| | | |
|---|---|---|
| 1 atmosphere | = | 14.696 lb per square inch<br>2116 lb per square foot<br>33.94 ft water at 62 F<br>30.01 in. mercury at 62 F<br>29.921 in. mercury at 32 F |
| 1 in. water at 62 F (in vacuo) | = | 0.03609 lb per square inch<br>0.5774 oz per square inch<br>5.197 lb per square foot |
| 1 ft water at 62 F (in vacuo) | = | 0.4330 lb per square inch<br>62.37 lb per square foot |
| 1 in. mercury at 62 F (in vacuo) | = | 0.4897 lb per square inch<br>7.835 oz per square inch<br>1.131 ft water at 62 F<br>13.57 in. water at 62 F |
| 1 in. mercury at 32 F (in vacuo) | = | 0.49115 lb per square inch |

## Metric Units

| | |
|---|---|
| 1 cm | = 0.3937 in. = 0.0328 ft |
| 1 in. | = 2.540 cm |
| 1 m | = 3.281 ft |
| 1 ft | = 0.3048 m |
| 1 sq cm | = 0.1550 sq in. |
| 1 sq in. | = 6.452 sq cm |
| 1 sq m | = 10.76 sq ft |
| 1 sq ft | = 0.09290 sq m |
| 1 cu cm | = 0.06102 cu in. |
| 1 cu in. | = 16.39 cu cm |
| 1 cu m | = 35.31 cu ft |
| 1 cu ft | = 0.02832 cu m |
| 1 liter | = 1000 cu cm = 0.2642 gal |
| 1 kg | = 2.205 lb (avdp) |
| 1 lb | = 0.4536 kg |
| 1 metric ton | = 2205 lb (avdp) |
| 1 gram | = 0.002205 lb (avdp) |
| 1 kilometer per hour | = 0.6214 mph |
| 1 gram per square centimeter | = 0.02905 in. mercury at 62 F<br>0.3942 in. water at 62 F |
| 1 kg per sq cm (metric atmosphere) | = 14.22 lb per square inch |
| 1 gram per cubic centimeter | = 0.03613 lb per cubic inch<br>62.43 lb per cubic foot |
| 1 dyne | = 0.00007233 poundals |
| 1 absolute joule | = 10,000,000 ergs<br>0.7376 ft-lb |
| 1 Int. joule | = 0.7378 ft-lb |
| 1 metric horsepower | = 75 kg-m per second<br>0.986 hp (U. S.) |
| 1 I.T. kilocalorie per kilogram | = 1.8 Btu per pound |
| 1 I.T. calorie per square centimeter | = 3.687 Btu per square foot |
| 1 I.T. calorie per (second) (square centimeter) for a temperature gradient of 1 C deg per centimeter | = 2903 Btu per (hour) (square foot) for a temperature gradient of 1 F deg per inch of thickness. |



## GRAPHICAL SYMBOLS FOR DRAWINGS[6]

### Graphical Symbols for Drawings — *Piping*

**HEATING**

1. High Pressure Steam
2. Medium Pressure Steam
3. Low Pressure Steam
4. High Pressure Return
5. Medium Pressure Return
6. Low Pressure Return
7. Boiler Blow Off
8. Condensate or Vacuum Pump Discharge
9. Feedwater Pump Discharge
10. Make Up Water
11. Air Relief Line
12. Fuel Oil Flow — FOF
13. Fuel Oil Return — FOR
14. Fuel Oil Tank Vent — FOV
15. Compressed Air — A
16. Hot Water Heating Supply
17. Hot Water Heating Return

**AIR CONDITIONING**

18. Refrigerant Discharge — RD
19. Refrigerant Suction — RS
20. Condenser Water Flow — C
21. Condenser Water Return — CR
22. Circulating Chilled or Hot Water Flow — CH
23. Circulating Chilled or Hot Water Return — CHR
24. Make Up Water
25. Humidification Line — H
26. Drain — D
27. Brine Supply — B
28. Brine Return — BR

**PLUMBING**

29. Soil, Waste or Leader (Above Grade)
30. Soil, Waste or Leader (Below Grade)
31. Vent
32. Cold Water
33. Hot Water
34. Hot Water Return
35. Fire Line — F
36. Gas — G
37. Acid Waste — ACID
38. Drinking Water Flow
39. Drinking Water Return
40. Vacuum Cleaning — V
41. Compressed Air — A

**SPRINKLERS**

42. Main Supplies — S
43. Branch and Head
44. Drain — S

[6]Graphical Symbols for Use on Drawings in Mechanical Engineering, Z32.2-1941 (*American Standards Association*).