

TECHNICAL REQUIREMENTS FOR WATER TIGHT VENTILATION VALVES

1. **SCOPE.** The statement of requirements covers design, manufacturing, testing and commissioning of valves on board.

2. **Technical Requirements of Water Tight Butterfly Valves.** These valves are fitted on ventilation trunks on board ships. The details are as follow

- (a) Butterfly Valves are used for positive isolation of watertight zones.
- (b) The valves are used for maintaining gas & watertight integrity of ships.
- (c) The valves are fitted on ventilation trunks piercing the decks of ship.
- (d) The Butterfly valves are of wafer type.
- (e) All valves are to be vibration & shock proof.
- (f) All Cv & Torque values are to be provided

3. **Valve Construction.**

- (a) The valves are to be designed as per NES 375.
- (b) All valves are to be capable of withstanding shock NSS Grade "II".
- (c) The Material, Constructional & Testing requirement of valves shall conform to the Codes / Standards specified in the valve data sheet.
- (d) Stops shall be provided to ensure positive alignment of the valves with the ports.
- (e) All valves are to be designed in such a way that the pressure drop across the valves is minimum.
- (f) Valve **OPEN & CLOSED** indicator shall be provided.
- (g) All valves shall be field serviceable.
- (h) All Raw material used for manufacturing of valves shall be new clean & free from rust, pits defects.
- (j) All valves are to be designed to offer minimum resistance to flow when in open position. Care is to be taken to avoid complications in casting, deep webbing or sudden change in section.
- (i) **Noise Requirement.** The measurement & acceptance criteria is to be as per type 2 of the "MIL-STD-740-2".

4. **Ventilation Valves Actuation**

- (a) Lever operated up to & including 200 mm size.
- (b) Integral gearboxes with a range of gear ratios from 8:1 for 250mm up to & 16:1 for 500 mm size.
- (c) Some valves are also required to be electric motor operated.

VALVE DATA SHEET

1 GENERAL SPECIFICATION					
1.1	TYPE		1.6	FACE TO FACE DIST.	BS 5155
1.2	SERVICE	VENTILATION	1.7	VALVE OPERATION	LEVER/ OPERATED /GEAR GEAR
1.3	PRESSURE RATING	a) Bubble tight from 200 mm W.G. Vacuum to 0.414 Bar pressure b) Water tight to 0.690 Bar c) Body test pressure 2.0 bar	1.8	BORE	FULL
1.4	OP.TEMPERATURE.	-10 °C to 85 °C	1.9	TYPE	WAFER TYPE
1.5	VALVE REF. DOC.	NES 375			
2 MATERIAL SPECIFICATION					
	PART	MATERIAL	SPECIFICATION		
2.1	BODY	ALUMINIUM ALLOY	BS 1490 – LM6, LM25 TF /NES 360		
2.2	DISC	ALUMINIUM ALLOY	BS 1490 – LM6, LM25 TF/NES 360		
2.3	SHAFT	ALUMINIUM ALLOY	BS 970 431 S 29 OR 302 S 25/NES 360		
2.4	CLAMP RING	ALUMINIUM ALLOY	BS 1490 – LM6, LM25 TF/NES 360		
2.5	METAL SEAT	ALUMINIUM ALLOY	BS 1490 – LM6, LM25 TF/NES 360		
2.6	SOFT SEAT	PTFE			
2.7	DISC PIN	STAINLESS STEEL	AISI 316		
2.8	SPRING	STAINLESS STEEL	AISI 316		
2.8	BODY GASKET	ASBESTOS FREE	BS 7531		
2.9	BEARING	PHOSPHORE BRONZE	BS 2874 PB -102		
2.10	SEAL	PTFE			
2.11	BOLT	ALLOY STEEL	BS 3692 GR 8.8 DULY GALVANIZED		
2.12	NUT	ALLOY STEEL	BS 3692 GR 8.8 DULY GALVANIZED		
2.13	HANDLE	FORGED STEEL (GALVANIZED)	BS 970		
3 STATUTORY REQUIREMENTS					
3.1	PAINTING/ SURFACE TREATMENT		SMOOTH SURFACE		
3.2	TESTING HYDROSTATIC		AS PER BS 6755 PART I		
3.3	HYDROSTATIC TEST PRESSURE		BODY - 2 BAR SEAT : 1.5 BAR		
3.4	NOISE TEST		MIL -STD-740-2		
3.5	INSPECTION		DQ/THIRD PARTY (IACS)		