NELES

1/4” – 2” (DN 8 – 50) Jamesbury™ Eliminator 2000 CWP and ASME class 600 threaded end ball valve

The Jamesbury™ Eliminator ball valve offers our best technology and performance in a two-piece threaded end valve.

This ball valve’s unique design offers fire-test specifications, rugged actuator mounting and flexible-lip seats for application versatility that surpasses other low-cost ball valves.

The Eliminator ball valve is available in 1/4” – 2” (DN 8 – 50) sizes in two versions. The first is rated by the traditional approach for threaded end valves. This approach determines Cold Working Pressure (CWP) based on paragraph UG101 of the ASME Boiler and Pressure Vessel Code. Accordingly, the CWP of this series is as follows:

Valve Size		CWP Rating	
inches	DN	psi	bar
1/4” - 2”	8 - 50	2000	138

The second version is rated according to ASME Standard B16.34. This rugged ASME design meets all of the requirements of ASME B16.34 and may be used in ASME piping systems without compromising ASME piping codes. The ratings are as follows:

Valve Size		ASME Class	CWP Rating	
inches	DN		psi	bar
1/4” - 2”	8 - 50	600	1480	102.1

Both designs are available in carbon and stainless steel and are rated for steam applications with Xtreme™ (X), and PTFE (T) seats.

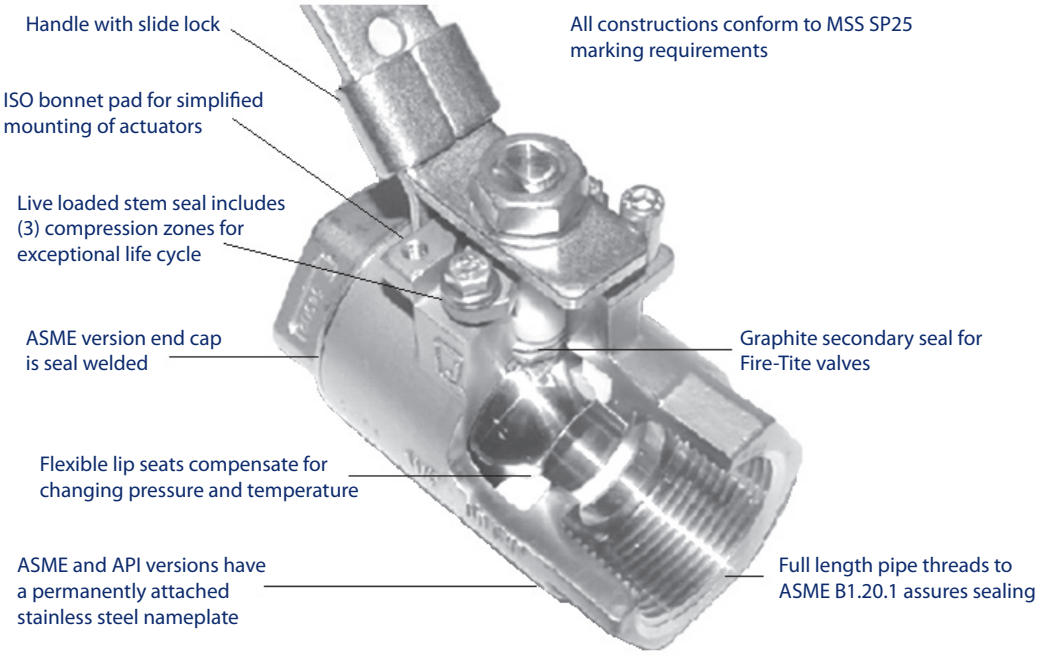
FEATURES AND BENEFITS

Reliable Bi-Directional Shutoff

- Xtreme seat provides longer life, expanded performance boundaries and greater value.
- Polymeric flexible lip-seat design offers tight shutoff in either direction and extended cycle life with minimum maintenance.
- Available to meet ASME Class 600 standards per B16.34, B31.1, B31.3, B31.4 and API 608.
- Fire-Tite™ valves meet API 607 requirements.
- ASME Class valves meet API 598 requirements.
- Patented stem seal system is live loaded and engineered to assure long sealing life.
- ISO 5211 Bonnet for global conformity.
- CE Marking option.
- Stainless steel linkage for VPVL, V-Series and ADC-Series actuators has a guided coupling to align topworks during assembly and eliminate side load stress on stem seals for long life, clean environment and reduced maintenance.
- Standard materials meet requirements of NACE MR0103 and MR0175 (see p8)

Rugged Valve/Actuator Interface Simplifies Automation

- Jamesbury actuators and linkage support up to a 200 lb. load in any direction without causing actuator misalignment and consequent stem seal leakage.



