

Eaton®
FT1380 & FT1390 Crimp Machines



EATON

Powering Business Worldwide

FT1380 & FT1390 Crimp Machines

The FT1380 is a benchtop crimp machine that crimps hydraulic hose assemblies up to 1 1/4" (-20) braided and four spiralwire hose. With the launch of Eaton 6S spiral hose fitting the FT1380 is now capable of crimping hydraulic hose assemblies up to 1" (-16). In addition, the FT1380 is capable of swaging thermoplastic hose and hose fittings with the optional swaging adapter kit FF16423. Additional information on the FF16423 FT1380 swaging adapter kit can be obtained from E-MEAD-TT002-E.

The FT1390 crimp machine is a stand-alone machine without a base, and will crimp up to 2" (-32) braided, 2" (-32) four spiral, and 2" (-32) six spiral hydraulic hose assemblies. Both machines have programmable electronic keypads with 10 presets. These keypads simplify the hose crimping operation by allowing the machine operator to enter a predetermined setting for a specific hose type and size. The ten most often used crimp settings can be stored for one-touch retrieval. The machine will automatically crimp to the exact crimp diameter required for that hose type and size. The electronic crimp machine settings eliminate the need for spacers or shims in the crimping operation.



FT1380

Features

- Electronic programmable keypad
- 10 Crimp diameter presets
- Individual die cages for each hose size
- FF16423 FT1380 swaging adapter kit

FT1390

Features

- Electronic programmable keypad
- 10 Crimp diameter presets
- 2-Piece master die cage
- Durable, lightweight and low cost die inserts for each size



Benefits

- Easy and quick to electronically enter crimp setting
- Can pre-program 10 most popular crimp settings
- Die cages easily slip in and out of machine
- Machine now capable of swaging thermoplastic hose and hose fittings

Benefits

- Easy and quick to electronically enter crimp setting
- Can pre-program 10 most popular crimp settings
- Die cages easily slip in and out of machine.

| Machine Type | FT1380 | FT1390 |
|----------------------------|--|---------------------------------------|
| Hose Fitting Series | Sizes | Sizes |
| TTC series | -04 thru -20 | -04 thru -32 |
| TTC12 | -06 thru -20 | -06 thru -32 |
| 4S | -06 thru -20 | -06 thru -20 |
| 6S | -16 only | -16 thru -32 |
| 1E | N/A | -12 thru -32 |
| 1Z | N/A | -16 thru -32 |
| Specifications | | |
| Dimensions | 12.75" Wide X 25.75" Deep X 28.5" High | 29" Wide X 28" Deep X 45" High |
| Weight | 238 pounds | 825 pounds |
| Electrical requirements | 115 volt standard, 230 volt available | 115 volt standard, 230 volt available |

FT1380 Tooling and Crimp Machine

Part Numbers and Packages

| FT1380 | | FT1380 Tooling and Crimp Machine Packages (Qty per package) | | |
|---------------------|--|---|-------------------------------|-------------------------------|
| Package Part Number | | | FT1380-115-5 | FT1380-115-8 |
| Part Number | Description | Fittings | TTC Fitting Tooling & Crimper | TTC & TTC12 Tooling & Crimper |
| FT1380-115 | Crimp Machine (115V) | | 1 | 1 |
| FT1380-200-M150 | | | 1 | 1 |
| FT1380-200-M180 | | | | 1 |
| FT1380-200-M210 | | | 1 | 1 |
| FT1380-200-M240 | | | 1 | 1 |
| FT1381-200-M280 | | | | 1 |
| FT1380-200-M320 | | | 1 | 1 |
| FT1381-200-M370 | | | 1 | 1 |
| FT1380-200-M420 | | | | |
| FT1381-200-M465 | | | | 1 |
| FT1380-1-2 | For Brazil market (230V, 50/60Hz, 1.5hp) | | | |
| FT1380-230 | Crimp Machine (230V, 50/60Hz) (optional) | | | |

Mounting hardware is included.

