VIKING SupplyNet®

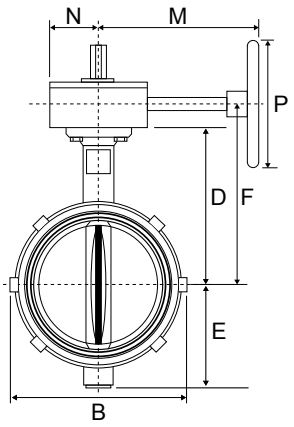
Butterfly Valve (Wafer)

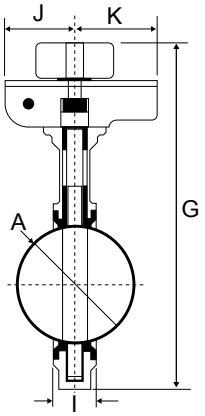
WD3510

Control Valves

Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2 1/2", DN80/3", DN100/4", DN150/6", DN200/8", DN250/10" & DN300/12".
- **Pressure data :**
  Working pressure : 17.2 bar (250 psi)
- **Connections :** Wafer style carefully designed to fit between the following flange type;
  ANSI B16.1 Class 125, PN10/PN16.
- **Features :**
  Accepts internal and external supervisory switches.
  Also available without supervisory switch.
- **Note :**
  The valves are suitable for use outdoors. Some degradation of the painted/coated surfaces may occur (including rusting) which will not affect the performance of the valve. The UL listing specifically ensures the switch operation is not affected by outdoor conditions providing the proper installation instructions are followed.





FM APPROVED UL

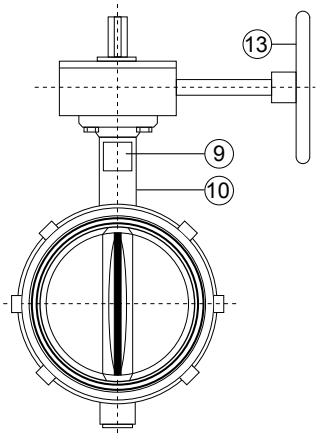
Butterfly Valve (Wafer) - WD3510

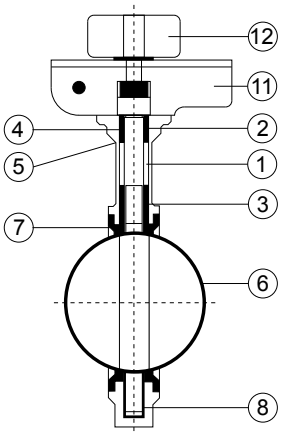
Physical Data

Nominal Pipe Size		Dimensions (mm / inch)												Reference	Weight (kg / lbs)
Metric	inch	A	B	D	E	F	G	I	J	K	M	N	P		
DN50	2"	64 / 2.53	124 / 4.88	137 / 5.38	73 / 2.88	175 / 6.89	324 / 12.75	46 / 1.81	74 / 2.91	90 / 3.54	148 / 5.82	54 / 2.13	150 / 5.90	WD3510802	10 / 21
DN65	2 1/2"	74 / 2.90	143 / 5.62	149 / 5.88	83 / 3.25	187 / 7.36	346 / 13.63	49 / 1.94	74 / 2.91	90 / 3.54	148 / 5.82	54 / 2.13	150 / 5.90	WD35108025	11 / 24
DN80	3"	81 / 3.17	155 / 6.12	155 / 6.12	86 / 3.38	193 / 7.60	356 / 14.00	49 / 1.94	74 / 2.91	90 / 3.54	148 / 5.82	54 / 2.13	150 / 5.90	WD3510803	11 / 24
DN100	4"	106 / 4.17	178 / 7.00	175 / 6.88	102 / 4.00	213 / 8.39	391 / 15.38	56 / 2.19	74 / 2.91	90 / 3.54	148 / 5.82	54 / 2.13	150 / 5.90	WD3510804	12 / 27
DN125	5"	131 / 5.17	210 / 8.25	187 / 7.38	121 / 4.75	225 / 8.86	422 / 16.63	59 / 2.31	74 / 2.91	90 / 3.54	194 / 7.64	54 / 2.13	150 / 5.90	WD3510805	14 / 31
DN150	6"	157 / 6.17	235 / 9.25	203 / 8.00	133 / 5.25	241 / 9.49	451 / 17.75	59 / 2.31	74 / 2.91	90 / 3.54	194 / 7.64	54 / 2.13	150 / 5.90	WD3510806	15 / 34
DN200	8"	208 / 8.17	295 / 11.62	235 / 9.25	165 / 6.50	273 / 10.75	514 / 20.25	64 / 2.50	74 / 2.91	90 / 3.54	201 / 7.91	54 / 2.13	250 / 9.80	WD3510808	22 / 49
DN250	10"	258 / 10.17	362 / 14.25	267 / 10.50	203 / 8.00	312 / 12.28	597 / 23.50	71 / 2.81	99 / 3.90	101 / 3.98	241 / 9.49	77 / 3.03	300 / 11.80	WD3510810	35 / 78
DN300	12"	309 / 12.17	425 / 16.75	305 / 12.00	235 / 9.25	350 / 13.78	667 / 26.25	79 / 3.12	99 / 3.90	101 / 3.98	241 / 9.49	77 / 3.03	300 / 11.80	WD3510812	47 / 103

