

1. PURPOSE

The parts described in this Standard are inch/metric Worm Gear Hose Clamps intended for use in fastening fiber braid hose to its mating part in pressure applications to 700 psi.

2. GENERAL

Clamps are broken down into three categories. First category (Table 2) are clamps that conform to SAE standard J1508. Second category (Table 3) are clamps that conform to Fiat standard 14143/41 and Fiat-Hitachi 2350. Third category (Tables 4 thru 6) are clamps that do not conform to a national standard but are available commercially dependent on industry demand.

3. ACRONYMS/DEFINITIONS**3.1 ACRONYMS**

SAE—Society of Automotive Engineers

4. RELATED DOCUMENTS**4.1 RELATED STANDARDS**

STPA020—Fastener Finishes and Material Specifications

SAE J1508—Hose Clamp Specifications

Fiat 14143/41—Worm Drive Clamps

Fiat-Hitachi 2350—Worm Drive Clamps

DIN 3017—Hose Clamps with Worm Gear Drive

4.2 REPLACED STANDARDS

Case K-010—Worm Gear Clamps-General Spec.

Case K-011—Worm Gear Clamps-Type F Preferred

Case K-012—Worm Gear Clamps-Type F Non-Preferred

Case K-013—Worm Gear Clamps-Type M Preferred

Case K-015—Worm Gear Clamps-General Spec.

Case K-016—Worm Gear Clamps-Preferred

Case XM-002 (Partial)—Misc STD Parts

5. MATERIAL AND FINISH

Clamp bands are made of corrosion resistant stainless steel (SST) while the saddle and screw are made of either Stainless steel or low carbon steel (CST) with zinc dichromate finish (ZND). Material and finish are indicated in the Tables. Tables 2A and 5A provide clamps made from 300 series austenitic stainless steel for added corrosion resistance.

6. SCREWS

Type F clamps shall have 5/16 inch hex collar head slotted screw or 5/16 hex collar head with combination slotted/cross recess screw (SAE style 5). Type M clamps shall have 1/4 inch hex head slotted screw.

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7. CROSS REFERENCE

For cross reference listing of company part numbers, go to [PARTsolutions](#).

8. DURABILITY

8.1 Requirements for Type F Without Inner Liner: Housing, screw threads, and slots in the band shall show no evidence of deformation nor shall the clamps show any creep or loss of tension when tightened once on a steel mandrel to an applied screw torque or 5.6 Nm (50 lb-in).

8.2 Requirements for Type F With Inner Liner: Housing, screw threads, and slots in the band shall show no evidence of deformation when tightened once on a steel mandrel covered with SAE 20 R1 hose material to an applied screw torque of 4.5 Nm (40 lb-in) for clamps up to and including 44 mm (1.75 in) open diameter, and 8.5 Nm (75 lb-in) for clamps over 44 mm (1.75 in) open diameter.

8.3 Requirements for Type M Clamps: There shall be no failure occurring in the clamp nor evidence of deformation of the threads on screw and/or slots in band when tightened once on a steel mandrel to a minimum test torque of 2.3 Nm (20 lb-in).

9. DEFECTS

All clamps shall be free from burrs, seams, laps, loose scale, or any other defects that may affect their serviceability

10. INSTALLATION TORQUES

The suggested installation torques for a particular application must be established by the user, giving due consideration to the physical configurations, properties of the materials involved, and assembly tools to be used. However, adequate sealing capability should be reached at or less than the torque values listed below for the respective types.

Type F Without Inner Liner: 3.4 Nm (30 lb-in) for all sizes

Type F With Inner Liner: 2.8 Nm (25 lb-in) for clamps up to and including 1.75 in. open diameter
5.1 Nm (45 lb-in) for clamps over 1.76 in. open diameter

