

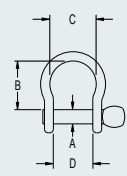
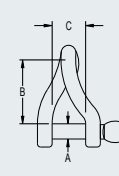
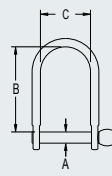
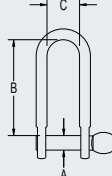
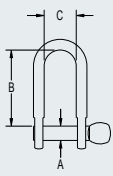
## SHACKLES



✓ Many shapes and sizes to suit any application.

✓ Coined shackle pin head - some models with hole for seizing wire.

☞ Grade 316 stainless steel bodies and pins.



PRODUCT No.	A mm	B mm	C mm	D mm	U.D.L.*1 B.L. kg	P.L.*1 B.L. kg	WEIGHT g	A in	B in	C in	D in	U.D.L.*1 B.L. lb	P.L.*1 B.L. lb	WEIGHT oz
<b>Standard D</b>														
RF1851	3.2	12	9	-	375	280	2	1/8	15/32	11/32	-	825	620	0.1
RF1806	4.0	16	10	-	800	600	5	5/32	5/8	13/32	-	1760	1320	0.2
RF616	4.8	18	11	-	1200	800	15	3/16	23/32	7/16	-	2640	1760	0.5
RF617	6.4	22	14	-	2300	1400	25	1/4	7/8	9/16	-	5070	3090	0.9
RF617H*2	6.4	22	14	-	2300	1400	25	1/4	7/8	9/16	-	5070	3090	0.9
RF618	7.9	29	16	-	3600	2700	50	5/16	1 5/32	5/8	-	7940	5950	1.8
RF618H*2	7.9	29	16	-	3600	2700	50	5/16	1 5/32	5/8	-	7940	5950	1.8
RF619*2	9.5	38	17	-	5400	3600	80	3/8	1 1/2	21/32	-	11900	7940	2.8
RF620*2	12.7	42	19	-	7700	7500	130	1/2	1 31/32	3/4	-	16980	16530	4.6
RF1035	15.9	47	25	-	14000	11000	280	5/8	1 25/32	1	-	30860	24250	9.9
<b>Long D</b>														
RF621	4.0	26	10	-	800	600	10	5/32	1 1/32	13/32	-	1760	1320	0.4
RF622	4.8	31	11	-	1200	800	15	3/16	1 7/32	7/16	-	2640	1760	0.5
RF623	6.4	44	15	-	2300	1400	30	1/4	1 21/32	19/32	-	5070	3090	1.1
RF624	7.9	55	17	-	3600	2700	60	5/16	2 5/32	21/32	-	7940	5950	2.1
RF625*2	9.5	60	17	-	5400	3600	90	3/8	2 3/8	21/32	-	11900	7940	3.2
RF626*2	12.7	72	18	-	7700	7500	155	1/2	2 27/32	23/32	-	16980	16530	5.5
<b>Wide</b>														
RF1850S	3.2	11	13	-	500	280	2	1/8	7/16	1/2	-	1100	620	0.1
RF1852	4.8	29	20	-	1200	700	15	3/16	1 5/32	25/32	-	2640	1540	0.5
RF1853	6.4	39	31	-	2300	1100	26	1/4	1 17/32	1 7/32	-	5070	2430	0.9
RF639	7.9	51	28	-	3400	1700	70	5/16	2	1 3/32	-	7480	3740	2.5
RF640	9.5	56	29	-	5400	3600	95	3/8	2 7/32	1 5/32	-	11900	7940	3.4
RF641*2	12.7	68	33	-	7700	5500	170	1/2	2 11/16	1 5/16	-	16980	12130	6.0
<b>Twisted</b>														
RF627	4.0	23	9	-	800	600	5	5/32	29/32	11/32	-	1760	1320	0.2
RF628	4.8	28	10	-	1200	800	15	3/16	1 3/32	13/32	-	2640	1760	0.5
RF629	6.4	39	13	-	2300	1400	30	1/4	1 17/32	1/2	-	5070	3090	1.1
RF630	7.9	48	16	-	3600	2700	65	5/16	1 7/8	5/8	-	7940	5950	2.3
RF631*2	9.5	54	19	-	5400	3600	90	3/8	2 1/8	3/4	-	11900	7940	3.2
RF632*2	12.7	65	19	-	7700	7500	165	1/2	2 9/16	3/4	-	16980	16530	5.8
<b>Bow</b>														
RF613S*3	3.0	12	9	6.4	550	280	3	1/8	15/32	11/32	1/4	1210	620	0.1
RF633	4.0	15	17	11.0	800	600	5	5/32	9/16	9/16	7/16	1760	1320	0.2
RF634	4.8	18	14	13.0	1200	800	10	3/16	23/32	9/16	1/2	2640	1760	0.4
RF635	6.4	21	19	16.0	2300	1400	20	1/4	13/16	3/4	5/8	5070	3090	0.7
RF636	7.9	27	22	16.0	3600	2700	45	5/16	1 1/16	7/8	5/8	7940	5950	1.6
RF638*2	7.9	27	22	16.0	3600	2700	45	5/16	1 1/16	7/8	5/8	7940	5950	1.6
RF637*2	9.5	52	36	21.0	5400	3600	90	3/8	2 1/16	1 13/32	13/16	11900	7940	3.2

