VENT-O-MAT®

CATALOGUE INDEX

CONTENT

VENT-O-MAT®

Series RBX
OPERATION

PRE NOTES:

1. VENTING OF A FILLING PIPELINE:

The operation of a conventional air release valve is such that fast approaching water is almost instantaneously halted by the valve's closure without the shock cushioning benefit of any retained air in the pipeline. Consequently a transient pressure rise or shock of potentially damaging proportions can be generated in a pipeline system, even at normal filling rates.

In addition to venting through the Large Orifice (1) when water approach velocities are sub critical, the Vent-O-Mat series RBX air release valves feature an automatic "Anti-Shock" Orifice (8) device that serves to decelerate water approaching at excessive speed, thereby limiting pressure rise to a maximum of 1.5 x rated working pressure of the valve.

2. SURGE ALLEVIATION - PIPELINE PRESSURIZED:

In instances where a pipeline experiences water column separation due to pump stoppage, high shock pressures can be generated when the separated water column rejoins.

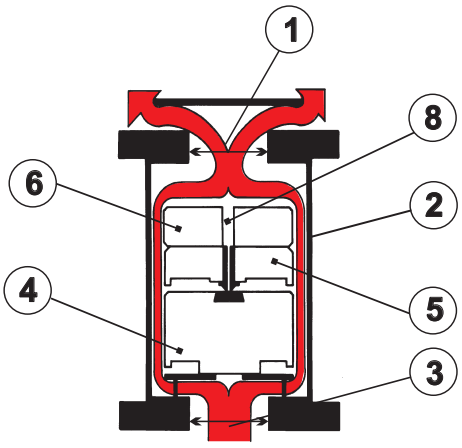
The Vent-O-Mat series RBX takes in air through the unobstructed large orifice when water column separation occurs, but controls the discharge of air through the "Anti-Shock" Orifice as the separated column commences to rejoin. The rejoining impact velocity is thereby sufficiently reduced to prevent an unacceptably high surge pressure in the system. In the same way the series RBX valve prevents high surge pressures resulting from liquid oscillation in a pipeline.

3. PRESSURIZED AIR RELEASE FROM A FULL PIPELINE:

Effective discharge by the valve of pressurized air depends on the existence of a 'CRITICAL RELATIONSHIP' between the area of the Small Orifice (7) and the mass of Control Float (4), i.e., the mass of the float must be greater than the force created by the working pressure acting on the orifice area. If the float is relatively too light or the orifice area relatively too great, the float will be held against the orifice, even when not buoyed, and air discharge will not be effected.

To ensure that the correct 'CRITICAL RELATIONSHIP' exists the requisite 'DROP TEST' described under TEST SPECIFICATION on page 17 must be applied to any air release valve which is intended for discharge of pressurized air.

VENTING OF A FILLING PIPELINE (SUB CRITICAL WATER APPROACH VELOCITY)

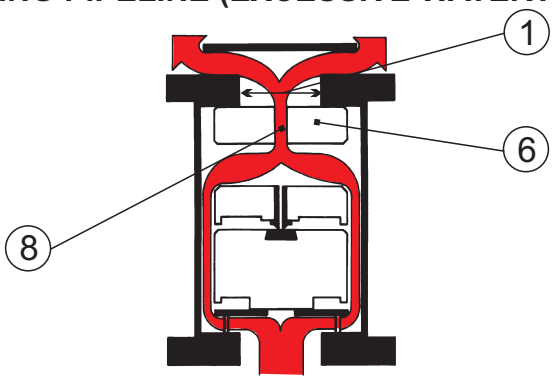


Air enters Orifice (3), travels through the annular space between the cylindrical floats (4), (5), and (6) and the valve Chamber Barrel (2) and discharges from the Large Orifice (1) into atmosphere.

Series RBX

OPERATION

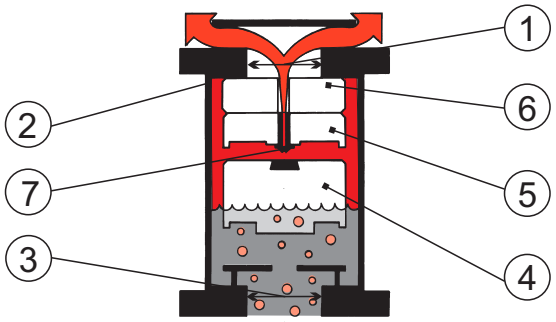
VENTING OF A FILLING PIPELINE (EXCESSIVE WATER APPROACH VELOCITY)



In reaction to increased air flow, Float (6) closes Large Orifice (1) and air is forced through the “Anti-Shock” Orifice (8) resulting in deceleration of the approaching water due to the resistance of rising air pressure in the valve.

Attention is drawn to Pre Note 1 and 2 on page 1.

PRESSURIZED AIR RELEASE FROM A FULL PIPELINE

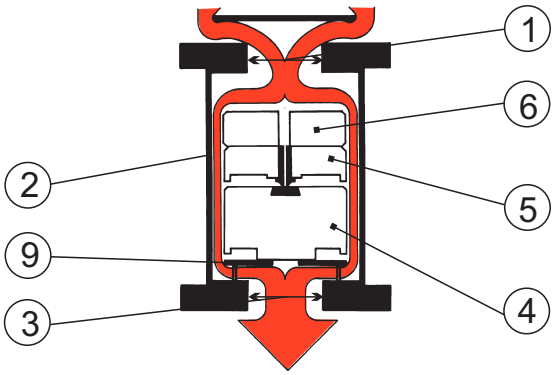


Subsequent to the filling of a pipeline, liquid enters the valve Barrel Chamber (2) and the Floats (4), (5) and (6) are buoyed so that the Large Orifice (1) is closed by Float (6), the valve will then become internally pressurized. A minimal working pressure of < 0. 5 bar (7. 3 psi) acting on the relatively large area of the Orifice (1) will lock Float (6) into the closed position across the Large Orifice (1).

Disentrained air rises through the liquid and accumulates in the valve chamber, when the volume of air is sufficient to displace the liquid, Float (4) will no longer be buoyant and will gravitate downwards thereby opening the Small Orifice (7) and allowing accumulated air to be discharged into atmosphere, as air is discharged the liquid raises Float (4) and re - seals the Small Orifice (7) and prevents escape of liquid

Specific attention is drawn to pre note 3 on page 1.

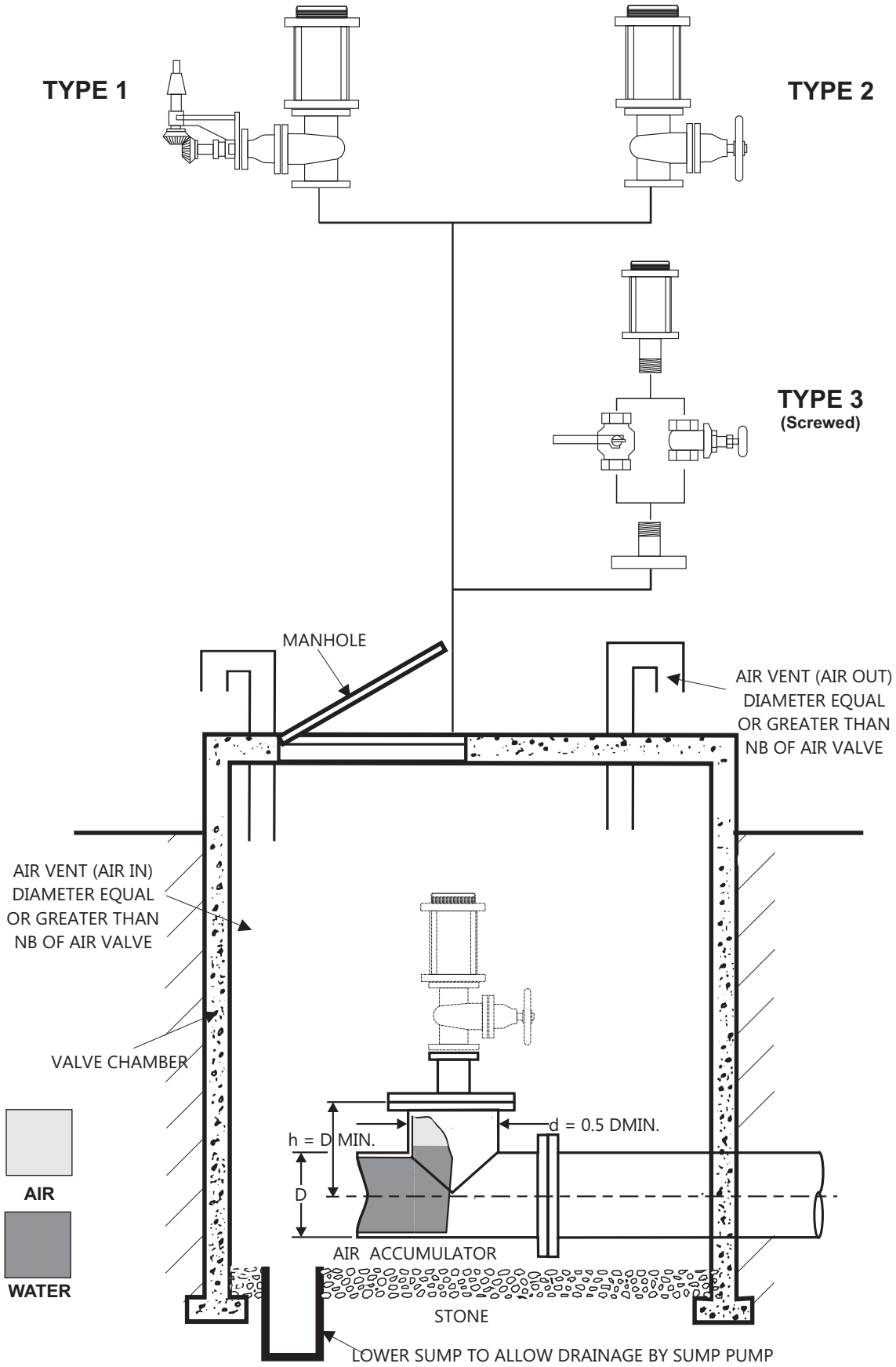
VACUUM RELIEF (AIR INTAKE) OF A DRAINING PIPELINE



Simultaneous drainage of liquid from Valve Chamber (2) causes Floats (4), (5) and (6) to gravitate downwards onto the Baffle Plate (9), thereby allowing atmospheric air through the valve to rapidly displace draining liquid in the pipeline and prevent potentially damaging internal negative pressure.

Series RBX

RECOMMENDED INSTALLATION ARRANGEMENTS



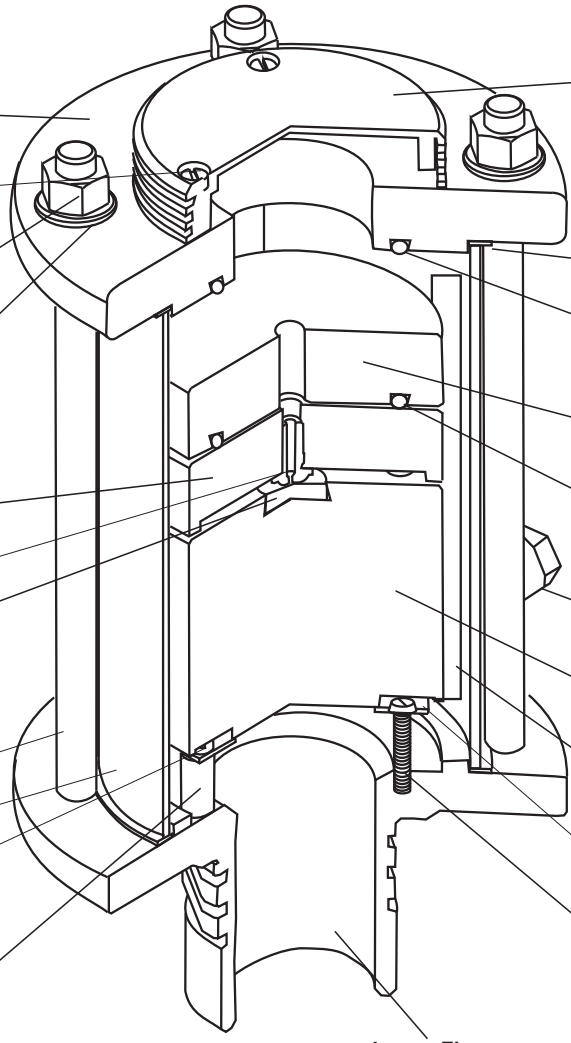
Series RBX

COMPONENT DESCRIPTION & MATERIAL SPECIFICATION
SCREWED - DN25(1") & DN50(2")

Type:
Series RBX - Double Orifice (Small & Large Orifice) with Anti Shock Orifice Mechanism.

End Connection:
Screwed BSP (ISO R7)/ NPT Male

Nominal Sizes:	Model No's:	Pressure Ratings:
DN25 (1")	RBX 25Y1	PN25 (363 psi) ANSI #250
DN50 (2")	RBX 25Y1	PN25 (363 psi) ANSI #250



Top Flange
Fusion Bonded
Epoxy Powder Coated
Ductile Cast Iron
BS2789 Grade 420/12

Assembly Screws
Cheesehead
Stainless Steel AISI 304

Nuts
Stainless Steel AISI 304

Washer
Stainless Steel AISI 304

Top Float
High Density Polyethylene

Nozzle
Stainless Steel AISI 316

Nozzle Seat
EPDM Rubber

Tie Rods
Stainless Steel AISI 304

Barrel
Stainless Steel AISI 316L

Support Screw
Cheesehead
Stainless Steel AISI 316

Baffle Plate Spacer
ABS Polylac PA737

Top Cover
ABS Polylac PA737

Barrel Seal
Klingersil C4430 /Treadit Naloor Gasket

O - Ring Seal
EPDM Rubber
(NSF61)

Anti Shock Orifice
High Density Polyethylene

O - Ring Seat
EPDM Rubber (NSF61)

Optional Test Cock
1/4" Female BSP

Lower Float
High Density Polyethylene

Float Guide
Stainless Steel AISI 316

Baffle Plate
Stainless Steel AISI 316

Support Screw
Cheesehead
Stainless Steel AISI 316

Lower Flange
Fusion Bonded
Epoxy Powder Coated
Stainless Steel AISI 304

Valves are available in AISI 316L on request.

Series RBX

COMPONENT DESCRIPTION & MATERIAL SPECIFICATION
FLANGED - DN80(3") & DN100(4")

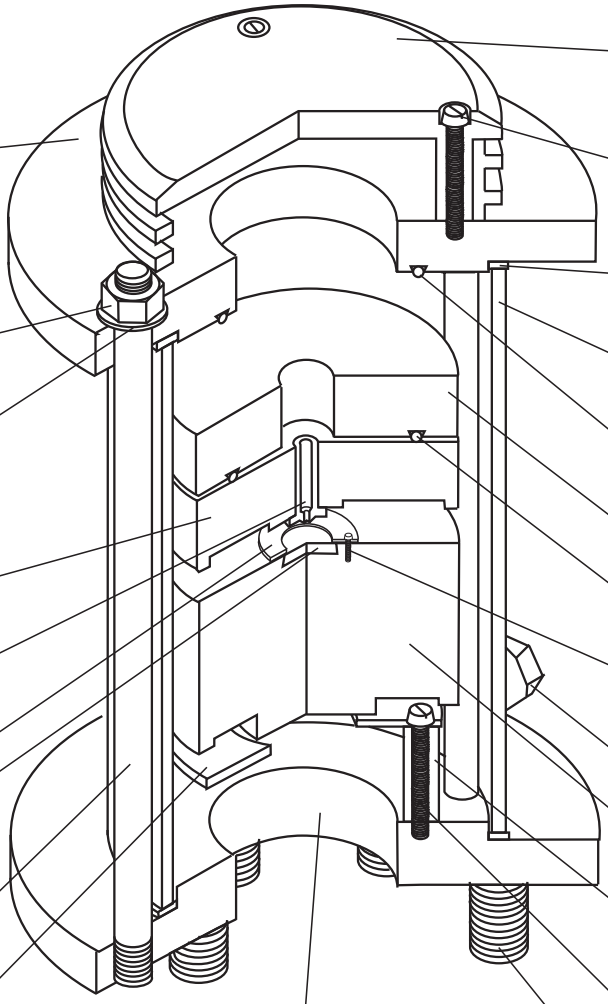
Type:
Series RBX - Double Orifice (Small & Large Orifice) with Anti Shock Orifice Mechanism.

End Connection:
Flange with screwed studs.