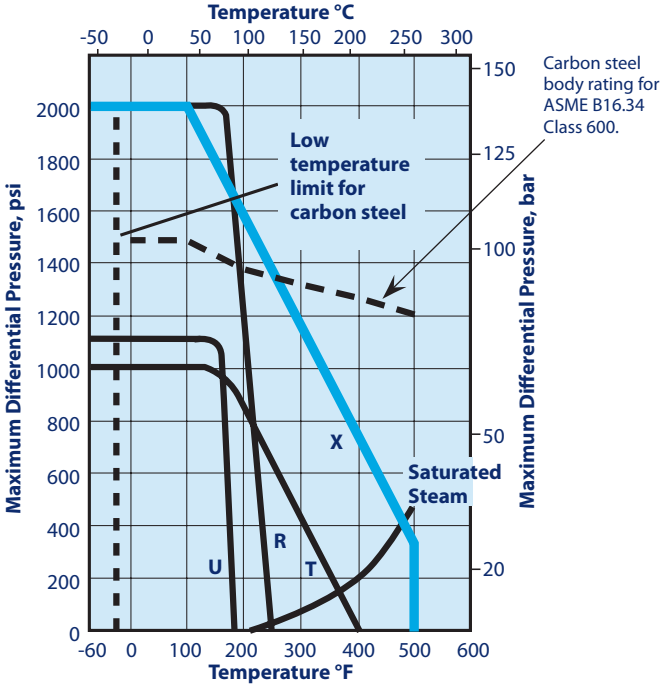
XTREME PERFORMANCE & VALUE

Xtreme seats provide longer life, expanded performance boundaries and the greatest possible value. Xtreme is a unique material that resulted from a technological breakthrough in our polymer research lab. The material is a fluoropolymer based blend, proprietary to Jamesbury that provides superior quarter turn valve performance.

Valve Seat Ratings

These ratings are based on differential pressure with valve in the fully closed position and refer to seats only. Refer to valve body ratings to be sure that all components are satisfactory for the application.

1 /4" – 2" (DN 8 – 50) Standard Port



X-*Xtreme* **T-PTFE** **R-Acetal**
U-UHMW Polyethylene

Valves with PTFE, Xtreme, PEEK®, PFA, and UHMW polyethylene seats can be used in service to -100°F (-73°C) provided that the valve body material is suitable for such a temperature.

