FAIRBANKS MORSE
DEFENSE

American Fan

# INDUSTRIAL FANS & BLOWERS

## Product Catalog

americanfan.com

# INDUSTRIAL FANS & BLOWERS PRODUCT CATALOG

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# American Fan Overview

American Fan provides air movement solutions with Axial and Centrifugal Fans and Blowers for industrial, commercial, and marine/offshore applications worldwide. We are the primary supplier of shock-qualified fans for U.S. Navy surface ships, and its products and services are specified in 30 U.S. Navy shipbuilding programs, including LCS, LPD, LHA, DDG, and FFG. We understand the needs of the modern marine and naval industry and the requirements of the consulting engineers and contractors who serve it. Additionally, our industrial centrifugal fans meet the needs of customers in a wide variety of industries including but not limited to, aviation, boiler/furnace, conveyance, and textile.

# FMD – Overview

Stacking the decks with best-in-class marine technologies and service solutions. Fairbanks Morse Defense has mastered that balance over more than a century, configuring the delivery of every customer engagement to meet the needs of the moment. We deliver an advantage to the U.S. Fleet with a growing array of best-in-class marine technologies, OEM parts, and turnkey services – all from a single, trusted source.

# Facilities Overview

**Manufacturing & Machining Capabilities**

Our fan and blower products are manufactured in our 127,000 sq. ft. facility in Fairfield, Ohio. Our key capabilities at this facility include cutting, fabricating, welding, painting, assembly, and testing. With state-of-the-art equipment and testing laboratory, American Fan is positioned to support the defense and industrial industries.

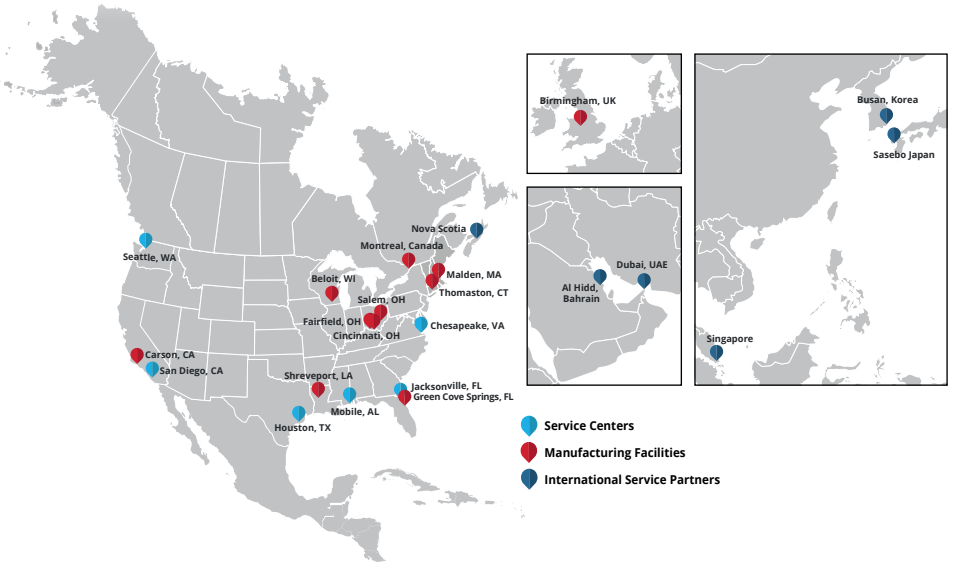
**Facility Highlights:**

- 127,000 sq. ft.
- Test Laboratory Accredited to AMCA 210

**Key Capabilities:**

- Laser & High Definition Plasma Cutting
- Flange Rolling & Punching Machines
- 18 Welding Booths, Plus Automated Welding
- Combined Wet Coat & Powder Coat Paint Line
- Dedicated Assembly Cells for Navy, Commercial Marine, and Industrial Products
- Final Trim Balance & Mechanical Run Testing

# Our Locations




**Fairbanks Morse Defense**
701 White Avenue
Beloit, WI 53511
Phone: 1-800-356-6955

*www.FairbanksMorseDefense.com*

**American Fan**
Phone: 1-866-771-6266

**AMMCON Corporation**
Phone: 1-904-863-3196

**Federal Equipment Co.**
Phone: 1-877-435-4723

**Hunt Valve Company**
Phone: 1-800-321-2757

**Maxim Watermakers**
Phone: 1-318-629-2460

**Research Tool & Die Works**
Phone: 1-310-639-5722

**Ward Leonard**
Phone: 1-860-283-5801

**Welin Lambie**
Phone: +44 1384-78294

# INDUSTRIAL SOLUTIONS

# INDUSTRIAL SOLUTIONS

**Product Specifications**

- Centrifugal
- Temps = Up to 500+ F
- Pressure = Up to 100 in. WG
- Flow = Up to 100,000 ACFM
- AL, Carbon Steel, SS, Corten, Specialty Alloys
- Arrgt. type, duct, silencer, motor, sensor
- Custom Paints, coatings, weld

**Product Applications:**

- Dust Collection (AF, VP, BCS, RB)
- Boiler/Furnace Air (AF, BC, VP, RB)
- Exhaust (IE, AF, SMB/SMD)
- Conveyance (AF, RB)
- Aviation (AF, RB, BC, VP)
- Rail/Transit (AF, IE)
- HVAC (AF)
- Textiles (BC, QBCS, VP, OVP)

| Product | Product Lines |
|---|---|
| Cast Aluminum and Fabricated Aluminum, Steel, and Stainless Steel | AF, SAF, SS, & SC Series |
| Configured Fabricated Centrifugals | BC, RB, VP, TP, & Utility Blower |
| High Temperature GFC | RF2, BF, FF, RB, PF-2, HSR, RT |

