

Data sheet

Butterfly valve with electrical actuator VFY-WA

Description



- Torque limiter
- Complete installation from factory - ready for installation

Main Data*:

- DN 25-350
- k_{VS} 40-8520 m³/h
- PN 16 (10)
- EPDM Liner
- Stainless steel or Ductile iron Epoxy Coated disc
- Medium:
 - Circulation water, drinking water or chilled glycolic water up to 50 %
- Medium temperature:
 - 10 ... 120 °C (EP disc)
 - 10 ... 130 °C (SS disc)
- Nominal voltage:
 - 24 V; 50 Hz/60 Hz
 - 230 V; 50 Hz/60 Hz
- Control input signal: On/Off or 3-point
- Torque: 20-600 Nm
- Grade of enclosure: IP66/68
- Ambient temperature: -10 ... 55 °C
- Duty rating IEC34: cycle S4 (50 %)
- Approvals: **CE EAC**

Features:

- Spline driven one piece shaft connected to spherically machined disc allows high torque transmission i.e. quick response and minimum back-lash
- Long term reliability due to upper and lower anti-friction bearings
- Safe maintenance: shaft blow out protection with circlip
- Manual operation
- Position indicator

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

Ordering

Type **VFY-WA 230 V**

Picture	DN	k_{VS} (m ³ /h)	PN	T_{max} (°C)	Opening time (s)	Disc	Code No.				
	25	40	10	130	12	Stainless Steel	082G7350				
	32/40	62					082G7351				
	50	79					082G7400				
	65	174					082G7401				
	80	275					082G7402				
	100	496					082G7403				
	125	883					082G7404				
	150	1212					082G7405				
	200	2500					082G7410				
	250	3948					082G7412				
	300	5635					082G7413				
	350	8520					082G7409				
	50	79					16	120	12	Ductile iron Epoxy Coated	065B8440
	65	174									065B8441
	80	275	065B8442								
	100	496	065B8443								
	125	883	065B8444								
	150	1212	065B8445								
	200	2500	065B8446								
	250	3948	065B8447								
	300	5635	065B8448								
	350	8520	065B8449								

Ordering (continuous)

Type VFY-WA 24 V

Picture	DN	k_{vs} (m ³ /h)	PN	T_{max} (°C)	Opening time (s)	Disc	Code No.
	25	40	10	130	12	Stainless Steel	082G7361
	32/40	62	16				082G7362
	50	79	16	120	7	Ductile iron Epoxy Coated	065B8450
	65	174					065B8451
	80	275			065B8452		
	100	496			065B8453		
	125	883			065B8454		
	150	1212			065B8455		
	200	2500			065B8456		
	250	3948			065B8457		

Spare parts

Replacement actuator AMB-Y

Actuator type	for DN	Torque	Opening time (s)	Power consumption (W)	Supply voltage (V)	Code No.
ER20	25/32/40/50/65	20	12	15	230 V	082G7381
ER35	80	35	7	45		082G7382
ER60	100	60	12	45		082G7383
ER60	125-150	60	12	45		082G7415
VS150	200	150	30	45		082G7398
VS300	250	300	60	45		082G7386
VT600	300	600	38	250		082G7396
VT600	350	600	38	250		082G7397
ER20	25/32/40/50/65	20	12	15	24 V	082G7388
ER35	80	35	7	45		082G7389
ER60	100	60	12	45		082G7390
ER60	125-150	60	12	45		082G7414
VS150	200	150	30	45		082G7399
VS300	250	300	60	45		082G7393

Note:

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

Replacement Liner VFY-W Liner

DN	PN	Liner	Code No.
25	16	EPDM	065B7580
32/40			065B7581
50			065B7582
65			065B7583
80			065B7584
100			065B7585
125			065B7578
150			065B7579
200			065B7592
250			065B7593
300			065B7594
350			065B7591