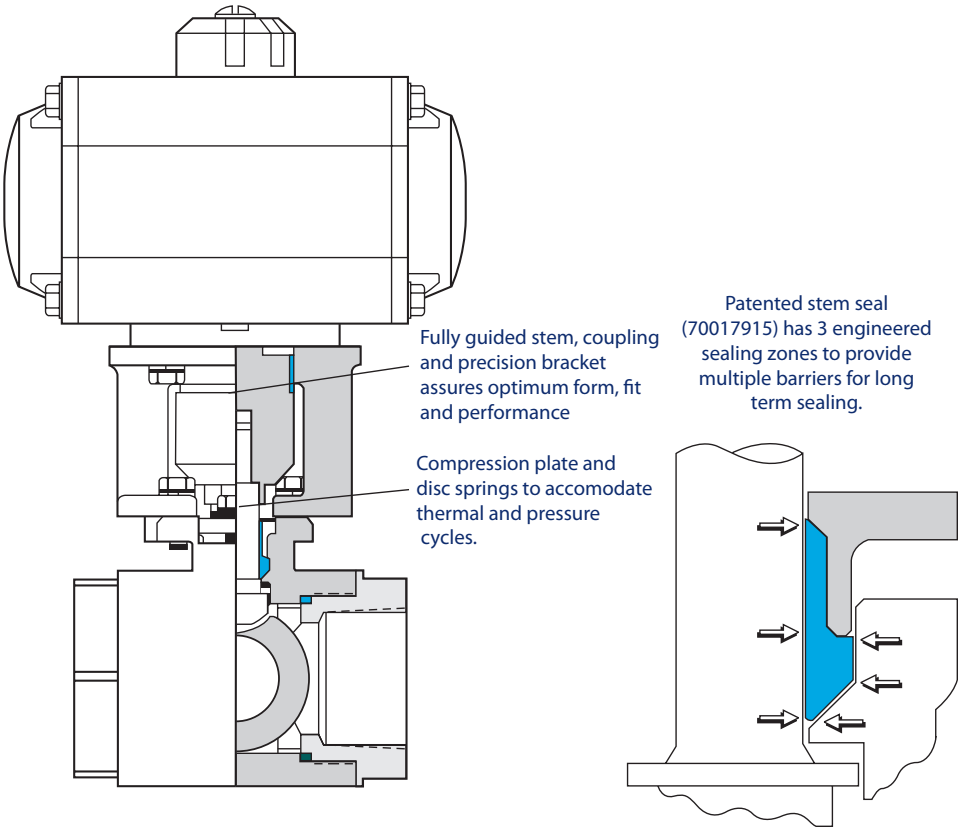
Valve Body Ratings

These are maximum working pressure ratings of the valve body only. Valves in carbon steel are suitable for service to -20˚F (-29˚C). The preceding seat ratings determine the practical pressure limit. Ratings are at -20˚F to +100˚F (-29˚C to +38˚C).

Valve Size inches	Working Pressure Rating - psi			
	Carbon Steel		Stainless Steel	
	ASME Rated	CWP Rated	ASME Rated	CWP Rated
1/4" – 2"	1480	2000	1440	2000

Valve Size DN	Working Pressure Rating - bar			
	Carbon Steel		Stainless Steel	
	ASME Rated	CWP Rated	ASME Rated	CWP Rated
8 – 50	102	138	99.3	138

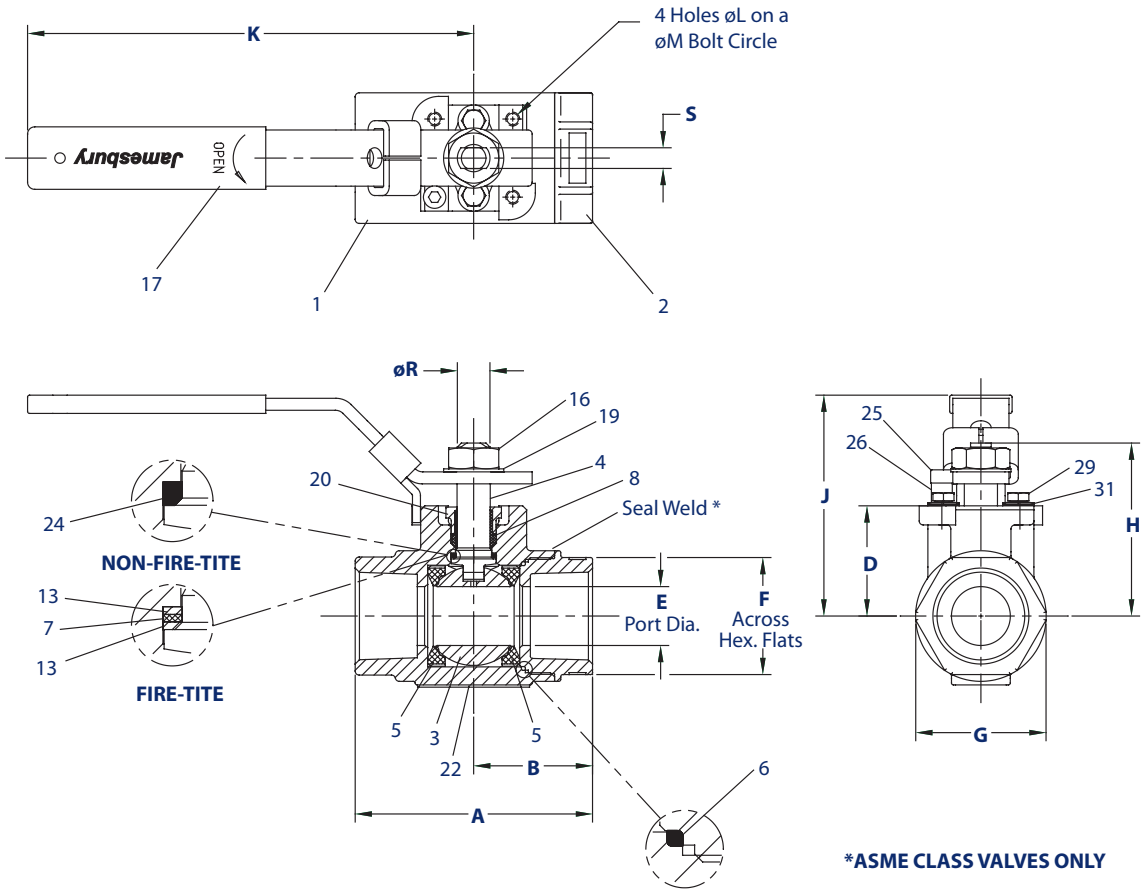
Jamesbury 'The Ultimate Process Automation Package' for VPVL Pneumatic Actuators, V-Series and ADC-Series Electric Actuators