\*1 UDL BL - The "Uniformly Distributed Load" breaking load of the shackle; the load is applied across the full span of the shackle pin.

PL BL - The "Point Load" breaking load of the shackle; the load is only applied at the centre or one side of the shackle pin.

\*2 Shackle pins drilled for seizing wire

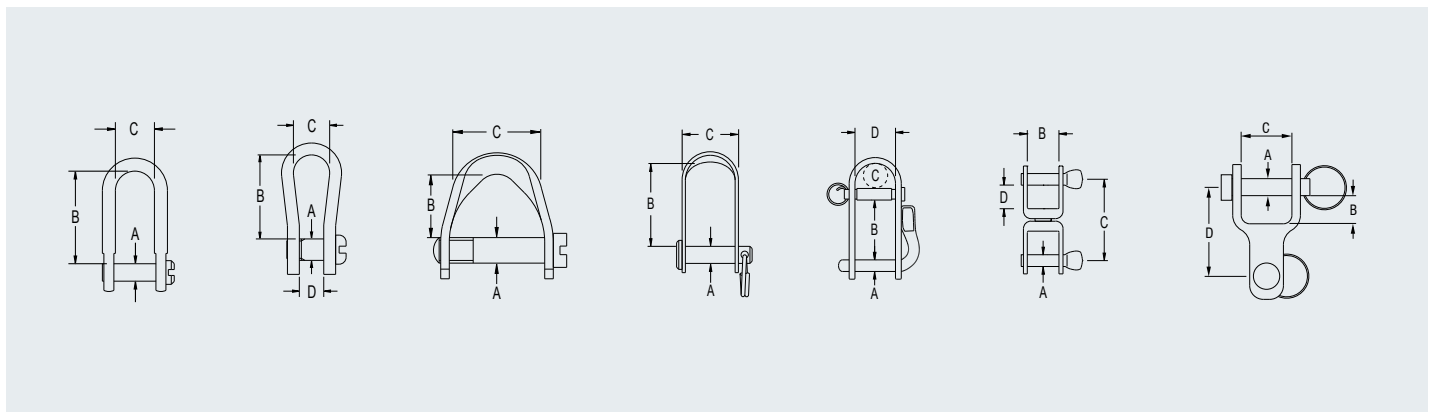
\*3 RF613S has a slotted head.



- ✓ Slotted head shackle pins are low profile to prevent snagging on ropes etc.
- ✓ Lightweight clevis pin shackles use a split ring for security.

- ✓ Halyard shackles have a lever action for easy finger opening and closing. They also have a keyed pin for pin retention and spring engagement to retain pin in closed position.

- ✓ RF1320R shackle key suits both coined and slotted shackle pins, and small nylon-insert nuts.
- ⚙️ Grade 316 stainless steel bodies and pins.