Technical data

Actuator

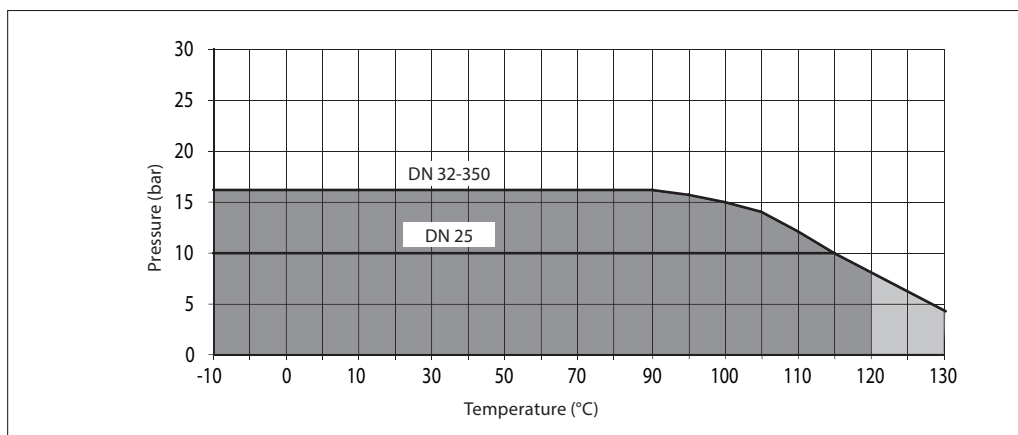
Power supply	DN 25-250	V	100-240 ac; 100-350 dc 15-30 ac; 12-48 dc
Power supply	DN 300-350		230 ac
Frequency (AC)		Hz	50/60
Control Input	DN 25-350		on/off or 3-point
Torque		Nm	20-600
Ambient temperature		°C	-10 ... 55
Duty Rating IEC34			S4 (50 %)
Grade of enclosure	DN 25-150		IP66
	DN 200-350		IP68 (1m, 72h)
marking in accordance with standards			Low voltage directive (LVD) 2006/95/EC: EN61000-3-2, EN61000-3-3, EN61000-6-4, EN61000-6-2 EMC Directive 2004/108/EC: EN61010-1

Valve

Nominal diameter	DN	25-350	
k_{vs} value	m ³ /h	40-8520	
Rotation angle		90°	
Leakage rate		Acc. to PED 2014/68/EU, EN 12266-1, Rate A ¹⁾	
Nominal pressure	PN	16 (10)	
Medium		Circulation water, drinking water, chilled glycolic water up to 50%	
Medium temperature	EP disc	°C	-10 ... 120 (see PT diagram)
	SS disc		-10 ... 130 (see PT diagram)
Connection		Centering lugs (Wafer type)	
Mounting		Mounting between flanges	
Material			
Body	DN 25-300	Cast iron EN GJL 250 (DIN GG25)	
	DN 350	Ductile iron (DIN GGG40)	
Disc		Ductile iron EN GJS 400-15 (DIN GGG 40) with Polyamid coating or Stainless Steel	
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	

