

	Page	Pipe (continued)	Page
Mean radiant temperature	533	friction head	257
Mechanical circulation, hot water	485	heat loss from	503
Mechanical steam heating systems	419	insulation	506
Mechanical stokers	377	leader	319
Mechanical ventilation	171, 291	radiating surface	504
Mechanical warm air systems	305	sizes	442, 550
Men working, comfort zone for	32	sweating	514
Metabolic rate	41	tables	446
Metal ducts	255, 261, 286, 310	tunnels	524
Meter		welding	501
condensation	528	wrought	492
steam	523	Pipe coil	466
Metric units	600	connections	507
Micron	592	radiators	547
Moisture content	47	Pipe sizes for domestic water requirements	472
Moisture loss from human body	21, 41	Pipe sizes for hot water systems	441, 446
Motive power	235	Pipe sizes for steam heating systems	491
Motors	145, 238, 289, 307	Piping	447, 448
Multiblade fans	225	expansion	519
		return	601
		steam	547
		symbols	
		water supply	
N		Piping connections	342, 457
Natural gas	375	boiler	462
Natural ventilation	57	radiator	571
Nature's dust catcher	216	Pitot tube	207
Neutral zone	592	Pollution, air	211
Nicholls heat-flow meter	576	abatement of	208
Noise	242	effect on health	209
elimination	308	industrial	332
levels	244	Portable fire box boilers	
Nominal pipe sizes	490	Power	593
Non-heating periods	400	definition of	150
		for air washer	235
		for fan	144
		for refrigeration	293
		Pre-heater coils	
		Pressure	569
		gauge	255
		losses in ducts	569
		boilers	1
		measurement	
		partial	577
		Properties of air, water and steam	385
		Protective devices for oil burners	593
		Psychrometer, sling	13
		Psychrometric chart	373
		Pulverized fuel	
		Pumps	485
		circulating	434
		condensation	435
		vacuum	570, 593
		Pyrometers	
		R	
		Radiant heaters, electric	542
		Radiant heating	
		methods of application	535
		physical and physiological considerations	533
		principles of calculation	536
		Radiators	
		concealed	407
		connections to	462
		control of	189
		convection	414
		effect of paint	409
		gas-fired steam	409
		heating effect	407
		heating up	411
		output of	408
		panel	593
		temperature control	189
		tests	415
		types of	407
		Radiation, load	338
		solar	119
		Ratings, boiler	336
		Ratings for gas appliances	394
		Rayons	48
		Recirculating ducts and grilles	321
		Recirculation	39, 123
		Refrigerants	142
		Refrigeration for air conditioning	137
		Regain	47
		Registers	311, 321, 593

	Page		Page
Reheater coils	293	Specifications	
Relative humidity	200	chimney construction	362
control of	2	Specific heat	594
definition of	51	Split system	275, 291
for industrial processing	273	Spray booths	285
Residences, air distribution in	163, 201, 308	Spray generation and distribution	147
Residences, humidification for	378	Spray washers	54, 150
Residential stokers	541	Spray water	58, 62
Resistors	321	Stacks for natural ventilation	320
Return air ducts	460	warm air	489
Return header		Standard pipe	34, 587, 604
Returns		Standards and codes	61
to boiler	342, 458, 460	Stationary ventilators	523
to furnace	323	Steam flow meters	441
Returns for underground distribution systems	521	Steam, flow of, in pipes	331
Reversed return hot water systems	472	generation	453
Ringelmann chart	575	high pressure	582
Risers		properties of	583
downfeed	447	total heat in	595
hot water	483	Steam heating systems	427
steam supply	593	atmospheric	434
water supply	550	condensation pumps	419
Rock wool		design features	519
pipe insulation	512	district	422, 424, 426, 429
Roof ventilators	60, 594	downfeed	441
Roofs		electric	419
heat loss from	90	flow of steam in pipes	441
sun effect	116	gravity and mechanical return	419, 424, 449
Room thermostats	188	one-pipe system	432
Rotating ventilators	63	operation and control	447
		orifice	
		pipe sizes	
		piping connections	421, 426, 462, 464, 466, 468, 469
		pumps	434
		sub-atmospheric	430
		traps	437
		two-pipe system	423, 424, 450
		up-feed	420, 423, 424
		vacuum pumps	435
		vacuum system	429, 452
		vapor system	424
		zoned	433
		Steam jet cooling system	141
		Steam per square foot of heating surface	532
		Steam pipe tables	443, 446
		Steam tables	583
		Steel boilers	331
		Steel pipe, expansion of	491, 495
		Steel sash, infiltration through	96
		Stoker-fired boilers, selection of	334
		Stokers, mechanical	377
		Storage for hot water	565
		Sun effect on buildings	116
		Surface conductance	595
		Surface cooling	123
		Symbols for heating and ventilating drawings	601
		Symbols for transmission formulae	72
		Synthetic air chart	595
		T	
		Tees, dimensions of	497
		Tempering coils	293
		Temperature	
		attic spaces	72
		basements and unheated rooms	92
		control systems	189
		dew-point	2
		dry- and wet-bulb	1
		inside	68
		outside	67
		regulation	189
		rise	37
		usually specified	104
		Temperature changes, effects of	23
		Temperature control	
		air conditioning systems	199
		central fan systems	192
		convectors	189
		cooling units	199
		heating plants	196
		industrial processes	199
		oil burners	198
		thermostats	186