nelprof™ code AM-BAL-LIN)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide range-ability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29...+260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.79	1.57	2.35	3.14	3.92	4.71	5.49	6.27	7.06	8.00
25/1	1/1	0.49	0.98	1.47	1.96	2.45	2.94	3.43	3.92	4.41	5.00
25/2	1/2	0.29	0.59	0.88	1.18	1.47	1.76	2.06	2.35	2.65	3.00
25/3	1/3	0.20	0.39	0.59	0.78	0.98	1.18	1.37	1.57	1.76	2.00
40	1.5	1.77	3.53	5.30	7.06	8.82	10.59	12.35	14.12	15.88	18.00
40/1	1.5/1	1.18	2.35	3.53	4.71	5.88	7.06	8.23	9.41	10.59	12.00
40/2	1.5/2	0.79	1.57	2.35	3.14	3.92	4.71	5.49	6.27	7.06	8.00
40/3	1.5/3	0.49	0.98	1.47	1.96	2.45	2.94	3.43	3.92	4.41	5.00
50	2	2.95	5.89	8.83	11.77	14.71	17.65	20.59	23.53	26.47	30.00
50/1	2/1	1.96	3.92	5.88	7.84	9.80	11.76	13.72	15.68	17.64	20.00
50/2	2/2	1.18	2.35	3.53	4.71	5.88	7.06	8.23	9.41	10.59	12.00
50/3	2/3	0.79	1.57	2.35	3.14	3.92	4.71	5.49	6.27	7.06	8.00
80	3	6.09	12.16	18.24	24.32	30.39	36.47	42.54	48.62	54.70	62.00
80/1	3/1	3.93	7.85	11.77	15.69	19.61	23.53	27.45	31.37	35.29	40.00
80/2	3/2	2.55	5.10	7.65	10.20	12.75	15.29	17.84	20.39	22.94	26.00
80/3	3/3	1.57	3.14	4.71	6.28	7.84	9.41	10.98	12.55	14.12	16.00
100	4	9.40	18.80	28.20	37.70	47.10	56.50	65.90	75.30	84.70	96.00
100/1	4/1	5.90	11.80	17.70	23.50	29.40	35.30	41.20	47.10	52.90	60.00
100/2	4/2	3.90	7.80	11.80	15.70	19.60	23.50	27.40	31.40	35.30	40.00
100/3	4/3	2.40	4.70	7.10	9.40	11.80	14.10	16.50	18.80	21.20	24.00
150	6	16.50	33.00	49.40	65.90	82.40	98.80	115.30	131.70	148.20	168.00
150/1	6/1	9.80	19.60	29.40	39.20	49.00	58.80	68.60	78.40	88.20	100.00
150/2	6/2	6.30	12.60	18.80	25.10	31.40	37.60	43.90	50.20	56.50	64.00
150/3	6/3	4.10	8.20	12.40	16.50	20.60	24.70	28.80	32.90	37.10	42.00
200	8	28.50	56.90	85.30	113.70	142.20	170.60	199.00	227.40	255.80	290.00
200/1	8/1	17.70	35.30	53.00	70.60	88.20	105.90	123.50	141.20	158.80	180.00
200/2	8/2	10.80	21.60	32.40	43.10	53.90	64.70	75.50	86.30	97.00	110.00
200/3	8/3	6.90	13.70	20.60	27.50	34.30	41.20	48.00	54.90	61.80	70.00
250	10	43.20	86.30	129.40	172.60	215.70	258.80	301.90	345.00	388.20	440.00
250/1	10/1	26.50	53.00	79.40	105.90	132.40	158.80	185.30	211.70	238.20	270.00
250/2	10/2	15.70	31.40	47.10	62.80	78.40	94.10	109.80	125.50	141.20	160.00
250/3	10/3	9.80	19.60	29.40	39.20	49.00	58.80	68.60	78.40	88.20	100.00
300	12	62.80	125.60	188.30	251.00	313.70	376.40	439.20	501.90	564.60	640.00
300/1	12/1	39.30	78.50	117.70	156.90	196.10	235.30	274.50	313.70	352.90	400.00
300/2	12/2	23.60	47.10	70.60	94.10	117.60	141.20	164.70	188.20	211.70	240.00
300/3	12/3	14.70	29.40	44.10	58.80	73.50	88.20	102.90	117.60	132.30	150.00

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
350	14	86.40	172.70	258.90	345.10	431.40	517.60	603.90	690.10	776.30	880.00
350/1	14/1	52.00	104.00	155.90	207.90	259.80	311.70	363.70	415.60	467.60	530.00
350/2	14/2	31.40	62.80	94.10	125.50	156.90	188.20	219.60	250.90	282.30	320.00
350/3	14/3	19.60	39.20	58.80	78.40	98.00	117.60	137.20	156.80	176.40	200.00
400	16	113.70	227.60	341.30	455.00	568.60	682.30	796.00	909.70	1023.40	1160.00
400/1	16/1	68.60	137.30	205.90	274.50	343.10	411.70	480.30	548.90	617.50	700.00
400/2	16/2	41.20	82.40	123.60	164.70	205.90	247.00	288.20	329.40	370.50	420.00
400/3	16/3	25.50	51.00	76.50	102.00	127.50	152.90	178.40	203.90	229.40	260.00
450	18	131.59	262.91	394.23	525.55	656.87	788.19	919.51	1050.83	1182.15	1340.00
450/1	18/1	80.52	160.88	241.24	321.60	401.96	482.32	562.68	643.04	723.40	820.00
450/2	18/2	49.10	98.10	147.10	196.10	245.10	294.10	343.10	392.10	441.10	500.00
450/3	18/3	29.46	58.86	88.26	117.66	147.06	176.46	205.86	235.26	264.66	300.00
500	20	174.80	349.24	523.68	698.12	872.56	1047.00	1221.44	1395.88	1570.32	1780.00
500/1	20/1	105.86	211.90	317.74	423.58	529.42	635.26	741.10	846.94	952.78	1080.00
500/2	20/2	63.83	127.53	191.23	254.93	318.63	382.33	446.03	509.73	573.43	650.00
500/3	20/3	39.22	78.48	117.68	156.88	196.08	235.28	274.48	313.68	352.88	400.00
600	24	258.74	517.97	776.69	1035.41	1294.13	1552.85	1811.57	2070.29	2329.01	2640.00
600/1	24/1	156.82	313.92	470.72	627.52	784.32	941.12	1097.92	1254.72	1411.52	1600.00
600/2	24/2	96.06	192.28	288.32	384.36	480.40	576.44	672.48	768.52	864.56	980.00
600/3	24/3	54.90	109.87	164.75	219.63	274.51	329.39	384.27	439.15	494.03	560.00
C_v/d^2	0.047	0.581	0.872	1.162	1.452	1.743	2.033	2.323	4.000	8	
F_L	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
x_T	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
z	0.550	0.570	0.575	0.585	0.610	0.630	0.640	0.645	0.680	0.690	

SERIES AM ANGLE PATTERN CONTROL VALVES, BALANCED OMEGA TRIM, EQUAL PERCENTAGE (Nelprof™ code AM-BAL-EQ)

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide range-ability.

Multi-hole cage design reduces pressure as the flow passes through the holes and it gives good resistance to cavitation on high pressure drop applications. The balancing holes are located in the top of the plug. This trim is suitable for both high and low pressure drop application and is used in the majority of control applications. Temperature limits -29 ... +260 °C with standard bonnet construction. ASME class 150-2500. Many end connection styles available for different applications.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.15	0.22	0.32	0.48	0.71	1.05	1.55	2.29	3.38	5.00
25/1	1/1	0.07	0.11	0.16	0.24	0.35	0.52	0.77	1.14	1.69	2.50
25/2	1/2	0.04	0.05	0.08	0.11	0.17	0.25	0.37	0.55	0.81	1.20
25/3	1/3	0.02	0.03	0.04	0.06	0.08	0.13	0.19	0.27	0.41	0.60
40	1.5	0.30	0.44	0.65	0.96	1.41	2.09	3.09	4.57	6.76	10.00
40/1	1.5/1	0.18	0.26	0.39	0.57	0.85	1.25	1.86	2.74	4.06	6.00
40/2	1.5/2	0.09	0.13	0.19	0.29	0.42	0.63	0.93	1.37	2.03	3.00
40/3	1.5/3	0.04	0.07	0.10	0.14	0.21	0.31	0.46	0.69	1.01	1.50
50	2	0.53	0.79	1.16	1.72	2.55	3.76	5.57	8.23	12.17	18.00
50/1	2/1	0.33	0.48	0.71	1.05	1.56	2.30	3.40	5.03	7.44	11.00
50/2	2/2	0.15	0.22	0.32	0.48	0.71	1.05	1.55	2.29	3.38	5.00
50/3	2/3	0.06	0.09	0.13	0.19	0.28	0.42	0.62	0.91	1.35	2.00
80	3	1.12	1.66	2.46	3.63	5.37	7.95	11.75	17.38	25.70	38.00
80/1	3/1	0.71	1.05	1.55	2.30	3.39	5.02	7.42	10.98	16.23	24.00
80/2	3/2	0.35	0.52	0.78	1.15	1.70	2.51	3.71	5.49	8.11	12.00
80/3	3/3	0.18	0.26	0.39	0.57	0.85	1.25	1.86	2.74	4.06	6.00
100	4	1.80	2.60	3.90	5.70	8.50	12.50	18.60	27.40	40.60	60.00
100/1	4/1	1.10	1.60	2.30	3.40	5.10	7.50	11.10	16.50	24.30	36.00
100/2	4/2	0.53	0.79	1.16	1.72	2.55	3.76	5.57	8.23	12.17	18.00
100/3	4/3	0.30	0.40	0.60	0.90	1.30	1.90	2.80	4.10	6.10	9.00
150	6	3.10	4.50	6.70	9.90	14.70	21.70	32.20	47.60	70.30	104.00
150/1	6/1	1.90	2.80	4.10	6.10	9.10	13.40	19.80	29.30	43.30	64.00
150/2	6/2	0.90	1.40	2.10	3.10	4.50	6.70	9.90	14.60	21.60	32.00
150/3	6/3	0.50	0.70	1.00	1.50	2.30	3.30	4.90	7.30	10.80	16.00
200	8	5.20	7.70	11.40	16.80	24.90	36.80	54.40	80.50	119.00	176.00
200/1	8/1	3.20	4.70	7.00	10.30	15.30	22.60	33.40	49.40	73.00	108.00
200/2	8/2	1.60	2.40	3.50	5.20	7.60	11.30	16.70	24.70	36.50	54.00
200/3	8/3	0.80	1.20	1.70	2.60	3.80	5.60	8.30	12.30	18.30	27.00
250	10	7.90	11.70	17.30	25.60	37.90	56.00	82.90	122.60	181.20	268.00
250/1	10/1	4.90	7.20	10.60	15.70	23.20	34.30	50.70	75.00	110.90	164.00
250/2	10/2	2.40	3.60	5.30	7.80	11.60	17.10	25.40	37.50	55.50	82.00
250/3	10/3	1.20	1.70	2.60	3.80	5.70	8.40	12.40	18.30	27.00	40.00
300	12	11.50	17.10	25.20	37.30	55.20	81.60	120.60	178.30	263.70	390.00
300/1	12/1	7.00	10.30	15.30	22.60	33.40	49.40	73.00	107.90	159.60	236.00
300/2	12/2	3.50	5.20	7.60	11.30	16.70	24.70	36.50	54.00	79.80	118.00
300/3	12/3	1.80	2.60	3.90	5.70	8.50	12.50	18.60	27.40	40.60	60.00
350	14	16.00	23.60	34.90	51.60	76.40	112.90	167.00	246.90	365.20	540.00
350/1	14/1	9.70	14.30	21.20	31.40	46.40	68.60	101.40	150.00	221.80	328.00
350/2	14/2	4.90	7.20	10.60	15.70	23.20	34.30	50.70	75.00	110.90	164.00
350/3	14/3	2.40	3.60	5.30	7.80	11.60	17.10	25.40	37.50	55.50	82.00

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
400	16	21.00	31.10	45.90	67.90	100.40	148.50	219.60	324.70	480.10	710.00
400/1	16/1	12.70	18.80	27.80	41.10	60.80	89.90	133.00	196.60	290.80	430.00
400/2	16/2	6.30	9.40	13.80	20.50	30.30	44.80	66.20	97.90	144.70	214.00
400/3	16/3	3.10	4.60	6.90	10.10	15.00	22.20	32.80	48.50	71.70	106.00
450	18	36.00	52.80	78.00	132.00	240.00	396.00	648.00	912.00	1080.00	1200.00
450/1	18/1	22.20	32.56	48.10	81.40	148.00	244.20	399.60	562.40	666.00	740.00
450/2	18/2	13.80	20.24	29.90	50.60	92.00	151.80	248.40	349.60	414.00	460.00
450/3	18/3	8.40	12.32	18.20	30.80	56.00	92.40	151.20	212.80	252.00	280.00
500	20	48.00	70.40	104.00	176.00	320.00	528.00	864.00	1216.00	1440.00	1600.00
500/1	20/1	29.40	43.12	63.70	107.80	196.00	323.40	529.20	744.80	882.00	980.00
500/2	20/2	18.00	26.40	39.00	66.00	120.00	198.00	324.00	456.00	540.00	600.00
500/3	20/3	10.80	15.84	23.40	39.60	72.00	118.80	194.40	273.60	324.00	360.00
600	24	71.10	104.28	154.05	260.70	474.00	782.10	1279.80	1801.20	2133.00	2370.00
600/1	24/1	43.20	63.36	93.60	158.40	288.00	475.20	777.60	1094.40	1296.00	1440.00
600/2	24/2	26.40	38.72	57.20	96.80	176.00	290.40	475.20	668.80	792.00	880.00
600/3	24/3	16.20	23.76	35.10	59.40	108.00	178.20	291.60	410.40	486.00	540.00
C_v/d^2	0.012	0.082	0.12	0.185	0.291	0.446	0.685	0.994	2.000	5	
F_L	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
x_T	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
z	0.55	0.55	0.55	0.55	0.55	0.56	0.57	0.58	0.64	0.70	

Series GB globe-cage guided, balanced trim globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability.

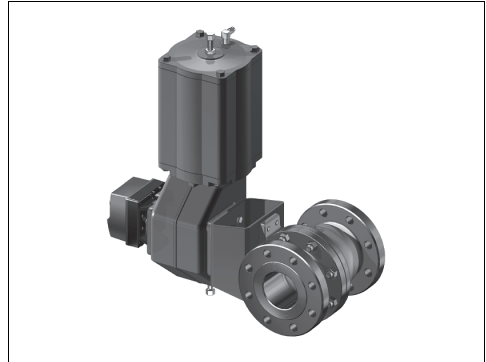
SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.98	1.96	2.94	3.92	4.90	5.88	6.86	7.84	8.82	10.00
25/1	1/1	0.59	1.18	1.77	2.35	2.94	3.53	4.12	4.71	5.29	6.00
25/2	1/2	0.39	0.78	1.18	1.57	1.96	2.35	2.74	3.14	3.53	4.00
25/3	1/3	0.20	0.39	0.59	0.78	0.98	1.18	1.37	1.57	1.76	2.00
40	1.5	2.16	4.32	6.47	8.63	10.78	12.94	15.10	17.25	19.41	22.00
40/1	1.5/1	1.37	2.75	4.12	5.49	6.86	8.23	9.61	10.98	12.35	14.00
40/2	1.5/2	0.98	1.96	2.94	3.92	4.90	5.88	6.86	7.84	8.82	10.00
40/3	1.5/3	0.59	1.18	1.77	2.35	2.94	3.53	4.12	4.71	5.29	6.00
50	2	3.54	7.06	10.59	14.12	17.65	21.18	24.70	28.23	31.76	36.00
50/1	2/1	2.16	4.32	6.47	8.63	10.78	12.94	15.10	17.25	19.41	22.00
50/2	2/2	1.37	2.75	4.12	5.49	6.86	8.23	9.61	10.98	12.35	14.00
50/3	2/3	0.98	1.96	2.94	3.92	4.90	5.88	6.86	7.84	8.82	10.00
80	3	7.46	14.91	22.36	29.81	37.26	44.70	52.15	59.60	67.05	76.00
80/1	3/1	4.52	9.03	13.53	18.04	22.55	27.06	31.57	36.07	40.58	46.00
80/2	3/2	2.75	5.49	8.24	10.98	13.73	16.47	19.21	21.96	24.70	28.00
80/3	3/3	1.57	3.14	4.71	6.28	7.84	9.41	10.98	12.55	14.12	16.00
100	4	12.37	24.72	37.07	49.42	61.77	74.11	86.46	98.81	111.16	126.00
100/1	4/1	7.46	14.91	22.36	29.81	37.26	44.70	52.15	59.60	67.05	76.00
100/2	4/2	4.52	9.03	13.53	18.04	22.55	27.06	31.57	36.07	40.58	46.00
100/3	4/3	2.95	5.89	8.83	11.77	14.71	17.65	20.59	23.53	26.47	30.00
150	6	26.91	53.76	80.61	107.46	134.31	161.17	188.02	214.87	241.72	274.00
150/1	6/1	16.50	32.96	49.43	65.89	82.35	98.82	115.28	131.75	148.21	168.00
150/2	6/2	9.82	19.62	29.42	39.22	49.02	58.82	68.62	78.42	88.22	100.00
150/3	6/3	6.28	12.56	18.83	25.10	31.37	37.64	43.92	50.19	56.46	64.00
200	8	48.12	96.14	144.16	192.18	240.20	288.22	336.24	384.26	432.28	490.00
200/1	8/1	29.46	58.86	88.26	117.66	147.06	176.46	205.86	235.26	264.66	300.00
200/2	8/2	17.68	35.32	52.96	70.60	88.24	105.88	123.52	141.16	158.80	180.00
200/3	8/3	11.78	23.54	35.30	47.06	58.82	70.58	82.34	94.10	105.86	120.00
250	10	74.63	149.11	223.59	298.07	372.55	447.03	521.51	595.99	670.47	760.00
250/1	10/1	45.10	90.25	135.33	180.41	225.49	270.57	315.65	360.73	405.81	460.00
250/2	10/2	27.46	54.94	82.38	109.82	137.26	164.70	192.14	219.58	247.02	280.00
250/3	10/3	16.68	33.35	50.01	66.67	83.33	99.99	116.65	133.31	149.97	170.00

[illegible]

FULL BORE BALL VALVE (Nelprof™ code XMBV, XMBV-600, M1, M2)

The XMBV is an update of the original MBV. XMBV is a seat supported valve, available with variety of metal seat constructions, body extensions, materials and other special features. Small sizes have one-piece body construction while larger sizes have split body construction.

Pressure classes ANSI 150 and 300, DIN PN 10...40 are available as flanged versions. Size range is DN 25...200 (1"...8"). Pressure class ANSI 600, DIN PN 63...100 size range is DN25...DN100 (1"...4"). M1/M2 series valves' sizing calculations can be made with this Nelprof™ code as well. M1/M2 size range is DN 25...300 (1"...12").



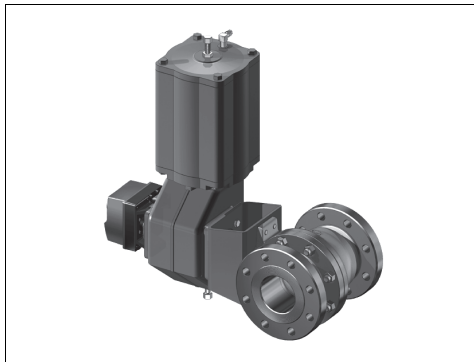
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.676	1.51	2.81	4.89	7.7	11.5	17	26	46.6	105
40	1.5	1.65	3.6	6.75	11.9	18.6	28.4	45.5	75	126	250
50	2	2.5	5.4	10.1	17.8	27.9	42.5	70.8	123	224	490
80	3	5.9	15.8	29.7	49.5	75.7	109	177	308	560	1160
100	4	10	26	49	81	124	179	313	545	989	2200
150	6	22	60	112	187	286	413	757	1318	2394	5100
200	8	40	106	199	331	506	732	1386	2413	4381	9300
250	10	62.8	167	314	523	800	1160	2244	3906	7092	15200
300	12	89.9	240	449	749	1150	1660	3306	5757	10452	22400

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.0
F _L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

FULL BORE BALL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-XMBV, Q-M1, Q-M2)

The Q-Trim concept is also available in X-MBV valves, the Q-XMBV is intended for certain low pressure drop applications. The Q-XMBV has bi-directional tightness and also the Q-Trim has noise and cavitation attenuation proper-ties to both directions. Q-XMBV is available in sizes DN 50...200 (2"...8") in pressure classes ANSI 150, 300 and DIN PN 10...40. For M1/M2 series valves fitted with Q-Trim, in size range DN 50...300 (2"...12"), sizing calculations can be made with this Nelprof™ code as well.



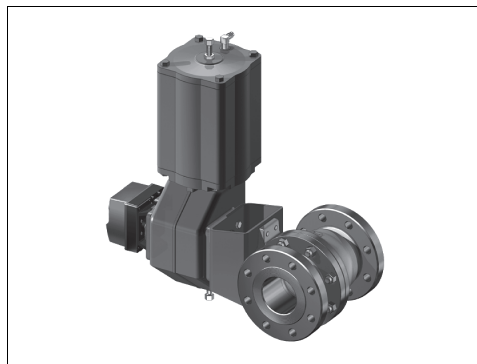
C_v -Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.92	4.46	7.29	10.8	14.0	17.7	23.4	32.6	61.3	84.0
80	3	5.64	11.9	17.5	23.9	31.7	43	64	95	179	245
100	4	7.84	17.6	30.6	42.2	56.5	82	127	199	379	530
150	6	18.8	43.8	71.9	109	159	226	325	499	869	1360
200	8	32	76	124	188	274	390	561	863	1496	2330
250	10	54	126	207	313	457	650	935	1438	2502	3920
300	12	78	181	297	450	656	933	1343	2066	3586	5600

C_v/d^2	0.60	1.39	2.27	3.44	5.02	7.15	10.28	14.85	24.99	39.18
F_L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.80	0.65	0.49
x_T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.41	0.31	0.14
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.28	0.19

REDUCED BORE BALL VALVE (Nelprof™ code XMBV-R)

The X-MBVR is a seat supported ball valve with reduced ball flow bore. Variety of metal seat constructions, body extensions, materials and other special features are offered. DN 80...200 (3"...8"). Pressure classes ANSI 150 and 300, DIN PN 10...40 are available as flanged versions.



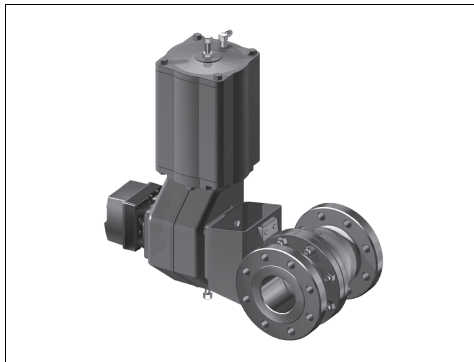
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	2.44	5.81	11.2	17.9	28.1	42	60.9	89.7	154	234
100	4	4.24	12.9	24.7	41.4	65.1	99.5	147	222	394	666
150	6	11.7	30.2	53.1	84.4	129	192	273	395	673	1022
200	8	27.8	66.2	128	203	320	478	694	1022	1757	2665

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67
F _L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.59	0.51
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.20	0.15
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.10	0.06

FULL BORE BALL VALVE, TRUNNION MOUNTED, RATING ANSI 300 (Nelprof™ code XG, M1-TRUN, M2-TRUN)

This X-MBV is a trunnion mounted ball valve available in both metal and soft seated versions. Wide variety of seat constructions, body extensions, materials and other special features are offered. Size range is DN 50...400 (2"...16"). Pressure classes ANSI 300, DIN PN 40 are available as flanged versions. M1/M2-series trunnion valves, available in size range DN 250...400 (10"...16") can be calculated with this Nelprof™ code as well.



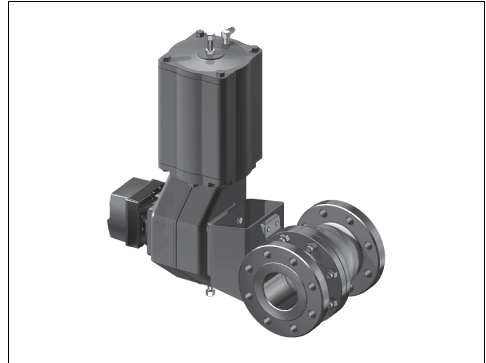
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	490
80	3	5.9	15.8	29.7	49.5	75.7	109	177	308	560	1160
100	4	9.7	25.9	48.6	81	124	179	313	545	989	2200
125	5	15	40	76	127	194	280	489	852	1545	3440
150	6	22	60	112	187	286	413	757	1318	2394	5100
200	8	40	106	199	331	506	732	1386	2413	4381	9300
250	10	63	167	314	523	800	1160	2244	3906	7092	15200
300	12	90	240	449	749	1150	1660	3306	5757	10452	22400
350	14	122	326	611	1019	1565	2259	4499	7835	14226	30500
400	16	159	426	798	1331	2044	2951	5877	10234	18581	39800

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00
F _L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.80	0.75	0.57	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

FULL BORE BALL VALVE, TRUNNION MOUNTED, RATING ANSI 150 (Nelprof™ code XM, M1-TRUN, M2-TRUN)

This X-MBV is a trunnion mounted ball valve available in both metal and soft seated versions. Wide variety of seat constructions, body extensions, materials and other special features are offered. Size range is DN 200...400 (8"...16"). Pressure classes ANSI 150, DIN PN 10...25 are available as flanged versions. M1/M2-series trunnion valves, available in size range DN250...400 (10"...16") can be calculated with this Nelprof™ code as well.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	490
80	3	5.94	15.8	29.7	49.5	75.7	109	177	308	560	1160
100	4	9.72	25.9	48.6	81	124	179	313	545	989	2200
150	6	22.4	59.8	112	187	286	413	757	1318	2394	5100
200	8	39.7	106	199	331	506	732	1386	2413	4381	9300
250	10	62.8	167	314	523	800	1160	2244	3906	7092	15200
300	12	89.9	240	449	749	1150	1660	3306	5757	10452	22400
350	14	122	327	611	1020	1565	2259	4500	7836	14226	30500
400	16	160	427	798	1332	2044	2951	5877	10235	18581	39800

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00
F _L	0.91	0.91	0.9	0.88	0.85	0.8	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.8	0.75	0.67	0.57	0.42	0.3	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

FULL BORE BALL CONTROL VALVE, RATING ANSI 900 (Nelprof™ code XHG)

High pressure ball valve, XH, for demanding medium and high pressure control services. The valve features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats.

Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, materials and other special features are offered. Pressure rating ANSI 900, size range DN50...600 (2" ...24").



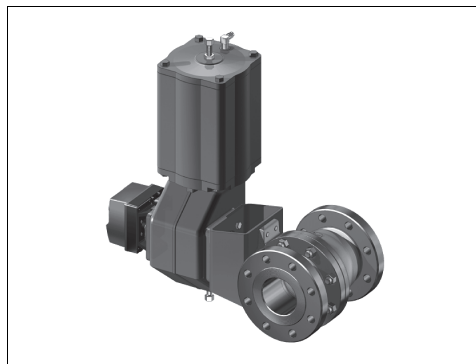
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	480
80	3	5.94	15.8	29.7	49.5	75.7	109	177	308	560	1200
100	4	9.72	25.9	48.6	81	124	179	313	545	989	2120
150	6	22.4	59.8	112	187	286	413	757	1318	2394	5100
200	8	39.7	106	199	331	506	732	1386	2413	4381	9300
250	10	62.8	167	314	523	800	1160	2244	3906	7092	15200
300	12	89.9	240	449	749	1150	1660	3306	5757	10452	22400
350	14	112	300	562	936	1430	2070	4177	7273	13205	28300
400	16	148	394	738	1230	1880	2720	5565	9689	17591	37700
450	18	188	502	942	1570	2400	3470	7085	12336	22397	48000
500	20	233	621	1160	1940	2790	4290	8782	15292	27763	59500
600	24	338	902	1690	2820	4310	6230	12738	22179	40268	86300

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00
F _L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-XG, Q-M1-TRUN, Q-M2-TRUN)

The Q-Trim concept is also available in XG valves, this Q-Ball valve is intended for low and medium pressure applications. The Q-XG has bi-directional tightness. The Q-Trim has noise and cavitation attenuation capabilities to both flow directions. Q-XG is available in sizes DN 50...350 (2"...14") in pressure classes ANSI 300 and DIN PN 40. Q-M1-TRUN and Q-M2-TRUN are available in sizes DN 250...400 (10"...16"). Q-M1/Q-M2-series trunnion valves can be calculated with this Nelprof™ code as well.



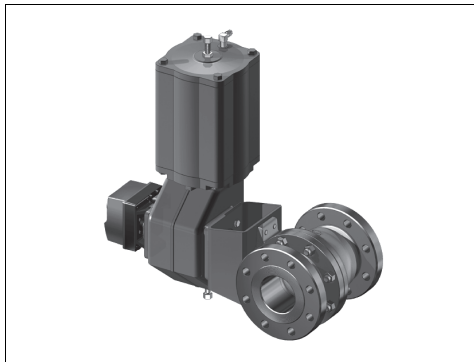
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.92	4.46	7.29	10.8	14	17.7	23.4	32.5	61.3	84
80	3	5.6	11.9	17.5	23.9	31.7	43	54	95	179	245
100	4	7.8	17.6	30.6	42.2	56.5	82	127	199	379	530
150	6	19	44	72	109	159	226	325	499	869	1360
200	8	32	76	124	188	274	390	561	863	1496	2330
250	10	54	126	207	313	457	650	935	1438	2502	3920
300	12	78	181	297	450	656	933	1343	2066	3586	5600
350	14	97	225	369	559	814	1159	1667	2565	4425	6860
400	16	129	301	494	747	1088	1549	2228	3428	5922	9190

C _v /d ²	0.60	1.39	2.27	3.44	5.02	7.15	10.28	14.84	24.99	39.18
F _L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.80	0.65	0.49
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.41	0.31	0.14
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.28	0.19

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2-XG)

Q2-XG valve is intended for relatively clean gas applications. Q2-XG is available in sizes DN 50...400 (2"...16") in pressure class ANSI 300.



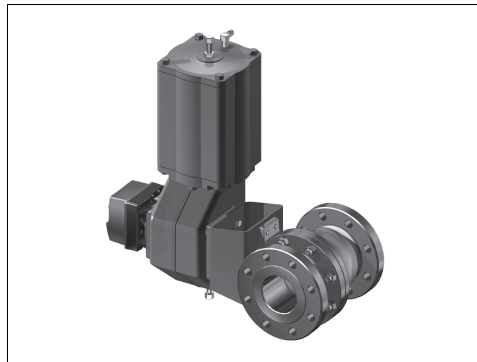
C_v-Values

Size		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.3	3.2	5.65	9.04	13.3	17.9	23.1	28.2	34	36.0
80	3	2.6	6.6	11.6	18.6	27.4	36.8	47.6	58.0	69	74.1
100	4	4.4	11.2	19.7	31.6	46.5	62.3	80.7	98.40	118	126.6
150	6	10	25.5	45.0	72	106.0	142.2	184.2	224.4	268	286.5
200	8	19.7	50.2	88.5	141.6	208.5	279.7	362.3	441.4	527.2	564
250	10	31.0	79	140	223	329	441	571.1	696	831	888
300	12	42.5	108	191	306	450	604	782	953	1138	1217
350	14	56.6	144	255	408	601	806	1043	1271	1518	1623
400	16	72	183	323	517	762	1022	1324	1612	1926	2059

C _v /d ²	0.28	0.71	1.25	2.00	2.94	3.95	5.12	6.23	7.44	7.96
F _L	0.80	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.78	0.76
x _T	0.64	0.61	0.58	0.55	0.52	0.49	0.46	0.44	0.418	0.415
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2H-XG)

Q2H-XG valve is intended for relatively clean gas applications. Q2H-XG is available in sizes DN 50...400 (2"...16") in pressure class ANSI 300.



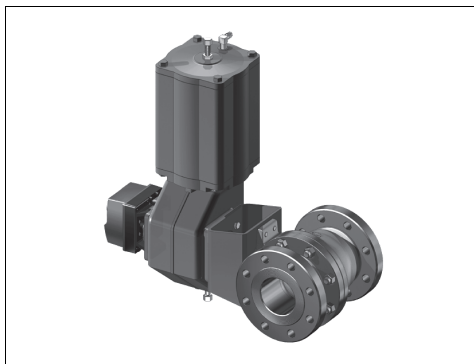
C_v-Values

Size		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.6	3.0	5.8	10.0	15.8	21.9	29.0	36.4	43.6	47.1
80	3	1.2	6.0	11.6	20.2	31.8	44.1	58.3	73.3	87.7	94.8
100	4	2.1	10.9	21.1	36.8	57.9	80.4	106.3	133.6	159.9	172.9
150	6	4.7	24.4	47.4	82.6	129.9	180.3	238.5	299.6	358.6	387.7
200	8	9	46	90	156	246	342	452	568	680	735
250	10	14	74	143	250	393	545	721	906	1084	1172
300	12	20	102	198	345	543	754	997	1253	1500	1621
350	14	26	136	264	460	724	1005	1329	1670	1999	2161
400	16	34	173	336	586	923	1280	1693	2128	2547	2754

C _v /d ²	0.132	0.677	1.316	2.293	3.609	5.007	6.624	8.323	9.962	10.770
F _L	0.75	0.75	0.75	0.74	0.74	0.74	0.74	0.735	0.72	0.71
x _T	0.665	0.635	0.605	0.575	0.545	0.515	0.585	0.465	0.443	0.440
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-XM, Q-M1-TRUN, Q-M2-TRUN)

The Q-Trim concept is also available in XG valves, this Q-Ball valve is intended for low and medium pressure applications. The Q-XG has bi-directional tightness. The Q-Trim has noise and cavitation attenuation capabilities to both flow directions. Q-XG is available in sizes DN 50...350 (2"...14") in pressure classes ANSI 300 and DIN PN 40. Q-M1-TRUN and Q-M2-TRUN are available in sizes DN 250...400 (10"...16"). Q-M1/Q-M2-series trunnion valves can be calculated with this Nelprof™ code as well.



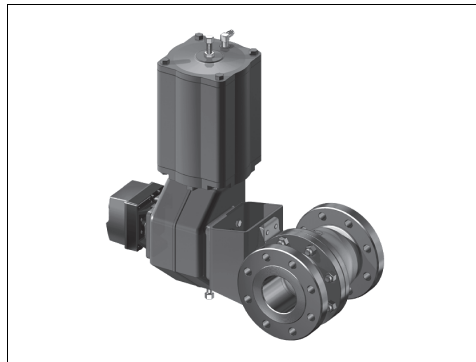
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.92	4.46	7.29	10.8	14	17.7	23.4	32.6	61.3	84
80	3	5.64	11.9	17.5	23.9	31.7	43	64	95	179	245
100	4	7.84	17.6	30.6	42.2	56.5	82	127	199	379	530
150	6	18.8	43.8	71.9	109	159	226	325	499	869	1360
200	8	32	76	124	188	274	390	561	863	1496	2330
250	10	54	126	207	313	457	650	935	1438	2502	3920
300	12	78	181	297	450	656	933	1343	2066	3586	5600
350	14	97	225	369	559	814	1159	1667	2565	4425	6860
400	16	129	301	494	747	1088	1549	2228	3428	5922	9190

C _v /d ²	0.59	1.39	2.27	3.44	5.02	7.15	10.28	14.84	24.10	39.18
F _L	0.91	0.92	0.93	0.93	0.92	0.9	0.87	0.8	0.65	0.49
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.41	0.31	0.14
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.28	0.19

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2-XM)

Q2-XM valve is intended for relatively clean gas applications. Q2-XM is available in sizes DN 200...400 (8"...16") in pressure class ANSI 300



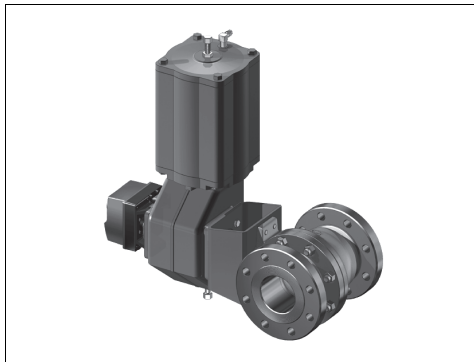
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.3	3.2	5.65	9.04	13.3	17.9	23.1	28.2	34	36
80	3	2.6	6.6	11.6	18.6	27.4	36.8	47.6	58	69	74.1
100	4	4.4	11.2	19.7	31.6	46.5	62.3	80.7	98.4	118	126.6
150	6	10	25.5	45	72	106	142.2	184.2	224.4	268	286.5
200	8	19.7	50.2	88.5	141.6	208.5	279.7	362.3	441.4	527.2	564
250	10	31	79	140	223	329	441	571.1	696	831	888
300	12	42.5	108	191	306	450	604	782	953	1138	1217
350	14	56.6	144	255	408	601	806	1043	1271	1518	1623
400	16	72	183	323	517	762	1022	1324	1612	1926	2059

C _v /d ²	0.28	0.71	1.25	2.00	2.94	3.95	5.12	6.23	7.44	7.96
F _L	0.8	0.8	0.8	0.8	0.8	0.79	0.79	0.79	0.78	0.76
x _T	0.64	0.61	0.58	0.55	0.52	0.49	0.46	0.44	0.418	0.415
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2H-XM)

Q2H-XM valve is intended for relatively clean gas applications. Q2H-XM is available in sizes DN 200...400 (8"...16") in pressure class ANSI 300.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	1.2	6	11.6	20.2	31.8	44.1	58.3	73.3	87.7	94.8
100	4	2.1	10.9	21.1	36.8	57.9	80.4	106.3	133.6	159.9	172.9
150	6	4.7	24.4	47.4	82.6	129.9	180.3	238.5	299.6	358.6	387.7
200	8	9	46	90	156	246	342	452	568	680	735
250	10	14	74	143	250	393	545	721	906	1084	1172
300	12	20	102	198	345	543	754	997	1253	1500	1621
350	14	26	136	264	460	724	1005	1329	1670	1999	2161
400	16	34	173	336	586	923	1280	1693	2128	2547	2754

C _v /d ²	0.132	0.677	1.316	2.293	3.609	5.007	6.624	8.323	9.962	10.77
F _L	0.75	0.75	0.75	0.74	0.74	0.74	0.74	0.735	0.72	0.71
x _T	0.665	0.635	0.605	0.575	0.545	0.515	0.585	0.465	0.443	0.44
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 900 (Nelprof™ code Q-XHG)

High pressure ball valve, Q-XH, for demanding medium and high pressure control services. The valve features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. This valve with noise/cavitation abatement Q-Trim™ enables effective source treatment, while providing very wide flow range, stability and insensitivity to impure fluids. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, materials and other special features are offered. Pressure rating ANSI 900, size range DN50...200 (2"...8").



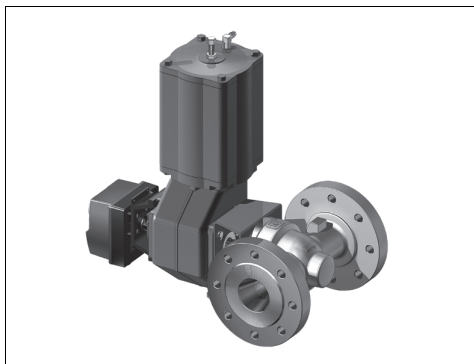
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.38	5.18	8.40	11.9	16.5	21.9	29.1	39.2	52.8	70.0
50/1	2/1	1.25	2.12	3.16	4.16	5.29	6.84	8.84	11.8	16.5	20.0
80	3	6.12	13.30	21.6	31.4	43.5	57.4	76.1	104	141	180
80/1	3/1	2.81	4.78	7.1	9.35	11.9	15.4	19.9	26.5	37.2	45
100	4	9.52	20.7	33.6	47.6	66.0	92.1	127	170	235	300
100/1	4/1	4.99	8.5	12.6	16.6	21.2	27.4	35.4	47.1	66.1	80
150	6	16.4	39.0	63.7	96.5	141	200	288	403	570	760
200	8	32.4	77	126	191	278	395	569	795	1125	1500

C _v /d ²	0.60	1.39	2.27	3.45	5.02	7.15	10.28	15.82	19.17	25.56
F _L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.78	0.73	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.40	0.35	0.26
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.32	0.27

TOP5, ROTARY CONTROL VALVE, TOP ENTRY (Nelprof™ code T5)

Top5 is a rotary type control valve for medium and high pressure control services. The Top5 features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN25...400 (1"...16"). Different small Cv V-trims are available in sizes DN25...50 (1"-2"). Standard temperature range -200 ... +400 °C. The face-to-face length of Top5 equals to IEC/ISA globe valve length. Flanged or butt weld ends ANSI 300 and 600; and DIN PN 40, 64 and 100.



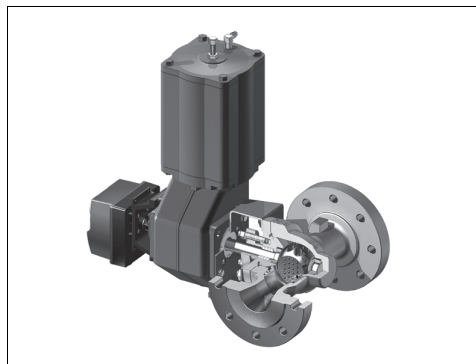
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.676	1.51	2.81	4.89	7.70	11.5	17.0	26.0	46.6	105
25/1	1/1	0.48	0.89	1.40	2.09	2.91	4.06	5.63	7.66	10.7	15
25/2	1/2	0.241	0.445	0.649	0.883	1.17	1.54	2.04	2.77	3.76	5
25/3	1/3	0.10	0.20	0.31	0.41	0.54	0.67	0.83	1.02	1.26	1.55
25/4	1/4	0.03	0.06	0.10	0.14	0.185	0.235	0.285	0.345	0.42	0.5
40	1.5	2.55	7.04	12.0	17.9	25.2	36.8	55.2	83.0	108	120
40/1	1.5/1	2.28	4.97	7.54	10.24	13.4	16.7	22.3	29.6	39.4	48.4
40/2	1.5/2	0.99	2.00	3.06	4.18	5.43	6.85	8.52	10.64	13.5	18.1
40/3	1.5/3	0.41	0.83	1.27	1.74	2.26	2.85	3.55	4.42	5.62	7.5
40/4	1.5/4	0.19	0.39	0.59	0.81	1.06	1.33	1.66	2.06	2.62	3.5
40/5	1.5/5	0.07	0.14	0.22	0.30	0.39	0.49	0.62	0.77	0.97	1.3
50	2	2.55	7.04	12	17.9	25.1	36.8	55.2	83	108	120
50/1	2/1	2.28	4.97	7.53	10.22	13.3	16.6	22.1	29.1	38.4	46.5
50/2	2/2	0.99	2.00	3.06	4.18	5.43	6.84	8.51	10.6	13.5	18
50/3	2/3	0.41	0.83	1.27	1.74	2.26	2.85	3.55	4.42	5.62	7.5
50/4	2/4	0.19	0.39	0.59	0.81	1.06	1.33	1.66	2.06	2.62	3.5
50/5	2/5	0.07	0.14	0.22	0.3	0.39	0.49	0.62	0.77	0.97	1.3
80	3	2.7	9.2	16.4	26.8	40.1	55.0	71.1	101	150	200
100	4	8	20	37	57	80	110	156	223	357	510
150	6	11	31	60	97	140	198	268	377	613	820
200	8	15	43	85	136	196	278	376	529	860	1150
250	10	21	61	119	192	277	391	529	745	1211	1620
300	12	40	119	221	356	514	726	983	1383	2249	3000
350	14	61	173	338	544	785	1111	1503	2115	3439	4600
400	16	61	173	338	544	785	1111	1503	2115	3439	4600

C _v /d ²	0.50	1.25	2.31	3.57	5.01	6.88	9.69	14.38	20.69	30.00
F _L	0.89	0.88	0.87	0.86	0.84	0.81	0.77	0.70	0.62	0.54
x _T	0.78	0.77	0.76	0.73	0.68	0.61	0.51	0.40	0.29	0.20
z	0.45	0.44	0.42	0.39	0.36	0.33	0.30	0.27	0.24	0.22

TOP5, ROTARY CONTROL VALVE, TOP ENTRY WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-T5)

Q-Top5 is a rotary control valve for demanding medium and high pressure control services. This Top5 valve with noise/cavitation abatement Q-Trim™ enables effective source treatment, while providing very wide flow range, stability and insensitivity to impure fluids. Suitable for liquid, gas and steam applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN25...400 (1"...16"). Standard temperature range -200 ... +400 °C. The face-to-face length of Q-Top5 equals to IEC/ISA globe valve length. Sizes DN 25...150 (1"...6") feature an advanced multi-channel Q-Trim design (QX). Sizes DN 200 (8") and above employ the classic stacked plate Q-Trim (Q). Flanged or butt weld ends ANSI 300 and 600; and DIN PN 40, 64 and 100.



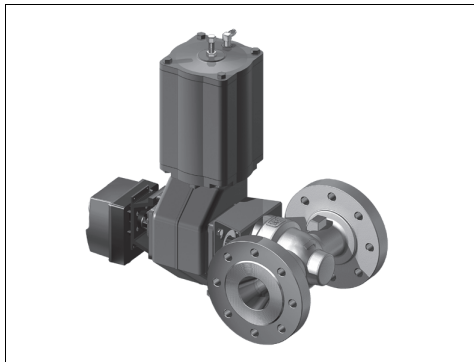
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.613	1.33	2.16	3.06	4.05	5.31	7.33	9.51	12.9	18.0
25/1	1/1	0.318	0.545	0.809	1.06	1.35	1.75	2.26	3.01	4.23	5.0
40	1.5	1.43	3.11	5.04	7.14	9.45	12.4	17.1	22.2	30.0	42.0
40/1	1.5/1	0.70	1.20	1.78	2.34	2.98	3.85	4.98	6.62	9.30	11.00
50	2	1.43	3.11	5.04	7.14	9.45	12.4	17.1	22.2	30.0	42.0
50/1	2/1	0.70	1.20	1.78	2.34	2.98	3.85	4.98	6.62	9.30	11.00
80	3	2.38	5.18	8.40	11.9	16.5	21.9	29.1	39.2	52.8	70.0
80/1	3/1	1.25	2.12	3.16	4.16	5.29	6.84	8.84	11.8	16.5	20.0
100	4	6.1	13.3	21.6	31.4	43.5	57.4	76.1	104	141	180
100/1	4/1	2.8	4.8	7.1	9.4	11.9	15.4	19.9	26.5	37.2	45
150	6	9.5	20.7	33.6	47.6	66.0	92.1	127	170	235	300
150/1	6/1	5.0	8.5	12.6	16.6	21.2	27.4	35.4	47.1	66.1	80
200	8	11	32	55	83	118	157	217	294	376	470
250	10	17	50	86	131	186	247	342	463	592	740
300	12	32	94	162	245	349	464	642	869	1112	1390
350	14	52	154	266	402	573	762	1053	1427	1824	2280
400	16	52	154	266	402	573	762	1053	1427	1824	2280

C _v /d ²	0.38	0.83	1.35	1.96	2.72	3.59	4.75	6.50	8.81	11.64
F _L	0.93	0.93	0.93	0.93	0.93	0.92	0.88	0.83	0.77	0.68
x _T	0.84	0.85	0.85	0.85	0.85	0.80	0.72	0.64	0.52	0.34
z	0.55	0.55	0.54	0.53	0.52	0.51	0.48	0.46	0.42	0.37

REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2-T5)

Q2-T5 valve is intended for relatively clean gas applications. Q2-T5 is available in sizes DN 80...400 (3"...16") in pressure classes ANSI 600 and DIN PN 63 and PN 100.



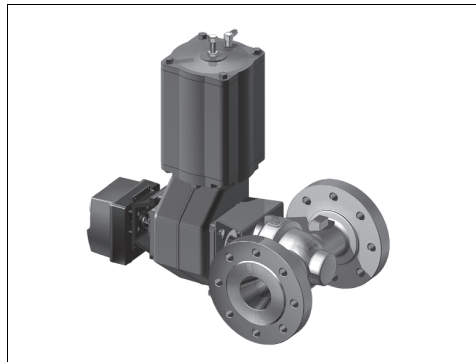
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	1.0	2.4	4.80	7.90	11.9	16.2	21.2	27.2	32	34.8
100	4	2.0	5.0	10.0	16.5	25.0	34.0	44.5	57.0	67.0	73.1
150	6	3.4	8.5	16.9	28	42.4	57.6	75.4	96.6	114	124
200	8	5.1	12.8	25.6	42.3	64.0	87.1	114.0	146.0	171.6	187
250	10	7.6	19.1	38.2	63.1	95.5	129.9	170.1	217.8	256.1	279.4
300	12	15.0	37.5	74.9	123.6	187.3	254.7	333.4	427.1	502.0	547.7
350	14	23.7	59.20	118.3	195.2	295.8	402.2	526.4	674.3	792.6	864.8
400	16	23.6	58.9	117.8	194.4	294.6	400.6	524.3	671.6	785.6	861.3

C _v /d ²	0.13	0.31	0.63	1.03	1.56	2.13	2.78	3.56	4.19	4.57
F _L	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.78	0.76
x _T	0.655	0.65	0.64	0.615	0.575	0.55	0.515	0.49	0.460	0.420
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2H-T5)

Q2H-T5 valve is intended for relatively clean gas applications. Q2H-T5 is available in sizes DN 80...400 (3"...16") in pressure classes ANSI 600 and DIN PN 63 and PN 100.



