Neles Easyflow ™ concentric disc resilient seated butterfly valves

Series 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. Although compact and lightweight, the JA series is designed to be rugged, reliable, and to comply with a variety of global industry standards. Complete package reliability and single source responsibility available with actuators, switches, and intelligent valve controllers.



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Technical description

- Wafer or lug body type available
- Single piece cast body
- Rugged, bonded elastomeric cartridge seal is easily replaceable
- Bi-directional bubble-tight shut-off to full rated pressure
- Suitable for vacuum service
- Compatible with EN, ASME raised or flat face flange bolt patterns
- Face-to-face dimension complies with API 609 Table 2 for Category A valves
- Seal design extends to flanges – no need for additional flange gaskets
- Valve body is powder coated for excellent corrosion resistance
- CE marked, conforming to European PED 2014/68/EU

Features



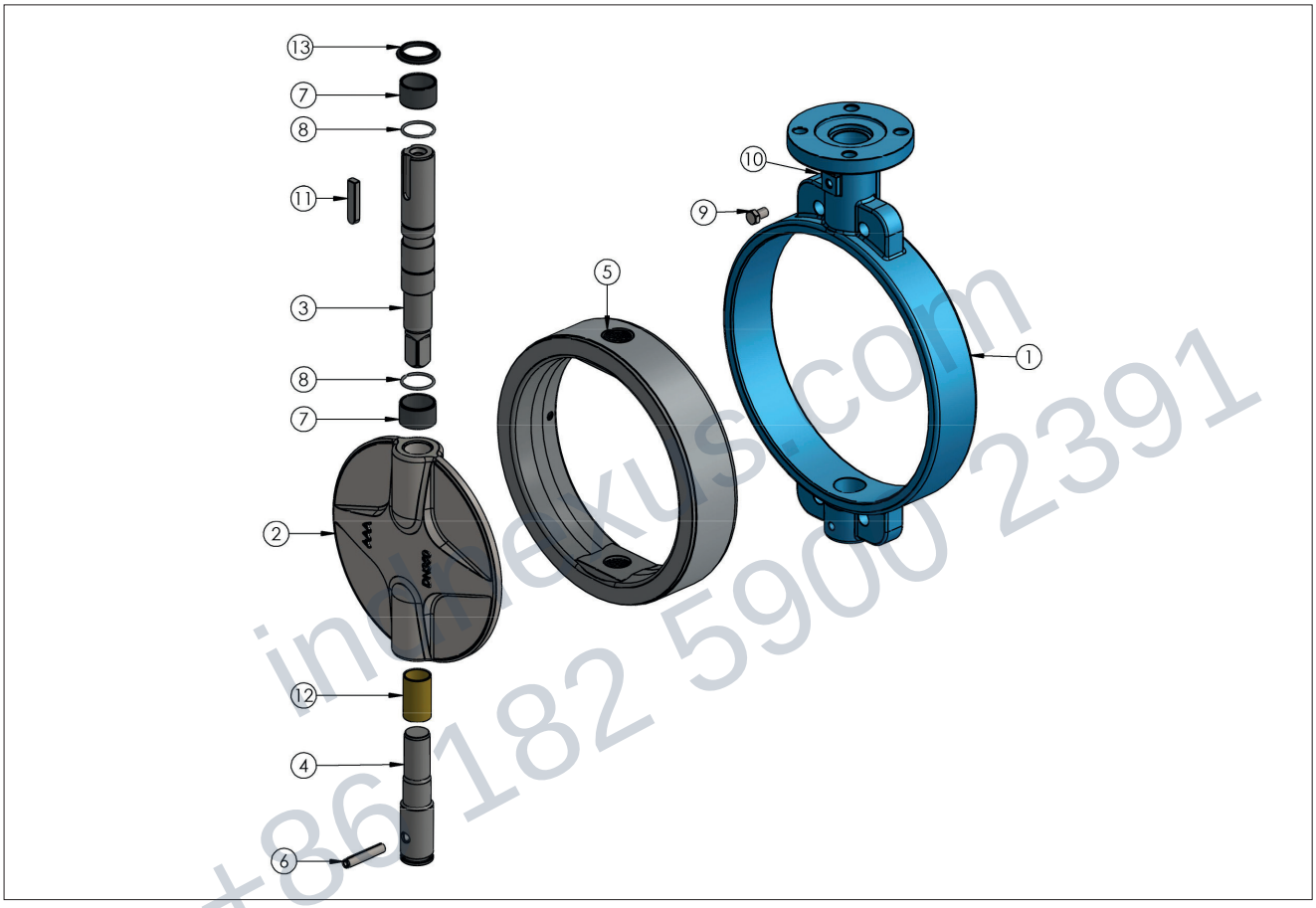


- ISO 5211 mounting pad for direct mounting of handle, gear operator, manual override, or actuator
- An extremely tight fit square drive between the stem and disc provides accurate and repeatable shut-off and control
- Bonded seal is the most rugged method of construction available, providing consistent operating torque, maximum life cycle, and higher flow velocities in control. Avoids pinching and tearing that can occur with non-bonded seal designs
- Bonded elastomeric cartridge seal is easy to remove and replace if maintenance is ever needed
- Disc is precision machined with a spherical disc edge to provide long cycle life
- Two-piece stem arrangement for highest Cv and maximum flow
- Top and bottom stems have anti blow-out protection that also prevents lifting or pushing of the disc during actuator installation or removal
- Lower stem includes groove for easy servicing
- The burnished stem is supported by self lubricating polymer bearings to minimize deflection and provide smooth operation and long life
- Weather seal to restrict unwanted foreign particles entering the valve stem area.
- Every valve is factory tested, serialised & quality tagged prior to shipment
- If unidirectional electric actuator is used, valve is capable of 360 deg. disc rotation
- Standards followed include ISO 5211, API 598, API 609, ASME B16.5 for Class 150 flanges, BS EN 593

Applications

- Water and waste water
- Sewage treatment
- Mining and other slurries
- Fuel oil and gas
- Cooling or chilled water circuits
- Desalination
- HVAC
- Cement and other fine powders
- Mild corrosive chemicals and petrochemicals