# PRESSURE & UTILITY BLOWERS

**AF cast aluminum pressure blowers**

- Volumes to 3,800 CFM
- Pressures to 20" WG
- Available in direct driven and belt driven configurations
- Wheel types: Backward curved, forward curved and radial blade
- Corrosion and spark resistant aluminum wheels
- Light weight and rugged split cast aluminum field rotatable housings. Available with fabricated steel wheels and housing as option
- Available in six basic fan sizes
- Customized options available

**Turbo Pressure Blowers**

- Volumes to 9,200 CFM
- Pressures to 86" WG
- Available in direct driven and belt driven configurations
- Wheel types: Backward curved and radial blade
- Continuously welded, heavy gauge housings
- Available in eight basic fan sizes
- Customized options available

**RB Pressure Blowers**

- Volumes to 12,000 CFM
- Pressures to 110" WG
- Available in direct driven and belt driven configurations
- Wheel type: Radial blade
- Continuously welded, heavy gauge housings
- Available in twenty-five basic fan sizes
- Customized options available

# PRESSURE & UTILITY BLOWERS

**SMB/SMD Curved Utility Blowers**

- Volumes to 4,800 CFM
- Pressures to 3" WG
- Available in belt driven and direct driven configurations
- Wheel type: Forward curved
- Continuously welded, field rotatable housings
- Packaged utility set
- Available in six basic fan sizes
- Customized options available

**SC Forward Curved Volume Blowers**

- Volumes to 1,400 CFM
- Pressures to 4" WG
- Available in belt driven and direct driven configurations
- Wheel type: Forward curved
- Light weight and rugged split cast aluminum field rotatable housings
- Available in four basic fan sizes
- Customized options available

# BACKWARD-INCLINED FANS

**BCA, BCS Backward-Inclined Fans – Single Width**

- Volumes to 100,000 CFM
- Pressures to 25" WG
- AMCA certified for air and sound performance
- Available in belt driven and direct driven configurations
- Wheel types: Backward curved and airfoil blade
- Continuously welded, heavy gauge, field rotatable housings (Rotatable on fan sizes 122 thru 330 only)
- Available in eighteen basic fan sizes
- Customized options available

**QBCA, QBCS Backward-Inclined Fans – Square Housed**

- Volumes to 43,000 CFM
- Pressures to 17" WG
- AMCA certified for air and sound performance
- Available in belt driven & direct driven configurations
- Wheel types: Backward curved & airfoil blade
- Compact continuously welded, heavy gauge, field rotatable square housings (Rotatable to four discharge positions)
- Available in fourteen basic fan sizes
- Customized options available

# BACKWARD-INCLINED FANS

**PBCA, PBCS Backward-Inclined Plug Fans**

- Volumes to 90,000 CFM
- Pressures to 12" WG
- Available in belt driven configuration only
- Wheel types: Backward curved & airfoil blade
- Continuously welded insulated plug for high or low temperature applications
- Available with or without housing, inlet venturi and venturi supports
- Available in sixteen basic fan sizes and three standard plug depths
- Customized options available

**DBCA, DBCS Backward-Inclined Fans – Double Width**

- Volumes to 190,000 CFM
- Pressures to 20" WG
- Available in belt driven configuration only
- Wheel types: Backward curved & airfoil blade
- Continuously welded, heavy gauge, field rotatable housings (Rotatable on fan sizes 122 thru 330 only)
- Available in sixteen basic fan sizes
- Also available in DQBCA & DQBCS compact square design
- Customized options available

# INDUSTRIAL EXHAUSTERS

- Volumes to 40,000 CFM
- Pressures to 23" WG
- Available in belt driven and direct driven configurations
- Wheel type: Radial blade Continuously welded, heavy gauge, field rotatable and reversible housings (Rotatable, reversible on fan sizes 7-12) Air handling or severe duty material handling applications
- Available in twelve basic fan sizes
- Customized options available

# HIGH TEMPERATURE FANS

(AFTERMARKET SUPPORT ONLY —
PARTS AND REPLACEMENT FANS ON A CASE BY CASE BASIS)

### High Temperature Solutions

- Designed for operation up to 1400°F (760°C)

### Product Applications

- Heat Treating
- Glass Melting
- Steel Reheat
- Forging
- Homogenizing
- CCR Platforming (PCOG)
- Incineration
- Industrial & Technical Ceramics and Refractory Materials
- Solar Wind Turbines

### Materials of Construction

- 304, 309, 316L/H and RA330 high nickel stainless
- Inconel 600, 625

| Temperature | Product Lines |
|---|---|
| 1,400°F Max | RF-2 Radial<br>FF Forward Curved<br>PF-2 Axial Plug Fan |
| 1,000°F Max | BF Backward Inclined |
| 600°F Max | HSR (High Static Radial)<br>RT Radial Tip |
| Specialty Blower | RB Shrouded<br>Twisted Radial |

# HIGH TEMPERATURE FANS

(AFTERMARKET SUPPORT ONLY —
PARTS AND REPLACEMENT FANS ON A CASE BY CASE BASIS)

**Radial Blade Fans (RF2)**

The most versatile centrifugal fan available, radial blade fans handle temperatures up to 1400°F. Rugged construction, adaptability to hostile atmospheres, and wide-ranging capacity make this fan effective in a wide range of environments.

**Processes:**

- Air or gas recirculation
- Incinerators
- Glass furnaces
- Exhausting
- CCR

**Technical data:**

- Maximum volume: 105,000 CFM
- Maximum temperature: 1400 °F
- Wheel diameters: 14” to 93 7/9”
- Plug units: Yes

**Backward Inclined Fans (BF)**

Backward inclined fans offer a full range of sizes for optimal fan selection to meet exact performance requirements. These non-overloading designed fans and are suited for systems with fluctuating resistance. They are a popular choice for rugged, efficient service in a variety of industrial applications.