Nominal Sizes:
Pressure Ratings:
DN 80(3")
DN100 (4")

Model No's:

RBX 16Y1	PN16 (232 psi) ANSI #125
RBX 25Y1	PN25 (363 psi) ANSI #250
RBX 40Y1	PN40 (580 psi) ANSI #300



Top Cover
ABS Polylac PA737

Top Flange
Fusion Bonded
Epoxy Powder Coated
Ductile Cast Iron
BS2789 Grade 420/12
Alternatively Mild Steel
BS4360 Grade 43A (PN40)

Assembly Screws
Cheesehead
Stainless Steel AISI 304

Barrel Seal
Klingersil C4430/Treadit Naloor Gasket

Nuts
Stainless Steel AISI 304

Barrel
Stainless Steel AISI 316L

Washer
Stainless Steel AISI 304

O - Ring Seal
EPDM Rubber (NSF61)

Top Float
High Density Polyethylene

Anti Shock Orifice
High Density Polyethylene

O - Ring Seat
EPDM Rubber (NSF61)

Nozzle
Stainless Steel AISI 316

Connecting Screws
Cheesehead
Stainless Steel AISI 316

Nozzle Seat Retaining Plate
Stainless Steel AISI 316

Optional Test Cock
¼" Female BSP

Nozzle Seat
EPDM Rubber

Lower Float
High Density Polyethylene

Tie Rods
Stainless Steel AISI 304

Baffle Plate Spacer
ABS Polylac PA737

Baffle Plate
Stainless Steel AISI 316

Support Screw
Cheesehead
Stainless Steel AISI 316

Lower Flange
Fusion Bonded
Epoxy Powder Coated
Ductile Cast Iron
BS2789 Grade 420/12
Alternatively Mild Steel
BS4360 Grade 43A (PN40)

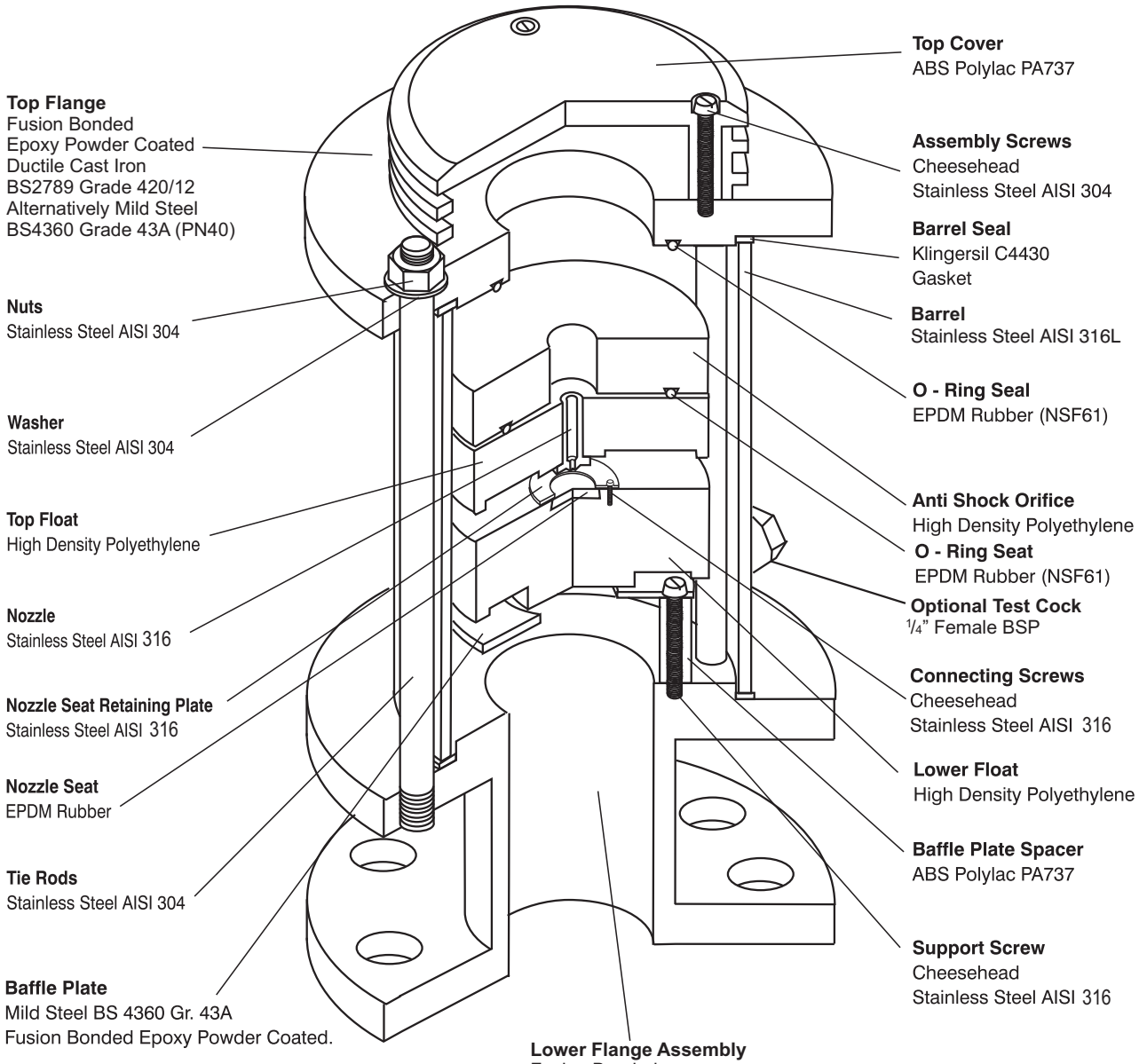
Studs
Stainless Steel AISI 304L

COMPONENT DESCRIPTION & MATERIAL SPECIFICATION
FLANGED - DN150(6") & DN200(8")

Type:
Series RBX - Double Orifice (Small & Large Orifice) with Anti Shock Orifice Mechanism.

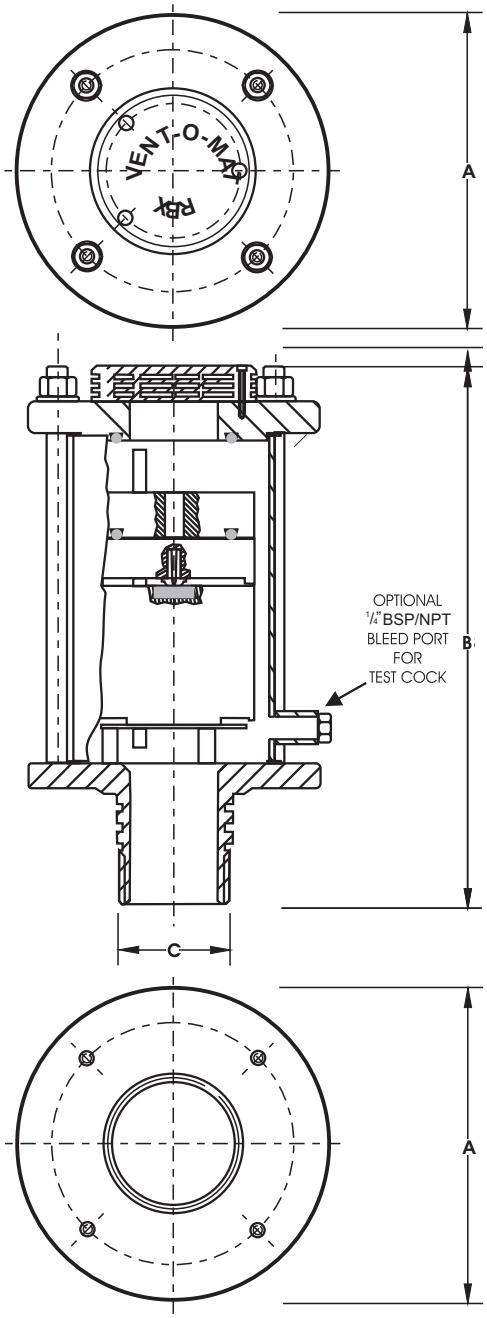
End Connection:
Flanged

Nominal Sizes:	Model No's:	Pressure Ratings:
DN150 (6")	RBX 16Y1	PN16 (232 psi) ANSI #125
DN200 (8")	RBX 25Y1	PN25 (363 psi) ANSI #250
	RBX 40Y1	PN40 (580 psi) ANSI #300



GENERAL SPECIFICATIONS

SCREWED - DN25(1") & DN50(2")



Type:
Double Orifice (Small & Large Orifice) with Anti-Shock Orifice Mechanism.

End Connection:
Screwed BSP/ NPT Male

Nominal Sizes:
DN25 (1") & DN50 (2")

Model No's:	**Pressure Ratings bar (psi):**
RBX 25Y1*	PN25 (363 psi) ANSI #250
RBX 40Y1*	Pn40 (580 psi) ANSI #300

Operating Pressure Range - bar (psi):

	Min.	**Max.**
PN25 (363 psi)	0.5 (7.25)	25 (363)
PN40 (580 psi)	0.5 (7.25)	40 (580)

Operating Temperature Range:
4°C (40°F) to 80°C (176°F)

Acceptable Media:
Potable or strained raw water.

Function:
i) High volume air discharge - pipeline filling.
ii) High volume air intake - pipeline draining
iii) Pressurized air discharge - pipeline filled.
iv) Surge dampening - high velocity air discharge, water column separation & liquid oscillation.

Materials of Construction: - see page 4

Installation:- see page 3

Standard Factory Tests:
i) Hydrostatic - 1.5 x max. rated working pressure
ii) Low head leak - 0.5 bar (7.25 psi)
iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

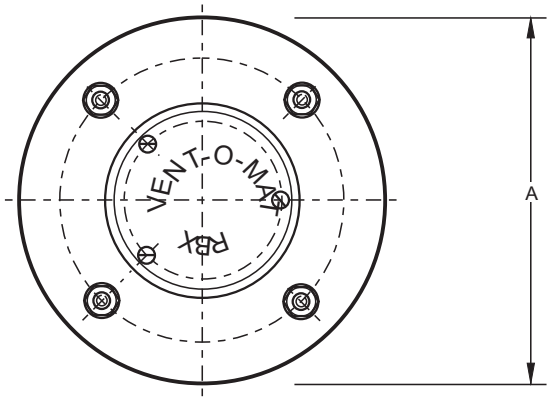
OVERALL DIMENSIONS & WEIGHTS

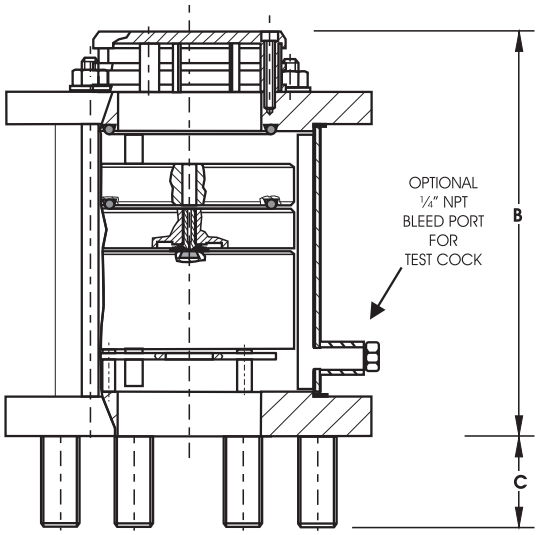
DN mm	DN in.	MODEL No.	PRESSURE RATING	A mm	B mm	C	WEIGHT kg.
25	1"	025 RBX 25Y1	PN25	120	265	1" BSP	5
25	1"	025 RBX 40Y1	PN40	120	317	1" BSP	5.5
50	2"	050 RBX 25Y1	PN25	165	325	2" BSP	9.5
50	2"	050 RBX 40Y1	PN40	165	340	2" BSP	10

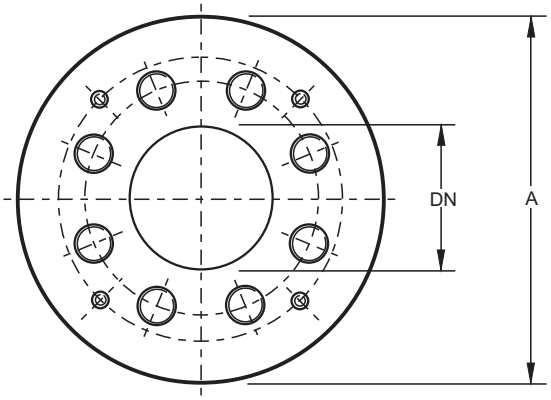
*Y:1 = Screwed BSP

Series RBX

GENERAL SPECIFICATIONS
FLANGED - DN80(3") & DN100(4")







Type:
Double Orifice (Small & Large Orifice) with Anti-Shock Orifice Mechanism.

End Connection:
Flange with Screwed Studs for Alignment to;
BS 4504 PN10, PN16, PN25 & PN40
ANSI B16.5 Class 150 & 300
AS 4087 FIG. B5-B6 (Ductile Iron)
AS 4087 FIG. B7-B9 (Mild Steel)
AS 2129 Table D/E/F

Nominal Sizes:
DN80 (3") & DN100 (4")

Model No's:	**Pressure Ratings bar (psi):**
RBX 16Y1	PN16 (232 psi) ANSI #125
RBX 25Y1	PN25 (363 psi) ANSI #250
RBX 40Y1	PN40 (580 psi) ANSI #300

Operating Pressure Range - bar (psi):

	Min.	**Max.**
PN16 (232 psi)	0.5 (7.25)	16 (232)
PN25 (363 psi)	0.5 (7.25)	25 (363)
PN40 (580 psi)	0.5 (7.25)	40 (580)

Operating Temperature Range:
4°C (40°F) to 80°C (176°F)

Acceptable Media:
Potable or strained raw water.

Function:
i) High volume air discharge - pipeline filling.
ii) High volume air intake - pipeline draining
iii) Pressurized air discharge - pipeline filled.
iv) Surge dampening - high velocity air discharge, water column separation & liquid oscillation.

Materials of Construction: - see page 5

Installation: - see page 3

Standard Factory Tests:
i) Hydrostatic - 1.5 x max. rated working pressure
ii) Low head leak - 0.5 bar (7.25 psi)
iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

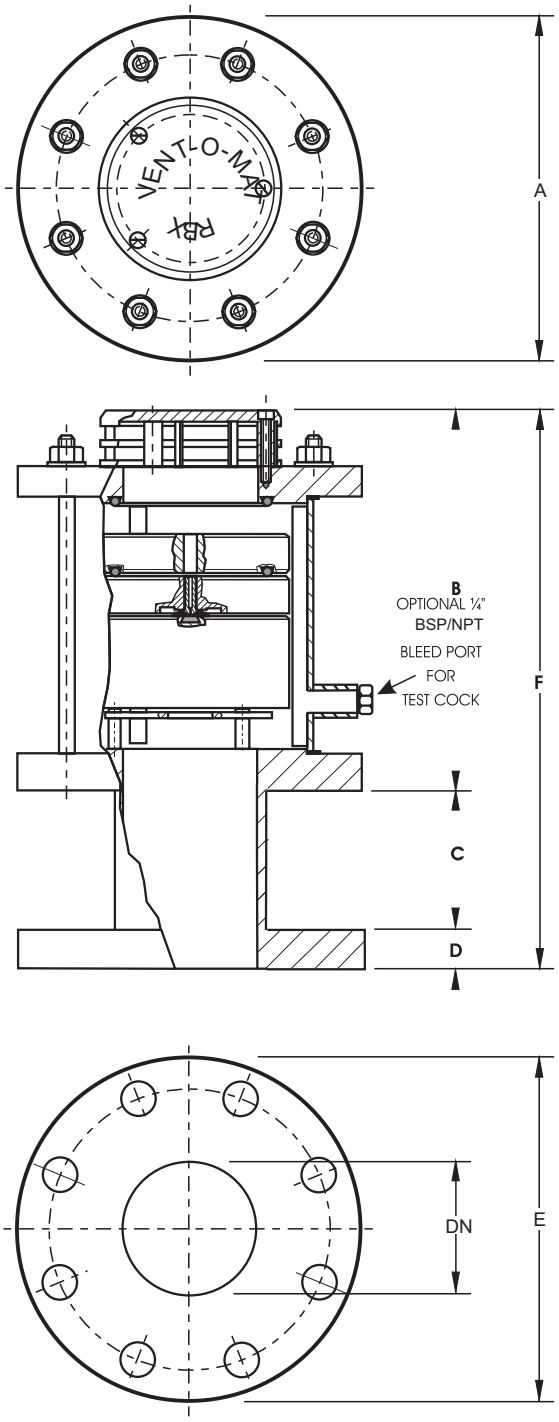
OVERALL DIMENSIONS & WEIGHTS

DN		MODEL No.	PRESSURE RATING	A	B	C	WEIGHT
mm	in			mm	mm	mm	kg.
80	3	080 RBX 16Y1	PN16	235	354	50	23
80	3	080 RBX 25Y1	PN25	235	354	50	23
80	3	080 RBX 40Y1	PN40	235	369	50	24.5
100	4	100 RBX 16Y1	PN16	235	369	50	22.5
100	4	100 RBX 25Y1	PN25	235	374	60	22.5
100	4	100 RBX 40Y1	PN40	235	407	60	24

Y; 4 = AS4087 Fig B7-B9, 5 = AS4087 Fig B6/B9, 6 = AS2129 Table E

information subject to change without prior notice

GENERAL SPECIFICATIONS
FLANGED - DN150(6") & DN200(8")



Type:
Double Orifice (Small & Large Orifice) with Anti-Shock Orifice Mechanism.

End Connection:
Flange for Alignment to;
BS 4504 PN10, PN16, PN25 & PN40
ANSI B16.5 Class 150 & 300
AS 4087 FIG. B5-B6 (Ductile Iron)
AS 4087 FIG. B7-B9 (Mild Steel)
AS 2129 Table D/E/F

Nominal Sizes:
DN150 (6") & DN200 (8")

Model No's:	**Pressure Ratings bar (psi):**
RBX 16Y1	PN16 (232 psi) ANSI #125
RBX 25Y1	PN25 (363 psi) ANSI #250
RBX 40Y1	Pn40 (580 psi) ANSI #300

Operating Pressure Range - bar (psi):

	Min.	**Max.**
PN16 (232 psi)	0.5 (7.25)	16 (232)
PN25 (363 psi)	0.5 (7.25)	25 (363)
PN40 (580 psi)	0.5 (7.25)	40 (580)

Operating Temperature Range:
4°C (40°F) to 80°C (176°F)

Acceptable Media:
Potable or strained raw water.

Function:
i) High volume air discharge - pipeline filling.
ii) High volume air intake - pipeline draining
iii) Pressurized air discharge - pipeline filled.
iv) Surge dampening - high velocity air discharge, water column separation & liquid oscillation.

Materials of Construction: - see page 6

Installation: - see page 3

Standard Factory Tests:
i) Hydrostatic - 1.5 x max. rated working pressure
ii) Low head leak - 0.5 bar (7.25 psi)
iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

OVERALL DIMENSIONS & WEIGHTS

DN mm	DN in	MODEL No.	PRESSURE RATING	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT kg
150	6	150 RBX16Y1	PN16 (232 psi) ANSI #125	355	457	133	22	285	612	69
150	6	150 RBX25Y1	PN25 (363 psi) ANSI #250	355	457	127	28	300	612	69
150	6	150 RBX40Y1	PN40 (580 psi) ANSI #300	355	457	127	28	300	612	75
200	8	200 RBX16Y1	PN16 (232 psi) ANSI #125	405	497	151	24	340	672	97
200	8	200 RBX25Y1	PN25 (363 psi) ANSI #250	405	497	145	30	360	672	97
200	8	200 RBX40Y1	PN40 (580 psi) ANSI #300	405	497	141	34	370	672	108

SELECTION & POSITIONING

PRE-NOTES

The functional limits of an air valve are governed by three physical laws namely: Joukowski's Equation Boyle's Law and Pascal's Law. Air valve operation however is also dependent on design and internal configuration, and can vary dramatically from manufacturer's product to manufacturer's product, within the parameters of what is physically possible. The basis of the Vent -O- Mat design is in the understanding of these laws, which have been used to design an air release and vacuum break valve that provides the optimum usable safe performance relative to all functions. The following summary is a general guideline of factors to consider when sizing air valves.

