

Data sheet

Butterfly valves VFY

VFY-WH, VFY-LH, VFY-WG, VFY-LG, VFY-WA

Description



Features:

- Long term reliability due to upper and lower anti-friction bearings
- Safe maintenance: shaft blow out protection with circlip
- Position indicator

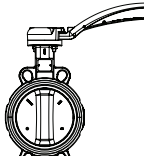
Main Data*:

- DN 250-600
- k_{vs} 3948-25000 m³/h
- EPDM Liner
- Stainless steel or Ductile iron Epoxy Coated disc
- Medium: Circulation water, drinking water or chilled glycolic water up to 50 %
- Medium Temperature:
 - -15 ... 120 °C (EP disc)
 - -15 ... 130 °C (SS disc)

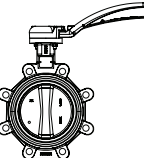
** please check the Directive 2014/68/UE table at the end of the data sheet for appropriate product selection*

Ordering

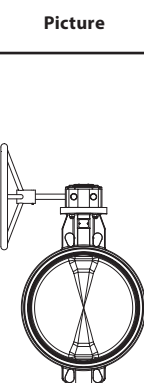
Wafer type **VFY-WH**

	DN	k_{vs} (m ³ /h)	PN	T _{max} (°C)	Disc	Code No.
	250	3948	16	130	Stainless Steel	065B7337
	300	5635				065B7338
	250	3948	16	120	Ductile iron Epoxy Coated	065B8407
	300	5635				065B8408

Lug type **VFY-LH**

	DN	k_{vs} (m ³ /h)	PN	T _{max} (°C)	Disc	Code No.
	250	3948	16	130	Stainless Steel	065B7437
	300	5635				065B7438
	250	3948	16	120	Ductile iron Epoxy Coated	065B8417
	300	5635				065B8418

Wafer type with worm gear **VFY-WG**

	DN	k_{vs} (m ³ /h)	PN	T _{max} (°C)	Disc	Code No.
	250	3948	16	130	Stainless steel	065B7457
	300	5635				065B7458
	350	8520				065B7449
	400	14695				082X3050
	450	17000				082X3051
	500	20080				082X3052
	600	25000	082X3053			
	250	3948	16	120	Ductile iron Epoxy Coated	065B8427
	300	5635				065B8428
	350	8520				065B8429
	400	14695				082X3060
	450	17000				082X3061
	500	20080				082X3062
	600	25000	082X3063			

Ordering (continuous)

Lug type with worm gear **VFY-LG**

Picture	DN	k _{vs} (m ³ /h)	PN	T _{max} (°C)	Disc	Code No.
	250	3948	16	130	Stainless Steel	065B7407
	300	5635				065B7408
	350	8520				065B7469
	250	3948		120	Ductile iron Epoxy Coated	065B8437
	300	5635				065B8438
	350	8520				065B8439
	400	14695				082X3080
	450	17000				082X3081
	500	20080				082X3082
	600	25000				082X3083

Wafer type with 230V Electric actuator **VFY-WA**

Picture	DN	k _{vs} (m ³ /h)	PN	T _{max} (°C)	Disc	Code No.
	250	3948	16	130	Stainless Steel	082G7412
	300	5635				082G7413
	350	8520				082G7409
	400	14695				082X3090
	500	20080				082X3092
	250	3948		120	Ductile iron Epoxy Coated	065B8447
	300	5635				065B8448
	350	8520				065B8449
	400	14695				082X3100
	450	17000				082X3101
	500	20080				082X3102
	600	25000				082X3103

Spare parts

Note:
Please contact Danfoss sales to align on details before ordering spare parts.

Replacement Liner **VFY-W Liner**

DN	PN	Liner	Code No.
250	16	EPDM	065B7593
300			065B7594
350			065B7591

Replacement Hand lever **VFY-Handle**

for DN	Code No.
250	065B7608
300	065B7609

Replacement Hand lever **VFY-Gearbox**

for DN	Code No.
250	065B7598
300	065B7599
350	065B7600

Replacement actuator **AMB-Y**

Actuator type	for DN	Torque	Opening time (s)	Power consumption (W)	Supply voltage (V)	Code No.
VS300	250	300	60	45	230	082G7386
VT600	300	600	38	250		082G7396
VT600	350	600	38	250		082G7397

Note:
Contact Danfoss sales organization regarding information about replacement actuators for VFY butterfly valves purchased before 01/2015.