Butterfly Valve (Wafer) - WD3510 Materials List

Item	Description	Material	Specification
1	Stem	Stainless Steel	ASTM 583 Type 416
2	Collar Bushing	Brass	ASTM B 124
3	Upper Bushing	Copper Alloy	CDA 122
4	Stem Seal	EPDM	
5	Body Seal	EPDM	
6	Disc	Ductile Iron	ASTM 395 (Nickel Plated)
7	Liner	EPDM	
8	Lower Bushing	Copper Alloy	CDA 122
9	Nameplate	Aluminium	
10	Body	Ductile Iron	ASTM A 536
11	Gear Operator	Cast Iron & Steel	
12	Indicator Flag	Cast Iron	
13	Handwheel	Cast Iron	





21-03-2013 Datasheet updates datasheet of 11-04-2008 (added note)

Butterfly Valve (Wafer) with Gear Operator

WD3510

Control Valves

Design requirements

The butterfly valve should be connected to the piping system with approved couplings or flanges available from Viking SupplyNet. Flow may be from either direction through the valve, and the valve may be positioned in any direction. The gearbox has been designed with a slow close handwheel operator that effectively minimizes water hammer during the opening or closing of valve during flow conditions. These valves feature minimum flow restriction and pressure loss when in the fully open position.

Installation

When the valves are received from Viking SupplyNet they should be handled carefully to avoid breakage and damage to the seating area. Before installation of the valve, clean the piping, and connecting flange or coupling. Care must be taken to align wafer butterfly valves correctly in the middle of the waterway so as not to impair disc operation nor damage the disc or operator.

Place the two flanges parallel to each other with a distance between them that is slightly larger than the valve takeout. Insert two studs through the bottom two holes of both flanges. Slide the butterfly valve into the space between the two flanges and place the trunion of the valve such that it rests between the two studs. The studs should support the valve by slipping into the two notches on either side of the valve trunion. Ensure the valve is centered in the waterway. Insert the remaining studs around the valve and tighten in an alternating fashion until the desired torque is achieved.

To prevent distortion, properly support the piping adjacent to the inlet and outlet of the valve. Avoid damage and do not use the valve to force the piping into position.
The valve should never be forced to seat by applying excessive torque to the gearbox or through the use of a wrench. This may distort the valve components or score the sealing surface. Care must be taken to align wafer valves correctly so that the disc operation to the fully open position will not be obstructed. The use of excessive force to open or close the valve violates all warranties whether express or implied.

Conduit and electrical connections to the supervisory/ auxiliary switches must be in accordance with the requirements of the Authority Having Jurisdiction.

Care and Maintenance

Inspect and verify proper operation on an annual basis or according to the requirements of the Authority Having Jurisdiction. Check for leakage at the valve pipe connection and body-to-operator connection. Installation, inspection and maintenance should be performed by a qualified person(s) certified by the Authority Having Jurisdiction.

If the valve closes hard, check to make sure that there is no debris lodged in the waterway around the seating area. Backing off the handwheel and closing the valve again can often correct this condition.

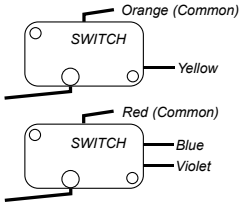
Butterfly Valve (Wafer) with Gear Operator - WD3510

Wiring Instructions

The WD3510 butterfly valve come complete with one internal supervisory position switch and one internal auxiliary switch.

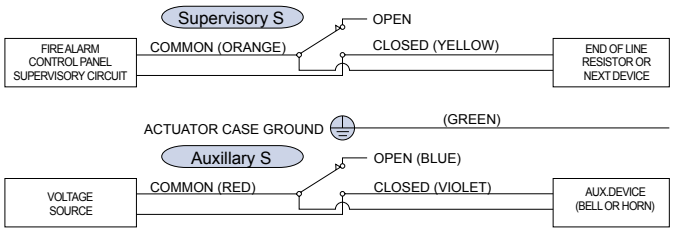
The supervisory/auxiliary switches operate by a cam connected to the valve stem and are designed to notify in the case of valve closure. Please refer to the relevant installation standard and Authority Having Jurisdiction.

The switches will change position and close within two (2) full turns of the hand wheel from the fully open position.



Switch number	Wire	Wire color	Mode/Description
Supervisory switch #1	A	Yellow	Normally closed
Supervisory switch #1	B	Orange	Common
Auxiliary switch #2	C	Blue	Normally open
Auxiliary switch #2	D	Violet	Normally closed
Auxiliary switch #2	E	Red	Common
	F	Green	Ground lead

Notes : Connection to power limited circuitry is required. Switch rating is limited to 6 amps @ 125 V 60Hz or 1 amp @ 28 VDC



21-03-2013 Datasheet updates datasheet of 11-04-2008 (added note)