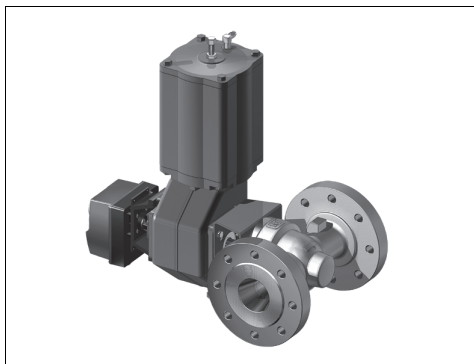
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	1.2	3.1	6.10	10.1	15.3	20.8	27.2	34.8	40.9	44.7
100	4	2.5	6.3	12.7	20.9	31.7	43.1	56.4	72.3	85.0	92.7
150	6	4.5	11.3	22.7	37.4	56.6	77.0	100.8	129.1	151.8	165.6
200	8	6.8	16.9	33.8	55.8	84.5	114.9	150.4	192.7	226.5	247.1
250	10	10.1	25.3	50.6	83.5	126.6	172.2	225.3	288.6	339.2	370.1
300	12	19.2	47.9	95.8	158.0	239.4	325.6	426.1	545.8	641.5	699.9
350	14	30.6	76.5	153.0	252.5	382.6	520.3	681.0	872.3	1025.4	1118.7
400	16	30.4	76.0	152.0	250.8	380.0	516.9	675.5	866.5	1018.5	1111.3

C _v /d ²	0.16	0.40	0.79	1.31	1.98	2.69	3.53	4.52	5.31	5.79
F _L	0.80	0.80	0.80	0.79	0.79	0.77	0.75	0.73	0.72	0.71
x _T	0.675	0.67	0.66	0.635	0.595	0.57	0.535	0.51	0.480	0.440
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

TOP5, ROTARY CONTROL VALVE, TOP ENTRY WITH Q-TRIM AND ATTENUATOR PLATE FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code QA-T5)

Q-Top5 valve fitted valve outlet attenuator. This option extends the performance of Q-Top5 into higher pressure drop ratios and improves aerodynamic noise attenuation. Suitable for controlling gases and steam. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN50...400 (2"...16"). Standard temperature range -200 ... +450 °C. The face-to-face length of QA-Top5 equals to IEC/ISA globe valve length. Sizes DN 50...150 (2"...6") feature an advanced multi-channel Q-Trim design (QX). Sizes DN 200 (8") and above employ the classic stacked plate Q-Trim (Q). Flanged or butt weld ends ANSI 300 and 600; and DIN PN 40, 64 and 100.



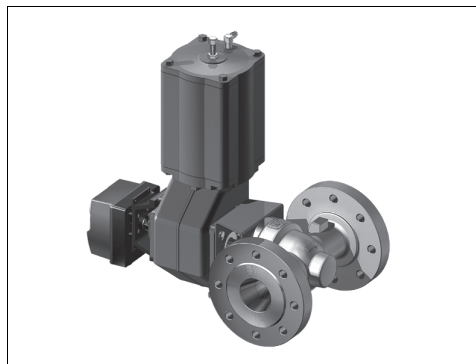
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.43	3.09	4.98	6.96	9.04	11.5	15	18.1	21.6	25
80	3	2.38	5.17	8.34	11.7	16.1	20.9	26.9	34.2	42.2	49.5
100	4	6.1	13.2	21.3	30.4	41	52.1	64.9	79.7	93.1	102
150	6	9.5	20.6	33.4	46.9	64.2	87.5	116	145	180	205
200	8	11	32	55	82	115	150	199	253	300	342
250	10	17	50	86	129	180	233	307	386	452	509
300	12	32	94	160	239	333	429	557	687	789	872
350	14	52	153	262	389	536	682	866	1042	1170	1267
400	16	52	154	264	394	551	712	931	1160	1345	1500

C _v /d ²	0.38	0.82	1.32	1.84	2.37	2.97	3.77	4.43	5.14	5.74
F _L	0.93	0.93	0.93	0.93	0.93	0.92	0.87	0.83	0.77	0.69
x _T	0.87	0.87	0.87	0.86	0.80	0.74	0.65	0.57	0.48	0.40
z	0.55	0.55	0.54	0.53	0.52	0.51	0.48	0.46	0.42	0.38

TOP5, ROTARY CONTROL VALVE, FULL PORT, TOP ENTRY (Nelprof™ code T25)

Top5 is a rotary type control valve for medium and high pressure control services. The Top5 features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. In T25 design the flow area has been maximized. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN50...250 (2"...10"). Standard temperature range -200 ... +400 °C. Flanged or butt weld ends ANSI 300 and 600; and DIN PN 40, 64 and 100.



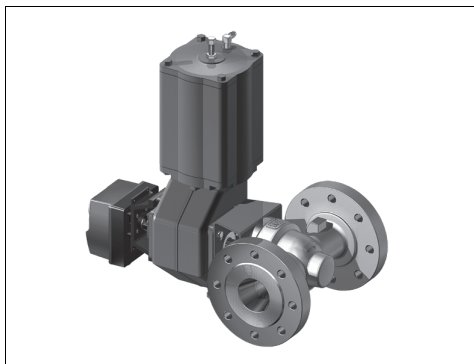
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	480
80	3	5.9	15.8	29.7	49.5	75.7	109	177	308	560	1200
100	4	9.7	25.9	48.6	81	124	179	313	545	989	2120
150	6	22	60	112	187	286	413	757	1318	2394	5100
200	8	40	106	199	331	506	732	1386	2413	4381	9300
250	10	63	167	314	523	800	1160	2244	3906	7092	15200

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.0
F _L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

TOP5, ROTARY CONTROL VALVE, FULL PORT, TOP ENTRY WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT (Nelprof™ code Q-T25)

Q-Top5 is a rotary control valve for demanding medium and high pressure control services. This Top5 valve with noise/cavitation abatement Q-Trim™ enables effective source treatment, while providing very wide flow range, stability and insensitivity to impure fluids. In T25 design the flow area has been maximized. High capacity decreases the dimensions and weight of the valve compared to other noise/cavitation trim valves. Suitable for liquid, gas and steam applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN50...250 (2"...10"). Standard temperature range -200 ... +400 °C. Sizes DN 50...100 (2"...4") feature an advanced multi-channel Q-Trim design (QX). Sizes DN 150 (6") and above employ the classic stacked plate Q-Trim (Q). Flanged or butt weld ends ANSI 300 and 600; and DIN PN 40, 64 and 100.



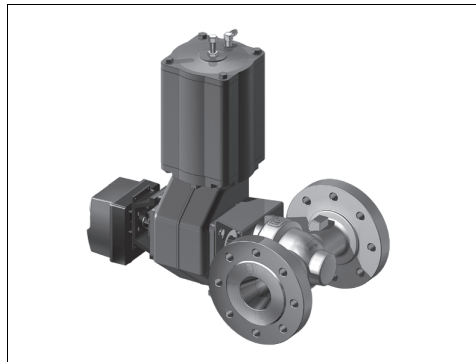
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.38	5.18	8.4	11.9	16.5	21.9	29.1	39.2	52.8	70
50/1	2/1	1.25	2.12	3.16	4.16	5.29	6.84	8.84	11.8	16.5	20.0
80	3	6.12	13.3	21.6	31.4	43.5	57.4	76.1	104	141	180
80/1	3/1	2.8	4.8	7.1	9.3	11.9	15.4	19.9	26.5	37.2	45
100	4	9.5	20.7	33.6	47.6	66	92.1	127	170	235	300
100/1	4/1	5.0	8.5	12.6	16.6	21.2	27.4	35.4	47.1	66.1	80
150	6	16	39	63.7	96.5	141	200	288	403	570	760
200	8	32	77	126	191	278	395	569	795	1125	1500
250	10	54	128	209	318	463	659	948	1325	1875	2500

C _v /d ²	0.60	1.39	2.27	3.45	5.02	7.15	10.28	15.82	19.17	25.56
F _L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.78	0.73	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.40	0.35	0.26
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.32	0.27

TOP ENTRY ROTARY CONTROL VALVE, SERIES T2, RATING ANSI 900 (Nelprof™ code T5G)

Top entry rotary valve for medium and high pressure control services. The valve features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN80...900 (3"...36").



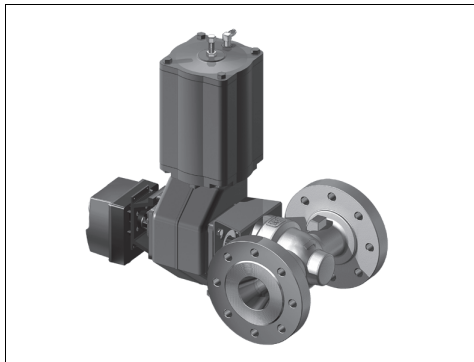
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	2.71	9.17	16.4	26.8	40.1	55.0	71.1	101	150	200
100	4	8.2	19.8	37.1	57.1	79.9	110	156	223	357	510
150	6	10.8	30.9	60.3	97.0	140	198	268	377	613	820
200	8	22.5	64.4	126	202	291	413	559	787	1280	1710
250	10	38.1	109	213	344	496	700	947	1334	2169	2900
300	12	86	259	481	775	1119	1580	2140	3010	4895	6530
400	16	114	326	637	1025	1480	2094	2833	3986	6482	8670
500	20	166	474	926	1490	2150	3043	4117	5793	9420	12600
600	24	285	812	1587	2554	3686	5217	7058	9931	16148	21600
750	30	402	1147	2241	3607	5205	7366	9966	14023	22802	30500
900	36	710	2027	3960	6374	9198	13018	17611	24782	40296	53900

C _v /d ²	0.50	1.25	2.31	3.57	5.01	6.88	9.69	14.38	20.69	30.00
F _L	0.89	0.88	0.87	0.86	0.84	0.81	0.77	0.70	0.62	0.54
x _T	0.78	0.77	0.76	0.73	0.68	0.61	0.51	0.40	0.29	0.20
z	0.45	0.44	0.42	0.39	0.36	0.33	0.30	0.27	0.24	0.22

TOP ENTRY ROTARY CONTROL VALVE, SERIES T2 WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 900 (Nelprof™ code Q-T5G)

Top entry rotary valve for demanding medium and high pressure control services. This valve with noise/cavitation abatement Q-Trim™ enables effective source treatment, while providing very wide flow range, stability and insensitivity to impure fluids. Suitable for liquid, gas and steam applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN80...300 (3" ...12").



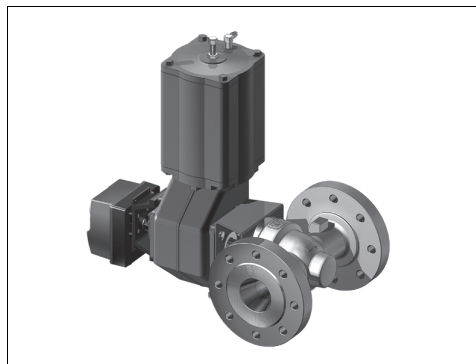
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	2.38	5.18	8.40	11.9	16.5	21.9	29.1	39.2	52.8	70.0
80/1	3/1	1.25	2.12	3.16	4.16	5.29	6.84	8.84	11.8	16.5	20.0
100	4	6.12	13.30	21.6	31.4	43.5	57.4	76.1	104	141	180
150	6	9.52	20.7	33.6	47.6	66.0	92.1	127	170	235	300
200	8	17.0	49.9	86.4	131	186	247	342	463	592	740
250	10	31.9	93.8	162	245	349	464	642	869	1112	1390
300	12	52.4	154	266	402	573	762	1053	1427	1824	2280

C _v /d ²	0.38	0.83	1.35	1.96	2.72	3.59	4.75	6.50	8.81	11.64
F _L	0.93	0.93	0.93	0.93	0.93	0.92	0.88	0.83	0.77	0.68
x _T	0.84	0.85	0.85	0.85	0.85	0.80	0.72	0.64	0.52	0.34
z	0.55	0.55	0.54	0.53	0.52	0.51	0.48	0.46	0.42	0.37

TOP ENTRY ROTARY VALVE, SERIES T2, FULL PORT, RATING ANSI 900 (Nelprof™ code T2G)

Top entry rotary valve for medium and high pressure control and on-off services. The valve features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. In T2 design the flow area has been maximized. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN50...750 (2"...30").



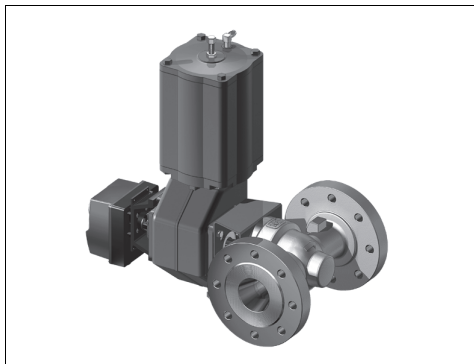
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	480
80	3	5.45	14.5	27.2	45.4	69.4	100	162	282	513	1100
100	4	9.72	25.9	48.6	81	124	179	313	545	989	2120
150	6	22.4	59.8	112	187	286	413	757	1318	2394	5100
200	8	39.7	106	199	331	506	732	1386	2413	4381	9300
250	10	60.7	162	304	506	774	1122	2170	3778	6859	14700
300	12	92.5	246	463	771	1179	1710	3307	5756	10451	22400
400	16	144	382	719	1197	1832	2656	5138	8943	16237	34800
500	20	229	610	1147	1910	2921	4236	8194	14262	25895	55500
600	24	346	920	1729	2880	4405	6388	12357	21509	39053	83700
750	30	537	1428	2686	4473	6842	9921	19192	33407	60655	130000

C _v /d ²	0.73	1.60	3.00	5.29	8.26	12.62	20.22	33.33	56.00	156.00
F _L	0.91	0.91	0.90	0.88	0.85	0.8	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

TOP ENTRY ROTARY VALVE, SERIES T2 WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, FULL PORT, RATING ANSI 900 (Nelprof™ code Q-T2G)

Top entry rotary valve for demanding medium and high pressure control services. The valve features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. This valve with noise/cavitation abatement Q-Trim™ enables effective source treatment, while providing very wide flow range, stability and insensitivity to impure fluids. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN50...200 (2" ...8").



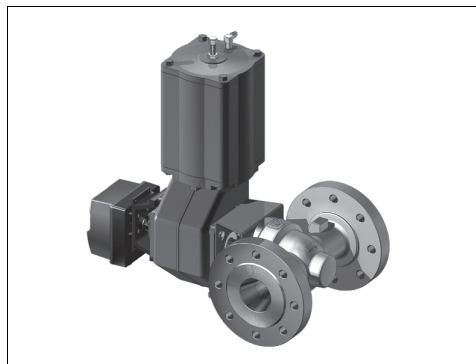
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.38	5.18	8.40	11.9	16.5	21.9	29.1	39.2	52.8	70.0
50/1	2/1	1.25	2.12	3.16	4.16	5.29	6.84	8.84	11.8	16.5	20.0
80	3	6.12	13.30	21.6	31.4	43.5	57.4	76.1	104	141	180
80/1	3/1	2.81	4.78	7.1	9.35	11.9	15.4	19.9	26.5	37.2	45
100	4	9.52	20.7	33.6	47.6	66.0	92.1	127	170	235	300
100/1	4/1	4.99	8.5	12.6	16.6	21.2	27.4	35.4	47.1	66.1	80
150	6	16.4	39.0	63.7	96.5	141	200	288	403	570	760
200	8	32.4	77	126	191	278	395	569	795	1125	1500

C _v /d ²	0.60	1.39	2.27	3.45	5.02	7.15	10.28	15.82	19.17	25.56
F _L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.78	0.73	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.40	0.35	0.26
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.32	0.27

TOP ENTRY ROTARY VALVE, SERIES T2, FULL PORT, RATING ANSI 1500 (Nelprof™ code T2H)

Top entry rotary valve for medium and high pressure control and on-off services. The valve features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. In T2 design the flow area has been maximized. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN25...300 (1"...12").

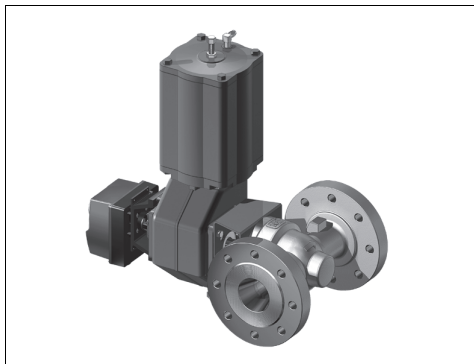


C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.676	1.51	2.81	4.89	7.70	11.5	17.0	26.0	46.6	105
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	480
80	3	5.45	14.5	27.2	45.4	69.4	100	162	282	513	1100
100	4	9.72	25.9	48.6	81	124	179	313	545	989	2120
150	6	22.4	59.8	112	187	286	413	757	1318	2394	5100
200	8	39.7	106	199	331	506	732	1386	2413	4381	9300
250	10	60.7	162	304	506	774	1122	2170	3778	6859	14700
300	12	92.5	246	463	771	1179	1710	3307	5756	10451	22400
C _v /d ²	0.733	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00	
F _L	0.91	0.91	0.9	0.88	0.85	0.8	0.74	0.67	0.57	0.28	
x _T	0.82	0.82	0.8	0.75	0.67	0.57	0.42	0.3	0.19	0.05	
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06	

TOP ENTRY ROTARY VALVE, SERIES T2 WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, FULL PORT, RATING ANSI 1500 (Nelprof™ code Q-T2H)

Top entry rotary valve for demanding medium and high pressure control services. The valve features an unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. This valve with noise/cavitation abatement Q-Trim™ enables effective source treatment, while providing very wide flow range, stability and insensitivity to impure fluids. Suitable for liquid, gas, steam and slurry applications. Variety of seat constructions, bonnet extensions, materials and other special features are offered. Size range DN25...200 (1"...8").



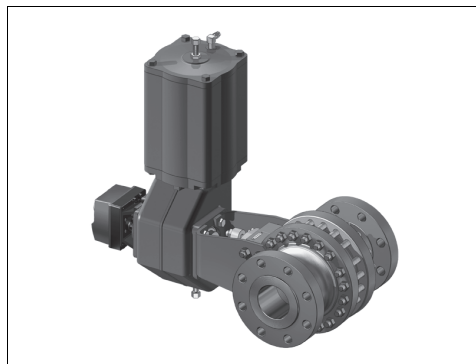
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.613	1.33	2.16	3.06	4.05	5.31	7.33	9.51	12.9	18.0
25/1	1/1	0.318	0.545	0.809	1.06	1.35	1.75	2.26	3.01	4.23	5.0
50	2	2.38	5.18	8.40	11.9	16.5	21.9	29.1	39.2	52.8	70.0
50/1	2/1	1.25	2.12	3.16	4.16	5.29	6.84	8.84	11.8	16.5	20.0
80	3	6.12	13.30	21.6	31.4	43.5	57.4	76.1	104	141	180
80/1	3/1	2.81	4.78	7.1	9.35	11.9	15.4	19.9	26.5	37.2	45
100	4	9.52	20.7	33.6	47.6	66.0	92.1	127	170	235	300
100/1	4/1	4.99	8.5	12.6	16.6	21.2	27.4	35.4	47.1	66.1	80
150	6	16.4	39.0	63.7	96.5	141	200	288	403	570	760
200	8	32.4	77	126	191	278	395	569	795	1125	1500

C _v /d ²	0.60	1.39	2.27	3.45	5.02	7.15	10.28	15.82	19.17	25.56
F _L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.78	0.73	0.64
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.40	0.35	0.26
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.32	0.27

FULL BORE BALL CONTROL VALVE, RATING ANSI 600 (Nelprof™ code D1) FULL BORE BALL CONTROL VALVE, RATING ANSI 150, ANSI 300 (Nelprof™ code D2)

The D-series valve is a rotary control valve, a trunnion mounted, full bore ball valve featuring the Stemball™ concept. D-series offers unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. The control seat is spring-loaded, capable of easing the contact on ball when throttling to eliminate friction, but assuring durable tightness at shut-off. Alternatively, continuous contact seats are available when this is advantageous in the service. The D-series valves are available as one or two-seated versions and can be used in on-off services, too. Size range is DN 100...900 (4"...36") in pressure classes ANSI 150, 300, ANSI 600 size range is DN 50...600 (2"...24").



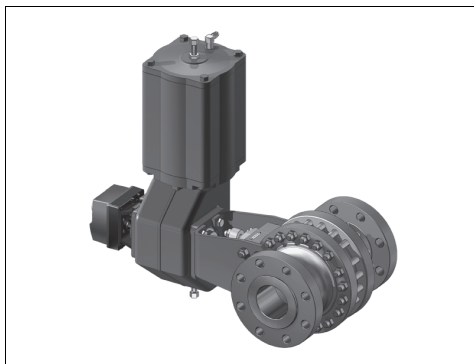
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	480
80	3	5.9	15.8	29.7	49.5	75.7	109	177	308	560	1200
100	4	9.7	25.9	48.6	81	124	179	313	545	989	2120
150	6	22	60	112	187	286	413	757	1318	2394	5100
200	8	40	106	199	331	506	732	1386	2413	4381	9300
250	10	63	167	314	523	800	1160	2244	3906	7092	15200
300	12	90	240	449	749	1150	1660	3306	5757	10452	22400
350	14	112	300	562	936	1430	2070	4177	7273	13205	28300
400	16	148	394	738	1230	1880	2720	5565	9689	17591	37700
450	18	188	502	942	1570	2400	3470	7085	12336	22397	48000
500	20	233	621	1160	1940	2790	4290	8782	15292	27763	59500
600	24	338	902	1690	2820	4310	6230	12738	22179	40268	86300
700	28	463	1240	2320	3860	5910	8530	17417	30326	55059	118000
750	30	533	1420	2660	4440	6790	9810	20074	34952	63458	136000
800	32	592	1580	2960	4942	7558	10915	22288	38807	70457	151000
900	36	752	2010	3760	6270	9590	13900	28339	49344	89587	192000

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00
F _L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 600 (Nelprof™ code Q-D1)

The D-series valve with Q-Trim is intended for applications where high C_v and excellent rangeability are required, combined with effective noise/cavitation attenuation. The Q-D1 valves are supplied as unidirectional one-seated version with specially designed ball control element to achieve improved noise/cavitation attenuation in gas, steam and liquid applications. The control seat is spring-loaded, capable of easing the contact on ball when throttling to eliminate friction, but assuring durable tightness at shut-off. Size range is DN 50...700 (2"...28") in class ANSI 600.



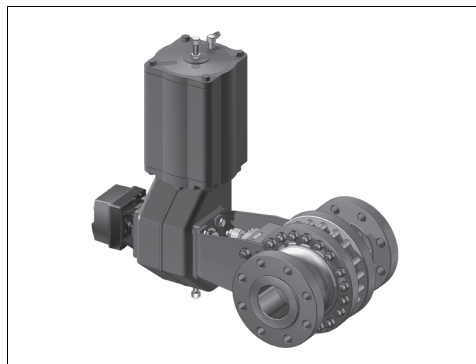
C_v -Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.62	3.64	5.95	8.77	12.5	17.9	25.6	48.5	61.6	70
80	3	4.51	10.2	16.5	24.3	34.1	49.5	71.5	108	174	220
100	4	7.84	17.6	29.8	42.2	62.5	89.7	132	196	319	425
150	6	17.7	41.2	67.6	99	147	215	314	484	770	1100
200	8	32	76	124	182	271	390	566	828	1454	2020
250	10	54	126	207	299	429	616	880	1320	2218	3520
300	12	78	181	297	450	656	933	1343	2066	3457	5010
350	14	93	214	347	491	705	1017	1474	2312	4104	5780
400	16	129	299	485	688	971	1408	1998	2993	5420	8090
450	18	181	418	678	961	1356	1921	2825	4068	7345	11300
500	20	219	521	863	1233	1644	2329	3220	4932	8631	13700
600	24	335	803	1316	1784	2631	3635	5129	7805	13046	22300
700	28	395	947	1552	2104	3103	4287	6049	9205	15386	26300

C_v/d^2	0.60	1.39	2.27	3.45	5.02	7.15	10.28	15.82	27.62	43.37
F_L	0.91	0.92	0.93	0.93	0.92	0.9	0.87	0.78	0.62	0.44
x_T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.4	0.24	0.15
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 150, ANSI 300 (Nelprof™ code Q-D2)

The D-series valve with Q-Trim is intended for applications where high C_v and excellent rangeability are required, combined with effective noise/cavitation attenuation. The Q-D2 valves are supplied as unidirectional one-seated version with specially designed ball control element to achieve improved noise/cavitation attenuation in gas, steam and liquid applications. The control seat is spring-loaded, capable of easing the contact on ball when throttling to eliminate friction, but assuring durable tightness at shut-off. Size range is DN 250...900 (10"...36") in pressure class ANSI 150, DN 100...900 (4"...36") in ANSI 300.



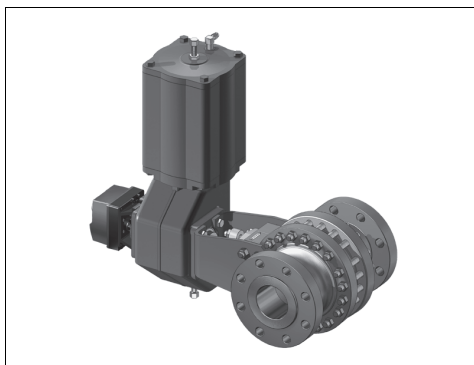
C_v -Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	7.8	17.6	30.6	42.2	56.5	82	127	199	344	425
150	6	18.8	43.8	71.9	109	159	226	325	499	869	1170
200	8	32	76	124	188	274	390	561	863	1496	2020
250	10	54	126	207	313	457	650	935	1438	2502	3520
300	12	78	181	297	450	656	933	1343	2066	3590	5010
350	14	97	225	369	559	814	1159	1667	2565	4425	5780
400	16	129	301	494	747	1088	1549	2228	3428	5922	8090
450	18	177	413	679	1027	1497	2131	3065	4715	8185	11300
500	20	225	522	857	1297	1890	2690	3870	5953	10349	13700
600	24	345	799	1310	1984	2892	4117	5922	9109	15910	22300
700	28	395	918	1500	2280	3324	4731	6805	10468	18038	26300
750	30	500	1170	1920	2907	4237	6031	8675	13345	23123	34000
900	36	725	1690	2780	4204	6127	8721	12545	19298	33536	52300

C_v/d^2	0.60	1.39	2.27	3.45	5.02	7.15	10.28	15.82	27.62	43.37
F_L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.78	0.62	0.44
x_T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.40	0.24	0.15
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.26	0.18

**FULL BORE BALL CONTROL VALVE, WITH LIQUID QLM-TRIM FOR
CAVITATION ABATEMENT, RATING ANSI 600 (Nelprof™ code QLM-D1)
FULL BORE BALL CONTROL VALVE, WITH LIQUID QLM-TRIM FOR
CAVITATION ABATEMENT, RATING ANSI 150, ANSI 300 (Nelprof™ code QLM-D2)**

Special QLM-trim is designed for maximum cavitation abatement and shall be used in applications where standard Q-Trim is not providing sufficient cavitation resistance, occurring typically in high differential pressure/low flow situations. The design is tight bi-directionally with two seats. Full noise/cavitation attenuation capability is achieved in one flow direction only. Size range is DN 300...900 (12"...36") in pressure class ANSI 150, DN 100...900 (4"...36") in ANSI 300 and DN 50...600 (2"...24") in ANSI 600.