Technical data

Actuator

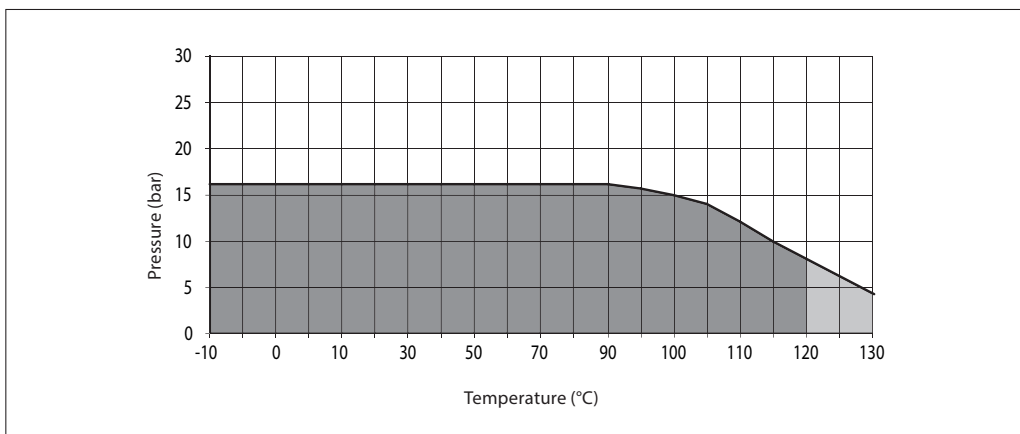
Power supply	Vac	230
Frequency	Hz	50/60
Control input		3-point
Torque	Nm	300-2400
Ambient temperature	°C	20...70
Duty Rating IEC 34		S4 (50 %)
Grade of enclosure		IP68 (1m, 72h)
CE - marking in accordance with standards		Low voltage directive (LVD) 2006/95/EC: EN61000-3-2, EN61000-3-3, EN61000-6-4, EN61000-6-2