Automation Performance and Value

Eliminator valves combined with Jamesbury actuators, offer a total value and performance package. Available with pneumatic Valv-Powr™ VPVL actuators, V-Series and ADC-Series electric actuators and withStoneL™ Quartz™, Eclipse™, and Hawkeye™ digital monitors or VCTs, the packages have a wide range of applications. Visit our website at **www.neles.com.**

DIMENSIONS



Valve Size inches	APPROXIMATE DIMENSIONS - inches														Approx. Weight lbs.
	A	B	D	E	F	G	H	J	K	L	M	R	S	ISO Bonnet	
1/4	2.16	1.13	1.06	0.43	1.13	1.2	1.63	2.36	5.00	M5	1.42	0.31	0.18	F03	1.0
3/8	2.16	1.13	1.06	0.43	1.13	1.2	1.63	2.36	5.00	M5	1.42	0.31	0.18	F03	1.0
1/2	2.62	1.34	1.06	0.50	1.13	1.2	1.63	2.36	5.00	M5	1.42	0.31	0.18	F03	1.0
3/4	3.00	1.50	1.22	0.69	1.38	1.6	1.79	2.52	5.00	M5	1.42	0.31	0.18	F03	2.0
1	3.55	1.78	1.65	0.88	1.75	2.0	2.58	3.29	6.50	M5	1.65	0.50	0.31	F04	3.0
1-1/4	4.00	2.00	1.78	1.00	2.00	2.3	2.71	3.42	6.50	M5	1.65	0.50	0.31	F04	4.0
1-1/2	4.38	2.19	2.08	1.25	2.31	2.7	3.30	4.27	8.00	M6	1.97	0.63	0.37	F05	5.5
2	5.50	2.75	2.26	1.50	2.81	3.1	3.49	4.46	8.00	M6	1.97	0.63	0.37	F05	7.5

Valve Size DN	APPROXIMATE DIMENSIONS - mm														Approx. Weight kg
	A	B	D	E	F	G	H	J	K	L	M	R	S	ISO Bonnet	
08	55	29	27	11	29	31	41	60	127	M5	36	08	05	F03	.4
10	55	29	27	11	29	31	41	60	127	M5	36	08	05	F03	.4
15	67	34	27	13	29	31	41	60	127	M5	36	08	05	F03	.4
20	76	38	31	18	35	41	45	64	127	M5	36	08	05	F03	.9
25	90	45	42	22	44	51	65	84	165	M5	42	13	08	F04	1.3
32	102	51	45	25	51	59	69	87	165	M5	42	13	08	F04	1.8
40	111	56	53	32	59	69	84	108	203	M6	50	16	09	F05	2.5
50	140	70	57	38	71	79	89	113	203	M6	50	16	09	F05	3.4