Crimp Cages for FT1380

M-Series Crimp Die Cage Applications

| Die Cage Part Number | Crimp Range mm | in |
|----------------------|----------------|--------------|
| FT1380-275-M070 | 7,0 to 9,0 | 0.28 to 0.35 |
| FT1380-275-M090 | 9,0 to 12,0 | 0.35 to 0.47 |
| FT1380-275-M120 | 12,0 to 15,0 | 0.47 to 0.59 |
| FT1380-200-M150* | 15,0 to 18,0 | 0.59 to 0.71 |
| FT1380-200-M180* | 18,0 to 21,0 | 0.71 to 0.83 |
| FT1380-200-M210* | 21,0 to 24,0 | 0.83 to 0.95 |
| FT1380-200-M240* | 24,0 to 28,0 | 0.95 to 1.10 |
| FT1380-200-M280* | 28,0 to 32,0 | 1.10 to 1.26 |
| FT1380-200-M320* | 32,0 to 37,0 | 1.26 to 1.46 |
| FT1380-275-M370* | 37,0 to 42,0 | 1.46 to 1.66 |
| FT1380-275-M420 | 42,0 to 46,5 | 1.66 to 1.83 |
| FT1381-200-M465* | 46,5 to 52,0 | 1.83 to 2.05 |

Note: Additional dies and die cage assemblies also available. Refer to website or contact Eaton.

Hose Styles

- Smooth Bore PTFE
- SAE100R1AT
- SAE100R2AT
- HI-PAC
- SAE100R6
- SAE100R8
- SAE100R17
- Convoluted PTFE
- SAE100R1
- SAE100R2A
- SAE100R4
- SAE100R7
- SAE100R12
- Thermoplastic

For crimp specifications on Global Skive type fittings and Global TTC & TTC12 refer to website or contact Eaton for specialty hoses.

Thermoplastic Swage Application

| Part Number | Fitting Styles |
|-------------|----------------|
| FF16423 | All Styles |

Barrel Crimp Die Cage Applications

| Die Cage Part Number | Hose Size | Hose Style |
|----------------------|-----------|------------|
| FT1380-275-R5-04 | -04 | SAE100R5 |
| FT1380-275-R5-05 | -05 | |
| FT1380-275-R5-06 | -06 | |
| FT1380-275-R5-08 | -08 | |
| FT1380-275-R5-10 | -10 | |
| FT1380-275-R5-12 | -12 | |
| FT1380-275-R5-16 | -16 | |
| FT1380-275-R5-20 | -20 | |

Global TTC Series 4S/6S Die Cage Applications

| Die Cage Part Number | Crimp Range mm | in |
|----------------------|----------------|--------------|
| FT1382-200-M320 | 32,0 to 37,0 | 1.26 to 1.46 |
| FT1382-200-M370 | 37,0 to 42,0 | 1.46 to 1.66 |
| FT1382-200-M420 | 42,0 to 46,5 | 1.66 to 1.83 |
| FT1382-200-M465 | 46,5 to 52,0 | 1.83 to 2.05 |

Die Cage Repair Kit Complete kit, less dies.

| To Repair | Order |
|-----------------|-------------|
| FT1380-200-size | FT1380-2-9 |
| FT1380-275-size | FT1380-2-9 |
| FT1380-201-size | FT1380-2-9A |



FF91042 Eaton crimper cart for FT1380

FT1390 Tooling and Crimp Machine

Part Numbers and Packages

| FT1390 | | FT1390 Tooling and Crimp Machine Packages (Qty per package) | | | | | |
|----------------------------|-------------------------------|--|-----------------------------------|----------------------|-----------------------------------|----------------------|-----------------------------------|
| Package Part Number | | FT 1390-115 | FT 1390-115-12 | FT 1390-23050 | FT 1390-23050-12 | FT 1390-23060 | FT 1390-23060-12 |
| Part Number | Description | Crimper Only | Crimper & Tooling Only | Crimper Only | Crimper & Tooling Only | Crimper Only | Crimper & Tooling Only |
| FT1390-2-1 | Crimp machine (115V 60Hz 1PH) | 1 | 1 | | | | |
| FT1390-2-3 | Crimp machine (230V 50Hz 1PH) | | | 1 | 1 | | |
| FT 1390-2-2 | Crimp machine (230V 60Hz 1PH) | | | | | 1 | 1 |
| FT1307-200-M690 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT 1307-200-M550 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M520 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M465 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M420 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M370 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M320 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M280 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M240 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M210 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT1307-200-M180 | Crimp die cage assembly | | 1 | | 1 | | 1 |
| FT 1307-200-M150 | Crimp die cage assembly | | 1 | | 1 | | 1 |