Sizing for Vacuum
Calculate necessary valve *orifice* sizes independently for each apex point.

Determine the smallest air release and vacuum break valve capable of admitting air into the pipeline equal to the potential water flow out of the pipeline whilst not exceeding a differential pressure that would put the pipeline and gasket joints at risk due to negative internal pressure. We recommend 0.35 bar (5 psi) Dp or lower. This exercise is simplified on pages 11 and 12 of this catalogue. Be cautious of air valve designs with spherical floats as a low pressure zone is created above the float which causes it to partially close off the large orifice during air intake.

Note that vacuum protection is dependent on valve size selection and orifice size relative to the nominal size of the valve. *In sizing air valves be cautious of designs with restricted orifice diameters, i.e., orifice diameters that are smaller than the nominal size of the valve, as this could lead to insufficient vacuum protection and pipe collapse if not accommodated for*. Vent-O-Mat large orifice diameters and flow path through the valve is equal to the nominal size of the valve e.g. a DN100 (4") valve has a 100mm (4") orifice. This ensures the least possible resistance to the intake of air and consequently the least possible negative pressure within a draining pipeline.

Sizing for Discharge
If a Vent-O-Mat air valve is sized correctly for air intake, discharge should not be a factor in sizing as all air will be discharged through the large orifice or "Anti-Shock" orifice (refer to RBX operation on pages 1 and 2 of this catalogue). *If this* information is used for the sizing of air valves other than Vent-O-Mat, we recommend that a valve be selected that is capable of discharging air equal to the filling rate, whilst not exceeding a differential of 0.05 bar (0.725 psi) across the large orifice in order to prevent pressure surge and water hammer.

Pressurized Air Discharge
Effective discharge by an air release and vacuum break valve of pressurised air depends on the existence of a "Critical Relationship" between the area of the small orifice and the mass of the control float, i.e., the mass of the float must be greater than the force created by the working pressure acting on the orifice area. If the float is relatively too light or the orifice area relatively too great, the float will be held against the orifice even when not buoyed, and air discharge will not take place.

Surge Alleviation

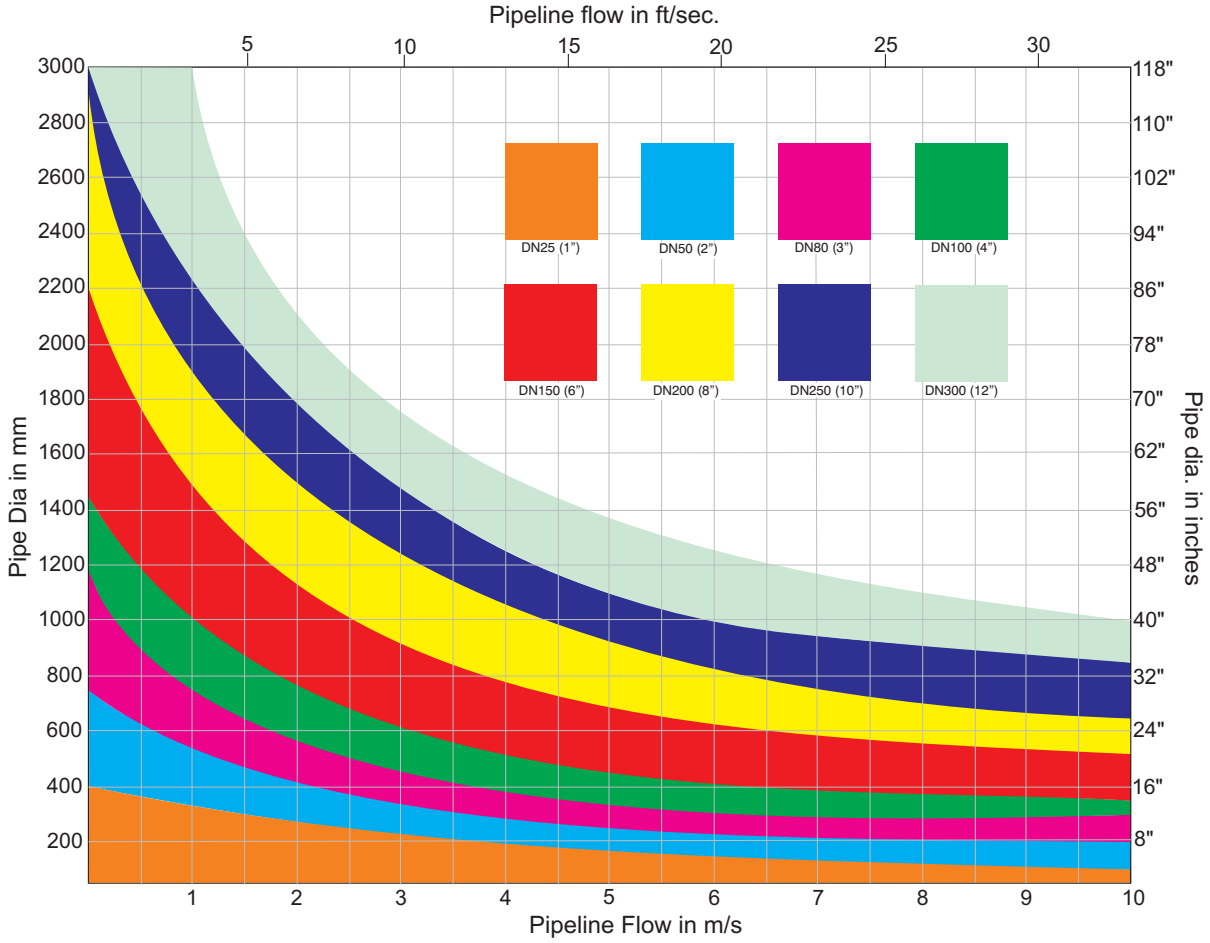
It is imperative, due to the unpredictable nature of pipeline operation, that every air release and vacuum break valve should as standard, incorporate a surge and water hammer alleviation mechanism. This mechanism should only be activated in the instance of high velocity air discharge or pump trip (where the separated liquid columns rejoin at excessive velocities). The alleviation of surge and/or water hammer must be achieved by deceleration of the approaching liquid prior to valve closure (see operation of RBX on pages 1 and 2 of this catalogue). Relief mechanisms that act subsequent to valve closure cannot react in the low millisecond time span required and are therefore unacceptable.

Kindly contact the manufacturer for free copies of the Vent-O-Mat publications; "Points to Consider when Sizing and Position Air Release and Vacuum Break Valves" and "Air Valve Technology Reviewed", should you require more information on the phenomena of surge and water hammer as a result of air release, as well as the functional limits of all available air valve designs and configurations.

Vent-O-Mat has an interactive sizing programme available on the Internet. The website address is: http://www.ventomat.com. You can, should you experience any problems, or need additional assistance, contact us at our E Mail address: ventomat@dfc.co.za

Series RBX

SELECTION & POSITIONING



Pipe Dia	Pipeline Velocity in Metres per sec																			
mm	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
100	4	8	12	16	20	24	27	31	35	39	43	47	51	55	59	63	67	71	75	79
150	9	18	27	35	44	53	62	71	80	88	97	106	115	124	133	141	150	159	168	177
200	16	31	47	63	79	94	110	126	141	157	173	188	204	220	236	251	267	283	298	314
250	25	49	74	98	123	147	172	196	221	245	270	295	319	344	368	393	417	442	466	491
300	35	71	106	141	177	212	247	283	318	353	389	424	459	495	530	565	601	636	672	707
350	48	96	144	192	241	289	337	385	433	481	529	577	625	673	722	770	818	866	914	962
400	63	126	188	251	314	377	440	503	565	628	691	754	817	880	942	1005	1068	1131	1194	1257
450	80	159	239	318	398	477	557	636	716	795	875	954	1034	1113	1193	1272	1352	1431	1511	1590
500	98	196	295	393	491	589	687	785	884	982	1080	1178	1276	1374	1473	1571	1669	1767	1865	1963
550	119	238	356	475	594	713	832	950	1069	1188	1307	1425	1544	1663	1782	1901	2019	2138	2257	2376
600	141	283	424	565	707	848	990	1131	1272	1414	1555	1696	1838	1979	2121	2262	2403	2545	2686	2827
650	166	332	498	664	830	995	1161	1327	1493	1659	1825	1991	2157	2323	2489	2655	2821	2986	3152	3318
700	192	385	577	770	962	1155	1347	1539	1732	1924	2117	2309	2501	2694	2886	3079	3271	3464	3656	3848
750	221	442	663	884	1104	1325	1546	1767	1988	2209	2430	2651	2872	3093	3313	3534	3755	3976	4197	4418
800	251	503	754	1005	1257	1508	1759	2011	2262	2513	2765	3016	3267	3519	3770	4021	4273	4524	4775	5027
850	284	567	851	1135	1419	1702	1986	2270	2554	2837	3121	3405	3688	3972	4256	4540	4823	5107	5391	5675
900	318	636	954	1272	1590	1909	2227	2545	2863	3181	3499	3817	4135	4453	4771	5089	5407	5726	6044	6362
950	354	709	1063	1418	1772	2126	2481	2835	3190	3544	3899	4253	4607	4962	5316	5671	6025	6379	6734	7088
1000	393	785	1178	1571	1963	2356	2749	3142	3534	3927	4320	4712	5105	5498	5890	6283	6676	7069	7461	7854
1100	475	950	1425	1901	2376	2851	3326	3801	4276	4752	5227	5702	6177	6652	7127	7603	8078	8553	9028	9503
1200	565	1131	1696	2262	2827	3393	3958	4524	5089	5655	6220	6786	7351	7917	8482	9048	9613	10179	10744	11310
1300	664	1327	1991	2655	3318	3982	4646	5309	5973	6637	7300	7964	8628	9291	9955	10619	11282	11946	12610	13273
1400	770	1539	2309	3079	3848	4618	5388	6158	6927	7697	8467	9236	10006	10776	11545	12315	13085	13854	14624	15394
1500	884	1767	2651	3534	4418	5301	6185	7069	7952	8836	9719	10603	11486	12370	13254	14137	15021	15904	16788	17671
1600	1005	2011	3016	4021	5027	6032	7037	8042	9048	10053	11058	12064	13069	14074	15080	16085	17090	18096	19101	20106
1700	1135	2270	3405	4540	5675	6809	7944	9079	10214	11349	12484	13619	14754	15889	17024	18158	19293	20428	21563	22698
1800	1272	2545	3817	5089	6362	7634	8906	10179	11451	12723	13996	15268	16540	17813	19085	20358	21630	22902	24175	25447
1900	1418	2835	4253	5671	7088	8506	9924	11341	12759	14176	15594	17012	18429	19847	21265	22682	24100	25518	26935	28353
2000	1571	3142	4712	6283	7854	9425	10996	12566	14137	15708	17279	18850	20420	21991	23562	25133	26704	28274	29845	31416
2100	1732	3464	5195	6927	8659	10391	12123	13854	15586	17318	19050	20782	22513	24245	25977	27709	29441	31172	32904	34636
2200	1901	3801	5702	7603	9503	11404	13305	15205	17106	19007	20907	22808	24709	26609	28510	30411	32311	34212	36113	38013
2300	2077	4155	6232	8310	10387	12464	14542	16619	18696	20774	22851	24929	27006	29083	31161	33238	35315	37393	39470	41548
2400	2262	4524	6786	9048	11310	13572	15834	18096	20358	22619	24881	27143	29405	31667	33929	36191	38453	40715	42977	45239
2500	2454	4909	7363	9817	12272	14726	17181	19635	22089	24544	26998	29452	31907	34361	36816	39270	41724	44179	46633	49087
2600	2655	5309	7964	10619	13273	15928	18583	21237	23892	26546	29201	31856	34510	37165	39820	42474	45129	47784	50438	53093
2700	2863	5726	8588	11451	14314	17177	20039	22902	25765	28628	31491	34353	37216	40079	42942	45804	48667	51530	54393	57256
2800	3079	6158	9236	12315	15394	18473	21551	24630	27709	30788	33866	36945	40024	43103	46181	49260	52339	55418	58496	61575
2900	3303	6605	9908	13210	16513	19816	23118	26421	29723	33026	36329	39631	42934	46236	49539	52842	56144	59447	62749	66052
3000	3534	7069	10603	14137	17671	21206	24740	28274	31809	35343	38877	42412	45946	49480	53014	56549	60083	63617	67152	70686

Conversion Table l/sec. to m/sec. of Pipeline Velocity

information subject to change without prior notice

VALVE SELECTION FROM GRAPH

All the relevant information has been condensed into one graph to enable valve selection to be simple and easy and at the same time to allow flexibility to the designer to move within certain parameters which eventually allows the most suited and economically viable valve to be selected.

IMPORTANT NOTE: The graph is based on vacuum breaking and limiting vacuum to 0.34 bar (5 psi) below atmospheric. It is not good practice to go below 0.69 bar (10 psi) absolute (0.303 bar (4. 4 psi) differential in pipeline at sea level). The graph allows for change in altitude and hence change in atmospheric pressure and is based on the assumption that more than one valve per section is used for vacuum protection and venting.

ACTUAL SELECTION (GRAVITY OR PUMPED PIPELINES)

Selection is based on the premise that pipelines are generally filled at a slower rate than they are drained, scoured or at which separation occurs (a maximum fill/ drain ratio of 1:1).

1. Determine the maximum drainage rate in m/s (ft/s) either for scouring, pipe rupture or column separation for a particular pipeline section. Conversion from l/sec to m/sec can be done fairly quickly; using the conversion table on page 11.
2. Move vertically on the selection graph (top of page 11) from the m/s (ft/s) point and move horizontally from the pipe size finding the intersecting point.
3. This point should fall within the operating band of a particular valve size. Consideration must be given to the fact that the upper portion of the band approaches - 0.34 bar (5 psi) and the lower portion - 0.1 bar (1.45 psi) for each valve size, this allows the designer to see at a glance if the valve is too close to it's operating limits and to select the next valve size.

EXAMPLE OF VALVE SIZING (ASSUMING AN INDIVIDUAL SECTION)

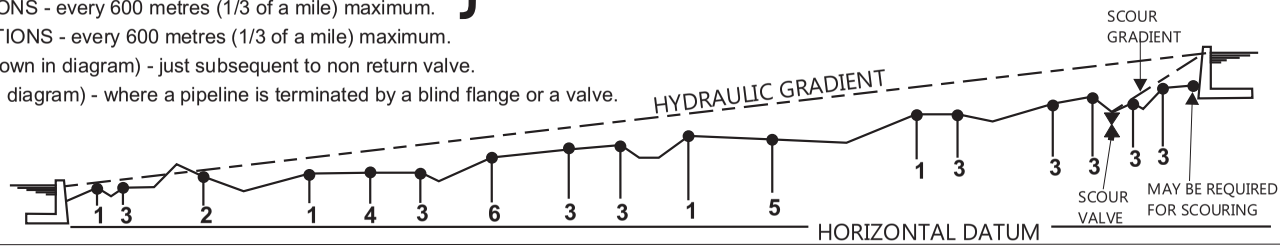
A Ø 400mm (16") pipeline draining at 377l/sec (99.6 gal/sec) which equates to 3m/sec. (9.85 ft/s), what valve size should be selected?

From the 3m/sec. (9.85 ft/s) point, on the graph on page 11, move vertically until the Ø400 mm (16") pipe size horizontal line is intersected. This places the intersection point in the operating band of a DN80 (3") Vent-O-Mat RBX valve. But, if for example, the drainage rate is 503 l/sec. (132.8 gal/sec) which equates to 4m/sec. (13.1 ft/s), the valve would be operating close to it's limit and it may be prudent to change to a DN100 (4") Vent-O-Mat RBX.

VALVE POSITIONING

1. ON APEX POINTS (relative to hydraulic gradient).
2. 5 METRES (16 FEET) BELOW APEX POINTS FORMED BY INTERSECTION OF PIPELINE AND HYDRAULIC GRADIENT - i.e. where pipeline siphoning over gradient an air release valve positioned on the apex would break the siphon. If positioning on apex is required a modified VENT-O-MAT Series RBX can be supplied.
3. NEGATIVE BREAKS (increase in downward slope or decrease in upward slope).
4. LONG HORIZONTAL SECTIONS - every 600 metres (1/3 of a mile) maximum.
5. LONG ASCENDING SECTIONS - every 600 metres (1/3 of a mile) maximum.
6. LONG DESCENDING SECTIONS - every 600 metres (1/3 of a mile) maximum.
7. PUMP DISCHARGE (not shown in diagram) - just subsequent to non return valve.
8. BLANK ENDS (not shown in diagram) - where a pipeline is terminated by a blind flange or a valve.

Alternatively: - 1 meter per every mm in pipe diameter e.g. space air valves every 600 meters for a 600mm diameter pipeline or every 800m for a 800mm diameter pipeline.



Series RBX

SURGE & WATERHAMMER PROTECTION

Introduction
The Vent-O-Mat Series RBX "Anti-Shock" air release and vacuum break valve, is the product of extensive research into the development of an efficient, but cost effective solution to surge problems (both mass liquid oscillation and elastic transient phenomena) associated with any operating pipeline. Automatic dampening, relevant to the pipeline's needs is provided by either one of three design features. These special features are unique in a pipeline component of such compact and economic design.

