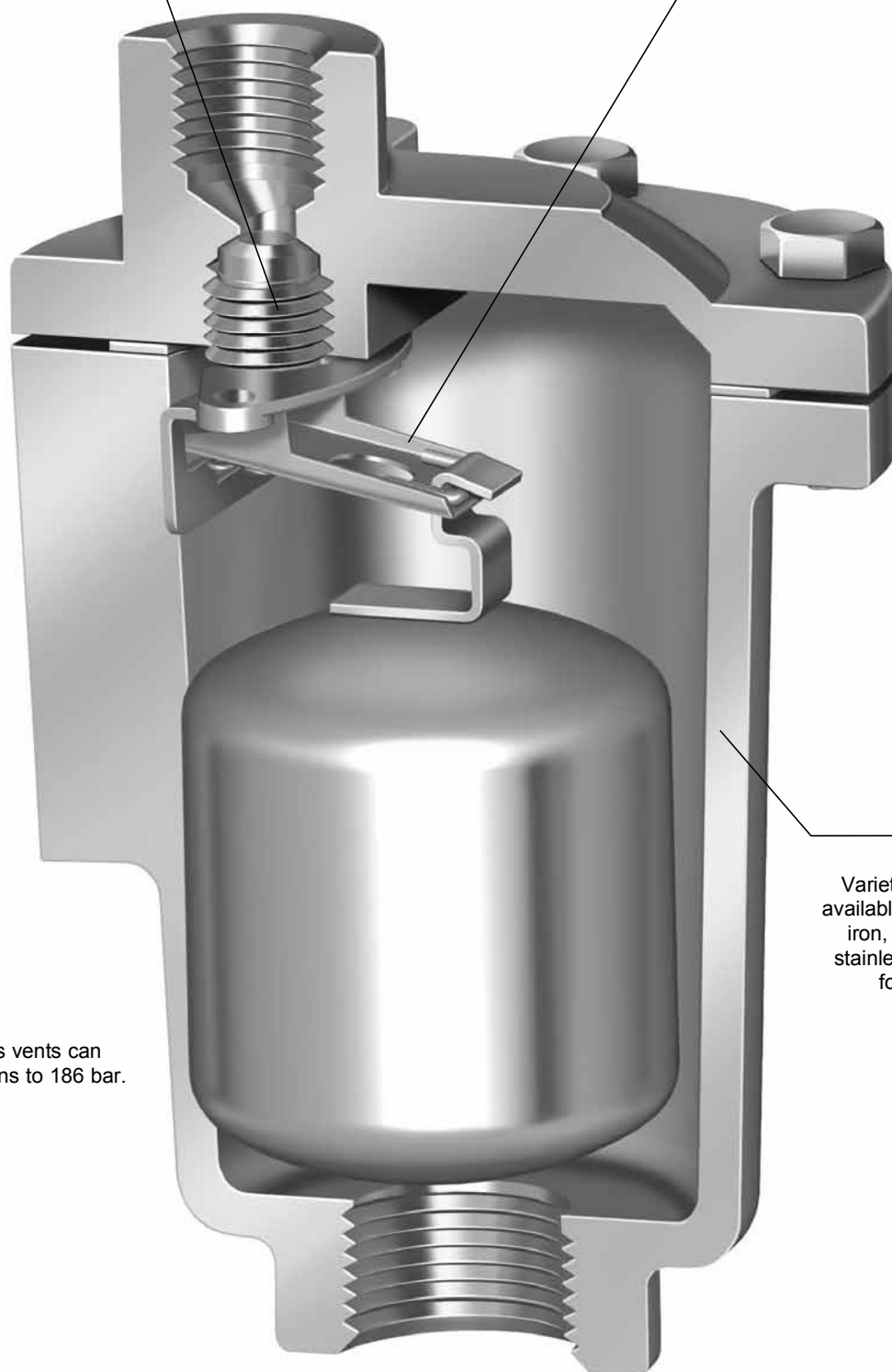


## Proven

Same proven, free-floating all stainless steel mechanism as used in Armstrong steam traps.

## Leak-tight

Positive closing, free-floating stainless steel lever ensures leak-tight closing under all conditions.



## Body options

Variety of body materials available: polysulfone, cast iron, forged steel and all stainless steel. A material for every application.

## High pressure

Armstrong air/gas vents can handle applications to 186 bar.