Type M Clamps: 1.1 Nm (10 lb-in) for all sizes

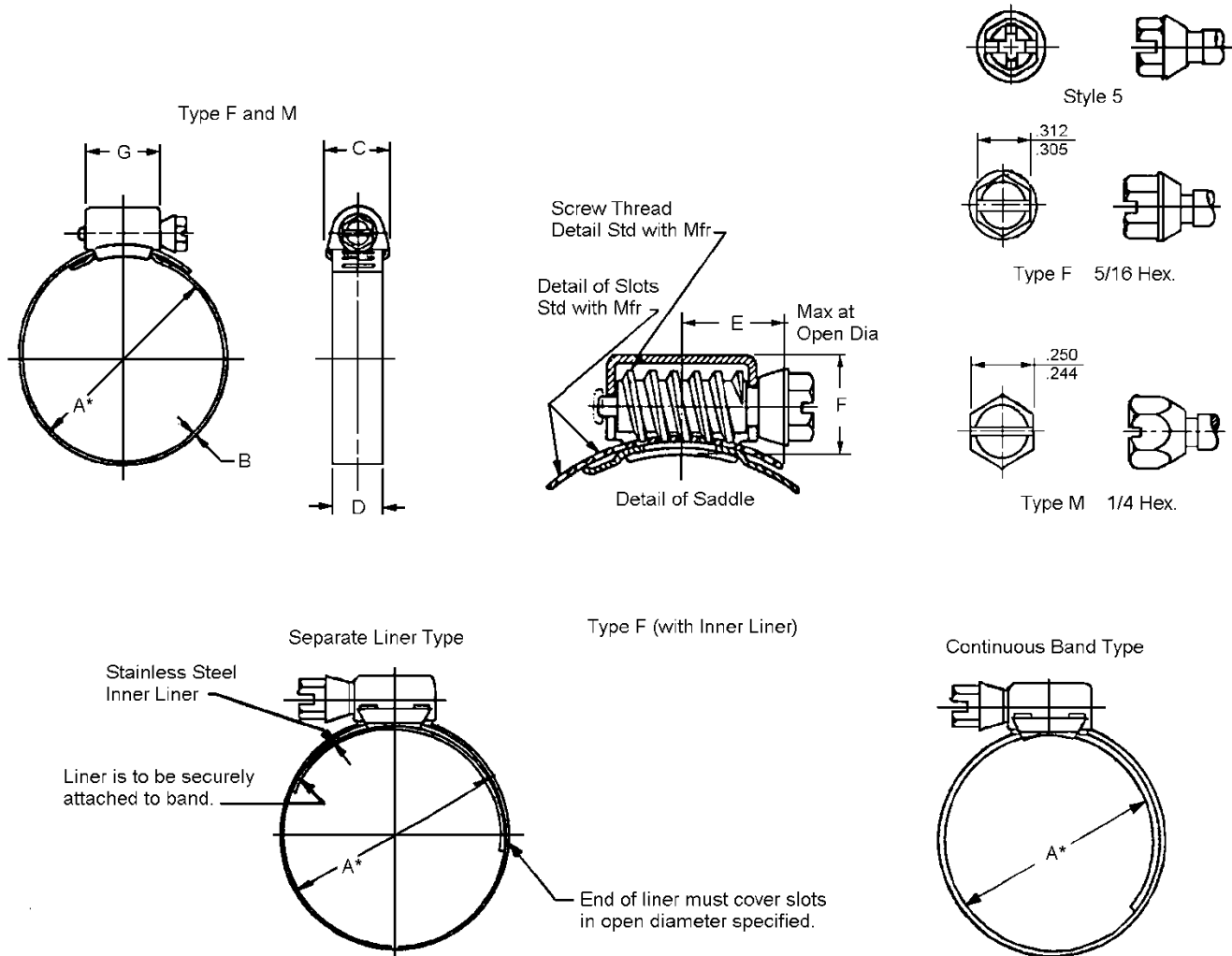


FIGURE 1: Worm Gear Hose Clamps

Table 1: Clamp Specifications (SAE J1508)

	B Band Thickness	C Housing Width (Ref.)	D Band Width	E Tab Length	F Height (Ref.)	G Housing Length (Ref.)
Type F	.021/.031	.81	.495/.569	.75	.56	.76
Type M	.019/.026	.60	.305/.325	.44	.38	.42



Standard Part

Worm Gear Hose Clamps

STPK110

87367181

Rev AY

Page 4 of 11

TABLE 2: Worm Gear Hose Clamps (SAE J1508)

