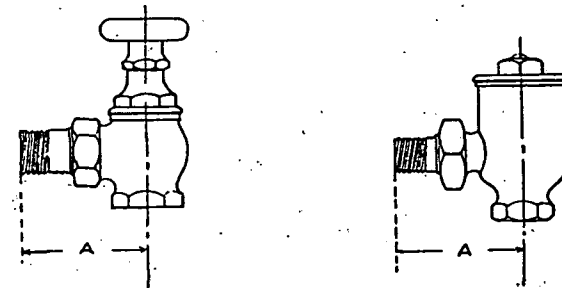


TABLE 2. EXTRA STRONG WROUGHT PIPE
Table of Standard Dimensions

SIZES INCHES	DIAMETERS		NOMINAL THICKNESS INCHES	CIRCUMFERENCE		TRANSVERSE AREA			LENGTH OF PIPE PER SQUARE FOOT OF		LENGTH OF PIPE CONTAINING ONE CUBIC FOOT PER	NOMINAL WEIGHT PER FOOT PLAIN ENDS POUNDS
	External Inches	Approximate Internal Inches		External Inches	Internal Inches	External Sq. In.	Internal Sq. In.	Metal Sq. In.	External Surface	Internal Surface		
1/8	0.405	0.215	0.095	1.272	0.675	0.129	0.036	0.093	9.431	17.766	3966.392	0.314
1/4	0.540	0.302	0.119	1.696	0.949	0.229	0.072	0.157	7.073	12.648	2010.290	0.535
3/8	0.675	0.423	0.126	2.121	1.329	0.358	0.141	0.217	5.658	9.030	1024.689	0.738
1/2	0.840	0.546	0.147	2.639	1.715	0.554	0.234	0.320	4.547	6.995	615.017	1.087
5/8	1.050	0.742	0.154	3.299	2.331	0.866	0.433	0.433	3.637	5.147	333.016	1.473
3/4	1.315	0.957	0.179	4.131	3.007	1.358	0.719	0.639	2.904	3.991	200.193	2.171
1	1.660	1.278	0.191	5.215	4.015	2.164	1.283	0.881	2.301	2.988	112.256	2.996
1 1/4	1.900	1.500	0.200	5.969	4.712	2.835	1.767	1.068	2.010	2.546	81.487	3.631
1 1/2	2.375	1.939	0.218	7.461	6.092	4.430	2.953	1.477	1.608	1.969	48.766	5.022
2	2.875	2.323	0.276	9.032	7.298	6.492	4.238	2.254	1.328	1.644	33.976	7.661
2 1/2	3.500	2.900	0.300	10.996	9.111	9.621	6.605	3.016	1.091	1.317	21.801	10.252
3	4.000	3.364	0.318	12.566	10.568	12.566	8.888	3.678	0.954	1.135	16.202	12.505
3 1/2	4.500	3.826	0.337	14.137	12.020	15.904	11.497	4.407	0.848	0.998	12.525	14.983
4	5.000	4.290	0.355	15.708	13.477	19.635	14.455	5.180	0.763	0.890	9.962	17.611
4 1/2	5.563	4.813	0.375	17.477	15.120	24.306	18.194	6.112	0.686	0.793	7.915	20.778
5	6.625	5.761	0.432	20.813	18.099	34.472	26.067	8.405	0.576	0.663	5.524	28.573
6	7.625	6.625	0.500	23.955	20.813	45.664	34.472	11.192	0.500	0.576	4.177	38.048
7	8.625	7.625	0.500	27.096	23.955	58.426	45.663	12.763	0.442	0.500	3.154	43.388
8	9.625	8.625	0.500	30.238	27.096	72.760	58.426	14.334	0.396	0.442	2.464	48.728
9	10.750	9.750	0.500	33.772	30.631	90.763	74.662	16.101	0.355	0.391	1.929	54.735
10	11.750	10.750	0.500	36.914	33.772	108.434	90.763	17.671	0.325	0.355	1.587	60.075
11	12.750	11.750	0.500	40.055	36.914	127.676	108.434	19.242	0.299	0.325	1.328	65.415

corrosion under water, although under atmospheric exposure the influence of composition is sometimes more marked.

In practice, oxygen removal has been accomplished in two ways, namely; by de-aerating the water mechanically; and by fixing the free oxygen by chemical combination. Suitable apparatus is now being manufactured for this purpose.

FIG. 2. STANDARD ROUGHING-IN DIMENSIONS
Angle Type Valves

SIZE OF VALVE	DIMENSION A STREAM AND HOT WATER ANGLE VALVES AND UNION ELBOWS EFFECTIVE JAN. 1, 1926	DIMENSION A MODULATING VALVES EFFECTIVE JAN. 1, 1926	DIMENSION A RETURN LINE VACUUM VALVES EFFECTIVE JAN. 1, 1925
1/8"	2 1/4"	2 3/4"	3 1/4"
1/4"	2 3/4"	2 3/4"	
3/8"	3"	3"	
1"	3 1/2"	3 1/2"	
1 1/4"	3 3/4"	3 3/4"	
1 1/2"	4"	4"	
2"			
Tolerance	± 1/8"	± 1/8"	

The standardization of the Roughing-in Dimensions of Angle Steam and Hot Water, and Modulating Radiator Valves was made possible by the cooperation of the Manufacturers Standardization Society of the Valves and Fittings Industry.

Tables 1 and 2 give the important physical properties of Standard and Extra Heavy Wrought Pipe.

Copper and Brass Pipe

Copper and brass tubing are commonly stocked and supplied in sizes varying from 1/8 to 10 in. o. d. and in gages from 2 to 25 B. & S. and Stubbs.

Copper and brass pipes are stocked and supplied in standard, extra heavy and double extra heavy iron pipe thicknesses and sizes. See Tables 1 and 2. Both tubing and piping are usually stocked in 12 ft. lengths, and can be obtained in lengths from 2 to 20 ft. or more if required.

The serviceability and usefulness of brass piping is due principally to its inherent resistance to corrosion. For this reason it is used for boiler