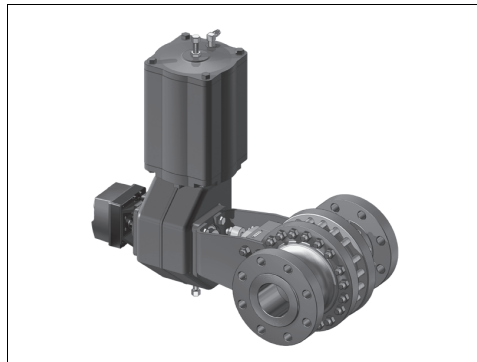
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.85	2.16	4.24	7.31	11.0	15.6	23.5	36.6	63.6	80
80	3	2.11	5.40	10.6	18.3	27.5	39.0	58.7	91.4	159	200
100	4	4.1	10.4	20.4	35.2	52.9	75	113	176	306	385
150	6	10.3	26.3	51.7	89	134	190	288	447	780	990
200	8	18	46	90	156	235	331	502	779	1356	1710
250	10	29	74	145	251	378	533	808	1250	2191	2760
300	12	42	106	208	360	542	766	1160	1800	3133	3950
350	14	53	135	265	459	691	976	1480	2290	3981	5000
400	16	72	184	362	625	941	1330	2010	3130	5434	6840
450	18	91	230	453	782	1180	1660	2520	3910	6790	8540
500	20	112	286	561	969	1460	2060	3120	4850	8406	10600
600	24	168	428	842	1450	2190	3090	4680	7270	12610	15910
700	28	224	571	1120	1940	2920	4120	6240	9690	16796	21200
750	30	259	658	1290	2230	3360	4750	7190	11200	19360	24400
800	32	295	750	1470	2550	3830	5410	8200	12700	22131	27800
900	36	374	952	1870	3230	4860	6870	10400	16200	28077	35300

C_v/d^2	0.29	0.74	1.46	2.52	3.80	5.36	8.13	12.62	21.35	27.62
F_L	0.97	0.97	0.97	0.97	0.95	0.93	0.90	0.84	0.76	0.65
x_T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.41	0.31	0.25
z	0.60	0.60	0.60	0.58	0.56	0.53	0.47	0.41	0.33	0.28

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2-D1)

Q2-D1 valve is intended for relatively clean gas applications. Q2-D1 is available in sizes DN 50...400 (2"...16") in pressure classes ANSI 600 and DIN PN 63 and PN 100.



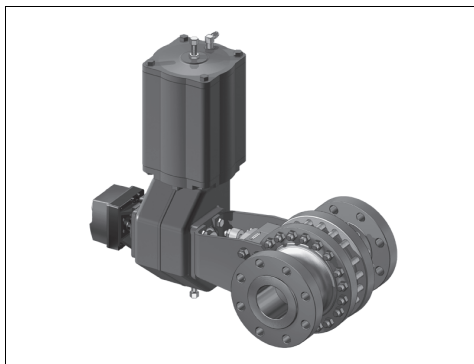
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	1.3	3.2	5.65	9.04	13.3	17.9	23.1	28.2	34	36
80	3	2.6	6.6	11.6	18.6	27.4	36.8	47.6	58	69	74.1
100	4	4.4	11.2	19.7	31.6	46.5	62.3	80.7	98.4	118	126.6
150	6	9	24.5	42	67	97.1	135.2	176.2	221.4	261	286
200	8	10.0	50.2	88.5	141.6	208.5	279.7	362.3	441.4	527.2	564
250	10	31	79	140	223	329	441	571.1	696	831	888
300	12	42.5	108	191	306	450	604	782	953	1138	1217
350	14	56.6	144	255	408	601	806	1043	1271	1518	1623
400	16	72	183	323	517	762	1022	1324	1612	1926	2059
450	18	93	237	418	669	985	1322	1712	2086	2491	2663
500	20	114	290	511	818	1204	1615	2092	2549	3044	3254
600	24	173	441	779	1246	1835	2462	3189	3885	4639	4960

C _v /d ²	0.28	0.71	1.25	2.00	2.94	3.95	5.12	6.23	7.44	7.96
F _L	0.80	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.78	0.76
x _T	0.64	0.61	0.58	0.55	0.52	0.49	0.46	0.44	0.418	0.415
C _v /d ²	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2H-D1)

Q2H-D1 valve is intended for relatively clean gas applications. Q2H-D1 is available in sizes DN 50...600 (2"...24") in pressure classes ANSI 600 and DIN PN 63 and PN 100.



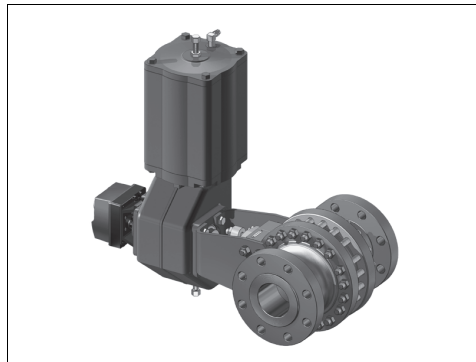
C_v-Values

Size		Relative opening h									
DN	inch	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.6	3.0	5.8	10.0	15.8	21.9	29.0	36.4	43.6	47.1
80	3	1.2	6.0	11.6	20.2	31.8	44.1	58.3	73.3	87.7	94.8
100	4	2.1	10.9	21.2	36.8	57.9	80.4	106.3	133.6	159.9	172.9
150	6	4.7	24.4	47.4	82.6	129.9	180.3	238.5	299.6	358.6	387.7
200	8	9	46	90	156	246	342	452	568	680	735
250	10	14	74	143	250	393	545	721	906	1084	1172
300	12	20	102	198	345	543	754	997	1253	1500	1621
350	14	26	136	264	460	724	1005	1329	1670	1999	2161
400	16	34	173	336	586	923	1280	1693	2128	2547	2754
450	18	44	224	436	761	1197	1661	2197	2761	3305	3573
500	20	53	273	532	926	1458	2023	2676	3363	4025	4351
600	24	80	414	805	1403	2208	3063	4052	5091	6094	6588

C _v /d ²	0.132	0.677	1.316	2.293	3.609	5.007	6.624	8.323	9.962	10.770
F _L	0.75	0.75	0.75	0.74	0.74	0.74	0.74	0.735	0.72	0.71
x _T	0.665	0.635	0.605	0.575	0.545	0.515	0.585	0.465	0.443	0.440
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2-D2)

Q2-D2 valve is intended for relatively clean gas applications.
Q2-D2 is available in sizes DN 100...400 (4"...16") in pressure
classes ANSI 150 and 300 DIN PN 10, PN 16, PN 25 and PN 40



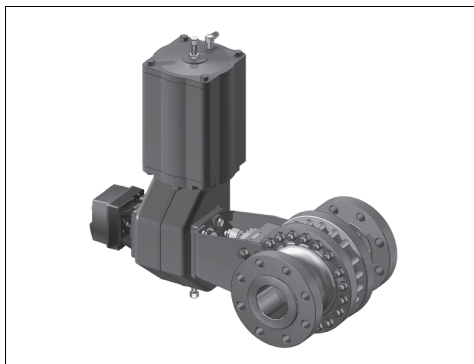
C_v -Values

Size		Relative opening h									
DN	inch	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	4.4	11.2	19.7	31.6	46.5	62.3	80.7	98.40	118	126.6
150	6	10	25.5	45.0	72	106.0	142.2	184.2	224.4	268	286.5
200	8	19.7	50.2	88.5	141.6	208.5	279.7	362.3	441.4	527.2	564
250	10	31.0	79	140	223	329	441	571.1	696	831	888
300	12	42.5	108	191	306	450	604	782	953	1138	1217
350	14	56.6	144	255	408	601	806	1043	1271	1518	1623
400	16	72	183	323	517	762	1022	1324	1612	1926	2059
450	18	93	237	418	669	985	1322	1712	2086	2491	2663
500	20	114	290	511	818	1204	1615	2092	2549	3044	3254
600	24	173	441	779	1246	1835	2462	3189	3885	4639	4960
700	28	245	625	1103	1764	2597	3485	4514	5499	6567	7020
750	30	274	698	1232	1971	2902	3894	5044	6144	7338	7845
800	32	302	771	1360	2176	3203	4297	5566	6781	8098	8657
900	36	393	1002	1769	2830	4166	5589	7239	8819	10533	11260

C_v/d^2	0.28	0.71	1.25	2.00	2.94	3.95	5.12	6.23	7.44	7.96
F_L	0.80	0.80	0.80	0.80	0.80	0.79	0.79	0.79	0.78	0.76
x_T	0.64	0.61	0.58	0.55	0.52	0.49	0.46	0.44	0.418	0.415
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

FULL BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2H-D2)

Q2H-D2 valve is intended for relatively clean gas applications. Q2H-D2 is available in sizes DN 100...900 (4"...36") in pressure classes ANSI 150 and 300 DIN PN 10, PN 16, PN 25 and PN 40.



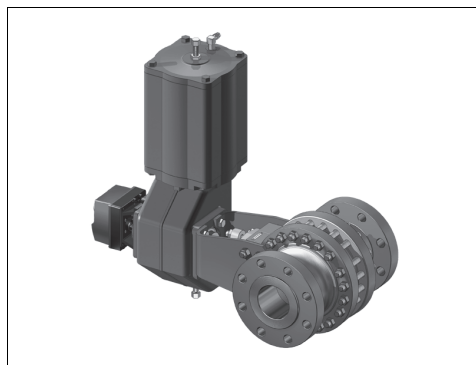
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	2.1	10.9	21.1	36.8	57.9	80.4	106.3	133.6	159.9	172.9
150	6	4.7	24.4	47.4	82.6	129.9	180.3	238.5	299.6	358.6	387.7
200	8	9	46	90	156	246	342	452	568	680	735
250	10	14	74	143	250	393	545	721	906	1084	1172
300	12	20	102	198	345	543	754	997	1253	1500	1621
350	14	26	136	264	460	724	1005	1329	1670	1999	2161
400	16	34	173	336	586	923	1280	1693	2128	2547	2754
450	18	44	224	436	761	1197	1661	2197	2761	3305	3573
500	20	53	273	532	926	1458	2023	2676	3363	4025	4351
600	24	80	414	805	1403	2208	3063	4052	5091	6094	6588
700	28	113	579	1126	1962	3087	4284	5667	7120	8522	9214
750	30	126	649	1261	2198	3460	4800	6350	7979	9550	10325
800	32	140	722	1405	2448	3853	5346	7972	8886	10636	11498
900	36	181	932	1812	3159	4971	6898	9124	11465	13723	14836

C _v /d ²	0.132	0.677	1.316	2.293	3.609	5.007	6.624	8.323	9.962	10.770
F _L	0.75	0.75	0.75	0.74	0.74	0.74	0.74	0.735	0.72	0.71
x _T	0.665	0.635	0.605	0.575	0.545	0.515	0.585	0.465	0.443	0.440
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

**REDUCED BORE BALL CONTROL VALVE, RATING ANSI 600
(Nelprof™ code D5F)**
**REDUCED BORE BALL CONTROL VALVE, RATING ANSI 150, ANSI 300
(Nelprof™ code D5)**

The D-series valve is a rotary control valve, a trunnion mounted, reduced bore ball valve featuring the Stemball™ concept. D-series offers unsurpassed control stability, wide rangeability and tight shut-off with all-metal seats. The control seat is spring-loaded, capable of easing the contact on ball when throttling to eliminate friction, but assuring durable tightness at shut-off. Alternatively, continuous contact seats are available when this is advantageous in the service. The D-series valves are available as one or two-seated versions and can be used in on-off services, too. Size range is DN 200...600 (8"...24") in pressure classes ANSI 150, 300. ANSI 600 size range is DN 80...900 (3"...36").



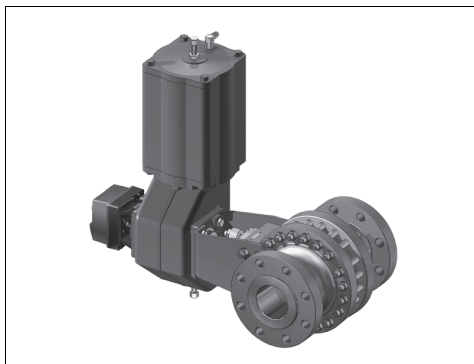
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	1.37	3.64	6.8	11.4	17.4	25.1	47.5	82.8	150	320
100	4	3.86	10.2	19.2	31.9	48.8	70.6	134	233	423	900
150	6	6	15.9	29.9	49.7	75.9	110	208	362	657	1400
200	8	15	39.8	74.7	124	190	275	520	905	1643	3500
250	10	28.3	75	141	234	358	518	980	1707	3099	6600
300	12	47.6	126	237	394	602	871	1649	2871	5212	11100
350	14	72.9	193	363	603	922	1334	2525	4397	7893	17000
400	16	95.6	253	476	791	1209	1750	3313	5767	10471	22300
450	18	133	352	661	1100	1681	2432	4605	8017	14556	31000
500	20	171	454	853	1419	2169	3138	5942	10345	18782	40000
600	24	193	511	960	1596	2441	3531	6685	11638	21130	45000
750	30	262	693	1301	2164	3308	4786	9062	15776	28643	61000
900	36	347	920	1728	2874	4393	6355	12033	20949	38034	81000

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00
F _L	0.91	0.91	0.9	0.88	0.85	0.80	0.74	0.67	0.57	0.28
x _T	0.82	0.82	0.8	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

REDUCED BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 150, ANSI 300 (Nelprof™ code Q-D5)

The D-series valve is a rotary control valve, a trunnion mounted, reduced bore ball valve featuring the Stemball™ concept, combined with effective noise/cavitation attenuation. The Q-D valves are supplied as unidirectional one-seated version with specially designed ball control element to achieve improved noise/cavitation attenuation in gas, steam and liquid applications. The control seat is spring-loaded, capable of easing the contact on ball when throttling to eliminate friction, but assuring durable tightness at shut-off. Size range is DN 200...600 (8"...24").



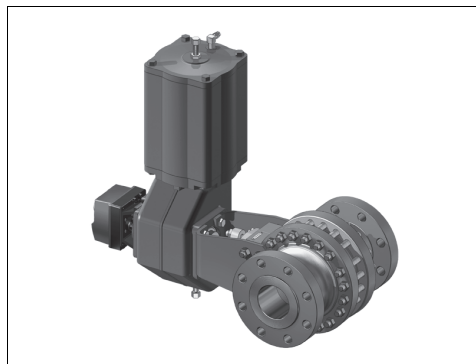
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
200	8	17.2	40.8	66.5	101	147	209	301	463	803	1250
250	10	30.9	73.4	120	182	265	377	542	833	1445	2250
300	12	51.5	122	200	303	441	628	903	1389	2408	3750
350	14	74.2	176	287	436	635	904	1300	2000	3467	5400
400	16	92	219	357	541	788	1121	1613	2482	4302	6700
450	18	124	294	479	726	1058	1506	2167	3333	5779	9000
500	20	172	408	665	1009	1470	2092	3010	4630	8026	12500
600	24	210	499	814	1235	1799	2561	3684	5667	9824	15300

C _v /d ²	0.60	1.39	2.27	3.44	5.02	7.15	10.28	15.82	27.62	43.37
F _L	0.91	0.92	0.93	0.93	0.92	0.90	0.87	0.78	0.62	0.44
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.40	0.24	0.15
z	0.56	0.55	0.53	0.51	0.48	0.45	0.40	0.34	0.26	0.18

FULL BORE BALL CONTROL VALVE, WITH Q-TRIM FOR NOISE AND CAVITATION ABATEMENT, RATING ANSI 600 (Nelprof™ code Q-D5F)

The D-series valve is a rotary control valve, a trunnion mounted, reduced bore ball valve featuring the Stemball concept, combined with effective noise/cavitation attenuation. The Q-D valves are supplied as unidirectional one-seated version with specially designed ball control element to achieve improved noise/cavitation attenuation in gas, steam and liquid applications. The control seat is spring-loaded, capable of easing the contact on ball when throttling to eliminate friction, but assuring durable tightness at shut-off. Size range is DN150...900 (6"...36").



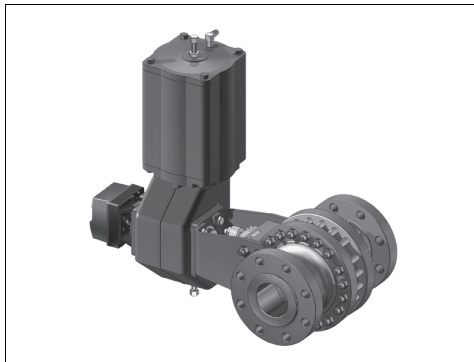
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	7.8	17.6	29.7	42.1	62.2	89	129	188	290	365
200	8	17.7	41.2	67.6	98.9	147	213	310	470	719	965
250	10	32	76	124	182	270	388	561	813	1379	1830
300	12	54	126	207	299	429	614	875	1302	2136	3220
350	14	78	181	297	450	655	931	1336	2041	3344	4690
400	16	92.5	214	347	491	705	1016	1470	2297	4023	5560
450	18	129	299	485	687	970	1406	1994	2978	5332	7810
500	20	181	418	678	960	1355	1919	2818	4049	7233	10900
600	24	219	521	863	1232	1642	2323	3203	4874	8331	12600
750	30	334	803	1315	1782	2625	3619	5085	7653	12371	19400
900	36	394	947	1551	2102	3097	4270	6002	9043	14661	23100

C _v /d ²	0.60	1.39	2.27	3.44	5.02	7.15	10.28	15.82	27.62	43.37
F _L	0.91	0.92	0.93	0.93	0.92	0.9	0.87	0.78	0.62	0.44
x _T	0.82	0.83	0.83	0.82	0.79	0.72	0.57	0.4	0.24	0.15
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2-D5)

Q2-D5 valve is intended for relatively clean gas applications. Q2-D5 is available in sizes DN 200...400 (8"...16") in pressure classes ANSI 150 and 300 DIN PN 10, PN 16, PN 25 and PN 40.



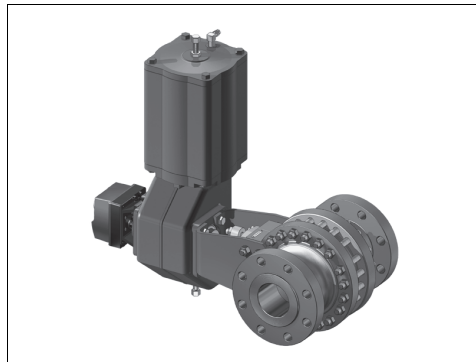
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
200	8	7.7	19.2	38.4	63.4	96.1	130.7	171.0	219.1	257.5	281.0
250	10	15.1	37.8	75.5	124.6	188.8	256.8	336.0	430.4	506.0	552.0
300	12	23.9	59.6	119.3	196.8	298.2	405.6	530.9	680.0	799.3	872.0
350	14	32.8	82.0	164.1	270.7	410.2	557.8	730.1	935.2	1099.2	1199.3
400	16	43.9	109.6	219.3	361.8	548.2	745.6	975.9	1250.0	1469.3	1603.1

C _v /d ²	0.13	0.31	0.63	1.03	1.56	2.13	2.78	3.56	4.19	4.57
F _L	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.78	0.76
x _T	0.655	0.65	0.64	0.615	0.575	0.55	0.515	0.49	0.460	0.420
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2H-D5)

Q2H-D5 valve is intended for relatively clean gas applications. Q2H-D5 is available in sizes DN 200...400 (8"...16") in pressure classes ANSI 150 and 300 DIN PN 10, PN 16, PN 25 and PN 40.



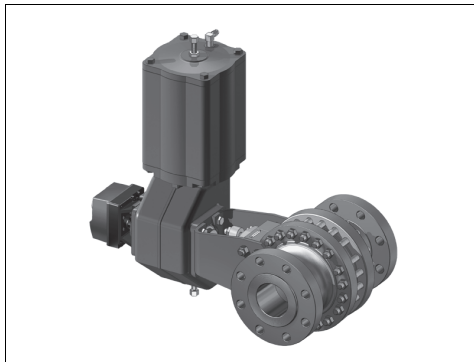
C_v-Values

Size		Relative opening h									
DN	inch	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
200	8	10.2	25.6	51.1	84.4	127.8	173.9	227.6	291.5	342.6	373.8
250	10	19.4	48.5	97.0	160.0	242.5	329.8	431.6	552.8	649.8	709.0
300	12	31.0	77.6	155.2	256.1	388.0	527.7	690.7	884.7	1039.9	1134.5
350	14	43.2	108.0	216.0	356.3	539.9	734.3	961.0	1231.0	1446.9	1578.7
400	16	57.8	144.5	288.9	476.7	722.3	982.4	1285.7	1646.9	1935.8	2112.1

C_v/d^2	0.16	0.40	0.79	1.31	1.98	2.69	3.53	4.52	5.31	5.79
F_L	0.80	0.80	0.80	0.79	0.79	0.77	0.75	0.73	0.72	0.71
x_T	0.68	0.67	0.66	0.64	0.60	0.57	0.54	0.51	0.48	0.44
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2-D5F)

Q2-D5F valve is intended for relatively clean gas applications. Q2-D5F is available in sizes DN 80...400 (3"...16") in pressure classes ANSI 600 and DIN PN 63 and PN 100.



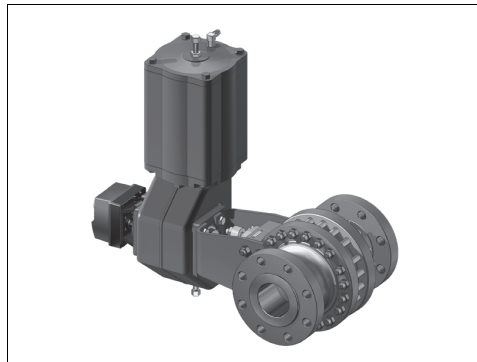
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	1.0	2.4	4.80	7.90	11.9	16.2	21.2	27.2	32	34.8
100	4	2.0	5.0	10.0	16.5	25.0	34.0	44.5	57.0	67.0	73.1
150	6	5.2	12.9	25.8	42.6	64.6	87.9	115.0	147.3	173.2	188.9
200	8	7.7	19.2	38.4	63.4	96.1	130.7	171.0	219.1	257.5	281.0
250	10	15.1	37.8	75.5	124.6	188.8	256.8	336.0	430.4	506.0	552.0
300	12	23.9	59.6	119.3	196.8	298.2	405.6	530.9	680.0	799.3	872.0
350	14	32.8	82.0	164.1	270.7	410.2	557.8	730.1	935.2	1099.2	1199.3
400	16	43.9	109.6	219.3	361.8	548.2	745.6	975.9	1250.0	1469.3	1603.1

C _v /d ²	0.13	0.31	0.63	1.03	1.56	2.13	2.78	3.56	4.19	4.57
F _L	0.84	0.84	0.83	0.83	0.82	0.82	0.81	0.80	0.78	0.76
x _T	0.655	0.65	0.64	0.615	0.575	0.55	0.515	0.49	0.460	0.420
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

REDUCED BORE BALL VALVE, TRUNNION MOUNTED, WITH Q2H-TRIM FOR NOISE ABATEMENT (Nelprof™ code Q2H-D5F)

Q2H-D5F valve is intended for relatively clean gas applications. Q2H-D5F is available in sizes DN 80...400 (3"...16") in pressure classes ANSI 600 and DIN PN 63 and PN 100.



