

HEATING VENTILATING AIR CONDITIONING GUIDE 1940

Insulation (continued)

- duct, 683
- low temperature, 697
- pipe, 683
- conductivity, 691
- economical thickness, 701
- to prevent freezing, 700
- underground, 703
- of vibration, 565
- Intermittently heated buildings, 135
- Interstitial condensation, 92
- Ionization, 48
- Iron elbow equivalents, 318
- Isobaric, 779
- Isothermal, 779

J-K-L

- Kata-thermometer, 769
- Laminate, 38
- Latent heat, 31, 49, 57
- of water, 30
- Laws of thermodynamics, 779
- Leader pipe sizes, 350
- Leakage of air, 117
- Light heat gain, 153
- Lignite, (see Coal)

Liquid

- adsorbents, 40
- heat of, 778
- Lithium chloride, 41
- systems, 452
- Load,
 - cooling, 141
 - factors, 238, 737
 - heating, 127
- Loudness, 562
- level, 537

M

- Magazine feed boiler, 241
- Manholes, 727
- Manometer, 779
- Manufactured gas, (see Gaseous fuels)
- Mass, 779
- Mb, 779
- Mbh, 779
- Mean radiant temperature, 67, 716

Mechanical

- circulators, 312
- draft, 180
- towers, 502
- efficiency, 517
- equivalent of heat, 779
- furnace systems, 363
- air distribution, 367
- automatic controls, 361
- cooling methods, 375
- ducts, 369
- fans, 366
- filters, 366
- heavy duty, 373
- humidification, 373
- method of design, 369
- motors, 366
- sound control, 366
- stokers, 199
- Mercurial thermometers, 763

- Metabolic,
 - processes, 45
 - rate, 57
- Metabolism, 49, 57

Meters

- condensation, 731, 735
- differential, 734
- flow, 735
- fluid, 734
- Nicholl's heat, 773
- orifice, 737
- positive, 734
- sound level, 562
- vacuum condensation, 736
- Venturi, 768
- water disc, 747
- Methyl chloride, 34
- Micromanometers, 767
- Micron, 77, 505, 779
- Microphone, 562
- Mineral particles, 77
- Mists, 77
- Moisture,
 - capillary, 623
 - content, 599
 - equilibrium, 623
 - hygroscopic, 623
- Mol, 779
- Monofluorotrichloromethane, 36
- Motors, 366
- damper, 651
- heat generated, 153
- for industrial exhaust systems, 617

Motors, electric, 135, 669

- adjustable speed, 670
- adjustable varying speed, 670
- alternating current, 671
- capacitor type, 672
- classification of, 674
- compound wound, 669
- constant speed, 670
- control equipment for, 677
- direct current, 669
- polyphase, 673
- repulsion induction, 672
- series wound, 669
- shunt wound, 669
- single phase, 672
- slip ring induction, 676
- speed characteristics, 670
- split phase, 673
- squirrel cage induction, 673
- synchronous, 677
- varying speed, 671
- Mouth spray infection, 47
- Multiple blade fans, 524

N

Natural draft, 179

- towers, 501
- Natural gas, (see Gaseous fuels)
- Natural ventilation, 639
- Nature's dust catcher, 84
- Nicholl's heat meter, 773
- Nitrogen, 157
- Noise, 561
- acceptable levels, 563
- apparatus for measuring, 562
- coefficients, 572
- created by equipment, 564
- fan, 523
- kinds of, 564
- levels, 562
- reduction, 570
- transmitted through ducts, 569
- unit of measurement, 561

ALPHABETICAL INDEX TO TECHNICAL DATA SECTION

O

- Occlusion of solar radiation, 82
- Odors, 46
- human body, 46
- Oil,
 - burner control, 664
 - burning furnace, 364
 - estimating consumption, 234

Oil burners, 210

- boiler, 241
- boiler settings, 214
- combustion adjustments, 216
- commercial, 213
- controls, 217
- furnace design, 215
- gun type, 211
- orsat test, 216
- pot type, 211
- rotary, 211
- One-pipe supply riser, 779
- One-pipe system,
 - hot water, 779
 - steam, 779

Operating rooms, 573

- Operative temperature, 51
- Optical pyrometers, 765
- Organic matter, 45
- Orifice,
 - friction heads, 322
 - heating systems, 278
 - meter, 737
- Orsat apparatus, 773
- Oscillating ventilator, 643
- Outlet velocity for fans, 523
- Outside temperature, 127, 131
- Overhead system, 779
- Oxygen, 45, 157
- Oxygen therapy, 581
- chambers, 582
- tents, 581
- Ozone, 48

P

Panel radiator, 779

- Panel warming, 779
- Pathogenic organisms, 48
- Perforated ceiling, 542
- Petroleum coke, 168
- Petterson-Palmquist apparatus, 771
- Phon, 561
- Physiological principles, 45
- Pilot thermostat, 655

Pipe, piping, 327

- anchoring, 335
- capacities, 295
- cast, ferrous, 328
- coil connections, 306
- conduit, 727
- copper, 328
- corrosion, 346
- dimensions, 328
- equivalent length of run, 292
- expansion, 332
- flanges, 343
- flexibility, 332
- hangers, 336
- insulation, 683
- economical thickness, 701

Pipe (continued)

- to prevent freezing, 700
- underground, 703
- maximum velocity, 290
- pressure drop, 290
- refrigerant sizes, 444
- sizes, 290, 294, 726
- effect of reaming, 293
- effect of smoothness, 293
- Hartford return connection, 300
- for hot water heating systems, 312
- indirect heating units, 305
- one-pipe gravity air-vent system, 294
- one-pipe steam systems, 291
- orifice systems, 299
- for steam heating systems, 287
- sub-atmospheric systems, 299
- two-pipe gravity air-vent system, 298
- two-pipe steam systems, 291
- two-pipe vapor systems, 298
- vacuum systems, 299
- supports, 336
- tax, 247
- thermal expansion, 335
- thread connections, 338
- threads, 335
- tunnels, 730
- water supply, 741
- weights, 332
- welded, 327
- wrought-iron, 327
- wrought-steel, 327

Pipe coils, 257

- heat emission, 259
- wall, 258
- Piston displacement vacuum pumps, 283
- Pitot tube, 767
- Plenum chamber, 780
- Plumbing fixture flow, 743
- Pneumatic control systems, 652
- Pneumonia, 48
- pollen, 77, 505
- Pollution, 77
- Polyphase motors, 673
- Pot type oil burner, 211
- Potentiometer, 780
- Pour point oil temperature, 174
- Power, 780
- fan motive, 527
- Precipitators, 512
- Premature infant nurseries, 576
- air conditions, 576
- equipment, 577
- humidity, 576

Pressure

- absolute, 775
- atmospheric, 775
- barometer, 766
- controllers, 651
- gages, 766
- loss through water meters, 747
- measurement, 765
- reducing valves, 302
- suction, hoods, 608
- velocity, 782
- Prime surface (see Heating surface)
- Primary air, 163
- Propeller anemometer, 770
- Propeller fan, 515
- Psychrometer, 75, 780
- Pulse rate, 54
- Pulverized coal, 172
- Pumps, 280
- condensation, 280
- piston displacement vacuum, 283
- vacuum, 281
- Purchased steam, 725
- Pyrometers, 765, 780
- optical, 765
- radiation, 765