Valve

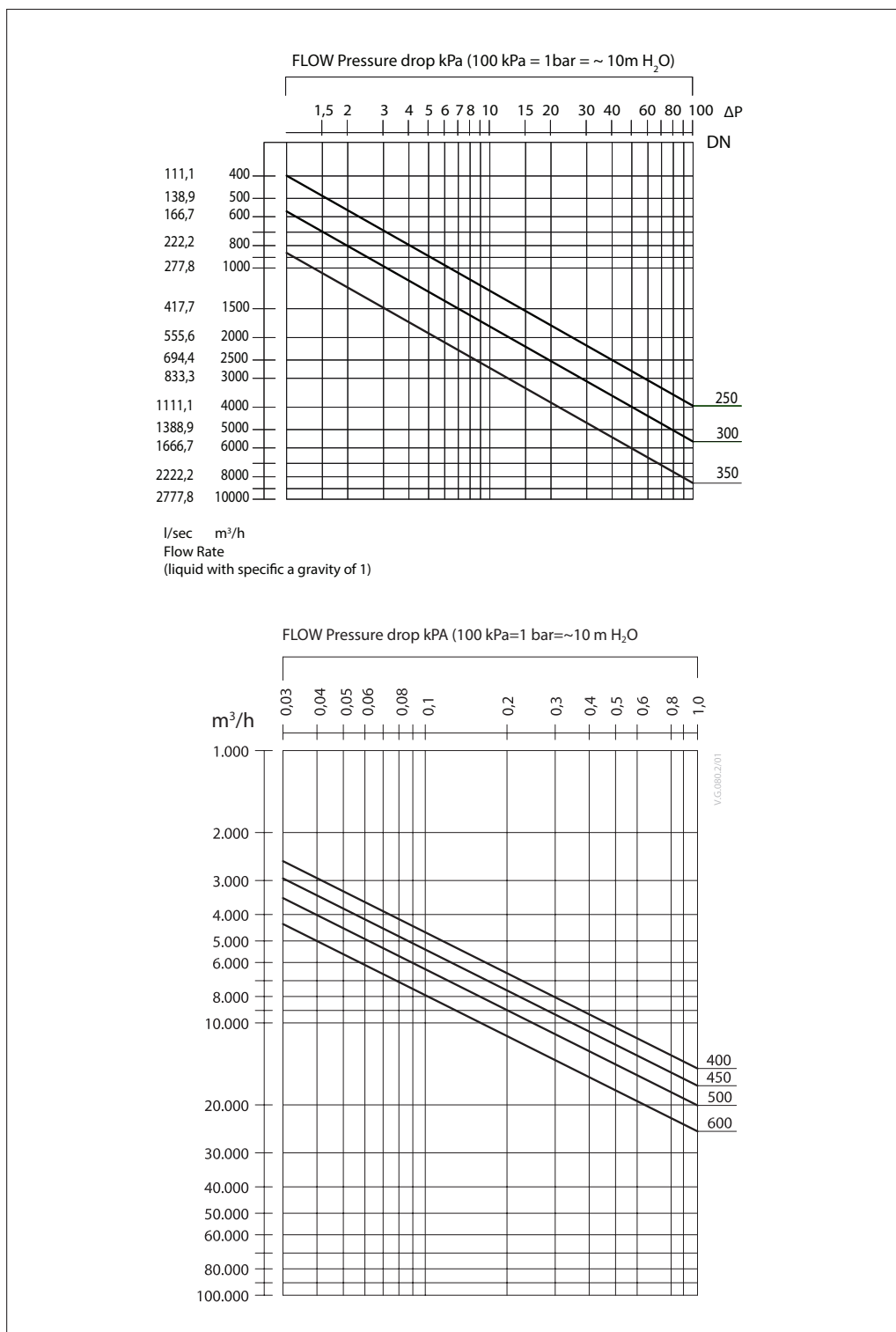
Nominal diameter	DN	250-600
k _{VS} value	m ³ /h	3948-25000
Rotation angle		90 °
Leakage rate		Acc. to PED 2014/68/EU, EN 12266-1, Rate A ¹⁾
Nominal pressure	PN	16
Medium		Circulation water, drinking water, chilled glycolyc water up to 50 % or
Medium temperature	EP disc	°C
	SS disc	
		-15 ... 120 (see p-T diagram)
		-15 ... 130 (see p-T diagram)
Mounting		Centering lugs (Wafer type)
Mounting		Mounting between flanges
Material		
Body		Ductile iron (DIN GGG40)
Disc		Ductile iron EN GJS 400-15 (DIN GGG 40) with Epoxy coating or Stainless Steel AISI 316
Shaft		Stainless steel AISI 420
Liner		EPDM
Circlip		Steel XC 75 / Stainless steel
O-ring		Nitrile/Viton
Upper guide bush		Zinc coated S. + PTFE
Lower guide bush		Zinc coated S. + PTFE

¹⁾ No visible defectable leakage during the testing procedure

P-T diagram



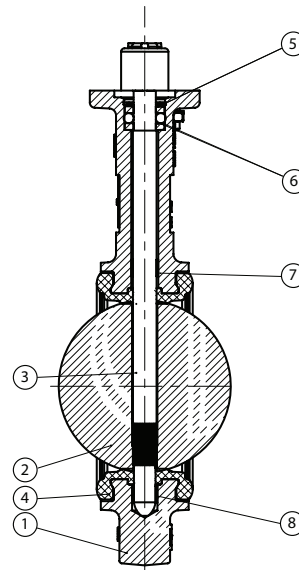
Headloss diagram
For water at 20 °C



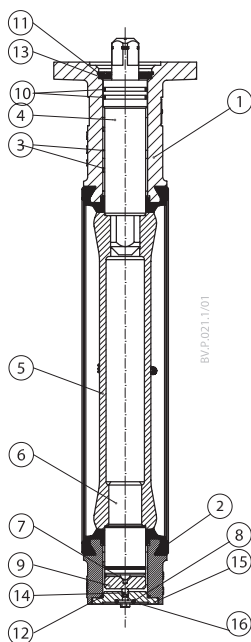
Design

VFY from DN250 to DN350

- 1. Body
- 2. Disc
- 3. Shaft
- 4. Liner
- 5. Circlip
- 6. O-ring
- 7. Upper guide bush
- 8. Lower guide bush