Exploded view and parts list



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Part no.	Part name	Material
1	Body	GGG40 Ductile iron GG25 Cast iron WCB Carbon steel CF8M Stainless steel
2	Disc	GGG40 Ductile iron (powder coated) CF8M Stainless steel
3	Top stem	316 Stainless steel 410 Martensitic steel 17-4PH H1150D Stainless steel
4	Bottom stem	316 Stainless steel 410 Martensitic steel 17-4PH H1150D Stainless steel

Part no.	Part name	Material
5	Seal	Ethylene Propylene (EPDM) Nitrile, Buna-N (NBR) Bonded metal backing is Aluminum for DN50 - 300, and carbon steel for DN350 and larger
6	Spring dowel	IS 2507 80C6 Spring Steel
7	Bushing	Self lubricating polymer
8	Spring ring	Spring steel
9	Anti-blowout bolt	Stainless steel
10	Label	Stainless steel
11	Key	AISI 1040 (for Sizes DN350 and above)
12	Bottom Stem Bush	Bronze (for Sizes DN350 and above)
13	V-Ring	Fluoroelastomer (FKM)

Please contact Valmet for any other material specification.

Technical specifications

Nominal diameter:	DN50 – DN600 (NPS 2 – 24)
Pressure rating:	PN10, PN16, ASME Class 150
Flange accommodation:	EN1092 (PN10, PN16) ASME B16.5 Class 150 AS 2129 Table D & Table E Refer to flange table for availability by size
Face to face dimension:	Per API 609 Table 2 for Category A BS EN 558 Table 2 Series 20 valves
Vacuum rating:	29.91 inch Hg gauge (759.98 mm Hg gauge or $2x10^{-2}$ Torr or $4x10^{-4}$ psia or 99.99% vacuum)
Leakage:	No visible leakage
Standards followed	ISO 5211, API 598, API 609, BS EN1092, AS 2129, ASME B16.5, BS EN 593, IS 13095, CE-PED 2014/68/EU
Testing:	API 598, EN 12266-1

Working temperature

Temperature rating, °C	-50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200
Body / Disc Material	
GGG40 ductile iron	-5° to +200 °C
GG25 cast iron	-5° to +200 °C
WCB carbon steel	-29° to +200 °C
CF8M stainless steel	-50° to +200 °C
Seal material	
Ethylene-Propylene (EPDM)	-30° to +120 °C
Nitrile (NBR, Buna-N)	-30° to +85 °C

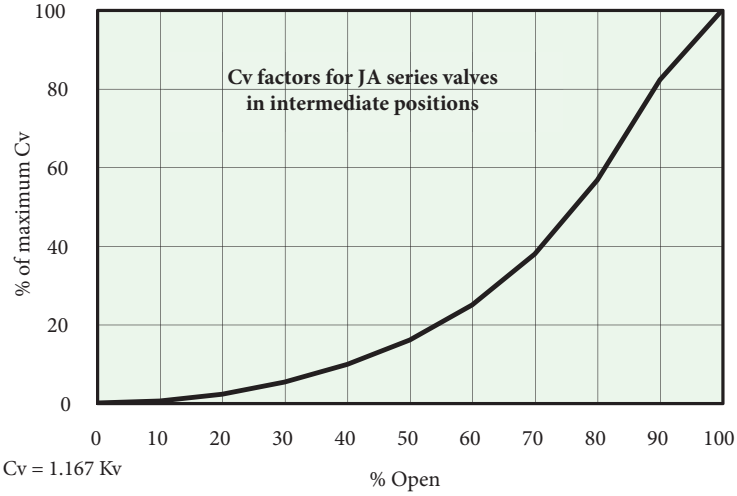
Seal materials

Seal material	Code	Service	Temperature range
Ethylene-Propylene (EPDM) Standard	EP	Excellent resistance to heat, ozone, hot water and steam, as well as dilute acids, detergents, alkalis, silicone oils and greases, ketones, and alcohols. Not compatible with petroleum oils, mineral oils, kerosene, aromatic, gasoline, and halogenated solvents	-30° to +120 °C
Nitrile (NBR, Buna-N) Standard	NB	Most widely used seat with excellent resistance to abrasion. Compatible with petroleum fuels, mineral oils, vegetable oils, sea water, dilute acid, alcohols, and alkalines. Not suitable for use with ozone, ketones, chlorinated solvents, benzene, toluene, and steam.	-30° to +85 °C