Surge Protection - Initial Filling
The RBX incorporates the additional floating "Anti-Shock" Orifice which is aerodynamically engineered to throttle air discharge when water approach velocity would otherwise become too great and induce an unacceptable pressure rise. The air throttling action increases resistance to the flow of the approaching water which consequently decelerates to a velocity which reduces the pressure rise when the valve closes (see operation of valve on pages 1 & 2). Vent-O-Mat series RBX is an essential precaution for pipeline priming.

Surge Protection - Pump Trip Conditions
In instances where a pipeline experiences water column separation due to pump stoppage, high shock pressures can be generated when the separated water column rejoins.

The Vent-O-Mat series RBX takes in air through the unobstructed large orifice when water column separation occurs, but controls the discharge of air through the "Anti-Shock" Orifice as the separated column commences to rejoin. The rejoining impact velocity is thereby considerably reduced to alleviate high surge pressures in the system (see operation of valve on pages 1 & 2).

Other surge control measures may, dependant on pipeline profile, diameter and operating conditions, be needed to provide the primary surge alleviation function with the Vent-O-Mat air-valves forming an integral and valuable addition in a combined strategy for further reducing surge pressures. The benefit of the "Anti-Shock" Orifice can be readily demonstrated by suitable surge modelling software.

Surge Protection - Pipeline Operating
The operation of valves and similar flow control devices can cause high-pressure transients in an operating pipeline.

The unique, single chamber design of the Vent-O-Mat series RBX valve enables a pocket of air to be trapped in the valve chamber. Automatic operation of the small orifice control float regulates the volume of air entrapped.

The volume maintained in the valve will provide a cushioning benefit to the pipeline for short duration transient pressure "spikes".This effect can be modelled by the design engineer using suitable surge software.

Surge Protection - Primary Pipeline Surge Protection Failure
In instances where air vessels or other alleviation measures are utilised as primary surge protection and these devices fail, excessively high surge pressures will be generated. The same is true if pipeline demands are increased with time without the upgrading of initial surge protection equipment.

Series RBX

SURGE & WATERHAMMER PROTECTION

Protection by Vent-O-Mat Series RBX will provide the benefits already described. The valve in addition, has a pipeline over pressure safety feature which acts as a "rupture-disc". Operation of this feature will be without an explosive effect and without damage to valve. This feature consists of easily replaceable components such as gaskets and seals.

This feature will thus provide surge alleviation in instances where surge pressures are abnormally high. The net alleviation effect can be taken into account by the design engineer using surge modelling software.

Computer Modelling
The effectiveness of Vent-O-Mat series RBX has been substantiated by independent third party testing and by thousands of applications globally. Effective computer modeling, based on practical tests, has been ensured in the well-known and respected commercially available SURGE 2000 surge analysis software programme. Accurate results are also obtained by other commercially available surge analysis software programmes such as FLOWMASTER, TRANSAM, WATHAM and AFT Impulse.

Holistic Surge & Water Hammer Protection
Vent-O-Mat forms an integral part of a well planned, holistic surge protection strategy that should, according to application needs and financial constraints, include surge vessels, check valves, control valves and/or any other equipment needed to alleviate unacceptable surge behaviour.

Technical and Financial Benefits
The Vent-O-Mat series RBX valve offers definite financial and technical advantages when incorporated as part of a holistic surge protection strategy. This includes:

1. Improved alleviation of surge behaviour including reduction of:
   - Surge pressure magnitudes by slowing surge velocities
   - Duration of oscillation following a pump trip, as the air-valve continuously absorbs and dissipates the energies of the surge.
2. Potential for reduction in size and/or quantity of conventional surge protection devices such as surge vessels etc.
3. Automatic protection during initial filling when most surge protection devices are not operational.
4. Holistic protection as each air valve installed has design features to automatically damp surges.
5. The valve is virtually maintenance free.

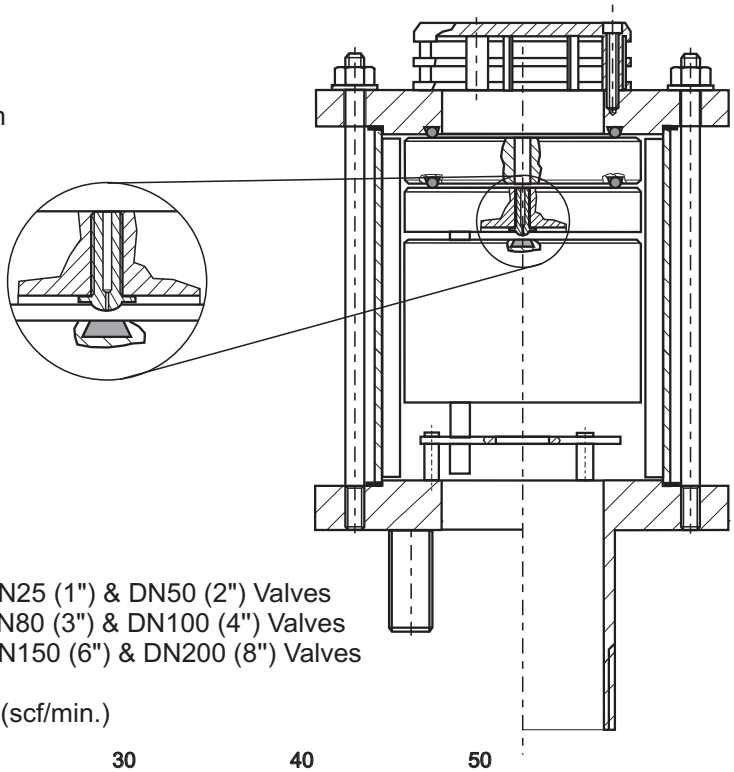
Service
Vent-O-Mat is committed to finding the most cost effective and efficient solution to pipeline complexities. Services include air valve sizing and positioning and assistance to consulting engineers on defining appropriate surge and water hammer protection strategies. Vent-O-Mat has built a sound relationship with many international consulting firms and has gained global recognition for selling solutions!

Series RBX

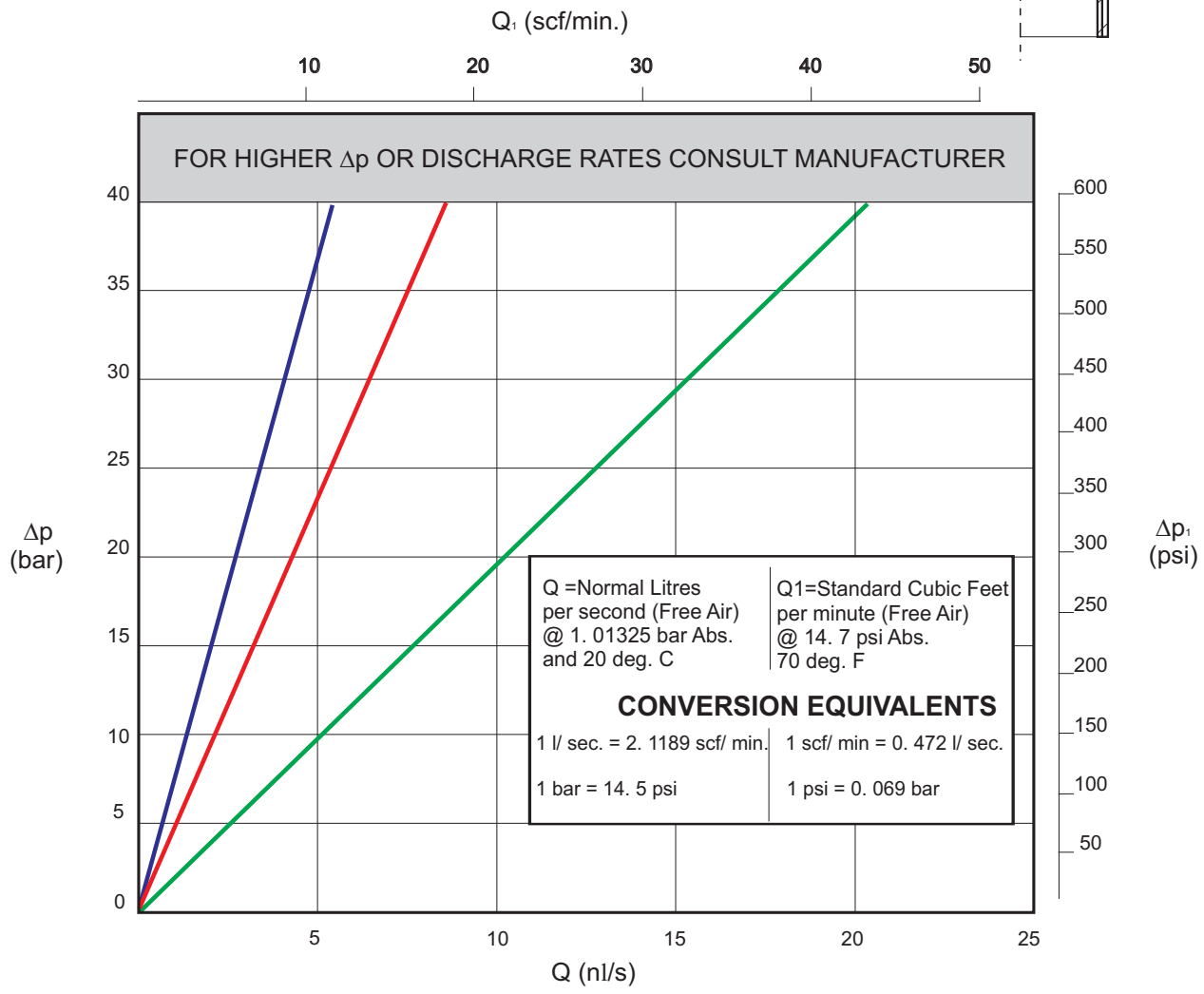
SMALL ORIFICE DISCHARGE PERFORMANCE

Type:
Series RBX - Double Orifice (Small & Large Orifice)
with 'Anti Shock Orifice' Mechanism

Model No's:
RBX 16Y1
RBX 25Y1
RBX 40Y1



¨ 1.2 mm (¨ 0. 047") small orifice - DN25 (1") & DN50 (2") Valves
¨ 1.5 mm (¨ 0. 059") small orifice - DN80 (3") & DN100 (4") Valves
¨ 2.4 mm (¨ 0. 094") small orifice - DN150 (6") & DN200 (8") Valves



Series RBX

Why?

- **"ANTI-SHOCK" - "ANTI-SURGE"** - The RBX is the only air release valve available that is supplied as standard with a mechanism which operates automatically to prevent pipeline damage from the high induced pressure transients associated with high velocity air discharge. Surge resulting from liquid column separation and liquid oscillation is dramatically reduced as an automatic function of this mechanism.

- **PERFORMANCE** - The RBX has been designed and developed to provide the optimum usable and safe performance relative to all functions. Selection data has been substantiated through CSIR and other testing and can therefore, be confidently referenced.

- **QUALITY** - The RBX economically offers the highest quality construction and materials available in an air release and vacuum break valve. Stringent manufacturing and test procedures are maintained to ensure the best possible service and reliability is given by every valve produced.

- **SERVICEABILITY** - The RBX design facilitates extreme ease of service and maintenance. Components are in corrosion free materials to allow problem free disassembly and reassembly even after many years of operation. All maintenance spares are replaceable without special tools or skills.

- **VACUUM BREAK** - The RBX series large orifice diameters equal the nominal size of the valve, i.e., a DN200 (8") valve has a DN200 (8") orifice. This ensures the least possible resistance to the intake of air and consequently the least possible negative pressure within a draining pipeline.

- **COMPACTNESS** - Although extremely robust the RBX valve's lightweight and compact construction offers handling transport and installation advantages.

- **BACK UP** - Vent-O-Mat provides highly committed customer orientated sales, service, spares and technical back up - TRY US!!!

PURCHASE SPECIFICATION

VENT -O- MAT MODEL NO.

Page 7 - Series RBX - DN25 (1") or DN50 (2") with BSP (ISO R7) or NPT, Screwed Male Connection.
Page 8 - Series RBX - DN80 (3") or DN100 (4") Flanged Connection.
Page 9 - Series RBX - DN150 (6") or DN200 (8") Flanged Connection.

CONSTRUCTION & DESIGN

The air release & vacuum break valve shall be of the compact single chamber design with solid cylindrical H.D.P.E. control Floats housed in a tubular Stainless Steel Body with epoxy powder coated Mild Steel or Stainless Steel ends secured by means of Stainless Steel Tie Rods.

The valve shall have an integral 'Anti-Shock' Orifice mechanism which shall operate automatically to limit transient pressure rise or shock induced by closure to 1.5 x valve rated working pressure.

The intake orifice area shall be equal to the nominal size of the valve i.e., a 150mm (6") valve shall have a 150mm (6") intake orifice.

Large orifice sealing shall be effected by the flat face of the control float seating against a EPDM rubber 'O' ring housed in a dovetail groove circumferentially surrounding the orifice.

Discharge of pressurized air shall be controlled by the seating & unseating of a Small Orifice Nozzle on a EPDM rubber seal affixed into the control float. The Nozzle shall have a flat seating land surrounding the orifice so that the damage to the rubber seal is prevented.

The valve construction shall be proportioned with regard to material strength characteristics, so that deformation, leaking or damage of any kind does not occur by submission to one and half times the designed working pressure.

The valve design shall incorporate an over pressure safety feature that will fail without an explosive effect, such as is normally the case when highly compressed air is released suddenly. The feature shall consist of easily replaceable components such as Gaskets, Seals or the like.

Connection to the valve inlet shall be facilitated by a screwed BSP (ISO R7) or NPT male end (DN25 (1") & DN50 (2") only) or a flanged end conforming to PN10, 16, 25 or 40 ratings of BS4504 or SABS 1123 Standards and ANSI B16.5 Class 150 or Class 300 Standards.

Flanged ends for DN80 and DN100 shall be supplied with the requisite number of Stainless Steel screwed studs inserted for alignment to the specified standard. **Nuts, washers, or jointing gaskets shall be excluded.**

Optional: Provision of a ¼" BSP/ NPT Test/ Bleed Cock.

OPERATION

1. Prior to the ingress of liquid into the valve chamber, as when the pipeline is being filled, valves shall vent through the large orifice when water approach velocities are relative to a transient pressure rise, on valve closure, of < 1.5 x valve rated pressure.
   At higher water approach velocities, which have a potential to induce transient pressure rises > 1.5 x valve rated pressure on valve closure, the valve shall automatically discharge air through the Anti Shock Orifice and reduce water approach velocity, so that on closure a maximum transient pressure rise of < 1.5 x valve rated pressure is realised.
2. Valves shall not exhibit leaks or weeping of liquid past the large orifice seal at operating pressures of 0.5 bar (7.25 psi) to one and a half times the rated working pressure.
3. Valves shall respond to the presence of air by discharging it through the small orifice at pressures within a specified design range, i.e. 0.5 bar (7.25 psi) to 16 bar (232 psi), 25 bar (363 psi) or 40 bar (580 psi), and shall
   Remain leak tight in the absence of air.
4. Valves shall react immediately to pipeline drainage or water column separation by the full opening of the

Series RBXb

OPERATION

PRE NOTES:

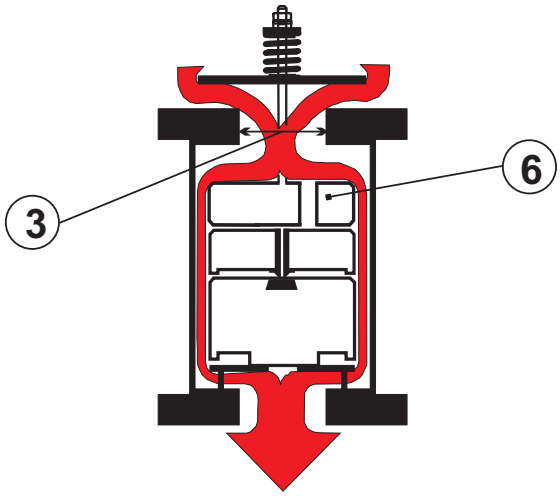
It is good engineering practice, for vertical turbine pumps and deepwell, submersible pump applications, to install air valves prior to the pump discharge check valve. The purpose of these valves is to prevent air entry into the pipeline and to break vacuum in the vertical riser upon pump shutoff.

Operation of conventional air valves in this application is such that the air in the vertical riser is released very rapidly upon pump startup, resulting in very high pressure transients when the water column slams the air valve shut and/or slams into the closed discharge check valve.

The Vent-O-Mat Series RBXb valve has specifically been developed for use on deep well submersible pump and vertical turbine pump applications where they are installed prior to the pump discharge check valve to fulfill the following functions:

- Provide effective and controlled release of air in the vertical riser upon pump startup.
- Dampen surge pressures upon pump startup.
- Provide vacuum protection when the pump stops and the vertical column drains.

VACUUM RELIEF (AIR INTAKE)



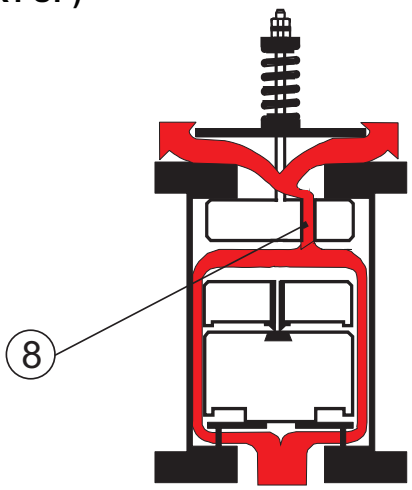
Upon pump stop, the pump discharge check valve closes. Liquid drains from the air valve and the pump's vertical column. The negative differential created by the draining liquid causes atmospheric air to push the "Anti-Shock" Float (6) down, opening the Large Orifice (3) and rapidly displaces the draining liquid to prevent potentially damaging internal negative pressure *.

***Note:** A differential pressure of less than 0.05 bar (0.725 psi) across the Large Orifice (3) is required to open the valve fully under vacuum conditions.