Standard Duty Worm Gear Clamps Type F and M (SAE J1508)								
Widths (Type F .495-.569) (Type M .305-.325)								
SAE Number	Type	Closed		Opened		Saddle Mat/Fin	Part Number	
		in.	mm	in.	mm		Without Liner	With Liner
04	F	0.25	6.3	0.62	15.7	SST	86625022	
04	M	0.25	6.3	0.62	15.7	SST	574518	
06	F	0.44	11.2	0.78	19.8	SST	244358	
06	M	0.44	11.2	0.78	19.8	SST	86625041	
08	F	0.50	12.7	0.91	23.1	SST	13021	
08	M	0.50	12.7	0.91	23.1	SST	86625040	
10	F	0.56	14.2	1.06	26.9	SST	87625624	47855668
S10	F	0.50	12.7	1.38	35.0	SST	9706921	
12	F	0.69	17.5	1.25	31.7	SST	86625021	87016721
12	M	0.69	17.5	1.25	31.7	SST	87682404	
16	F	0.81	20.6	1.50	38.1	SST	514920	86643166
20	F	0.81	20.6	1.75	44.4	SST	507586	48129658
24	F	1.06	26.9	2.00	50.8	SST	513309	86634187
28	F	1.31	33.3	2.25	57.1	SST	84674	86642485
32	F	1.56	39.6	2.50	63.5	SST	86050202	86637706
36	F	1.81	45.9	2.75	69.8	SST	86624194	86642486
40	F	2.06	52.3	3.00	76.2	SST	45014	87016722
44	F	2.31	58.6	3.25	82.5	SST	86050197	87016723
48	F	2.56	65.0	3.50	88.9	SST	86625032	
52	F	2.81	71.4	3.75	95.2	SST	87040758	
56	F	3.06	77.7	4.00	101.6	SST	86625033	
60	F	3.31	84.1	4.25	107.9	SST	381144	
64	F	3.56	90.4	4.50	114.3	SST	86625034	86639640
72	F	4.06	103.1	5.00	127.0	SST	9706924	
80	F	4.62	117.3	5.50	139.7	SST	87019670	86637707
88	F	5.12	130.0	6.00	152.4	SST	84492992	
96	F	5.56	142.8	6.50	165.1	SST	573305	
100	F	5.88	149.3	6.75	171.4	SST	87690486	
104	F	6.18	156.9	7.00	177.8	SST	84541279	
116	F	6.875	174.1	7.75	196.8	SST	87019669	
136	F	8.12	206.2	9.00	228.6	SST	76088794	
180	F	10.875	276.2	11.75	298.4	SST	86636847	
188	F	2.5	64	12.50	317.5	SST	87012918	



Standard Part

Worm Gear Hose Clamps

STPK110

87367181

Rev AY

Page 5 of 11

TABLE 2A: Worm Gear Hose Clamps (SAE J1508)

Standard Duty Worm Gear Clamps Type F and M (SAE J1508)							
Widths (Type F .495-.569) (Type M .305-.325)							
Material: Series 300 Austenitic Stainless Steel - Complete Clamp							
SAE Number	Type	Closed		Opened		Part Number	
		in.	mm	in.	mm	Without Liner	With Liner
04	M	0.25	6.3	0.62	15.7	87485000	
06	F	0.44	11.2	0.78	19.8		
06	M	0.44	11.2	0.78	19.8	87487826	
08	F	0.50	12.7	0.91	23.1	87487837	
08	M	0.50	12.7	0.91	23.1	87485006	
10	F	0.56	14.2	1.06	26.9	87487836	
S10	F	0.50	12.7	1.38	35.0		
12	F	0.69	17.5	1.25	31.7	87487835	
12	M	0.69	17.5	1.25	31.7		
16	F	0.81	20.6	1.50	38.1	87487834	87487831
20	F	0.81	20.6	1.75	44.4	87487833	87487830
24	F	1.06	26.9	2.00	50.8	87485002	
28	F	1.31	33.3	2.25	57.1	87485001	
32	F	1.56	39.6	2.50	63.5	87487832	87487829
36	F	1.81	45.9	2.75	69.8		
40	F	2.06	52.3	3.00	76.2		87487828
44	F	2.31	58.6	3.25	82.5		
48	F	2.56	65.0	3.50	88.9	87485005	
52	F	2.81	71.4	3.75	95.2		
56	F	3.06	77.7	4.00	101.6		
60	F	3.31	84.1	4.25	107.9		
64	F	3.56	90.4	4.50	114.3		
72	F	4.06	103.1	5.00	127.0		87487827
80	F	4.62	117.3	5.50	139.7		
88	F	5.12	130.0	6.00	152.4		
96	F	5.56	142.8	6.50	165.1	87485008	
100	F	5.88	149.3	6.75	171.4		
104	F	6.18	156.9	7.00	177.8		
116	F	6.875	174.1	7.75	196.8		
180	F	10.875	276.2	11.75	298.4		
188	F	2.5	64	12.50	317.5		