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Cv VALUES

Size		Cv
DN	NPS	100 %
50	2	158
65	2 1/2	331
80	3	528
100	4	732
125	5	1 484
150	6	2 048
200	8	4 601
250	10	6 115
300	12	8 313
350	14	10 293
400	16	13 589
450	18	16 585
500	20	21 186
600	24	29 211



Cv = 1.167 Kv

% open	% Cv
0	0
10	0,5
20	2,2
30	5,3
40	9,8
50	16
60	25
70	38
80	57
90	82
0.25 pt	100

Actuator selection torque for service condition 1

Valve Size	Torques for Class 150	
	Nm	lb-ft
DN50	14	11
DN65	17	13
DN80	31	23
DN100	53	39
DN125	90	67
DN150	144	106
DN200	282	208
DN250	444	317
DN300	672	496
DN350	816	602
DN400	1140	841
DN450	2640	1947
DN500	4140	3054
DN600	6480	4780

Note: The actuator selection torque includes safety factor. Select actuator that has equal or greater torque output.

Service condition No.	Media	Corrosion	Cycling frequency	Torque increase factor
1	Clean liquids and lubricating hydrocarbons	None	At least once per week	0
2	Humid or lubricating gases, aqueous liquids, clean salt water	Insignificant	Once per month	Multiply Condition 1 torque by 1.2
3	Dry gas, cement and other powders, high viscosity liquid	Disc will corrode or seat will swell	A few times per year	Multiply Condition 1 torque by 1.4

Note: Service condition number is determined by worst case of media or corrosion or cycling frequency. Each reviewed independently.

Flange compatibility

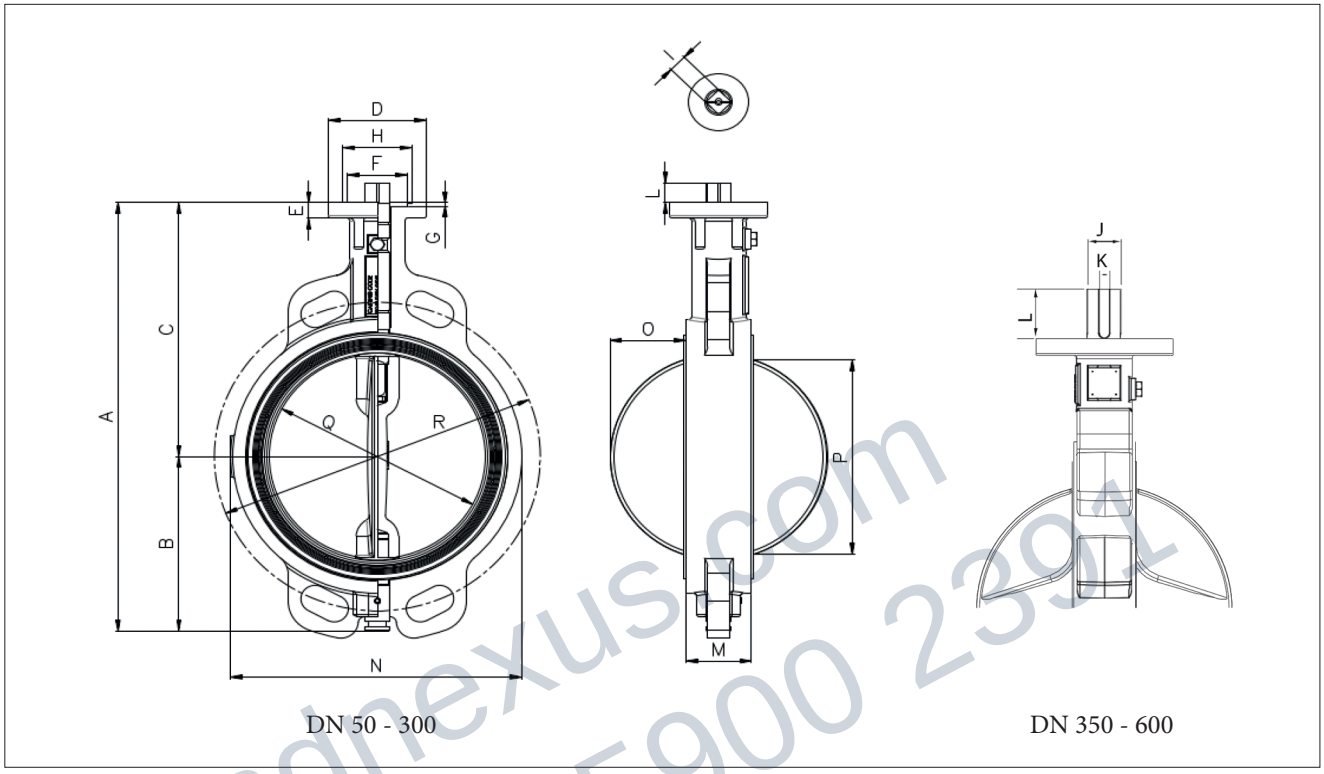
Size		ASME (WAFER & LUG)	EN 1092 (WAFER & LUG)		AS 2129 (WAFER)		AS 2129 (LUG)	
DN	NPS	CL 150	PN10	PN16	Table D	Table E	Table D	Table E
50	2	√	√	√	√	√	√	√
65	2 1/2	√	√	√	√	√	√	√
80	3	√	√	√	√	√	√	√
100	4	√	√	√	√	√	√	√
125	5	√	√	√	√	√	√	√
150	6	√	√	√	√	√	√	√
200	8	√	√	√	√	√	√	√
250	10	√	√	√	√	√	√	√
300	12	√	√	√	√	√	√	√
350	14	√	√	√	√	√	√	√
400	16	√	√	√	√	√	NA	NA
450	18	√	√	√	√	√	NA	NA
500	20	√	√	√	√	√	NA	NA
600	24	√	√	√	√	√	NA	NA