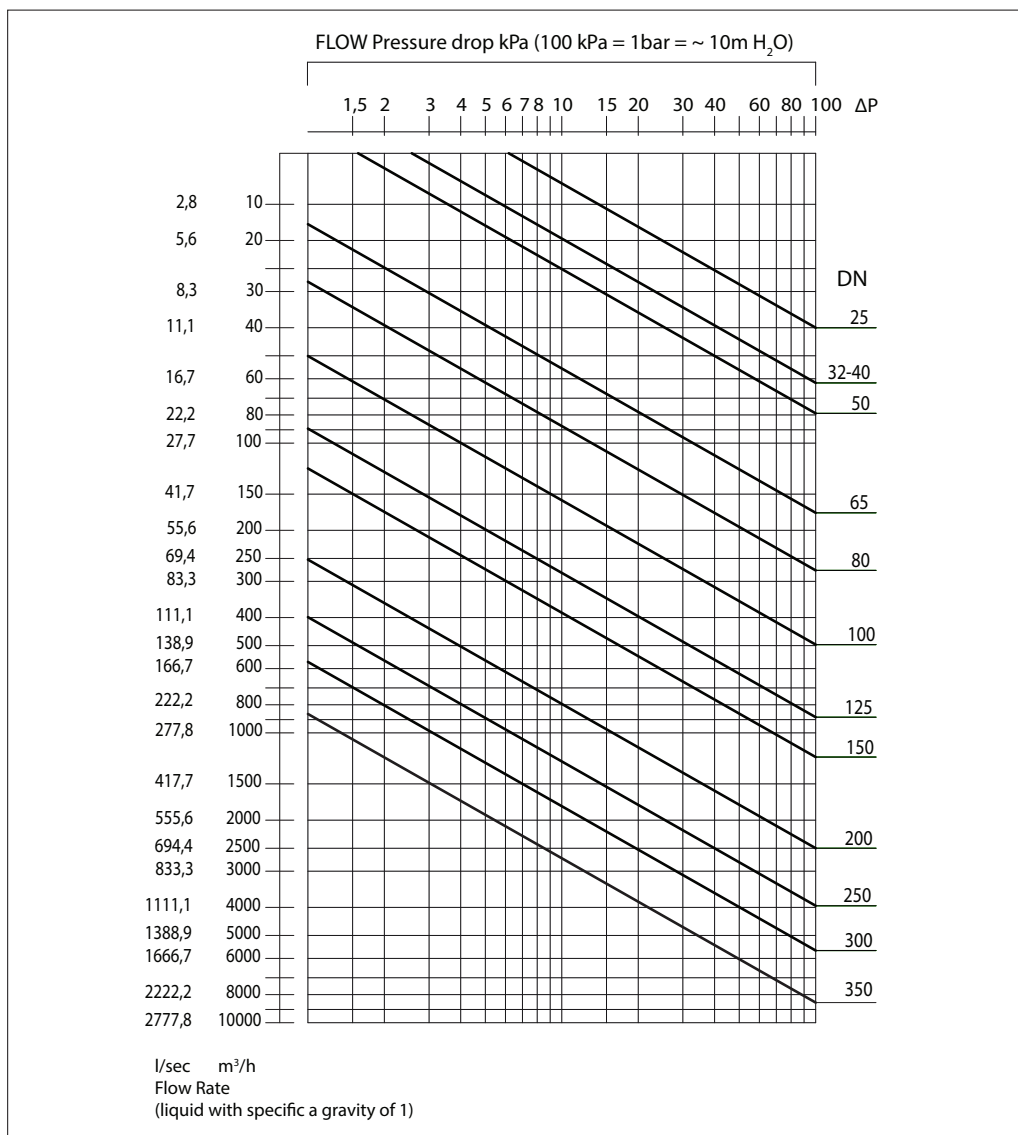
¹⁾ No visible defectable leakage during the testing procedure.

