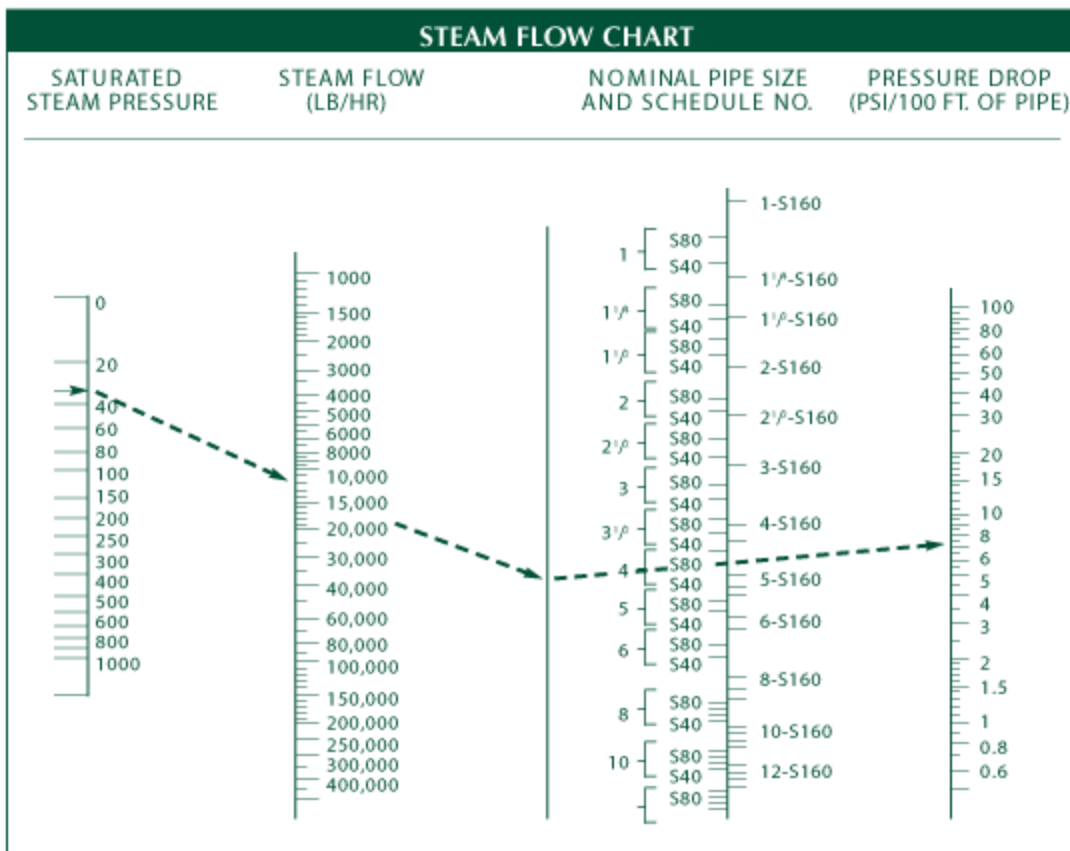


PRESSURE	
PSI	KPA
1	6.9
5	34.5
10	68.9
15	103.4
50	344.5
100	689.0
125	861.3
145	1,000
150	1,033
200	1,378
300	2,067
500	3,445
600	4,134
1,000	6,890
0.145	1
4.02" H ₂ O	1

PSIG	F	WATER BTU/LB	STEAM BTU/LB
0	212	180	1150
5	227	196	1156
10	240	208	1161
15	250	219	1164
50	298	268	1179
100	338	309	1190
125	353	325	1193
150	366	339	1196
200	388	362	1199
300	421	399	1203
500	470	453	1204
600	489	475	1203
1,000	546	544	1191

F	C
-450	-273
-40	-40
0	-17.8
32	0
72	22
80	27
90	32
100	38
200	93
300	149
400	204
500	260
600	316
800	427
1,000	538



COMMON CONVERSIONS

BRAKE HORSEPOWER = 745.7 Watts
= 2544.5 BTU/hr
= 550 ft-lb./sec
= 13.16 boiler horsepower

BOILER HORSEPOWER = 34.5 lbs./hr
1 Watt-sec = 1 Joule
1 KJoule = 0.948 BTU
1 cu m = 35.3145 cu. ft.
1 psi = 27.7 in. H₂O at 4 C

1 cu. ft. of water weighs 62.4 lbs. at 4 C
1 Imp. gallon of water weighs 10 lbs.
1 L of water weighs 1 kg at 4 C
1 sq. ft. of 1/4" steel plate weighs approx. 10 lbs.

BOILER FACTS

When burning natural gas there are 100 lbs. of water in flue gas per 1 million BTUs of gas burned.

Combustion of 1lb. of natural gas uses 17 lbs. of air.

Steel pipe expands 2.3" per 100' when heated from 70 F (room temperature) to 350 F.

A normal economizer reduces FGT (flue gas temperature) by 40 F for each 1% of efficiency gained and increases feed water temperature by 10 F.

Dew point of flue gases from natural gas fire is approximately 135 F.