

## METRIC TO IMPERIAL ASME/API PIPE, VALVES, FLANGES CONVERSION

When the industry moved from imperial to metric, an approximate metric equivalent “nominal bore” was allocated in mm (also called “DN”). Because pipe, valve and flange I.D.’s vary, a nominal size is used in imperial and metric. You will notice some sizes below are included despite not used by ASME, this is because the same NB/DN size “code” is used for EN/BS sizes as well. The new metric Australian versions of adopted British Standards also use the same NB/DN metric size range. For instance AS 2129, AS 4087 still uses the same 50NB for 2” as example. This is the reason the metric equivalents never attempted to use a more exacting mm size as US and British adopted pipe sizes were different O.D. and I.D.

Imperial Nominal Bore All Steels	Metric Nominal Bore All Steels
1/8"	6mm
1/4"	8mm
3/8"	10mm
1/2"	15mm
3/4"	20mm
1"	25mm
1 1/4"	32mm
1 1/2"	40mm
2"	50mm
2 1/2"	65mm
3"	80mm
4"	100mm
5"	125mm
6"	150mm
7"	175mm
8"	200mm
9"	225mm
10"	250mm
11"	275mm
12"	300mm
14"	350mm
16"	400mm
18"	450mm
20"	500mm
22"	550mm
24"	600mm
26"	650mm
28"	700mm
30"	750mm
32"	800mm
36"	900mm
40"	1000mm

The below table shows ASME/ANSI pipe O.D. sizes which is actual, not nominal, and relates to the pipe itself.

<b>NOMINAL PIPE TO FRACTION TO DECIMAL TO METRIC CONVERSION</b>											
NOMINAL ASME PIPE	INCHES OD		METRIC OD	NOMINAL ASME PIPE	INCHES OD		METRIC OD	NOMINAL ASME PIPE	INCHES OD		METRIC OD
	FRACTION	DECIMAL	mm		FRACTION	DECIMAL	mm		FRACTION	DECIMAL	mm
	.	0.0394	1.0000	1		1.315	33.4009		.	3.0315	77.0000
	1/16	0.0625	1.5875		.	1.3386	34.0000		.	3.0709	78.0000
	.	0.0787	2.0000		.	1.3780	35.0000		.	3.1102	79.0000
	.	0.1181	3.0000		.	1.4173	36.0000		.	3.1496	80.0000
	1/8	0.1250	3.1750		.	1.4567	37.0000		.	3.1890	81.0000
	.	0.1575	4.0000		.	1.4961	38.0000		.	3.2283	82.0000
	3/16	0.1875	4.7625		1-1/2	1.5000	38.1000		.	3.2677	83.0000
	.	0.1969	5.0000		.	1.5354	39.0000		.	3.3071	84.0000
	.	0.2362	6.0000		.	1.5748	40.0000		.	3.3465	85.0000
	1/4	0.2500	6.3500		.	1.6142	41.0000		.	3.3858	86.0000
	.	0.2756	7.0000		.	1.6535	42.0000		.	3.4252	87.0000
	5/16	0.3125	7.9375	1-1/4		1.660	42.1639		.	3.4646	88.0000
	.	0.3150	8.0000		.	1.6929	43.0000	3	3-1/2	3.5000	88.9000
	.	0.3543	9.0000		.	1.7323	44.0000		.	3.5039	89.0000
	3/8	0.3750	9.5250		1-3/4	1.7500	44.4500		.	3.5433	90.0000
	.	0.3937	10.0000		.	1.7717	45.0000		.	3.5827	91.0000
1/8		0.405	10.287		.	1.8110	46.0000		.	3.6220	92.0000
	.	0.4331	11.0000		.	1.8504	47.0000		.	3.6614	93.0000
	7/16	0.4375	11.1125		.	1.8898	48.0000		.	3.7008	94.0000
	.	0.4724	12.0000	1-1/2		1.900	48.2600		.	3.7402	95.0000
	1/2	0.5000	12.7000		.	1.9291	49.0000		.	3.7795	96.0000
	.	0.5118	13.0000		.	1.9685	50.0000		.	3.8189	97.0000
1/4		0.540	13.7160		2	2.0000	50.8000		.	3.8583	98.0000
	.	0.5512	14.0000		.	2.0079	51.0000		.	3.8976	99.0000
	9/16	0.5625	14.2875		.	2.0472	52.0000		.	3.9370	100.0000
	.	0.5906	15.0000		.	2.0866	53.0000	3-1/2	4	4.0000	101.6000
	5/8	0.6250	15.8750		.	2.1260	54.0000		.	4.3307	110.0000
	.	0.6299	16.0000		.	2.1654	55.0000	4	4-1/2	4.5000	114.3000
	.	0.6693	17.0000		.	2.2047	56.0000		.	4.7244	120.0000
3/8		0.675	17.145		.	2.2441	57.0000		5	5.0000	127.0000
	11/16	0.6875	17.4625		2-1/4	2.2500	57.1500		.	5.1181	130.0000
	.	0.7087	18.0000		.	2.2835	58.0000		.	5.5118	140.0000
	.	0.7480	19.0000		.	2.3228	59.0000	5		5.563	141.3002
	3/4	0.7500	19.0500		.	2.3622	60.0000		.	5.9055	150.0000
	.	0.7874	20.0000	2		2.3750	60.3249		6	6.0000	152.4000
	13/16	0.8125	20.6375		.	2.4016	61.0000		.	6.2992	160.0000
	.	0.8268	21.0000		.	2.4409	62.0000	6		6.625	168.2750
1/2		0.840	21.336		.	2.4803	63.0000		.	6.6929	170.0000
	.	0.8661	22.0000		2-1/2	2.5000	63.5000		.	7.0866	180.0000
	7/8	0.8750	22.2250		.	2.5197	64.0000		.	7.4803	190.0000
	.	0.9055	23.0000		.	2.5591	65.0000		.	7.8740	200.0000
	15/16	0.9375	23.8125		.	2.5984	66.0000		8	8.0000	203.2000
	.	0.9449	24.0000		.	2.6378	67.0000	8		8.625	219.075
	.	0.9843	25.0000		.	2.6772	68.0000		.	9.8425	250.0000
	1	1.0000	25.4000		.	2.7165	69.0000		10	10.0000	254.0000
3/4		1.0236	26.0000		2-3/4	2.7500	69.8500	10		10.750	273.0500
	.	1.050	26.6700		.	2.7559	70.0000	12		12.750	323.850
	.	1.0630	27.0000		.	2.7953	71.0000	14	14	14.0000	355.600
	.	1.1024	28.0000		.	2.8346	72.0000	16	16	16.0000	406.400
	.	1.1417	29.0000		.	2.8740	73.0000	18	18	18.0000	457.200
	.	1.1811	30.0000	2-1/2		2.875	73.0249	20	20	20.0000	508.000
	.	1.2205	31.0000		.	2.9134	74.0000	24	24	24.0000	609.600
	1-1/4	1.2500	31.7500		.	2.9528	75.0000	30	30	30.0000	762.000
	.	1.2598	32.0000		.	2.9921	76.0000	36	36	36.0000	914.400
	.	1.2992	33.0000		3	3.0000	76.2000	48	48	48.0000	1219.200

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