

Did you know that **Zero Clips** offer possibly the widest range of **clips & clamps** in Europe? As one of the leading suppliers in our field, we can now offer the following products from our range:

Single & Double ear 'O' clips*

Rubber lined & Plain 'P' clips*

British standard worm drive*

American standard worm drive*

European worm drive*

Quick Release worm drive*

Heavy Duty worm drive*

**Hose clip tools, nut runners /
pincers**

Constant Tension worm drive*

**Heavy Duty Single & Double bolt
clamps***

'T' bolt clamps*

'V' channel clamps*

**Constant Tension band & wire type
clips**

Banding kits*

Sign clamps*

Single & Double wire clips

All Automotive clips / clamps

Circlips

'R' clips

Springs / Wire forms

General pressings

SPECIALS

* Available in both plated and stainless steel We offer product in a wide variety of materials including plated steel, stainless steel & spring steel, stainless steel & spring steel to name but a few.

Please let us know your requirements
for a competitive quotation.

Tel: 0044 (0)121 622 3211 Fax: 0044 (0)121 622 2813

www.zeroclips.com

As a manufacturer and distributor of clips and clamps since 1978, we pride ourselves on our ability to offer ANY TYPE of clip or clamp available. We can even make specials to YOUR requirements.

OUR RANGE INCLUDES

- Double Eared **ZERO** clips.
- Single Eared **ZERO** clips.
- **ZERO 'P'** Clips in **ZINC** plated & **STAINLESS** Steels. Rubber lined & plain. **1/2", 5/8", 3/4" & 1"** Band widths available.
- **"JOLLY"** Brand worm drive hose clips in **ZINC** plated condition.
- **BRITISH** made BS 5315 Worm drive hose clips, **ZINC** plated & **STAINLESS** Steel.
- Continental DIN 3017 Worm drive hose clips, **ZINC** plated & **STAINLESS** Steel.
- Single Bolt Clamps, **ZINC** plated & **STAINLESS** Steel
- Constant tension clips (Spring band, wire & Worm drive types).
- A wide range of **'V' CHANNEL BOLT CLAMPS**
- Nut & Bolt type clips.
- Single & Double coil wire clips.
- Mini & Micro clips.
- **'HERBIE'** Clips, **EZY CLICK** & **SMART BAND**
- **STAINLESS** Steel Continuous Banding.
- We are a main European stockist of the **'TRIDON'** range of part & full **STAINLESS** Steel hose clips, with possibly the largest stocks available in Europe. This includes their **QUICK RELEASE** & **"TRIMAX"** heavy duty range's of worm drive hose clips, both available in **STAINLESS** steel.

A FEW MARKET SECTORS WE COVER

AUTOMOTIVE OEM & AFTERMARKET
WHITE GOODS
CONSTRUCTION
CIVIL & GENERAL ENGINEERING
PLANT EQUIPMENT
MAINTENANCE ENGINEERING
DISTRIBUTION





DOUBLE EAR CLIPS PLATED



<u>Part No.</u>	<u>Size Range</u>	<u>Size</u>
Z07	5 - 7mm	1/4
Z09	7 - 9mm	5/16
Z11	8 - 11mm	3/8
Z12	9 - 12mm	7/16
Z13	11 - 13mm	1/2
Z15	13 - 15mm	9/16
Z17	15 - 17mm	19/32
Z18	15 - 18mm	5/8
Z20	17 - 20mm	3/4
Z23	20 - 23mm	7/8
Z26	23 - 26mm	1"
Z28	25 - 28mm	1.1/16
Z31	28 - 31mm	1.3/16
Z34	31 - 34mm	1.5/16
Z37	34 - 37mm	1.7/16
Z40	37 - 40mm	1.1/2
Z43	40 - 43mm	1.5/8
Z46	43 - 46mm	1.3/4

RUBBER LINED P CLIPS



<u>CODE ZINC</u>	<u>STAINLESS</u>	<u>SIZE mm</u>
PC003	PCS003	3
PC004	PCS004	4
PC005	PCS005	5
PC006	PCS006	6
PC008	PCS008	8
PC010	PCS010	10
PC013	PCS013	13
PC014	PCS014	14
PC016	PCS016	16
PC018	PCS018	18
PC019	PCS019	19
PC021	PCS021	21
PC022	PCS022	22
PC024	PCS024	24
PC025	PCS025	25
PC027	PCS027	27
PC028	PCS028	28
PC059	PCS029	29
PC030	PCS030	30
PC032	PCS032	32
PC035	PCS035	35
PC036	PCS036	36
PC038	PCS038	38
PC040	PCS040	40
PC042	PCS042	42
PC044	PCS044	44
PC046	PCS046	46
PC048	PCS048	48
PC050	PCS050	50
PC052	PCS052	52
PC055	PCS055	55
PC057	PCS057	57
PC060	PCS060	60

LARGER SIZES AVAILABLE, MANY FROM STOCK

AMERICAN DESIGN STAINLESS STEEL WORM DRIVE



5/16" (8mm) BAND WIDTH

<u>CODE</u>	<u>SIZE mm</u>
Z350-004	6 - 16
Z350-006	8 - 22
Z350-008	11 - 25
Z350-010	13 - 27
Z350-012	14 - 32
Z350-016	18 - 38
Z350-020	25 - 44
Z350-024	31 - 51
Z350-028	38 - 57
Z350-032	44 - 63
Z350-036	50 - 70
Z350-048	65 - 88