Standard Part

Worm Gear Hose Clamps

STPK110

87367181

Rev AY

Page 6 of 11

TABLE 3: Worm Gear Hose Clamps (Fiat 14143/41 and Fiat-Hitachi 2350)

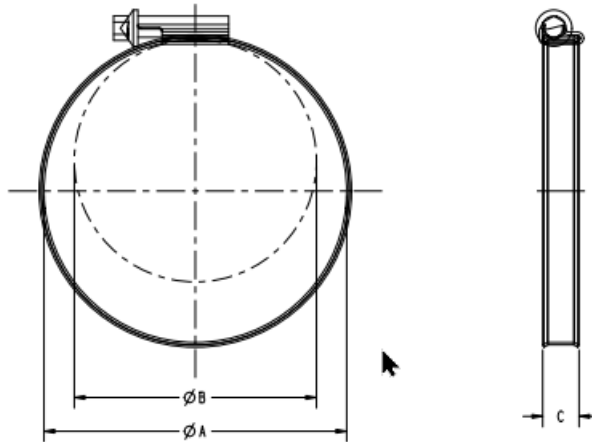
Worm Gear Clamps – (Fiat)									
Refer to Standard for Screw Head Size								Part Number	
Ref.	Closed		Opened		Width		Saddle	Without Liner	With Liner
STD.	in.	mm	in.	mm	in.	mm	Mat/Fin		
14143/41	.314	8	.472	12	.275	7	CST/ZND	13000090	
14143/41	.393	10	.629	16	.275	7	CST/ZND	13000190	
14143/41	.472	12	.708	18	.275	7	CST/ZND	13000290	
14143/41	.629	16	.984	25	.354	9	CST/ZND	13000390	
2350	.629	16	1.06	27	.551	14	SST	79083842	
14143/41	.787	20	1.26	32	.354	9	CST/ZND	13000490	
2350	.787	20	1.37	35	.551	14	SST	79083843	
14143/41	.984	25	1.57	40	.354	9	CST/ZND	13000590	
2350	.984	25	1.57	40	.551	14	SST	79083844	
14143/41	1.18	30	1.77	45	.354	9	CST/ZND	13001690	
14143/41	1.26	32	1.96	50	.354	9	CST/ZND	13000690	
2350	1.26	32	1.96	50	.551	14	SST	79083845	
14143/41	1.57	40	2.36	60	.354	9	CST/ZND	13000790	
2350	1.57	40	2.36	60	.551	14	SST	79083846	
14143/41	1.96	50	2.75	70	.354	9	CST/ZND	13000890	
2350	1.96	50	2.75	70	.551	14	SST	79083847	
14143/41	2.36	60	3.14	80	.354	9	CST/ZND	13000990	
2350	2.36	60	3.14	80	.551	14	SST	79083848	
14143/41	2.75	70	3.54	90	.354	9	CST/ZND	13001090	
2350	2.75	70	3.54	90	.551	14	SST	79083849	
14143/41	3.14	80	3.93	100	.354	9	CST/ZND	13001190	
2350	3.14	80	3.93	100	.551	14	SST	79083850	
14143/41	3.54	90	4.33	110	.354	9	CST/ZND	13001290	
2350	3.54	90	4.33	110	.551	14	SST	79083851	
14143/41	3.93	100	4.72	120	.354	9	CST/ZND	13001390	
2350	3.93	100	4.92	125	.551	14	SST	79083852	
14143/41	4.33	110	5.11	130	.354	9	CST/ZND	13001490	
2350	4.33	110	5.31	135	.551	14	SST	79083853	
14143/41	4.72	120	5.51	140	.354	9	CST/ZND	13001590	
2350	4.72	120	5.70	145	.551	14	SST	79083854	
2350	5.11	130	6.10	155	.551	14	SST	79084203	
2350	5.51	140	6.49	165	.551	14	SST	79084204	
2350	6.49	165	7.87	200	.551	14	SST	79083856	
2350	12.79	325	14.17	360	.551	14	SST	79083864	