**Processes:**

- Recirculation
- Exhausting
- Drying/curing
- Incinerators
- Paint finishing/coil coaters

**Technical data:**

- Maximum volume: 182,000 CFM
- Maximum temperature: 1000 °F
- Wheel diameters: 12” to 73”
- Plug units: Yes

# HIGH TEMPERATURE FANS

(AFTERMARKET SUPPORT ONLY —
PARTS AND REPLACEMENT FANS ON A CASE BY CASE BASIS)

**Forward Curved Fans (FF2)**

Forward curved fans offer a small package for high volume, high temperature applications. These fans operate at a slower speed, with less noise and relatively low stress – particularly good for high temperature uses. They are restricted to low dust environments because the curve blade tends to trap and retain dust and other particles.

**Processes:**

- Air recirculation
- Homogenizing
- Preheating
- Annealing
- Float furnaces

**Technical data:**

- Maximum volume: 459,195 CFM
- Maximum temperature: 1400 °F
- Wheel diameters: 13.5” to 73”
- Plug units: Yes

**Propeller Plug Fans (PF2)**

Propeller plug fan units feature six-bladed impellers, which can handle large volumes of gases at relatively low static pressures. These fans help eliminate costly ductwork in oven applications.

**Processes:**

- Air recirculation
- Homogenizing
- Preheating

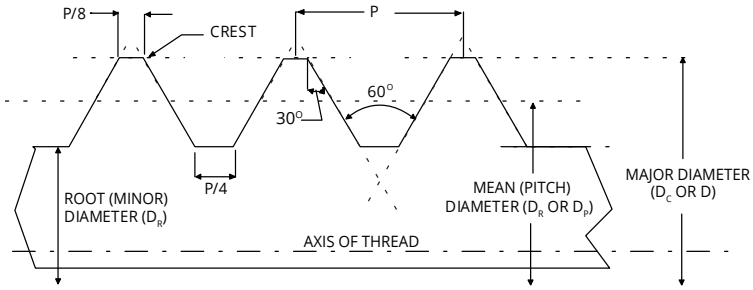
**Technical data:**

- Maximum volume: 182,000 CFM
- Maximum static pressure: 4” WG
- Maximum temperature: 1000 °F
- Wheel diameters: 24” to 72”
- Plug units: Yes

# RESOURCES

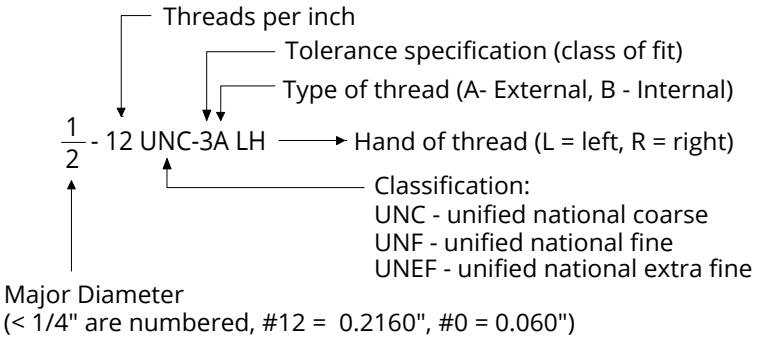
# THREAD STANDARDS

UNIFIED AND ISO THREAD GEOMETRY




| | UNIFIED | | METRIC | |
|---|---|---|---|---|
| CLASS | EXTERNAL THREAD | INTERNAL THREAD | EXTERNAL THREAD | INTERNAL THREAD |
| LOOSE | 1A | 1B | 8G | 7H |
| STANDARD | 2A | 2B | 6G | 6H |
| CLOSE | 3A | 3B | 4G | 5H |

## UNIFIED NATIONAL:

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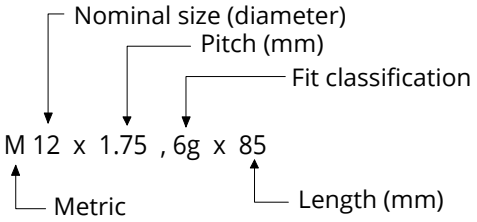