1/2" (12.7mm) BAND WIDTH

<u>CODE</u>	<u>SIZE mm</u>
Z620-006	9.5 - 22
Z620-008	11 - 25
Z620-010	14 - 27
Z620-012	14 - 32
Z620-016	17 - 38
Z620-020	19 - 44
Z620-024	27 - 51
Z620-028	33 - 57
Z620-032	40 - 63
Z620-036	46 - 70
Z620-040	52 - 76
Z620-044	58 - 82
Z620-048	65 - 90
Z620-052	71 - 95
Z620-056	78 - 101
Z620-060	84 - 107
Z620-064	63 - 114
Z620-072	76 - 127
Z620-084	126 - 146
Z620-096	115 - 165
Z620-104	127 - 177
Z620-128	165 - 216
Z620-152	203 - 254
Z620-188	52 - 311

QUICK RELEASE WORM DRIVE STAINLESS STEEL



<u>CODE</u>	<u>SIZE mm</u>
ZQR036	25 - 70
ZQR048	38 - 89
ZQR056	25 - 101
ZQR072	51 - 127
ZQR088	52 - 152
ZQR104	44 - 178
ZQR128	44 - 217
ZQR152	51 - 254
ZQR188	52 - 312
ZQR248	44 - 406
ZQR280	362 - 457
ZQR312	355 - 508
ZQR344	44 - 559



ZERO BRAND HEAVY DUTY BOLT CLAMPS W2 STAINLESS STEEL



<u>CODE</u>	<u>SIZE mm</u>
ZSC019	17 - 19
ZSC021	19 - 21
ZSC023	21 - 23
ZSC025	23 - 25
ZSC027	25 - 27
ZSC029	27 - 29
ZSC031	29 - 31
ZSC034	31 - 34
ZSC037	34 - 37
ZSC040	37 - 40
ZSC043	40 - 43
ZSC047	43 - 47
ZSC051	47 - 51
ZSC055	51 - 55
ZSC059	55 - 59
ZSC063	59 - 63
ZSC068	63 - 68
ZSC073	68 - 73
ZSC079	73 - 79
ZSC085	79 - 85
ZSC091	85 - 91
ZSC097	91 - 97
ZSC104	97 - 104
ZSC112	104 - 112
ZSC121	112 - 121
ZSC130	121 - 130
ZSC140	130 - 140
ZSC150	140 - 150
ZSC162	150 - 162
ZSC174	162 - 174
ZSC187	174 - 187
ZSC200	187 - 200
ZSC213	200 - 213
ZSC226	213 - 226
ZSC239	226 - 239
ZSC252	239 - 252

FUEL PIPE CLIPS NUT & BOLT STYLE



<u>CODE</u>	<u>SIZE mm</u>
ZNBC09	7 - 9
ZNBC10	8 - 10
ZNBC11	9 - 11
ZNBC12	10 - 12
ZNBC13	11 - 13
ZNBC14	12 - 14
ZNBC15	13 - 15
ZNBC16	14 - 16
ZNBC17	15 - 17
ZNBC18	16 - 18
ZNBC19	17 - 19
ZNBC20	18 - 20

JOLLY BRAND BRITISH DESIGN WORM DRIVE ZINC PLATED



<u>CODE</u>	<u>SIZE mm</u>
J12	9.5 - 12
J16	11 - 16
J20	13 - 20
J22	14 - 22
J25	18 - 25
J30	22 - 30
J35	25 - 35
J40	30 - 40
J45	35 - 45
J50	38 - 50
J55	40 - 55
J60	45 - 60
J70	50 - 70
J80	60 - 80
J90	70 - 90
J100	80 - 100
J120	90 - 120
J140	110 - 140
J160	135 - 160

CONSTANT TENSION WORM DRIVE STAINLESS STEEL



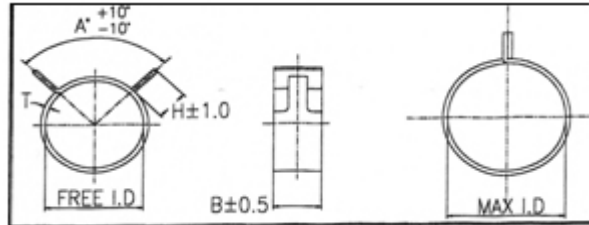
<u>CODE</u>	<u>SIZE mm</u>
45 175	25 - 45
45 200	32 - 54
45 250	45 - 67
45 300	57 - 79
45 350	70 - 92
45 400	83 - 105
45 450	95 - 117
45 500	108 - 130
45 550	121 - 143
45 600	133 - 155
45 650	146 - 168
45 700	159 - 181
45 750	172 - 193
45 800	184 - 206
45 850	197 - 219
45 900	210 - 232