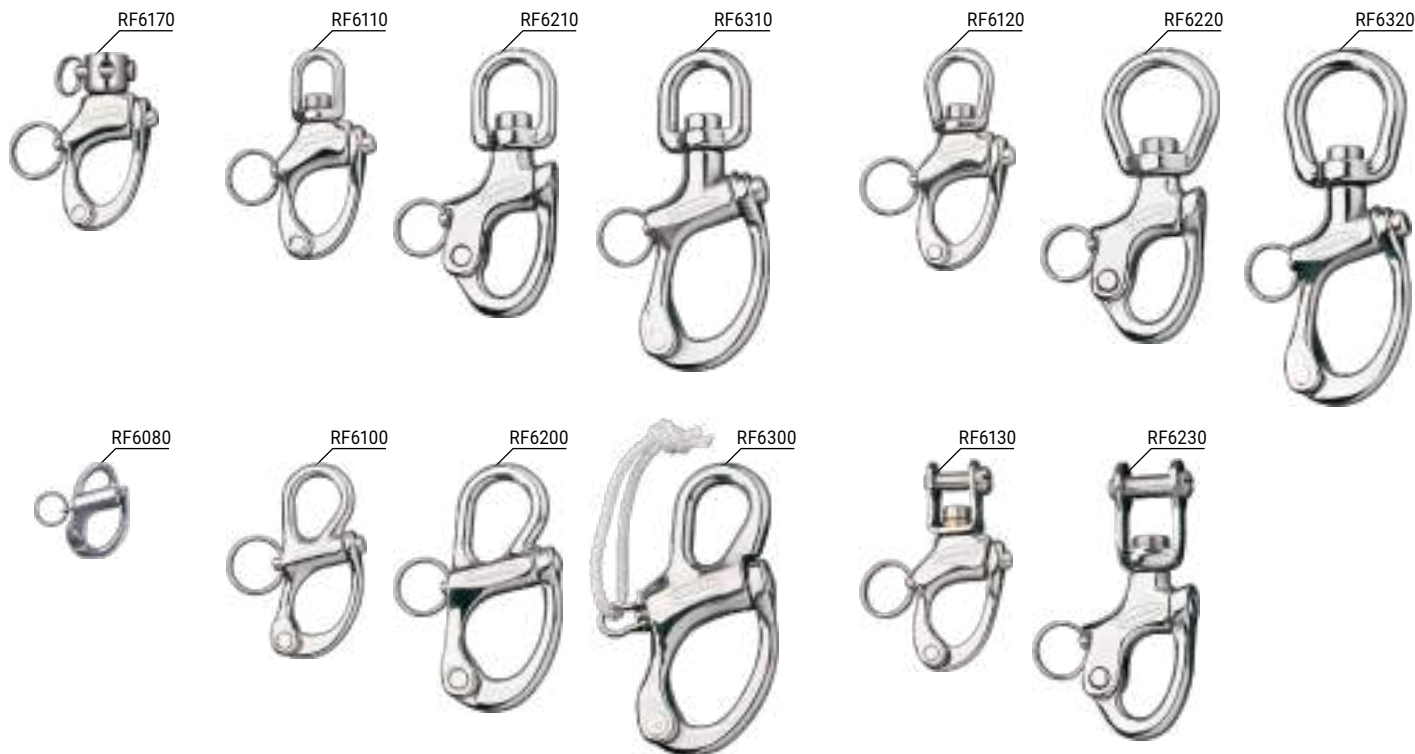


PRODUCT No.	A	B	C	D	U.D.L.*1	P.L.*1	WEIGHT	A	B	C	D	U.D.L.*1	P.L.*1	WEIGHT	
	mm	mm	mm	mm	B.L.	B.L.		in	in	in	in	lb	lb		oz
<b>Slotted Pin</b>															
RF615	4.0	16.0	10.0	-	850	650	5	5/32	5/8	13/32	-	1870	1430	0.2	
RF615A	4.0	13.0	8.0	-	850	700	7	5/32	1/2	5/16	-	1870	1540	0.2	
RF150	4.8	18.0	12.0	-	1500	900	10	3/16	23/32	15/32	-	3300	1980	0.4	
RF806S	4.8	11.5	16.0	-	950	700	10	3/16	7/16	5/8	-	2090	1540	0.4	
RF707S	4.8	17.0	18.0	-	1200	700	10	3/16	21/32	23/32	-	2640	1540	0.4	
RF614	4.8	19.0	10.0	5.0	1300	1300	5	3/16	13/32	3/8	3/16	2860	2860	0.2	
RF151	6.4	22.0	16.0	-	2300	1400	20	1/4	7/8	5/8	-	5070	3090	0.7	
RF152	7.9	29.0	17.0	-	3600	2700	45	5/16	1 5/32	21/32	-	7940	5950	1.6	
<b>Lightweight Clevis Pin</b>															
RF807	4.8	20.0	14.0	-	700	-	10	3/16	25/32	9/16	-	1540	-	0.4	
<b>Halyard</b>															
RF1032	4.8	22.0	10.0	15.0	1200	900	30	3/16	7/8	13/32	19/32	2650	1980	1.1	
RF1033	6.4	32.0	13.0	19.0	1800	1400	55	1/4	1 1/4	1/2	3/4	3960	3080	1.9	
RF1034	7.9	39.0	18.5	20.0	2200	1800	90	5/16	1 17/32	23/32	25/32	4840	3960	3.2	
<b>Swivel</b>															
RF576	4.0	10.0	22.0	6.0	500	350	10	5/32	13/32	7/8	15/64	1100	770	0.4	
RF120	4.8	12.0	32.0	8.7	650	650	20	3/16	15/32	1 1/4	11/32	1430	1430	0.7	
RF173	6.4	15.0	42.0	11.9	1100	700	40	1/4	19/32	1 21/32	19/32	2420	1540	1.4	
RF75*2	7.9	17.0	60.0	15.8	2300	2100	15	5/16	21/32	2 3/8	5/8	5070	4620	0.5	