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Dimensions

(All dimensions are in mm)

WAFER BODY WITH CENTERING LUG



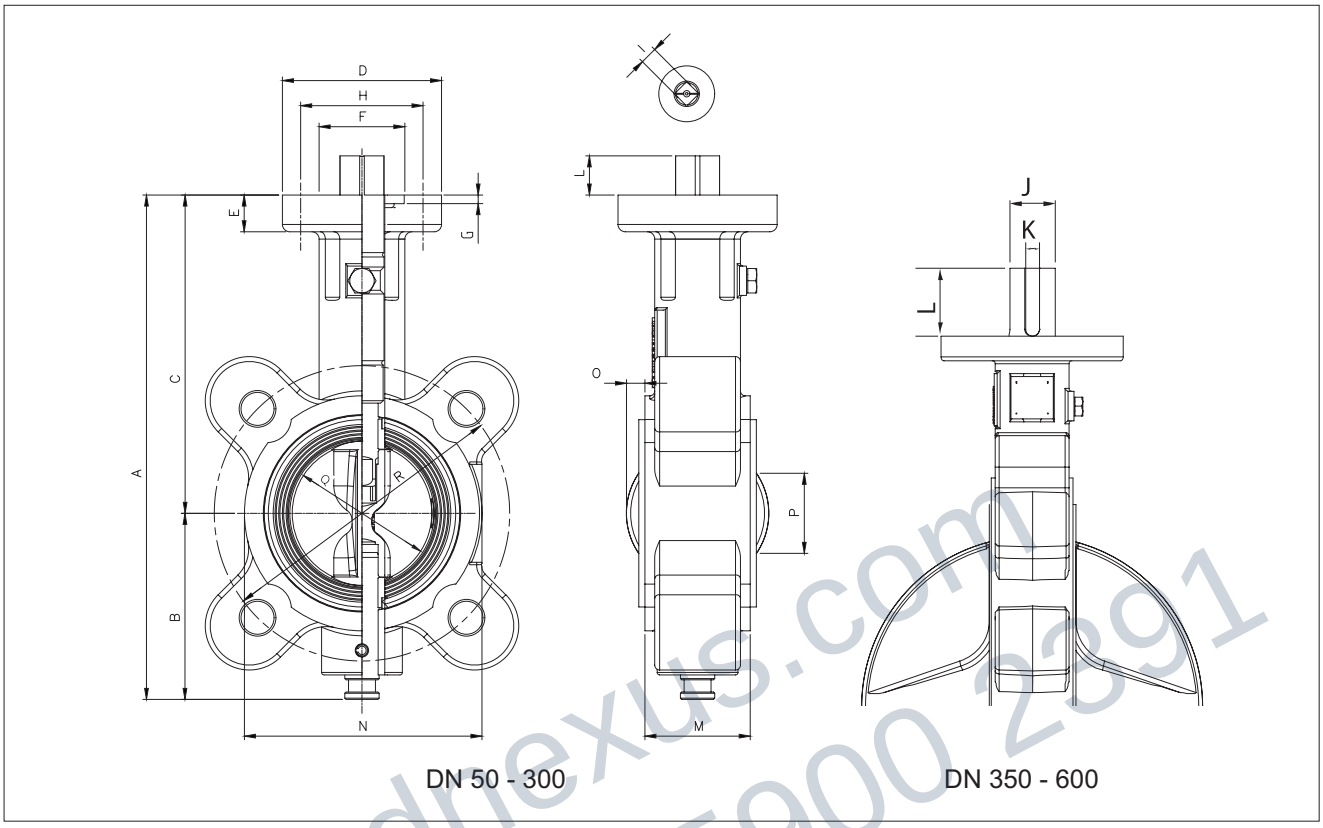
DN 50 - 300 DN 350 - 600

Note: Dimension P is minimum mating pipe ID to ensure clearance with disc

	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500	DN600
A	206	224	252	272	318	349	422	478	551	644	700	759	832	1002
B	76	78	89	102	118	131	176	209	253	288	320	348	380	457
C	130	146	163	170	200	218	246	269	301	356	380	411	450	546
D	65	65	65	65	90	90	90	125	125	175	175	175	175	210
E	12	12	12	12	15	15	15	18	18	23	23	23	23	25
F	35	35	35	35	55	55	55	70	70	100	100	100	100	130
G	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	5	5	5	5	7
H	F05	F05	F05	F05	F07	F07	F07	F10	F10	F14	F14	F14	F14	F16
I	14	14	14	14	17	17	17	22	22	-	-	-	-	-
J	-	-	-	-	-	-	-	-	-	Ø45	Ø45	Ø45	Ø45	Ø70
K	-	-	-	-	-	-	-	-	-	14	14	14	14	20
L	16	16	16	16	19	19	19	24	24	65	65	65	65	80
M	43	46	46	52	56	56	60	68	78	78	102	114	127	154
N	96	107	130	153	182	213	268	323	389	440	480	540	600	705
O	8	13	20	28	37	50	70	91	105	125	134	152	185	225
P		67	78.5	101	123	148	195	243	279	317	359	411	470	566
Q	57	71	83	106	128	153	198	247	285	325	368	415	480	581
R PN10	125	145	160	180	210	240	295	350	400	460	515	565	620	725
R PN16	125	145	160	180	210	240	295	355	410	470	525	585	650	770
R ANSI 150	120.65	139.7	152.4	190.5	215.9	241.3	298.45	361.95	431.8	476.25	539.8	577.9	635	749.3
R TABLE D	114	127	146	178	210	235	292	356	406	470	521	584	641	756
R TABLE E	114	127	146	178	210	235	292	356	406	470	521	584	641	756
Weight (kg)	2	2.5	3	4	7	8	14	22	32	60	86	108	132	280

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LUG BODY



Note: Dimension P is minimum mating pipe ID to ensure clearance with disc

