

British equivalent temperature, 691
 British thermal unit, 772
Building, buildings
 air velocities in, 357
 classification for district heating, 683
 construction, heat transmission of, 105, 107
 district heating, 676
 fuel requirements of, 509
 hot water supply to, 640, 643
 intermittently cooled, 162
 intermittently heated, 151, 413, 707
 load factors, 518
 materials, heat transmission of, 106
 noise in, 327
 saving of steam in, 677
 steam consumption, 514
 tall, infiltration in, 138
 water supply to, 629
Burner, burners
 automatic equipment, 485
 coal, 485
 conversion, 504, 506
 gas, 502
 oil, 500
 By-pass method, 170, 772

C

Cabinets, (see *Enclosures*)
 dryers, 723
Caloric, 772
Caloric values,
 coal, 472
 gas, 481
 oil, 479
Can dryers, 727
Capacity motor, 750
Capillary moisture, 732
Carbon dioxide, 40, 206
 concentration in air, 76
 as corrosion agent, 626
 as an index of:
 combustion, 473
 draft loss, 462
 odors, 57
 measurement of, 767
Carbon monoxide,
 in air, 288
 in garages, 100
 poisoning, 289
 produced by oil burners, 496
Carnot cycle, 44
Cattle, heat and moisture produced by, 99
Ceilings, heat transmission, 119
Central air conditioning systems, 169
 automatic control of, 275, 283
 design of, 171
 location of apparatus, 172
 sprays of, 176
 spray type, 170
Central fan heating systems, 387, 772
 computations for, 395
 connections, 579
 design of, 391
 electrical, 702
 heating requirements of, 390
Charles' law, 7
Chart,
 of air densities, 6
 comfort, 68
 effective temperature, 64, 65, 66
 psychrometric, 64, 65, 66, 740, (*back cover*)
 Ringelmann, of smoke densities, 768
Chimney, chimneys, 451
 action, 119
 areas of, 457, 461, 468
 characteristics, 453
 construction of, 485
 effect, 90, 93, 119, 138, 549, 772
 for gas heating, 466
 performance, 456
 sizes, 457, 461, 468
 Venturi, 452

Cinder, cinders, 288
 catching devices, 293
 disposal of, 295
Circular equivalents of rectangular ducts, 360
Circulator, 503
City, maximum water main temperature, 180
Classrooms, (see *Schools*)
Cleaners, air (see *Air, Cleaning Devices*)
Clearance, window sash, 134
Coal, (see also *Anthracite, Coke, Lignite*)
 air speed for conveying, 380
 analysis of, 471
 bituminous, 477
 calorific value, 472
 classification of, 471
 dust, disposal of, 295
 dustless, 478
 pulverized, 478
 semi-bituminous, 478
 size of, 473
Coal burning systems,
 automatic control of, 278
 automatic firing equipment, 485
 boilers, 433
 combustion rate, 404
 draft required for, 461
 fuel requirements, calculation, 510
 furnace requirements, 404, 411
 hand-fired, 479
 stokers, 485
Codes,
 A.S.H.V.E. codes and standards, 790
 for grinding, polishing, and buffing wheels, 374
 for proportioning warm air heating plants, 502
 for use of refrigerants, 171, 242
Coefficients of heat transmission, (see *Heat Transmission, Coefficients*)
Coefficient of performance, 44
Coils,
 booster, 389
 cooling, 241, 407
 evaporator, 241
 heating, 238, 389
 hot water, 238
 pipe, 579
 preheater, 389
 radiator, 521
 reheater, 389
 steam, 238
 tempering, 389
Coke, 472
 combustion of, 478
Cold, effects on human body, 60
Collectors, dust, 381
Combined system,
 air conditioning equipment, 169
 automatic control of, 276
 central fan, 387
Combustion, 471
 air required for, 473, 482
 of different coals, 475
 of gas, 481
 of oil, 496
 rates for heating boilers, 434
 smokeless, 437
 with various stokers, 485
Comfort, 62
 chart, 68, 71, 76
 effective temperature, 63
 heating for, 689
 level, 525
 line, 69, 71, 73, 773
 for men working, 71
 optimum air conditions for, 67, 71
 school children, 71
 zone, 69, (see also *Zone, Comfort*)
Compartment dryers, 728
Compliance, of sound insulating materials, 336
Composition of water, 26
Compound wound motor, 747
Compressed air, 213
Compressors, 37, 190
 reversed refrigeration, 52, 706
 types of, 37, 190