Series RBXb

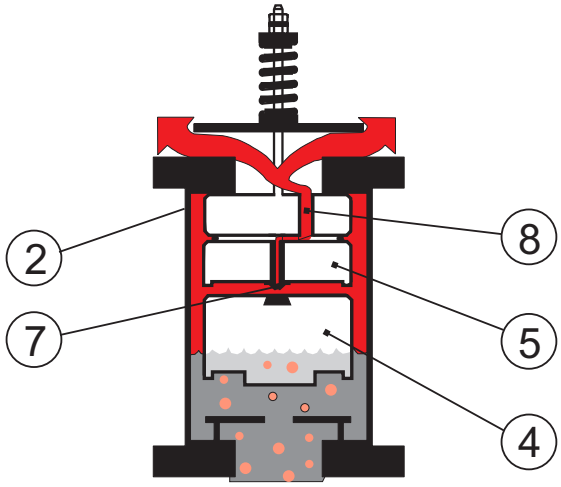
OPERATION

VENTING (PUMP START UP)



Air is forced through the "Anti-Shock" Orifice (8) resulting in the deceleration of the approaching water column due to the resistance of rising air pressure in the valve. This dampens transients when the air valve closes and the water column opens the pump, discharge check valve.

PRESSURIZED AIR RELEASE (PUMP OPERATING)

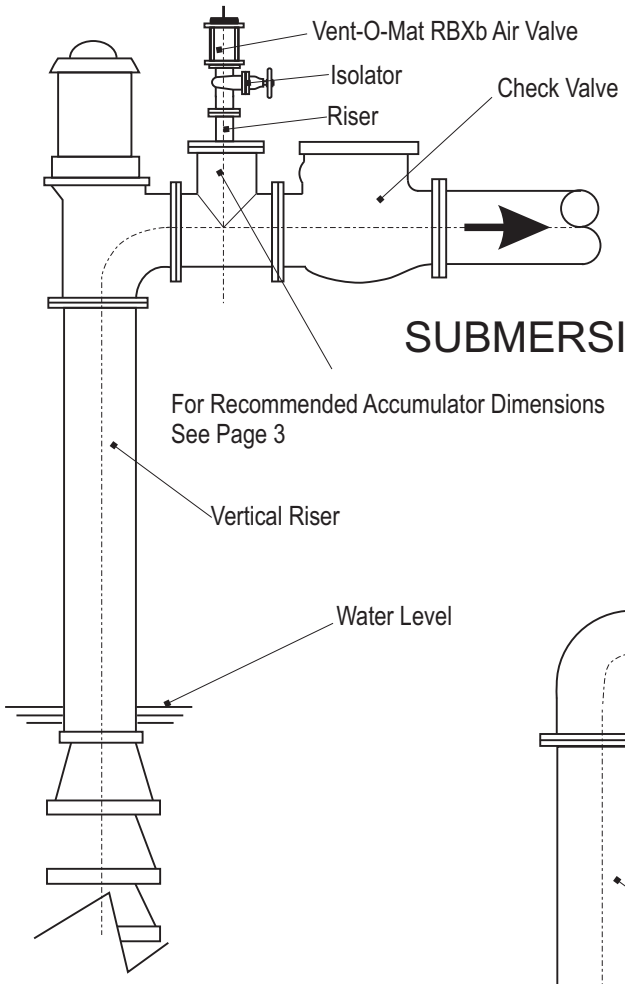


Liquid enters the valve Barrel Chamber (2) and the Floats (4), (5) are buoyed so that the "Anti-Shock" Orifice (8) is closed by the Floats (4), (5) the valve will then become internally pressurized.

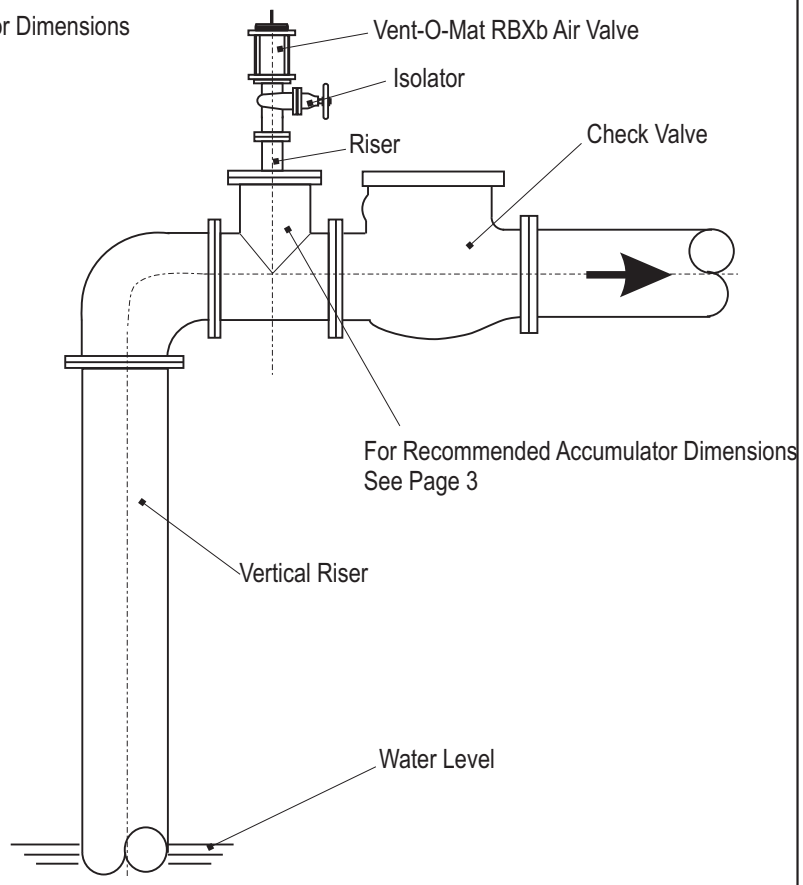
Disentrained air rises through the liquid and accumulates in the valve chamber when the volume of air is sufficient to displace the liquid, Float (4) will no longer be buoyant and will gravitate downwards thereby opening the Small Orifice (7) and allowing accumulated air to be discharged into atmosphere, as the air is discharged the liquid raises the Float (4) and reseals the Small Orifice (7) and prevents escape of liquid.

RECOMMENDED INSTALLATION ARRANGEMENTS

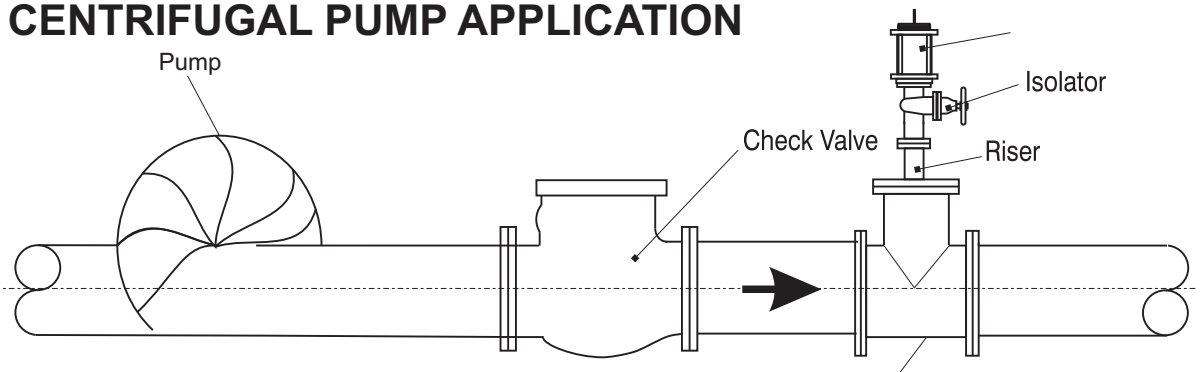
VERTICAL TURBINE PUMP APPLICATION



SUBMERSIBLE/DEEP WELL APPLICATION



CENTRIFUGAL PUMP APPLICATION

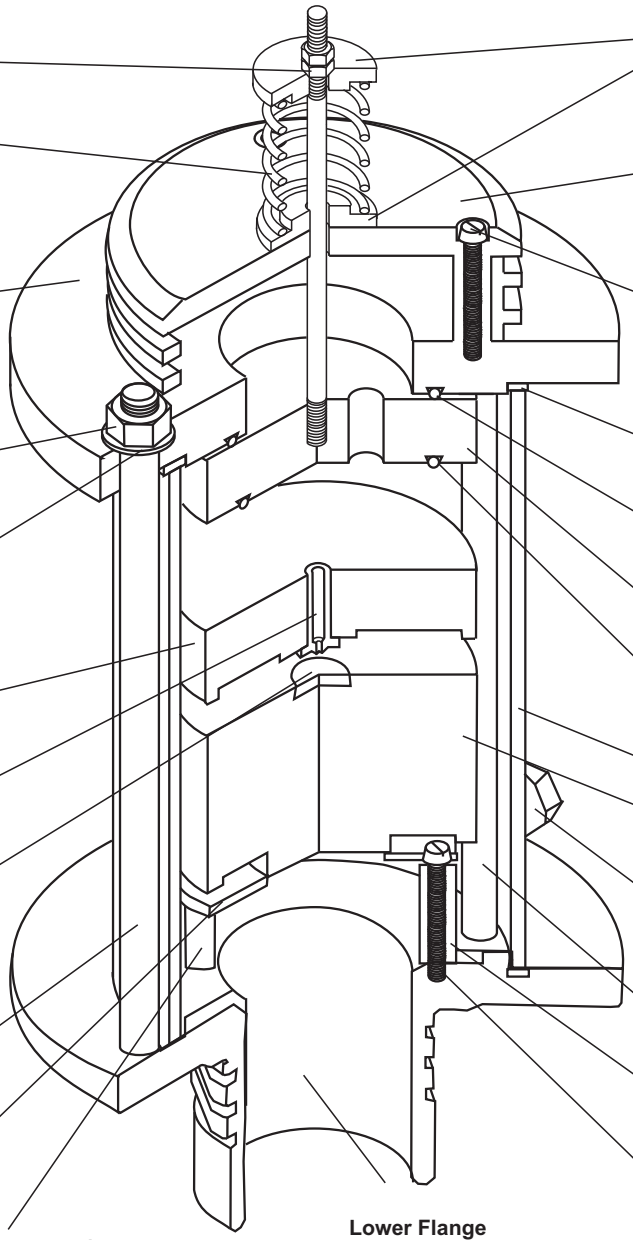


COMPONENT DESCRIPTION & MATERIAL SPECIFICATION
SCREWED - DN25(1") & DN50(2")

Type:
Series RBXb - Double Orifice (Small & Large Orifice) with Bias Mechanism.

End Connection:
Screwed BSP (ISO R7)/ NPT Male

Nominal Sizes:	Model No's:	Pressure Ratings:
DN25 (1")	RBXb 25Y1	PN25 (363 psi)ANSI #250
DN50 (2")	RBXb 40Y1	PN40 (580 psi)ANSI #300



Locking Nuts
Stainless Steel AISI 316

Bias Spring
Stainless Steel AISI 316

Upper Flange
Fusion Bonded
Epoxy Powder Coated
Ductile Cast Iron
BS2789 Grade 420/12

Nuts
Stainless Steel AISI 304

Washer
Stainless Steel AISI 304

Top Float
High Density Polyethylene

Nozzle
Stainless Steel AISI 316

Nozzle Seat
EPDM Rubber

Tie Rods
Stainless Steel AISI 304

Baffle Plate
Stainless Steel AISI 316

Baffle Plate Spacer
ABS Polylac PA737

Lower Flange
Fusion Bonded
Epoxy Powder Coated
Stainless Steel AISI 304

Locating Lugs
Grey PVC

Top Cover
ABS Polylac PA737

Assembly Screws
Cheesehead
Stainless Steel AISI 316

Barrel Seal
Klingersil C4430 /Treadit Naloor Gasket

O - Ring Seal
EPDM Rubber (NSF61)

Anti Shock Orifice
High Density Polyethylene

O - Ring Seat
EPDM Rubber (NSF61)

Barrel
Stainless Steel AISI 316

Lower Float
High Density Polyethylene

Optional Test Cock
¼" Female BSP

Float Guide
Stainless Steel AISI 316

Baffle Plate Spacer
ABS Polylac PA737

Support Screw
Cheesehead
Stainless Steel AISI 316

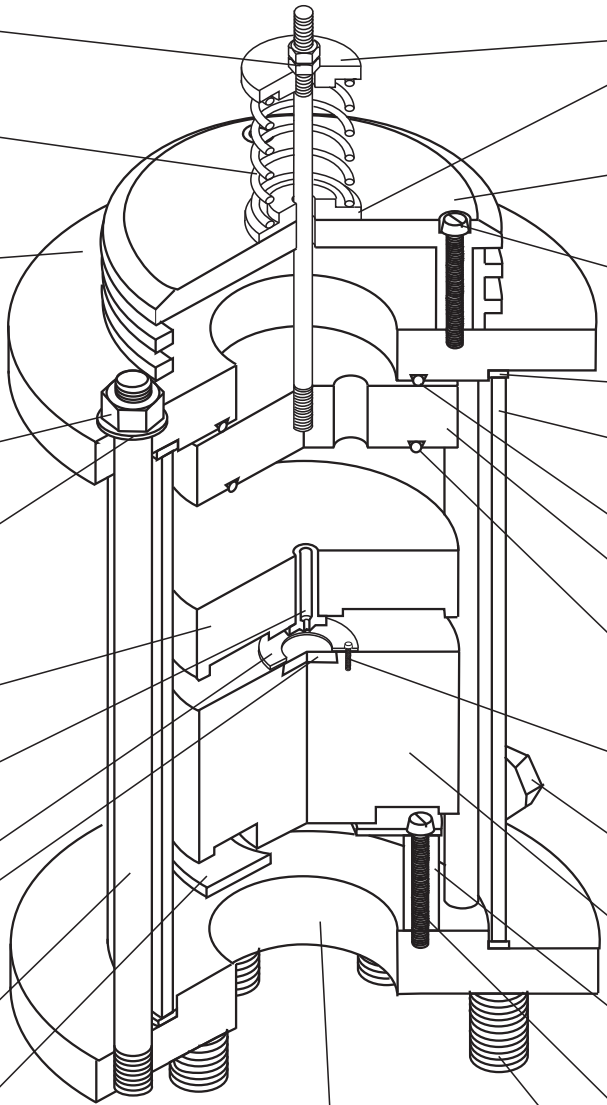
Series RBXb

COMPONENT DESCRIPTION & MATERIAL SPECIFICATION
FLANGED - DN80(3") & DN100(4")

Type:
Series RBXb - Double Orifice (Small & Large Orifice) with Bias Mechanism.

End Connection:
Flange with screwed studs.

Nominal Sizes: Ratings:	Model No's:	Pressure
DN80 (3")	RBXb 16Y1	PN16 (232 psi) ANSI #125
DN100 (4")	RBXb 25Y1	PN25 (363 psi) ANSI #250
	RBXb 40Y1	PN40 (580 psi) ANSI #300



Locking Nuts
Stainless Steel AISI 316

Bias Spring
Stainless Steel AISI 316

Top Flange
Fusion Bonded
Epoxy Powder Coated
Ductile Cast Iron
BS2789 Grade 420/12
Alternatively Mild Steel
BS4360 Grade 43A

Nuts
Stainless Steel AISI 304

Washer
Stainless Steel AISI 304

Top Float
High Density Polyethylene

Nozzle
Stainless Steel AISI 316

Nozzle Seat Retaining Plate
Stainless Steel AISI 316

Nozzle Seat
EPDM Rubber

Tie Rods
Stainless Steel AISI 304

Baffle Plate
Stainless Steel AISI 316

Lower Flange
Fusion Bonded
Epoxy Powder Coated
Ductile Cast Iron
BS2789 Grade 420/12
Alternatively Mild Steel
BS4360 Grade 43A

Locating Lugs
Stainless Steel AISI 316

Top Cover
ABS Polylac PA737

Assembly Screws
Cheesehead
Stainless Steel AISI 316

Barrel Seal
Klingersil C4430/Treadit Naloor Gasket

Barrel
Stainless Steel AISI 316

O - Ring Seal
EPDM Rubber (NSF61)

Anti Shock Orifice
High Density Polyethylene

O - Ring Seat
EPDM Rubber (NSF61)

Connecting Screws
Stainless Steel AISI 316

Optional Test Cock
¼" Female BSP

Lower Float
High Density Polyethylene

Baffle Plate Spacer
ABS Polylac PA737

Support Screw
Cheesehead
Stainless Steel AISI 316

Studs
Stainless Steel AISI 316 .

