Weatherhead® ET4020 & ET4040
Crimp Machines

New Crimp Machines Now Available!

EATON
Powering Business Worldwide

Two New Weatherhead Crimp Machines!

Two new Weatherhead crimp machines are now available. The ET4020 is a benchtop crimp machine that crimps hydraulic hose assemblies up to 1 1/4" braided and H430 four spiral wire hose. The ET4040 crimp machine comes with a base so no benchtop is needed. The ET4040 will crimp up to 2" braided through six heavy-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 10 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 which some operators find confusing.

ET4020

Features

- Electronic Programmable Keypad
- 10 Crimp Diameter Presets
- Individual die cages for each hose size

Benefits

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

ET4040

Features

- Electronic Programmable Keypad
- 10 Crimp Diameter Presets
- 2-piece Master die cage
- Durable, lightweight and low cost die inserts for each size
- Magnetic handle

Benefits

- Easy to electronically enter crimp setting
- Can pre-program 10 most popular crimp settings
- Die sets easily mount into fixed master die cage
- Top half of master cage slips in and out to allow easy loading of elbows
- Tool mounted die inserts are safer and cleaner
- Magnetic handle firmly connects & releases die inserts with a quick twist

	ET4020	ET4040
Hose End Series	**Sizes**	**Sizes**
Z series	-4 thru -20	-4 thru -32
430U series (4 spiral)	-6 thru -20	-6 thru -32
4SP/6SP	N/A	-12 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

ET4020 Tooling and Crimp Machine

Part Numbers and Packages

ET4020				ET4020 Tooling and Crimp Machine Packages	
				ET4020TP-0003	ET4020-006
Part Number	**Description**	**Ends Crimped**	**430U Sizes Crimped**	**Z & 430U Tooling Only**	**Z & 430U Tooling & Crimper**
ET4020-115	Crimp Machine (115V)			0	1
W-EQCR-TM020-E	Operator's Manual			0	1
FT1380-200-M150	Die Cage	Z		1	1
FT1380-200-M180	Die Cage	Z		1	1
FT1380-200-M210	Die Cage	Z and 430U	-6	1	1
FT1380-200-M240	Die Cage	Z		1	1
FT1380-200-M280	Die Cage	Z and 430U	-8 and -10	1	1
FT1380-200-M320	Die Cage	Z and 430U	-12	1	1
FT1380-200-M370	Die Cage	Z		1	1
FT1380-200-M420	Die Cage	Z and 430U	-16	1	1
FT1381-200-M465	Die Cage	Z and 430U	-20	1	1

Note: Also available: ET4020-230 (230V) machine.
ET1380-2-4 die holders. Consists of 4 plates that attach to the sides of the machine and can hold up to eight die cages. Mounting hardware is included.

ET4040 Tooling and Crimp Machine

Part Numbers and Packages

ET4040 — **ET4040 Tooling And Crimp Machine Packages (Qty per package)**

Package Part Number			ET4040TP-0004	ET4040-007	ET4040TP-0005	ET4040-008	ET4040TP-0006	ET4040-009
Part Number	**Description**	**Ends Crimped**	**Z & 430U Tooling Only**	**Z & 430U Tooling & Crimper**	**4SP/6SP Tooling Only**	**4SP/6SP Tooling & Crimper**	**Z, 430U, & 4SP/6SP Tooling Only**	**Z, 430U, & 4SP/6SP Tooling & Crimper**
ET4040-115	Crimp Machine (115V)			1		1		1
W-EQCR-TM021-E	Operator's Manual			1		1		1
ET1295-001	Master Die Cage (2-Piece)			1		1		1
ET1295TP-0001	Handle To Capture Die Inserts			1		1		1
ET1295C-0027	Hanging Rack for Die Inserts			2		2		2
ET1295DC-M150S	Die Inserts (8 Pieces)	Z	1	1			1	1
ET1295DC-M180S	Die Inserts (8 Pieces)	Z	1	1			1	1
ET4040DC-M210S	Die Inserts (8 Pieces)	Z and 430U	1	1			1	1
ET1295DC-M240S	Die Inserts (8 Pieces)	Z	1	1			1	1
ET4040DC-M280S	Die Inserts (8 Pieces)	Z and 430U	1	1			1	1
ET4040DC-M320S	Die Inserts (8 Pieces)	Z and 430U	1	1			1	1
ET1295DC-M370S	Die Inserts (8 Pieces)	Z	1	1			1	1
ET4040DC-M420S	Die Inserts (8 Pieces)	Z and 430U	1	1			1	1
ET4040DC-M465S	Die Inserts (8 Pieces)	Z and 430U	1	1			1	1
ET4040DC-M520S	Die Inserts (8 Pieces)	430U	1	1			1	1
ET1295DC-M550S	Die Inserts (8 Pieces)	Z	1	1			1	1
ET4040DC-M570S	Die Inserts (8 Pieces)	Z and 430U	1	1			1	1
ET4040DC-M690S	Die Inserts (8 Pieces)	Z and 430U	1	1			1	1
ET1295DC-82S	Die Inserts (8 Pieces)	4SP12			1	1	1	1
ET1295DC-46S	Die Inserts (8 Pieces)	4SP16			1	1	1	1
ET1295DC-14S	Die Inserts (8 Pieces)	4SP20			1	1	1	1
ET1295DC-20S	Die Inserts (8 Pieces)	4SP24			1	1	1	1
ET1295DC-23S	Die Inserts (8 Pieces)	4SP32			1	1	1	1
ET1295DC-15S	Die Inserts (8 Pieces)	6SP20			1	1	1	1
ET1295DC-16S	Die Inserts (8 Pieces)	6SP24			1	1	1	1
ET1295DC-21S	Die Inserts (8 Pieces)	6SP32			1	1	1	1
MSDS Sheet	Hydraulic Fluid			1		1		1
MSDS Sheet	Never Seez			1		1		1
FT1289-3-30	Shipping Crate			1		1		1
ET4040-230	Crimp Machine(230V, 50/60H) (optional)							

