# ANSI/ASME B36.19/B36.10

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal Bore | | Outside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter | Wall Thickness | Inside Diameter |
| 1/8 | ins | 0·405 | | | 0·049 | 0·307 | | | | | 0·068 | 0·269 | 0·068 | 0·269 | 0·095 | 0·215 | 0·095 | 0·215 | | | | |
| | mm | 10·29 | | | 1·24 | 7·81 | | | | | 1·73 | 6·83 | 1·73 | 6·83 | 2·41 | 5·47 | 2·41 | 5·47 | | | | |
| 1/4 | ins | 0·540 | | | 0·065 | 0·410 | | | | | 0·088 | 0·364 | 0·088 | 0·364 | 0·119 | 0·302 | 0·119 | 0·302 | | | | |
| | mm | 13·72 | | | 1·65 | 10·42 | | | | | 2·24 | 9·24 | 2·24 | 9·24 | 3·02 | 7·68 | 3·02 | 7·68 | | | | |
| 3/8 | ins | 0·675 | | | 0·065 | 0·545 | | | | | 0·091 | 0·493 | 0·091 | 0·493 | 0·126 | 0·423 | 0·126 | 0·423 | | | | |
| | mm | 17·15 | | | 1·65 | 13·85 | | | | | 2·31 | 12·53 | 2·31 | 12·53 | 3·20 | 10·75 | 3·20 | 10·75 | | | | |
| 1/2 | ins | 0·840 | 0·065 | 0·710 | 0·083 | 0·674 | | | | | 0·109 | 0·622 | 0·109 | 0·622 | 0·147 | 0·546 | 0·147 | 0·546 | 0·187 | 0·466 | 0·294 | 0·252 |
| | mm | 21·34 | 1·65 | 18·04 | 2·11 | 17·12 | | | | | 2·77 | 15·80 | 2·77 | 15·80 | 3·73 | 13·88 | 3·73 | 13·88 | 4·75 | 11·84 | 7·47 | 6·40 |
| 3/4 | ins | 1·050 | 0·065 | 0·925 | 0·083 | 0·884 | | | | | 0·113 | 0·824 | 0·113 | 0·824 | 0·154 | 0·742 | 0·154 | 0·742 | 0·218 | 0·614 | 0·308 | 0·434 |
| | mm | 26·67 | 1·65 | 23·37 | 2·11 | 22·45 | | | | | 2·87 | 20·93 | 2·87 | 20·93 | 3·91 | 18·85 | 3·91 | 18·85 | 5·54 | 15·59 | 7·82 | 11·03 |
| 1 | ins | 1·315 | 0·065 | 1·185 | 0·109 | 1·097 | | | | | 0·133 | 1·049 | 0·133 | 1·049 | 0·179 | 0·957 | 0·179 | 0·957 | 0·250 | 0·815 | 0·358 | 0·599 |
| | mm | 33·40 | 1·65 | 30·10 | 2·77 | 27·86 | | | | | 3·38 | 26·64 | 3·38 | 26·64 | 4·55 | 24·30 | 4·55 | 24·30 | 6·35 | 20·70 | 9·09 | 15·22 |
| 1 1/4 | ins | 1·660 | 0·065 | 1·530 | 0·109 | 1·442 | | | | | 0·140 | 1·380 | 0·140 | 1·380 | 0·191 | 1·278 | 0·191 | 1·278 | 0·250 | 1·160 | 0·382 | 0·896 |
| | mm | 42·16 | 1·65 | 38·26 | 2·77 | 36·62 | | | | | 3·56 | 35·04 | 3·56 | 35·04 | 4·85 | 32·46 | 4·85 | 32·46 | 6·35 | 29·46 | 9·70 | 22·76 |
| 1 1/2 | ins | 1·900 | 0·065 | 1·770 | 0·109 | 1·682 | | | | | 0·145 | 1·610 | 0·145 | 1·610 | 0·200 | 1·500 | 0·200 | 1·500 | 0·281 | 1·338 | 0·400 | 1·100 |
| | mm | 48·26 | 1·65 | 44·96 | 2·77 | 42·72 | | | | | 3·69 | 40·88 | 3·69 | 40·88 | 5·08 | 38·10 | 5·08 | 38·10 | 7·14 | 33·98 | 10·16 | 27·94 |