MULTI CLIPS





CONSTANT TENSION SPRING BAND CLIPS



Part Number	Free I.D	Application Dia	Max I.D	T	B	H	A	
CTC 10068	K	Ø 6.8	Ø 7.5 ~ 8.0	Ø 8.3	0.6	6	6	85
CTC 10078	K	Ø 7.8	Ø 8.5 ~ 9.0	Ø 9.5	0.6	6	6	60
CTC 10086	K	Ø 8.6	Ø 9.5 ~ 10.3	Ø 10.6	0.7	8	6	60
CTC 10090	K	Ø 9.0	Ø 10.3 ~ 11.0	Ø 11.5	0.8	8	5	77
CTC 10100	K	Ø 10.0	Ø 11.0 ~ 11.7	Ø 12.2	0.6	8	6	60
CTC 10107	K	Ø 10.7	Ø 11.5 ~ 12.3	Ø 12.8	0.9	8	5	77
CTC 10110	K	Ø 11.0	Ø 12.0 ~ 12.5	Ø 13.0	0.7	8	6	60
CTC 10116	K	Ø 11.6	Ø 12.5 ~ 13.1	Ø 13.6	0.8	8	6	60
CTC 10125	K	Ø 12.5	Ø 13.0 ~ 14.0	Ø 14.5	0.9	8	5	77
CTC 10131	K	Ø 13.1	Ø 14.0 ~ 15.0	Ø 15.5	0.9	12	6	50
CTC 10138	K	Ø 13.8	Ø 14.8 ~ 16.5	Ø 17.0	0.9	10	15	90
CTC 10142	K	Ø 14.2	Ø 15.0 ~ 16.0	Ø 16.5	0.9	8	5	80
CTC 20145	K	Ø 14.5	Ø 16.0 ~ 18.2	Ø 18.7	1.1	16	9	85
CTC 10148	K	Ø 14.8	Ø 16.0 ~ 17.2	Ø 17.7	1.0	10	6	60
CTC 10150	K	Ø 15.0	Ø 16.8 ~ 17.5	Ø 18.2	1.0	10	7	73
CTC 20150	K	Ø 15.0	Ø 17.5 ~ 18.5	Ø 19.2	1.1	16	9	86
CTC 10151	K	Ø 15.1	Ø 17.5 ~ 18.2	Ø 19.0	1.2	15	8	90
CTC 10155	K	Ø 15.5	Ø 17.0 ~ 17.5	Ø 18.2	1.0	12	9	68
CTC 20158	K	Ø 15.8	Ø 17.6 ~ 19.0	Ø 19.7	1.1	18	7	68
CTC 10160	K	Ø 16.0	Ø 18.0 ~ 19.0	Ø 19.5	1.0	10	15	75
CTC 20160	K	Ø 16.0	Ø 18.5 ~ 20.0	Ø 20.6	1.1	18	8	66
CTC 10161	K	Ø 16.1	Ø 18.0 ~ 19.2	Ø 20.0	1.2	15	8	90
CTC 10170	K	Ø 17.0	Ø 18.0 ~ 19.2	Ø 20.1	0.9	12	8	80
CTC 20177	K	Ø 17.7	Ø 19.2 ~ 21.0	Ø 21.7	1.2	18	7	66
CTC 10178	K	Ø 17.8	Ø 19.5 ~ 21.0	Ø 21.8	1.0	12	7	73
CTC 10193	K	Ø 19.3	Ø 21.0 ~ 23.0	Ø 24.0	1.2	15	8	80
CTC 20194	K	Ø 19.4	Ø 20.5 ~ 22.2	Ø 23.2	1.2	12	9.6	60
CTC 10200	K	Ø 20.0	Ø 22.0 ~ 23.0	Ø 24.0	1.0	12	7	60
CTC 10208	K	Ø 20.8	Ø 23.5 ~ 25.0	Ø 26.0	1.0	12	8	92
CTC 20210	K	Ø 21.0	Ø 24.0 ~ 25.3	Ø 26.3	1.4	15	9	87
CTC 20215	K	Ø 21.5	Ø 23.5 ~ 25.0	Ø 26.0	1.4	15	9	67
CTC 10217	K	Ø 21.7	Ø 23.5 ~ 25.0	Ø 26.0	1.2	15	8	67
CTC 20220	K	Ø 22.0	Ø 25.0 ~ 26.7	Ø 27.7	1.4	15	10.5	69
CTC 10222	K	Ø 22.2	Ø 25.0 ~ 26.6	Ø 27.6	1.2	15	9	85
CTC 20229	K	Ø 22.9	Ø 25.5 ~ 27.2	Ø 28.2	1.4	15	8.5	72
CTC 10230	K	Ø 23.0	Ø 25.5 ~ 27.0	Ø 28.0	1.2	12	9	60
CTC 10240	K	Ø 24.0	Ø 26.0 ~ 28.0	Ø 29.0	1.2	12	9	75
CTC 20242	K	Ø 24.2	Ø 26.4 ~ 29.0	Ø 30.0	1.4	15	8	73
CTC 20258	K	Ø 25.8	Ø 26.4 ~ 29.0	Ø 30.0	1.4	15	10	67
CTC 10260	K	Ø 26.0	Ø 27.5 ~ 31.0	Ø 32.0	1.2	12	10	85
CTC 10280	K	Ø 28.0	Ø 31.0 ~ 33.5	Ø 35.0	1.2	12	10	85
CTC 20295	K	Ø 29.5	Ø 32.0 ~ 34.2	Ø 35.7	1.4	15	8	80
CTC 20303	K	Ø 30.3	Ø 33.5 ~ 36.2	Ø 37.7	1.4	15	10	76
CTC 20345	K	Ø 34.5	Ø 38.0 ~ 41.7	Ø 43.2	1.5	18	10	85
CTC 20360	K	Ø 36.0	Ø 40.0 ~ 43.7	Ø 45.2	1.6	18	10	75
CTC 20370	K	Ø 37.0	Ø 41.5 ~ 46.0	Ø 47.5	1.8	15	14	90
CTC 20405	K	Ø 40.5	Ø 44.0 ~ 48.0	Ø 50.1	1.8	17	15	78
CTC 20420	K	Ø 42.0	Ø 45.0 ~ 50.0	Ø 52.3	1.8	18	15	85
CTC 20440	K	Ø 44.0	Ø 48.0 ~ 52.0	Ø 54.4	1.8	18	15	79
CTC 20445	K	Ø 44.5	Ø 49.0 ~ 56.0	Ø 58.2	2.0	15	15	86
CTC 20502	K	Ø 50.2	Ø 55.0 ~ 63.0	Ø 65.2	2.5	15	15	86
CTC 20522	K	Ø 52.2	Ø 58.0 ~ 68.0	Ø 70.2	2.5	15	15	86
CTC 30215	K	Ø 21.5	Ø 23.0 ~ 25.0	Ø 26.0	1.2	12	8.5	80
CTC 20145	NK	Ø 14.5	Ø 16.0 ~ 17.8	Ø 18.2	1.2	15	8.5	90
CTC 30172	K	Ø 17.5	Ø 18.5 ~ 20.5	Ø 21.0	1.0	12	7.5	75
CTC 10320	K	Ø 32.0	Ø 35.0 ~ 38.5	Ø 39.0	1.2	12	10	85 +10/-10
CTC 10300	K	Ø 30.0	Ø 33.5 ~ 36.5	Ø 37.0	1.2	12	10	85 +10/-10