ET4040 Master Die Cage, Die Inserts and Handle for Inserts

Feature	Benefit
Lightweight	Easy to maneuver
Compact size	Lower cost
Hardened steel	Durable
Handle captures dies	Grease-free handling minimizes mess

ET4040 Master Die Cage and Tooling

Master Die Cage

Die Inserts

Handle to capture die inserts

ET1295C-0029 Table-Top Die Insert Holder Rack (optional)

ET1295C-0027 Machine Mounted Die Insert Holder Rack (standard)

ET4020 and ET4040 Target Settings

Z-Series and 430U Hose Ends

ET4020 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 "250", using H28008 hose with Z Series fittings produces a crimp diameter of 1.124 inches, subtract the crimp specification (0.990 inches) from the diameter that you need measured (1.124-0.990=0.134). Then, subtract "134" from the DISPLAY setting (250-134=116) and change the DISPLAY to "116". Crimp the fitting again and measure the crimp diameter. If the crimp diameter is still too large, repeat this process.

ET4040 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 "250"– using H28008 with Z Series– produces a crimp diameter of 1.004 inches, subtract the crimp specification (0.990 inches) from the diameter that you measured (1.004-0.990=0.014). Then, subtract "014" from the DISPLAY setting (250-014=236), and change the DISPLAY to "236." 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 below and on the next page provide target settings for common Weatherhead hoses. To determine target settings for hoses not included in these charts refer to procedures above.

Hose Dash Size	Die Cage	ET4020	ET4040	Target Dia.
				± .15 mm ± .006 in
H190 with Z-series Hose Ends				
-4	-M150	068	304	15.75 mm .620 in
-6	-M180	104	351	19.94 mm .785 in
-8	-M240	034	270	23.88 mm .940 in
-10	-M240	147	385	26.80 mm 1.055 in
-12	-M320	035	265	31.75 mm 1.250 in
-16	-M370	166	408	40.39 mm 1.590 in
-20	-M420	176	432	45.72 mm 1.800 in
-24	-M550	-	291	2.181 in
-32	-M690	-	259	2.701 in

Hose Dash Size	Die Cage	ET4020	ET4040	Target Dia.
				± .15 mm ± .006 in
H190H with Z-series Hose Ends				
-4	-M150	067	304	15.75mm .620 in
-6	-M180	095	336	19.56mm .770 in
-8	-M240	036	270	23.88mm .940 in
-10	-M240	147	385	26.80mm 1.055 in
-12	-M320	035	265	31.75mm 1.250 in
-16	-M370	166	408	40.39mm 1.590 in
-20	-M420	176	421	45.72mm 1.800 in

ET4020 and ET4040 Target Settings

Z-Series and 430U Hose Ends

Hose Dash Size	Die Cage	ET4020	ET4040	Target Dia.
				± .15 mm ± .006 in
H290 with Z-series Hose Ends				
-4	-M150	125	364	17.27mm .680 in
-6	-M210	046	283	21.21mm .835 in
-8	-M240	086	320	25.15mm .990 in
-10	-M280	061	303	28.70mm 1.130 in
-12	-M320	048	295	32.51mm 1.280 in
-16	-M370	204	448	41.40mm 1.630 in
-20	-M465	149	404	49.78mm 1.960 in
-24	-M550	-	380	57.66mm 2.270 in
-32	-M690	-	348	70.87 mm 2.79 in

