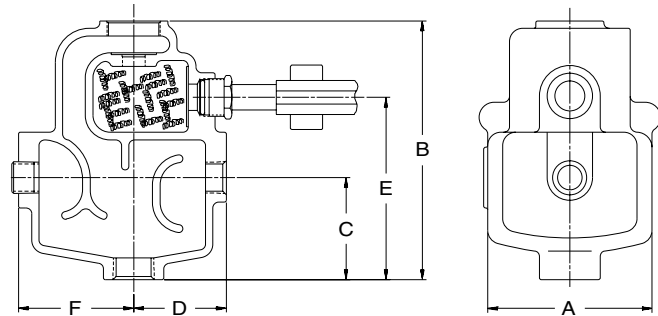
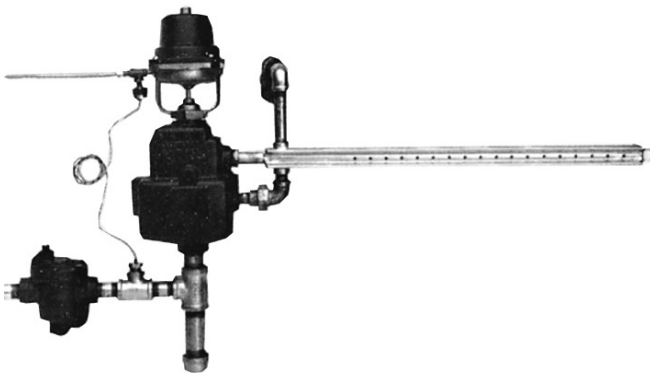


Figure 48-1.



Conditioned Steam Humidifiers

Table 48-1. Physical Data

Humidifier Model Number	Dimensions in mm						Connection Sizes			Drain Trap Model	Weight in kg † (less operator and manifold)
	A	B*	C	D	E	F	Inlet	Drain	Trap		
91	115	218	86	78	154	97	1/2"	1"	3/4"	800	11
92	141	218	86	97	154	97	3/4"	1"	3/4"	800	14
93	171	302	117	121	229	121	1 1/4"	1 1/4"	3/4"	811	24
94	276	435	175	203	321	203	2"	2"	3/4"	812	66

Shade indicates products that are CE Marked according to the PED (97/23/EC). All the other sizes comply with the Article 3.3 of the same directive.

* Add height and weight of operator for overall data. All dimensions are in millimeters.

† Weight includes drain trap, strainer, and fittings.

For Physical Data on Series 1000 Stainless Steel Humidifiers, see Page 50.

Table 48-2. List of Materials

Steam Chamber	Cast Iron	Manifold Fittings	Brass
Bonnet Assembly	Brass	Manifold Coupler	Brass
Valve & Stem	18-8 Stainless Steel	Nut	Brass
Valve Seat	18-8 Stainless Steel	Strainer	Cast Iron
Manifold	304 Stainless Steel	Steam Trap	Cast Iron

Armstrong Conditioned-Steam Humidifiers for air handling systems are manufactured to meet the needs of central station humidification or booster humidification. Operation and control may be pneumatic or electric. See Page 54.

Standard Package

All Armstrong Conditioned-Steam Humidifiers are supplied in standard "packages" which include the following:

Pneumatically Controlled (AM) Models:

1. Humidifier with integral operator (when specified).
2. Distribution manifold of length specified.
3. "Y" type strainer.
4. Armstrong inverted bucket trap.

Electric Motor Controlled (EM) Models:

1. Humidifier with integral operator (when specified).
2. Distribution manifold specified.
3. "Y" type strainer.
4. Armstrong inverted bucket trap.

Recommended Option

A pneumatic or an electric temperature switch is offered as an optional extra and is recommended in any system where the steam supply to the manifold jacket and humidifier body may be interrupted or turned off.

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.