P-T diagram

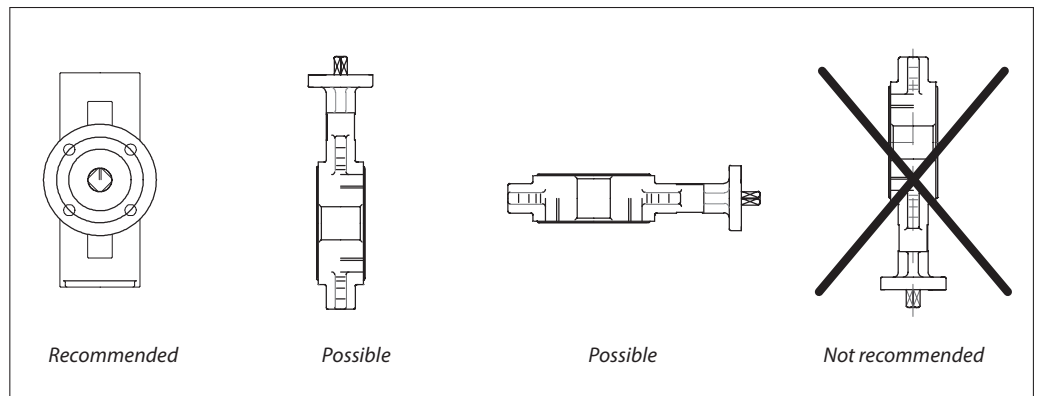


Headloss diagram

For water at 20°C

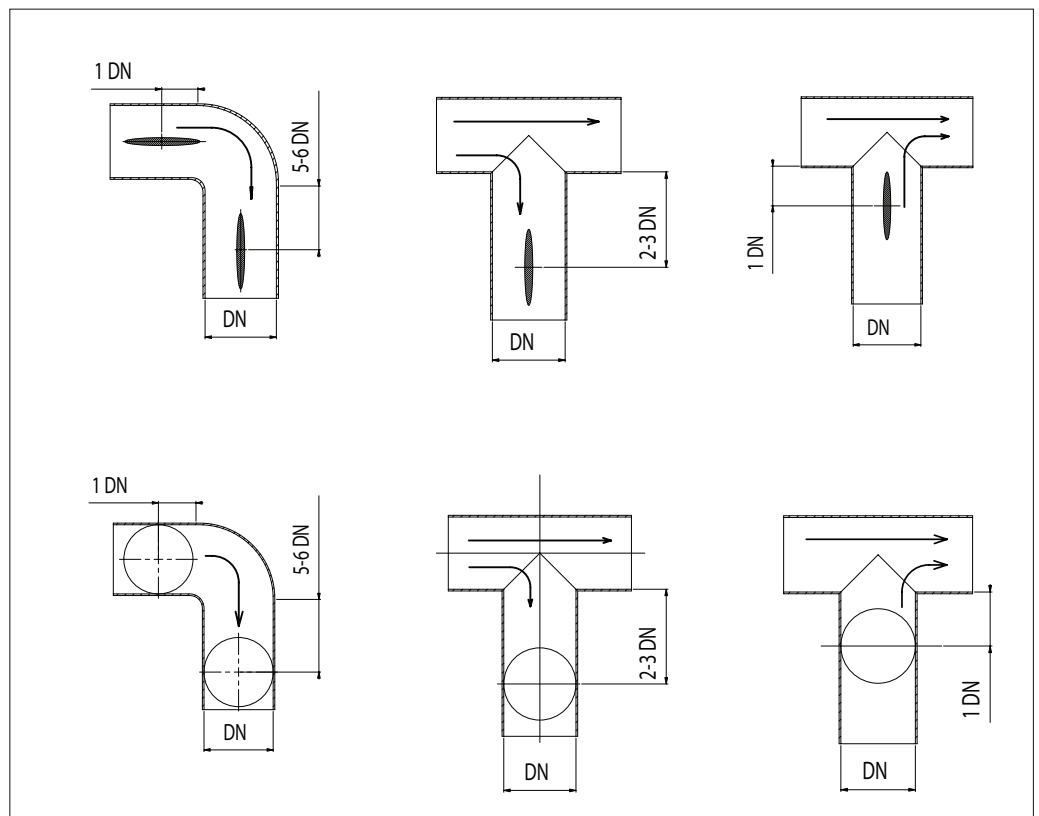


Installation positions



Installation conditions

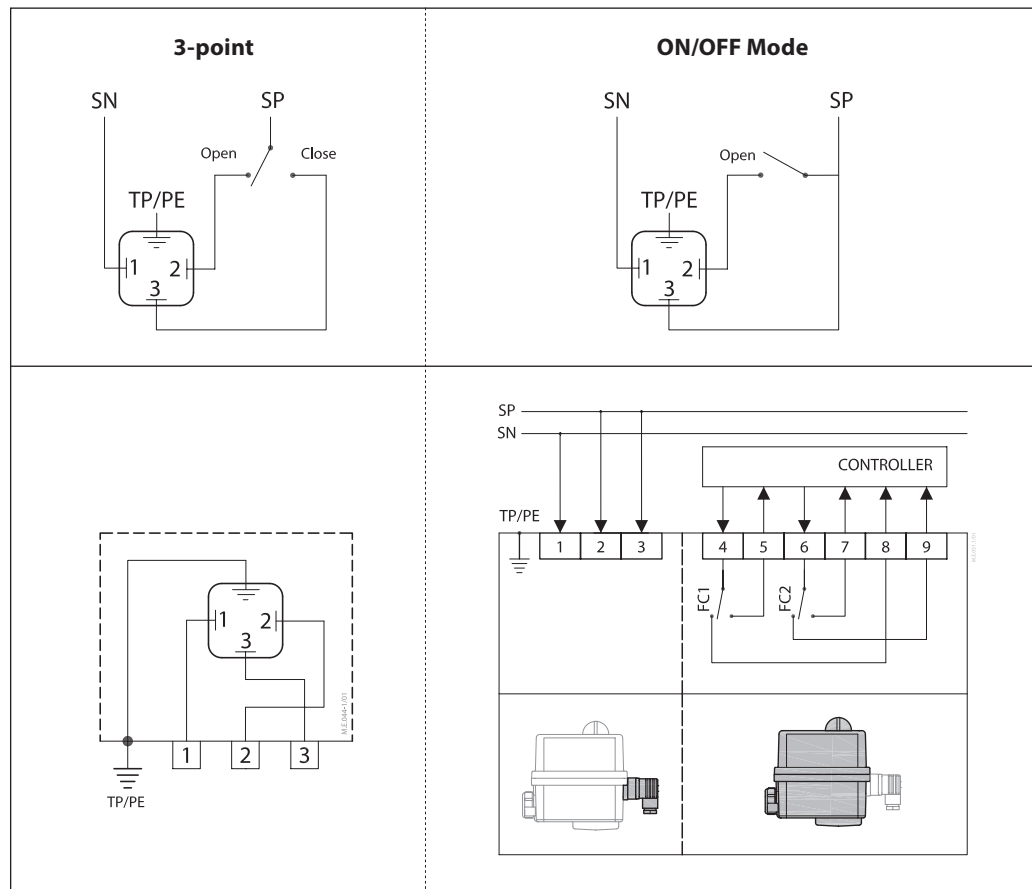
It is recommended that distances indicated below are respected in order to prolong lifetime of the valve. Mounting