# Selecting The Armstrong Air/Gas Vent

With the desired capacity in m<sup>3</sup>/h known, find the orifice size required from the table on this page. Then find the vent or vents with the correct orifice size on pages AV-338 to AV-347 that will operate at the required pressure with a liquid of the specific gravity being handled.

**Example** – Find a model number that will vent 88,3 m<sup>3</sup>/h of air (including safety factor of 1,5 - 2,0) from a liquid with a specific gravity of 0,93 at 17 bar. Using the table below, follow the 17 bar line across to the number 103. Orifice size is 5/32". Now go to pages AV-338 to AV-347 checking the 5/32" orifice lines to locate a vent for 17 bar or higher with 0,90 gravity liquid.

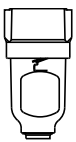

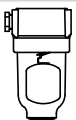





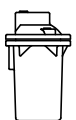



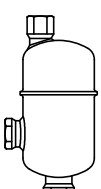

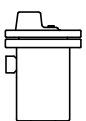

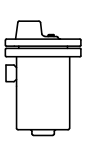

**Note:** Since specific gravity falls between 0,95 and 0,90, use 0,90 gravity data. The model 3-AV on page AV-340 is the one to use.

## For Venting During Filling Only

If a vent is required only for getting rid of air when a system is started up, such as when starting up a deep well pump or filling an empty pipe, tank or other vessel, ability of the vent to open at operating pressure can be ignored. In these cases, a model number with a large orifice for fast venting may be selected, **but the vent will not open after air is expelled and the system reaches operating pressure.**