| 2 | ins | 2·375 | 0·065 | 2·245 | 0·109 | 2·157 | | | | | 0·154 | 2·067 | 0·154 | 2·067 | 0·218 | 1·939 | 0·218 | 1·939 | 0·343 | 1·689 | 0·436 | 1·503 |
| | mm | 60·33 | 1·65 | 57·03 | 2·77 | 54·79 | | | | | 3·91 | 52·51 | 3·91 | 52·51 | 5·54 | 49·25 | 5·54 | 49·25 | 8·71 | 42·91 | 11·07 | 38·19 |
| 2 1/2 | ins | 2·875 | 0·083 | 2·709 | 0·120 | 2·635 | | | | | 0·203 | 2·469 | 0·203 | 2·469 | 0·276 | 2·323 | 0·276 | 2·323 | 0·375 | 2·125 | 0·552 | 1·771 |
| | mm | 73·03 | 2·11 | 68·81 | 3·05 | 66·93 | | | | | 5·16 | 62·71 | 5·16 | 62·71 | 7·01 | 59·01 | 7·01 | 59·01 | 9·53 | 53·97 | 14·02 | 44·99 |
| 3 | ins | 3·500 | 0·083 | 3·334 | 0·120 | 3·260 | | | | | 0·216 | 3·068 | 0·216 | 3·068 | 0·300 | 2·900 | 0·300 | 2·900 | 0·438 | 2·624 | 0·600 | 2·300 |
| | mm | 88·90 | 2·11 | 84·68 | 3·05 | 82·80 | | | | | 5·49 | 77·92 | 5·49 | 77·92 | 7·62 | 73·66 | 7·62 | 73·66 | 11·13 | 66·64 | 15·24 | 58·42 |
| 3 1/2 | ins | 4·000 | 0·083 | 3·834 | 0·120 | 3·760 | | | | | 0·226 | 3·548 | 0·226 | 3·548 | 0·318 | 3·364 | 0·318 | 3·364 | | | | |
| | mm | 101·60 | 2·11 | 97·38 | 3·05 | 95·50 | | | | | 5·74 | 90·12 | 5·74 | 90·12 | 8·08 | 85·44 | 8·08 | 85·44 | | | | |
| 4 | ins | 4·500 | 0·083 | 4·334 | 0·120 | 4·260 | | | | | 0·237 | 4·026 | 0·237 | 4·026 | 0·337 | 3·826 | 0·337 | 3·826 | 0·531 | 3·438 | 0·674 | 3·152 |
| | mm | 114·30 | 2·11 | 110·08 | 3·05 | 108·20 | | | | | 6·02 | 102·26 | 6·02 | 102·26 | 8·56 | 97·18 | 8·56 | 97·18 | 13·49 | 87·32 | 17·12 | 80·06 |
| 5 | ins | 5·563 | 0·109 | 5·345 | 0·134 | 5·295 | | | | | 0·258 | 5·047 | 0·258 | 5·047 | 0·375 | 4·813 | 0·375 | 4·813 | 0·625 | 4·313 | 0·750 | 4·063 |
| | mm | 141·30 | 2·77 | 135·76 | 3·40 | 134·50 | | | | | 6·55 | 128·20 | 6·55 | 128·20 | 9·53 | 122·24 | 9·53 | 122·24 | 15·88 | 100·54 | 19·05 | 103·20 |
| 6 | ins | 6·625 | 0·109 | 6·407 | 0·134 | 6·357 | | | | | 0·280 | 6·065 | 0·280 | 6·065 | 0·432 | 5·761 | 0·432 | 5·761 | 0·718 | 5·189 | 0·864 | 4·897 |
| | mm | 168·28 | 2·77 | 162·74 | 3·40 | 161·48 | | | | | 7·11 | 154·06 | 7·11 | 154·06 | 10·97 | 146·34 | 10·97 | 146·34 | 18·24 | 131·80 | 21·95 | 124·38 |
| 8 | ins | 8·625 | 0·109 | 8·407 | 0·148 | 8·329 | | | 0·250 | 8·125 | 0·322 | 7·981 | 0·322 | 7·981 | 0·500 | 7·625 | 0·500 | 7·625 | 0·906 | 6·813 | 0·875 | 6·875 |
| | mm | 219·08 | 2·77 | 213·54 | 3·76 | 211·56 | | | 6·35 | 206·38 | 8·18 | 202·72 | 8·18 | 202·72 | 12·70 | 193·68 | 12·70 | 193·68 | 23·01 | 173·06 | 22·22 | 174·64 |