Note: ET1380-2-4 die holders. Consist of 4 plates that attach to the sides of the machine and can hold up to eight die cages. Mounting hardware is included.

FT1390 Tooling and Crimp Machine

Part Numbers and Packages

Crimp Cages for FT1390

FT1307-200-Size, FT1209-200-Size & FT1390-200-Size die cages can be used in the FT1390 crimp machine.

| Die Cage Part Number | Crimp Range | |
|----------------------|--------------|--------------|
| | mm | in |
| FT1307-200-M070 | 7,0 to 9,0 | 0.28 to 0.35 |
| FT1307-200-M090 | 9,0 to 12,0 | 0.35 to 0.47 |
| FT1307-200-M120 | 12,0 to 15,0 | 0.47 to 0.59 |
| FT1307-200-M150* | 15,0 to 18,0 | 0.59 to 0.71 |
| FT1307-200-M180* | 18,0 to 21,0 | 0.71 to 0.83 |
| FT1307-200-M210* | 21,0 to 24,0 | 0.83 to 0.95 |
| FT1307-200-M240* | 24,0 to 28,0 | 0.95 to 1.10 |
| FT1307-200-M280* | 28,0 to 32,0 | 1.10 to 1.26 |
| FT1307-200-M320* | 32,0 to 37,0 | 1.26 to 1.46 |
| FT1307-200-M370* | 37,0 to 42,0 | 1.46 to 1.66 |
| FT1307-200-M420* | 42,0 to 46,5 | 1.66 to 1.83 |
| FT1307-200-M465* | 46,5 to 52,0 | 1.83 to 2.05 |
| FT1307-200-M520* | 52,0 to 55,0 | 2.05 to 2.17 |
| FT1307-200-M550* | 55,0 to 69,0 | 2.17 to 2.71 |
| FT1307-200-M690* | 69,0 to 73,0 | 2.72 to 2.87 |

*FT1390-115-12 kit includes these 12 die cages.

Note: Additional dies and die cage assemblies also available. Refer to website or contact Eaton.

FT1209-200-Size & FT1390-200-Size are for use with internal skive and Global Spiral TTC fittings (SAE100R11 & SAE100R13 hose styles).

FT1390-200-Size dies cages are hinged to allow ease of use when crimping large elbows. All dies are machined from tool steel.

Hose Styles

- Smooth Bore PTFE
- Thermoplastic
- SAE100R1
- SAE100R2A
- SAE100R4
- SAE100R7
- SAE100R12
- Convoluted PTFE
- SAE100R1AT
- SAE100R2AT
- HI-PAC
- SAE100R6
- SAE100R8
- AE100R17

For crimp specifications on Global Skive type fittings and Global TTC & TTC12 refer to website or contact Eaton for specialty hoses.

Barrel Crimp Die Cage Applications

| Die Cage Part Number | Hose Size | Hose Styles |
|----------------------|-----------|-------------|
| FT1307-200-R5-04 | -04 | SAE100R5 |
| FT1307-200-R5-05 | -05 | |
| FT1307-200-R5-06 | -06 | |
| FT1307-200-R5-08 | -08 | |
| FT1307-200-R5-10 | -10 | |
| FT1307-200-R5-12 | -12 | |
| FT1307-200-R5-16 | -16 | |
| FT1307-200-R5-20 | -20 | |
| FT1307-200-R5-24 | -24 | |
| FT1307-200-R5-32 | -32 | |
| *FT1392-200-R5-24 | -24 | |
| *FT1392-200-R5-32 | -32 | |

* Hinged Die Cage

Die Cage Repair Kit Complete kit, less dies.