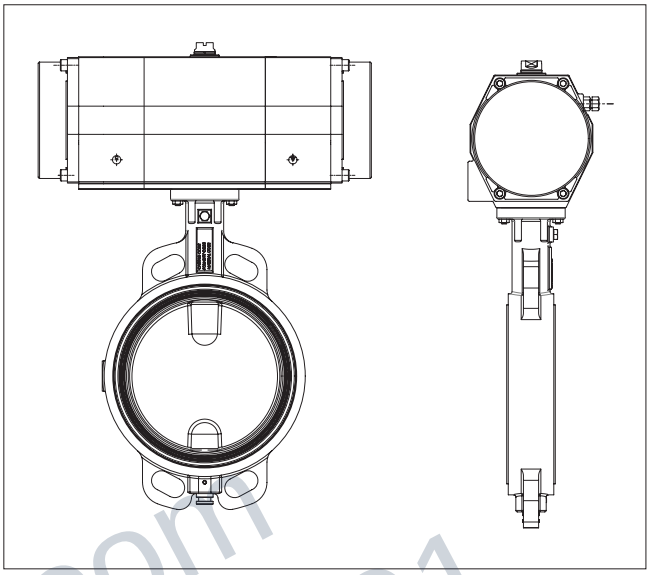
	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500	DN600
A	206	224	257	288	332	361	416	466	551	644	700	759	832	1002
B	76	78	94	110	132	143	170	197	250	288	320	348	380	457
C	130	146	163	170	200	218	246	269	301	356	380	411	450	546
D	65	65	65	65	90	90	90	125	125	175	175	175	175	210
E	15	12	15	15	15	15	15	18	18	23	23	23	23	25
F	35	35	35	35	55	55	55	70	70	100	100	100	100	130
G	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	5	5	5	5	7
H	F05	F05	F05	F05	F07	F07	F07	F10	F10	F14	F14	F14	F14	F16
I	14	14	14	14	17	17	17	22	22	-	-	-	-	-
J	-	-	-	-	-	-	-	-	-	Ø45	Ø45	Ø45	Ø45	Ø70
K	-	-	-	-	-	-	-	-	-	14	14	14	14	20
L	16	16	16	16	19	19	19	24	24	65	65	65	65	80
M	43	46	46	52	56	56	60	68	78	78	102	114	127	154
N	96	107	130	153	182	213	265	323	389	440	480	540	600	705
O	8	13	20	28	37	50	70	91	105	125	134	152	185	225
P	52	67	78.5	101	123	148	195	243	279	317	359	411	470	566
Q	57	71	83	106	128	153	198	247	285	325	368	415	480	581
R PN 10	125	145	160	180	210	240	295	350	400	460	515	565	620	725
R PN 16	125	145	160	180	210	240	295	355	410	470	525	585	650	770
R ANSI 150	120.65	139.7	152.4	190.5	215.9	241.3	298.45	361.95	431.80	476.25	539.8	577.9	635	749.3
R TABLE D	114	127	146	178	210	235	292	356	406	470	521	584	641	756
R TABLE E	114	127	146	178	210	235	292	356	406	470	521	584	641	756
Weight (kg)	3.5	4	8	10	14	15	24	31	46	91	120	185	200	300

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Actuator selection

Selected rack and pinion actuator sizes in the chart are based on the recommended minimum actuator torque and 4 barg minimum air supply pressure. Selected spring return actuator size is suitable for fail open or fail close configuration. Unless otherwise specified, actuator will be set for fail close.