# THREAD DIMENSIONS
## AND TAP DRILL SIZES

| Size | Threads Per Inch | | Outside Diameter Inches | Pitch Diameter Inches | Root Diameter Inches | Tap Drill Approx. 75% Full Thread | Decimal Equiv. Of Tap Drill |
|---|---|---|---|---|---|---|---|
| | NC UNC | NF UNF | | | | | |
| 0 | — | 80 | .0600 | .0519 | .0438 | 3/64″ | .0469 |
| 1 | 64 | — | .0730 | .0629 | .0527 | 53 | .0595 |
| 1 | — | 72 | .0730 | .0640 | .0550 | 53 | .0595 |
| 2 | 56 | — | .0860 | .0744 | .0628 | 50 | .0700 |
| 2 | — | 64 | .0860 | .0759 | .0657 | 50 | .0700 |
| 3 | 48 | — | .0990 | .0855 | .0719 | 47 | .0785 |
| 3 | — | 56 | .0990 | .0874 | .0758 | 46 | .0810 |
| 4 | 40 | — | .1120 | .0958 | .0795 | 43 | .0890 |
| 4 | — | 48 | .1120 | .0985 | .0849 | 42 | .0935 |
| 5 | 40 | — | .1250 | .1088 | .0925 | 38 | .1015 |
| 5 | — | 44 | .1250 | .1102 | .0955 | 37 | .1040 |
| 6 | 32 | — | .1380 | .1177 | .0974 | 36 | .1065 |
| 6 | — | 40 | .1380 | .1218 | .1055 | 33 | .1130 |
| 8 | 32 | — | .1640 | .1437 | .1234 | 29 | .1360 |
| 8 | — | 36 | .1640 | .1460 | .1279 | 29 | .1360 |
| 10 | 24 | — | .1900 | .1629 | .1359 | 26 | .1470 |
| 10 | — | 32 | .1900 | .1697 | .1494 | 21 | .1590 |
| 12 | 24 | — | .2160 | .1889 | .1619 | 16 | .1770 |
| 12 | — | 28 | .2160 | .1928 | .1696 | 15 | .1800 |
| 1/4″ | 20 | — | .2500 | .2175 | .1850 | 7 | .2010 |
| 1/4″ | — | 28 | .2500 | .2268 | .2036 | 3 | .2130 |
| 5/16″ | 18 | — | .3125 | .2764 | .2403 | F | .2570 |
| 5/16″ | — | 24 | .3125 | .2854 | .2584 | I | .2720 |
| 3/8″ | 16 | — | .3750 | .3344 | .2938 | 5/16″ | .3125 |
| 3/8″ | — | 24 | .3750 | .3479 | .3209 | Q | .3320 |
| 7/16″ | 14 | — | .4375 | .3911 | .3447 | U | .3680 |
| 7/16″ | — | 20 | .4375 | .4050 | .3726 | 25/64″ | .3906 |
| 1/2″ | 13 | — | .5000 | .4500 | .4001 | 27/64″ | .4219 |
| 1/2″ | — | 20 | .5000 | .4675 | .4351 | 29/64″ | .4531 |
| 9/16″ | 12 | | .5625 | .5084 | .4542 | 31/64″ | .4844 |
| 9/16″ | | 18 | .5625 | .5264 | .4903 | 33/64″ | .5156 |
| 5/8″ | 11 | — | .6250 | .5660 | .5069 | 17/32″ | .5312 |
| 5/8″ | — | 18 | .6250 | .5889 | .5528 | 37/64″ | .5781 |
| 3/4″ | 10 | — | .7500 | .6850 | .6201 | 21/32″ | .6562 |
| 3/4″ | — | 16 | .7500 | .7094 | .6688 | 11/16″ | .6875 |
| 7/8″ | 9 | — | .8750 | .8028 | .7307 | 49/64″ | .7656 |
| 7/8″ | — | 14 | .8750 | .8286 | .7822 | 13/16″ | .8125 |
| 1″ | 8 | — | 1.0000 | .9188 | .8376 | 7/8″ | .8750 |
| 1″ | — | 12 | 1.0000 | .9459 | .8917 | 59/64″ | .9219 |
| 1 1/8″ | 7 | | 1.1250 | 1.0322 | .9394 | 63/64″ | .9844 |
| 1 l/8″ | — | 12 | 1.1250 | 1.0709 | 1.0168 | 1 3/64″ | 1.0469 |
| 1 1/4″ | 7 | | 1.2500 | 1.1572 | 1.0644 | 1 7/64″ | 1.1094 |
| 1 1/4″ | — | 12 | 1.2500 | 1.1959 | 1.1418 | 1 11/64″ | 1.1719 |
| 1 3/8″ | 6 | — | 1.3750 | 1.2667 | 1.1585 | 1 7/32″ | 1.2187 |
| 1 3/8″ | — | 12 | 1.3750 | 1.3209 | 1.2668 | 1 19/64″ | 1.2969 |
| 1 1/2″ | 6 | — | 1.5000 | 1.3917 | 1.2835 | 1 11/32″ | 1.3437 |
| 1 1/2″ | — | 12 | 1.5000 | 1.4459 | 1.3918 | 1 27/64″ | 1.4219 |
| 1 3/4″ | 5 | — | 1.7500 | 1.6201 | 1.4902 | 1 9/16″ | 1.5625 |
| 2″ | 4 1/2 | — | 2.0000 | 1.8557 | 1.7113 | 1 25/32″ | 1.7812 |
| 2 1/4″ | 4 1/2 | — | 2.2500 | 2.1057 | 1.9613 | 2 1/32″ | 2.0313 |
| 2 1/2″ | 4 1/2 | — | 2.5000 | 2.3376 | 2.1752 | 2 1/4″ | 2.2500 |
| 2 3/4″ | 4 | — | 2.7500 | 2.5876 | 2.4252 | 2 1/2″ | 2.5000 |
| 3" | 4 | — | 3.0000 | 2.8376 | 2.6752 | 2 3/4″ | 2.7500 |
| 3 1/4″ | 4 | — | 3.2500 | 3.0876 | 2.9252 | 3″ | 3.0000 |
| 3 1/2″ | 4 | — | 3.5000 | 3.3376 | 3.1752 | 3 1/4″ | 3.2500 |
| 3 3/4″ | 4 | — | 3.7500 | 3.5876 | 3.4252 | 3 1/2″ | 3.5000 |
| 4″ | 4 | — | 4.0000 | 3.3786 | 3.6752 | 3 3/4″ | 3.7500 |