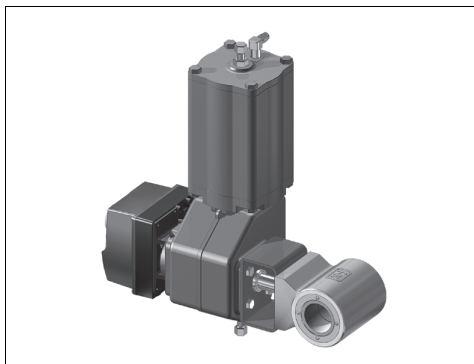
C_v-Values

Size		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	1.2	3.1	6.10	10.1	15.3	20.8	27.2	34.8	41	44.7
100	4	2.5	5.3	12.7	20.9	31.7	43.1	56.4	72.3	85.0	92.7
150	6	6.9	17.2	34.4	56.7	85.9	116.8	152.9	195.8	230.2	251.2
200	8	10.2	25.6	51.1	84.4	127.8	173.9	227.6	291.5	342.6	373.8
250	10	19.4	48.5	97.0	160.0	242.5	329.8	431.6	552.8	649.8	709.0
300	12	31.0	77.6	155.2	256.1	388.0	527.7	690.7	884.7	1039.9	1134.5
350	14	43.2	108.0	216.0	356.3	539.9	734.3	961.0	1231.0	1446.9	1578.7
400	16	57.8	144.5	288.9	476.7	722.3	982.4	1285.7	1646.9	1935.8	2112.1

C _v /d ²	0.16	0.40	0.79	1.31	1.98	2.69	3.53	4.52	5.31	5.79
F _L	0.80	0.80	0.80	0.79	0.79	0.77	0.75	0.73	0.72	0.71
x _T	0.68	0.67	0.66	0.64	0.60	0.57	0.54	0.51	0.48	0.44
z	0.56	0.55	0.53	0.51	0.48	0.45	0.4	0.34	0.26	0.18

CERAMIC CONTROL VALVE (Nelprof™ code E)

E2 & E6 series valve is designed for the most erosive/abrasive applications. The zirconia oxide ceramic (PSZ) is most suitable for handling slurries' flow control. Low flow applications can be handled with an optional low Cv -trim. Lug-style body construction is also available. E series valves are available in sizes DN 25...200 (1"...8") in pressure classes DIN PN 10...40 and ANSI 150 and 300.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
25	1	0.369	0.943	1.68	2.83	4.51	6.77	10.2	15.9	27.6	61
25/1	1/1	0.295	0.754	1.34	2.25	3.41	5.09	7.73	11.14	13.84	15.9
25/2	1/2	0.153	0.408	0.689	1.05	1.43	1.94	2.47	3.26	4.21	5.1
40	1.5	0.945	2.42	4.31	7.25	11.6	17.3	26	39.8	66	160
50	2	1.5	3.91	6.97	11.7	18.7	28.1	42.1	64.4	107	240
80	3	4.1	10.4	18.5	31	50	74	112	171	287	640
100	4	5.9	15.0	26.7	44.9	71.5	107	161	245	404	800
150	6	14	37	68	111	164	230	320	438	618	1000
200	8	21	57	105	173	254	357	495	679	957	1550

C _v /d ²	0.49	1.07	2.49	4.18	7.11	11.56	16.89	25.78	39.11	71.11
F _L	0.91	0.91	0.90	0.89	0.86	0.81	0.77	0.71	0.65	0.42
x _T	0.82	0.82	0.81	0.78	0.70	0.59	0.49	0.37	0.27	0.11
z	0.52	0.52	0.49	0.45	0.38	0.31	0.25	0.19	0.14	0.07

SERIES 4000 FULL BORE BALL VALVES (Nelprof™ code 4000)

Series 4000 three-piece valves are versatile, full port, polymeric seated, fire-tested ball valves that can be used for light control and tight shut-off duties. Available in sizes DN 15...50 (1/2"...2") with screwed, socket or butt weld ends. ASME B16.34 compliant and available in full and standard bore.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.3	0.5	0.8	1.3	2	3	4.5	6.5	11	13
20	0.75	0.9	1.7	2.4	3.4	5.7	9	13	20	32	40
25	1	1.4	2.7	4	6	9.3	15	22	33	52	65
32	1.25	2	3.7	5.5	8.2	13	21	30	45	73	90
40	1.5	2.9	5.6	8.2	12	19	31	45	68	109	135
50	2	5.5	10	15	23	36	57	84	126	203	251
C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67	
F _T	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.59	0.51	
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.20	0.15	
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.10	0.06	

SERIES 4000 STANDARD BORE BALL VALVES (Nelprof™ code 4000 Std)

Series 4000 three-piece valves are versatile, standard port, polymeric seated, fire-tested ball valves that can be used for light control and tight shut-off duties. Available in sizes DN 15...65 (1/2"...2 1/2") with screwed, socket or butt weld ends. ASME B16.34 compliant and available in full and standard bore.



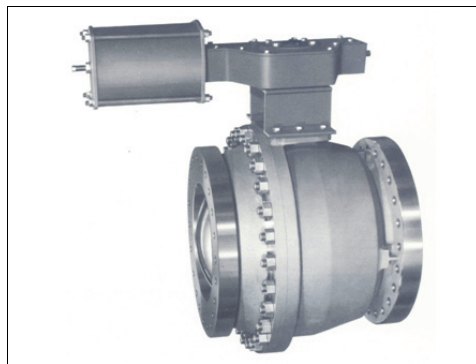
C_v -Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.3	0.5	0.8	1.3	2	3	4.5	6.5	11	13
20	0.75	0.7	1.4	2	3	5	8	11	17	27	33
25	1	1	1.9	2.7	4	6.2	10	15	22	35	44
32	1.25	1	1.9	2.7	4	6.2	10	15	23	36	46
40	1.5	2	4	5.7	8.5	13	21	31	47	75	95
50	2	2.3	4.5	7	10	16	25	37	56	90	111
65	2.5	4.7	9	13	20	31	49	72	109	174	216

C_v/d^2	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67
F_L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.59	0.51
x_T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.20	0.15
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.10	0.06

SERIES 5150 BALL VALVES, STANDARD BORE (Nelprof™ code 5150)

Series 5150 are a versatile family of polymeric seated, fire-tested ball valves available in a variety of body and trim materials. They are suitable for light control and tight shut-off duties. Flanged ANSI class 150, PN 10 or 16.



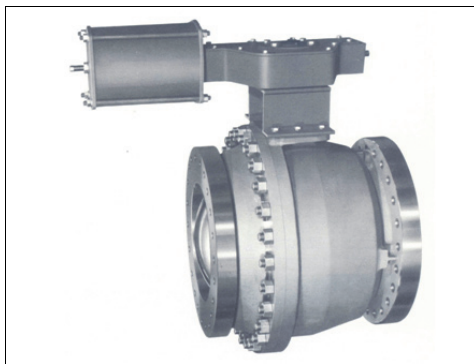
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
300	12	60	127	300	505	870	1400	2010	3150	4690	6700
350	14	40	95	230	380	660	1070	1530	2400	3570	5100
400	16	70	155	365	605	1050	1700	2430	3805	5670	8100
450	18	100	210	470	825	1430	2310	3300	5170	7700	11000
500	20	145	304	720	1200	2080	3360	4800	7520	11200	16000

C _v /d ²	0.49	1.07	2.49	4.18	7.11	11.56	16.89	25.78	39.11	55.56
F _L	0.91	0.91	0.90	0.89	0.86	0.81	0.77	0.71	0.65	0.57
x _T	0.82	0.82	0.81	0.78	0.70	0.59	0.49	0.37	0.27	0.19
z	0.52	0.52	0.49	0.45	0.38	0.31	0.25	0.19	0.14	0.09

SERIES 5300 BALL VALVES, STANDARD BORE (Nelprof™ code 5300)

Series 5300 are a versatile family of polymeric seated, fire-tested ball valves available in a variety of body and trim materials. They are suitable for light control and tight shut-off duties. Flanged ANSI class 300, PN 25 or 40.



C_v -Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
300	12	60	127	300	505	870	1400	2010	3150	4690	6700
350	14	42	102	240	400	700	1130	1620	2540	3780	5400
400	16	70	155	375	630	1100	1785	2550	3990	5950	8500
450	18	100	200	440	760	1275	2050	2940	4600	6860	9800
500	20	125	260	610	990	1700	2750	3900	6110	9100	13000
C_v/d^2	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67	
F_L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.59	0.51	
x_T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.20	0.15	
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.10	0.06	

SERIES 7000 BALL VALVES, STANDARD BORE (Nelprof™ code 7150, 7300, 7150-TRUN, 7300-TRUN)

Series 7000 MBV-family valves are versatile, polymeric seated, fire-tested ball valves available in a variety of body and trim materials. They are suitable for light control and tight shut-off duties. Flanged ANSI class 150 or class 300 and DIN PN10, PN16, PN25 and PN40. Size range is 0.5"...10" in 7150 and 7300 series, 10" in 7150-TRUN and 8"...10" in 7300-TRUN -series.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.1	0.2	0.4	0.7	1.2	1.9	2.7	4.2	6.3	9
20	0.75	0.2	0.4	0.9	1.4	2.5	4	5.7	9	13	19
25	1	0.4	0.9	2	3.4	5.8	9.5	13.5	21	32	45
40	1.5	1.1	2.4	5.6	9.4	16	26	38	58	88	125
50	2	1.5	3.1	7.5	12	21	35	50	78	115	165
80	3	3	7	15	26	45	74	105	165	245	350
100	4	2	5	17	32	54	90	135	201	301	550
150	6	7	15	35	57	100	160	230	360	535	765
200	8	17	36	85	140	245	395	570	890	1325	1890
250	10	35	74	175	290	505	815	1180	1840	2735	3900

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67
F _L	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.59	0.51
x _T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.20	0.15
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.10	0.06

SERIES 9000 BALL VALVES, FULL BORE (Nelprof™ code 9150, 9300, 9150-TRUN, 9300-TRUN)

Series 9000 MBV-family valves are versatile, polymeric seated, full bore, fire-tested ball valves available in a variety of body and trim materials. They are suitable for light control and tight shut-off duties. Flanged ANSI class 150 or class 300 and DIN PN10, PN16, PN25 and PN40. Size range is 0.5"...8" in 9150 and 9300 -series, 6"...12" in 9150-TRUN and 6"...12" in 9300-TRUN -series.



C_v -Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.1	0.2	0.4	0.7	1.2	1.9	2.7	4.2	6.3	9
20	0.75	0.4	1	2.2	3.8	6.4	11	15	23	36	50
25	1	0.7	1.5	2.8	4.9	7.7	11.5	17	26	46	100
40	1.5	2.5	5.1	12	20	34	57	82	128	188	270
50	2	2.48	5.4	10.1	17.8	27.9	42.5	70.8	123	224	490
80	3	5.94	15.8	29.7	49.5	75.7	109	177	308	560	1160
100	4	9.72	25.9	48.6	81	124	179	313	545	989	2200
150	6	22.4	59.8	112	187	286	413	757	1318	2394	5100
200	8	39.7	106	199	331	506	732	1386	2413	4381	9300
250	10	62.8	167	314	523	800	1160	2244	3906	7092	15200
300	12	89.9	240	449	749	1150	1660	3306	5757	10452	22400

C_v/d^2	0.733	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00
F_L	0.91	0.91	0.90	0.88	0.85	0.8	0.74	0.67	0.57	0.28
x_T	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

SERIES J4 REDUCED BORE BALL VALVES (Nelprof™ code J4A)

J4 series 3-piece floating reduced bore ball valves are available with polymeric seats that provide long and reliable performance. They are easy to automate with direct mount actuator capability. Suitable for light control and tight shut-off duties. Screwed, socket weld, or butt weld ends, ASME Class 600 sizes DN 15 through 50.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.3	0.5	0.8	1.3	2	3	4.5	6.5	11	13
20	0.75	0.7	1.4	2	3	5	8	11	17	27	33
25	1	1	1.9	2.7	4	6.2	10	15	22	35	44
32	1.25	1	1.9	2.7	4	6.2	10	15	23	36	46
40	1.5	2	4	5.7	8.5	13	21	31	47	75	95
50	2	2.3	4.5	7	10	16	25	37	56	90	111

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67
FL	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.59	0.51
xT	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.20	0.15
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.10	0.06

SERIES J4 FULL BORE BALL VALVES (Nelprof™ code J4B)

J4 series 3-piece floating full bore ball valves are available with polymeric seats that provide long and reliable performance. They are easy to automate with direct mount actuator capability. Suitable for light control and tight shut-off duties. Screwed, socket weld, or butt weld ends, ASME Class 600 sizes DN 15 through 50.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.3	0.5	0.8	1.3	2	3	4.5	6.5	11	13
20	0.75	0.9	1.7	2.4	3.4	5.7	9	13	20	32	40
25	1	1.4	2.7	4	6	9.3	15	22	33	52	65
32	1.25	2	3.7	5.5	8.2	13	21	30	45	73	90
40	1.5	2.9	5.6	8.2	12	19	31	45	68	109	135
50	2	5.5	10	15	23	36	57	84	126	203	251

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67
FL	0.91	0.91	0.9	0.88	0.85	0.8	0.74	0.67	0.57	0.28
xT	0.82	0.82	0.8	0.75	0.67	0.57	0.42	0.3	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

SERIES J7 BALL VALVES, REDUCED BORE (Nelprof™ code J715, J730)

J7 series reduced bore flanged floating ball valves have polymeric seats and provide long, reliable performance. They are easy to automate with direct mount actuator capability. Suitable for light control and tight shut-off duties. Flanged ASME Class 150 sizes DN 15 through 200, and Class 300 sizes DN 15 through 150.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.11	0.22	0.495	0.803	1.43	2.31	3.3	5.17	7.7	11
20	0.75	0.2	0.4	0.9	1.46	2.6	4.2	6	9.4	14	20
25	1	0.33	0.66	1.485	2.409	4.29	6.93	9.9	15.51	23.1	33
32	1.25	0.78	1.56	3.51	5.694	10.14	16.38	23.4	36.66	54.6	78
40	1.5	0.88	1.76	3.96	6.424	11.44	18.48	26.4	41.36	61.6	88
50	2	1.31	2.62	5.895	9.563	17.03	27.51	39.3	61.57	91.7	131
65	2.5	2.65	5.3	11.925	19.345	34.45	55.65	79.5	124.55	185.5	265
80	3	3.32	6.64	14.94	24.236	43.16	69.72	99.6	156.04	232.4	332
100	4	5.97	11.94	26.865	43.581	77.61	125.37	179.1	280.59	417.9	597
150	6	12.9	25.8	58.05	94.17	167.7	270.9	387	606.3	903	1290
200	8	19.5	39	87.75	142.35	253.5	409.5	585	916.5	1365	1950

C _v /d ²	0.73	1.60	3.00	5.29	8.27	12.62	20.22	33.33	52.44	66.67
FL	0.91	0.91	0.90	0.88	0.85	0.80	0.74	0.67	0.59	0.51
xT	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.20	0.15
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.10	0.06

SERIES J9 BALL VALVES, FULL BORE (Nelprof™ code J915, J930)

J9 series full bore flanged floating ball valves have polymeric seats and provide long, reliable performance. They are easy to automate with direct mount actuator capability. Suitable for light control and tight shut-off duties. Flanged ASME Class 150 sizes DN 15 through 200, and Class 300 sizes DN 15 through 150.



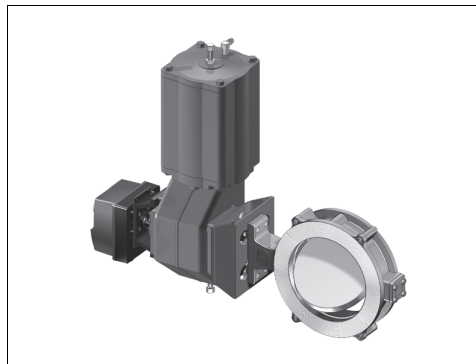
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
15	0.5	0.1	0.2	0.4	0.7	1.1	1.5	2.7	4.7	8.5	19.0
20	0.75	0.2	0.6	1.1	1.8	2.8	4.1	7.1	12.4	22.5	50.0
25	1	0.5	1.2	2.3	3.8	5.8	8.4	14.7	25.5	46.3	103.0
32	1.25	0.7	1.9	3.5	5.9	9.0	13.0	22.8	39.6	71.9	160.0
40	1.5	1.1	3.0	5.6	9.3	14.3	20.6	36.0	62.7	113.7	253.0
50	2	1.9	5.2	9.7	16.2	24.9	35.9	62.7	109.2	198.2	441.0
65	2.5	3.3	8.7	16.4	27.3	41.8	60.3	105.4	183.6	333.1	741.0
80	3	5.7	15.2	28.5	47.5	72.7	105.0	183.5	319.6	579.9	1290.0
100	4	10.2	27.2	51.0	85.1	130.2	188.0	328.7	572.3	1038.5	2310.0
150	6	23.6	63.0	118.2	197.0	301.5	435.3	761.2	1325.3	2405.1	5350.0
200	8	44.5	118.6	222.5	370.8	567.6	819.3	1432.7	2494.6	4526.9	10070.0

C _v /d ²	0.733	1.60	3.00	5.29	8.27	12.62	20.22	33.33	56.00	156.00
FL	0.91	0.91	0.90	0.88	0.85	0.8	0.74	0.67	0.57	0.28
xT	0.82	0.82	0.80	0.75	0.67	0.57	0.42	0.30	0.19	0.05
z	0.52	0.51	0.47	0.42	0.36	0.29	0.22	0.16	0.09	0.06

**NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE,
METAL SEATED, RATINGS ANSI 150 AND DIN PN10-25
(Nelprof™ code L-ANSI150)**

Patented Neldisc™ triple-eccentric design is a key for meeting the challenges of control applications from simple to severe. The valve is very well suited for applications requiring large capacity and good rangeability at low differential pressures. Number of special constructions developed from the versatile Neldisc™ design offer a powerful tool for standardization. The same valve is excellent for shut-off in wide range of applications. Fully metallic seating is mechanically induced and does not rely on assistance from differential pressure. Temperature range available -200 ... +800 °C. Wafer (L1) and lug (L2) type bodies to fit ANSI 150 or DIN 10, 16 and 25 pipe flanges.



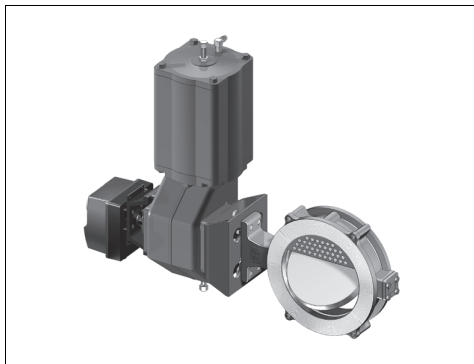
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	12.5	31.3	51	75	103	137	174	208	238	245
100	4	17	40.4	73	108	152	198	255	321	413	450
125	5	25	55	92	140	202	284	394	542	757	840
150	6	38	82.6	139	212	306	430	596	820	1116	1500
200	8	77	168	283	432	622	874	1212	1668	2268	3050
250	10	123	269	453	691	995	1398	1939	2669	3622	4870
300	12	184	403	680	1037	1492	2097	2909	4003	5429	7300
350	14	265	580	978	1492	2147	3018	4186	5762	7809	10500
400	16	346	756	1274	1944	2797	3931	5454	7506	10189	13700
450	18	442	966	1628	2484	3574	5023	6969	9591	13089	17600
500	20	550	1204	2030	3096	4455	6261	8686	11954	16287	21900
600	24	781	1708	2879	4392	6320	8882	12322	16958	23055	31000
700	28	992	2170	3658	5580	8029	11284	15655	21545	29227	39300
750	30	1180	2583	4354	6642	9557	13432	18635	25646	34880	46900
800	32	1354	2961	4991	7614	10956	15397	21362	29398	39682	53600
900	36	1674	3661	6171	9414	13546	19037	26412	36349	49382	66400
1000	40	2086	4564	7694	11736	16887	23733	32926	45314	61578	82800
1200	48	2922	6394	10779	16442	23658	33249	46128	63483	86269	116000

C _v /d ²	1.38	3.02	5.09	7.76	11.17	15.69	21.77	29.96	40.72	54.75
F _L	0.87	0.85	0.83	0.81	0.77	0.73	0.67	0.60	0.49	0.36
x _T	0.53	0.53	0.53	0.52	0.47	0.41	0.35	0.27	0.19	0.11
z	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.17	0.14	0.11

BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND DIN PN10-25 (Nelprof™ code S-L-ANSI 150)

A dynamically balanced Neldisc™ triple eccentric disc valve with up to 8 dB(A) noise reduction compared to the standard valve. This valve can push butterfly valve application envelope higher. The dynamic forces affecting the disc when throttling are transferred to the valve body, balancing dynamic torque and reducing bearing load. Valve itself is the standard Neldisc™, the only changed part is the clamp ring. Wafer (L1) and lug (L2) type bodies to fit ANSI 150 or DIN 10, 16 and 25 pipe flanges.



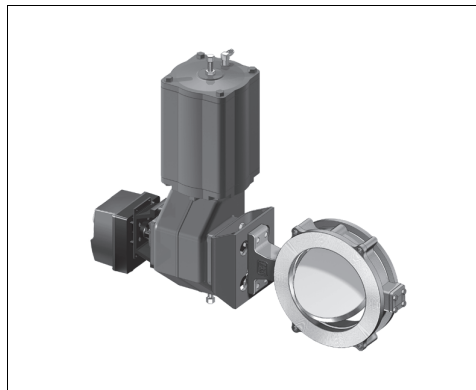
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	6.08	12.9	21.1	31.4	44.5	60.4	81.1	104	131	150
100	4	10.9	23.2	37.8	56.2	79.7	108	146	186	236	265
125	5	20.1	42.8	69.8	104	147	200	269	343	435	490
150	6	32	68	111	165	234	318	427	546	691	790
200	8	65	139	226	335	476	647	868	1110	1406	1610
250	10	104	223	361	537	762	1035	1389	1776	2250	2580
300	12	156	334	542	805	1143	1552	2084	2664	3375	3880
350	14	224	481	780	1159	1645	2234	2999	3835	4858	5610
400	16	292	627	1016	1510	2142	2910	3906	4994	6327	7300
450	18	373	801	1299	1929	2737	3718	4992	6382	8085	9330
500	20	465	998	1619	2404	3412	4634	6222	7955	10077	11600
600	24	660	1416	2296	3411	4840	6574	8826	11285	14295	16500
700	28	838	1799	2917	4334	6149	8353	11214	14337	18162	20800
750	30	987	2119	3436	5105	7243	9839	13209	16887	21393	24500
800	32	1144	2455	3981	5913	8390	11397	15301	19563	24783	28500
900	36	1414	3035	4922	7311	10374	14092	18918	24188	30642	35100
1000	40	1763	3784	6136	9114	12932	17567	23584	30153	38199	43800

C _v /d ²	1.09	2.33	3.67	5.35	7.39	9.98	12.98	16.83	20.94	27.81
F _L	0.86	0.86	0.86	0.86	0.85	0.84	0.83	0.78	0.73	0.63
x _T	0.57	0.57	0.57	0.57	0.57	0.55	0.50	0.42	0.36	0.29
z	0.49	0.44	0.41	0.37	0.34	0.30	0.27	0.24	0.22	0.19

**NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE,
METAL SEATED, RATINGS ANSI 300 AND DIN PN40
(Nelprof™ code L-ANSI 300)**

Patented Neldisc™ triple-eccentric design is a key for meeting the challenges of control applications from simple to severe. The valve is very well suited for applications requiring large capacity and good rangeability at low differential pressures. Number of special constructions developed from the versatile Neldisc™ design offer a powerful tool for standardization. The same valve is excellent for shut-off in wide range of applications. Fully metallic seating is mechanically induced and does not rely on assistance from differential pressure. Temperature range available -200 ... +800 °C. Wafer (L1) and lug (L2) type bodies to fit ANSI 300 or DIN 40 pipe flanges.



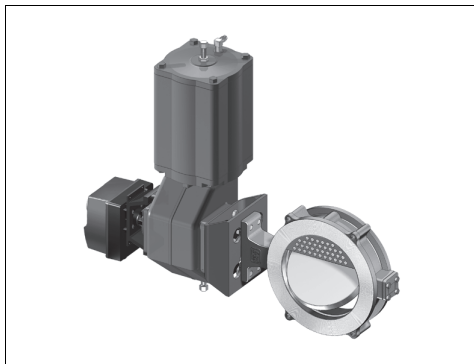
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	12.5	31.3	51	75	103	137	174	208	238	245
100	4	17	40.4	73	108	152	198	255	321	413	450
150	6	42	87	144	213	304	422	576	757	1013	1240
200	8	72	150	247	367	523	727	992	1300	1734	2130
250	10	107	225	370	549	783	1088	1485	1951	2581	3180
300	12	172	360	592	879	1250	1740	2380	3120	4171	5090
350	14	252	528	870	1290	1835	2550	3480	4580	6152	7470
400	16	307	644	1058	1570	2240	3110	4250	5580	7444	9100
450	18	408	857	1408	2090	2980	4140	5650	7425	9941	12100
500	20	488	1025	1680	2500	3560	4950	6760	8880	11828	14400
600	24	616	1290	2130	3160	4500	6250	8530	11200	14794	22000
700	28	1046	2191	3610	5353	7615	10582	14442	19007	25530	31000
750	30	1083	2269	3739	5543	7885	10958	14954	19681	26436	32100
900	36	1569	3287	5416	8030	11423	15873	21663	28510	38296	46500

C _v /d ²	1.28	2.69	4.44	6.58	9.36	13.01	17.76	23.37	31.38	38.11
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.50	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.30	0.28	0.26	0.24	0.22	0.19	0.16	0.15

**BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE,
METAL SEATED, RATINGS ANSI 300, DIN PN40
(Nelprof™ code S-L-ANSI 300)**

A dynamically balanced Neldisc™ triple eccentric disc valve with up to 8 dB(A) noise reduction compared to the standard valve. This valve can push butterfly valve application envelope higher. The dynamic forces affecting the disc when throttling are transferred to the valve body, balancing dynamic torque and reducing bearing load. Valve itself is the standard Neldisc™, the only changed part is the clamp ring. Wafer (L1) and lug (L2) type bodies to fit ANSI 300 or DIN 40 pipe flanges.



