

SIZING OF STEAM PIPES

Sizing of Steam Pipes												
Capacity (kg/h)												
Gauge Pressure (bar)	Steam Velocity (m/s)	Nominal Pipe Size (mm)										
		15	20	25	32	40	50	65	80	100	125	150
		Inside Diameter (mm)										
		15.8	20.9	26.6	35.0	40.9	52.5	62.7	77.9	102.3	128.2	154.1
0.4	15	9	15	24	42	57	95	135	208	359	564	815
	25	14	25	41	70	96	158	225	347	598	940	1358
	40	23	40	65	112	153	252	360	555	958	1504	2173
0.5	15	9	16	26	45	61	101	144	222	383	602	869
	25	15	27	43	75	102	168	240	370	638	1003	1449
	40	24	43	69	120	163	269	384	592	1021	1604	2318
0.7	15	10	18	29	51	69	113	162	250	431	676	977
	25	17	30	49	84	115	189	270	416	718	1127	1628
	40	27	48	78	135	184	302	431	666	1148	1803	2605
0.9	15	11	20	32	56	76	126	179	277	478	750	1084
	25	19	33	54	93	127	210	299	462	796	1250	1806
	40	30	53	86	149	204	335	478	738	1274	2000	2890
1	15	12	21	34	59	80	132	188	291	501	787	1137
	25	20	35	57	98	133	220	314	484	835	1312	1895

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	40	32	56	91	157	214	352	502	775	1336	2099	3032
2	15	17	31	50	86	117	193	275	425	733	1151	1663
	25	29	51	83	143	195	322	459	708	1221	1918	2771
	40	47	82	133	229	312	515	734	1133	1954	3069	4434
3	15	23	40	65	113	153	253	361	557	960	1508	2178
	25	38	67	109	188	256	421	601	928	1600	2513	3631
	40	61	107	174	300	409	674	962	1485	2560	4021	5809
4	15	28	50	80	139	189	312	445	687	1185	1860	2688
	25	47	83	134	232	316	520	742	1145	1974	3101	4480
	40	75	132	214	371	505	832	1187	1832	3159	4961	7168
5	15	34	59	95	165	225	371	529	816	1407	2210	3193
	25	56	98	159	275	375	618	881	1360	2345	3683	5321
	40	90	157	254	440	600	988	1409	2176	3752	5892	8514
6	15	39	68	110	191	260	429	611	944	1628	2556	3693
	25	65	114	184	318	434	714	1019	1573	2713	4260	6155
	40	104	182	294	509	694	1143	1630	2517	4340	6816	9848
7	15	44	77	125	217	295	487	694	1071	1847	2901	4192
	25	73	129	209	361	492	811	1157	1785	3079	4835	6986
	40	118	206	334	578	787	1297	1851	2856	4926	7736	11178
8	15	49	86	140	242	330	544	776	1198	2066	3245	4688
	25	82	144	234	404	550	907	1294	1997	3444	5408	7814

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		Inside Diameter (mm)										
		15.8	20.9	26.6	35.0	40.9	52.5	62.7	77.9	102.3	128.2	154.1
	40	131	231	374	646	881	1451	2070	3195	5510	8653	12502
10	15	60	105	170	294	400	659	940	1451	2502	3930	5678
	25	99	175	283	489	667	1098	1567	2418	4171	6550	9464
	40	159	279	453	783	1067	1758	2507	3869	6673	10480	15142
14	15	80	141	229	396	539	888	1266	1955	3371	5295	7650
	25	134	235	381	659	898	1480	2111	3258	5619	8825	12750
	40	214	376	610	1055	1437	2368	3377	5213	8991	14119	20401

The values above are calculated for steel pipes medium thickness schedule 40. Using other standards with different inside diameters, the values above should be compensated.

Example - Capacity of 50 mm Steam Pipe

The capacity of a 50 mm steam pipe with 10 bar pressure and steam velocity 25 m/s is 1098 kg/h.