| To Repair | Order |
|-----------------|------------|
| FT1307-200-size | FT1307-2-9 |
| FT1390-200-size | FT1390-2-9 |
| FT1209-200-size | FT1209-2-9 |

FT1380 and FT1390 Target Settings

Global TTC fittings, Global TTC12 fittings, & Global TTC Crimp 4S/6S fittings

FT1380 procedure for determining a target setting

Enter the number "300" into the DISPLAY and start the crimping process. If the dies crimp the fitting, measure the crimp diameter and decrease the DISPLAY setting by the same amount that you wish to decrease the crimp diameter. If the dies don't touch the fitting, lower the DISPLAY setting by 050 to "250" and try to crimp the fitting again. If that still isn't enough, continue to reduce the DISPLAY setting by 050 increments until the dies make contact with the fitting. Then measure the crimp diameter and decrease the DISPLAY setting by the same amount that you wish to decrease the crimp diameter.

***Example:**

If a display setting of "178", using GH663 hose with Global TTC fittings produces a crimp diameter of 1.600 inches, subtract the crimp specification (1.590 inches) from the diameter that you need measured ($1.600 - 1.590 = 0.010$). Then, subtract "010" from the DISPLAY setting ($178 - 010 = 168$) and change the DISPLAY to "168". Crimp the fitting again and measure the crimp diameter. If the crimp diameter is still too large, repeat this process.

FT1390 procedure for determining a target setting

Enter the number "500" into the DISPLAY, and start the crimping process. If the dies crimp the fitting, measure the crimp diameter and decrease the DISPLAY setting by the same amount that you wish to decrease the crimp diameter. If the dies don't touch the fitting, lower the DISPLAY setting by 050 to "450" and crimp the fitting again. If that still isn't enough, continue to reduce the DISPLAY setting by 050 increments until the dies make contact with the fitting. Then, measure the crimp diameter and decrease the DISPLAY setting by the same amount that you wish to decrease the crimp diameter.

***Example:**

If a display setting of "343" – using GH663 with Global TTC – produces a crimp diameter of 1.600 inches, subtract the crimp specification (1.590 inches) from the diameter that you measured ($1.600 - 1.590 = 0.010$). Then, subtract "010" from the DISPLAY setting ($343 - 010 = 333$), and change the DISPLAY to "333". Crimp the fitting again, and measure the crimp diameter. If the crimp diameter is still too large, repeat this process.

Note: Record the setting for future reference.

Charted target settings

The charts on the next page provide target settings for common Aeroquip hoses.

To determine target settings for hoses not included in these charts refer to procedures above or PowerSource.

FT1380 and FT1390 Target Settings

Global TTC fittings, Global TTC12 fittings, & Global TTC Crimp 4S/6S fittings

GH663 with Global TTC Crimp Fitting Hose Ends

| Hose Dash Size | Die Cage | FT1380 | FT1390 | Target Dia. | |
|----------------|----------|--------|--------|-------------------|---------------------|
| | | | | mm (± 0.15) | in (± 0.0006) |
| -4 | -M150 | 074 | 239 | 15.75 | 0.620 |
| -6 | -M180 | 046 | 286 | 19.94 | 0.785 |
| -8 | -M240 | 040 | 205 | 23.88 | 0.940 |
| -10 | -M240 | 155 | 320 | 26.80 | 1.055 |
| -12 | -M280 | 172 | 358 | 31.75 | 1.250 |
| -12 | -M320 | 035 | 200 | 31.75 | 1.250 |
| -16 | -M370 | 178 | 343 | 40.39 | 1.590 |
| -24 | -M550 | - | 226 | 55.40 | 2.181 |
| -32 | -M690 | - | 194 | 68.61 | 2.701 |