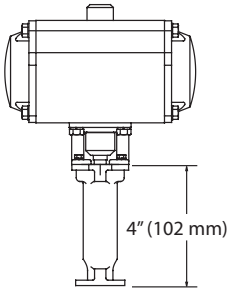
BILL OF MATERIALS AND PARTS LIST			
Part No.	Part Name	Body Material	
		Carbon Steel (22)	316 Stainless Steel (36)
1	Body	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
2	Body Cap	Carbon steel ASTM A216 Type WCB	316 Stainless steel ASTM A351 Type CF8M
3	Ball	316 Stainless steel	
4	Stem	316 Stainless steel or 17-4 PH Stainless steel	
5	Seat	PTFE, Xtreme, Acetal#, UHMW polyethylene, as specified	
6	Body Seal	TFM, UHMWPE (w/UHMWPE seats)	
7	Secondary Stem Seal	Graphite*	
8	Stem Seal	PTFE, TFM (Xtreme seated valves), UHMWPE (w/UHMWPE seats)	
13	Stem Bearing	PTFE (w/PTFE or Acetal seats), Filled PTFE (w/Xtreme seats), UHMWPE (w/UHMWPE seats)	
16	Hex Nut	316 Stainless steel	
17	Handle	Carbon steel (Zinc plated)	300 Series Stainless steel
19	Lock Washer	400 Series Stainless steel	
20	Compression Plate	316 Stainless steel (Monel® if chlorine)	
22	Identification Tag†	316 Stainless steel	
25	Socket Cap Screw	316 Stainless steel	
26	Handle Stop Spacer	316 Stainless steel	
29	Hex Cap Screw	316 Stainless steel (Monel if chlorine or NACE)	
31	Disc Springs	Inconel	

* Item 7 not applicable in non-Fire-Tite valves # Requires 17-4 PH stem † ASME Valves

ACCESSORIES

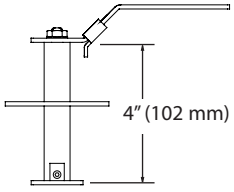
Bonnet Extension SE-096, 097 & 098

4" (102 mm) bonnet extensions are available for applications that require insulated pipe, particularly useful for automated products, bonnet extension can also be used to prevent interference between actuators and companion pipelines and equipment. They are ideal as extension that require locking lever or locking oval handle capability. Stainless steel construction offers the option of using the bonnet extension to enhance the carbon steel stem extension (SE-093, 094 & 095) offerings.



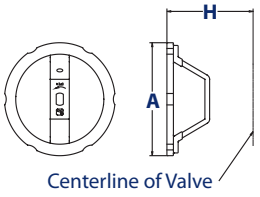
Stem Extensions SE-093, 094 & 095

A standard 4" (102 mm) stem extension is offered for improved accessibility, particularly when used in insulated pipelines. Stem extension kits can be ordered factory-mounted or shipped separately for field mounting.



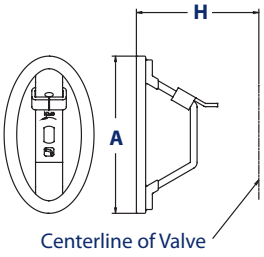
Round Handles

Optional round handles available. To order handles separately, specify the part number shown in the accessories table below.



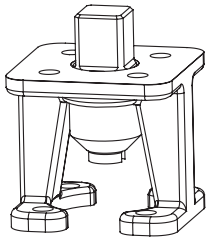
Oval handles with slide-lock

Optional oval handle saves space and may be padlocked to retain the valve in the open or closed position.