<b>Two-Way Link</b>															
RF815	5.0	5.2	10.0	19.0	1100	900	14	3/16	7/32	13/32	3/4	2425	1980	0.5	
RF816	6.0	6.7	12.2	22.6	1200	1000	21	1/4	1/4	15/32	7/8	2650	2200	0.7	
<b>Shackle Key</b>															
RF1320R	Shackle key and multi-purpose tool. Suits coined and slotted head shackle pins. Features sockets for 3/16" & 1/4" nuts. Screwdriver tip. Hollow end ideal for tightening drain plugs. Red plastic grip handle.						90								3.2

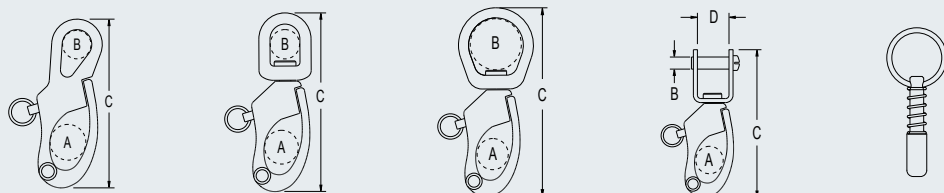
\*1 UD.L. BL - The "Uniformly Distributed Load" breaking load of the shackle; the load is applied across the full span of the shackle pin.

PL. BL - The "Point Load" breaking load of the shackle; the load is only applied at the centre or one side of the shackle pin.

\*2 RF75 swivel shackle has stainless steel ball bearings.



- ✔ Fixed or swivel heads.
- ✔ Heavy duty plunger springs and precision components ensure dependable service.
- ✔ Body and hasp profiles are designed for easy clearance of lines and fittings when released.
- ✔ High strength-to-weight ratio.
- ✔ Stainless steel is used throughout for excellent corrosion resistance.
- ✔ Split ring on plunger pin is spot welded for security.
- ✔ A lanyard can be attached to the plunger pin for easy opening.
- ✔ RF6170 is a snap shackle adapter for blocks with a 5mm (3/16") pin.
- ✔ Grade 15-5PH investment cast stainless steel body and hasp.
- ✔ Grade 316 stainless steel plunger pin and spring.



