Burner, burners,
automatic equipment, 497
coal, 497
conversion, 516, 518
gas, 514
oil, 512
By-pass method, 186, 788

C

Cabinets, (*see Enclosures*)
Calorie, 788
Calorific values,
coal, 484
gas, 493
oil, 491
Capacitor motor, 764
Capillary moisture, 743
Carbon dioxide, 36, 225
concentration in air, 76
as corrosion agent, 642
as an index of:
combustion, 485
draft loss, 474
odors, 56
measurement of, 783
Carbon monoxide,
in air, 296
in garages, 96
poisoning, 297
produced by oil burners, 508
Carnot cycle, 42
Cattle, heat and moisture produced by, 95
Ceilings, heat transmission, 121
Central air conditioning systems, 185
design of, 173
location of apparatus, 189
ratings of, 192
spray type, 186
Central fan heating systems, 169, 788
all year control for, 284
computations for, 177
connections, 593
cooling cycle control for, 283
design of, 173
electrical, 718
heating cycle control for, 280
heating requirements of, 172
Charles' law, 7
Chart,
of air densities, 6
air flow and loudness, 356
comfort, 68
of duct lining factor for sound, 343
effective temperature, 64, 65, 66
humidity, 746
psychrometric 25, 64, 65, 66, (*back cover*)
Ringlemann, of smoke densities, 784
room absorption correction, 357
Chimney, chimneys, 463
areas of, 471, 474, 481
characteristics 465
construction of, 478
effect, 86, 89, 139, 561, 789
for gas heating, 479
performance, 470
sizes, 471, 474, 481
Venturi, 464
Cinder, cinders, 296
catching devices, 301
disposal of, 303
Circular equivalents of rectangular ducts, 372
Circulators, 515
City, maximum water main temperature, 196
Classrooms, (*see Schools*)
Cleaners, air (*see Air, Cleaning Devices*)
Clearance, window sash, 134
Coal, (*see also Anthracite, Coke, Lignite*)
air speed for conveying, 392
analysis of, 483
bituminous, 489
calorific value, 484
classification of, 483
Coal (*continued*)
dust, disposal of, 295
dustless, 490
pulverized, 490
semi-bituminous, 490
size of, 485
Coal burning systems,
automatic control of, 290
automatic firing equipment, 497
boilers, 443
combustion rate, 428
draft required for, 475
fuel requirements, calculation, 522
furnace requirements, 429, 433
hand-fired, 491
stokers, 497
Codes,
A.S.H.V.E. codes and standards, 807
for grinding, polishing, and buffing wheels, 386
for proportioning warm air heating plants, 514
for use of refrigerants, 187, 259
Coefficient of friction, 468
Coefficient of performance, 42
Coefficients of heat transmission, (*see Heat Transmission, Coefficients*)
Coils,
booster, 171
cooling, 259, 440
evaporator, 259
heating, 171, 256
hot water, 256
pipe, 593
preheater, 171
radiator, 533
reheater, 171
steam, 171
tempering, 171
Coke, 484
combustion of, 490
Cold, effects on human body, 59
Collectors, dust, 393
Combined system,
air conditioning equipment, 185
central fan, 169
Combustion, 483
air required for, 485, 494
of different coals, 487
of gas, 493
of oil, 508
rates for heating boilers, 444
smokeless, 447
with various stokers, 497
Comfort, 61
chart, 68
effective temperature, 63
heating for, 705
level, 537
line, 67, 69, 789
for men working, 70
optimum air conditions for, 66, 69
school children, 69
zone, 67, (*see also Zone, Comfort*)
Compensated cooling control, 285
Compliance, of sound insulating materials, 340
Composition of water, 27
Compound wound motor, 761
Compressed air, 222
Compressors, 35, 206
reversed refrigeration, 50, 722
types of, 35, 206
Condensation,
on building surfaces, 151
meters, 697
prevention of, 151, 681
rate in radiators, 537
return pumps, 562
in steam heating systems, 545, 571
in winter, 73
Condenser, 35
design data, 209, 225
turbine, 223, 226
water temperatures, 226
Conditioning and drying 733 (*see also Air Conditioning*)