CONSTANT TENSION SPRING WIRE CLIPS



Part Number	Dia A Max	Dia B Nominal	Dia C Min	Dia D No Go	Wire Dia	h Max	R 1 Max	R 2 Max	X Feeler Gauge Dia	
Y8010068	7.00	6.80	6.60	6.30	0.9	5.0	10.0	7.5	0.15	
Y8010073	7.50	7.30	7.00	6.55	1.0	5.2	10.6	8.0		
Y8010076	7.80	7.60	7.30	6.80		5.2	10.7	8.2		
Y8010081	8.30	8.10	7.80	7.35		5.5	10.7	8.3		
Y8010086	8.80	8.60	8.30	7.80	1.2	5.5	14.0	12.0	0.17	
Y8010091	9.30	9.10	8.80	8.27		5.5	11.0	9.0		
Y8010096	9.90	9.60	9.30	8.72		5.5	11.8	9.0		
Y8010101	10.40	10.10	9.80	9.18	1.5	6.3	13.5	10.5		0.20
Y8010107	11.00	10.70	10.40	9.72		6.3	14.8	11.4		
Y8010113	11.60	11.30	11.00	10.27		6.3	14.8	11.9		
Y8010119	12.30	11.90	11.60	10.80	1.8	7.3	16.4	12.4	0.25	
Y8010128	13.10	12.80	12.10	11.40		7.3	17.2	13.7		
Y8010133	13.60	13.30	12.90	12.10		7.3	17.0	14.0		
Y8010137	14.10	13.70	13.30	12.30	2.0	7.3	17.6	14.3		0.30
Y8010140	14.40	14.00	13.60	12.70		7.3	18.0	14.5		
Y8010148	15.10	14.80	14.40	13.40		7.3	18.0	14.5		
Y8010156	15.90	15.60	14.80	14.10	2.2	8.4	19.6	16.0	0.35	
Y8010158	16.26	15.88	15.49	14.73		8.4	21.0	16.4		
Y8010158	16.26	15.88	15.49	14.73		8.4	20.4	16.0		
Y8010164	16.80	16.40	15.90	14.90	2.5	8.4	22.0	16.6		0.40
Y8010173	17.70	17.30	16.80	15.70		8.4	21.3	16.5		
Y8010182	18.70	18.20	17.70	16.50		8.4	21.3	16.5		
Y8010192	19.60	19.20	18.70	17.40	2.8	9.6	22.7	17.7	0.45	
Y8010202	20.60	20.20	19.60	18.30		9.9	23.3	18.0		
Y8010212	21.60	21.20	20.60	19.20		9.9	24.0	18.5		
Y8010221	22.60	22.10	21.50	20.00	3.0	9.9	25.0	20.0		0.50
Y8010226	23.10	22.60	22.00	20.60		10.7	25.8	21.3		
Y8010231	24.00	23.10	22.50	20.70		10.7	26.2	22.0		
Y8010242	24.70	24.20	23.50	22.00	3.5	10.7	26.6	20.6	0.55	
Y8010252	26.00	25.30	24.40	22.50		10.7	27.3	22.3		
Y8010258	26.40	25.80	25.10	23.40		11.4	27.5	22.3		
Y8010268	27.40	26.80	25.80	23.90	4.0	11.4	29.0	23.5		0.60
Y8010275	28.10	27.50	26.70	25.00		11.4	31.2	25.0		
Y8010287	29.40	28.70	27.90	26.10		11.4	31.2	25.6		
Y8010300	30.90	30.00	29.30	27.80	4.5	11.4	31.5	26.5	0.65	
Y8010313	32.00	31.30	30.40	28.40		12.8	32.3	27.3		
Y8010327	34.10	32.70	32.00	29.70		12.8	33.5	28.2		
Y8010341	34.80	34.10	33.20	31.00	5.0	12.8	34.8	28.2		0.70
Y8010350	35.70	35.00	33.90	32.00		12.8	36.5	30.0		
Y8010356	36.40	35.60	34.60	32.50		14.0	36.2	30.5		
Y8010372	38.00	37.20	36.20	33.90	5.5	14.0	36.5	29.7	0.75	
Y8010388	39.70	38.80	37.70	35.30		14.0	38.8	31.8		
						14.8	39.6	32.8		

Y8010396	41.00	40.00	38.00	35.60	3.2	14.8	39.7	33.6	0.50
Y8010405	41.40	40.50	39.40	36.90		14.8	40.2	34.0	
Y8010429	44.00	42.90	41.00	37.90		14.8	41.4	34.7	
Y8010444	45.50	44.40	42.50	39.10		14.8	44.0	36.2	
Y8010460	47.00	46.00	44.00	40.50		14.8	45.0	36.5	
Y8010470	49.00	47.00	46.00	43.00		14.8	45.5	37.5	
Y8010498	50.90	49.80	48.40	45.30	3.5	15.8	46.8	39.0	
Y8010520	53.20	52.00	50.60	47.30		15.8	48.5	40.5	
Y8010542	55.40	54.20	52.70	49.30		15.8	49.0	41.0	
Y8010560	57.40	56.00	54.40	51.00		15.8	50.0	42.0	
Y8010574	58.80	57.40	56.00	52.20		15.8	51.0	42.8	
Y8010596	61.00	59.60	58.20	55.40		15.8	53.0	44.3	
Y8010640	66.00	64.00	62.00	58.00	3.8	16.7	60.0	50.0	
Y8010740	75.00	73.00	71.00	66.60		16.7	64.0	54.0	