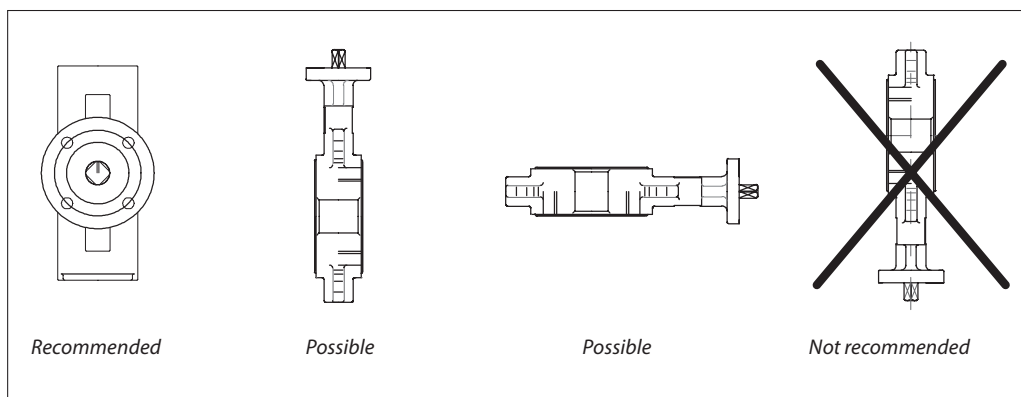


VFY from DN400 to DN600



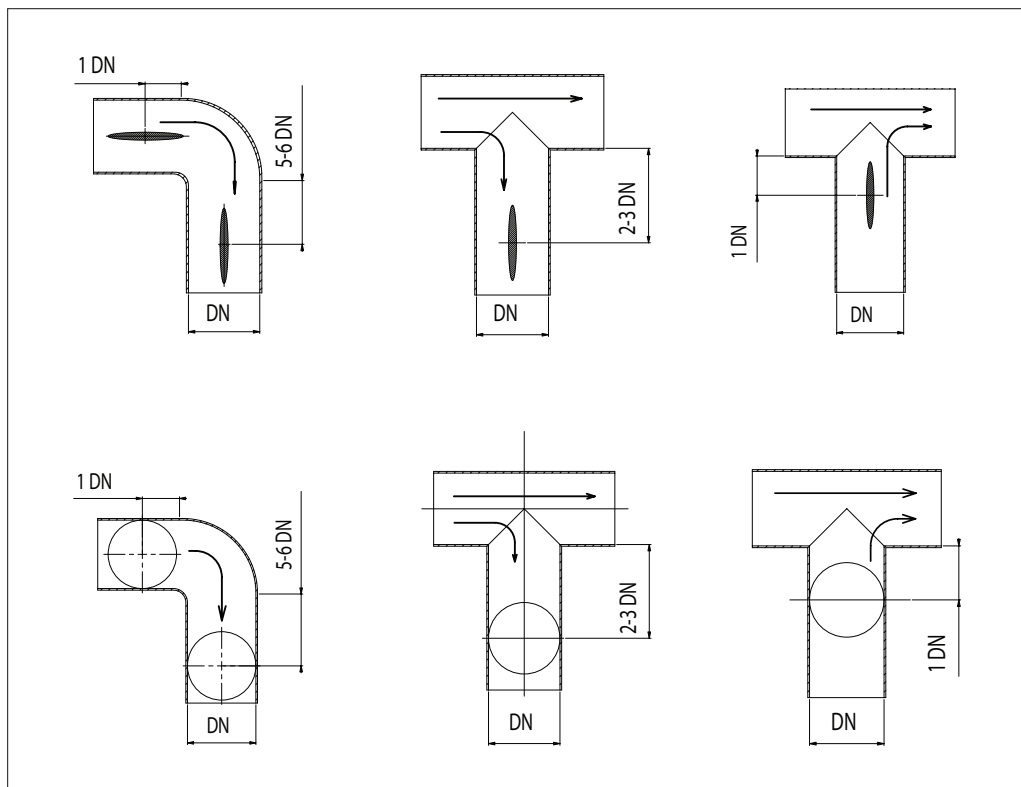
IND	DESIGNATION	MATERIAL
1	Body	EN-GJS-400-15 (GGG40)
2	Liner	EPDM
3	Bush	Acier Zingue
4	Shaft	X5CrNiCuNb16-4 (630)
5	Disc	EN-GJS-400-15 (GGG40)
6	Shaft	X5CrNiCuNb16-4 (630)
7	Ball	Stainless steel
8	Bottom	C235JR (E24-2)
9	Spacer	X5CrNiCuNb16-4 (630)
10	O'Ring	NBR 70 ShA
11	Circlip	Acier Zingue
12	O'Ring	NBR 70 ShA
13	Spacer	X5CrNi18-10 (304)
14	Screw	Acier Inox classe A2
15	Plate	X5CrNi18-10 (304)
16	O'Ring	FKM