# PIPE DIMENSIONS

## US AND METRIC

| NOMINAL PIPE SIZE | OD | SCHEDULE DESIGNATIONS | | | WALL THICKNESS | | WEIGHT | | ID | |
|---|---|---|---|---|---|---|---|---|---|---|
| IN.<br>MM | IN.<br>MM | ASME | | | IN. | MM | LBS/<br>FOOT | KG/<br>METER | IN. | MM |
| 1/8 | 0.405 | 10 | | 10S | 0.049 | 1.24 | 0.19 | 0.28 | 0.307 | 7.82 |
| 6 | 10.3 | STD | 40 | 40S | 0.068 | 1.73 | 0.24 | 0.37 | 0.269 | 6.84 |
| | | XS | 80 | 80S | 0.095 | 2.41 | 0.31 | 0.47 | 0.215 | 5.84 |
| 1/4 | 0.540 | 10 | | 10S | 0.065 | 1.65 | 0.33 | 0.49 | 0.410 | 10.40 |
| 8 | 13.7 | STD | 40 | 40S | 0.088 | 2.24 | 0.43 | 0.63 | 0.364 | 9.22 |
| | | XS | 80 | 80S | 0.119 | 3.02 | 0.54 | 0.80 | 0.302 | 7.66 |
| 3/8 | 0.675 | 10 | | 10S | 0.065 | 1.65 | 0.42 | 0.63 | 0.545 | 13.80 |
| 10 | 17.1 | STD | 40 | 40S | 0.091 | 2.31 | 0.57 | 0.84 | 0.493 | 12.48 |
| | | XS | 80 | 80S | 0.126 | 3.20 | 0.74 | 1.10 | 0.423 | 10.70 |
| 1/2 | 0.840 | 5 | | 5S | 0.065 | 1.65 | 0.54 | 0.80 | 0.710 | 18.00 |
| 15 | 21.3 | 10 | | 10S | 0.083 | 2.11 | 0.67 | 1.00 | 0.674 | 17.08 |
| | | STD | 40 | 40S | 0.109 | 2.77 | 0.85 | 1.27 | 0.622 | 15.76 |
| | | XS | 80 | 80S | 0.147 | 3.73 | 1.09 | 1.62 | 0.546 | 13.84 |
| | | 160 | | | 0.188 | 4.78 | 1.31 | 1.95 | 0.464 | 11.74 |
| | | XX | | | 0.294 | 7.47 | 1.72 | 2.55 | 0.252 | 6.36 |
| 3/4 | 1.050 | 5 | | 5S | 0.065 | 1.65 | 0.69 | 1.03 | 0.920 | 23.40 |
| 20 | 26.7 | 10 | | 10S | 0.083 | 2.11 | 0.86 | 1.28 | 0.884 | 22.48 |
| | | STD | 40 | 40S | 0.113 | 2.87 | 1.13 | 1.69 | 0.824 | 20.96 |
| | | XS | 80 | 80S | 0.154 | 3.91 | 1.48 | 2.20 | 0.742 | 18.88 |
| | | 160 | | | 0.219 | 5.56 | 1.95 | 2.90 | 0.612 | 15.58 |
| | | XX | | | 0.308 | 7.82 | 2.44 | 3.64 | 0.434 | 11.06 |
| 1 | 1.315 | 5 | | 5S | 0.065 | 1.65 | 0.87 | 1.29 | 1.185 | 30.10 |
| 25 | 33.4 | 10 | | 10S | 0.109 | 2.77 | 1.41 | 2.09 | 1.097 | 27.86 |
| | | STD | 40 | 40S | 0.133 | 3.38 | 1.68 | 2.50 | 1.049 | 26.64 |
| | | XS | 80 | 80S | 0.179 | 4.55 | 2.17 | 3.24 | 0.957 | 24.30 |
| | | 160 | | | 0.250 | 6.35 | 2.85 | 4.24 | 0.815 | 20.70 |
| | | XX | | | 0.358 | 9.09 | 3.66 | 5.45 | 0.599 | 15.22 |
| 1-1/4 | 1.660 | 5 | | 5S | 0.065 | 1.65 | 1.11 | 1.65 | 1.530 | 38.90 |
| 32 | 42.2 | 10 | | 10S | 0.109 | 2.77 | 1.81 | 2.69 | 1.442 | 36.66 |
| | | STD | 40 | 40S | 0.140 | 3.56 | 2.27 | 3.39 | 1.380 | 35.08 |
| | | XS | 80 | 80S | 0.191 | 4.85 | 3.00 | 4.47 | 1.278 | 32.50 |
| | | 160 | | | 0.250 | 6.35 | 3.77 | 5.61 | 1.160 | 29.50 |
| | | XX | | | 0.382 | 9.70 | 5.22 | 7.77 | 0.896 | 22.80 |
| 1-1/2 | 1.900 | 5 | | 5S | 0.065 | 1.65 | 1.28 | 1.90 | 1.770 | 45.00 |
| 40 | 48.3 | 10 | | 10S | 0.109 | 2.77 | 2.09 | 3.11 | 1.682 | 42.76 |
| | | STD | 40 | 40S | 0.145 | 3.68 | 2.72 | 4.05 | 1.610 | 40.94 |
| | | XS | 80 | 80S | 0.200 | 5.08 | 3.63 | 5.41 | 1.500 | 38.14 |
| | | 160 | | | 0.281 | 7.14 | 4.86 | 7.25 | 1.338 | 34.02 |
| | | XX | | | 0.400 | 10.15 | 6.41 | 9.55 | 1.100 | 28.00 |
| 2 | 2.375 | 5 | | 5S | 0.065 | 1.65 | 1.61 | 2.39 | 2.245 | 57.00 |
| 50 | 60.3 | 10 | | 10S | 0.109 | 2.77 | 2.64 | 3.93 | 2.157 | 54.76 |
| | | STD | 40 | 40S | 0.154 | 3.91 | 3.66 | 5.44 | 2.067 | 52.48 |
| | | XS | 80 | 80S | 0.218 | 5.54 | 5.03 | 7.48 | 1.939 | 49.22 |
| | | 160 | | | 0.344 | 8.74 | 7.47 | 11.11 | 1.687 | 42.82 |
| | | XX | | | 0.436 | 11.07 | 9.04 | 13.44 | 1.503 | 38.16 |
| 2-1/2 | 2.875 | 5 | | 5S | 0.083 | 2.11 | 2.48 | 3.69 | 2.709 | 68.78 |
| 65 | 73.0 | 10 | | 10S | 0.120 | 3.05 | 3.53 | 5.26 | 2.635 | 66.90 |
| | | STD | 40 | 40S | 0.203 | 5.16 | 5.80 | 8.63 | 2.469 | 62.68 |
| | | XS | 80 | 80S | 0.276 | 7.01 | 7.67 | 11.41 | 2.323 | 58.98 |
| | | 160 | | | 0.375 | 9.53 | 10.02 | 14.92 | 2.125 | 53.94 |
| | | XX | | | 0.552 | 14.02 | 13.71 | 20.39 | 1.771 | 44.96 |
| 3 | 3.500 | 5 | | 5S | 0.083 | 2.11 | 3.03 | 4.52 | 3.334 | 84.68 |
| 80 | 88.9 | 10 | | 10S | 0.120 | 3.05 | 4.34 | 6.46 | 3.260 | 82.80 |
| | | STD | 40 | 40S | 0.216 | 5.49 | 7.58 | 11.29 | 3.068 | 77.92 |
| | | XS | 80 | 80S | 0.300 | 7.62 | 10.26 | 15.27 | 2.900 | 73.66 |
| | | 160 | | | 0.438 | 11.13 | 14.34 | 21.35 | 2.624 | 66.64 |
| | | XX | | | 0.600 | 15.24 | 18.60 | 27.68 | 2.300 | 58.42 |
| 3-1/2 | 4.000 | 5 | | 5S | 0.083 | 2.11 | 3.48 | 5.18 | 3.834 | 97.38 |
| 90 | 101.6 | 10 | | 10S | 0.120 | 3.05 | 4.98 | 7.41 | 3.760 | 95.50 |
| | | STD | 40 | 40S | 0.226 | 5.74 | 9.12 | 13.57 | 3.548 | 90.12 |
| | | XS | 80 | 80S | 0.318 | 8.08 | 12.52 | 18.64 | 3.364 | 85.44 |
| | | XX | | | 0.636 | 16.15 | 22.87 | 34.03 | 2.728 | 69.30 |
| 4 | 4.500 | 5 | | 5S | 0.083 | 2.11 | 3.92 | 5.84 | 4.334 | 110.08 |
| 100 | 114.3 | 10 | | 10S | 0.120 | 3.05 | 5.62 | 8.37 | 4.260 | 108.20 |
| | | | | | 0.156 | 3.96 | 7.24 | 10.78 | 4.188 | 106.38 |
| | | | | | 0.188 | 4.78 | 8.67 | 12.91 | 4.124 | 104.74 |
| | | STD | 40 | 40S | 0.237 | 6.02 | 10.80 | 16.08 | 4.026 | 102.26 |
| | | XS | 80 | 80S | 0.337 | 8.56 | 15.00 | 22.32 | 3.826 | 97.18 |
| | | 120 | | | 0.438 | 11.13 | 19.02 | 28.32 | 3.624 | 92.04 |
| | | 160 | | | 0.531 | 13.49 | 22.53 | 33.54 | 3.438 | 87.32 |
| | | XX | | | 0.674 | 17.12 | 27.57 | 41.03 | 3.152 | 80.06 |
| 4-1/2 | 5.000 | STD | 40 | 40S | 0.247 | 6.27 | 12.55 | 18.67 | 4.506 | 114.46 |
| 115 | 127.0 | XS | 80 | 80S | 0.355 | 9.02 | 17.63 | 26.24 | 4.290 | 108.96 |
| | | XX | | | 0.710 | 18.03 | 32.56 | 48.45 | 3.580 | 90.94 |