QUICK RELEASE BAND CLAMPS



Part ref

27-HGR070-115ZN
 27-HGR090-135ZN
 27-HGR130-175ZN
 27-HGR170-215ZN
 27-HGR210-255ZN
 27-HGR250-295ZN
 27-HGR290-335ZN
 27-HGR330-375ZN

27SPG-HGR070-115ZN
 27SPG-HGR090-135ZN
 27SPG-HGR130-175ZN
 27SPG-HGR170-215ZN
 27SPG-HGR210-255ZN
 27SPG-HGR250-295ZN
 27SPG-HGR290-335ZN
 27SPG-HGR330-375ZN

27-HT070-115SS
 27-HT090-135SS
 27-HT130-175SS
 27-HT170-215SS
 27-HT210-255SS
 27-HT250-295SS
 27-HT290-335SS
 27-HT330-375SS

27SPG-HT070-115SS
 27SPG-HT090-135SS
 27SPG-HT130-175SS
 27SPG-HT170-215SS
 27SPG-HT210-255SS
 27SPG-HT250-295SS
 27SPG-HT290-335SS
 27SPG-HT330-375SS

QUICK RELEASE BAND CLAMPS cont.



Part ref

57-HT250-295SS
 57-HT290-335SS
 57-HT330-375SS
 57-HT370-415SS
 57-HT250-295SS
 57-HT290-335SS
 57-HT330-375SS
 57-HT370-415SS
 57-HT410-455SS
 57-HT450-495SS
 57-HT490-535SS
 57-HT530-575SS
 57-HT570-615SS

27-19PBC-HT045-055SS
 27-19PBC-HT055-065SS
 27-19PBC-HT065-090SS
 27-19PBC-HT085-115SS
 27-19PBC-HT110-155SS
 27-19PBC-HT150-195SS
 58PBC-HT045-055SS
 58PBC-HT055-065SS
 58PBC-HT065-090SS
 58PBC-HT085-115SS
 58PBC-HT110-155SS
 58PBC-HT150-195SS

LARGER SIZES AVAILABLE UPON
 REQUEST

QUICK RELEASE CLIPS

A GUIDE

Quick Release clips and clamps have been in use for some time and in various industries. The advantages of the Quick Release designs are obvious from the start: they are fitted / removed in a fraction of the time traditional clips and clamps can take. Using a screw driver, for what seems days, to tighten a worm drive hose clip, or a wrench to take off a bolt clamp can be, for some, a thing of the past.

Leading clip company, Zero Clips Limited of Birmingham, would like to offer a brief introduction to a few of the varying designs on the market today, to help those thinking about a change.

TOGGLE TYPE



The 'TOGGLE' type or 'over centre handle' types are available in a variety of different styles and designs. Above are two popular types: 'Rigid' claw on the left and 'Spring' claw on the right. Both of these designs are aimed at high repetitive use industries or where carrying a tool box is not practical. Simply, the clip is adjusted to the required size, using the 'HEAVY DUTY WORM DRIVE' screw and housing, and then the clip is installed using the Over Centre Handle. To remove the clip, just lift the handle, and the clip is released. These designs offer the highest fitting speed coupled with the highest quality standards. Both designs are also available in LIGHT DUTY that uses a standard width worm drive in place of the Heavy Duty worm Dive. The Heavy Duty designs are supplied in STAINLESS STEEL, 16mm bandwidth. The Light duty is available in ZINC PLATED 13mm bandwidth. Sizes start from as small as 45mm (1.3/4") upto a whopping 615mm (24") in diameter.

AUTOMOTIVE CLIPS & CLAMPS

A GUIDE

With so many cars on the roads today, it is little wonder that the automotive industry probably uses more clips and clamps than any other industry. Zero Clips Limited of Birmingham would like to offer a short guide to the wide range of clips and clamps that are available to the industry as a whole.

Worm Drive



Probably the most recognisable design of hose clip in the world, this type needs almost no introduction. They are the most versatile clip on the market today, offering the user a large size range for each clip size. They are available in various band-widths from 5mm (3/16") right upto 16mm. Diameters start from as little as 6mm (1/4") and can exceed 559mm (22"). The materials and of course, the combinations of materials include Mild Steel Zinc Plated, Stainless Steel (201/301/304/316 & 410 materials) and even include Titanium, although this is mainly found in the marine industry.

Components are generally band, house and screw, but there are designs that are supplied with either spring washers or an actual spring under the head. These later designs are known as **Constant Tension Worm Drive**, and are usually found on high performance radiators, air conditioning units and the larger engines.

Standards for this design include **BS 5315 (British), DIN 3017 (European) and SAE (U. S. A.)**. Applying the clip is simplicity itself. Slip the clip over the hose, fit the hose to the hose tail, and then turn the screw until tight on the hose. There are varying amounts of torque that each design can take and this depends mostly on the width of the band, and the material.

'P' clips



Rubber lined or plain **'P' clips** are found in all types of vehicles. The beauty of the clip is in it's simplicity to use. Snap the 'P' clip around the hose, bring the fixing holes together, apply the screw, job done.

Band-widths available are again varied, starting from as small as 9mm and can be over 25mm (1") wide. Diameters can start as small as 1.6mm (this small a size is usually made in a plastic material)

but as for the largest of sizes, they can be made upto practically any size, due to the manufacturing process.

'P' clips are made from several different materials, Mild Steel Zinc Plated, Stainless Steel (304 & 316), Plastic, Aluminium, Brass and Copper, being the most popular. The lined clips generally use E. P. D. M., T. P. E., Nitrile, Neoprene or a poly coating. These lined clips offer the user the confidence that the clip will not damage the hose it is supposed to be protecting. In addition to this, the slight 'Springiness' of the liner, can offer a certain amount of noise reduction, the hose vibration as the vehicle is moving can be pretty loud.