Stainless steel linkages for Jamesbury ISO Actuators

- Self aligning
- Engineered for optimum stem seal performance



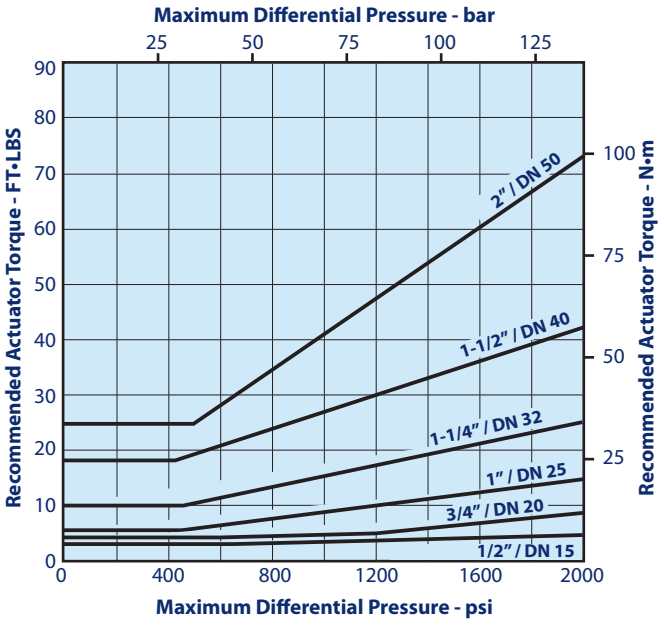
Accessories Table - inches (DN/mm)								
Valve Size Standard Bore	Bonnet Ext.*	Stem Ext.	Locking Oval	Round	Round/Oval Handle		Allowable Max.Torque FT•LBS	
					Dimension A	Dimension H	Round	Oval
1/4 – 1/2 (8 – 15)	SE-096	SE-093	112-0108-30	112-0105-30	4.00 (101.6)	2.96 (75.2)	9 (14)	9 (14)
3/4 (20)	SE-096	SE-093	112-0108-30	112-0105-30	4.00 (101.6)	3.11 (79.0)	9 (14)	9 (14)
1 (25)	SE-097	SE-094	112-0109-30	112-0106-30	4.50 (114.3)	3.70 (94.0)	18 (25)	18 (25)
1-1/4 (32)	SE-097	SE-094	112-0109-30	112-0106-30	4.50 (114.3)	3.83 (97.3)	18 (25)	18 (25)
1-1/2 (40)	SE-098	SE-095	112-0110-30	112-0107-30	5.75 (146.0)	4.75 (120.7)	25 (34)	25 (34)
2 (50)	SE-098	SE-095	112-0110-30	112-0107-30	5.75 (146.0)	4.94 (125.5)	25 (34)	25 (34)

* For valves with Acetal seats, use bonnet extension SE-096, SE-097, SE-098

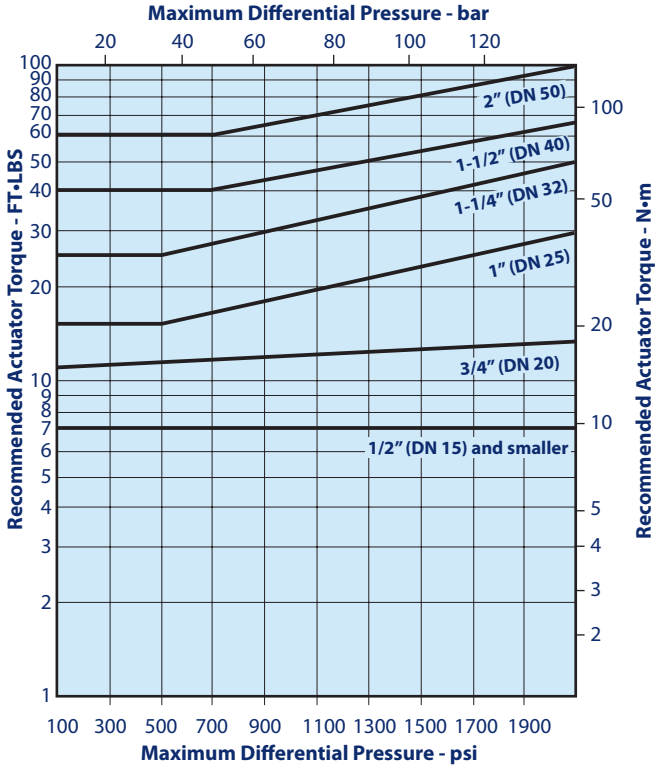
VALVE TORQUE DATA

These torque charts for Eliminator valves are to be used as a guide for actuator selection. Additional requirements may be imposed by media characteristics, trim, and frequency of valve operation. For clean lubricating fluid service, required torque of Xtreme (X), and PTFE (T) seated valves only may be reduced 20% when the valve is equipped with corrosion resistant trim. For difficult services such as slurries and semi-solids, and for oxygen, increase values by 50%. If in doubt, select the larger actuator. Torque output values and actuator selection tables for the different types of Jamesbury actuators are contained in the bulletins listed on Page 7.