TABLE 4a: Worm Gear Hose Clamps (Norma and ABA)
Refer DIN 3017

Standard Duty Worm Gear Clamps (Norma and ABA)								Part No. Without Liner	Vendor
Closed		Opened		Width		Saddle Mat/Fin			
in.	mm	in.	mm	in.	mm				
.314	8	.629	16	.354	9	CST/ZND	1838188	Norma	
.433	11	.669	17	.354	9	Aluzinc	82012717	Norma	
.511	13	.787	20	.354	9	Aluzinc	82012718	Norma	
.590	15	.944	24	.354	9	Aluzinc	82012719	Norma	
.590	15	.944	24	.472	12	Aluzinc	92717827	ABA	
.629	16	.984	25	.354	9	CST/ZND	986545		
.629	16	1.06	27	.354	9	SST/ CST/ZND	%85803079	Norma	
.748	19	1.10	28	.472	12	Aluzinc	82012722	ABA	
.866	22	1.25	32	.354	9	Aluzinc	82012721	Norma	
1.25	32	1.73	44	.472	12	Aluzinc	92717828	ABA	
1.49	38	1.96	50	.472	12	Aluzinc	82012726	ABA	
1.73	44	2.20	56	.472	12	Aluzinc	92735097	ABA	
1.96	50	2.56	65	.472	12	Aluzinc	82012728	ABA	
2.67	68	3.34	85	.472	12	Aluzinc	82012730	ABA	
3.03	77	3.74	95	.472	12	Aluzinc	82012731	ABA	
3.42	87	4.40	112	.472	12	Aluzinc	92717829	ABA	
2.36	60	2.48	63	.787	20	SST/ CST/ZND	%2168069		
2.68	68	2.87	73	.984	25	SST/ CST/ZND	%2168071		
3.62	92	3.82	97	.984	25	CST/ZND	2142028		
4.09	104	4.41	112	.984	25	CST/ZND	2115623		

%Hosing and Band to be Stainless Steel 1.4016 per DIN EN 10088-2 or AISI 430 and Screw to be carbon steel with Zinc plated.

TABLE 4b: Worm Gear Hose Clamps (Norma and ABA)
Refer DIN 3017



Standard Duty Worm Gear Clamps (Norma and ABA)

Standard Duty Worm Gear Clamps (Norma and ABA)						Saddle Mat/Fin	Part No. Without Liner	Vendor
Closed – Dim B		Opened – Dim A		Width – Dim C				
in.	mm	in.	mm	in.	mm			
.393	10	.629	16	.354	9	CST/ZND	@87313783	Norma
.472	12	.866	22	.354	9	CST/ZND	@82039341	Norma
.629	16	1.06	27	.354	9	CST/ZND	@82039343	Norma
.787	20	1.25	32	.472	12	CST/ZND	#82039344	Norma
.984	25	1.57	40	.472	12	CST/ZND	#82039345	Norma
.984	25	1.57	40	.354	9	CST/ZND	#82036709	Norma
1.18	30	1.77	45	.472	12	CST/ZND	@82039346	Norma
1.18	30	1.77	45	.472	12	CST/ZND	#90402709	Norma
1.37	35	1.96	50	.472	12	CST/ZND	@82039347	Norma
1.57	40	2.36	60	.472	12	CST/ZND	#82039348	Norma
1.96	50	2.75	70	.472	12	CST/ZND	#82036462	Norma
2.36	60	3.14	80	.354	9	CST/ZND	#90402707	Norma
2.36	60	3.14	80	.472	12	CST/ZND	@82039349	Norma
2.75	70	3.54	90	.472	12	CST/ZND	@87313786	Norma
3.54	90	4.33	110	.354	9	CST/ZND	#90402706	Norma
3.54	90	4.33	110	.472	12	CST/ZND	@82036459	Norma
3.93	100	4.72	120	.472	12	CST/ZND	#87313773	Norma
4.33	110	5.11	130	.472	12	CST/ZND	#82036460	Norma
5.51	140	6.29	160	.472	12	CST/ZND	#82036461	Norma
5.90	150	6.69	170	.472	12	CST/ZND	#92207541	Norma
6.29	160	7.08	180	.472	12	CST/ZND	#92207542	Norma