Actuators may be direct mounted or direct mounted with sleeve or mounted using bracket & coupler. For all these cases, the mounting sets include respective fasteners in addition to the above said components.



Double Acting & Single Acting actuator sizing (Class 150), 4 barg min. air supply

Valve Size		Double Acting	Single Acting	
DN	NPS		Close	Open
DN50	2	RNP063	RNP063 SR40	RNP063 SR40
DN65	2 1/2	RNP063	RNP080 SR30	RNP080 SR30
DN80	3	RNP063	RNP090 SR40	RNP090 SR40
DN100	4	RNP080	RNP100 SR40	RNP100 SR40
DN125	5	RNP090	RNP125 SR40	RNP125 SR40
DN150	6	RNP100	RNP150 SR40	RNP150 SR40
DN200	8	RNP150	RNP200 SR40	RNP200 SR40
DN250	10	RNP175	RNP250 SR40	RNP250 SR40
DN300	12	RNP200	RNP300 SR30	RNP300 SR30
DN350	14	RNP250	RNP300 SR40	RNP300 SR40
DN400	16	RNP300	RNP350 SR40	RNP350 SR40
DN450	18	RNP350	B1J25	B1JA25
DN500	20	B1C32	B1J32	B1JA32
DN600	24	B1C40	B1JV32	B1JK32

Note: - Please use NelprofX for precise actuator sizing.

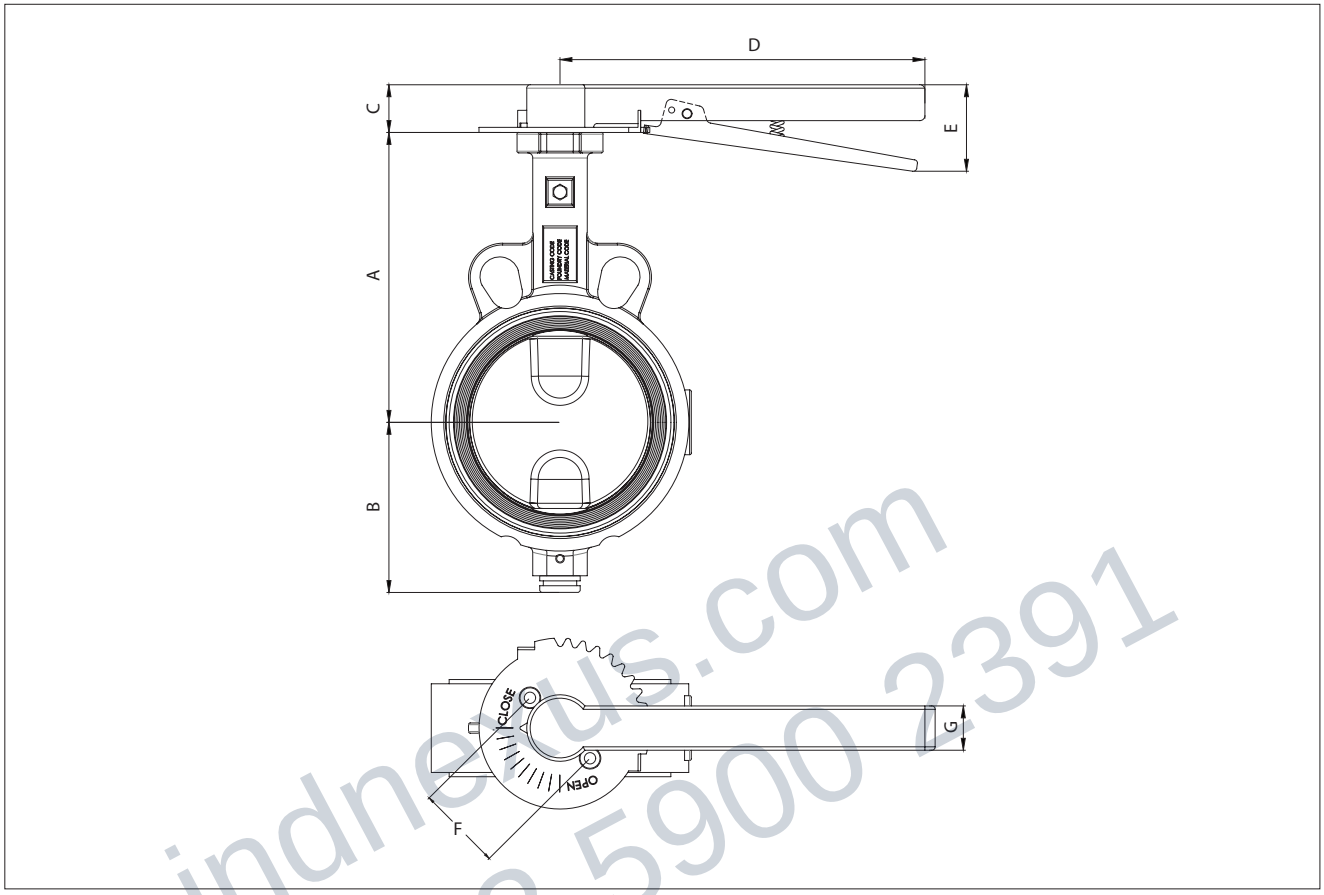
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Actuator mounting set

