JOHNVALVES
The Valve People
Australian made since 1896

VALVE MANUFACTURE
GENERAL ENGINEERING
VALVE RECONDITIONING

A.C.N. 007 400 759 • A.B.N. 98 007 400 759

JOHN FIG. 794 Air Valve Double Orifice With Isolating Valve

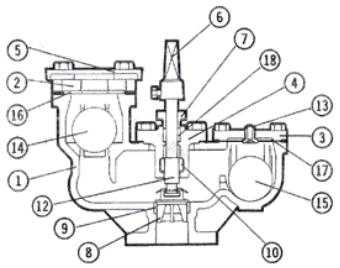
RATINGS AND END CONNECTIONS:

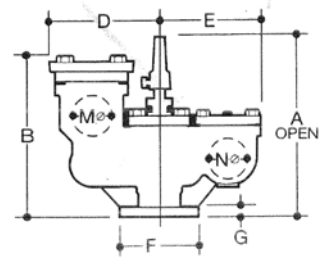
Class 21Product No. 794Max. W.P. kPa - 2100Max. Liquid Temp - 40c End Connection - Flanged Table 'F'. This design of air valve is for use in water systems incorporates both small and large orifices, and is complete with an integral screw-down isolating valve to allow regular inspection and maintenance without the need to de-water the pipeline. The small orifice is for automatic release of accumulated air during normal operations.Air can enter a pipeline in a number of ways, through pump glands, leaking joints and is even contained in solution in the water itself. This air accumulates at the high points of the system, and unless the flow of water is fast enough to purge the line, large pockets of air form to seriously impede the flow, a condition known as "air binding". By locating these air valves at specific points in the system, ventilation of these air pockets is achieved, increasing pumping efficiencies and flow capabilities of the pipeline. The large orifice is to allow automatic ventilation of the pipeline during filling and emptying. When filling, air is exhaused at a sufficiently high capacity to prevent restriction of the filling rate due to built up back pressure. When emptying, air is admitted to the pipeline at a rate sufficient to prevent high vacuum pressures developing.

Product No. 794: Flanged

Operation

Small Orifice: With the pipeline full, under pressure and no air present in the valve body, sealing is effected by the combined upthrust of the submerged ball and differential pressure times the orifice area. Accumulating air in the pipeline enters the body and depresses the water level to the point where the ball mass is sufficient to overcome to the differential pressure across the orifice allowing the ball to drop, opening the orifice and expelling air. When the water level rises as air is discharged, the flotation level of the ball seals the orifice, preventing water loss.Large Orifice:Under normal operating conditions, the ball is held on the seat by pipeline pressure and will only open when this pressure drops to atmospheric. The ball is closely guided in the body and when the pipeline is filling, is held suspended in the exhaust air flow, away from the seat, by the aerodynamic design of the body. This aerodynamic feature has been the subject of extensive research at various field installations to ensure there is no possibility of premature valve closure even with sonic air discharge velocities.



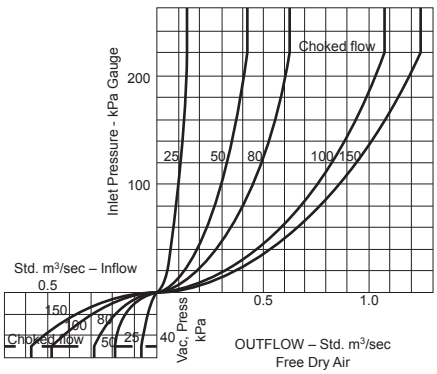


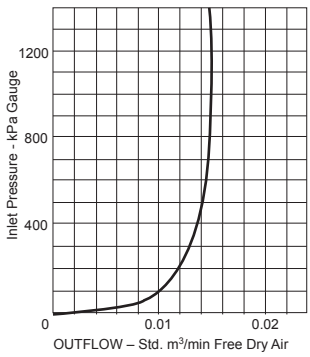
"C" Maximum depth front to back

MATERIALS OF CONSTRUCTION

ITEM	DESCRIPTION	MATERIAL
1.	BODY	CAST IRON
2.	COVER LARGE ORIFICE	S.G. CAST IRON
3.	COVER SMALL ORIFICE	S.G. CAST IRON
4.	COVER S.V.	S.G. CAST IRON
5.	GUARD	CAST IRON
6.	STEM CAP	CAST IRON
7.	GLAND	CAST IRON
8.	DISC	GUNMETAL
9	SEAT	GUNMETAL
10.	STEM NUT	GUNMETAL
11.	PIN	BRASS
12.	STEM	MANG. BRONZE
13.	ORIFICE PLUG	D.R BRASS
14.	BALL-L.O.	ALUMINIUM FUSED COATING
15.	BALL-S.O.	RUBBER CEDAR CORE
16.	SEAL	POLYURETHANE
17.	GASKET	FIBRE COMPOSITION
18.	PACKING	ORGANIC FIBRE
19.	BOLTING	HIGH TENSILE STEEL

Discharge Capacities





Note: For small orifice, no capacity increase for inlet pressures up to 3500 kPa

DIMENSIONS

SIZE	A	B	C	D	E	F	G	BalL Dia M	Ball Dia N	Approx. Wt
50mm	365	304	188	209	275	165	19	76	114	32
80mm	406	367	188	248	280	205	19	90	114	49
100mm	422	400	220	285	269	230	22	114	114	68
150mm	500	535	280	364	255	305	25	140	90	138

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