Installation positions

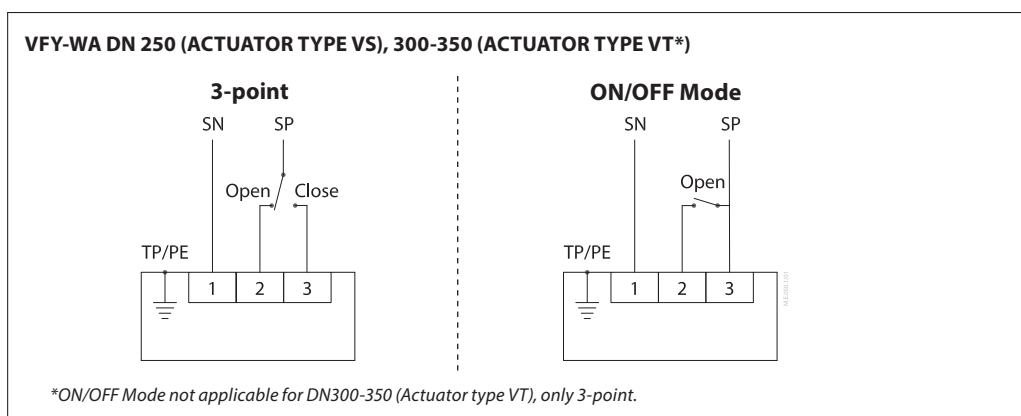


Installation conditions

It is recommended that distances indicated below are respected in order to prolong lifetime of the valve. Mounting the valve close to pipework junctions (turbulent zones) increases wear.

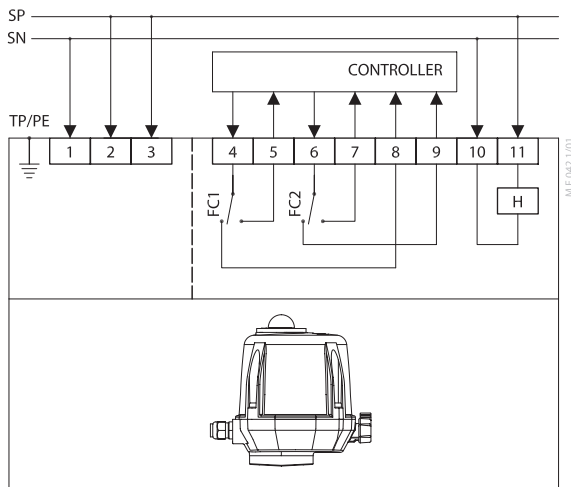


Wiring



Wiring (continuous)

VFY-WA DN 250 (ACTUATOR TYPE VS), 300-350 (ACTUATOR TYPE VT*)



FC1 - feedback limit switch Open
FC2 - feedback limit switch Close
H - anti-condensation heater

Wiring input / output

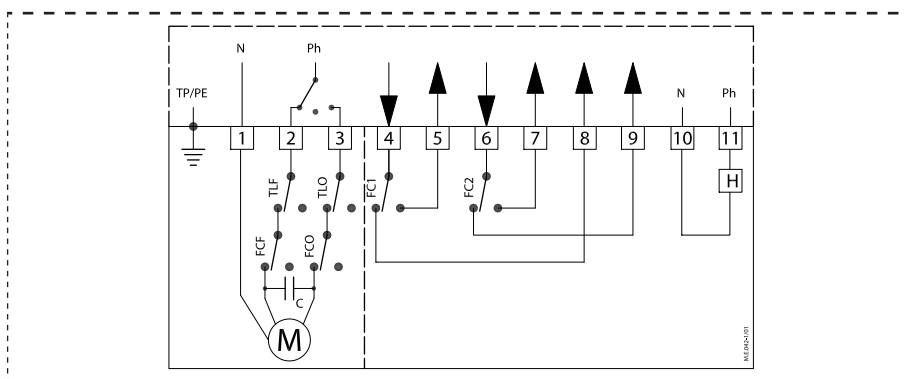
1	SN	0 V	Neutral
2	SP	ON/OFF, 3-point	Power supply
3			
4		SP output - max 5A	Common FC1
5			Feedback FC1
8			Feedback FC1
6		SP output - max 5A	Common FC2
7			Feedback FC2
9			Feedback FC2