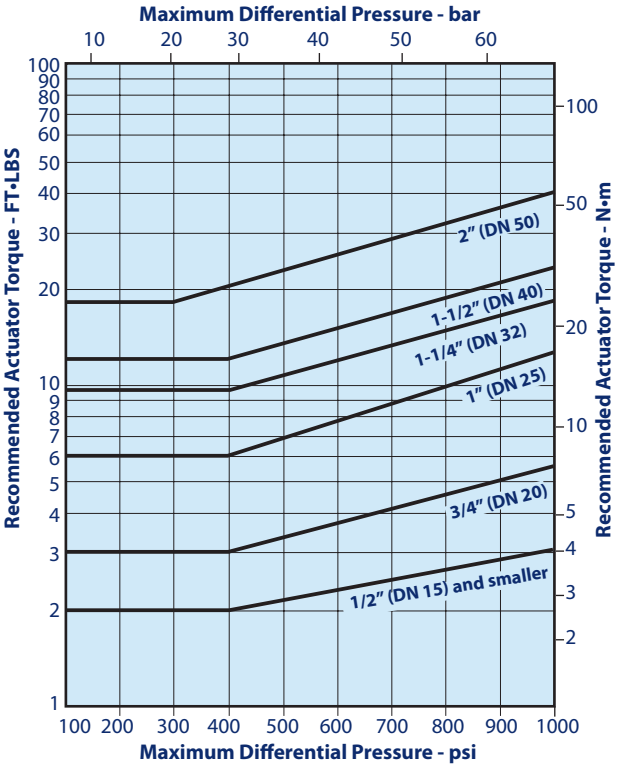
Xtreme (X) Seated Standard-Port Valves



Acetal Seated Valves

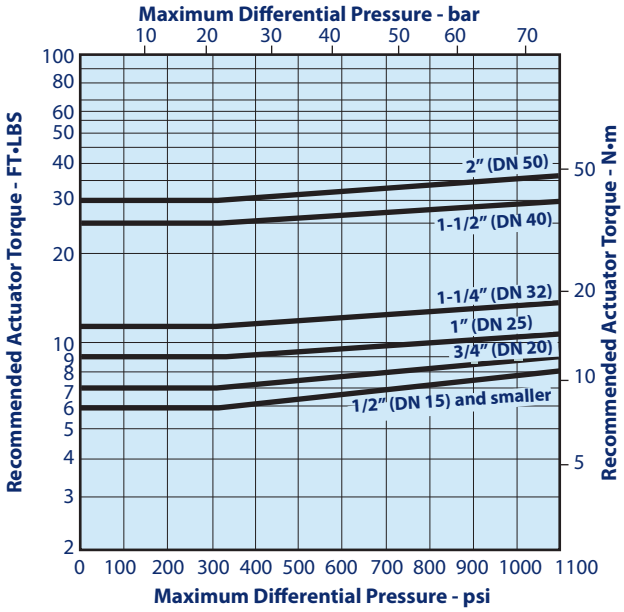


PTFE (T) Seated Valves



VALVE TORQUE DATA (CONTINUED)

UHMW (U) Polyethylene Seated Standard Port Valves



Actuators

Neles offers a full line of integrally designed actuators for automated systems or for easier control of inaccessible or remote valves. Pneumatic actuators that include doubleacting and spring-return piston, vane and rack and pinion units, spring-diaphragm types, and electric actuators are available for all valves. Electric actuators are available in both watertight and hazardous location models. For further information on actuators for Eliminator valves, see the following:

Type	Bulletin
Spring Diaphragm Rotary Actuators	A110-4
Double Opposed Piston Actuators	A111-5
V-Series Electric Actuators	V200-1
ADC-Series Electric Actuators	V201-1

STANDARDS AND SPECIFICATIONS

Eliminator valves are available in types that meet the following industry specifications.