### Replacement Plunger Pin Kits

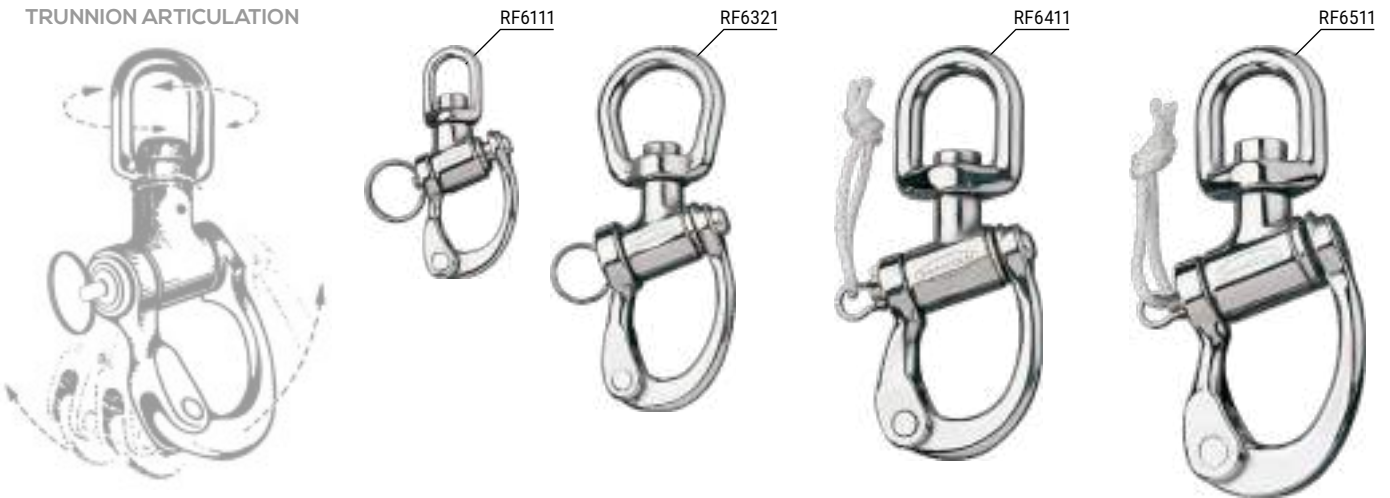
RF6160	Suits RF6110, RF6120, RF6130, RF6170
RF6161	Suits RF6100, RF6111
RF6260	Suits RF6200
RF6262	Suits RF6210, RF6220, RF6230, RF6230A
RF6360	Suits RF6310, RF6320, RF6321
RF6361	Suits RF6300
RF6461	Suits RF6411
RF6561	Suits RF6511

PRODUCT No.	HEAD TYPE	A mm	B mm	C mm	D mm	M.W.L. kg	B.L. kg	WEIGHT g	A in	B in	C in	D in	M.W.L. lb	B.L. lb	WEIGHT oz
<b>Series 80</b>															
RF6080	Fixed bail	6.2	4.7	32	-	75	150	10	1/4	3/16	1 1/4	-	165	330	0.4
<b>Series 100</b>															
RF6100	Fixed bail	16	15.0	66	-	1000	2000	43	5/8	19/32	2 19/32	-	2205	4410	1.5
RF6110	Small swivel bail	16	10.0	69	-	850	1700	50	5/8	13/32	2 23/32	-	1875	3750	1.8
RF6120	Large swivel bail	16	13.0	73	-	750	1500	57	5/8	1/2	2 7/8	-	1655	3310	2.0
RF6130	Swivel shackle	16	6.4	72	13	750	1500	64	5/8	1/4	2 27/32	1/2	1655	3310	2.3
RF6170	Block head adapter	16	5.0	60	-	500	1000	49	5/8	3/16	2 3/8	-	1105	2210	1.7
<b>Series 200</b>															
RF6200	Fixed bail	20	19.0	85	-	1100	2200	100	13/16	3/4	3 11/32	-	2425	4850	3.5
RF6210	Small swivel bail	16	16.0	92	-	1600	3200	113	5/8	5/8	3 5/8	-	3530	7060	4.0
RF6220	Large swivel bail	16	25.0	101	-	1100	2200	120	5/8	1	3 31/32	-	2425	4850	4.2
RF6230	Swivel shackle	16	7.9	95	17.5	1100	2200	120	5/8	5/16	3 3/4	11/16	2425	4850	4.2
<b>Series 300</b>															
RF6300	Fixed bail	26	19.0	100	-	2000	4000	155	1 1/32	3/4	3 15/16	-	4410	8820	5.5
RF6310	Small swivel bail	26	16.0	110	-	1800	3600	142	1 1/32	5/8	4 11/32	-	3970	7940	5.0
RF6320	Large swivel bail	26	26.0	122	-	1350	2700	170	1 1/32	1 1/32	4 3/4	-	2975	5950	6.0

# TRIGGERSNAPS™ & TRUNNION SNAP SHACKLES



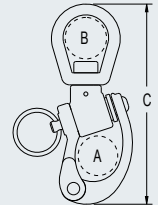
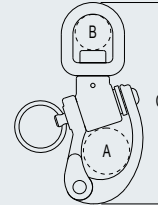
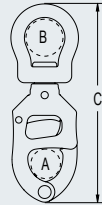
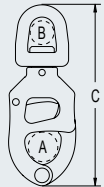
## TRUNNION ARTICULATION



- ✔ Trunnion swivel head allows both 360° rotation and side to side articulation.
- ✔ Small and large bail versions

- ✔ RF1322 release spike with shackle key for safe release of Triggersnaps™ while under load.
- ✔ Triggersnaps™ are stamped with a production code for traceability.