Torro® S W1 with Torque Cap

@ Torro® S W1

(Ref - per old chart drawing 82036459 on iView)



Standard Part

Worm Gear Hose Clamps

STPK110

87367181

Rev AY

Page 9 of 11

TABLE 5: Worm Gear Hose Clamps (Breeze)

Heavy Duty Worm Gear Clamps (Breeze)									
Closed		Opened		Width		Saddle Mat/Fin	Breeze	Without Liner	With Liner
in.	mm	in	mm	in.	mm				
1.0	25	1.75	44	.625	16	SST	HTM-175	86536660	
1.25	32	2.125	54	.625	16	SST	HTM-200	87039085	
							HTM-200L		86634186
1.75	44	2.625	67	.625	16	SST	HTM-250	86637709	
							HTM-250L		86625019
2.25	57	3.125	79	.625	16	SST	HTM-300	86633352	
							HTM-300L		87778863
2.75	70	3.625	92	.625	16	SST	HTM-350	86633353	
							HTM-350L		92263123
3.25	83	4.125	105	.625	16	SST	HTM-400L		86633354
3.75	95	4.625	118	.625	16	SST	HTM-450L		86639564
4.25	108	5.125	130	.625	16	SST	HTM-500	86633351	
							HTM-500L		86637711
4.75	121	5.625	143	.625	16	SST	HTM-550	84539444	
5.25	133	6.125	156	.625	16	SST	HTM-600L	84333574	86637712
5.75	146	6.625	168	.625	16	SST	HTM-650L	84517617	86639565
6.25	159	7.125	181	.625	16	SST	HTM-700	87530426	
6.25	159	7.125	181	.625	16	SST	HTM-700L		86633350
6.75	172	7.625	194	.625	16	SST	HTM-750		
7.25	184	8.125	206	.625	16	SST	HTM-800L		86637710
7.75	197	8.625	219	.625	16	SST	HTM-850		48009567
8.25	210	9.125	232	.625	16	SST	HTM-900L		87353465
8.75	222	9.625	244	.625	16	SST	HTM-950L		87562289
9.25	235	10.125	257	.625	16	SST	HTM-1000L		86637708
9.75	248	10.625	270	.625	16	SST	HTM-1050L		47424094
10.25	260	11.125	283	.625	16	SST	HTM-1100L		47575637

Heavy Duty Worm Gear Clamps (Ideal)									
Closed		Opened		Width		Saddle Mat/Fin	Ideal	Without Liner	With Liner
in.	mm	in	mm	in.	mm				
0.063	16	1.062	27	0.47	12	SST	4X94027	84177573	



Standard Part

Worm Gear Hose Clamps

STPK110

87367181

Rev AY

Page 10 of 11

TABLE 5A: Worm Gear Hose Clamps (Breeze)

Heavy Duty Worm Gear Clamps (Breeze)									
Material: Series 300 Austenitic Stainless Steel - Complete Clamp									
Closed		Opened		Width		Saddle Mat/Fin	Breeze	Without Liner	With Liner
in.	mm	in.	mm	in.	mm				
1.0	25	1.75	44	.625	16	SST	HTM-175 SP		
1.25	32	2.125	54	.625	16	SST	HTM-200 SP		
							HTM-200L SP		87485014
1.75	44	2.625	67	.625	16	SST	HTM-250 SP		
							HTM-250L SP		87485013
2.25	57	3.125	79	.625	16	SST	HTM-300 SP		
							HTM-300L SP		
2.75	70	3.625	92	.625	16	SST	HTM-350 SP		
3.25	83	4.125	105	.625	16	SST	HTM-400L SP		
3.75	95	4.625	118	.625	16	SST	HTM-450L SP		87485012
4.25	108	5.125	130	.625	16	SST	HTM-500 SP		
							HTM-500L SP		87485011
4.75	121	5.625	143	.625	16	SST	HTM-550 SP	87487824	87485010
5.25	133	6.125	156	.625	16	SST	HTM-600L SP	87485017	87485009
5.75	146	6.625	168	.625	16	SST	HTM-650L SP		87485016
6.25	159	7.125	181	.625	16	SST	HTM-700 SP		
6.25	159	7.125	181	.625	16	SST	HTM-700L SP		87485015
6.75	172	7.625	194	.625	16	SST	HTM-750 SP		
7.25	184	8.125	206	.625	16	SST	HTM-800L SP		
7.75	197	8.625	219	.625	16	SST	HTM-850 SP		
8.25	210	9.125	232	.625	16	SST	HTM-900L SP		
8.75	222	9.625	244	.625	16	SST	HTM-950L SP		
9.25	235	10.125	257	.625	16	SST	HTM-1000L SP		87487825

