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Armstrong International—Intelligent System Solutions™

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Steam Specialties

Steam traps, pressure reducing valves, temperature regulators, radiator traps and valves, air vents and strainers.

Steam-A-Ware™

Sizing and selection software for steam, air and hot water systems.

Condensate Recovery Systems

Pumping traps, pumping trap packages, flash recovery vessels, sump ejector, Rescue Cap™.

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Steamix® Hose Stations—steam and water mixing, hot and cold water mixing, hoses, nozzles and accessories.

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Heavy duty and light duty steam and liquid heating/cooling coils. Duramix™ face and bypass heating coils, finned tube, plate fin, unit heaters, tank heaters, and custom packages.

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Direct steam injection, gas fired, electronic, fogging, steam to steam humidifiers, and steam generators.

Humid-A-Ware™

Sizing and selection software for steam, gas fired, electronic, and fogging humidification systems.

Check-All Valve www.checkall.com

Engineered spring-loaded check valves—1/8" – 20" bronze, carbon steel, nylon, PVC, stainless steel, Teflon® and other alloys, pressure ratings from vacuum to 10,000 psi, wide range of springs and seats.

Coilmaster www.coilmastercorp.com

Water, Steam and DX coils for heating and cooling in the commercial, industrial, process, and plan specifications market.

Controls Southeast, Inc. www.csiheat.com

CSI provides thermal maintenance systems for heating and cooling of liquid/vapor processes in the petrochemical, chemical, and refining industries. jacketed pipe, heat jackets, heat tracing, and thermal systems.

Donaldson Filtration Solutions www.donaldsonprocessfiltration.com

A premier manufacturer of process filter housings and elements for steam, gas, liquids, or compressed air.

SHIPCO www.shipcopumps.com

Condensate handling equipment, boiler feed units, deaerators, and vacuum units.

Rada Controls www.us.radacontrols.com

A line of revolutionary digital thermostatic faucets and showers designed for ever increasing risk of waterborne pathogens in the healthcare and institutional markets.

ACME Engineering Products, Inc. www.acmeprod.com

Automatic scraper strainers - carbon steel, stainless steel and other alloys. Removes contaminants from 100 microns to six inches in diameter without cleaning.

Burkert Fluid Control Systems www.burkert-usa.com

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Plate and frame heat exchanger from 1" through 24". Bolted and brazed construction. Plate materials from titanium, stainless steel, and other alloys.

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Shell and tube heat exchangers for high pressure and specialty process/chemical applications.

Lattner Boiler Company www.lattnerboiler.com

Steam and hot water boilers, HRT, Firetube and vertical tubeless designs, electric boilers, condensate feedwater, and blowdown systems.

Miura North America, Inc. www.miuraboiler.com

High efficiency steam/hot water boilers and hardness leakage detectors.

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Flue gas condensing economizers to recover waste heat from your flue gas. Potential fuel savings of 10-15%. An Energy Star Partner.



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Use this table to:

- Convert steam temperature from steam pressure
- Convert steam pressure to saturated temperature
- Determine Btu/lb of steam at a given pressure
- Determine the Btu/lb of condensate at a given pressure and temperature
- Determine the specific volume (cu ft/lb) of steam at a given pressure

Table CG-1. Properties of Saturated Steam
(Abstracted from Keenan and Keyes, THERMODYNAMIC PROPERTIES OF STEAM, by permission of John Wiley & sons, Inc.)