Fixing holes can be just as varied. From 3 or 4 mm diameter holes, some 'P' clips can take larger than ½" bolts. Some 'P' clips are made from a thinner material, which can offer a light clip, but as the material is thin, the fixing holes require a strengthening washer mounted over the holes so that the screw does not tear through the hole.

Fuel hose clips



Fuel hose clips, or Nut & Bolt type clips offer the user a quick and safe way to attach a fuel hose in the vehicle. Simply fit the clip over the hose in the same way as a worm drive, and then tighten the screw. Because the clip has no housing attached under the band, just the 'Bridge' under the screw assembly, the band tightens almost 360° sealing. The look of the clip, when fitted, is simple and uncluttered. Very neat and tidy.

The **Nut and Bolt** style of hose clips are available in both Zinc plated and Stainless Steel conditions, although Stainless is by far the preferred option.

Constant Tension Clips



Automotive hoses can get hot. It's a fact of motoring that when an engine is started, it begins to warm up. When the hose is heated, it starts to expand, if only very slightly. The reverse is also true of when the engine is switched off; the hose returns to its original size. Because a standard hose clip remains the same size, when the hose contracts back to its 'Cold size', there can be 'Cold Flow', also known as *weeping*, but better known as Leakage.

Hose clip companies have been trying to stop this leakage for years, and then came the **Constant Tension Clip**. There are a number of different designs available, from a simple piece of wire, wrapped around and back on it's self, to the Heavy Duty Bolt Clamps fitted with springs or spring washers. The result is the same; leakage is reduced if not stopped. The principle is that, as the hose gets hot and expands, so does the clip with it. As the hose contracts, so does the clip, right along with it.

For speed, the spring band design was fitted with a small pull-tab closing the 'Lugs' so that when it is pulled off the clip, the clip snaps shut, thereby increasing productivity. This design is almost foolproof, because there are no settings the user needs to be aware of. The setting is pre-set in the clip.

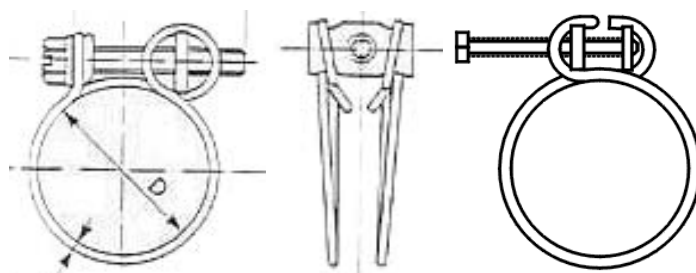
Clc type clips



There are quite a few different types of the now famous '**Clic**' clips. The biggest advantage, for most users, of the **Clic** clip is speed of fitting. Simply pull the hook over the catch and the **Clic** clip is fitted. They are produced in great volumes for the motor trade and each clip has an identification colour printed along the centre. This makes it nearly impossible to mistake the wrong clip for the correct one. Also, the **Clic** clip is made for specific sized hoses. Therefore, in a large scale, production environment, where the clips need to be fitted quickly and accurately, it is hard to find a clip that will beat it.

The **Clic** clip is available in a lightweight Stainless Steel.

Wire Clips



The wire type clip. Some say a thing of the past, others are moving back to them. Quick, simple and reliable, the **Double Wire clips** of old were the preferred choice for many manufacturers and users alike.

The beauty, for many, of the wire clip is that instead of having a band, which distributes the pressure across its width, the wire clips have two points of contact on the hose; the wire itself, so, instead of having one depression in the hose to keep in the air / fluid, there are two.

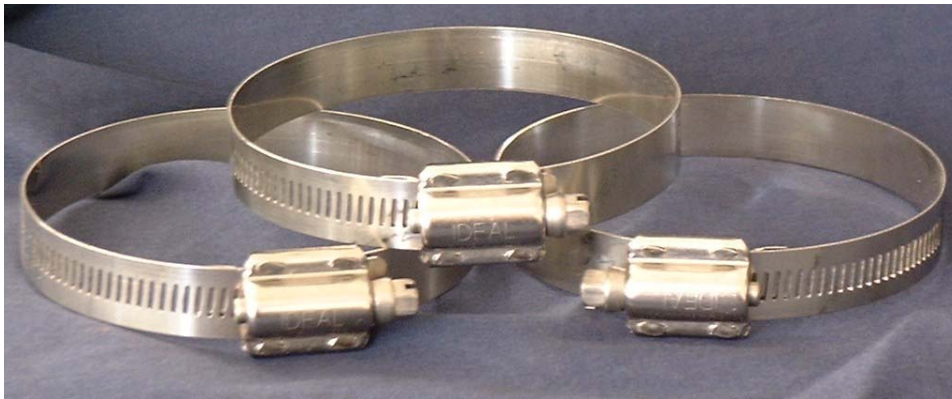
The **wire clips** of old were seen to be the clip of choice for the radiator system. The reason for this being that instead of having a worm drive crushing a large area of the Helix, the wire was seen to be able to 'Jump' over it. There was still an amount of crushing, but not as large an area was effected.

HEAVY DUTY CLIPS AND CLAMPS

There will always be a need to tighten a hose clip or clamp tighter than usual. It could be that the hose might 'Blow off', or that the hose is so thick, a standard hose clip simply is not 'Man' enough or one of a hundred reasons the user wants a stronger clip or clamp. Enter the **Heavy Duty** designs. There is a small variety of designs on the market and Zero Clips Limited of Birmingham would like to introduce you to some of them.