Capacities of Armstrong Humidifiers

Conditioned Steam Humidifiers

Table 52-1. Sizes 91 and 1100, Continuous Discharge Capacities in kg of Steam Per Hour

Orifice Size (In.)	Steam Pressure in bar																		
	0,15	0,20	0,25	0,35	0,40	0,50	0,55	0,60	0,70	0,75	0,80	0,90	1,00	1,40	1,70	2,00	2,50	3,00	4,00
1/16"	0,6	0,7	0,8	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	2,0	2,5	2,9	3,5	3,8	4,5	5,6
5/64"	1,0	1,2	1,4	1,6	1,8	2,0	2,1	2,3	2,4	2,5	2,7	2,8	3,0	3,8	4,8	5,0	5,6	6,7	8,6
3/32"	1,4	1,7	1,9	2,3	2,6	2,8	3,0	3,3	3,5	3,7	3,9	4,0	4,3	5,4	6,0	6,5	7,8	9,6	11
7/64"	1,9	2,2	2,6	3,1	3,6	4,0	4,1	4,5	4,6	5,0	5,2	5,4	6,0	7,2	8,0	8,6	9,5	12	15
1/8"	2,5	3,1	3,3	4,0	4,5	5,0	5,5	5,9	6,3	6,3	6,8	7,2	8,0	10	11	13	14	16	20
5/32"	3,6	4,5	5,1	6,3	7,2	7,7	8,6	9,0	9,5	10	11	12	13	14	16	18	20	24	29
3/16"	5,5	6,8	7,7	10	11	12	12	13	14	15	16	17	18	22	24	27	29	35	42
7/32"	7,5	10	11	13	15	16	17	18	19	20	21	22	24	28	32	35	38	44	64
1/4"	10	13	14	17	19	21	22	24	25	27	28	29	31	37	41	46	52	61	77
9/32"	12	15	16	20	21	23	25	26	28	29	30	32	34	40	48	52	57	68	84
5/16"	15	17	19	23	25	27	29	31	33	35	37	39	42	48	56	61	67	90	114
11/32"	16	20	22	25	30	33	35	37	39	41	43	44	49	58	67	78	86	104	126
3/8"	19	23	25	30	32	35	37	42	44	48	50	52	57	68	77	86	96	115	143

Table 52-2. Sizes 92 and 1200, Continuous Discharge Capacities in kg of Steam Per Hour

Orifice Size (In.)	Steam Pressure in bar																		
	0,15	0,20	0,25	0,35	0,40	0,50	0,55	0,60	0,70	0,75	0,80	0,90	1,00	1,40	1,70	2,00	2,50	3,00	4,00
1/8"	2,2	3,2	3,6	4,0	4,5	5,0	5,5	6,0	6,8	7,0	8,0	9,0	10	11	12	13	14	16	20
5/32"	3,6	4,5	5,5	6,3	7,3	7,7	8,6	9,0	9,5	10	11	12	13	14	16	18	20	24	29
3/16"	5,4	6,8	8,2	9,5	10	11	12	13	14	15	16	17	18	21	24	27	29	35	42
7/32"	7,2	9,5	11	13	15	16	17	18	19	20	21	22	24	28	32	38	41	47	61
1/4"	10	11	15	17	19	21	22	24	25	27	28	29	31	37	41	46	52	61	77
9/32"	12	16	19	22	24	26	29	30	32	34	36	37	40	47	53	59	69	80	97
5/16"	15	20	23	27	30	32	35	37	39	42	44	45	49	57	65	72	85	96	118
11/32"	18	24	28	32	35	38	41	44	46	49	52	54	59	69	78	87	101	114	142
3/8"	24	27	29	35	38	42	45	47	52	54	56	58	63	74	83	93	103	122	151
7/16"	34	38	41	45	49	53	56	60	62	65	68	72	77	89	102	114	126	157	190
1/2"	40	43	45	47	51	55	60	64	68	72	76	79	88	104	121	136	151	181	220

Table 52-1. Sizes 93 and 1300, Continuous Discharge Capacities in kg of Steam Per Hour

Capacities when Steam Supply is Through the Manifold

Orifice Size (In.)	Steam Pressure in bar																		
	0,15	0,20	0,25	0,35	0,40	0,50	0,55	0,60	0,70	0,75	0,80	0,90	1,00	1,40	1,70	2,00	2,50	3,00	4,00
13/32"	32	38	45	50	55	60	63	67	69	73	77	78	84	96	112	122	135	161	200
7/16"	35	43	49	57	59	63	66	70	77	80	86	89	97	112	129	142	152	182	225
15/32"	38	55	59	66	68	71	76	82	88	92	96	102	108	128	145	161	175	203	248
1/2"	45	58	66	73	78	84	90	92	98	103	110	115	123	146	165	185	197	227	282
9/16"	47	62	72	84	89	94	102	108	117	121	123	128	141	163	185	207	234	279	342
5/8"	53	67	79	92	97	106	114	124	131	134	144	153	167	194	221	248	275	328	408
3/4"	58	79	92	105	116	130	140	153	164	170	173	186	208	249	289	338	385	452	576

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.