| 10 | ins | 10·750 | 0·134 | 10·482 | 0·165 | 10·420 | | | 0·250 | 10·250 | 0·365 | 10·020 | 0·365 | 10·020 | 0·500 | 9·750 | 0·593 | 9·564 | 1·125 | 8·500 | | |
| | mm | 273·05 | 3·40 | 266·25 | 4·19 | 264·57 | | | 6·35 | 260·35 | 9·27 | 254·51 | 9·27 | 254·51 | 12·70 | 247·65 | 15·06 | 242·93 | 28·58 | 215·89 | | |
| 12 | ins | 12·750 | 0·156 | 12·438 | 0·180 | 12·390 | | | 0·250 | 12·250 | 0·375 | 12·000 | 0·406 | 11·938 | 0·500 | 11·750 | 0·687 | 11·376 | 1·312 | 10·126 | | |
| | mm | 323·85 | 3·96 | 315·93 | 4·57 | 314·71 | | | 6·35 | 311·15 | 9·53 | 304·79 | 10·31 | 303·23 | 12·70 | 298·45 | 17·45 | 288·95 | 33·33 | 257·19 | | |
| 14 | ins | 14·000 | 0·156 | 13·688 | 0·188 | 13·624 | 0·250 | 13·500 | 0·312 | 13·376 | 0·375 | 13·250 | 0·438 | 13·124 | 0·500 | 13·000 | 0·750 | 12·500 | 1·406 | 11·188 | | |
| | mm | 355·60 | 3·96 | 347·68 | 4·78 | 346·05 | 6·35 | 342·90 | 7·92 | 339·76 | 9·53 | 336·54 | 11·13 | 333·34 | 12·70 | 330·02 | 19·05 | 317·50 | 35·71 | 284·18 | | |
| 16 | ins | 16·000 | 0·165 | 15·670 | 0·188 | 15·624 | 0·250 | 15·500 | 0·312 | 15·376 | 0·375 | 15·250 | 0·500 | 15·000 | 0·500 | 15·000 | 0·843 | 14·314 | 1·593 | 12·814 | | |
| | mm | 406·40 | 4·19 | 398·02 | 4·78 | 396·04 | 6·35 | 393·70 | 7·92 | 390·56 | 9·53 | 387·34 | 12·70 | 381·09 | 12·70 | 381·09 | 21·41 | 363·58 | 40·46 | 325·48 | | |
| 18 | ins | 18·000 | 0·165 | 17·670 | 0·188 | 17·624 | 0·250 | 17·500 | 0·312 | 17·376 | 0·375 | 17·250 | 0·562 | 16·876 | 0·500 | 17·000 | 0·937 | 16·126 | 1·781 | 14·438 | | |
| | mm | 457·20 | 4·19 | 448·82 | 4·78 | 447·64 | 6·35 | 444·50 | 7·92 | 441·36 | 9·53 | 438·14 | 14·27 | 428·66 | 12·70 | 431·80 | 23·80 | 409·60 | 45·24 | 366·72 | | |
| 20 | ins | 20·000 | 0·188 | 19·624 | 0·218 | 19·564 | 0·250 | 19·500 | 0·375 | 19·250 | 0·375 | 19·250 | 0·593 | 18·814 | 0·500 | 19·000 | 1·031 | 17·938 | 1·968 | 16·064 | | |
| | mm | 508·00 | 4·78 | 496·44 | 5·53 | 496·94 | 6·35 | 495·30 | 9·53 | 488·94 | 9·53 | 488·94 | 15·06 | 477·88 | 12·70 | 482·60 | 26·19 | 455·62 | 48·99 | 408·02 | | |
| 24 | ins | 24·000 | 0·218 | 23·564 | 0·250 | 23·500 | 0·250 | 23·500 | 0·375 | 23·250 | 0·375 | 23·250 | 0·687 | 22·626 | 0·500 | 23·000 | 1·218 | 21·564 | 2·343 | 19·314 | | |
| | mm | 609·60 | 5·54 | 598·52 | 6·35 | 596·90 | 6·35 | 596·90 | 9·53 | 590·54 | 9·53 | 590·54 | 17·45 | 574·70 | 12·70 | 584·20 | 30·94 | 547·72 | 59·51 | 490·58 | | |