Heavy Duty Worm Drive

There are two main designs of **Heavy Duty Worm Drive** hose clips available at present (lined and un-lined). Both of these designs manufactured from high-grade stainless steel, are 5/8" band width and have 'Riveted' housings. The strength comes from three points; the housing being in two parts and riveted together offers greater strength than a standard worm drive clip. The screw is larger, 8mm (5/16") A/F instead of 7mm and finally the slotted band. This means that the screw engages using almost the entire thickness of the band material instead of just half with a standard worm drive. The lined version differs from the un-lined in that the drive around the band has an under-guard. This strip of Stainless Steel protects the hose from the exposed drive holes as it is tightened. Excellent for silicone hoses and thinner walled material that although needs a higher strength clip, cannot take the risk of being 'Cut' into by the clip.



'T' bolt clamps

Genuine **'T' bolt clamps**, considered by many to be the next step up from worm drive. Generally available in 3/4" bandwidth, but also 7/8" and 1", these clips offer the user an elegant looking clamp, whilst delivering the increased pressure needed to make the seal. Different materials are often used in their manufacture from all Stainless Steel to a High Tensile Steel plated **'T' bolt and nut**. One great advantage of the **'T' bolt clamp** is that they use a fibre insert nut or 'Nylock', to tighten. By using this method, the user can be reassured that even with some vibration, the **'T' bolt clamp** will stay where it is, and do the job its there for.



'V' Channel 'T' Bolt Clamps

A variant of the 'T' bolt clamp is the **'V' channel or Channel clamp**. This offers the user the ability to clamp together two flanges reasonably tight, for instance within Turbo systems, with ease.



Heavy Duty Single Bolt Clamps

These clamps have several names including **Super clamps**, single bolt clamps and just bolt clamps, but whatever name they are known by, these are the clamps of choice for many users. Various materials are available from full Mild Steel Zinc plated right up to Full 316 grade Stainless Steel. Bandwidths are equally varied ranging from $\frac{3}{4}$ " or 20mm upto 1.1/8" or 28mm. Maximum torque settings can be quiet extreme as well some as high as 45 Nm on the larger sizes.

Regarding sizes, the general size range starts at a tiny 17 – 19mm through to an impressive 239 – 252mm and covers all sizes in between, so a highly flexible range is available for the user to choose from. In addition to the 'standard design of single bolt clamp, is the Constant Tension version. This offer the elimination of 'Cold Flow'. Everyone knows that when an engine has been running, the hoses etc. are hot and expand. When the engine is shut down, the hoses contract. **Constant Tension** clamps, eliminate any leakage from the hose as it contracts back to its original size.





Zero Clips Ltd

Hose Clip and Clamp manufacturers
in Birmingham UK
Established 1978

AIR CONDITIONING CLIPS AND CLAMPS

Hose leakage in vehicles is a problem that faces everyone in the winter months. From the cold of the morning to the heat of travelling, the hose will expand and contract so often, that leaks or '*weeping*' becomes almost inevitable. ***Zero Clips Limited of Birmingham*** has an answer to this problem. **CONSTANT TENSION** clips. Although most people are more than aware of the spring band version currently in use in many of today's cars, there are quite a few other types and styles that are available.

For light duty, the popular **SPRING BAND** version is an almost natural choice. This offers speed, and consistency that is hard to match in terms of both fitting time and resiliency to temperature change. Made from heat treated spring steel, in sizes starting from as small as 7 millimetres and finished in compliance with the RohS European directive concerning environmental impact, the spring band is the ideal choice for the smaller hoses which are used in large volumes.



Constant tension worm drive clips are a design that may not be all that well known, but is increasingly becoming the clip of choice for many companies, especially within the vehicle air conditioning market. This design offers a great deal of versatility for the user in terms of size range.

MICRO FLEX is a design that from the smallest to largest sizes (6.3 – 15.7mm upto 17.5 – 31.7mm) employs a helical spring behind the screw INSIDE the housing, which compensates for the 'Cold Flow'. This design is available in 5/16" band width and has a lower profile, making this design far easier to fit in those confined areas.



FLEX GEAR is the **MICRO GEARS** bigger brother. This design enables the user to clamp from 25 – 45 millimetres upto 210 – 232 millimetres. The **FLEX GEAR** uses precision manufactured spring washers under the head of the worm gear to ensure 'Cold Flow' is eliminated. The **FLEX GEAR** is built from wider band width stainless steel and uses either a 5/16th hex headed worm or for the 'Standard'

duty applications or 3/8th Hex headed worm for the heavy duty, giving the greatest confidence to both the user and the driver.



SUPRA CT. This clamp, one of the heaviest duty clamps available, is designed around the MIKALOR SUPRA clamp. Manufactured to the highest specifications, this design has a size range starting from 17 – 19mm all the way up till 239 – 252mm. Available in stainless steel with an 8.8 Hi Tensile bolt, the multitude of stainless spring washers ensure that this clamp holds the pressure in all weathers. Added to this is the band width. The smallest clamp is 18mm wide, which increases to massive 28mm.



Vehicles are used in all kinds of places today. Up high and down low: hot deserts and the Arctic cold. A clip is needed to suffer these extremes and come out the other side as though nothing had happened. **'P' clips** are used to secure tubing or hoses, and quiet often this means the clip is going to be exposed to whatever weather is outside the cabin window. Hot or cold, sun, rain or snow, the clips must do their job. ***Zero Clips Limited of Birmingham*** once again has the answer. **E. P. D. M.** rubber lined **'P' clips** are able to withstand all these extremes. Capable of taking punishing cold temperatures of minus 40 degrees Celsius and the oven of over 120 degrees Celsius, the rubber lined **'P' clip** is about the best solution. The rubber liner, which is fitted to the 1/2", 5/8", 3/4" and 1" band widths, also protects the hose from damage from the plated mild steel or stainless steel of the clip and can even help to reduce some of the vibration noise as well.





Multi Clip

Multi Clip is a unique new fastener which will secure a large variety of objects of almost any size or shape.