DN	NPS	Actuators	Mounting set number
DN50	2	RNP063	EASYFLOW MOUNTING SET 1
DN65	2.5	RNP080	EASYFLOW MOUNTING SET 6
DN80	3	RNP063	EASYFLOW MOUNTING SET 1
		RNP090	EASYFLOW MOUNTING SET 6
DN100	4	RNP080	EASYFLOW MOUNTING SET 6
		RNP100	EASYFLOW MOUNTING SET 22
DN125	5	RNP090	EASYFLOW MOUNTING SET 2
		RNP125	EASYFLOW MOUNTING SET 23
DN150	6	RNP100	EASYFLOW MOUNTING SET 7
		RNP150	EASYFLOW MOUNTING SET 24
DN200	8	RNP150	EASYFLOW MOUNTING SET 24
		RNP200	EASYFLOW MOUNTING SET 25
DN250	10	RNP175	EASYFLOW MOUNTING SET 50
		RNP250	EASYFLOW MOUNTING SET 26
DN300	12	RNP200	EASYFLOW MOUNTING SET 9
		RNP300	EASYFLOW MOUNTING SET 27
DN350	14	RNP250	EASYFLOW MOUNTING SET 11
		RNP300	EASYFLOW MOUNTING SET 29
DN400	16	RNP300	EASYFLOW MOUNTING SET 29
		RNP350	EASYFLOW MOUNTING SET 30
DN450	18	B1C32	EASYFLOW MOUNTING SET 131
		B1J25 / B1JA25	EASYFLOW MOUNTING SET 130
		RNP350	EASYFLOW MOUNTING SET 30
DN500	20	B1C32	EASYFLOW MOUNTING SET 131
		B1J32 / B1JA32	EASYFLOW MOUNTING SET 131
DN600	24	B1C40	EASYFLOW MOUNTING SET 135
		B1J32 / B1JA32	EASYFLOW MOUNTING SET 134

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Hand lever with 10 position notch plate