Valves are available in AISI 316L on request.

information subject to change without prior notice

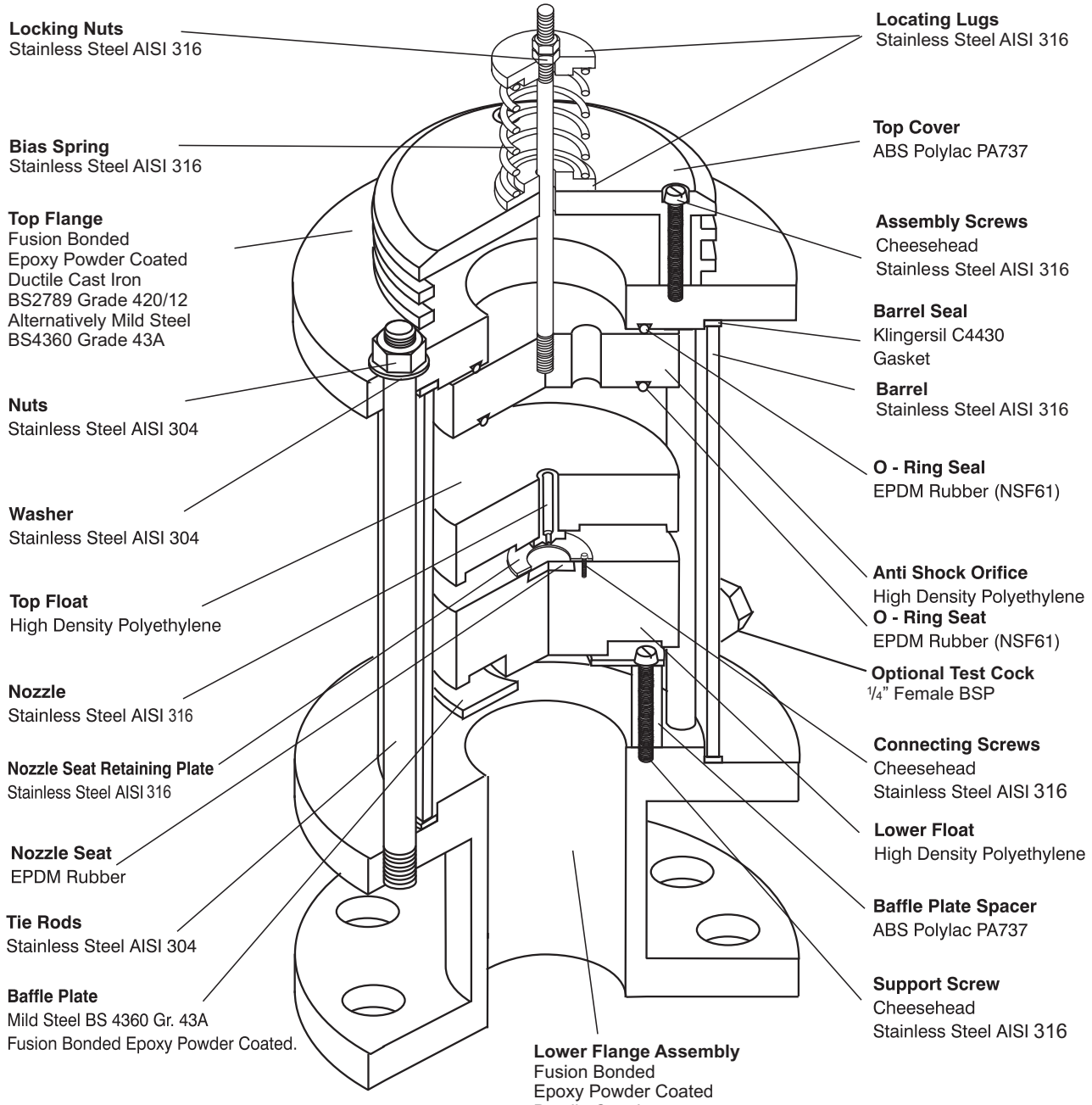
Series RBXb

COMPONENT DESCRIPTION & MATERIAL SPECIFICATION
FLANGED - DN150(6") & DN200(8")

Type:
Series RBXb - Double Orifice (Small & Large Orifice) with Bias Mechanism.

End Connection:
Flanged.

Nominal Sizes: Ratings:	Model No's:	Pressure
DN150 (6")	RBXb 16Y1	PN16 (232 psi) ANSI #125
Dn200 (8")	RBXb 25Y1	PN25 (363 psi) ANSI #250
	RBXb 40Y1	PN40 (580 psi) ANSI #300

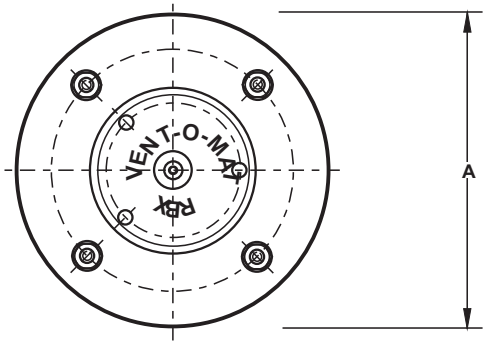


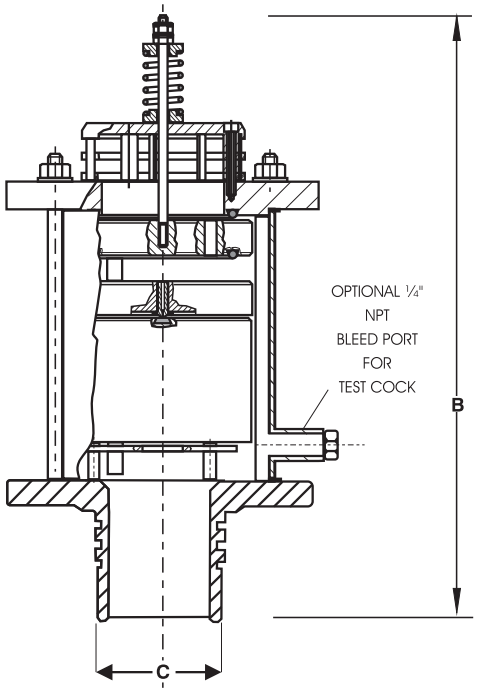
Valves are available in AISI 316L on request.

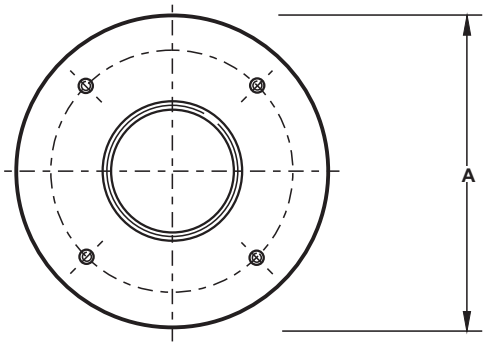
information subject to change without prior notice

VENT-O-MAT®

Series RBXb
GENERAL SPECIFICATIONS
SCREWED - DN25(1") & DN50(2")







Type:
Double Orifice (Small & Large Orifice) with *Bias* mechanism for large volume air intake and controlled air discharge.

End Connection:
Screwed BSP/ NPT male

Nominal Sizes:
DN25 (1") & DN50 (2")

Model No's:	**Pressure Ratings bar (psi):**
RBXb 25Y1	PN25 (363 psi) ANSI #250
RBXb 40Y1	Pn40 (580 psi) ANSI #300

Operating Pressure Range - bar (psi):

	Min.	**Max.**
PN25 (363 psi)ANSI #250	0.5 (7.25)	25 (363)
PN40 (580 psi)ANSI #300	0.5 (7.25)	40 (580)

Operating Temperature Range:
4°C (40°F) to 80°C (176°F)

Acceptable Media:
Potable or strained raw water.

Function:
i) Controlled air discharge - pipeline filling
ii) Pressurized air discharge - pipeline filled.
Iii) Surge dampening - high velocity air discharge, water column separation & liquid oscillation.
iv) High volume air intake - pipeline draining.

Materials of Construction: - see page 22

Installation:- see page 21

Standard Factory Tests:
i) Hydrostatic - 1.5 x max. rated working pressure
ii) Low head leak - 0.5 bar (7.25 psi)
iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

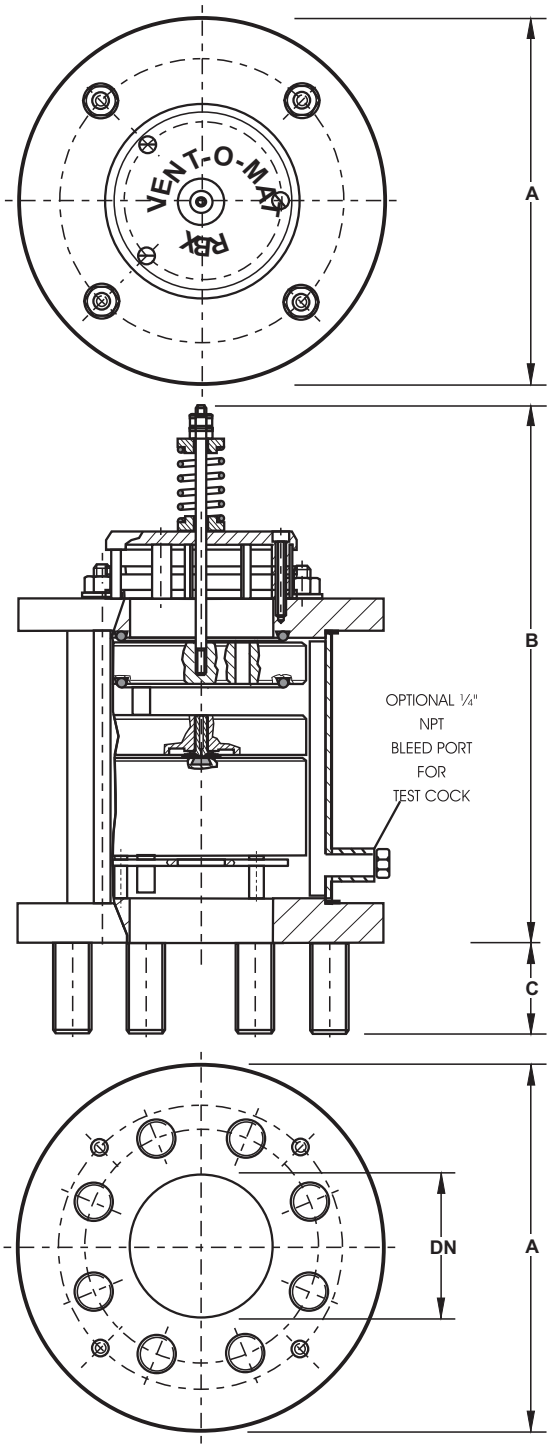
OVERALL DIMENSIONS & WEIGHTS

DN mm	MODEL No	PRESSURE RATING	A mm	B mm	C	WEIGHT
25	025 RBXb25Y1	PN25 (363 psi) ANSI #250	120	335	1" BSP/NPT	5
25	025 RBXb40Y1	PN40 (580 psi) ANSI #300	120	387	1" BSP/NPT	5.5
50	050 RBXb25Y1	PN25 (363 psi) ANSI #250	165	395	2" BSP/NPT	9.5
50	050 RBXb40Y1	PN40 (580 psi) ANSI #300	165	410	2" BSP/NPT	10

*Y:1 = Screwed BSP

VENT-O-MAT®

Series RBXb
GENERAL SPECIFICATIONS
FLANGED - DN80(3") & DN100(4")



Type:
Double Orifice (Small & Large Orifice) with *Bias* mechanism for large volume air intake and controlled air discharge.

End Connection:
Flange with Screwed Studs for Alignment to;
BS 4504 PN10, PN16, PN25 & PN40
ANSI B16.5 Class 150 & 300
AS 4087 FIG. B5-B6 (Ductile Iron)
AS 4087 FIG. B7-B9 (Mild Steel)
AS 2129 Table D/E/F

Nominal Sizes:
DN80 (3") & DN100 (4")

Model No's:	**Pressure Ratings bar (psi):**
RBX 16Y1	PN16 (232 psi) ANSI #125
RBX 25Y1	PN25 (363 psi) ANSI #250
RBX 40Y1	Pn40 (580 psi) ANSI #300

Operating Pressure Range - bar (psi):

	Min.	**Max.**
PN16 (232 psi)	0.5 (7.25)	16 (232)
PN25 (363 psi)	0.5 (7.25)	25 (363)
PN40 (580 psi)	0.5 (7.25)	40 (580)

Operating Temperature Range:
4°C (40°F) to 80°C (176°F)

Acceptable Media:
Potable or strained raw water.

Function:
i) Controlled air discharge - pipeline filling.
ii) Pressurized air discharge - pipeline filled.
iii) Surge dampening - high velocity air discharge, water column separation & liquid oscillation.
iv) High volume air intake - pipeline draining.

Materials of Construction: - see page 23

Installation: - see page 21

Standard Factory Tests:
i) Hydrostatic - 1.5 x max. rated working pressure
ii) Low head leak - 0.5 bar (7.25 psi)

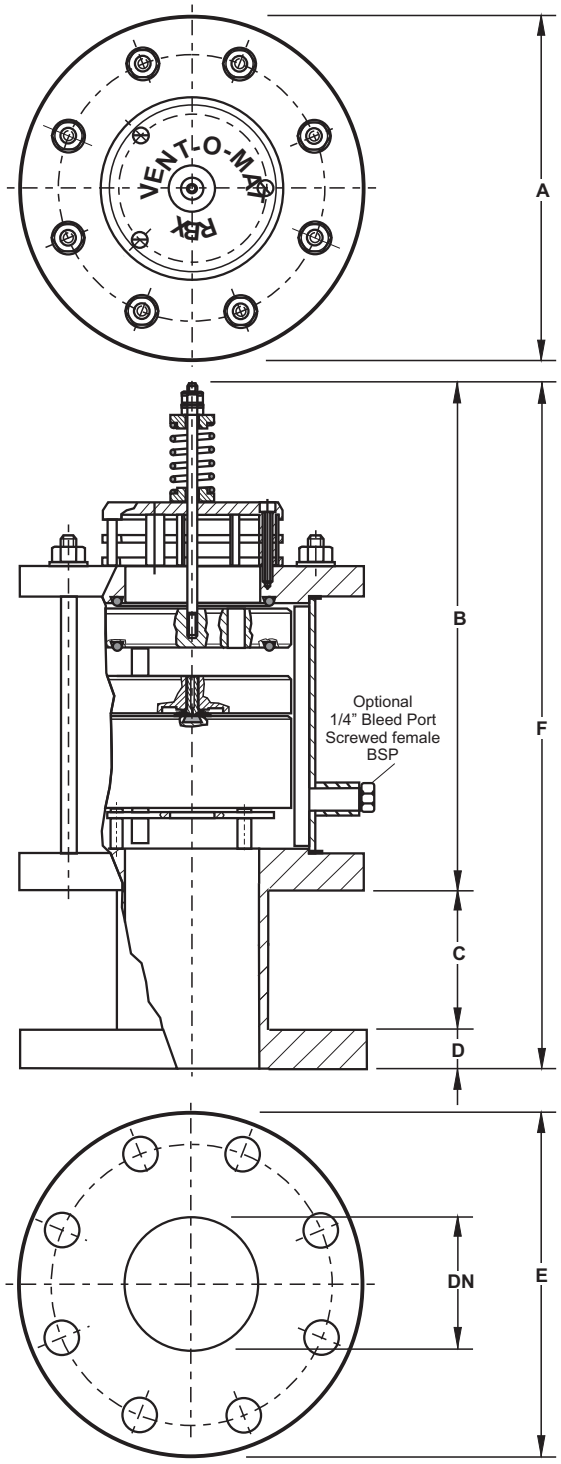
OVERALL DIMENSIONS & WEIGHTS

DN mm	MODEL No.	MODEL No.	A mm	B mm	C mm	WEIGHT kg.
80	080 RBXb 16Y1	PN16 (232 psi) ANSI #125	235	460	50	23
80	080 RBXb 25Y1	PN25 (363 psi) ANSI #250	235	460	50	23
80	080 RBXb 40Y1	PN40 (580 psi) ANSI #300	235	475	50	24.5
100	100 RBXb 16Y1	PN16 (232 psi) ANSI #125	235	475	50	22.5
100	100 RBXb 25Y1	PN25 (363 psi) ANSI #250	235	480	60	22.5
100	100 RBXb 40Y1	PN40 (580 psi) ANSI #300	235	513	60	24

Y; 4 = AS4087 Fig B7-B9, 5 = AS4087 Fig B6/B9, 6 = AS2129 Table E

VENT-O-MAT®

Series RBXb
GENERAL SPECIFICATIONS
FLANGED - DN150(6") & DN200(8")



Type:
Double Orifice (Small & Large Orifice) with *Bias* mechanism for large volume air intake and controlled air discharge.

End Connection:
Flange for Alignment to;
BS 4504 PN10, PN16, PN25 & PN40
ANSI B16.5 Class 150 & 300
AS 4087 FIG. B5-B6 (Ductile Iron)
AS 4087 FIG. B7-B9 (Mild Steel)
AS 2129 Table D/E/F

Nominal Sizes:
DN150 (6") & DN200 (8")

Model No's:	**Pressure Ratings bar (psi):**
RBX 16Y1	PN16 (232 psi) ANSI #125
RBX 25Y1	PN25 (363 psi) ANSI #250
RBX 40Y1	Pn40 (580 psi) ANSI #300

Operating Pressure Range - bar (psi):

	Min.	**Max.**
PN16 (232 psi)	0.5 (7.25)	16 (232)
PN25 (363 psi)	0.5 (7.25)	25 (363)
PN40 (580 psi)	0.5 (7.25)	40 (580)

Operating Temperature Range:
4°C (40°F) to 80°C (176°F)

Acceptable Media:
Potable or strained raw water.

Function:
i) Controlled air discharge - pipeline filling.
ii) Pressurized air discharge - pipeline filled.
iii) Surge dampening - high velocity air discharge, water column separation & liquid oscillation.
iv) High volume air intake - pipeline draining.

Materials of Construction: - see page 24

Installation: - see page 21

Standard Factory Tests:
i) Hydrostatic - 1.5 x max. rated working pressure
ii) Low head leak - 0.5 bar (7.25 psi)
iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

OVERALL DIMENSIONS & WEIGHTS

DN mm	MODEL No.	PRESSURE RATING	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT kg
150	150 RBXb 16Y1	PN16 (232 psi) ANSI #125	355	630	133	22	285	785	69.5
150	150 RBXb 25Y1	PN25 (363 psi) ANSI #250	355	630	127	28	300	785	69.5
150	150 RBXb 40Y1	PN40 (580 psi) ANSI #300	355	630	127	28	300	785	75.5
200	200 RBXb 16Y1	PN16 (232 psi) ANSI #125	405	670	151	24	340	845	97.5
200	200 RBXb 25Y1	PN25 (363 psi) ANSI #250	405	670	145	30	360	845	97.5
200	200 RBXb 40Y1	PN40 (580 psi) ANSI #300	405	670	141	34	370	845	108.5

Y; 4 = AS4087 Fig B7-B9, 5 = AS4087 Fig B6/B9, 6 = AS2129 Table E

Series RBXb

PURCHASE SPECIFICATION

VENT -O- MAT MODEL NO.

Page 25 - Series RBXb - DN25 (1") or DN50 (2") with BSP (ISO R7) or NPT, Screwed Male Connection.
Page 26 - Series RBXb - DN80 (3") or DN100 (4") Flanged Connection.
Page 27 - Series RBXb - DN150 (6") or DN200 (8") Flanged Connection.

