

INDEX

HEATING VENTILATING AIR CONDITIONING GUIDE 1941

Technical Data Section Chapters 1-46 and Pages 1-808

A

Abbreviations, 798

Absolute

humidity, 791
pressure, 791
temperature, 4, 791
zero, 791

Absorbents, 427, 430

process, 430
temperature, pressure, concentration, 431

Absorption systems, 454

Acceleration, 791

Acclimatization, 52

Adiabatic, 791

mixing,
of two air streams, 29
with injected water, 30
saturation, 33

Adjustable speed motors, 640

Adsorbents, 427

process, 428
temperature, pressure, concentration, 428
Agitated drier, 698

Air

change measurements, 635
chemical vitiation of, 37
circulation in drying, 703
classification of impurities, 525
dust concentrations, 528
cleaner, 791
cleaning devices, 533
classification of, 536
requirements, 534
testing, 535
combustion, 146
conditioning processes, 27
cooled condensers, 457
currents, 633
dehumidification, 506
distribution, 363, 557
balancing system, 570
for cooling, 380

Air (continued)

definitions, 557
factors in room cooling, 562
factors in room heating, 564
for furnace systems, 363
for heating, 379
railway car, 666
standards for, 559
duct design, 571
dust concentrations, 528
excess, 147
filter
railway car, 667
flow resistance of coils, 483
infiltration, 101
nature of, 101
through walls, 102
leakage, 101
moist, 8
movement, influence of, 65
movement, measurement of, 631
physical impurities in, 40
pollution, 525, 528
abatement, 530
saturated, 9, 796
secondary, 148
space conductance, 73
standard, 796
sterilization of, 656
supply opening noise, 564
thermodynamics of, 1
washers, 501, 540, 791

Air conditioning, 791

automobiles in summer, 670
central system for comfort, 373
comfort, 792
in hospitals, 664
industrial, 673
atmospheric conditions required, 673
calculations, 682
classification of problems, 676
general requirements, 676
passenger bus in summer, 669
railway passenger car in summer, 667
railway passenger car in winter, 667

ALPHABETICAL INDEX TO TECHNICAL DATA SECTION

Air Conditioning (continued)

relation to metabolism, 49
transportation, 665
in treatment of disease, 653
high temperature hazards, 660
unit, 407
Allergic disorders, 661
apparatus, 661
asthma symptoms, 661
hay fever symptoms, 661
limitations of air conditioning methods, 662
Alternating current motors, 641
Aluminum oxide, 427
Ammonia, 444
Anemometer, 791
deflecting vane, 633
propelling, 634
revolving vane, 634
Anthracite coal, 153
firing methods, 154
Areas of circles, 808
Aspect ratio, 558
Asthma symptoms, 661

Atmospheric

conditions for industrial processes, 673
pressure, 791
water cooling equipment, 507
make-up water, 523
sizes, 511
winter freezing, 524
Atomizing humidifiers, 505

Attic

fans, 423
costs, 424
location, 424
types, 424

Automatic controls, 365, 603 (see Controls)

purpose of, 603
types of, 604
Automobile air conditioning, 670
Axial flow fans, 543

B

Baffle, 791

Barometer, 629

Biochemical reactions,

control of rate of, 680

Bituminous coal, 154

firing methods, 156

Black body,

conditions, 728

radiation, 765

Blast, 791

Body

adaptation to cold conditions, 47
adaptation to hot conditions, 45
thermal interchanges, 41

Boiler, boilers, 791

capacity for unit heaters, 393
cast-iron, 221
cleaning steam, 236
connections, 234, 280
Hartford return, 280
return, 280
steam, 280

Boiler (continued)

sizing, 281
efficiency, 228
electric, 753
erection, 235
fittings, 234
furnace design, 224
gas-fired, 223
conversions, 233
selection of, 232
gas-fired units, 199
heat transfer rates, 226
heating, 221
heating surface, 225, 791
hot water heating allowance, 788
hot water supply, 224
insulation, 238
maintenance, 235
oil-fired units, 195
operation, 235
output, 227
physical limitations of, 283
rating codes, 226
selection of, 228
based on heating surface and grate area, 231
estimated design load, 228
estimated maximum load, 228
gas-fired, 232
hot water supply load, 229
performance curves for, 230
piping tax, 229
radiation load, 229
warming up allowance, 230
space limitations, 233
special heating, 223
steel, 222
selection of, 232
stoker-fired units, 188
testing codes, 226
troubles, 236
Boyle's law, 4
British
equivalent temperature, 761
thermal unit, 791
Bucket trap, 265
Building, buildings, 107
condensation, 98
materials, heat transfer through, 637
multi-story, air leakage, 107
Bus air conditioning, 669
ventilation, 669
By-pass, 792

C

Calcium chloride, 430

Calculated heat loss method, 206

Calorie, 792

Caloric value, 145

Capacitor motors, 642

Carbon dioxide, 448

Carbon monoxide

measurements, 638

Ceilings

high, 114

Central air conditioning systems, 373, 792

classification of, 373
control, 608
cooling load calculations, 378
design conditions, 377