

# AIR-COOLED JUMPER CABLES

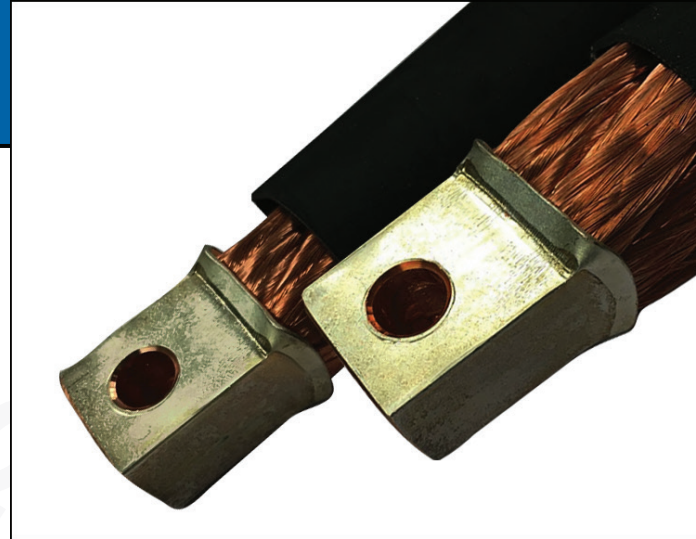
## Built to customer specifications or custom engineered designs and fabrication

Air-cooled jumper cables from Weld Systems Integrators are ideal for a variety of industries and applications. Every jumper cable is designed for maximum efficiency, longer life and greater flexibility. Our in-house engineering team can assist with custom designs and unique customer specifications.

Air-cooled jumper cables are available in circular mil sizes from 400 - 2000 MCM (standard). Other sizes and extra-flexible cables are available on request.

Air-cooled jumpers are used to connect high current, low voltage applications such as:

- Connecting a transformer secondary, or secondaries, to a weld gun, or weld guns
- As a replacement for flexible laminations
- Connecting multiple transformers or tooling secondaries together
- Fuel cells
- Furnaces, induction heaters
- Many high current, low voltage applications where a flexible connection is required



## AIR-COOLED JUMPER CABLE TYPES

**STANDARD CABLES** - Suitable for most applications. Standard air-cooled jumper cables are made from non-insulated copper wire in sizes ranging from 400 - 2000 MCM as standards.

**ISOLATED CONDUCTOR** - Cables with individual strands of copper braided rope covered in a highly specialized, high carbon content polymer coated material.

**EXTRA FLEXIBLE CABLE** - less rigid and has a higher cooling rate than standard cables due extra spacing between the wire strands. Extra flexible cable is recommended for robotic applications where the weld cable may be twisted or curled during operation.

**STABILIZER COLLAR** - Increases dry jumper life by reducing strand failure at the cable terminal and reducing over flexing.

# AIR-COOLED JUMPER CABLE SIZING

Use the following method to determine what size cable should be used for your application. First you use the Conversion Factor chart to determine your "Continuous Duty Current"; then you read the correct size cable off the second chart. An example is worked out below.

**Step 1:** Lay one side of a straight edge across the graph at the six cycles of current "one time" point (the left hand vertical scale of the conversion factor chart).

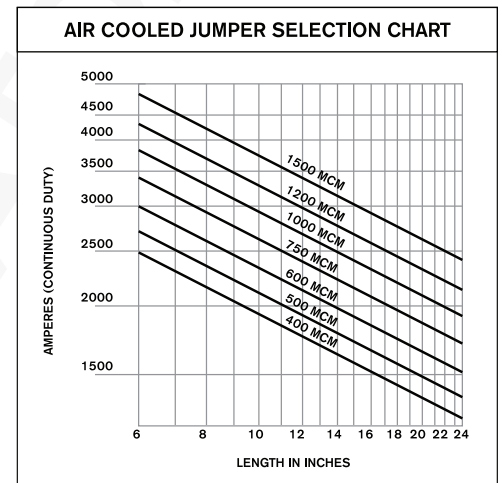
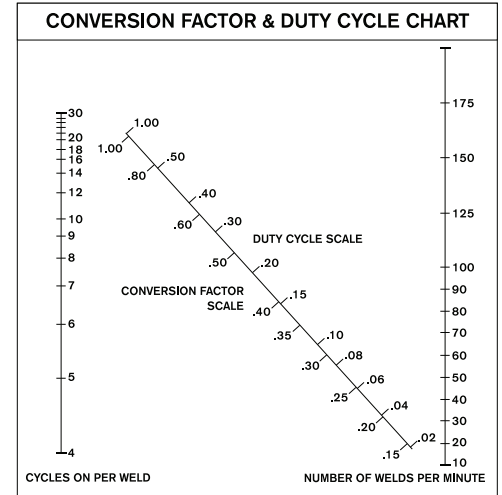
**Step 2:** Pivot the other end of the straight edge across to line up with the "60 welds per minute" on the far right vertical scale.