It has endless uses in industry, the home, the garden and leisure activities such as camping and sport.

It will provide an easy, secure fixing, without the need for tools. It is re-usable, will not rust, and is invaluable in an emergency, such as a clamp for plumbing, kitchen appliances or as a hose clip in the car. It secures difficult shaped items like oars or tent poles to roof racks, fishing rods to bicycles and so on.

Multi Clip can be tightened to any diameter between 1cm and 10cm. The clips can be linked together to cater for larger diameters.



How Does Multi Clip Work?

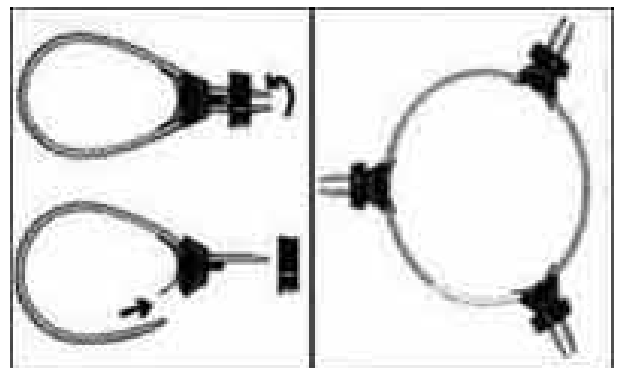
The Multi Clip consists of 3 basic components; threaded nylon strap, collar and tightening nut.

Simply slip the assembled fastener over object(s) to be secured and tighten up the locking nut until finger tight.

Where it is impossible to apply assembled, unscrew nut completely off the strap, then pull one end of the strap free of the collar. Introduce strap around the object(s), re-insert the loose end of strap into collar, replace nut and tighten fully.

Where a single Multi Clip would not be large enough, 2 more clips may be combined. To do this:

- Remove nut and detach one side of strap from collar.
- Repeat this operation on a second clip (or more as required)
- Relocate loose end of one strap into collar of another Multi Clip.
- Repeat operation if 3 or more Clips are being joined.
- Relocate remaining loose strap end in the vacant position on final collar, thus creating a continuous loop of 2 or more Multi Clips.
- Replace all nuts into collars.
- Apply enlarged Multi Clip to object(s) as in 1 or 2.
- Hand-tighten each nut on the completed loop.





Zero Clips Ltd

Hose Clip and Clamp manufacturers
in Birmingham UK
Established 1978



Just some of Multi Clip's applications:

Trade:

- Gluing wood and ceramics
- Temporary vice
- Securing plumbing patches to pipes
- Sign fixing
- Temporary pipe repairs
- Temporary jigs
- Tool holders
- Heating and ventilation ducting
- Guttering repairs

Domestic:

- Mending washing machines, dishwashers and vacuum cleaners
- Securing loose lagging
- Plumbing emergencies
- Opening jar tops
- Storing objects in garage roof or attic

Motoring:

- Emergency radiator hose clip
- Cable tie
- Securing luggage or loose equipment such as jack Emergency fixing of bumper bars

Camping:

- Fixing water hoses
- Securing equipment to rucksack or tent poles

Gardening:

- Hose clip for tap fixing and nozzles
- Tree and plant tie
- Repair for tools, garden furniture, etc.
- Securing tops of canes in pea and bean pyramids
- Fence repairs
- Pipes and guttering to greenhouses

Fishing:

- Attaching rods to roof-racks or bicycles
- Securing loose feels

Sailing, boating:

- Fixing oars and paddles for transport
- Temporary row-lock
- Holding sea-lights, anchors, outlet pipes, steering chains
- Many fastening uses in and around the boat

Picnics:

- Clamping loose bottles or thermos-flasks
- Securing food boxes
- Fixing sun shades

NOTE:

Sharp edges should be padded to prevent cutting of the strap when tightening. For applications such as attaching hose pipes to taps where extra sealing capacity is required, this can be achieved by double looping the strap around the object.



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www.zeroclips.com



Dear Sirs

We pride ourselves on being able to offer the best service and support for your company available. To achieve this, may we ask you to complete the form below so that we can continue to do so.

Name: _____

Address: _____

Tel: _____ Fax: _____

E-mail: _____

Web site: _____

Purchasing Contact name: _____

We would appreciate if you could take a couple of minutes to complete the following product requirement list.

- | | | | |
|-----------------------------------|--------------------------|-------------------------------------|--------------------------|
| <u>'O' clips</u> | <input type="checkbox"/> | <u>Mikalor Supra Clamps</u> | <input type="checkbox"/> |
| <u>'P' clips</u> | <input type="checkbox"/> | <u>Mikalor Clips</u> | <input type="checkbox"/> |
| <u>Tridon Worm Drive</u> | <input type="checkbox"/> | <u>Trimax Heavy Duty Worm Drive</u> | <input type="checkbox"/> |
| <u>Jolly Worm Drive</u> | <input type="checkbox"/> | <u>Hi Grip Zinc & Stainless</u> | <input type="checkbox"/> |
| <u>Pincers & Nut Spinners</u> | <input type="checkbox"/> | <u>Constant Tension Clips</u> | <input type="checkbox"/> |
| <u>Wire Clips</u> | <input type="checkbox"/> | <u>Nut & Bolt Clips</u> | <input type="checkbox"/> |
| <u>Quick Release Clips</u> | <input type="checkbox"/> | <u>Continuous Banding</u> | <input type="checkbox"/> |
| <u>Customer specials</u> | <input type="checkbox"/> | <u>Brochure Request</u> | <input type="checkbox"/> |

Please fax this form back to us on 0121 622 2813, or e-mail sales@zeroclips.com.

Many thanks in advance and I look forward to hearing from you in the near future.

Yours faithfully

Stephen Lewis – Sales
Zero Clips Ltd