the valve close to pipework junctions (turbulent zones) increases wear.



Wiring



VFY-WA DN 25-150 (ACTUATOR TYPE ER)



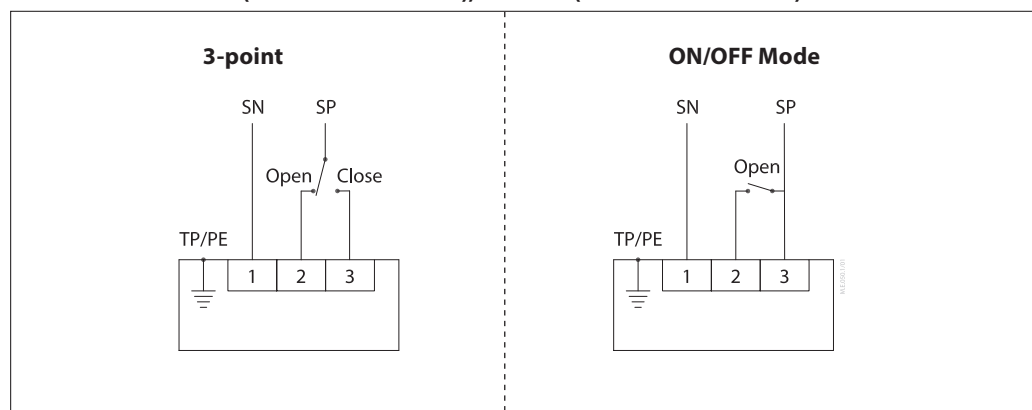
Wiring input / output

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

VFY-WA DN 200 - 250 (ACTUATOR TYPE VS), 300-350 (ACTUATOR TYPE VT)



Wiring (continuous)