C_v-Values

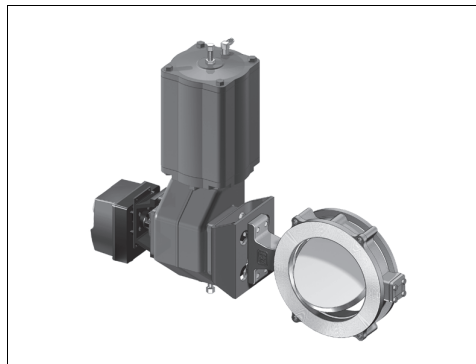
SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	6.08	12.9	21.1	31.4	44.5	60.4	81.1	104	131	150
100	4	10.9	23.2	37.8	56.2	79.7	108	146	186	236	265
150	6	39	80	128	186	258	338	424	501	573	640
200	8	67	138	221	320	443	582	731	863	986	1100
250	10	100	207	331	479	664	871	1094	1292	1475	1640
300	12	160	331	530	767	1063	1395	1751	2069	2363	2630
350	14	235	485	777	1125	1558	2045	2567	3033	3464	3870
400	16	286	591	948	1372	1900	2494	3131	3698	4224	4700
450	18	381	787	1260	1824	2526	3317	4163	4918	5617	6300
500	20	455	941	1508	2182	3022	3967	4980	5882	6719	7500
600	24	575	1188	1903	2755	3814	5008	6286	7425	8481	9400

C _v /d ²	1.04	2.11	3.33	4.75	6.41	8.47	10.66	12.99	15.07	19.32
F _L	0.86	0.86	0.86	0.86	0.86	0.85	0.84	0.83	0.81	0.72
x _T	0.57	0.57	0.57	0.57	0.57	0.57	0.54	0.50	0.46	0.38
z	0.49	0.44	0.41	0.37	0.34	0.32	0.29	0.27	0.25	0.21

**NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE,
METAL SEATED, RATINGS ANSI 150 AND EN PN10-25
(Nelprof™ code LW/LG-ANSI 150)**

Patented Neldisc™ triple-eccentric design is a key for meeting the challenges of control applications from simple to severe. The valve is very well suited for applications requiring large capacity and good rangeability at low differential pressures. Number of special constructions developed from the versatile Neldisc™ design offer a powerful tool for standardization.

The same valve is excellent for shut-off in wide range of applications. Fully metallic seating is mechanically induced and does not rely on assistance from differential pressure. Temperature range available -200 ... +800 °C. Wafer (LW) and lug (LG) type bodies to fit ANSI 150 or EN PN 10, 16 and 25 pipe flanges. Corresponding L1/L2 -series valves needs to be calculated by their own code within Nelprof™ (only available in sizes 18" and above).



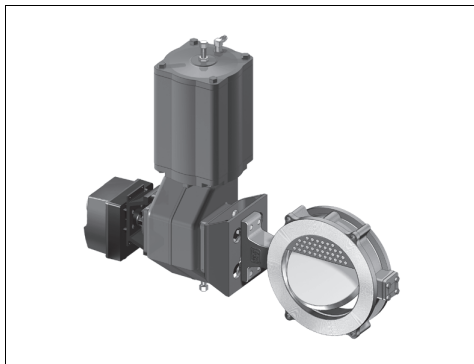
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	13	31	51	75	103	137	174	208	238	245
100	4	17	40	73	108	152	198	255	321	413	450
125	5	23	49	83	127	183	257	356	490	685	760
150	6	38	83	139	212	306	430	596	820	1116	1500
200	8	77	168	283	432	622	874	1212	1668	2268	3050
250	10	134	293	493	752	1083	1521	2110	2905	3942	5300
300	12	192	420	708	1080	1553	2183	3029	4168	5652	7600
350	14	237	519	876	1336	1922	2702	3747	5158	6991	9400
400	16	308	673	1135	1731	2491	3501	4857	6684	9073	12200
450	18	442	966	1628	2484	3574	5023	6969	9591	13089	17600
500	20	550	1204	2030	3096	4455	6261	8686	11954	16287	21900
600	24	781	1708	2879	4392	6320	8882	12322	16958	23055	31000
700	28	502	1757	3514	5773	8785	12299	15562	19076	22339	25100
750	30	706	2118	4236	7060	10590	15179	20121	25416	30358	35300
800	32	934	2335	4670	7939	11675	17279	24284	31756	38761	46700
900	36	1060	2650	5300	9010	13250	19610	27560	36040	43990	53000
1000	40	1392	3480	6960	11832	17400	25752	36192	47328	57768	69600

C _v /d ²	1.38	3.02	5.09	7.76	11.17	15.69	21.77	29.96	40.72	54.75
F _L	0.87	0.85	0.83	0.81	0.77	0.73	0.67	0.6	0.49	0.36
x _T	0.53	0.53	0.53	0.52	0.47	0.41	0.35	0.27	0.19	0.11
z	0.38	0.34	0.31	0.28	0.25	0.23	0.2	0.17	0.14	0.11

**BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE,
METAL SEATED, RATINGS ANSI 150 AND EN PN10-25
(Nelprof™ code S-LW/LG-ANSI 150)**

A dynamically balanced Neldisc™ triple eccentric disc valve with up to 8 dB(A) noise reduction compared to the standard valve. This valve can push butterfly valve application envelope higher. The dynamic forces affecting the disc when throttling are transferred to the valve body, balancing dynamic torque and reducing bearing load. Valve itself is the standard Neldisc™, the only changed part is the clamp ring. Wafer (LW) and lug (LG) type bodies to fit ANSI 150 or EN PN 10, 16 and 25 pipe flanges. Corresponding S-L1/S-L2 series valves can be calculated with the separate Nelprof™ code (only in sizes 18" and above)



Cv-Values

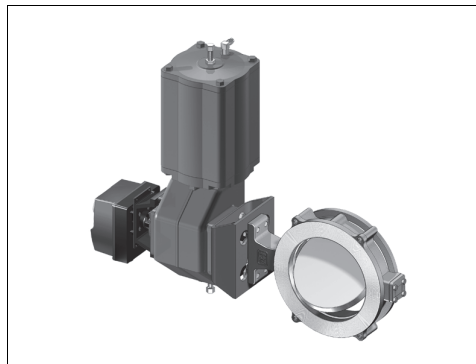
SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	9	18	30	44	62	85	114	146	183	210
100	4	13	27	44	66	93	126	171	218	276	310
125	5	21	45	74	110	156	212	285	364	462	520
150	6	32	68	111	165	234	318	427	546	691	790
200	8	59	127	206	306	435	591	793	1013	1284	1470
250	10	104	223	361	537	762	1035	1389	1776	2250	2580
300	12	141	301	489	726	1031	1400	1880	2403	3044	3500
350	14	180	386	626	930	1320	1792	2406	3076	3897	4500
400	16	227	487	789	1173	1664	2260	3034	3879	4914	5670
450	18	307	658	1068	1586	2250	3056	4104	5247	6647	7670
500	20	368	790	1281	1902	2700	3667	4924	6295	7975	9180
600	24	540	1159	1879	2791	3960	5379	7221	9233	11696	13500
700	28	507	1090	1775	2624	3741	5072	6796	8698	11031	12700
750	30	710	1527	2486	3676	5239	7103	9518	12181	15449	17800
800	32	833	1793	2918	4315	6150	8339	11174	14301	18184	20900
900	36	924	1986	3234	4781	6815	9240	12381	15846	20097	23100
1000	40	1199	2578	4198	6206	8844	11992	16070	20567	26083	30000

C_v/d^2	1.09	2.33	3.67	5.35	7.39	9.98	12.98	16.83	20.94	27.81
F_L	0.86	0.86	0.86	0.86	0.85	0.84	0.83	0.78	0.73	0.63
x_T	0.57	0.57	0.57	0.57	0.57	0.55	0.5	0.42	0.36	0.29
z	0.485	0.442	0.405	0.37	0.335	0.30	0.27	0.24	0.22	0.19

**NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE,
METAL SEATED, RATINGS ANSI 300 AND EN PN40
(Nelprof™ code LW/LG-ANSI 300)**

Patented Neldisc™ triple-eccentric design is a key for meeting the challenges of control applications from simple to severe. The valve is very well suited for applications requiring large capacity and good rangeability at low differential pressures. Number of special constructions developed from the versatile Neldisc™ design offer a powerful tool for standardization.

The same valve is excellent for shut-off in wide range of applications. Fully metallic seating is mechanically induced and does not rely on assistance from differential pressure. Temperature range available -200 .. +800 °C. Wafer (LW) and lug (LG) type bodies to fit ANSI 300 or DIN 40 pipe flanges. Corresponding L1/L2-series, offering better Cv in ANSI 300 and PN 40 pressure classes, can be calculated with the separate Nelprof™ code (only in sizes 16" and above).



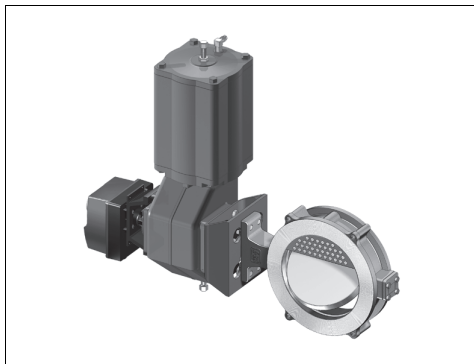
Cv-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	13	31	51	75	103	137	174	208	238	245
100	4	17	40	73	108	152	198	255	321	413	450
150	6	44	91	151	223	319	442	604	794	1062	1300
200	8	78	162	267	396	565	785	1071	1404	1872	2300
250	10	118	248	407	604	862	1197	1634	2147	2841	3500
300	12	178	373	614	912	1297	1805	2469	3236	4327	5280
350	14	252	528	870	1290	1835	2550	3480	4580	6152	7470
400	16	352	754	1253	1835	2550	3480	4580	6152	8152	10000
450	18	484	1048	1731	2550	3480	4580	6152	8152	10652	13000
500	20	648	1392	2311	3384	4580	6152	8152	10652	13852	17000
600	24	984	2088	3461	5166	6960	9360	12360	16160	20960	25400
700	28	1424	2976	4961	7266	9860	13160	17160	22360	28960	35000
750	30	1684	3528	5811	8466	11460	15160	19660	25660	32960	39800
900	36	2524	5232	8611	12566	16860	22360	29160	37660	47960	58400

C_v/d^2	1.28	2.69	4.44	6.58	9.36	13.01	17.76	23.37	31.38	38.11
F_L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x_T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.335	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

**BALANCED NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE,
METAL SEATED, RATINGS ANSI 300, EN PN40
(Nelprof™ code S-LW/LG-ANSI 300)**

A dynamically balanced Neldisc™ triple eccentric disc valve with up to 8 dB(A) noise reduction compared to the standard valve. This valve can push butterfly valve application envelope higher. The dynamic forces affecting the disc when throttling are transferred to the valve body, balancing dynamic torque and reducing bearing load. Valve itself is the standard Neldisc™, the only changed part is the clamp ring. Wafer (LW) and lug (LG) type bodies to fit ANSI 300 or PN 40 pipe flanges. Corresponding S-L1/S-L2 series valves, offering better Cv in ANSI 300 and EN PN 40, can be calculated with the separate Nelprof™ code (only in sizes 16" and above)

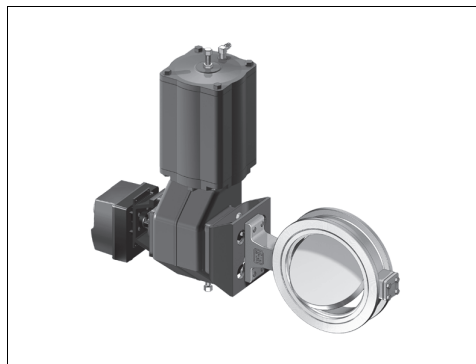


C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	9	18	30	44	62	85	114	146	183	210
100	4	13	27	44	66	93	126	171	218	276	310
150	6	41	85	136	198	274	359	451	532	609	680
200	8	71	146	233	337	467	614	771	910	1040	1160
250	10	130	269	430	622	862	1131	1421	1678	1916	2130
300	12	212	438	701	1015	1407	1846	2317	2738	3127	3480
350	14	316	652	1044	1512	2093	2748	3449	4075	4654	5200
400	16	288	595	954	1381	1912	2510	3151	3723	4252	4750
450	18	356	730	1175	1706	2355	3098	3887	4588	5231	5900
500	20	475	975	1568	2277	3143	4133	5186	6122	6980	7840
600	24	564	1156	1859	2701	3728	4901	6150	7260	8278	9290
700	28	1069	2102	3609	5882	8670	12070	15376	17667	18661	19100
750	30	1081	2122	3648	5944	8762	12197	15537	17851	18856	19300
900	36	1535	3014	5179	8439	12440	17316	22056	25344	26770	27400
C _v /d ²	1.04	2.11	3.33	4.75	6.41	8.47	10.66	12.99	15.07	19.32	
F _L	0.86	0.86	0.86	0.86	0.86	0.85	0.84	0.83	0.81	0.72	
x _T	0.57	0.57	0.57	0.57	0.57	0.57	0.54	0.50	0.46	0.38	
z	0.49	0.44	0.41	0.37	0.34	0.32	0.29	0.27	0.25	0.21	

NELDISC™, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, PROCESS RATED (Nelprof™ code L12)

One piece body Neldisc™ triple eccentric disc valves with patented metal seat is the most economical high performance Neldisc™. Fire tested, light Neldisc™ is suitable for processes where less maintenance, undisturbed operation and reliability is needed. Wafer body to fit ANSI 150, DIN 10, 16 and 25; and JIS 10, 16 and 20 pipe flanges.



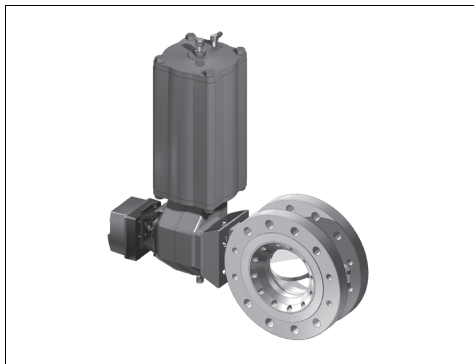
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	12.5	31.3	51	75	103	137	174	208	238	245
100	4	17	40.4	73	108	152	198	255	321	413	450
125	5	25	54.6	92	140	202	284	394	542	757	840
150	6	37.8	82.6	139	212	306	430	596	820	1116	1500
200	8	76.8	168	283	432	622	874	1210	1670	2268	3050
250	10	131	287	484	738	1060	1490	2070	2850	3869	5200
300	12	196	429	723	1100	1590	2230	3100	4260	5729	7700
350	14	281	615	1040	1580	2270	3200	4430	6100	8184	11000
400	16	365	798	1350	2050	2950	4150	5760	7920	10639	14300
500	20	582	1270	2150	3280	4710	6630	9190	12600	17038	22900
600	24	826	1810	3040	4640	6680	9390	13000	17900	24106	32400
700	28	1061	2324	3903	5958	8577	12056	16691	22983	30951	41600
800	32	1443	3162	5311	8106	11669	16404	22710	31270	42111	56600
900	36	1805	3955	6643	10139	14597	20519	28407	39115	52676	70800
1000	40	2238	4905	8238	12574	18102	25446	35228	48507	65324	87800
1200	48	3808	8330	14042	21420	30821	43316	60095	82705	108885	129000
1400	56	5216	11410	19234	29340	42217	59332	82315	113285	149145	177000

C _v /d ²	1.44	3.15	5.31	8.13	11.68	16.41	22.79	31.30	42.59	57.30
F _L	0.87	0.85	0.83	0.80	0.77	0.72	0.66	0.58	0.48	0.34
x _T	0.53	0.53	0.53	0.52	0.46	0.40	0.34	0.25	0.17	0.10
z	0.38	0.34	0.30	0.27	0.25	0.22	0.19	0.16	0.14	0.13

NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND DIN PN10-16 (Nelprof™ code L6-ANSI 150)

Patented Neldisc™ triple-eccentric design is a key for meeting the challenges of control applications from simple to severe. Metal seated, full rated butterfly valves with floating seat principle provide large capacity and good rangeability. Number of special constructions developed from the versatile Neldisc™ design offer a powerful tool for standardization. The same valve is excellent for shut-off in wide range of applications. Temperature range available -200 ... +800 °C. Double flanged body with face-to-face according to BS 5155. Mounting between ANSI 150 or DIN PN 10, PN16 flanges.



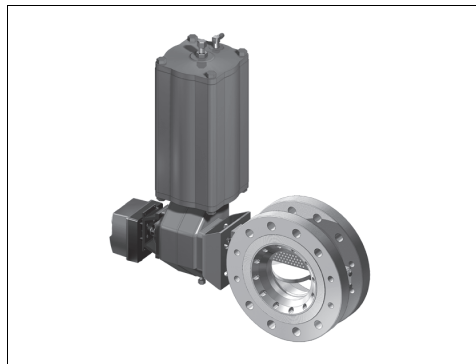
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	6	19	38	57	85	119	151	175	185	189
125	5	9	31	59	90	137	189	248	289	304	311
150	6	16	55	104	158	235	328	437	508	535	546
200	8	26	77	130	216	325	519	725	920	1039	1080
250	10	43	151	301	495	753	1054	1334	1635	1915	2150
300	12	73	256	512	841	1279	1791	2266	2777	3253	3650
350	14	105	367	734	1206	1836	2564	3252	3986	4668	5250
400	16	145	508	1015	1668	2538	3553	4496	5512	6454	7250
450	18	200	701	1403	2304	3506	4909	6211	7614	8916	10000
500	20	285	999	1998	3282	4995	6993	8848	10846	12701	14300
600	24	318	1114	2242	3661	5571	7788	9868	12096	14165	15900
700	28	502	1756	3512	5770	8780	12292	15553	19065	22326	25100
750	30	481	1685	3369	5535	8423	11793	14921	18291	21419	24100
800	32	790	2369	4738	7897	11846	16979	22507	28430	33958	39500
900	36	1061	2652	5304	9017	13260	19625	27582	36068	44024	53000
1000	40	1392	3479	6958	11828	17394	25743	36179	47312	57748	69600
1050	42	1327	3317	6634	11277	16584	24544	34495	45109	55059	66300
1200	48	1615	4037	8074	13725	20184	29873	41983	54901	67012	80700
1300	52	2534	6335	12670	21539	31676	46880	65886	86158	105163	127000
1400	56	2345	5862	11723	19929	29308	43376	60961	79718	97303	117000
1500	60	2234	5584	11168	18986	27921	41323	58076	75945	92698	112000
1600	64	2978	7445	14889	25311	37223	55089	77423	101245	123579	149000
1800	72	4417	11043	22087	37547	55217	81721	114851	150190	183320	221000
2000	80	4056	10139	20278	34473	50696	75030	105448	137893	168311	203000

C _v /d ²	1.38	3.02	5.09	7.76	11.17	15.69	21.77	29.96	40.72	54.75
F _L	0.87	0.85	0.83	0.81	0.77	0.73	0.67	0.6	0.49	0.36
x _T	0.53	0.53	0.53	0.52	0.47	0.41	0.35	0.27	0.19	0.11
z	0.38	0.34	0.31	0.28	0.25	0.23	0.2	0.17	0.14	0.11

BALANCED NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 150 AND DIN PN10-16 (Nelprof™ code S-L6-ANSI 150)

A dynamically balanced Neldisc™ triple eccentric disc valve with up to 8 dB(A) noise reduction compared to the standard valve. This valve can push butterfly valve application envelope higher. The dynamic forces affecting the disc when throttling are transferred to the valve body, balancing dynamic torque and reducing bearing load. Valve itself is the standard Neldisc™, the only changed part is the clamp ring. Mounting to ANSI 150 or DIN PN 10, PN16 flanges.



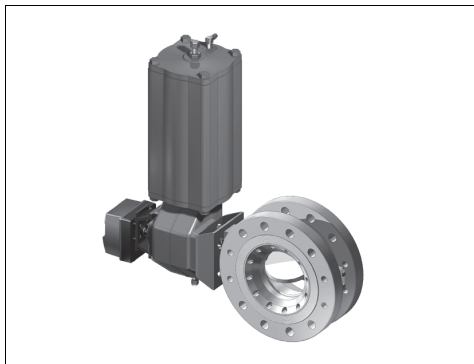
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	6	13	24	40	64	88	112	136	150	160
125	5	10	20	37	61	98	135	172	209	231	245
150	6	16	33	62	103	164	226	287	349	385	410
200	8	29	58	110	183	292	402	511	621	686	730
250	10	56	112	210	350	561	771	981	1191	1317	1401
300	12	92	184	345	575	920	1265	1610	1955	2162	2300
350	14	133	265	497	828	1326	1823	2320	2817	3115	3314
400	16	167	335	628	1046	1673	2301	2928	3556	3932	4183
450	18	214	427	801	1335	2135	2936	3737	4538	5018	5338
500	20	292	584	1095	1825	2920	4015	5110	6205	6862	7300
600	24	336	672	1260	2100	3360	4620	5880	7140	7896	8400
700	28	505	1009	1892	3154	5046	6938	8830	10722	11857	12614
750	30	494	988	1852	3086	4938	6789	8641	10493	11603	12344
800	32	691	1382	2592	4319	6911	9502	12094	14685	16240	17277
900	36	923	1847	3463	5771	9234	12697	16160	19622	21700	23085
1000	40	1202	2403	4506	7510	12016	16522	21027	25533	28237	30039
1050	42	1176	2352	4409	7349	11758	16167	20577	24986	27631	29395
1200	48	1444	2888	5416	9026	14442	19858	25274	30690	33940	36106
1300	52	2096	4192	7859	13099	20958	28817	36676	44536	49251	52395
1400	56	2028	4055	7604	12673	20277	27881	35485	43089	47651	50693
1500	60	1983	3965	7434	12391	19825	27260	34694	42129	46589	49563
1600	64	2666	5332	9997	16661	26658	36655	46652	56649	62647	66646
1800	72	4431	8863	16617	27695	44313	60930	77547	94165	104135	110782
2000	80	4203	8407	15763	26272	42035	57798	73561	89324	98781	105086

C _v /d ²	1.09	2.33	3.67	5.35	7.39	9.98	12.98	16.83	20.94	27.81
F _L	0.86	0.86	0.86	0.86	0.85	0.84	0.83	0.78	0.73	0.63
x _T	0.57	0.57	0.57	0.57	0.57	0.55	0.50	0.42	0.36	0.29
z	0.49	0.44	0.41	0.37	0.34	0.30	0.27	0.24	0.22	0.19

**NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC
DISC VALVE, METAL SEATED, RATINGS ANSI 300, DIN PN40
(Nelprof™ code L6-ANSI 300)**

Patented Neldisc™ triple-eccentric design is a key for meeting the challenges of control applications from simple to severe. Metal seated, full rated triple eccentric disc valves with floating seat principle provide large capacity and good rangeability. Number of special constructions developed from the versatile Neldisc™ design offer a powerful tool for standardization. The same valve is excellent for shut-off in wide range of applications. Temperature range available -200...+800°C. Double flanged body with face-to-face according to BS 5155. Mounting between ANSI 300 or DIN PN 25, PN 40 flanges.



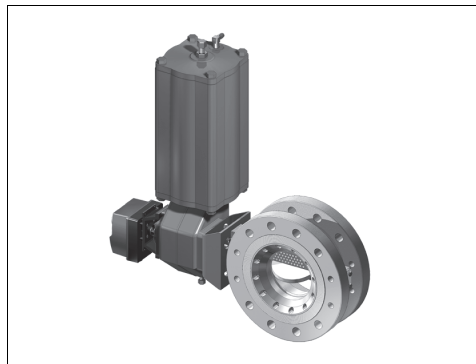
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	6	28	51	74	98	130	158	177	185	189
125	5	9	39	68	102	143	202	255	289	304	311
150	6	16	55	104	158	235	328	437	508	535	546
200	8	29	98	186	303	420	548	684	802	909	978
250	10	55	183	348	568	788	1027	1283	1503	1705	1830
300	12	84	279	530	864	1199	1562	1952	2287	2593	2790
350	14	127	422	802	1309	1816	2365	2956	3463	3928	4220
400	16	166	554	1053	1718	2382	3103	3878	4543	5153	5540
450	18	204	681	1295	2112	2930	3816	4770	5587	6337	6810
500	20	273	911	1731	2825	3919	5103	6379	7473	8475	9110
600	24	313	1043	1981	3232	4484	5839	7299	8550	9697	10400
700	28	490	1633	3103	5063	7023	9146	11433	13393	15190	16300
750	30	476	1586	3013	4917	6820	8882	11102	13005	14750	15900
800	32	711	2370	4503	7346	10190	13271	16588	19432	22039	23700
900	36	730	2432	4621	7540	10459	13620	17025	19944	22620	24300
1000	40	1100	3666	6965	11363	15762	20527	25659	30058	34090	36700
1050	42	1071	3568	6780	11062	15344	19983	24979	29261	33186	35700
1200	48	1020	3402	6463	10545	14627	19049	23811	27893	31635	34000
1300	52	2209	7362	13988	22823	31657	41228	51535	60369	68468	73600
1400	56	2094	6979	13260	21635	30009	39082	48853	57227	64904	69800
1500	60	2023	6744	12814	20907	29000	37767	47209	55301	62720	67400

C _v /d ²	1.28	2.69	4.44	6.58	9.36	13.01	17.76	23.37	31.38	38.11
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.50	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.30	0.28	0.26	0.24	0.22	0.19	0.16	0.15

BALANCED NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 300, DIN PN40 (Nelprof™ code S-L6-ANSI 300)

A dynamically balanced Neldisc™ triple eccentric disc valve with up to 8 dB(A) noise reduction compared to the standard valve. This valve can push butterfly valve application envelope higher. The dynamic forces affecting the disc when throttling are transferred to the valve body, balancing dynamic torque and reducing bearing load. Valve itself is the standard Neldisc™, the only changed part is the clamp ring. Mounting between ANSI 300 or DIN PN 25, PN 40 flanges.