	Col.1 Gauge Pressure	Col.2 Absolute Pressure (psia)	Col.3 Steam Temp. (°F)	Col.4 Heat of Sat. Liquid (Btu/lb)	Col.5 Latent Heat (BTU/lb)	Col.6 Total Heat of Steam (BTU/lb)	Col.7 Specific Volume of Sat. Liquid (BTU/lb)	Col.8 Specific Volume of Sat. Steam (BTU/lb)
Inches of Vacuum	29.743	0.08854	32.00	0.00	1075.8	1075.8	0.016022	3306.00
	29.515	0.2	53.14	21.21	1063.8	1085.0	0.016027	1526.00
	27.886	1.0	101.74	69.70	1036.3	1106.0	0.016136	333.60
	19.742	5.0	162.24	130.13	1001.0	1131.0	0.016407	73.52
	9.562	10.0	193.21	161.17	982.1	1143.3	0.016590	38.42
	7.536	11.0	197.75	165.73	979.3	1145.0	0.016620	35.14
	5.490	12.0	201.96	169.96	976.6	1146.6	0.016647	32.40
	3.454	13.0	205.88	173.91	974.2	1148.1	0.016674	30.06
	1.418	14.0	209.56	177.61	971.9	1149.5	0.016699	28.04
PSIG	0.0	14.696	212.00	180.07	970.3	1150.4	0.016715	26.80
	1.3	16.0	216.32	184.42	967.6	1152.0	0.016746	24.75
	2.3	17.0	219.44	187.56	965.5	1153.1	0.016768	23.39
	5.3	20.0	227.96	196.16	960.1	1156.3	0.016830	20.09
	10.3	25.0	240.07	208.42	952.1	1160.6	0.016922	16.30
	15.3	30.0	250.33	218.82	945.3	1164.1	0.017004	13.75
	20.3	35.0	259.28	227.91	939.2	1167.1	0.017078	11.90
	25.3	40.0	267.25	236.03	933.7	1169.7	0.017146	10.50
	30.3	45.0	274.44	243.36	928.6	1172.0	0.017209	9.40
	40.3	55.0	287.07	256.30	919.6	1175.9	0.017325	7.79
	50.3	65.0	297.97	267.50	911.6	1179.1	0.017429	6.66
	60.3	75.0	307.60	277.43	904.5	1181.9	0.017524	5.82
	70.3	85.0	316.25	286.39	897.8	1184.2	0.017613	5.17
	80.3	95.0	324.12	294.56	891.7	1186.2	0.017696	4.65
	90.3	105.0	331.36	302.10	886.0	1188.1	0.017775	4.23
	100.0	114.7	337.90	308.80	880.0	1188.8	0.017850	3.88
	110.3	125.0	344.33	315.68	875.4	1191.1	0.017922	3.59
	120.3	135.0	350.21	321.85	870.6	1192.4	0.017991	3.33
	125.3	140.0	353.02	324.82	868.2	1193.0	0.018024	3.22
	130.3	145.0	355.76	327.70	865.8	1193.5	0.018057	3.11
	140.3	155.0	360.50	333.24	861.3	1194.6	0.018121	2.92
	150.3	165.0	365.99	338.53	857.1	1195.6	0.018183	2.75
	160.3	175.0	370.75	343.57	852.8	1196.5	0.018244	2.60
	180.3	195.0	379.67	353.10	844.9	1198.00	0.018360	2.34
	200.3	215.0	387.89	361.91	837.4	1199.3	0.018470	2.13
	225.3	240.0	397.37	372.12	828.5	1200.6	0.018602	1.92
	250.3	265.0	406.11	381060	820.1	1201.7	0.018728	1.74
		300.0	417.33	393.84	809.0	1202.8	0.018896	1.54
		400.0	444.59	424.00	480.5	1204.5	0.019340	1.16
		450.00	456.28	437.20	767.4	1204.6	0.019547	1.03
		500.0	467.01	449.40	755.0	1204.4	0.019748	0.93
		600.0	486.21	471.60	731.6	1203.2	0.02013	0.77
	900.0	531.98	526.60	668.8	1195.4	0.02123	0.50	
	1200.0	567.22	571.70	611.7	1183.4	0.2232	0.36	
	1500.0	596.23	611.60	556.3	1167.9	0.02346	0.28	
	1700.0	613.15	636.30	519.6	1155.9	0.02428	0.24	
	2000.0	635.82	671.70	463.4	1135.1	0.02565	0.19	
	2500.0	668.13	730.60	360.5	1091.1	0.02860	0.13	
	2700.0	679.55	756.20	312.1	1068.3	0.03027	0.11	
	3206.2	705.40	902.70	0.0	902.7	0.05053	0.05	