- ✔ Triggersnaps™ are individually proof-load tested.
- ⚙ Heat treated grade 15-5PH investment cast stainless steel body, bail, latch and trigger.
- ⚙ Grade 316 stainless steel rivets and spring.



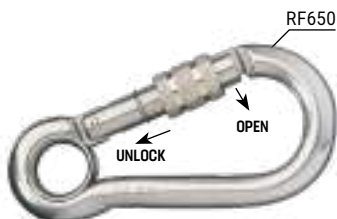
PRODUCT No.	HEAD TYPE	A	B	C	M.W.L.	B.L.	WEIGHT	A	B	C	M.W.L.	B.L.	WEIGHT
		mm	mm	mm	kg	kg	g	in	in	in	lb	lb	oz
<b>Triggersnaps™</b>													
RF7110	Series 100, small swivel bail	14	9	80	1000	2000	60	9/16	11/32	3 5/32	2205	4410	2.1
RF7120	Series 100, large swivel bail	14	18	89	1000	2000	66	9/16	23/32	3 1/2	2205	4410	2.3
RF7210	Series 200, small swivel bail	16	13	97	1600	3200	106	5/8	1/2	3 13/16	3530	7060	3.7
RF7220	Series 200, large swivel bail	16	22	108	1600	3200	116	5/8	7/8	4 1/4	3530	7060	4.1
RF7310	Series 300, small swivel bail	19	16	114	2400	4800	170	3/4	5/8	4 1/2	5290	10580	6.0
RF7320	Series 300, large swivel bail	19	25	123	2400	4800	194	3/4	31/32	4 27/32	5290	10580	6.8
RF1322	Aluminium alloy release spike with shackle key	-	18	150	-	-	78	-	23/32	5 29/32	-	-	2.8

## Trunnion Snap Shackles

RF6111	Series 100, small swivel bail	16	10	70	750	1500	57	5/8	13/32	2 3/4	1655	3310	2.0
RF6321	Series 300, large swivel bail	26	26	122	1350	2700	198	1 1/32	1 1/32	4 13/16	2975	5950	7.0
RF6411	Series 400, small swivel bail	32	25	137	3000	6000	369	1 1/4	1	5 13/32	6615	13230	13.0
RF6511	Series 500, small swivel bail	36	22	150	3750	7500	454	1 13/32	7/8	5 29/32	8270	16540	16.0



CARABINER HOOKS, NON-LOCKING



CARABINER HOOK, LOCKING



QUICKLINKS



ROUND RINGS

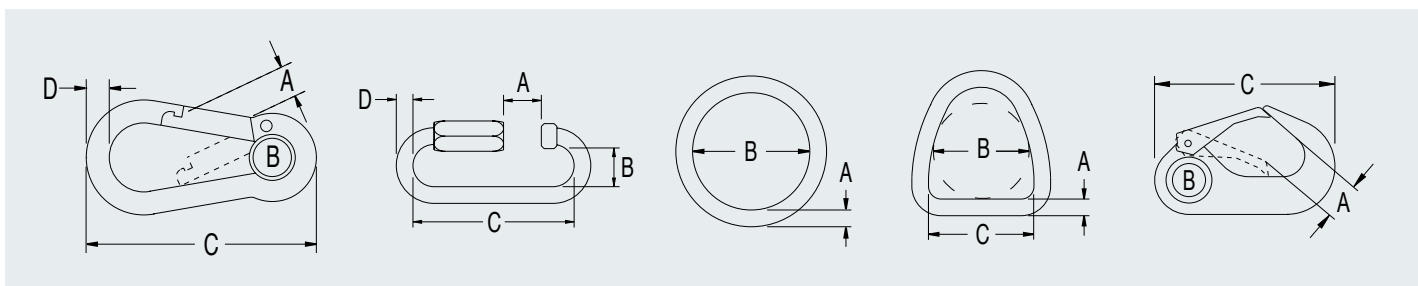


D-RING



SNAP HOOK

- ✔ Carabiner hooks have ferrule lined eyes to retain the fixed line.
- ✔ RF650 carabiner hook opens inwards and has a threaded locking sleeve for added security.
- ✔ Quicklinks have large openings and secure threaded locking sleeves.
- ✔ RF16 D-ring suits use with 50mm (2") webbing.