Conductance, 100, 102, 789
of air spaces, 100, 103
of building materials, 107
of insulation, 107, 673
surface, 102
Conduction, 533, 789
Conductivity, 100, 102, 789
Conduit, 689
Connections,
for boilers, 457, 586, 588
branch, 547
for central fan systems, 593
for chimneys, 474, 481
for convectors, 592
for direct heating systems, 692
for drains, 458
Hartford return, 588
for hot water systems, 620
for indirect heating units, 595
for pipe coils, 593
for radiators, 590, 616
service, 692
Constant speed motor, 762
Construction code for low pressure boilers, 457
Contours, velocity, 387
Control, controls,
of air conditioning equipment, 275, 292, 280
combined system, 280
split system, 281
apparatus, 276
automatic, 275, 289, 290, 433
gas burner, 290
oil burner, 290
stoker, 291
compensated cooling, 285
of cooling units, 287
domestic hot water, 292
of electrical heating, 723
of electric motors, 761, 769
electric, system, 278
of fans, 327
manual, 89
of mechanical warm air systems, 89
modulating, 279
of natural ventilation, 433
of oil burning equipment, 290
pneumatic, system, 278
positive acting, 278
pressure, 277
rate of biochemical reactions, 731
rate of chemical reaction, 731
rate of crystallization, 732
of refrigeration equipment, 293
compressor, 293
ice, 293
vacuum, 293
well water, 294
of regain, 732
of relative humidity, 277
residential, systems, 291
room, 279
self-contained, system, 278
of sound, 333
of steam heating systems, 560
of temperature, 275, 511, 723
unit, 286
of vacuum pumps, 80, 515, 705, 717, 789
zone, 280
Convection, 564
Convectors, 533, 538, 789
A.S.H.V.E. code for, 541
connections for, 592
correction rating factors, 541
design of, 539
gravity, 533
heat emission by, 523, 540
heating capacity, 540
performance characteristics, 540
selection, 540
Conversion burners, 516
Conversion equations, 801
Coolers,
surface, 192
types of, 211
unit, 236, 253
Cooling, 11, 24
with central fan heating systems, 440
design, system, 441
effect, 10
effective temperatures for, 82
by electric refrigeration, 51, 722
equipment, design of, 224
evaporative, 185, 197, 219
of fluids, 225
of human body, 159
load, 157
with mechanical warm air systems, 441
methods, 185, 195, 440
ponds, 227
railway air conditioning, 401
relative humidities for, 82
towers, 206, 209, 224
units, thermostatic control, 287
water, 224
Copper pipe, 624
Corrosion,
of boilers, 460
of industrial exhaust systems, 395
protective materials, 396
inhibitors, 643
of pipe, 642
tester, 643
Costs,
of district heating service, 700
of electrical heating, 725
of railway air conditioning, 407
of unit conditioners, 270
Crack, window, 134
Cyclone dust collector, 393

D

Dalton, law of partial pressures, 1
Damper, dampers,
apparatus which operates, 275
control, 88
in duct systems, 433
motors, 277
types of, 433
with unit ventilators, 248
Decibel, 333, 790
Definitions, 82
Degree-day, 790
base temperature for, 526
methods of estimating fuel consumption, 523
records for cities, 524
Degrees, perspiration, 77, 79
Dehumidification, 11, 217
effective temperatures for, 82
methods of, 185, 198, 258
by refrigeration, 198
relative humidities for, 82
Dehumidifier, dehumidifiers, 198
alumina, 200
in central air conditioning systems, 187
in industrial air conditioning, 221
silica gel, 199
types of, 222
Density, 3, 790
of air, 6
of saturated vapor, 12
specific, 3
of water, 27
Design temperature,
dry-bulb, 158
wet-bulb, 158, 225
Dew point, 790
relation to relative humidity, 9
temperature, 2, 277
Diameter, circular equivalents of rectangular ducts, 372
Dichlorodifluoromethane, 35, 38, 207, 225
Diesel engine, 226
Direct current motor, 761
Dirt pockets, 598
Disc fans, test code for, 320
Distribution of air, 687, (*see also Air, Distribution*)
District heating, 687