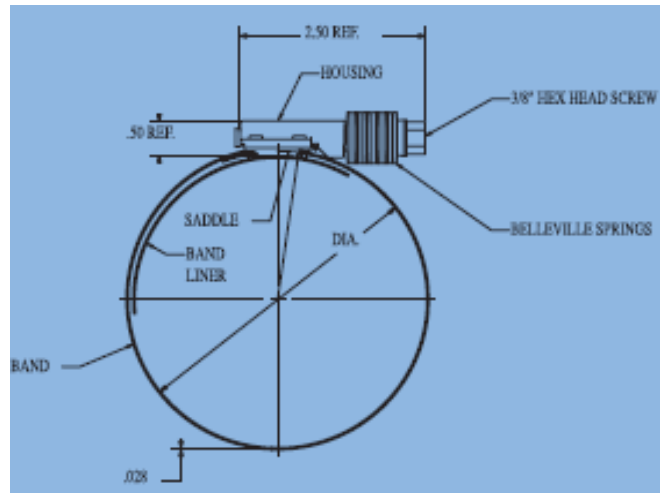


FIGURE 2: Worm Gear Constant Torque Hose Clamps

TABLE 6: Constant Torque Worm Gear Hose Clamps (Breeze)

Effective Diameter Range				Width		Breeze Part NO.	Part Number
Min.		Max.		Inch	Metric		
Inch	Metric	Inch	Metric				
.562	14	1.062	27	.562	14	CT-9410	84499092
.687	17	1.250	32	.562	14	CT-9412	91759393
.812	21	1.500	38	.562	14	CT-9416	91759394
.812	21	1.750	44	.562	14	CT-9420	91765360
1.062	27	2	51	.562	14	CT-9424	51568236
1.312	33	2.250	57	.562	14	CT-9428	91765361
1.562	40	2.500	64	.562	14	CT-9432	51568242
1.812	46	2.750	70	.562	14	CT-9436	91765362
2.062	52	3	76	.562	14	CT-9440	91765363
2.312	59	3.250	83	.562	14	CT-9444	91765364
2.562	65	3.500	89	.562	14	CT-9448	91765367
2.812	71	3.750	95	.562	14	CT-9452	91765368
1	25	1.75	44	.625	16	CT-175L	87482165
1.250	32	2.125	54	.625	16	CT-200 L	76084436
1.250	32	2.125	54	.625	16	CT-200 LSS	*84129692
1.750	45	2.625	67	.625	16	CT-250 L	76084984
2.250	57	3.125	79	.625	16	CT-300 L	76086811
2.750	70	3.625	92	.625	16	CT-350 L	76088567
2.750	70	3.625	92	.625	16	CT-350 LSS	*87416749
3.250	83	4.125	105	.625	16	CT-400 L	76086813
3.750	95	4.625	118	.625	16	CT-450 L	87525506
4.250	108	5.125	130	.625	16	CT-500 L	76086847
4.750	121	5.625	143	.625	16	CT-550 L	47846551
5.250	133	6.125	156	.625	16	CT-600 L	47558655
5.750	146	6.625	168	.625	16	CT-650 L	84319920
6.250	159	7.125	181	.625	16	CT-700 L	87525511
6.750	172	7.625	194	.625	16	CT-750 L	87437258
7.250	184	8.125	206	.625	16	CT-800 L	84246771
7.750	197	8.625	219	.625	16	CT-850 L	48195013
8.250	210	9.125	232	.625	16	CT-900 L	84270867
8.750	223	9.625	246	.625	16	CT-950 L	87443916
9.25	235	10.125	257	0.625	16	CT-1000L	51583291

*All Stainless Steel