Table 53-2. Sizes 93 and 1300, Continuous Discharge Capacities in kg of Steam Per Hour

Capacities when Steam Supply is Direct to Separator. (Manifold Trapped Separately)

Orifice Size (In.)	Steam Pressure in bar																		
	0,15	0,20	0,25	0,35	0,40	0,50	0,55	0,60	0,70	0,75	0,80	0,90	1,00	1,40	1,70	2,00	2,50	3,00	4,00
13/32"	32	38	45	50	55	60	63	67	69	73	77	78	84	96	112	122	135	161	200
7/16"	35	43	49	57	59	63	66	70	77	80	86	89	97	112	130	142	152	182	225
15/32"	38	55	59	66	68	71	76	82	88	92	96	102	108	128	145	161	175	203	248
1/2"	45	58	66	73	78	84	90	92	98	103	110	115	123	146	165	185	197	227	282
9/16"	47	62	72	84	89	94	102	108	117	121	123	128	141	163	185	207	234	279	342
5/8"	57	73	83	95	102	112	119	129	139	142	152	162	173	209	232	261	291	343	443
3/4"	62	85	100	119	122	136	152	171	186	195	210	225	238	288	336	375	422	500	620

Table 53-3. Sizes 94 and 1400, Continuous Discharge Capacities in kg of Steam Per Hour

Capacities when Steam Supply is Through the Manifold

Orifice Size (In.)	Steam Pressure in bar															
	0,15	0,20	0,25	0,35	0,40	0,50	0,55	0,60	0,70	0,75	0,80	0,90	1,00	1,40	1,70	2,00
5/8"	62	76	86	97	102	114	121	131	142	148	159	169	188	217	245	275
3/4"	84	103	117	132	140	154	164	177	193	201	215	229	252	310	350	390
7/8"	110	135	153	171	184	202	215	232	251	264	282	300	344	396	452	503
1"	126	156	177	198	212	234	248	269	290	304	326	347	386	450	514	575
1 1/8"	145	180	204	230	245	269	286	310	339	351	376	400	422	507	591	666
1 1/4"	156	190	215	251	259	284	302	327	361	371	396	422	448	536	631	711
1 1/2"	177	222	253	282	303	334	354	384	417	435	465	496	523	633	729	824

Table 53-4. Sizes 94 and 1400, Continuous Discharge Capacities in kg of Steam Per Hour

Capacities when Steam Supply is Direct to Separator. (Manifold Trapped Separately)

Orifice Size (In.)	Steam Pressure in bar																		
	0,15	0,20	0,25	0,35	0,40	0,50	0,55	0,60	0,70	0,75	0,80	0,90	1,00	1,40	1,70	2,00	2,50	3,00	4,00
5/8"	62	76	86	97	102	114	121	131	142	148	159	169	188	217	245	275	303	357	461
3/4"	90	110	125	140	150	165	175	190	205	215	230	244	275	321	358	404	445	533	656
7/8"	114	140	159	178	191	210	222	241	260	273	292	311	358	412	461	520	576	697	847
1"	136	170	193	222	231	254	270	293	326	332	355	378	425	488	559	632	693	832	1 038
1 1/8"	168	210	238	267	286	314	333	362	378	410	438	467	505	605	698	769	859	1 026	1 280
1 1/4"	187	235	267	300	320	352	373	405	435	459	490	523	551	674	784	883	979	1 182	1 454
1 1/2"	245	299	340	381	408	449	476	517	547	585	626	667	699	843	961	1 096	1 201	1 448	1 823

Model 1400: PMA is limited to 1,85 bar.
 Shaded capacities are valid for model 94 only.

All dimensions and weights are approximate. Use certified print for exact dimensions. Design and materials are subject to change without notice.