# AMERICAN WIRE GAUGE

## CONDUCTOR SIZE TABLE

| AWG | Diameter [inches] | Diameter [mm] | Area [mm2 ] | Resistance [Ohms/1000 ft] | Resistance [Ohms / km] | Max Current [Amperes] | Max Frequency |
|---|---|---|---|---|---|---|---|
| 0000 (4/0) | 0.46 | 11.684 | 107 | 0.049 | 0.16072 | 302 | 125 Hz |
| 000 (3/0) | 0.4096 | 10.40384 | 85 | 0.0618 | 0.202704 | 239 | 160 Hz |
| 00 (2/0) | 0.3648 | 9.26592 | 67.4 | 0.0779 | 0.255512 | 190 | 200 Hz |
| 0 (1/0) | 0.3249 | 8.25246 | 53.5 | 0.0983 | 0.322424 | 150 | 250 Hz |
| 1 | 0.2893 | 7.34822 | 42.4 | 0.1239 | 0.406392 | 119 | 325 Hz |
| 2 | 0.2576 | 6.54304 | 33.6 | 0.1563 | 0.512664 | 94 | 410 Hz |
| 3 | 0.2294 | 5.82676 | 26.7 | 0.197 | 0.64616 | 75 | 500 Hz |
| 4 | 0.2043 | 5.18922 | 21.2 | 0.2485 | 0.81508 | 60 | 650 Hz |
| 5 | 0.1819 | 4.62026 | 16.8 | 0.3133 | 1.027624 | 47 | 810 Hz |
| 6 | 0.162 | 4.1148 | 13.3 | 0.3951 | 1.295928 | 37 | 1100 Hz |
| 7 | 0.1443 | 3.66522 | 10.5 | 0.4982 | 1.634096 | 30 | 1300 Hz |
| 8 | 0.1285 | 3.2639 | 8.37 | 0.6282 | 2.060496 | 24 | 1650 Hz |
| 9 | 0.1144 | 2.90576 | 6.63 | 0.7921 | 2.598088 | 19 | 2050 Hz |
| 10 | 0.1019 | 2.58826 | 5.26 | 0.9989 | 3.276392 | 15 | 2600 Hz |
| 11 | 0.0907 | 2.30378 | 4.17 | 1.26 | 4.1328 | 12 | 3200 Hz |
| 12 | 0.0808 | 2.05232 | 3.31 | 1.588 | 5.20864 | 9.3 | 4150 Hz |
| 13 | 0.072 | 1.8288 | 2.62 | 2.003 | 6.56984 | 7.4 | 5300 Hz |
| 14 | 0.0641 | 1.62814 | 2.08 | 2.525 | 8.282 | 5.9 | 6700 Hz |
| 15 | 0.0571 | 1.45034 | 1.65 | 3.184 | 10.44352 | 4.7 | 8250 Hz |
| 16 | 0.0508 | 1.29032 | 1.31 | 4.016 | 13.17248 | 3.7 | 11 k Hz |
| 17 | 0.0453 | 1.15062 | 1.04 | 5.064 | 16.60992 | 2.9 | 13 k Hz |
| 18 | 0.0403 | 1.02362 | 0.823 | 6.385 | 20.9428 | 2.3 | 17 kHz |
| 19 | 0.0359 | 0.91186 | 0.653 | 8.051 | 26.40728 | 1.8 | 21 kHz |
| 20 | 0.032 | 0.8128 | 0.518 | 10.15 | 33.292 | 1.5 | 27 kHz |
| 21 | 0.0285 | 0.7239 | 0.41 | 12.8 | 41.984 | 1.2 | 33 kHz |
| 22 | 0.0254 | 0.64516 | 0.326 | 16.14 | 52.9392 | 0.92 | 42 kHz |
| 23 | 0.0226 | 0.57404 | 0.258 | 20.36 | 66.7808 | 0.729 | 53 kHz |
| 24 | 0.0201 | 0.51054 | 0.205 | 25.67 | 84.1976 | 0.577 | 68 kHz |
| 25 | 0.0179 | 0.45466 | 0.162 | 32.37 | 106.1736 | 0.457 | 85 kHz |
| 26 | 0.0159 | 0.40386 | 0.129 | 40.81 | 133.8568 | 0.361 | 107 kHz |
| 27 | 0.0142 | 0.36068 | 0.102 | 51.47 | 168.8216 | 0.288 | 130 kHz |
| 28 | 0.0126 | 0.32004 | 0.081 | 64.9 | 212.872 | 0.226 | 170 kHz |
| 29 | 0.0113 | 0.28702 | 0.0642 | 81.83 | 268.4024 | 0.182 | 210 kHz |
| 30 | 0.01 | 0.254 | 0.0509 | 103.2 | 338.496 | 0.142 | 270 kHz |
| 31 | 0.0089 | 0.22606 | 0.0404 | 130.1 | 426.728 | 0.113 | 340 kHz |
| 32 | 0.008 | 0.2032 | 0.032 | 164.1 | 538.248 | 0.091 | 430 kHz |
| 33 | 0.0071 | 0.18034 | 0.0254 | 206.9 | 678.632 | 0.072 | 540 kHz |
| 34 | 0.0063 | 0.16002 | 0.0201 | 260.9 | 855.752 | 0.056 | 690 kHz |
| 35 | 0.0056 | 0.14224 | 0.016 | 329 | 1079.12 | 0.044 | 870 kHz |
| 36 | 0.005 | 0.127 | 0.0127 | 414.8 | 1360 | 0.035 | 1100 kHz |
| 37 | 0.0045 | 0.1143 | 0.01 | 523.1 | 1715 | 0.0289 | 1350 kHz |
| 38 | 0.004 | 0.1016 | 0.00797 | 659.6 | 2163 | 0.0228 | 1750 kHz |
| 39 | 0.0035 | 0.0889 | 0.00632 | 831.8 | 2728 | 0.0175 | 2250 kHz |
| 40 | 0.0031 | 0.07874 | 0.00501 | 1049 | 3440 | 0.0137 | 2900 kHz |