CONSTRUCTION & DESIGN

The air release & vacuum break valve shall be of the compact single chamber design with solid cylindrical H.D.P.E. control floats housed in a tubular Stainless Steel body with epoxy powder coated Mild Steel or Stainless Steel ends secured by means of Stainless Steel Tie Rods.
The valve shall have an integral 'Anti-Shock' Orifice mechanism which shall operate automatically to limit transient pressure rise or shock induced by closure to 1.5 x valve rated working pressure.
The intake orifice area shall be equal to the nominal size of the valve i.e., a 150mm (6") valve shall have a 150mm (6") intake orifice.
Large orifice sealing shall be effected by the flat face of the control float seating against a EPDM rubber 'O' ring housed in a dovetail groove circumferentially surrounding the orifice.
Discharge of pressurized air shall be controlled by the seating & unseating of a Small Orifice Nozzle on a EPDM rubber seal affixed into the control float. The Nozzle shall have a flat seating land surrounding the orifice so that the damage to the rubber seal is prevented.
The valve construction shall be proportioned with regard to material strength characteristics, so that deformation, leaking or damage of any kind does not occur by submission to one and a half times the designed working pressure.
The valve design shall incorporate an over pressure safety feature that will fail without an explosive effect, such as is normally the case when highly compressed air is released suddenly. The feature shall consist of easily replaceable components such as gaskets, seals or the like.
Connection to the valve inlet shall be facilitated by a screwed BSP (ISO R7) or NPT male end (DN25 (1") & DN50 (2") only) or a flanged end conforming to PN10, 16, 25 or 40 ratings of BS4504 or SABS 1123 Standards or, ANSI B16.5 Class 150 & Class 300 Standards.
Flanged ends for DN80 and DN100 shall be supplied with the requisite number of Stainless Steel screwed studs inserted for alignment to the specified standard. **Nuts, washers, or jointing gaskets shall be excluded.**

Optional: Provision of a ¼" BSP/ NPT Test/ Bleed Cock.

OPERATION

1. Prior to the ingress of liquid into the valve chamber, as when the pipeline is being filled, valves shall vent through the "Anti-Shock" Orifice and reduce water approach velocity, so that on closure a maximum transient pressure rise of < 1.5 x valve rated pressure is realised.

2. Valves shall not exhibit leaks or weeping of liquid past the large orifice seal at operating pressures of 0.5 bar (7.25 psi) to one and half times the rated working pressure.

3. Valves shall respond to the presence of air by discharging it through the small orifice at any pressures within a specified design range, i.e. 0.5 bar (7.25 psi) to 16 bar (232 psi), 25 bar (363psi) or 40 bar (580 psi), and shall remain leak tight in the absence of air.

4. Valves shall react immediately to pipeline drainage or water column separation by the full opening of the large orifice so as to allow unobstructed air intake at the lowest possible negative internal pipeline pressure.

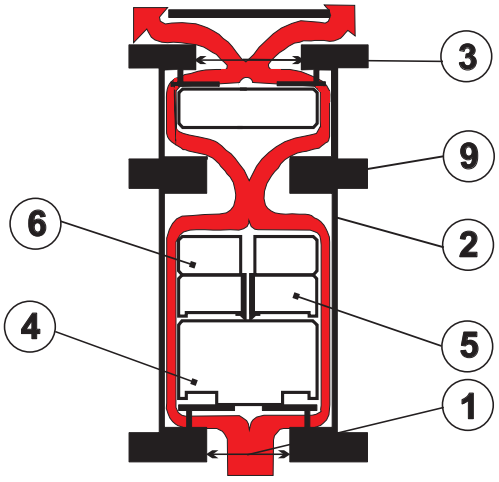
Series RBXv
OPERATION

PRE NOTES:

There are instances where the hydraulic gradeline falls below a peak point during normal operation and where air inflow would adversely affect the normal operation and surge characteristic of the pipeline. Air intake may also be undesirable under pump trip conditions for pipelines running through a marsh (surge protection in these instances would be in the form of surge vessels and/or the pipeline will be designed for full vacuum).

Vent-O-Mat offers the Series RBXv valve which has specifically been developed to ensure effective air release under all pipeline conditions but will not allow air entry under any operating condition.

VENTING OF A FILLING PIPELINE (SUB CRITICAL WATER APPROACH VELOCITY)



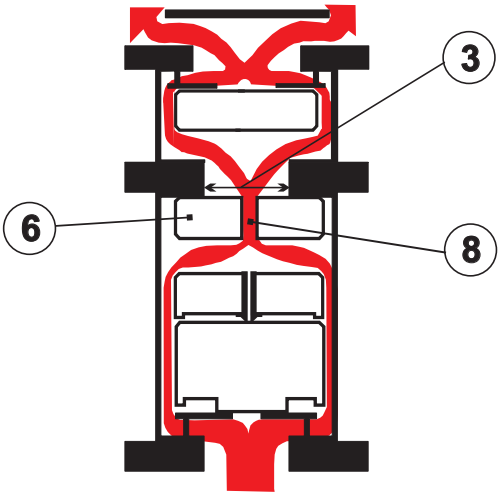
Air enters Orifice (1), travels through the annular space between the cylindrical floats (4) , (5), (6) and discharges through the Large Orifice (3) into atmosphere.*

***Note:** A relatively low flow discharge rate is required to lift float and ensure air release.Float will seat on the Middle Flange (9) under vacuum conditions, effectively preventing air Entry.

Series RBXv

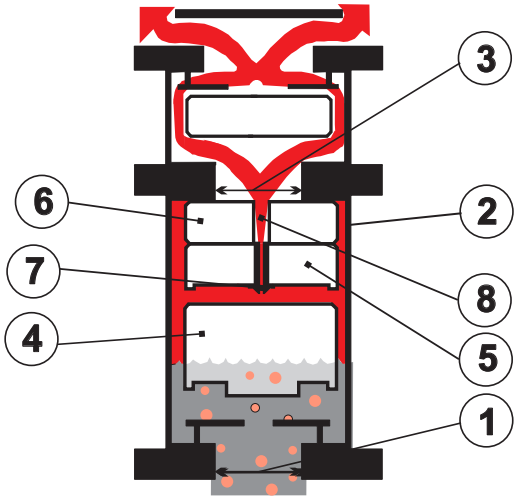
OPERATION

VENTING OF A FILLING PIPELINE (EXCESSIVE WATER APPROACH VELOCITY)



In reaction to increased air flow, Float (6) closes Large Orifice and air is forced through the "Anti-Shock" Orifice resulting in deceleration of the approaching water due to the resistance of rising air pressure in the valve.

PRESSURIZED AIR RELEASE FROM A FULL PIPELINE



Subsequent to the filling of a pipeline, liquid enters the valve Barrel Chamber (2) and the Floats (4), (5) and (6) are buoyed so that the "Anti-Shock" Orifice (8) is closed by the Float (5) and the valve will then become pressurized. A minimal working pressure of <0.5 bar (7.3 psi) acting on a relatively large area of the Orifice (1) will lock Floats (5) and (6) into the closed position across the Large Orifice (3).

Disentrained air rises through the liquid and accumulates in the valve chamber, when the volume of air is sufficient to displace the liquid, Float (4) will no longer be buoyant and will gravitate downwards thereby opening the Small Orifice (7) and allowing accumulated air to be discharged into atmosphere, as air is discharged the liquid raises Float (4) and reseals the Small Orifice (7) and prevents escape of liquid.

Series RBXv

PURCHASE SPECIFICATION

VENT -O- MAT MODEL NO.

Series RBXv - DN25 (1") or DN50 (2") with BSP (ISO R7) or NPT, Screwed Male Connection.
Series RBXv - DN80 (3") or DN100 (4") Flanged Connection.
Series RBXv - DN150 (6") or DN200 (8") Flanged Connection.

CONSTRUCTION & DESIGN

The air vent valve shall be of the compact single chamber design with solid cylindrical H.D.P.E. control floats housed in a tubular Stainless Steel Body with epoxy powder coated Mild Steel ends or Stainless Steel ends secured by means of Stainless Steel Tie Rods.

The valve shall have an integral 'Anti-Shock' Orifice mechanism which shall operate automatically to limit transient pressure rise or shock induced by closure to 1.5 x valve rated working pressure.

The discharge orifice area shall be equal to the nominal size of the valve i.e., a 150mm (6") valve shall have a 150mm (6") intake orifice.

Large orifice sealing shall be effected by the flat face of the control float seating against a EPDM rubber 'O' ring housed in a dovetail groove circumferentially surrounding the orifice.

Discharge of pressurized air shall be controlled by the seating & unseating of a Small Orifice Nozzle on a EPDM rubber seal affixed into the control float. The Nozzle shall have a flat seating land surrounding the orifice so that the damage to the rubber seal is prevented.

The valve construction shall be proportioned with regard to material strength characteristics, so that deformation, leaking or damage of any kind does not occur by submission to twice the designed working pressure.

The valve design shall incorporate an over pressure safety feature that will fail without an explosive effect, such as is normally the case when highly compressed air is released suddenly. The feature shall consist of easily replaceable components such as gaskets, seals or the like.

Connection to the valve inlet shall be facilitated by a screwed BSP (ISO R7) or NPT Male end (DN25 (1") & DN50 (2") only) or a flanged end conforming to PN10, 16, 25 or 40 ratings of BS 4504 or SABS 1123 Standards or, ANSI B16. 5 Class 150 & Class 300 Standards.

Flanged ends for DN80 and DN100 valves shall be supplied with the requisite number of Stainless Steel screwed studs inserted for alignment to the specified standard. **Nuts, washers, or jointing gaskets shall be excluded.**

Optional: Provision of a ¼" BSP/ NPT Test/ Bleed Cock.

OPERATION

1. Prior to the ingress of liquid into the valve chamber, as when the pipeline is being filled, valves shall vent through the large orifice when water approach velocities are relative to a transient pressure rise on valve closure of 1.5 x valve rated pressure
   At higher water approach velocities, which have a potential to induce transient pressure rises >1.5 times valve rated pressure on closure, the valve shall automatically discharge through the "Anti-Shock" Orifice and reduce water approach velocity, so that on closure a maximum transient pressure rise of <1.5 x valve rated pressure is realised.

2. Valves shall not exhibit leaks or weeping of liquid past the large orifice seal at operating pressures of 0.5 bar (7.25 psi) to 1.5 times rated working pressure.

3. Valves shall respond to the presence of air by discharging it through the small orifice at any pressures within a specified design range, i.e. 0.5 bar (7.25 psi) to 16 bar (232 psi), 25 bar (363 psi) or 40 bar (580 psi), and shall remain leak tight in the absence of air.

ORDERING GUIDE

050 RB X b 25 0 1

VALVE SIZE:
DN25 (1") - 025
DN50 (2") - 050
DN80 (3") - 080
DN100 (4") - 100
DN150 (6") - 150
DN200 (8") - 200

VALVE SERIES No.

ANTI SHOCK ORIFICE:

BIAS AIR IN b

BIAS AIR OUT v

VALVE TYPE:
DOUBLE ACTING 1

VALVE END CONNECTION:

SCREWED - BSP	1
SCREWED - NPT	2
FLANGED - BS 4504	0
FLANGED - ANSI B16. 5	3
FLANGED - AS 4087 Fig B5	4
FLANGED - AS 4087 Fig B9 (PN40)	5
AS 2129 Table E	6

VALVE PRESSURE RATING:

PN16 (232 psi)	16
PN25 (363 psi)	25
Pn40 (580 psi)	40

Note:
1. DN250 (10") and DN300 (12") valves are available on request.
2. Valves for pressure ratings of PN64 (928 psi) and PN100 (1450 psi) are available on request.
3. Valves are available with AISI 304 or AISI 316 Stainless Steel Flanged ends, please specify when ordering.

TEST SPECIFICATION

All air release valves supplied shall be subjected to the following testing procedures in the order laid down:

(A) A high pressure strength and leak test whereby the valve is filled with water and pressurized to 1.5 times the rated working pressure which shall be held for a period of 2 minutes. Any leaking, weeping or sweating shall be reason for rejection.

(B) A low head leak test whereby the valve is filled with water and pressurized to a maximum of 0.5 bar (7.25 psi) using a visible water column connected to the test rig. The valve shall be rejected if leak tightness is not maintained for 2 minutes

(C) Every tenth air release valve of the same size and pressure rating must be subjected to a small orifice function test - "DROP TEST" - whereby the valve is filled with water, pressurized to above rated working pressure and isolated from the test rig by closure of an isolating valve. A chamber in the test rig immediately prior to the isolating valve must be filled with compressed air at a pressure equal to that being maintained in the air release valve. The isolating valve is then opened so as to allow the air to rise in the air release valve without the pressure dropping lower than 2 - 3 bar (29 - 44 psi) above rated working pressure of the air release valve. The "DROP TEST" is then carried out by slowly bleeding off the pressure through a suitable cock until rated working pressure is reached and the float drops away from the orifice to allow discharge. Failure of the air release valve to function in the manner described will be reason for rejection.

On request the manufacturer shall provide batch certificates of test compliance which shall be cross referenced to serial numbers indelibly marked onto the identity label of each valve.

IMPORTANT NOTE: It is impossible to inject air into an incompressible liquid, air injection can only be achieved if the liquid can be displaced which implies that the pressure in the test rig must be reduced to atmospheric, and absolutely nothing is proven by discharge through the small orifice of the air release valve at atmospheric pressure. "DROP TESTING" in this manner is not acceptable.

COMPONENT DESCRIPTION & MATERIAL SPECIFICATION

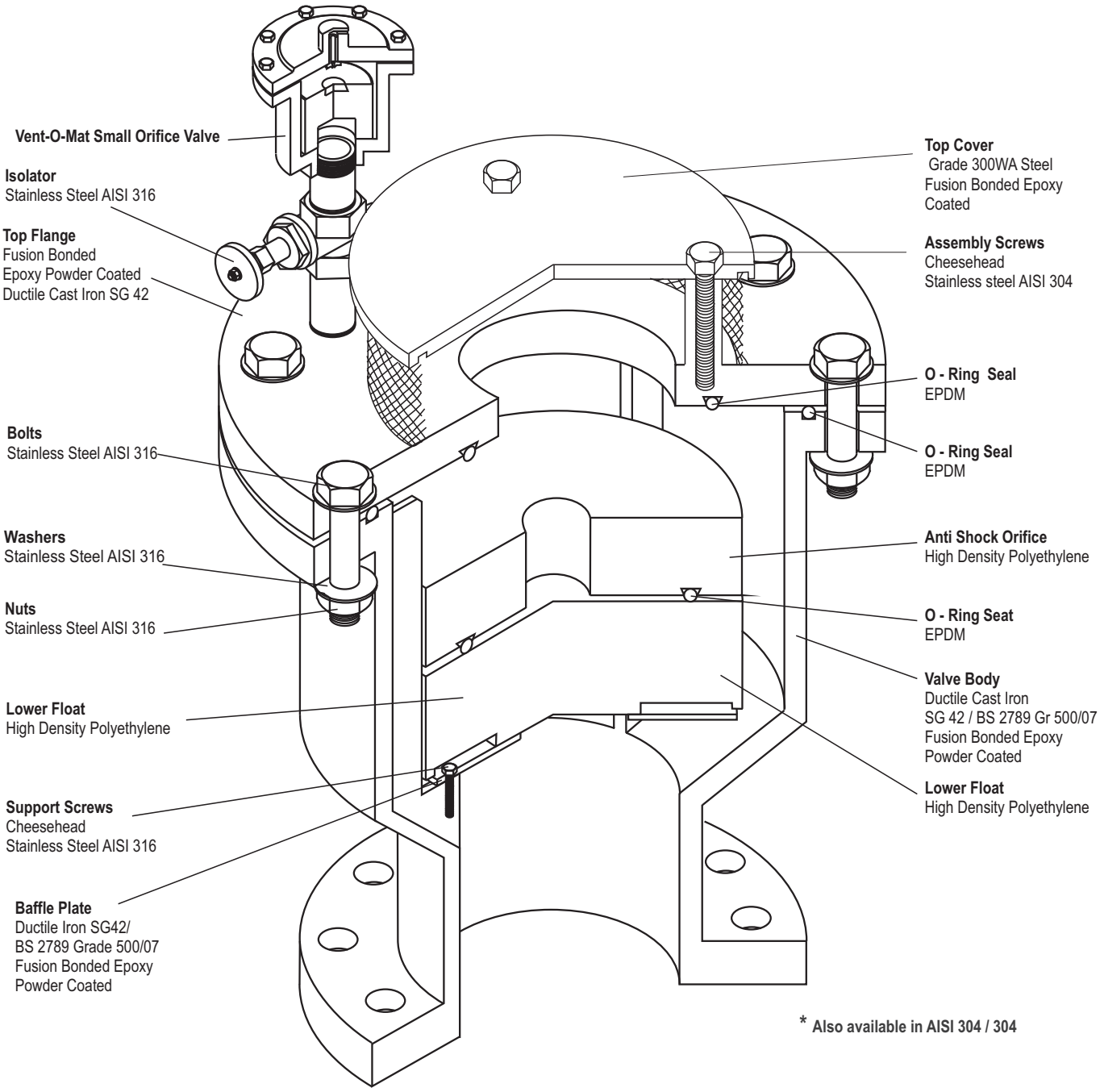
FLANGED - DN250 (10") & DN300 (12")

Type:
Series RBXc - Double Orifice (Small & Large Orifice) with Anti Shock Orifice Mechanism

End Connection:
Flanged

Nominal Sizes:
DN250 (10")
DN300 (12")

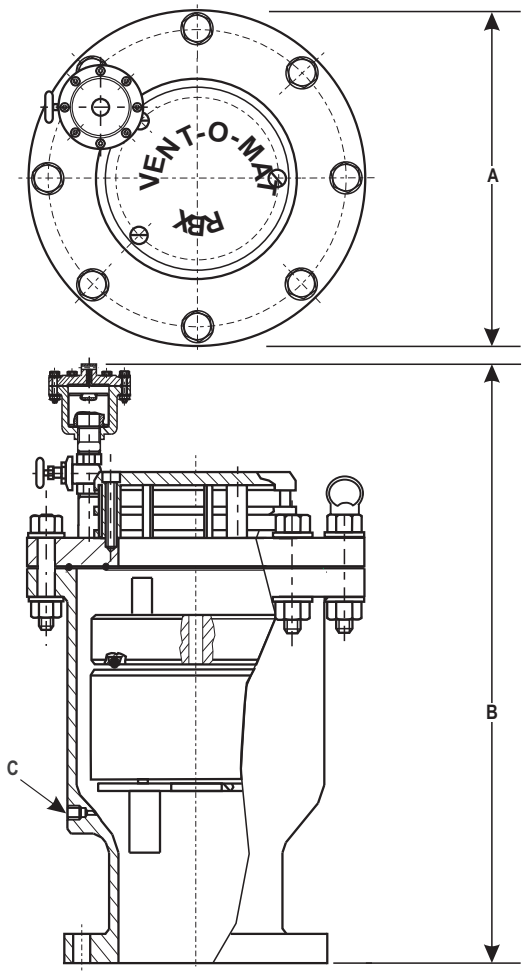
Model No's:	Pressure Ratings:
RBXc 16Y1	PN16 (232 psi) ANSI #150
RBXc 25Y1	PN25 (363 psi) ANSI #300

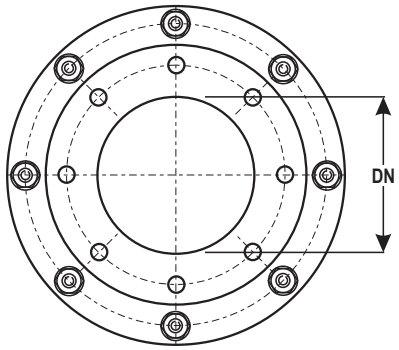


* Also available in AISI 304 / 304

Series RBXc

GENERAL SPECIFICATIONS
FLANGED - DN250 (10") & DN300 (12")





Type:
Double Orifice (Small & Large Orifice) with Anti Shock Orifice mechanism.