Drives end switches and feedback output

Valve position	Feedback			
	5	7	8	9
Open	1	0	0	1
Close	0	1	1	0
Neutral	0	0	1	1

*ON/OFF Mode not applicable for DN300-350 (Actuator type VT), only 3-point.

For Actuators DN400 to DN600



FCO - internal limit switch Open
FCF - internal limit switch Close
TLO - torque limit switch Open
TLF - torque limit switch Close
M - motor

FC1 - feedback limit switch Open
FC2 - feedback limit switch Close
H - heating element

Dimensions

VFY-WH

DN	Ø	A	B	C	D	E	Weight (kg)
							VFY-WH
mm							
250	250	196	266	450	68	46	23.7
300	300	238	336	450	79	86	28.2

VFY-LH

DN	Ø	A	B	C	D	E	Weight (kg)
							VFY-LH
mm							
250	250	198	266	450	68	46	29.8
300	300	227	290	450	77	46	37.6

VFY-WG

Waffer type **VFY-WG**

DN	Ø	A	B	C	D	ØE	Weight (kg)
							VFY-WG
mm							
250	250	196	429	239	70	250	25.2
300	300	238	453	239	77	250	28.9
350	350	270	468	239	78	250	41.4

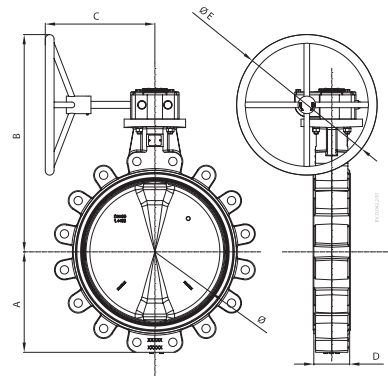
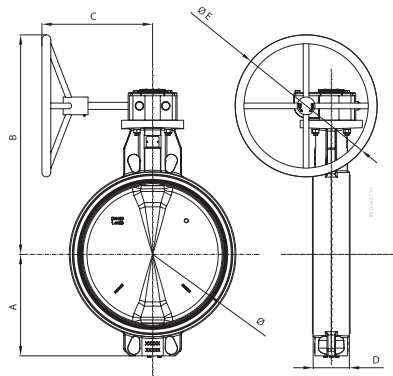
VFY-LG

Lug type **VFY-LG**

DN	Ø	A	B	C	D	ØE	Weight (kg)
							VFY-LG
mm							
250	250	198	429	239	68	250	30.8
300	300	227	453	239	77	250	38.3
350	350	248	468	239	78	250	49.7

Dimensions (continuous)

VFY-LG and VFY-WG



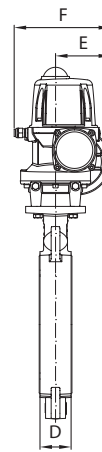
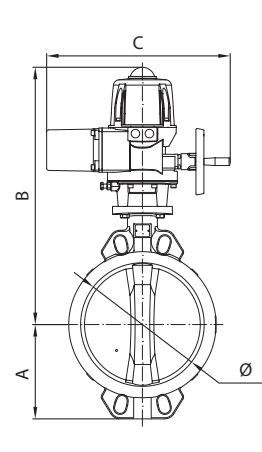
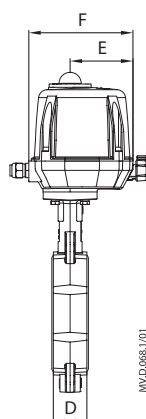
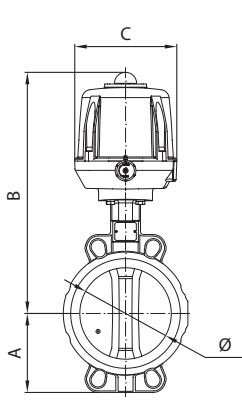
Wafer type with worm gear **VFY-WG**