Current (ampacity) Notes: *The current ratings shown in the table are for power transmission and have been determined using the rule of 1 amp per 700 circular mils, which is a very conservative rating*

# FRACTION - DECIMAL

CONVERSION CHART

| | IN | MM |
|---|---|---|
| 1/64 | .015625 | .3969 |
| 1/32 | .03125 | .7938 |
| 3/64 | .046875 | 1.1906 |
| 1/16 | .0625 | 1.5875 |
| 5/64 | .078125 | 1.9844 |
| 3/32 | .09375 | 2.3813 |
| 7/64 | .109375 | 2.7781 |
| 1/8 | .125 | 3.1750 |
| 9/64 | .140625 | 3.5719 |
| 5/32 | .15625 | 3.9688 |
| 11/64 | .171875 | 4.3656 |
| 3/16 | .1875 | 4.7625 |
| 13/64 | .203125 | 5.1594 |
| 7/32 | .21875 | 5.5563 |
| 15/64 | .234375 | 5.9531 |
| 1/4 | .250 | 6.3500 |
| 17/64 | .265625 | 6.7469 |
| 9/32 | .28125 | 7.1438 |
| 19/64 | .296875 | 7.5406 |
| 5/16 | .3125 | 7.9375 |
| 21/64 | .328125 | 8.3344 |
| 11/32 | .34375 | 8.7313 |
| 23/64 | .359375 | 9.1282 |
| 3/8 | .375 | 9.5250 |
| 25/64 | .390625 | 9.9219 |
| 13/32 | .40625 | 10.3188 |
| 27/64 | .421875 | 10.7157 |
| 7/16 | .4375 | 11.1125 |
| 29/64 | .453125 | 11.5094 |
| 15/32 | .46875 | 11.9063 |
| 31/64 | .484375 | 12.3032 |
| 1/2 | .500 | 12.7001 |

| | IN | MM |
|---|---|---|
| 33/64 | .515625 | 13.096 |
| 17/32 | .53125 | 13.493 |
| 35/64 | .546875 | 13.890 |
| 9/16 | .5625 | 14.287 |
| 37/64 | .578125 | 14.684 |
| 19/32 | .59375 | 15.081 |
| 39/64 | .609375 | 15.478 |
| 5/8 | .625 | 15.875 |
| 41/64 | .640625 | 16.271 |
| 21/32 | .65625 | 16.668 |
| 43/64 | .671875 | 17.065 |
| 11/16 | .6875 | 17.462 |
| 45/64 | .703125 | 17.859 |
| 23/32 | .71875 | 18.256 |
| 47/64 | .734375 | 18.653 |
| 3/4 | .750 | 19.050 |
| 49/64 | .765625 | 19.447 |
| 25/32 | .78125 | 19.843 |
| 51/64 | .796875 | 20.240 |
| 13/16 | .8125 | 20.6375 |
| 53/64 | .828125 | 21.0345 |
| 27/32 | .84375 | 21.431 |
| 55/64 | .859375 | 21.8282 |
| 7/8 | .875 | 22.2251 |
| 57/64 | .890625 | 22.6220 |
| 29/32 | .90625 | 23.0188 |
| 59/64 | .921875 | 23.4157 |
| 15/16 | .9375 | 23.8126 |
| 61/64 | .953125 | 24.2095 |
| 31/32 | .96875 | 24.6063 |
| 63/64 | .984375 | 25.0032 |
| 1 | 1.000 | 25.4001 |

