

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

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

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 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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