Condensation,
 on building surfaces, 151
 meters, 681
 prevention of, 151, 665
 rate in radiators, 525
 return pumps, 549
 in steam heating systems, 533, 557
 in winter, 71
Condenser, 37
 design data, 194, 206
 turbine, 204, 208
 water temperatures, 207
Conditioning and drying, 717 (see also *Air Conditioning*)
Conductance, 104, 125, 773
 of air spaces, 104, 106
 of building materials, 107
 of insulation, 107, 656
 surface, 104
Conduction, 521, 773
Conductivity, 104, 125, 773
Conduit, 673
Connections,
 for boilers, 444, 572, 574
 branch, 535
 for central fan systems, 579
 for chimneys, 461, 468
 for convectors, 579
 for direct heating systems, 676
 for drains, 445
 Hartford return, 574
 for hot water systems, 604
 for indirect heating units, 582
 for pipe coils, 579
 for radiators, 577, 600
 service, 676
 constant speed motor, 748
Construction code for low pressure boilers, 444
Contact dryers, 723
Contours, velocity, 375
Control, controls,
 accessory automatic apparatus, 272, 773
 of air conditioning equipment, 269, 281, 283
 combined system, 276
 split system, 275
 apparatus, 269
 automatic, 269, 272, 278, 283
 connecting apparatus, 272
 of cooling units, 281
 drying, 734
 of electrical heating, 707
 of fans, 319
 of electric motors, 747, 753
 manual, 93
 of mechanical warm air systems, 411
 of natural ventilation, 93
 of oil burning equipment, 279
 rate of biochemical reactions, 715
 rate of chemical reaction, 715
 rate of crystallization, 716
 of regain, 714
 of relative humidity, 282
 of sound, 325
 of steam heating systems, 548
 of temperature, 272, 499, 707
 of vacuum pumps, 551
Convection, 84, 503, 689, 701, 773
Convectors, 521, 526, 773
 A.S.H.V.E. code for, 529
 connections for, 579
 control of, 272
 correction rating factors, 529
 design of, 527
 gravity, 521
 heat emission by, 521, 528
 heating capacity, 528
 performance characteristics, 528
 selection, 528
Conversion burners, 504
Conversion equations, 785
Coolers,
 surface, 176
 types of, 193
 unit, 218

Cooling, 20, 23
 with central fan heating systems, 407
 effect, 9
 effective temperatures for, 75
 by electric refrigeration, 52, 706
 equipment, design of, 206
 evaporative, 169, 179, 181, 202
 of fluids, 207
 of human body, 159
 load, 157
 with mechanical warm air systems, 415
 methods, 169, 179, 407
 ponds, 208
 railway air conditioning, 259
 relative humidities for, 75
 towers, 190, 195, 205, 208
 units, thermostatic control, 281
 water, 206
Copper pipe, 608
Corrosion,
 of boilers, 447
 of industrial exhaust systems, 383
 protective materials, 384
 inhibitors, 627
 of pipe, 626
 tester, 627
Costs,
 of district heating service, 684
 of electrical heating, 709
 of railway air conditioning, 265
 of unit conditioners, 252
Crack, window, 134
Cyclone dust collector, 381
Cylinder dryers, 727

D

Dalton, law of partial pressures, 1
Damper, dampers,
 apparatus which operates, 271, 274, 277
 control, 92
 in duct systems, 409
 types of, 409
 with unit ventilators, 230
Decibel, 325, 773
Definitions, 74
Degree-day, 773
 base temperature for, 514
 method of estimating fuel consumption, 511
 records for cities, 512
Dehumidification, 20, 201
 effective temperatures for, 75
 methods of, 169, 182, 240
 by refrigeration, 182
 relative humidities for, 75
Dehumidifier, dehumidifiers, 182
 alumina, 184
 in central air conditioning systems, 170
 in industrial air conditioning, 212
 silica gel, 183
 types of, 214
Density, 3, 773
 of air, 6
 of saturated vapor, 10
 specific, 3
 of water, 30
Design temperature,
 dry-bulb, 158
 wet-bulb, 158, 207
Dew point, 773
 relation to relative humidity, 9
 temperature, 2, 282
Diameter, circular equivalents of rectangular ducts, 360
Dichlorodifluoromethane, 37, 41, 191, 206
Diesel engine, 208
Direct current motor, 747
Dirty pockets, 584
Disc fans, test code for, 312
Distribution of air, 343 (see also *Air, Distribution*)
District heating, 671
Diverter, back draft, 466