Specification	Description
ASME B1.20.1	Pipe Threads
ASME B16.11	Steel Fitting Socket Welding and Thread
ASME B16.34	Valves-Flanged and Buttwelding Ends
ASME B31.4	Liquid Petroleum Piping
API 598	Valve Inspection and Testing
API 607	Fire Test for Soft-seated Valves (Div. of Refining)

Specification	Description
API 608	Metal Ball Valves, Flanged, Threaded and Welded End
MSS SP-25	Standard Marking System for Valves
MSS SP-25	Quality Standard for Steel Fittings for Valves
NACE MR-0103-2003	Materials Resistant to Sulfide Stress Cracking in Corrosive Petroleum Refining Environments

Flow Data

The table below provides flow coefficients of reduced port Eliminator valves. The C_v values represent the flow of water at +60˚F through the valve in gallons per minute at a pressure drop of 1 psi. The metric equivalent, K_v, is the flow of water at 16˚C through the valve in cubic meters per hour at a pressure drop of 1kg/cm^2. To convert C_v to K_v multiply by 0.8569.

Valve Size		C_v	Equivalent length of pipe - ft.
inches	DN		
1/4	8	6	.33
3/8	10	10	.61
1/2	15	13	1.5
3/4	20	33	1.1
1	25	44	2.1
1-1/4	32	46	8.4
1-1/2	40	95	4.5
2	50	111	12.0

HOW TO ORDER ELIMINATOR BALL VALVES

WARNING:
As the use of the valve is application specific, a number of factors should be taken into account when selecting a valve for a given application. Therefore, some of the situations in which the valves are used are outside the scope of this manual. If you have any questions concerning the use, application or compatibility of the valve with the intended service, contact Neles for more information.

1	2	3	4	5	6	7	8
1-1/2	9F	A	-	22	36	XT	B

Example: This example is for a 1-1/2" Fire-Tite ASME Class 600 NPT ball valve constructed of carbon steel body, stainless steel ball and stem, Xtreme seats, TFM seals, Model Code B.

1	Valve Size	
	inches	DN
1/4	1/4	8
3/8	3/8	10
1/2	1/2	15
3/4	3/4	20
1	1	25
1-1/4	1-1/4	32
1-1/2	1-1/2	40
2	2	50

2	Valve Size & Configuration
9F*	Fire-Tite Standard
9N	Non-Fire-Tite

3	Pressure Class Conformance
A*	ASME Class
B	Non-ASME-Class
M**	ASME Class with Metric Nameplate

4	Special Application/Construction or Service
—	Standard
O	Oxygen
N	NACE MR0103
C	Chlorine
V	High Vacuum
VC	High Vacuum Certified
TG	Top Ground
STGR	Top & Bottom Ground

5	Body Material
22[2]	Carbon Steel (WCB)
36[2]	316 Stainless Steel (CF8M)

6	Ball & Stem Material
00	Same material as body (Carbon steel not available)
36[2]	316 Stainless Steel
71[2]	Monel
73	Hastelloy C
HB[2]	316 SS Ball/17-4PH Stem

7	Seat & Seal Material	
	Seats	Seal (Stem & Body)
Standard Fire-Tite Options		
TT	PTFE	PTFE & TFM
XT	Xtreme	TFM
Non-Fire-Tite Options		
UU	UHMW Polyethylene	UHMW PE
RT[1]	Acetal (Not for ASME, 17-4 PH stem required)	PTFE & TFM

8	Valve Model
B	Eliminator Model B

* For seal welded valves specify ASME Class (A) in box 3.
** Valves larger than 1" (DN 25) are CE marked.
[1] Not a self-relieving seat design.
[2] Material meets NACE requirements for sour environments. For valves to be in full compliance with NACE, both the body (sign #5) and trim (sign #6) must meet the NACE requirement.

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