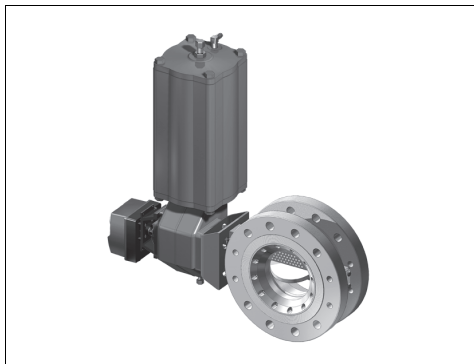
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	6	13	24	40	64	88	112	136	150	160
125	5	10	20	37	61	98	135	172	209	231	245
150	6	16	33	62	103	164	226	287	349	385	410
200	8	38	74	127	206	304	423	539	620	655	670
250	10	67	132	227	370	545	758	966	1110	1172	1200
300	12	102	200	343	559	825	1148	1462	1680	1775	1817
350	14	153	300	515	839	1237	1723	2194	2521	2663	2726
400	16	196	385	661	1078	1589	2212	2817	3237	3419	3500
450	18	234	459	788	1284	1893	2636	3357	3858	4074	4170
500	20	321	630	1083	1765	2602	3622	4614	5302	5600	5732
600	24	376	739	1270	2070	3051	4247	5410	6216	6565	6720
700	28	587	1154	1982	3230	4761	6628	8443	9701	10247	10488
750	30	579	1137	1954	3184	4694	6534	8323	9563	10101	10339
800	32	827	1624	2790	4547	6702	9329	11883	13654	14422	14761
900	36	840	1649	2834	4618	6807	9475	12069	13868	14648	14993
1000	40	1247	2449	4208	6858	10109	14072	17924	20596	21754	22266
1050	42	1233	2421	4160	6780	9994	13912	17720	20362	21506	22013
1200	48	1207	2371	4073	6637	9784	13620	17348	19934	21055	21550
1300	52	2629	5165	8874	14462	21317	29675	37798	43432	45874	46954
1400	56	2564	5035	8652	14099	20783	28931	36851	42344	44724	45777

C _v /d ²	1.04	2.11	3.33	4.75	6.41	8.47	10.66	12.99	15.07	19.32
F _L	0.86	0.86	0.86	0.86	0.86	0.85	0.84	0.83	0.81	0.72
x _T	0.57	0.57	0.57	0.57	0.57	0.57	0.54	0.5	0.46	0.38
z	0.49	0.44	0.41	0.37	0.34	0.32	0.29	0.27	0.25	0.21

NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 600, EN PN100 (Nelprof™ code L6-ANSI 600)

Patented Neldisc™ triple-eccentric design is a key for meeting the challenges of control applications from simple to severe. Metal seated, full rated butterfly valves with floating seat principle provide large capacity and good rangeability. Number of special constructions developed from the versatile Neldisc™ design offer a powerful tool for standardization. The same valve is excellent for shut-off in wide range of applications. Temperature range available -200 ... +600 °C.



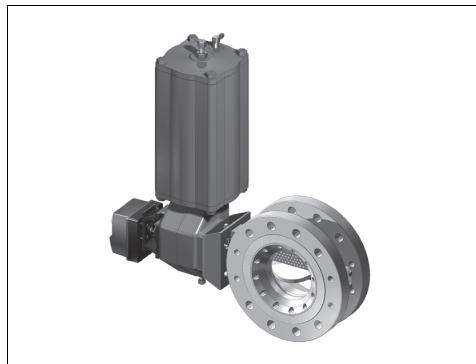
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	16.3	41.3	68.7	105	147	204	271	349	459	510
200	8	24	60.7	101	155	216	300	399	513	675	750
250	10	48	121	202	310	432	600	798	1026	1350	1500
300	12	88	222	371	570	792	1100	1462	1881	2475	2750
350	14	126	321	535	820	1141	1585	2107	2710	3566	3962
400	16	135	342	570	873	1215	1688	2245	2887	3798	4220
450	18	177	449	748	1147	1596	2216	2947	3789	4986	5540
500	20	285	719	1201	1843	2562	3560	4735	6086	8010	8900
600	24	323	818	1364	2091	2909	4040	5373	6908	9090	10100
700	28	515	1304	2174	3333	4637	6440	8565	11013	14490	16100
750	30	509	1288	2147	3291	4579	6360	8459	10876	14310	15900
800	32	758	1916	3198	4910	6825	9480	12607	16207	21330	23700
900	36	768	1940	3239	4972	6911	9600	12766	16412	21600	24000
1000	40	1056	2668	4453	6836	9503	13200	17554	22566	29700	33000

C _v /d ²	1.28	2.69	4.44	6.58	9.36	13.01	17.76	23.37	31.38	38.11
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.50	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.30	0.28	0.26	0.24	0.22	0.19	0.16	0.15

BALANCED NELDISC™, DOUBLE FLANGED, HIGH PERFORMANCE TRIPLE ECCENTRIC DISC VALVE, METAL SEATED, RATINGS ANSI 600, EN PN100 (Nelprof™ code S-L6-ANSI 600)

A dynamically balanced Neldisc™ butterfly valve with up to 8 dB(A) noise reduction compared to the standard valve. This valve can push butterfly valve application envelope higher. The dynamic forces affecting the disc when throttling are transferred to the valve body, balancing dynamic torque and reducing bearing load. Valve itself is the standard Neldisc™, the only changed part is the clamp ring. Temperature range available -200 ... +600 °C.



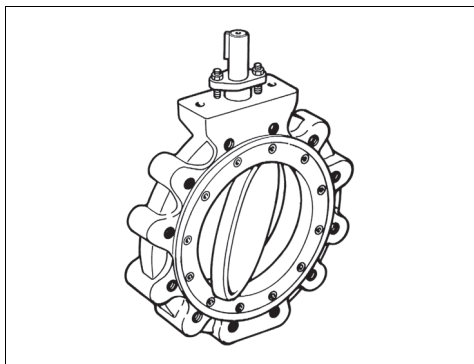
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	20.3	40.5	72.5	110	154	206	264	299	315	322
200	8	30	60.9	98	142	197	258	324	383	436	488
250	10	60	122	196	285	393	517	648	765	873	978
300	12	101	206	332	482	665	873	1097	1294	1475	1650
350	14	133	273	439	637	879	1156	1450	1712	1952	2205
400	16	189	387	622	904	1248	1642	2059	2431	2772	3130
450	18	238	488	785	1139	1573	2069	2596	3064	3493	3940
500	20	324	664	1068	1551	2141	2815	3532	4170	4754	5340
600	24	393	805	1295	1881	2596	3414	4283	5056	5765	6470
700	28	576	1180	1897	2756	3804	5003	6276	7409	8447	9470
750	30	570	1167	1877	2727	3764	4950	6210	7331	8358	9370
800	32	803	1645	2644	3842	5302	6973	8748	10328	11774	13200
900	36	801	1642	2640	3836	5294	6963	8735	10312	11757	13180
1000	40	1227	2514	4043	5873	8106	10660	13374	15789	18001	20180

C _v /d ²	1.04	2.11	3.33	4.75	6.41	8.47	10.66	12.99	15.07	19.32
F _L	0.86	0.86	0.86	0.86	0.86	0.85	0.84	0.83	0.81	0.72
x _T	0.57	0.57	0.57	0.57	0.57	0.57	0.54	0.5	0.46	0.38
z	0.49	0.44	0.41	0.37	0.34	0.32	0.29	0.27	0.25	0.21

WAFFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 150 (Nelprof™ code 815-SH-DWN, 815-SH-UP)

Wafer-Sphere™ high performance butterfly valves provide excellent control performance and bi-directional bubble tight shut-off. The flexible seat design provides low pressure sealing and long seat life. The double off-set disc ensures extended cycle life and low maintenance costs. Fire-Tite™ and cryogenic valve constructions are available. A variety of construction materials are available to handle a wide range of severe and general service applications. Wafer and single flange lugged bodies mount between ANSI 150 and DIN PN 10, 16 and 25 flanges.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
65	2.5	4	7	11	16	22	30	43	59	71	78
80	3	4	12	21	35	46	66	90	125	153	165
100	4	8	12	55	87	120	165	225	310	380	400
125	5	10	38	87	143	193	263	356	482	606	650
150	6	10	58	137	235	310	415	560	745	960	1050
200	8	15	130	315	475	695	970	1370	1865	2015	2200
250	10	25	155	340	540	835	1210	1665	2225	3030	3300
300	12	55	310	590	895	1410	2020	2790	3855	4900	5100
350	14	100	435	755	1220	1625	2320	3190	4410	5395	5800
400	16	165	630	1050	1530	2190	3080	4350	6100	7600	8000
450	18	285	790	1365	2200	2940	4200	5760	7970	9750	10500
500	20	350	880	1570	2540	3400	5080	7150	9450	12650	14000
600	24	405	1070	1980	3050	4430	6500	9550	13950	19100	21600
700	28	570	1562	2779	4200	6000	8700	12900	18882	26400	30000
750	30	650	1770	3150	4760	6800	9860	14620	21400	29920	34000
800	32	784	2134	3799	5740	8200	11890	17630	25806	36080	41000
900	36	1220	2980	5230	7650	11150	16100	23500	34100	49200	55500
1000	40	1452	3893	6987	10481	15018	21688	32123	47278	65880	75000
1050	42	1600	4290	7700	11550	16550	23900	35400	52100	72600	82650
1200	48	2100	5600	10100	15200	21700	31400	46600	68200	95300	108300
1350	54	2540	6950	12400	18700	26700	38700	57400	84100	117500	133500
1400	56	2740	7497	13375	20171	28800	41744	61915	90715	126742	144000
1500	60	3020	8270	14800	22250	31800	46100	68370	100200	139900	159000

C _v /d ²	0.91	2.43	4.38	6.60	9.42	13.63	20.23	29.60	41.36	47.01
F _L	0.87	0.85	0.82	0.80	0.78	0.73	0.66	0.58	0.46	0.40
x _T	0.68	0.68	0.66	0.64	0.58	0.52	0.41	0.37	0.22	0.15
z	0.38	0.35	0.31	0.28	0.26	0.24	0.21	0.17	0.14	0.13

WAFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 300 **(Nelprof™ code 830-SH-DWN, 830-SH-UP)**

Wafer-Sphere™ high performance butterfly valves provide excellent control performance and bi-directional bubble tight shut-off. The flexible seat design provides low pressure sealing and long seat life. The double off-set disc ensures extended cycle life and low maintenance costs. Fire-Tite™ and cryogenic valve constructions are available. A variety of construction materials are available to handle a wide range of severe and general service applications. Wafer and single flange lugged bodies mount between ANSI 300 and DIN PN 40 flanges.



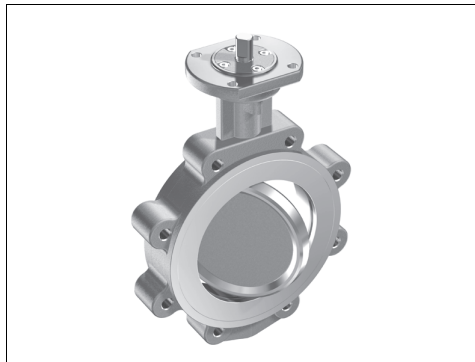
C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
65	2.5	4	7	11	16	22	30	43	59	71	78
80	3	4	12	21	35	46	66	90	125	153	165
100	4	8	12	55	87	120	165	225	310	380	400
150	6	10	58	137	235	310	415	560	745	960	1050
200	8	12	115	260	390	570	795	1120	1525	1650	1800
250	10	20	145	325	515	795	1155	1590	2125	2890	3150
300	12	45	280	550	835	1315	1880	2600	3590	4570	4750
350	14	90	430	750	1200	1580	2250	3100	4300	5100	5200
400	16	150	620	1030	1500	2100	2950	4050	5450	6750	6900
450	18	280	780	1350	2100	2790	4000	5450	7350	8900	9300
500	20	340	870	1550	2510	3250	4800	6550	8250	10600	11300
600	24	400	1020	1920	2960	4300	6200	9000	12700	17400	18500

C _v /d ²	0.31	1.94	3.82	5.80	9.13	13.06	18.06	24.93	31.74	32.99
F _L	0.87	0.85	0.83	0.81	0.79	0.75	0.70	0.65	0.60	0.58
x _T	0.68	0.68	0.67	0.65	0.60	0.54	0.45	0.40	0.38	0.37
z	0.38	0.35	0.31	0.29	0.27	0.25	0.23	0.20	0.18	0.17

WAFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 600 **(Nelprof™ code 860-SH-DWN, 860-SH-UP)**

Wafer-Sphere™ high performance butterfly valves provide excellent control performance and bi-directional bubble tight shut-off. The flexible seat design provides low pressure sealing and long seat life. The double off-set disc ensures extended cycle life and low maintenance costs. Fire-Tite™ and cryogenic valve constructions are available. A variety of construction materials are available to handle a wide range of severe and general service applications. Wafer and single flange lugged bodies mount between ANSI 600 flanges.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
80	3	4	11	20	33	43	62	85	117	144	155
100	4	5	16	36	57	78	107	146	202	247	260
150	6	7	41	98	168	221	296	400	532	686	750
200	8	9	86	195	293	428	596	840	1144	1238	1350
250	10	13	97	217	343	530	770	1060	1417	1927	2100
300	12	27	171	336	510	803	1148	1587	2192	2790	2900
350	14	69	331	577	923	1215	1731	2385	3308	3923	4000
400	16	111	458	761	1109	1552	2180	2993	4028	4989	5100
450	18	166	461	798	1242	1650	2366	3223	4347	5263	5500
500	20	239	612	1090	1766	2287	3377	4608	5804	7458	7950
600	24	244	623	1173	1808	2626	3787	5497	7757	10628	11300

C _v /d ²	0.14	1.35	3.05	4.57	6.68	9.32	13.13	17.87	19.34	21.09
F _L	0.87	0.85	0.82	0.80	0.78	0.73	0.66	0.58	0.46	0.40
x _T	0.68	0.68	0.67	0.66	0.63	0.59	0.53	0.45	0.44	0.42
z	0.38	0.35	0.31	0.28	0.26	0.24	0.21	0.17	0.14	0.13

WAFER-SPHERE™, SOFT SEATED BUTTERFLY VALVE, RATING ANSI 150 **(Nelprof™ code 835-SH-DWN, 835-SH-UP)**

Series 835 Wafer-Sphere™ high performance butterfly valves provide excellent control performance and bi-directional bubble tight shut-off to 100 psi (7 bar). The flexible seat design provides low pressure sealing and long seat life. The double offset disc ensures extended cycle life and low maintenance costs. An optional low torque seat allows smaller actuators to be selected. Fire-Tite™ valve construction is also available. Wafer and single flange lugged bodies mount between ANSI 150 and DIN PN 10, 16 and 25 flanges.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
750	30	1309	2835	4755	7241	10425	14657	20327	27961	36816	44000
900	36	2352	5096	8546	13015	18739	26344	36537	50258	66174	78000
1050	42	3069	6651	11152	16984	24454	34378	47679	65585	86355	102000
1200	48	4114	8913	14946	22762	32772	46072	63898	87894	115729	137000
1350	54	5432	11768	19734	30054	43271	60833	84369	116053	152806	181000
1500	60	6570	14235	23871	36354	52341	73584	102054	140379	184836	219000

C _v /d ²	1.89	4.09	6.86	10.45	15.05	21.16	29.34	40.36	53.15	62.97
F _L	0.86	0.84	0.81	0.78	0.73	0.68	0.60	0.49	0.37	0.28
x _T	0.53	0.53	0.53	0.50	0.43	0.37	0.30	0.20	0.11	0.08
z	0.37	0.34	0.29	0.26	0.24	0.21	0.18	0.15	0.13	0.12

SERIES JA BUTTERFLY VALVES, CONCENTRIC DISC (Nelprof™ code JA)

JA series concentric disc resilient seated butterfly valves are suitable for a wide range of applications in manual or automated on/off through throttling control services. Compact and lightweight, they are suitable for light control and tight shut-off duties. Available in wafer or lug style bodies in size range DN 50 through 600 to match PN10, PN16, or ASME Class 150 flanges.



C_v-Values

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
50	2	0.79	3.48	8.37	15.48	25.28	39.50	60.04	90.06	129.56	158.00
65	2.5	1.66	7.28	17.54	32.44	52.96	82.75	125.78	188.67	271.42	331.00
80	3	2.64	11.62	27.98	51.74	84.48	132.00	200.64	300.96	432.96	528.00
100	4	3.66	16.10	38.80	71.74	117.12	183.00	278.16	417.24	600.24	732.00
125	5	7.42	32.65	78.65	145.43	237.44	371.00	563.92	845.88	1216.88	1484.00
150	6	10.24	45.06	108.54	200.70	327.68	512.00	778.24	1167.36	1679.36	2048.00
200	8	23.01	101.22	243.85	450.90	736.16	1150.25	1748.38	2622.57	3772.82	4601.00
250	10	30.58	134.53	324.10	599.27	978.40	1528.75	2323.70	3485.55	5014.30	6115.00
300	12	41.57	182.89	440.59	814.67	1330.08	2078.25	3158.94	4738.41	6816.66	8313.00
350	14	51.47	226.45	545.53	1008.71	1646.88	2573.25	3911.34	5867.01	8440.26	10293.00
400	16	67.95	298.96	720.22	1331.72	2174.24	3397.25	5163.82	7745.73	11142.98	13589.00
450	18	82.93	364.87	879.01	1625.33	2653.60	4146.25	6302.30	9453.45	13599.70	16585.00
500	20	105.93	466.09	1122.86	2076.23	3389.76	5296.50	8050.68	12076.02	17372.52	21186.00
600	24	146.06	642.64	1548.18	2862.68	4673.76	7302.75	11100.18	16650.27	23953.02	29211.00

C _v /d ²	0.2	1.58	3.81	7.05	11.5	17.98	27.31	40.96	58.95	71.9
FL	0.83	0.83	0.83	0.82	0.78	0.72	0.65	0.59	0.53	0.48
xT	0.46	0.46	0.46	0.45	0.41	0.37	0.35	0.31	0.29	0.28
z	0.5	0.49	0.41	0.35	0.31	0.25	0.18	0.14	0.14	0.14

NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 150 (Nelprof™ code BWX_C)

The type BWX_C refers to cryogenic and high temperatures. The values for the standard valve are based on single U-shape seat construction and for standard materials. The valve is designed for control and on/off purposes. Temperature range starts from -273 ... +475 °C, pressure rating ANSI class 150, PN10 and PN16. Use BWX_C for double flanged, lug and wafer.



C_v-Values BWX_C, Cl150, PN10; PN16

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	10	25	43	66	101	149	214	284	309	309
150	6	41	104	182	281	427	630	906	1207	1313	1313
200	8	89	222	392	603	915	1352	1943	2590	2816	2816
250	10	148	370	651	1002	1521	2245	3228	4304	4678	4678
300	12	234	588	1035	1593	2420	3574	5138	6850	7447	7447
350	14	312	783	1377	2119	3218	4754	6834	9111	9904	9904
400	16	390	977	1719	2645	4017	5933	8529	11372	12362	12362
450	18	496	1245	2190	3372	5121	7563	10872	14496	15758	15758
500	20	603	1513	2662	4098	6252	9193	13215	17619	19153	19153
600	24	938	2352	4138	6371	9676	14290	20541	27388	29773	29773

C _v /d ²	1.4	3.52	6.19	9.53	14.47	21.38	30.73	40.96	44.53	44.58
F _L	0,87	0,85	0,83	0,81	0,77	0,73	0,67	0,6	0,49	0,6
x _T	0,53	0,53	0,53	0,52	0,47	0,41	0,35	0,27	0,19	0,27
z	0,38	0,34	0,31	0,28	0,25	0,23	0,2	0,17	0,14	0,17

NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 300 (Nelprof™ code BWX_D)

The type BWX_D refers to cryogenic and warm temperatures.

The values for the standard valve are based on single U-shape seat construction and for standard materials.

The valve is designed for control and on/off purposes. Temperature range starts from -273 ... +475 °C, pressure rating ANSI class 300, PN25 and PN40. Use BWX_D for Double flanged, lug and wafer.



C_v-Values BWX_D, Cl300, PN25; PN40

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	10	25	43	66	101	149	214	284	309	309
150	6	32	81	142	218	332	490	704	939	1021	1021
200	8	69	174	307	472	717	1058	1521	2028	2204	2204
250	10	108	271	478	735	1117	1650	2372	3163	3437	3437
300	12	166	415	731	1126	1710	2525	3630	4840	5261	5261
350	14	241	605	1065	1640	2491	3679	5288	7051	7664	7664
400	16	317	795	1400	2155	3272	4832	6946	9262	10067	10067
450	18	428	1072	1887	2904	4411	6514	9364	12486	13572	13572
500	20	538	1349	2374	3654	5550	7840	11579	16645	22194	22194

C _v /d ²	1,13	2,83	4,97	7,66	8,94	11,63	17,18	24,7	32,93	35,8
F _L	0,86	0,85	0,83	0,81	0,78	0,75	0,71	0,65	0,56	0,86
x _T	0,53	0,53	0,53	0,52	0,5	0,44	0,39	0,33	0,25	0,53
z	0,38	0,335	0,3	0,28	0,26	0,24	0,22	0,19	0,16	0,38

NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 600 (Nelprof™ code BWX_F)

The type BWX_F refers to cryogenic and high temperatures. The values for the standard valve are based on single U-shape seat construction and for standard materials. The valve is designed for control and on/off purposes. Temperature range starts from -273 ... +475 °C, pressure rating ANSI class 600, PN63 and PN100. Use BWX_F for for double flanged, lug and wafer.



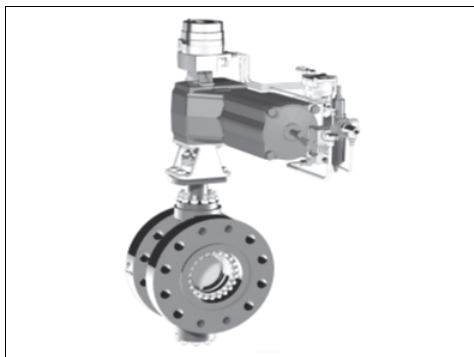
C_v-Values BWX_F, Cl600, PN63; PN100

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	7	18	31	48	73	107	154	205	223	224
150	6	23	58	102	157	238	351	505	674	732	733
200	8	51	128	226	348	528	779	1119	1492	1622	1623
250	10	66	164	289	445	676	998	1434	1913	2079	2080
300	12	106	267	469	722	1097	1620	2329	3105	3375	3376
350	14	153	384	674	1038	1577	2329	3348	4463	4851	4852
400	16	189	475	836	1287	1954	2886	4149	5532	6014	6015
450	18	251	630	1108	1706	2590	3826	5500	7333	7971	7972
500	20	374	939	1652	2543	3863	5705	8201	10935	11886	11887
600	24	568	1424	2505	3856	5856	8648	12432	16576	18017	18018

C _v /d ²	0,75	1,88	3,31	5,09	7,73	11,41	16,4	21,87	23,77	23,78
F _L	0,86	0,85	0,83	0,81	0,78	0,75	0,71	0,65	0,56	0,49
x _T	0,53	0,53	0,53	0,52	0,5	0,44	0,39	0,33	0,25	0,17
z	0,38	0,34	0,3	0,28	0,26	0,24	0,22	0,19	0,16	0,15

NELES B-SERIES, METAL SEATED ECCENTRIC HIGH TEMP VALVE, RATING 900 (Nelprof™ code BWH_G/D, BWH_G/F, BWH_G/G)

The Type BWH_G refers for high temperature. The values for the standard valve are based on single U-shape seat construction and for standard materials. The material as well as the seat selection has an effect on valve dimensions and Nelprof sizing due to strength calculations. The valve is designed for control and on/off purposes. Temperature range starts from 0 ... 600 °C, pressure rating ANSI class 900, PN150. Use Nelprof code BWH_G for Double Flanged Wafer, Lug and Butt Weld End design sizing. For this valve also a de-rated trim option exists to increase flow capacity.