End Connection:
Flange for Alignment to;
BS 4504 PN10, PN16, PN25 & PN40
ANSI B16.5 Class 150 & 300
AS 4087 FIG. B5-B6
AS 2129 Table D/E/F

Nominal Sizes:
DN250 (10") & DN300 (12")

Model No's:	**Pressure Ratings bar (psi):**
RBXc 16Y1	16 bar (232 psi)
RBXc 25Y1	25 bar (363 psi)

Operating Pressure Range - bar (psi):

	Min	Max.
16 bar (232 psi)	0.5 (7.2)	16 (232)
25 bar (363 psi)	0.5 (7.2)	25 (363)

Operating Temperature Range:
0 ^{0}C (35 ^{0}F) to 85 ^{0}C (185 ^{0}F)

Acceptable Media:
Potable or strained raw water.

Function:
i) High volume air discharge - pipeline filling.
ii) High volume air intake - pipeline draining
iii) Pressurized air discharge - pipeline filled.
iv) Surge dampening - high velocity air discharge, water column separation & liquid oscillation.

Materials of Construction: - see page 6
Installation: - see page 3

Standard Factory Tests:
i) Hydrostatic - 1.5 x max. rated working pressure
ii) Low head leak - 0.5 bar (7.2 psi)
iii) Small orifice function at max. rated working pressure (minimum 1 valve in 10).

OVERALL DIMENSIONS & WEIGHTS

DN mm	DN in.	MODEL No.	PRESSURE RATING	A mm	B mm	C	WEIGHT kg.
250	10"	250 RBXc 16Y1	PN16	586	816	OPTIONAL 15MM	231
250	10"	250 RBXc 25Y1	PN25	586	834	(1/4") BSP/NPT	245
300	12"	300 RBXc 16Y1	PN16	685	890	BLEED PORT	331
300	12"	300 RBXc 25Y1	PN25	685	909		354

PURCHASE SPECIFICATION

VENT -O- MAT MODEL NO.

Series RBXc - DN250 (10") to DN300 (12") Flanged Connection.

CONSTRUCTION & DESIGN

The air release & vacuum break valve shall be of the compact single chamber design with solid cylindrical H.D.P.E. control floats housed in a tubular ductile cast iron body, epoxy powder coated to 300 microns, secured by means of stainless steel 304/316 fasteners.

The valve shall have an integral 'Anti - Shock' Orifice mechanism which shall operate automatically to limit transient pressure rise or shock induced by closure to 1.5 x valve rated working pressure.
The intake orifice area shall be equal to the nominal size of the valve i.e., a 150mm (6") valve shall have a 150mm (6") intake orifice.

Large orifice sealing shall be effected by the flat face of the control float seating against a nitrile/EPDM rubber 'O' ring housed in a dovetail groove circumferentially surrounding the orifice.

Discharge of pressurized air shall be controlled by the seating & unseating of a small orifice nozzle on a natural rubber seal affixed into the control float. The nozzle shall have a flat seating land surrounding the orifice so that the damage to the rubber seal is prevented.

The valve construction shall be proportioned with regard to material strength characteristics, so that deformation, leaking or damage of any kind does not occur by submission to twice the designed working pressure.

Connection to the valve inlet shall be facilitated by a flanged end conforming to PN10, 16 & 25 ratings of BS 4504 Standards or, ANSI B16. 1 Class 150 and Class 300. **Nuts, bolts, washers, or jointing gaskets shall be excluded.**

Optional: Provision of a 1/4" BSP/ NPT Test/ Bleed Cock.

OPERATION

1. Prior to the ingress of liquid into the valve chamber, as when the pipeline is being filled, valves shall vent through the large orifice when water approach velocities are relative to a transient pressure rise, on valve closure, of < 1.5 x valve rated pressure.

   At higher water approach velocities, which have a potential to induce transient pressure rises > 1.5 x valve rated pressure on valve closure, the valve shall automatically discharge air through the Anti Shock Orifice and reduce water approach velocity, so that on closure a maximum transient pressure rise of < 1.5 x valve rated pressure is realised.

2. Valves shall not exhibit leaks or weeping of liquid past the large orifice seal at operating pressures of 0.5 bar (7.3 psi) to 1.5 times rated working pressure.

3. Valves shall respond to the presence of air by discharging it through the small orifice at any pressures within a specified design range, i.e. 0.5 bar (7.3 psi) to 16 bar (232 psi) or 25 bar (363 psi), and shall remain leak tight in the absence of air.

4. Valves shall react immediately to pipeline drainage or water column separation by the full opening of the large orifice so as to allow unobstructed air intake at the lowest possible negative internal pipeline pressure.

ORDERING GUIDE

050 RB X 25 0 1

VALVE SIZE:
DN25 (1") - 025
DN50 (2") - 050
DN80 (3") - 080
DN100 (4") - 100
DN150 (6") - 150
DN200 (8") - 200

VALVE SERIES No.

ANTI SHOCK ORIFICE:

VALVE TYPE:
DOUBLE ACTING 1

VALVE END CONNECTION:

SCREWED - BSP	1
SCREWED - NPT	2
FLANGED - BS 4504	0
FLANGED - ANSI B16. 5	3
FLANGED - AS 4087 Fig B5	4
FLANGED - AS 4087 Fig B9 (PN40) AS 2129 Table E	5 6

VALVE PRESSURE RATING:

PN16 (232 psi)	16
PN25 (363 psi)	25
PN40 (580 psi)	40

Note:
1. DN250 (10") and DN300 (12") valves are available on request.
2. Valves for pressure ratings of PN64 (928 psi) and PN100 (1450 psi) are available on request.
3. Valves are available with AISI 304 or AISI 316 Stainless Steel Flanged ends, please specify when ordering.

TEST SPECIFICATION

All air release valves supplied shall be subjected to the following testing procedures in the order laid down:

(A) A high pressure strength and leak test whereby the valve is filled with water and pressurized to 1.5 times the rated working pressure which shall be held for a period of 2 minutes. Any leaking, weeping or sweating shall be reason for rejection.

(B) A low head leak test whereby the valve is filled with water and pressurized to a maximum of 0.5 bar (7.25 psi) using a visible water column connected to the test rig. The valve shall be rejected if leak tightness is not maintained for 2 minutes

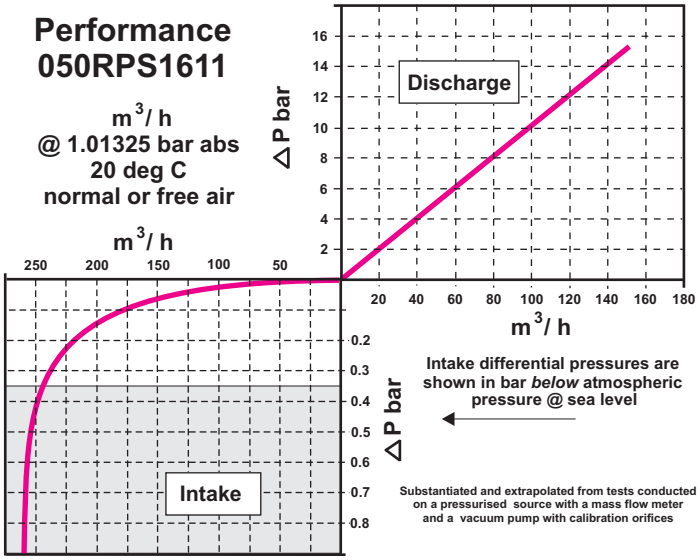
(C) Every tenth air release valve of the same size and pressure rating must be subjected to a small orifice function test - "DROP TEST" - whereby the valve is filled with water, pressurized to above rated working pressure and isolated from the test rig by closure of an isolating valve. A chamber in the test rig immediately prior to the isolating valve must be filled with compressed air at a pressure equal to that being maintained in the air release valve. The isolating valve is then opened so as to allow the air to rise in the air release valve without the pressure dropping lower than 2 - 3 bar (29 - 44 psi) above rated working pressure of the air release valve. The "DROP TEST" is then carried out by slowly bleeding off the pressure through a suitable cock until rated working pressure is reached and the float drops away from the orifice to allow discharge. Failure of the air release valve to function in the manner described will be reason for rejection.

On request the manufacturer shall provide batch certificates of test compliance which shall be cross referenced to serial numbers indelibly marked onto the identity label of each valve.

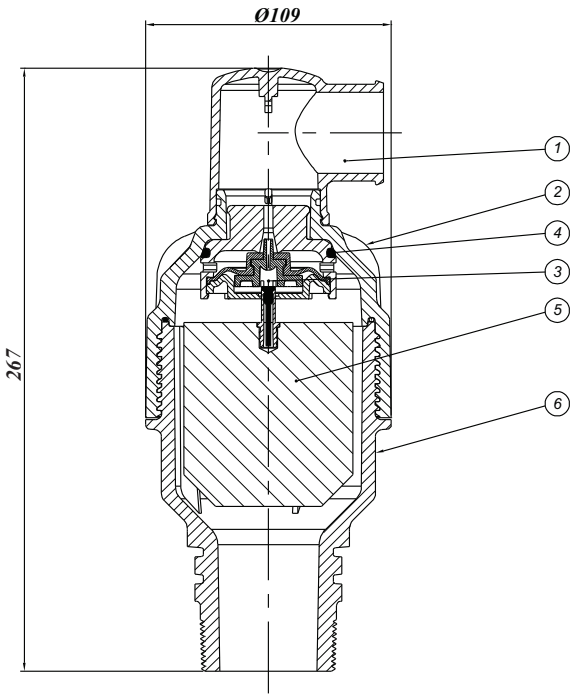
IMPORTANT NOTE: It is impossible to inject air into an incompressible liquid, air injection can only be achieved if the liquid can be displaced which implies that the pressure in the test rig must be reduced to atmospheric, and absolutely nothing is proven by discharge through the small orifice of the air release valve at atmospheric pressure. "DROP TESTING" in this manner is not acceptable.

Series
RPS

Ventomat Series RPS 50 mm
Air release and vacuum breaking



Caution
The VENTOMAT valve is specifically designed to limit the large discharges associated with the large orifice .
When evaluating the large orifice performance of ***another valve manufacturer*** ask specifically if the large orifice discharge data quoted is in the presence of water . In other words if the discharge performance is quoted as say 400 meters cubed / Hr @ 0.8 Bar the valve must be able to close instantaneously with water and still not exceed its max test pressure rating of 24 Bar (1.5 times working pressure)



Parts

Item	Description	Material
1	Outlet	Polypropylene
2	Upper Body	Polypropylene reinforced
3	Cartridge Assembly	Polypropylene and other
4	O - Rings	Nitrile Rubber
5	Control Float	Polyethylene
6	Lower Body	Polypropylene reinforced

Specifications

Operating pressure	0.2 to 16 Bar
Media	Drinkable water 4 - 85 Deg C
Inlet	2 Inch BSP Male (taper)
Outlet	Rotatable 360 deg for 43 ID pipe
Mass	0.94 kg
Areas (mm^2)	Large orifice 800 , small orifice 12

Benefits
Simple efficient action
Reduces water hammer
Multifunction versatile product
Ensures maximum protection
Unique self cleaning operation
UV stabilised
Robust lightweight and compact
Replaces any existing valves

Ordering information

050RPS1611	Standard - 2 inch BSP 16 bar
050RPSb1611	Pump start- Large orifice in small orifice out
050RPSv1611	For syphon- both orifices out only

Series RPS

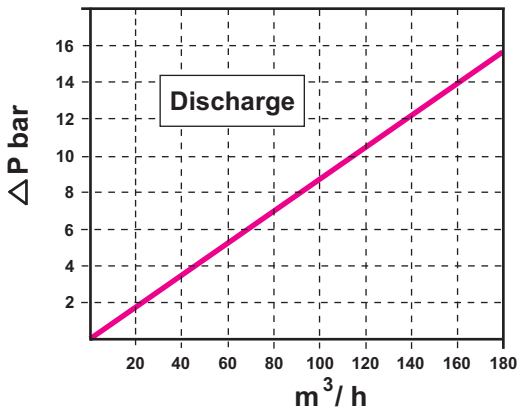
Ventomat Series RPS 25 mm and 15 mm Air Release only

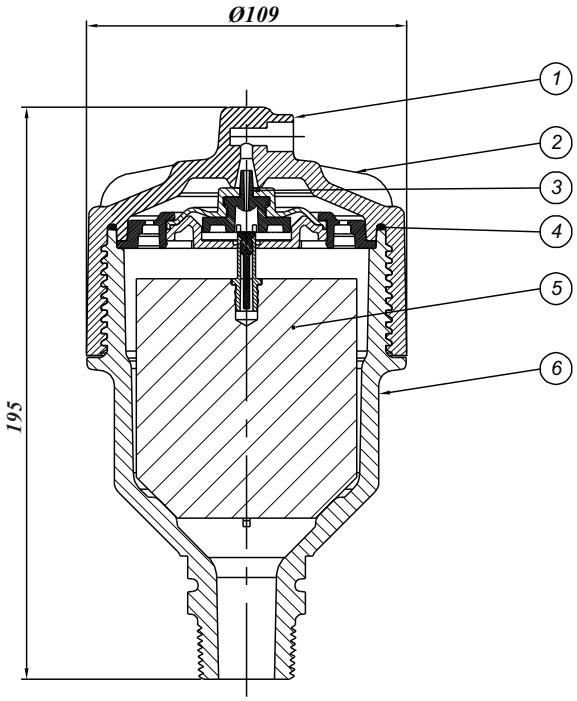
Performance

025RPS1611
015RPS1611

m^3/ h
@ 1.01325 bar abs
20 deg C
normal or free air

Substantiated and extrapolated from tests conducted on a pressurised source with a mass flow meter





Parts

Item	Description	Material
1	Outlet	(Part of upper body)
2	Upper Body	Polypropylene reinforced
3	Cartridge Assembly	Polypropylene and other
4	O - Ring	Nitrile Rubber
5	Control Float	Polyethylene
6	Lower Body	Polypropylene reinforced

Specifications

Operating pressure	0.2 to 16 Bar
Media	Drinkable water 4 - 85 Deg C
Inlet	½ and 1 Inch BSP Male (taper)
Mass	0.8 kg
Area (mm)^2	Small orifice 12
Outlet	4 mm Dia
Outlet (options)	External pipe min 5 mm dia ID (Press in fitting) hole 9.7 mm dia ID

Benefits

Simple efficient action
Reduces water hammer
Multifunction versatile product
Ensures maximum protection
Unique self cleaning operation
UV stabilised
Robust lightweight and compact
Replaces any existing valves

Ordering information

015RPS1611	Standard - ½ inch BSP 16 bar
025RPS1611	Standard - 1 inch BSP 16 bar
000RPS01	Press in fitting for ext tube - nylon

VENT-O-MAT®

Series RBX

Complete the form below for any additional information and fax/post to:

VENT-O-MAT AUSTRALIA (PTY) LTD
P. O. Box 156
SEVEN HILLS
NSW1730
SYDNEY
AUSTRALIA

Tel: (+61 2) 8814 9699 **Fax: (+61 2) 8814 9666**

E Mail: jkerrigan@ventomat.com.au **www.ventomat.com.au**

Company Name: _____

Postal Address: _____

_____

Postal Code: _____ **Country:** _____

Tel: _____ **Fax:** _____

Contact Name: _____ **Title:** _____

Comments:

_____

Products you are interested in:

VENT-O-MAT® Series RBX Air Release & Vacuum Break Valves
compact cast single chamber design with integral "Anti-Shock" surge dampening mechanism in an economical cast ductile iron construction. ☐

VENT-O-MAT® Series RGX Air Release & Vacuum Break Valves
compact Stainless Steel single chamber design with integral "Anti-Shock" surge dampening mechanism. ☐

VENT-O-MAT® Series RC Air Release & Vacuum Break Valves
cast air valve for irrigation and small reticulation systems. ☐

VENT-O-MAT® Series RPS Air Release & Vacuum Break Valves
glass reinforced polypropylene CATT air valve for industrial, irrigation and small reticulation systems. ☐

LevelDex® **High Performance Endline Level Control Valves**
end line valve with cushioned closing characteristics for level control in tanks and reservoirs. ☐