

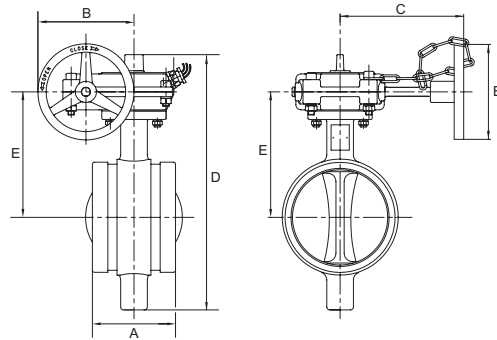


## Butterfly Valve (Grooved) with Gear Operator

### JPL (APSAD)

#### Technical Features

- **Sizes available (Nominal) :** DN50/2", DN65/2½", DN80/3", DN100/4", DN125/5", DN150/6", DN200/8", DN250/10" and DN 300/12".
- **Pressure data :**  
Working pressure : 12 bar (175 psi).
- **Finish :** Fusion bonded epoxy.
- **Connections :** Grooved joint dimensions are made in accordance with ANSI/AWWA C606 (Ductile iron pipe and steel pipe) and metric pipe specifications.
- **Supervisory/Auxiliary Switches:** The gearbox is fitted with one internal supervisory switch and one internal auxiliary switch.



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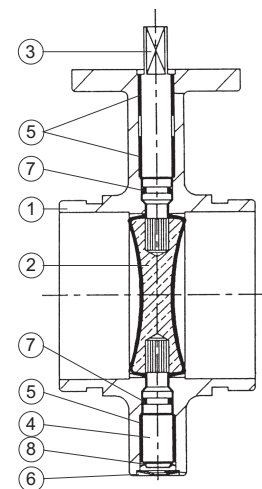
Physical Data

Nominal Pipe Size		Pipe O.D. (mm / inch)	Dimensions (mm / inch)					Reference	Weight (kg / lb)
Metric	inch		A	B	C	D	E		
DN50	2"	60.3 / 2.38	81 / 3.2	150 / 5.9	208 / 8.2	314 / 12.4	135 / 5.3	39109AC050	8.8 / 19.4
DN65	2½"	76.1 / 3.00	97 / 3.8	150 / 5.9	208 / 8.2	314 / 12.4	135 / 5.3	39109AC065	9.5 / 20.9
DN80	3"	88.9 / 3.50	97 / 3.8	150 / 5.9	208 / 8.2	329 / 13.0	142 / 5.6	39109AC080	9.9 / 21.8
DN100	4"	114.3 / 4.50	116 / 4.6	150 / 5.9	208 / 8.2	369 / 14.5	165 / 6.5	39109AC100	11.6 / 25.6
DN125	5"	139.7 / 5.50	148 / 5.8	150 / 5.9	208 / 8.2	395 / 15.6	177 / 7.0	39109AC125	14.8 / 32.6
DN150	6"	168.3 / 6.63	148 / 5.8	225 / 8.9	215 / 8.5	457 / 18.0	210 / 8.3	39109AC150	17.9 / 39.5
DN200	8"	219.1 / 8.63	133 / 5.2	225 / 8.9	215 / 8.5	503 / 19.8	234 / 9.2	39109AC200	20.5 / 45.2
DN250	10"	273.0 / 10.75	159 / 6.3	300 / 11.8	276 / 10.9	612 / 24.1	301 / 11.9	39109AC250	46.3 / 102.1
DN300	12"	323.9 / 12.75	165 / 6.5	300 / 11.8	276 / 10.9	662 / 26.1	326 / 12.8	39109AC300	55.0 / 121.2

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#### Materials List

Item	Description	Material	Specification	
1	Body	Ductile Iron	FGS 400.18	ASTM A 395.76 Gr 60-40-18
2	Disc	Ductile Iron EPDM Encapsulated	FGS 400.15	ASTM B124
3	Control Shaft	Stainless Steel		AISI 420
4	Spindle	Stainless Steel		AISI 420
5	Bushing	PTFE Bronze Sintered on Steel		
6	Retainer Plug	Plated Steel		ASTM A283 Gr.B
7	O-Ring	NBR		
8	Locking Ring	Spring Steel		





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#### 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.

#### 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. Lubricate the coupling gasket with approved lubricant, and place over the adjoining pipe or fitting. Position the valve against the mating pipe or fitting and slide the gasket into position of the valve such that the gasket seal seats properly on the valve and pipe/fitting according to the manufacturer's recommendations. Assemble the coupling according to the coupling manufacturer's recommendations.

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 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.

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### Wiring Instructions

The JPL (APSAD) series butterfly valves 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 switch will change position and close within two (2) full turns of the hand wheel from the fully open position. No adjustment is possible. The circuit condition is shown for a valve in the fully open position.

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

Notes : Connection to power limited circuitry is required. Switch rating is limited to 5 A at 115VAC, 1 A at 250VAC or 0.5 A at 24VAC.