C_v-Values BWH_G/D 900/300 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	54	81	111	158	228	323	438	555	621	627
200	8	92	137	192	279	413	598	833	1091	1282	1313
250	10	145	217	312	470	719	1071	1541	2100	2596	2697
300	12	155	230	349	558	894	1387	2079	2970	3882	4093
350	14	215	321	483	779	1261	1958	2927	4176	5437	5716
400	16	281	419	625	1020	1668	2591	3863	5504	7138	7482
450	18	355	529	785	1293	2137	3323	4942	7032	9083	9493
500	20	374	557	845	1440	2415	3773	5603	7967	10414	10920
600	24	473	705	1135	2091	3619	5706	8451	11997	16072	16963

C _v /d ²	1.00	2.43	4.22	6.37	8.94	13.24	18.61	25.77	32.93	35.79
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWH_G/D 900/300 (stainless steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	19	37	66	101	139	186	246	288	325	338
200	8	42	83	146	223	314	431	578	711	842	910
250	10	68	136	242	376	542	764	1043	1347	1683	1895
300	12	72	144	256	407	611	901	1267	1754	2335	2744
350	14	105	209	363	583	891	1319	1850	2562	3396	3983
400	16	143	285	489	787	1215	1811	2509	3501	4629	5421
450	18	184	368	619	1002	1576	2363	3264	4549	5990	7011
500	20	211	421	721	1201	1925	2896	4018	5564	7392	8729
600	24	260	520	928	1658	2776	4205	5846	8048	10917	13149

C _v /d ²	1.00	2.43	4.22	6.37	8.94	13.24	18.61	25.77	32.93	35.79
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWH_G/F 900/600 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	31	52	80	117	162	222	297	368	420	446
200	8	62	107	167	246	349	486	662	851	1017	1118
250	10	105	180	283	427	623	893	1245	1672	2107	2402
300	12	113	195	315	493	751	1123	1618	2299	3076	3644
350	14	150	258	409	645	998	1496	2149	3054	4069	4812
400	16	196	339	533	845	1320	1990	2835	4043	5368	6338
450	18	254	439	682	1086	1722	2611	3705	5280	6982	8235
500	20	285	491	777	1276	2061	3137	4467	6326	8442	10050
600	24	354	611	1013	1785	3011	4621	6603	9261	12607	15308

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

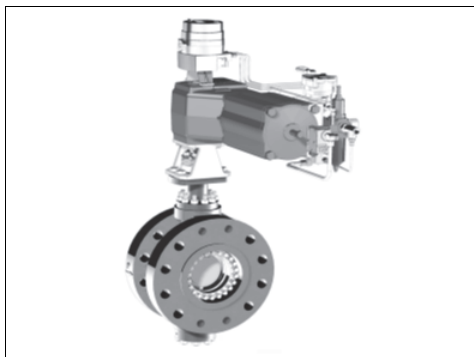
C_v-Values BWH_G/G 900/900 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	19	37	66	101	139	186	246	288	325	338
200	8	42	83	146	223	314	431	578	711	842	910
250	10	68	136	242	376	542	764	1043	1347	1683	1895
300	12	72	144	256	407	611	901	1267	1754	2335	2744
350	14	105	209	363	583	891	1319	1850	2562	3396	3983
400	16	143	285	489	787	1215	1811	2509	3501	4629	5421
450	18	184	368	619	1002	1576	2363	3264	4549	5990	7011
500	20	211	421	721	1201	1925	2896	4018	5564	7392	8729
600	24	260	520	928	1658	2776	4205	5846	8048	10917	13149

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

NELES B-SERIES, METAL SEATED ECCENTRIC HIGH TEMP VALVE, RATING 1500 (Nelprof™ code BWH_H/D, BWH_H/F, BWH_H/G, BWH_H/H)

The Type BWH_H refers for high temperature. The values for the standard valve are based on single U-shape seat construction and for standard materials. The material as well as the seat selection has an effect on valve dimensions and Nelprof sizing due to strength calculations. The valve is designed for control and on/off purposes. Temperature range starts from 0 ... 600 °C, pressure rating ANSI class 1500, PN250. Use Nelprof code BWH_H for Double Flanged, Wafer, Lug and Butt Weld End design sizing. For this valve also a de-rated trim option exists to increase flow capacity.



C_v-Values BWH_H/D 1500/300 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	35	53	75	107	152	214	294	400	474	489
200	8	65	98	140	203	294	422	588	810	992	1076
250	10	113	172	247	367	547	804	1141	1599	2033	2325
300	12	134	205	297	456	710	1075	1562	2233	2965	3585
350	14	188	288	421	655	1029	1571	2288	3276	4350	5207
400	16	239	365	542	852	1351	2078	3034	4348	5775	6843
450	18	286	438	658	1047	1674	2595	3799	5450	7239	8493
500	20	336	513	761	1215	1966	3066	4481	6392	8561	10258
600	24	446	683	982	1580	2626	4149	6040	8513	11602	14511

C _v /d ²	1.00	2.43	4.22	6.37	8.94	13.24	18.61	25.77	32.93	35.79
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWH_H/D 1500/300 (stainless steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	15	31	56	92	135	183	244	299	332	364
200	8	31	61	116	198	289	375	495	631	716	782
250	10	57	114	209	340	494	670	914	1214	1431	1567
300	12	88	177	303	462	664	954	1359	1897	2325	2548
350	14	134	268	433	648	946	1374	1947	2696	3328	3715
400	16	186	373	570	837	1242	1824	2570	3531	4388	4990
450	18	245	489	707	1019	1536	2280	3195	4355	5450	6313
500	20	301	602	878	1257	1873	2769	3889	5334	6625	7502
600	24	439	879	1292	1859	2758	4048	5661	8031	9840	10713

C _v /d ²	1.00	2.43	4.22	6.37	8.94	13.24	18.61	25.77	32.93	35.79
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWH_H/F 1500/600 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	24	37	58	88	127	178	245	316	366	394
200	8	48	77	124	196	285	390	528	700	826	895
250	10	92	150	240	373	549	776	1079	1473	1803	2008
300	12	123	200	310	474	709	1047	1506	2128	2714	3107
350	14	173	287	436	665	1008	1501	2156	3036	3886	4464
400	16	221	375	562	854	1309	1967	2822	3960	5087	5862
450	18	274	467	686	1039	1613	2447	3505	4901	6319	7306
500	20	323	557	818	1237	1921	2917	4180	5847	7541	8704
600	24	480	829	1204	1830	2876	4382	6253	8843	11422	13188

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWH_H/F 1500/600 (stainless steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	0	0	0	0	0	0	0	0	0	0
200	8	23	55	103	165	239	322	395	448	485	517
250	10	43	105	197	319	466	636	802	945	1054	1134
300	12	60	144	270	440	653	907	1182	1449	1670	1809
350	14	73	176	338	559	832	1147	1489	1855	2171	2372
400	16	88	213	417	700	1045	1430	1848	2342	2785	3069
450	18	88	213	417	700	1045	1430	1848	2342	2785	3069
500	20	125	301	579	982	1492	2071	2697	3364	4019	4384
600	24	192	464	886	1495	2260	3111	4047	5122	6089	6522

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWH_H/G 1500/900 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	15	31	56	92	135	183	244	299	332	364
200	8	31	61	116	198	289	375	495	631	716	782
250	10	57	114	209	340	494	670	914	1214	1431	1567
300	12	88	177	303	462	664	954	1359	1897	2325	2548
350	14	134	268	433	648	946	1374	1947	2696	3328	3715
400	16	186	373	570	837	1242	1824	2570	3531	4388	4990
450	18	245	489	707	1019	1536	2280	3195	4355	5450	6313
500	20	301	602	878	1257	1873	2769	3889	5334	6625	7502
600	24	439	879	1292	1859	2758	4048	5661	8031	9840	10713

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

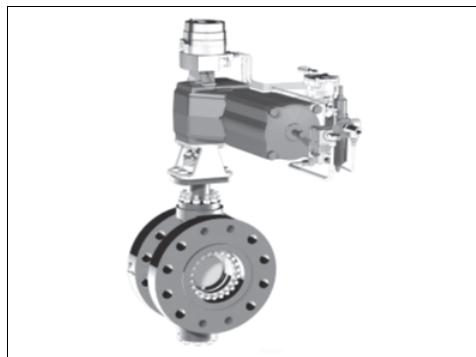
C_v-Values BWH/H 1500/1500 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	0	0	0	0	0	0	0	0	0	0
200	8	23	55	103	165	239	322	395	448	485	517
250	10	43	105	197	319	466	636	802	945	1054	1134
300	12	60	144	270	440	653	907	1182	1449	1670	1809
350	14	73	176	338	559	832	1147	1489	1855	2171	2372
400	16	88	213	417	700	1045	1430	1848	2342	2785	3069
450	18	105	252	479	808	1231	1717	2237	2769	3317	3651
500	20	125	301	579	982	1492	2071	2697	3364	4019	4384
600	24	192	464	886	1495	2260	3111	4047	5122	6089	6522

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

NELES B-SERIES, METAL SEATED ECCENTRIC HIGH TEMP VALVE, RATING 2500 (Nelprof™ code BWH_I/D, BWH_I/F, BWH_I/G; BWH_I/H)

The Type BWH_I refers for high temperature. The values for the standard valve are based on single U-shape seat construction and for standard materials. The material as well as the seat selection has an effect on valve dimensions and Nelprof sizing due to strength calculations. The valve is designed for control and on/off purposes. Temperature range starts from 0 ... 600 °C, pressure rating ANSI class 2500, PN420. Use Nelprof code BWH_I for Double Flanged, Wafer, Lug and Butt Weld End design sizing. For this valve only de-rated trim option exists to increase flow capacity.



C_v-Values BWI_I/D 2500/300 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	8	31	48	69	101	143	195	263	316	328
200	8	17	62	104	150	216	311	440	602	747	782
250	10	31	109	185	271	408	628	856	1141	1455	1650
300	12	42	116	202	361	613	907	1198	1578	2092	2597
350	14	84	167	301	558	947	1401	1875	2497	3239	3841
400	16	136	199	384	749	1267	1876	2543	3422	4348	4928
450	18	171	253	525	1032	1716	2517	3503	4479	5493	6384
500	20	0	0	0	0	0	0	0	0	0	0
600	24	0	0	0	0	0	0	0	0	0	0

C _v /d ²	1.00	2.43	4.22	6.37	8.94	13.24	18.61	25.77	32.93	35.79
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWI_I/D 2500/300 (stainless steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	5	24	42	62	87	113	146	180	204	211
200	8	11	51	94	142	199	265	351	440	504	527
250	10	22	93	175	270	393	546	709	890	1044	1121
300	12	31	113	227	388	596	825	1065	1362	1648	1821
350	14	60	162	325	566	877	1221	1581	2024	2421	2628
400	16	98	212	423	751	1173	1642	2133	2735	3233	3450
450	18	122	256	544	985	1527	2129	2814	3593	4138	4398
500	20	0	0	0	0	0	0	0	0	0	0
600	24	0	0	0	0	0	0	0	0	0	0

C _v /d ²	1.00	2.43	4.22	6.37	8.94	13.24	18.61	25.77	32.93	35.79
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWI_I/F 2500/600 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	7	27	46	67	95	129	172	221	257	267
200	8	14	57	100	148	209	289	396	519	617	646
250	10	28	109	195	294	434	634	842	1089	1330	1467
300	12	40	125	236	411	664	947	1235	1601	2026	2371
350	14	76	176	336	602	975	1393	1832	2390	2973	3371
400	16	123	218	430	801	1298	1860	2466	3235	3959	4351
450	18	149	262	552	1043	1669	2374	3216	4104	4871	5409
500	20	0	0	0	0	0	0	0	0	0	0
600	24	0	0	0	0	0	0	0	0	0	0

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWI_I/F 2500/600 (stainless steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	0	0	0	0	0	0	0	0	0	0
200	8	8	34	69	110	156	205	259	310	352	377
250	10	14	60	126	207	298	398	505	617	721	791
300	12	20	80	175	298	437	592	759	947	1138	1280
350	14	38	118	243	410	610	837	1073	1337	1599	1785
400	16	60	157	306	514	777	1080	1385	1721	2051	2272
450	18	71	189	372	627	948	1311	1679	2092	2500	2762
500	20	0	0	0	0	0	0	0	0	0	0
600	24	0	0	0	0	0	0	0	0	0	0

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

C_v-Values BWI_I/G 2500/900 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	5	24	42	62	87	113	146	180	204	211
200	8	11	51	94	142	199	265	351	440	504	527
250	10	22	93	175	270	393	546	709	890	1044	1121
300	12	31	113	227	388	596	825	1065	1362	1648	1821
350	14	60	162	325	566	877	1221	1581	2024	2421	2628
400	16	98	212	423	751	1173	1642	2133	2735	3233	3450
450	18	122	256	544	985	1527	2129	2814	3593	4138	4398
500	20	0	0	0	0	0	0	0	0	0	0
600	24	0	0	0	0	0	0	0	0	0	0

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

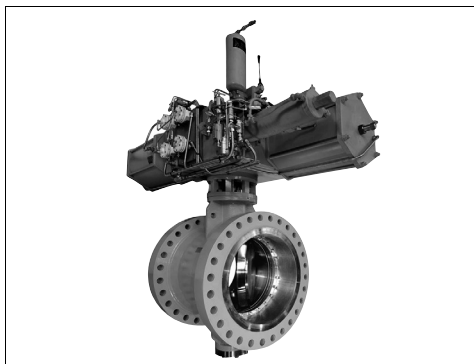
C_v-Values BWI_I/H 2500/1500 (carbon steel)

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	0	0	0	0	0	0	0	0	0	0
200	8	8	34	69	110	156	205	259	310	352	377
250	10	14	60	126	207	298	398	505	617	721	791
300	12	20	80	175	298	437	592	759	947	1138	1280
350	14	38	118	243	410	610	837	1073	1337	1599	1785
400	16	60	157	306	514	777	1080	1385	1721	2051	2272
450	18	71	189	372	627	948	1311	1679	2092	2500	2762
500	20	0	0	0	0	0	0	0	0	0	0
600	24	0	0	0	0	0	0	0	0	0	0

C _v /d ²	0.67	1.62	2.81	4.23	5.94	8.79	12.36	17.11	21.87	23.77
F _L	0.86	0.85	0.83	0.81	0.78	0.75	0.71	0.65	0.56	0.49
x _T	0.53	0.53	0.53	0.52	0.5	0.44	0.39	0.33	0.25	0.17
z	0.38	0.34	0.3	0.28	0.26	0.24	0.22	0.19	0.16	0.15

NELES B-SERIES, METAL SEATED ECCENTRIC VALVE, RATING ANSI 150 (Nelprof™ code BWL_C)

The Type BWL_C refers for high temperature. The values for the standard valve are based on single U-shape seat construction and for standard materials. The material as well as the seat selection has an effect on valve dimensions and Nelprof sizing due to strength calculations. The valve is designed for control and on/off purposes. Temperature range start from -50 ... 475 °C, pressure rating ANSI class150, PN25. Use Nelprof code BWL_C for Double Flanged, Wafer, Lug and Butt Weld End design sizing.



C_v-Values BW150

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
400	16	97	367	704	1140	1771	2749	4260	6533	9634	12000
500	20	126	477	922	1554	2504	3913	6155	9801	14809	19000
600	24	259	980	1653	2683	4246	6633	10304	16015	24572	32000
700	28	436	1569	2845	4574	7075	10743	16247	24703	36443	44000
800	32	555	2063	3613	5703	8824	13357	20144	30807	45564	54000
900	36	678	2261	4454	7447	11511	17595	26763	40203	58993	74000
1000	40	744	2812	5123	8519	13579	20777	30809	44362	61574	82000
1200	48	1674	4659	8652	14870	23840	36556	54922	81105	118829	139000
1400	56	2428	6516	11937	20651	33384	51227	76751	112905	165360	190221
1500	60	3578	9245	16212	28740	45696	67513	97566	137877	186837	215312

C _v /d ²	1.38	3.02	5.09	7.76	11.17	15.69	29.96	40.72	63.69	74.12
F _L	0.87	0.85	0.83	0.81	0.77	0.73	0.6	0.49	0.28	0.18
x _T	0.53	0.53	0.53	0.52	0.47	0.41	0.27	0.19	0.06	0.04
z	0.38	0.34	0.31	0.28	0.25	0.23	0.17	0.14	0.09	0.07

NELES B-SERIES, SOFT SEATED ECCENTRIC VALVE, RATING ANSI 150 (Nelprof™ code BN150)

The double eccentric soft seated butterfly valve type BN is designed mainly for on/off-applications, but can be of course used also in control. The temperature range start from -10 ... +200 °C depending the seat material, the pressure rating ANSI class 150, PN10, PN16. Use Nelprof code BN150 for Double Flanged, Wafer and Lug design.



C_v-Values BN150

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
100	4	7	30	59	98	145	209	306	433	608	745
150	6	22	83	179	291	431	618	850	1092	1275	1360
200	8	37	141	282	465	715	1075	1555	2115	2656	2768
250	10	52	195	399	668	1037	1557	2218	2928	3568	3761
300	12	67	254	512	914	1479	2253	3289	4553	5813	6272
400	16	124	470	903	1463	2272	3527	5465	8381	12360	15396
500	20	187	706	1366	2302	3709	5797	9117	14518	21935	28143
600	24	325	1228	2071	3362	5320	8312	12912	20069	30792	40100
700	28	506	1820	3302	5307	8209	12465	18851	28662	42285	51053
800	32	552	2084	4022	6795	10745	16181	23482	32646	42155	47279
900	36	707	2355	4640	7757	11991	18329	27880	41880	61453	77086
1000	40	811	3064	5582	9283	14796	22639	33570	48338	67093	89349
1200	48	1530	4257	7906	13588	21785	33405	50188	74115	108587	127019
1400	56	2202	5912	10830	18735	30287	46474	69630	102430	150019	172574

C _v /d ²	1.38	3.02	5.09	7.76	11.17	15.69	29.96	40.72	63.69	74.12
F _L	0.87	0.85	0.83	0.81	0.77	0.73	0.6	0.49	0.28	0.18
x _T	0.53	0.53	0.53	0.52	0.47	0.41	0.27	0.19	0.06	0.04
z	0.38	0.34	0.31	0.28	0.25	0.23	0.17	0.14	0.09	0.07

NELES B-SERIES, CENTRIC HIGH CYCLE BUTTERFLY VALVE SOFT SEATED, RATING ANSI 150 (Nelprof™ code BO150)

The centric high cycle soft seated butterfly valve type BO is designed for on/off-applications. The temperature range start from -10 ... +200 °C depending the seat material, the pressure rating ANSI class 150, PN10, PN16. Use Nelprof code BO150 for Wafer design.



C_v-Values BO150

SIZE		Relative opening h									
DN	INCH	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
150	6	0	0	0	0	0	0	0	0	0	0
200	8	53	195	357	553	823	1148	1555	2115	2656	2893
250	10	71	260	494	781	1174	1649	2284	3061	3568	3912
300	12	95	348	643	1072	1660	2440	3503	4838	6026	6447
350	14	121	445	823	1320	2020	3017	4518	6677	9193	10383
400	16	152	543	1002	1568	2380	3594	5532	8516	12360	14318
450	18	183	657	1197	1934	3033	4677	7253	11187	16712	19292
500	20	215	770	1393	2300	3685	5759	8974	13858	21064	24266
600	24	334	1253	1998	2975	4938	8106	12707	19394	30148	38095
700	28	431	1615	2900	4570	7462	11878	18181	27190	41447	52286
750	30	490	1851	3246	5035	8291	13328	20463	30736	46664	62287
800	32	552	2087	3592	5501	9120	14778	22746	34283	51880	72288
900	36	532	2009	3914	6349	10521	17243	26877	40235	61319	89789
1000	40	689	2604	4700	7529	12850	20834	31752	46452	67346	110363
C _v /d ²	1.38	3.02	5.09	7.76	11.17	15.69	29.96	40.72	63.69	74.12	
F _L	0.87	0.85	0.83	0.81	0.77	0.73	0.6	0.49	0.28	0.18	
x _T	0.53	0.53	0.53	0.52	0.47	0.41	0.27	0.19	0.06	0.04	
z	0.38	0.34	0.31	0.28	0.25	0.23	0.17	0.14	0.09	0.07	

INITIAL OPENINGS (h_0) FOR THE VALVES

ROTARYGLOBE

The initial openings h_0 for Rotary Globe valves are shown in the following table as a function of valve nominal size and selected trim. Valves are identified by their Nelprof™ type code.

DN15 - DN25 / ½"-1"	
L001	16.7
L003	16.7
L011	16.7
L025	16.7
L060	15
L120	12.8
E011	8.9
E022	15.6
E043	15
E090	12.8
B020	15
B050	15

DN40 - DN50 / 1½"- 2"	
L030	15
L070	15
L150	13.3
L310	12.8
E115	13.3
E260	12.8
B050	15
B130	15

DN80/ 3"	
L180	8.9
L350	9.4
L550	8.3
E320	10
E460	8.9
B130	9.4
B280	9.4

DN100 / 4"	
L350	9.4
L700	9.4
L1150	9.4
E540	9.4
E800	9.4
B280	10
B520	10

FINETROL VALVES

For all eccentric plug valves the initial opening h_0 is zero.

Exception is DN25 (1") low-CV valves, which have initial openings depending on trim Cv as follows:

- type code modifier H1: $h_0 = 9.9^\circ$.
- type code modifier H2: $h_0 = 9.9^\circ$.
- type code modifier H3: $h_0 = 8.8^\circ$.

V-PORT SEGMENT VALVES

The initial openings h_0 for segment valves are shown in the following table as a function of valve nominal size. Valves are identified by their Nelprof™ type code.

RE/RA segments valves

Size	Seat		
	S & A	1S	T2
25	14.2	12.8	24.1
C005 25/1	10.3	N/A	16.1
C015 25/2	10.3	N/A	16.1
C05 25/3	10.3	N/A	16.1
C15 25/4	10.3	N/A	16.1
40	11.9	9.3	18.6
50	16.7	11.4	21.1
65	12.6	10.6	16.8
80	8.9	7.8	14.1
100	8.1	7	14.1
150	7	5.6	12.2
200	6.2	5.9	11.4
250	6.1	5.6	9.7
300	5.6	5	9
350	5.2	5.4	8.6
400	5.1	4.4	8.2
500	4.4	4.4	7.1
600	N/A	5.9	N/A
700	N/A	6.3	N/A

BALL VALVES

The initial openings h_0 for ball valves are shown in the following table as a function of valve nominal size. Valves are identified by their Nelprof™ type code.

SIZE		INITIAL OPENINGS (h_0) IN DEGREES											Q2G-D1F, Q2G-D2, Q2G-XM, Q2G-XG	Q2GH-D1F, Q2GH-D2, Q2GH-XM, Q2GH-XG	Q2G-T5, Q2GH-T5
DN	INCH	Q-D1 Q-D2 QLM-D1 QLM-D2 Q-	Q- XMBV Q-XG Q-XM	T5 Q-T5 QA-T5	T25 Q-T25	9000	X- MBV XG XM	7000 5300 5150 4000	X- MBVR	D1 P	D2 C	E			
15	1/2	---	---	---	---	---	---	7.25°	---	---	---	---	---	---	---
20	3/4	---	---	---	---	---	---	7.5°	---	---	---	---	---	---	---
25	1	---	---	18.5°	---	16°	12.6°	10.5°	---	16°	10.5°	---	---	---	---
32	1 1/4	---	---	---	---	---	---	11°	---	---	---	---	---	---	---
40	1 1/2	---	---	18.5°	---	16°	10.8°	8.5°	---	16°	8.5°	---	---	---	---
50	2	17°	10.8°	18.5°	18.5°	16°	10.8°	7.5°	---	16°	7.5°	16	16	---	---
65	2 1/2	---	---	---	---	---	---	---	---	14°	---	---	---	---	---
80	3	14°	8.6°	13.5°	13.5°	13°	8.6°	8.5°	7.3°	13°	8.5°	12.8	12.8	21	---
100	4	14°	8.2°	13.5°	12.5°	13°	8.2°	9.5°	8°	13°	9.5°	12	12.8	20	---
125	5	---	---	---	---	---	---	---	---	13°	---	---	---	---	---
150	6	11°	9.7°	12.5°	10°	11°	9.7°	10°	10.9°	11°	9.5°	12.7	12.7	18.2	---
200	8	9°	8.4°	10°	10°	9°	8.4°	9.7°	10.4°	9°	---	10.6	12.7	14.2	---
250	10	8°	7.3°	10°	10°	8°	7.3°	7.5°	---	8°	---	9.4	10.7	16	---
300	12	8°	6.3°	10°	---	8°	6.3°	8°	---	8°	---	8	9	11.9	---
350	14	7°	6.1°	10°	---	8°	6.1°	7°	---	7°	---	8	8	9.4	---
400	16	7°	5.8°	10°	---	8°	5.8°	7°	---	7°	---	7.6	8	9.4	---
450	18	8°	---	---	---	---	---	8°	---	8°	---	8	8	---	---
500	20	6°	---	---	---	---	---	6°	---	6°	---	8	8	---	---
600	24	6°	---	---	---	---	---	---	---	6°	---	8	8	---	---
700	28	7°	---	---	---	---	---	---	---	7°	---	8	8	---	---
750	30	6°	---	---	---	---	---	---	---	6°	---	8	8	---	---
800	32	6°	---	---	---	---	---	---	---	6°	---	8	8	---	---
900	36	5°	---	---	---	---	---	---	---	5°	---	8	8	---	---

BUTTERFLY VALVES

The initial openings h_0 for butterfly valves are shown in the following table as a function of valve nominal size. Valves are identified by their series as below.

DN	INCH	INITIAL OPENINGS (h_0) IN DEGREES		
		WAFER-SPHERE	NELES B-SERIES	NELES L-SERIES
65-100	2.5-4	4°	3°	3°
125-250	5-10	3°	3°	3°
300-500	12-20	2°	3°	3°
600-1500	24-60	1°	3°	3°

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