Table AV-335-1. Discharge of Air Through an Orifice in Nm <sup>3</sup> /h at a Standard Atmospheric Pressure of 1 bar(a) and 21°C																						
Pressure barg	Orifice Diameter, inch																					
	1/16"	5/64"	3/32"	#38	7/64"	1/8"	9/64"	5/32"	3/16"	7/32"	1/4"	9/32"	5/16"	11/32"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"	1 1/16"
0,3	1,10	1,72	2,46	2,63	3,36	4,38	5,56	6,85	9,87	13,4	17,5	22,3	27,4	33,1	39,4	53,7	70,2	88,9	110	158	214	316
0,4	1,21	1,87	2,70	2,89	3,67	4,79	6,07	7,49	10,8	14,7	19,2	24,3	29,9	36,2	43,2	58,6	76,6	97,0	120	173	234	347
0,5	1,29	2,02	2,91	3,11	3,96	5,16	6,54	8,07	11,6	15,8	20,7	26,2	32,3	39,1	46,4	63,2	82,6	104	129	185	253	374
0,6	1,46	2,28	3,28	3,52	4,47	5,83	7,37	9,11	13,1	17,8	23,3	29,6	36,4	44,0	52,5	71,4	93,3	118	146	209	285	421
0,8	1,67	2,62	3,75	4,03	5,11	6,68	8,46	10,4	15,0	20,4	26,7	33,8	41,8	50,5	60,1	81,9	107	135	167	241	328	483
1,0	1,85	2,91	4,18	4,47	5,67	7,42	9,40	11,6	16,7	22,8	29,7	37,5	46,4	56,1	66,8	90,9	119	150	185	267	364	537
1,4	2,12	3,31	4,77	5,11	6,49	8,48	10,7	13,3	19,0	26,0	34,0	43,0	53,0	64,1	76,3	104	136	172	212	306	416	613
1,7	2,34	3,67	5,28	5,66	7,19	9,40	11,9	14,7	21,1	28,7	37,5	47,6	58,6	71,0	84,4	115	150	190	234	338	460	678
2,0	2,62	4,08	5,88	6,29	8,00	10,4	13,2	16,3	23,4	31,9	41,8	52,8	65,2	79,0	94,0	128	167	212	262	375	511	754
2,4	2,94	4,60	6,63	7,08	9,02	11,8	14,9	18,3	26,5	36,0	47,1	59,6	73,6	89,0	106	144	189	238	294	425	578	851
2,8	3,28	5,11	7,37	7,88	10,0	13,1	16,6	20,4	29,4	40,1	52,3	66,3	81,9	99,1	118	160	209	265	328	471	642	946
3,1	3,60	5,62	8,10	8,66	11,0	14,4	18,2	22,4	32,5	44,2	57,6	72,9	90,0	109	130	177	231	292	360	518	705	1 040
3,5	3,92	6,13	8,83	9,45	12,0	15,7	19,9	24,5	35,3	48,1	62,9	79,5	98,0	119	141	192	251	318	392	566	770	1 133
4,1	4,57	7,14	10,3	11,0	14,0	18,3	23,1	28,5	41,1	55,9	73,1	92,4	114	138	164	224	292	370	457	658	895	1 320
4,8	5,20	8,14	11,7	12,5	16,0	20,9	26,3	32,6	46,9	63,7	83,3	106	130	157	187	255	333	421	520	749	1 021	1 505
5,5	5,84	9,12	13,2	14,1	17,8	23,4	29,6	36,5	52,7	71,5	93,4	118	146	177	211	287	374	474	584	841	1 145	1 689
6,2	6,47	10,1	14,6	15,6	19,9	26,0	32,8	40,4	58,3	79,3	104	131	162	195	233	318	415	525	647	933	1 269	1 872
7,0	7,12	11,1	16,0	17,2	21,7	28,4	36,0	44,5	64,1	87,2	114	144	178	216	257	348	455	576	712	1 025	1 393	2 056
7,6	7,75	12,1	17,5	18,7	23,8	30,9	39,2	48,4	69,7	94,8	124	157	194	234	279	379	496	627	775	1 115	1 517	2 238
8,5	8,68	13,6	19,5	20,9	26,7	34,8	44,0	54,4	78,2	107	139	177	217	263	313	426	556	703	868	1 252	1 704	2 511
10	10,3	16,0	23,1	24,8	31,4	41,1	52,0	64,2	92,4	126	164	207	257	311	369	503	658	831	1 026	1 478	2 012	2 966
14	13,4	20,9	30,2	32,3	41,1	53,7	68,0	83,8	121	164	214	272	335	406	483	658	858	1 086	1 341	1 930	2 628	3 875
17	16,5	25,8	37,2	39,9	50,6	66,3	83,8	103	149	202	265	335	413	501	596	810	1 058	1 341	1 655	2 382	3 243	4 781
20	19,7	30,8	44,3	47,4	60,3	78,7	99,6	123	177	241	314	399	493	595	708	965	1 259	1 594	1 967	2 834	3 858	5 688
28	26,0	40,6	58,4	62,5	79,5	104	131	162	233	318	415	525	649	785	934	1 271	1 662	2 255	2 594	3 736	5 087	7 499
35	32,3	50,3	72,5	77,6	98,7	129	163	202	291	394	515	652	805	975	1 160	1 578	2 063	2 610	3 221	4 640	6 315	9 311
41	38,4	60,1	86,6	92,8	118	154	195	241	347	471	615	780	962	1 164	1 385	1 886	2 464	3 118	3 848	5 540	7 542	11 122
52	47,9	74,8	108	115	147	192	243	299	432	586	766	970	1 196	1 448	1 723	2 346	3 063	3 879	4 788	6 895	9 384	13 837
69	63,5	99,2	143	153	195	255	321	398	573	778	1 016	1 286	1 589	1 992	2 287	3 113	4 066	5 146	6 354	9 149	12 452	18 361