**Step 3:** At the intersection of your straight edge with the diagonal conversion factor scale line, you should be able to read a conversion factor of .32 off the lower 1/2 of the line.

**Step 4:** Multiply the required current (10,000 amps) by the conversion factor (.32) to get the "continuous duty current" of 3,200 amps. Now proceed to the Air Cooled Jumper Selection Chart to read complete the selection.

**Step 5:** Line up your straight edge on the 3200 continuous duty amp mark, and find the intersection with your desired length line (from below).

**Step 6:** Any cable whose line is above this point may be safely used, since the load it would carry will be within its thermal capacity. In this example a 1200 MCM cable can be used and stay within design tolerances.



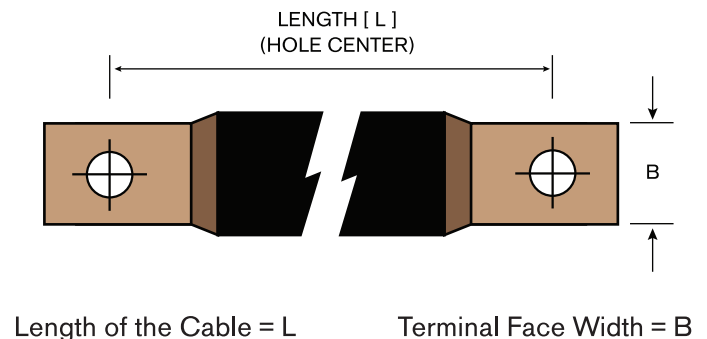
# AIR-COOLED JUMPER CABLE LENGTH

The length is measured from the bolt hole centers at each end of the cable on straight or 45° terminals. It is measured from the extreme ends of 90° terminals. On terminals with two holes, measure from the centers of the outer holes.

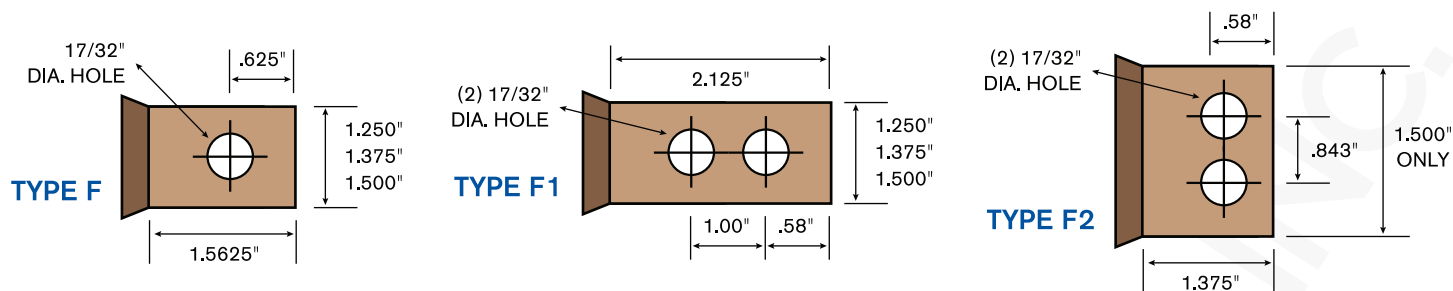
To get LENGTH, measure from the center of one set of mounting holes to the center of the second set.

The secondary measurement, B, is the face width.

The terminal thickness is dependent on the terminal face width, and the gauge of the cable, as outlined in the table on the right.



# TERMINAL TYPES



# TERMINAL SPECIFICATIONS

Standard 1.5" width will be supplied up to and including 1200 MCM. 1500 MCM comes in 1.375" width. 2000 MCM in 1.5" width. Please specify when ordering.

### Terminal Length:

The contact surface length is 1-9/16". Other lengths can be furnished if specially ordered.