DN	Ø	A	B	C	D	ØE	Weight (kg)
	mm						
400	392	286	619	312	102	400	67.5
450	442	315	652	312	114	400	91.5
500	492	355	682	350	127	400	115.5
600	592	415	843	411	154	500	170

Luh type with worm gear **VFY-LG**

DN	Ø	A	B	C	D	ØE	Weight (kg)
	mm						
400	392	286	619	312	102	400	90
450	442	315	652	312	114	400	122
500	492	355	682	350	127	400	163
600	592	415	843	411	154	500	245

VFY-WA

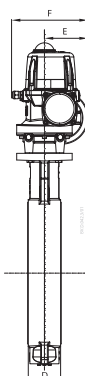
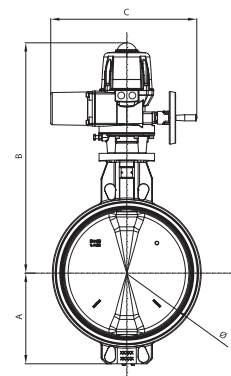


VFY-WA
(with actuator AMB-Y VS for DN 200 - 250)

DN	Ø	A	B	C	D	F	E	Weight (kg)
	mm							
250	250	196	524	170	68	174	69	25.8

VFY-WA
(with actuator AMB-Y VT for DN 300-350)

DN	Ø	A	B	C	D	F	E	Weight (kg)
	mm							
300	300	238	596	472	77	228	143	41
350	340	270	654	468	78	228	57	54



Wafer type with 230V Electric actuator **VFY-WA**

DN	Ø	A	B	C	D	E	F	Weight (kg)
	mm							
400	392	286	684	482	102	211	300	79
450	442	315	723	482	114	211	300	108.5
500	492	355	907	389	127	260	572	152.5
600	592	415	962	389	154	260	572	200



Data sheet

Butterfly valves VFY VFY-WH/LH/WG/LG/WA

Directive 2014/68/UE
Equipments under pressure

Products manufactured in conformity with the requirements of the directive, according to pressure, DN and fluid. Relevant for countries following this Directive (ie, PED)

Family	DN (mm)	Cat.	Mounting	PFA	PS				
				water	L1	L2	G1	G2	
VFY DN25 to 350 mm with EPDM liner	10 bar	25 to 100	4§3	Flanges	10	10	10	-	10
				End of line	6	6	6	-	6
		125 to 350	I	Flanges	10	10	10	-	10
				End of line	6	6	6	-	6
	16 bar	32 to 100	4§3	Flanges	16	16	16	-	10
				End of line	12	12	12	-	10
		125	I	Flanges	16	16	16	-	10
				End of line	12	12	12	-	10
		150	I	Flanges	16	10	16	-	10
				End of line	12	6	12	-	10
		200 to 300	I	Flanges	16	10	16	-	10
				End of line	10	6	10	-	10
	350	I	Flanges	16	10	16	-	10	
			End of line	8	6	8	-	8	
	20 bar	32 to 250	4§3	Flanges	20	-	20	-	-
				End of line	12	-	12	-	-
		300 to 350	I	Flanges	20	-	20	-	-
				End of line	12	-	12	-	-
25 bar	32 to 150	4§3	Flanges	25	-	25	-	-	
			End of line	16	-	16	-	-	
VFY DN400 to 1200 mm with EPDM liner	10 bar	400 to 1200	I	Flanges	10	10	10	-	-
				End of line	6	6	6	-	-
	16 bar	400 to 1200	I	Flanges	16	-	16	-	-
				End of line	8	-	8	-	-
	20 bar	400 to 600	I	Flanges	20	-	20	-	-
				End of line	10	-	10	-	-
PS: Maximum allowable pressure (bars) in accordance with directive 2014/68/EC PFA: Allowable operating pressure (bars) for supply, distribution and disposal of water				L1: Group 1 liquid - Hazardous fluid category L2: Group 2 liquid - Other fluids G1: Group 1 gas - Hazardous gas category G2: Group 2 gas - Other gasses					

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