Hose Dash Size	Die Cage	ET4020	ET4040	Target Dia.
				± .15 mm ± .006 in
H290H with Z-series Hose Ends				
-4	-M150	112	349	17.25mm .680 in
-6	-M210	047	283	21.21mm .835 in
-8	-M240	087	320	25.15mm .990 in
-10	-M280	063	299	28.71mm 1.130 in
-12	-M320	049	295	32.51mm 1.280 in
-16	-M370	216	458	41.66mm 1.640 in
-20	-M465	194	444	50.80mm 2.000 in
-24	-M550	-	380	57.66mm 2.270 in
-32	-M690	-	328	70.36mm 2.770 in

H280 with Z-series Hose Ends				
-4	-M150	111	349	16.89mm .665 in
-6	-M210	026	263	20.70mm .815 in
-8	-M240	071	305	24.77mm .975 in
-10	-M280	045	288	28.32mm 1.115 in
-12	-M320	013	260	31.62mm 1.245 in
-16	-M370	137	383	39.75mm 1.565 in
-20	-M465	091	344	48.26mm 1.900 in
-24	-M550	-	265	54.65mm 2.151 in
-32	-M690	-	258	68.58mm 2.700 in

H430 with 430U-series Hose Ends				
-6	-M210	105	344	22.76mm .896 in
-8	-M280	72	323	29.20 mm 1.150 in
-10	-M280	130	373	30.48mm 1.200 in
-12	-M320	191	421	35.70 mm 1.406 in
-16	-M420	96	326	43.30 mm 1.705 in
-20	-M465*	249	-	51.70 mm 2.035 in
-20	-M520	-	263	51.70 mm 2.035 in
-24	-M570	-	316	58.05 mm 2.285 in
-32	-M690	-	453	73.55 mm 2.895 in

Caution: These target settings for Weatherhead 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 Weatherhead operator's manual for calibration procedures.

* ET4020 requires the FT1381-200-M465 die cage to crimp 430U-series hose ends in the -20 size.

ET4040 Target Settings and Assembly Instructions

4SP and 6SP Hose Ends

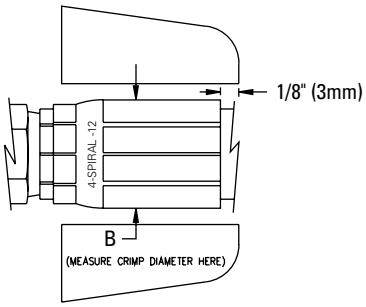

Figure 1

Caution: These target settings for the ET4040 crimp machine 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 Weatherhead ET4040 operator's manual for calibration procedures.

4SP Hose Ends for use on 4-wire construction

6SP Hose Ends for use on 6-wire construction

Hose Dash Size	Hose End Part Number Prefix	Crimp Diameter "B" ± 0.15MM (± .006 In)	Crimp Die Inserts	Fig.	ET4040 Target Setting
H464					
-12	4SP12	36.15 (1.425)	ET1295DC-82S	1	272
-16	4SP16	44.95 (1.768)	ET1295DC-46S	1	235
-20	4SP20	53.45 (2.106)	ET1295DC-14S	1	353
-24	4SP24	60.40 (2.378)	ET1295DC-20S	1	299
-32	4SP32	73.65 (2.898)	ET1295DC-23S	1	300
H470					
-12	4SP12	36.7 (1.445)	ET1295DC-82S	1	292
-16	4SP16	45.4 (1.787)	ET1295DC-46S	1	254
-20	6SP20	57.1 (2.248)	ET1295DC-15S	1	315
-24	6SP24	64.1 (2.524)	ET1295DC-16S	1	321
-32	6SP32	79.1 (3.114)	ET1295DC-21S	1	311
H485					
-16	4SP16	45.4 (1.768)	ET1295DC-46S	1	235
-20	6SP20	56.2 (2.213)	ET1295DC-15S	1	280
-24	6SP24	64.1 (2.525)	ET1295DC-16S	1	322

Assembly Instructions

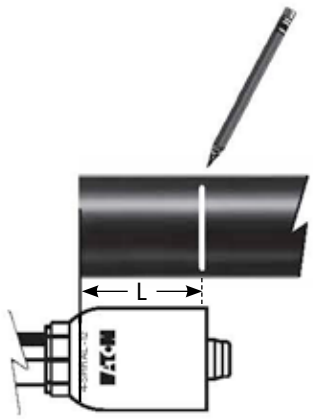

Figure 2

1. Cut hose to proper length by subtracting appropriate fitting hose cutoff factors from overall assembly length. Hose cutoff factors are listed for each hose end fitting in the master Weatherhead catalog.
   - To determine hose insertion length (L), align end of hose to top of stenciled dash size or scribe line (located on the socket taper) and mark hose where the socket ends as shown in Figure 2.
   - Install hose end onto hose until socket edge aligns with mark.
2. Select proper crimp tooling and machine settings, then crimp to specified diameter.
   - To achieve full flat crimp locate back edge of socket approximately 1/8" (3mm) from back edge of crimp jaws as shown in Figure 1.

ET4040 Crimp Machine

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