GH781 with Global TTC Crimp Fitting Hose Ends

| Hose Dash Size | Die Cage | FT1380 | FT1390 | Target Dia. | |
|----------------|----------|--------|--------|-------------------|---------------------|
| | | | | mm (± 0.15) | in (± 0.0006) |
| -6 | -M210 | 33 | 198 | 20.70 | 0.815 |
| -8 | -M240 | 75 | 240 | 24.77 | 0.975 |
| -10 | -M280 | 37 | 223 | 28.32 | 1.115 |
| -12 | -M320 | 30 | 195 | 31.62 | 1.245 |
| -16 | -M370 | 153 | 318 | 39.75 | 1.565 |
| -20 | -M465 | 114 | 279 | 48.26 | 1.900 |
| -24 | -M550 | - | 200 | 54.74 | 2.155 |
| -32 | -M690 | - | 193 | 68.58 | 2.700 |

GH493 with Global TTC12 Crimp Fitting Hose Ends

| Hose Dash Size | Die Cage | FT1380 | FT1390 | Target Dia. | |
|----------------|----------|--------|--------|-------------------|---------------------|
| | | | | mm (± 0.15) | in (± 0.0006) |
| -6 | -M210 | 114 | 279 | 22.86 | 0.900 |
| -8 | -M280 | 17 | 203 | 27.94 | 1.100 |
| -10 | -M280 | 122 | 308 | 30.48 | 1.200 |
| -12 | -M320 | 140 | 305 | 35.56 | 1.400 |
| -16 | -M370 | 313 | - | 43.18 | 1.700 |
| -16 | -M420 | 116 | 281 | 43.18 | 1.700 |
| -20 | -M465 | 269 | - | 53.34 | 2.100 |
| -20 | -M520 | - | 218 | 53.34 | 2.100 |
| -24 | -M550 | - | 245 | 55.88 | 2.200 |
| -32 | -M690 | - | 216 | 68.58 | 2.700 |

GH793 with Global TTC Crimp Fitting Hose Ends

| Hose Dash Size | Die Cage | FT1380 | FT1390 | Target Dia. | |
|----------------|----------|--------|--------|-------------------|---------------------|
| | | | | mm (± 0.15) | in (± 0.0006) |
| -4 | M150 | 134 | 299 | 17.27 | 0.680 |
| -6 | -M180 | 171 | 336 | 21.21 | 0.835 |
| -6 | -M210 | 53 | 218 | 21.21 | 0.835 |
| -8 | -M210 | 208 | 373 | 25.15 | 0.990 |
| -8 | -M240 | 90 | 255 | 25.15 | 0.990 |
| -10 | -M240 | 226 | 391 | 28.59 | 1.126 |
| -10 | -M280 | 48 | 234 | 28.59 | 1.126 |
| -12 | -M280 | 202 | 388 | 32.51 | 1.280 |
| -12 | -M320 | 65 | 320 | 32.51 | 1.280 |
| -16 | -M370 | 218 | 383 | 41.40 | 1.630 |
| -20 | -M420 | 351 | - | 49.78 | 1.960 |
| -20 | -M465 | 174 | - | 49.78 | 1.960 |
| -24 | -M550 | - | 315 | 57.66 | 2.270 |
| -32 | -M420 | 351 | - | 70.87 | 2.790 |

GH493 with Global TTC Crimp 4S Fitting Hose Ends

| Hose Dash Size | Die Cage | FT1380 | FT1390 | Target Dia. | |
|----------------|----------|--------|--------|-------------------|---------------------|
| | | | | mm (± 0.15) | in (± 0.0006) |
| -12 | -M320 | - | - | 36.65 | 1.443 |
| -16 | -M420 | - | - | 43.82 | 1.725 |

FC606 with Global TTC Crimp 6S Fitting Hose Ends

| Hose Dash Size | Die Cage | FT1380 | FT1390 | Target Dia. | |
|----------------|----------|--------|--------|-------------------|---------------------|
| | | | | mm (± 0.15) | in (± 0.0006) |
| -16 | -M465 | - | - | 48.62 | 1.914 |

Caution: These target settings for Eaton crimp machines are provided to aid in establishing actual settings. While the settings on this chart will give crimp diameters close to, or at, the specified value, the machine operator must check to verify the actual diameter. Before using these target settings, the crimp machine must be properly calibrated. Consult your Aeroquip operator's manual for calibration procedures.

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