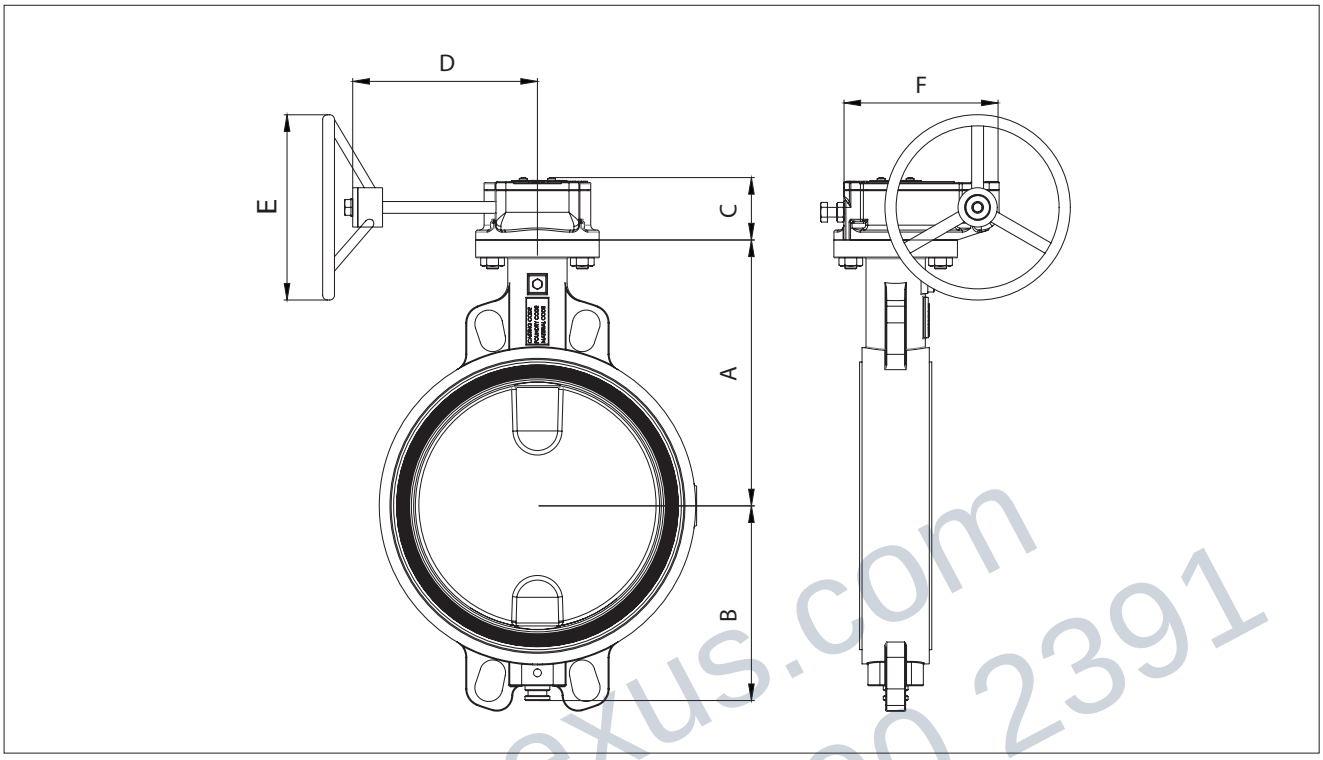


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MODEL	SIZE	A	B	C	D	E	F	G	Handle Force, N			Mounting set number
									Condition 1	Condition 2	Condition 3	
RHL 141	DN50	130	75	30	250	60	F05	22	71	85	99	EASYFLOW MOUNTING SET 51
RHL 141	DN65	146	78	30	250	60	F05	22	108	132	151	EASYFLOW MOUNTING SET 51
RHL 141	DN80	163	89	30	250	60	F05	22	151	179	212	EASYFLOW MOUNTING SET 51
RHL 141	DN100	186	102	32	250	60	F05	22	208	250	292	EASYFLOW MOUNTING SET 51
RHL 171	DN125	200	118	32	250	60	F07	22	377	453	528	EASYFLOW MOUNTING SET 52

Hand lever is powder coated steel. Notch plate, spring, and bolts are zinc plated steel.
Hand lever is not part of a valve, it needs to be ordered separately.

Manual gear operator



MODEL	TORQUE N.m	SIZE	A	B	C	D	E	F	MOUNTING DETAIL	WEIGHT (kg)	Mounting set number
MEG25014	250	DN50	130	76	53.5	216	200	100	F05	5	EASYFLOW MOUNTING SET 1
MEG25014	250	DN65	146	78	53.5	216	200	100	F05	5	EASYFLOW MOUNTING SET 1
MEG25014	250	DN80	163	89	53.5	216	200	100	F05	6	EASYFLOW MOUNTING SET 1
MEG25014	250	DN100	170	102	53.5	216	200	100	F05	7	EASYFLOW MOUNTING SET 1
MEG25017	250	DN125	200	118	53.5	216	200	100	F07	9	EASYFLOW MOUNTING SET 2
MEG25017	250	DN150	218	131	53.5	216	200	100	F07	11	EASYFLOW MOUNTING SET 2
MEG50017	500	DN200	246	176	60	228	300	121	F07	19	EASYFLOW MOUNTING SET 2
MEG50022	500	DN250	269	209	60	228	300	121	F10	26	EASYFLOW MOUNTING SET 3
MEG750	750	DN300	301	253	64	261.5	400	149	F10	46	EASYFLOW MOUNTING SET 3
MEG1000	1000	DN350	356	288	80	333.5	450	166	F14	73	EASYFLOW MOUNTING SET 4
MEG1500	1500	DN400	380	320	88.5	294	500	211	F14	103	EASYFLOW MOUNTING SET 4
MEG4000	4000	DN450	411	348	119	370	700	332	F14	153	EASYFLOW MOUNTING SET 4
MEG5500	5500	DN500	450	380	119	390	550	345	F14	202	EASYFLOW MOUNTING SET 4
MEG8500	8500	DN600	546	457	147	385.5	600	392	F16	353	EASYFLOW MOUNTING SET 5

Note: Weight is with wafer style body
Gear Box is not a part of a valve, it needs to be ordered separately.

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How to order

1.		2.	3.	4.	5.	6.	7.	8.	9.	10.
200		JA	15	W	21	36	41	EP	A	P3

1. sign	Size, DN (NPS ref.)
50	50 (2)
65	65 (2 1/2)
80	80 (3)
100	100 (4)
125	125 (5)
150	150 (6)
200	200 (8)
250	250 (10)
300	300 (12)
350	350 (14)
400	400 (16)
450	450 (18)
500	500 (20)
600	600 (24)

2. sign	Series
JA	

3. sign	Flange / rating
10	PN 10
16	PN 16
15	ASME Class 150
TD	AS 2129 Table D
TE	AS 2129 Table E

4. sign	Body type
W	Wafer type
L	Lug type

Valve is offered as a bare stem valve. Hand lever & Gear Boxes to be ordered separately.

5. sign	Body material
21	GGG40 ductile iron
24	*GG25 cast iron
22	WCB carbon steel
36	CF8M stainless steel

* GG25 body option not available for Class 150

6. sign	Disc material
21	GGG40 ductile iron (powder coated)
36	CF8M stainless steel

7. sign	Stem material
36	316 stainless steel
41	410 martensitic steel
43	17-4PH H1150D Stainless steel

8. sign	Seal material
EP	Ethylene-Propylene (EPDM)
NB	Nitrile (Buna-N, NBR)

9. sign	Model Code
A	Mod A, modular butterfly valve platform

10. sign	Non-standard options
P3	Low torque reduced diameter disc (undercut disc) with PN3.5 shut-off rating
P6	Low torque reduced diameter disc (undercut disc) with PN6 shut-off rating

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NOTE: 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 applications in which the valves are used are outside the scope of this document. If you have any questions concerning the use, application or compatibility of the valve with the intended service, contact nearest Valmet sales office for more information.

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