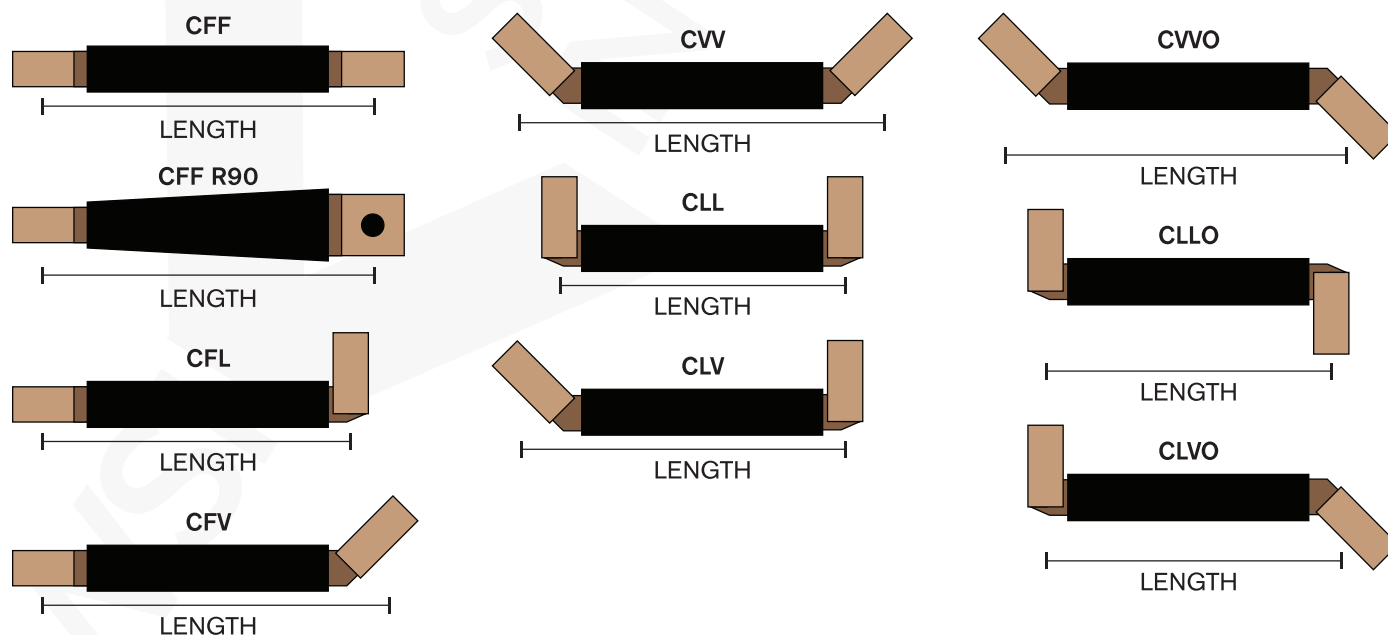
### Bolt Hole Size:

All Air-Cooled Jumpers are drilled with 17/32" bolt holes, unless ordered otherwise.

MCM	1.25" Wide	1.375" Wide	1.5" Wide
400	0.375" Thick	--	--
500	0.4375" - 0.51" Thick	0.465" Thick	0.425" Thick
600	0.5" - 0.54" Thick	0.4375" - 0.49" Thick	0.45" Thick
750	0.625" - 0.65" Thick	0.5625" - 0.59" Thick	0.545" Thick
1000	0.75" - 0.825" Thick	0.6875" - 0.75" Thick	0.625" - 0.69" Thick
1200	0.875" - 0.965" Thick	0.8125" - 0.88" Thick	0.75" - 0.805" Thick
1500	1.165" Thick	0.6875" - 1.06" Thick	0.975" - 1.0" Thick
2000	--	1.575"	1.4375" - 1.440" Thick

Terminals can be furnished with any desired angle.

# LUG CONFIGURATIONS



# HOW TO ORDER AIR-COOLED JUMPER CABLES

## CABLE TYPE

Standard  
Isolated Conductor  
Extra-Flexible

## STABILIZER COLLAR

Y / N

## MCM

## CABLE LENGTH

## TERMINAL TYPE

Type F  
Type F1  
Type F2

## TERMINAL WIDTH

## TERMINAL THICKNESS

## LUG CONFIGURATION

## HOLE DIA.

(17/32")

Unless Otherwise Specified

ORDER:

EXAMPLE: Standard - N - 400 MCM - 12" - Type CF - 1.25" Wide - 0.5" Thick - CFF - 16/32"

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