24V, 230V

VFY-WA DN 200-250 (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

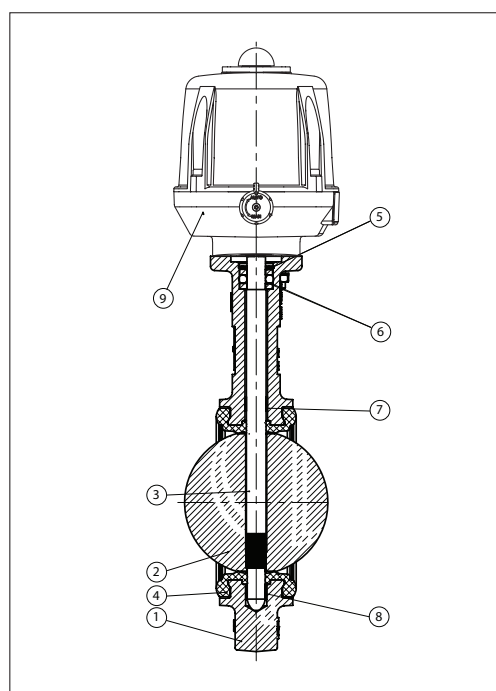
1	SN	0 V	Neutral
2	SP	ON/OFF, 3-point	Power supply
3			
4		SP output - max 5A	Common FC1
5			Feedback FC1
8			Feedback FC1
6		SP output - max 5A	Common FC2
7			Feedback FC2
9			Feedback FC2

Drives end switches and feedback output

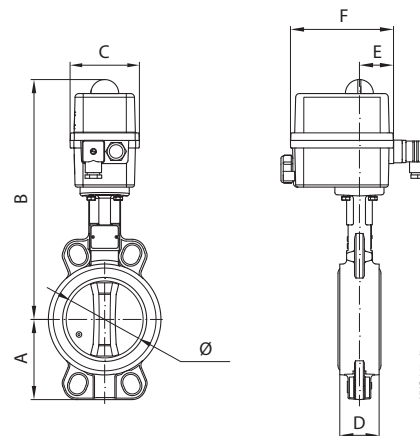
Valve position	Feedback			
	5	7	8	9
Open	1	0	0	1
Close	0	1	1	0
Neutral	0	0	1	1

Design

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

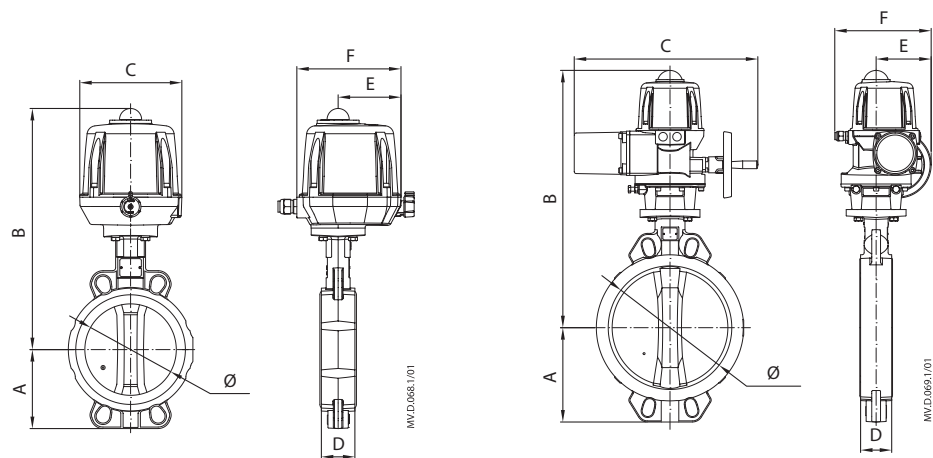


Dimensions



VFY-WA
(with actuator AMB-Y ER for DN 25 - 150)

DN	Ø	A	B	C	D	E	F	Weight (kg)
25	32	50	277	92	33	45	136	3.2
32/40	43	57	282	92	33	45	136	3.3
50	54	62	288	92	43	45	136	3.4
65	70	70	297	92	46	45	136	4.5
80	85	89	303	92	46	45	136	4.6
100	100	105	351	128	52	55	151	6.4
125	125	120	366	128	56	55	151	8.5
150	150	131	355	128	56	55	151	10.5



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

DN	Ø	A	B	C	D	F	E	Weight (kg)
200	200	166	426	170	60	174	69	16.8
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)
300	300	238	596	472	77	228	143	41
350	340	270	654	468	78	228	57	54

**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	4S3	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	4S3	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	4S3	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	4S3	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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