# SHEET METAL
## GAUGE CHART

| Gauge | Steel | Galvanized Steel | Stainless Steel | Aluminium | Electrical Steel |
|---|---|---|---|---|---|
| | in (mm) | in (mm) | in (mm) | in (mm) | in (mm) |
| 3 | 0.2391 (6.07) | — | — | — | — |
| 4 | 0.2242 (5.69) | — | — | — | — |
| 5 | 0.2092 (5.31) | — | — | — | — |
| 6 | 0.1943 (4.94) | — | — | 0.162 (4.1) | — |
| 7 | 0.1793 (4.55) | — | 0.1875 (4.76) | 0.1443 (3.67) | — |
| 8 | 0.1644 (4.18) | 0.1681 (4.27) | 0.1719 (4.37) | 0.1285 (3.26) | — |
| 9 | 0.1495 (3.80) | 0.1532 (3.89) | 0.1563 (3.97) | 0.1144 (2.91) | — |
| 10 | 0.1345 (3.42) | 0.1382 (3.51) | 0.1406 (3.57) | 0.1019 (2.59) | — |
| 11 | 0.1196 (3.04) | 0.1233 (3.13) | 0.1250 (3.18) | 0.0907 (2.30) | — |
| 12 | 0.1046 (2.66) | 0.1084 (2.75) | 0.1094 (2.78) | 0.0808 (2.05) | — |
| 13 | 0.0897 (2.28) | 0.0934 (2.37) | 0.094 (2.4) | 0.072 (1.8) | — |
| 14 | 0.0747 (1.90) | 0.0785 (1.99) | 0.0781 (1.98) | 0.0641 (1.63) | — |
| 15 | 0.0673 (1.71) | 0.0710 (1.80) | 0.07 (1.8) | 0.057 (1.4) | — |
| 16 | 0.0598 (1.52) | 0.0635 (1.61) | 0.0625 (1.59) | 0.0508 (1.29) | 0.0625 (1.59) |
| 17 | 0.0538 (1.37) | 0.0575 (1.46) | 0.056 (1.4) | 0.045 (1.1) | 0.0560 (1.42) |
| 18 | 0.0478 (1.21) | 0.0516 (1.31) | 0.0500 (1.27) | 0.0403 (1.02) | 0.0500 (1.27) |
| 19 | 0.0418 (1.06) | 0.0456 (1.16) | 0.044 (1.1) | 0.036 (0.91) | 0.0453 (1.15) |
| 20 | 0.0359 (0.91) | 0.0396 (1.01) | 0.0375 (0.95) | 0.0320 (0.81) | 0.0375 (0.952) |
| 21 | 0.0329 (0.84) | 0.0366 (0.93) | 0.034 (0.86) | 0.028 (0.71) | 0.0340 (0.860) |
| 22 | 0.0299 (0.76) | 0.0336 (0.85) | 0.031 (0.79) | 0.025 (0.64) | 0.0310 (0.787) |
| 23 | 0.0269 (0.68) | 0.0306 (0.78) | 0.028 (0.71) | 0.023 (0.58) | 0.0280 (0.711) |
| 24 | 0.0239 (0.61) | 0.0276 (0.70) | 0.025 (0.64) | 0.02 (0.51) | 0.0250 (0.635) |
| 25 | 0.0209 (0.53) | 0.0247 (0.63) | 0.022 (0.56) | 0.018 (0.46) | 0.0220 (0.559) |
| 26 | 0.0179 (0.45) | 0.0217 (0.55) | 0.019 (0.48) | 0.017 (0.43) | 0.0185 (0.470) |
| 27 | 0.0164 (0.42) | 0.0202 (0.51) | 0.017 (0.43) | 0.014 (0.36) | 0.0170 (0.432) |
| 28 | 0.0149 (0.38) | 0.0187 (0.47) | 0.016 (0.41) | 0.0126 (0.32) | 0.0155 (0.394) |
| 29 | 0.0135 (0.34) | 0.0172 (0.44) | 0.014 (0.36) | 0.0113 (0.29) | 0.0140 (0.356) |
| 30 | 0.0120 (0.30) | 0.0157 (0.40) | 0.013 (0.33) | 0.0100 (0.25) | 0.0125 (0.318) |
| 31 | 0.0105 (0.27) | 0.0142 (0.36) | 0.011 (0.28) | 0.0089 (0.23) | 0.0100 (0.254) |
| 32 | 0.0097 (0.25) | — | — | — | — |
| 33 | 0.0090 (0.23) | — | — | — | — |
| 34 | 0.0082 (0.21) | — | — | — | — |
| 35 | 0.0075 (0.19) | — | — | — | — |
| 36 | 0.0067 (0.17) | — | — | — | — |
| 37 | 0.0064 (0.16) | — | — | — | — |
| 38 | 0.0060 (0.15) | — | — | — | — |
| 33 | 0.0071 | 0.18034 | 0.0254 | 206.9 | 678.632 |
| 34 | 0.0063 | 0.16002 | 0.0201 | 260.9 | 855.752 |
| 35 | 0.0056 | 0.14224 | 0.016 | 329 | 1079.12 |
| 36 | 0.005 | 0.127 | 0.0127 | 414.8 | 1360 |
| 37 | 0.0045 | 0.1143 | 0.01 | 523.1 | 1715 |
| 38 | 0.004 | 0.1016 | 0.00797 | 659.6 | 2163 |
| 39 | 0.0035 | 0.0889 | 0.00632 | 831.8 | 2728 |
| 40 | 0.0031 | 0.07874 | 0.00501 | 1049 | 3440 |

# American Fan

Powered by FAIRBANKS MORSE DEFENSE

**American Fan**
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Fairfield, OH 45014 USA
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Form AF1001-0324

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