Table AV-336-1. Armstrong Air Vents

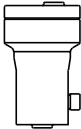



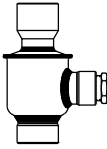

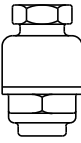



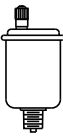

Illustration	Type	Flow Direction	Connection Type	Max. Allow. Press. barg	TMA °C	Body Material	Model	Max. Oper. Press. barg	Connection Size							Located on Page
									1/8"	1/4"	1/2"	3/4"	1"	1 1/2"	2"	
	<b>Series 1-AVCW</b> See-thru Free Floating Lever Air Vents for Ozone Applications		Screwed	10	66	PBT Cap (Polybutylene Terephthalate) Polysulfone Body	<b>1-AVCW</b>	10			▲	★ ★	●			AV-352
	<b>Series 1-AVC</b> See-Thru Free Floating Lever Air/Gas Vents		Screwed	10	66	Nylon Cap Polysulfone Body	<b>1-AVC</b>	10			●	★ ★	●			AV-338
	<b>Series 21-AR</b> Fixed Pivot Ball Float Air/Gas Vents		Screwed	17	232	ASTM A48 Class 30 Cast Iron	<b>21-AR</b>	17			●	●				AV-339
	<b>Series 21-312</b> Fixed Pivot Ball Float Air/Gas Vents		Screwed Socketweld Flanged †††	41 or 34	38 or 399	ASTM A105 Forged Steel	<b>21-312AR</b> <b>21-312VAR</b>	4,5 41			●	●				AV-339
	<b>Series 1, 2, 3, 6</b> Free Floating Lever Air/Gas Vents		Screwed Flanged †††	21 or 17	93 or 232	ASTM A48 Class 30 Cast Iron	<b>1-AV †</b> <b>2-AV</b> <b>3-AV</b> <b>6-AV</b>	21 17			★ ●	★ ●	●	●	●	AV-340
	<b>Series 30</b> Free Floating Lever Air/Gas Vents		Screwed Socketweld Flanged †††	41 or 34 or 69 or 41	38 or 399 or 38 or 399	ASTM A105 Forged Steel	<b>32-AV</b> <b>33-AV</b> <b>36-AV</b>	41 62 69			●	●	●			AV-342
	<b>Series 10</b> Free Floating Lever Air/Gas Vents		Screwed Socketweld (22 and 13 only) Flanged †††	34 or 30 or 38 or 33 or 39 or 34	38 or 260 or 38 or 260 or 238 or 260	304-L Stainless Steel	<b>11-AV ††</b> <b>22-AV</b> <b>13-AV</b>	28 38 39			●	★ ★ ●				AV-346
	<b>Series HLAR</b> High Leverage Air/Gas Vents		Screwed Socketweld Flanged †††	69 or 41	38 or 399	ASTM A105 Forged Steel	<b>2313 HLAR</b> <b>2315 HLAR</b> <b>2316 HLAR</b>	69			●	●	●	1 1/4" ● 1 1/2" ●	●	AV-344
	<b>Series HLAR</b> High Leverage Air/Gas Vents		Screwed Socketweld Flanged †††	103 or 62 or 125 or 62	38 or 454 or 38 or 482	ASTM A182 Gr. F22 Forged Steel	<b>2413 HLAR</b> <b>2415 HLAR</b> <b>2416 HLAR</b>	103 124 103			●	●	●	1 1/4" ● 1 1/2" ●	●	AV-344

★ 1/4" outlet connection    ★ ★ 1/2" outlet connection    † Side connection available  
†† Side connection not available    ††† Flange selection may limit pressure and temperature rating.

▲ Alternate inlet 1/2"

# Air Vent ID Charts



Table AV-337-1. Armstrong Air Vents																
Illustration	Type	Flow Direction	Connection Type	Max. Allow. Press. barg	TMA °C	Body Material	Model	Max. Oper. Press. barg	Connection Size							Located on Page
									1/8"	1/4"	1/2"	3/4"	1"	1 1/2"	2"	
	Series HLAR High Leverage Air/Gas Vents		Screwed Socketweld Flanged †††	146 or 117	38 or 482	ASTM A182 Gr. F22 Forged Steel	25133G-HLAR	146			●	●	●			AV-344
				174 or 138	38 or 482		25155G-HLAR	172				●	●	●		
				255 or 207	38 or 482		26155G-HLAR	186					●	●		
	Series TTF Thermostatic Air Vents		Straight-Thru Right Angle	20	232	304-L Stainless Steel	TTF-1 TTF-1R	21			●	●				AV-348
	TAVB Thermostatic Bellows with Integral Vacuum Breaker		Straight-Thru Screwed	20	232	304L Stainless Steel	TAVB-2	10			●					AV-349
							TAVB-3					●				
	Series TV-2 Thermostatic Air Vents		Screwed	9	177	ASTM B62 Cast Bronze	TV-2	8,5			●					AV-351
	Series TS-2 Thermostatic Air Vents		Threaded	3,5	149	ASTM B62 Bronze	TS-2	3,5			●	●				AV-350
	AV-11, AV-13 Hydronic System Air Vents		Screwed	3,5	99	Brass	AV-11	3,5	●		●	●				AV-353
				10			AV-13	10								

★ 1/4" outlet connection      ★★ 1/2" outlet connection      † Side connection available      ▲ Alternate inlet 1/2"  
†† Side connection not available      ††† Flange selection may limit pressure and temperature rating.  
All models comply with the Pressure Equipment Directive PED 97/23/EC. For details, see specific product page or Armstrong PED Certificate.