PRODUCT No.	TYPE	A	B	C	D	M.W.L.	B.L.	WEIGHT	A	B	C	D	M.W.L.	B.L.	WEIGHT	
		mm	mm	mm	mm	kg	kg	g	in	in	in	in	lb	lb	oz	
<b>Carabiner Hooks - Non-Locking</b>																
RF2355	-	9.0	9.0	60	6	-	520	28	11/32	11/32	2 3/8	1/4	-	1145	1.0	
RF652	-	11.0	11.0	80	8	-	800	68	7/16	7/16	3 1/8	5/16	-	1760	2.4	
RF653	-	15.0	15.0	100	10	-	1200	129	19/32	19/32	3 15/16	13/32	-	2640	4.6	
<b>Carabiner Hook - Threaded Locking Sleeve</b>																
RF650	-	13.0	14.0	100	10	-	1200	134	17/32	17/32	3 15/16	13/32	-	2640	4.7	
<b>Quicklinks</b>																
RF711	-	5.5	11.5	32	4	-	1400	12	3/16	7/16	1 1/4	5/32	-	3085	0.4	
RF712	-	7.5	14.5	45	6	-	3250	35	5/16	9/16	1 3/4	1/4	-	7165	1.2	
RF713	-	11.0	17.5	58	8	-	5500	79	7/16	11/16	2 5/16	5/16	-	12125	2.7	
RF714	-	12.0	20.5	69	10	-	9000	140	15/32	13/16	2 11/16	13/32	-	19840	4.9	
<b>Rings</b>																
RF122	Round	4.0	38.0	-	-	180	1100	12	5/32	1 1/2	-	-	396	2420	0.4	
RF123	Round	5.0	25.4	-	-	600	2200	14	3/16	1	-	-	1320	4840	0.5	
RF48	Round	6.0	25.4	-	-	900	3000	15	1/4	1	-	-	1980	6600	0.5	
RF124	Round	6.0	38.0	-	-	650	3000	40	1/4	1 1/2	-	-	1430	6600	1.4	
RF125	Round	8.0	42.5	-	-	700	3500	55	5/16	1 5/8	-	-	1540	7700	1.9	
RF16	D-ring	8.0	45.0	50	-	600	1200	75	5/16	1 3/4	2	-	1320	2640	2.7	
<b>Snap Hook</b>																
RF533	-	10.0	9.0	51	-	180	360	25	13/32	11/32	2	-	395	790	0.9	



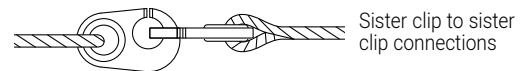
**SWIVELS**  
See page 203 for swivel shackles

**S-HOOKS**

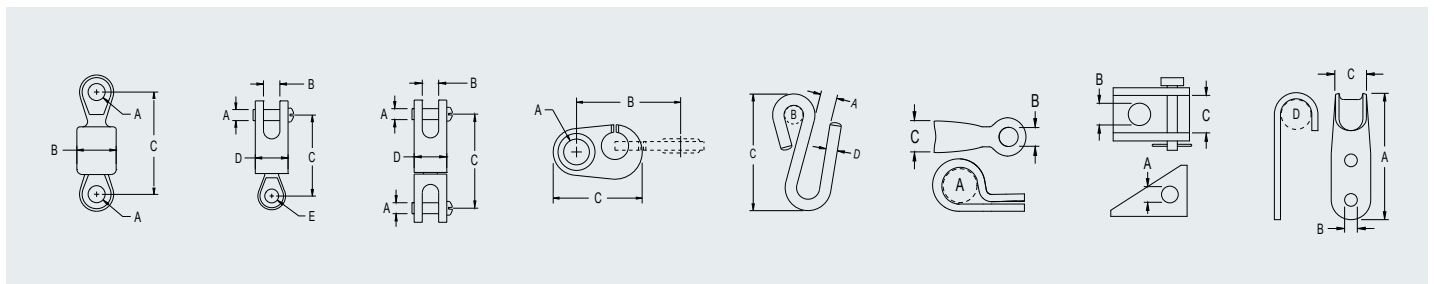
**BECKETTS**

**SISTER CLIPS**

Swivels are used in conjunction with blocks and rigging systems to provide articulation and rotation (not suitable for high speed rotating applications).

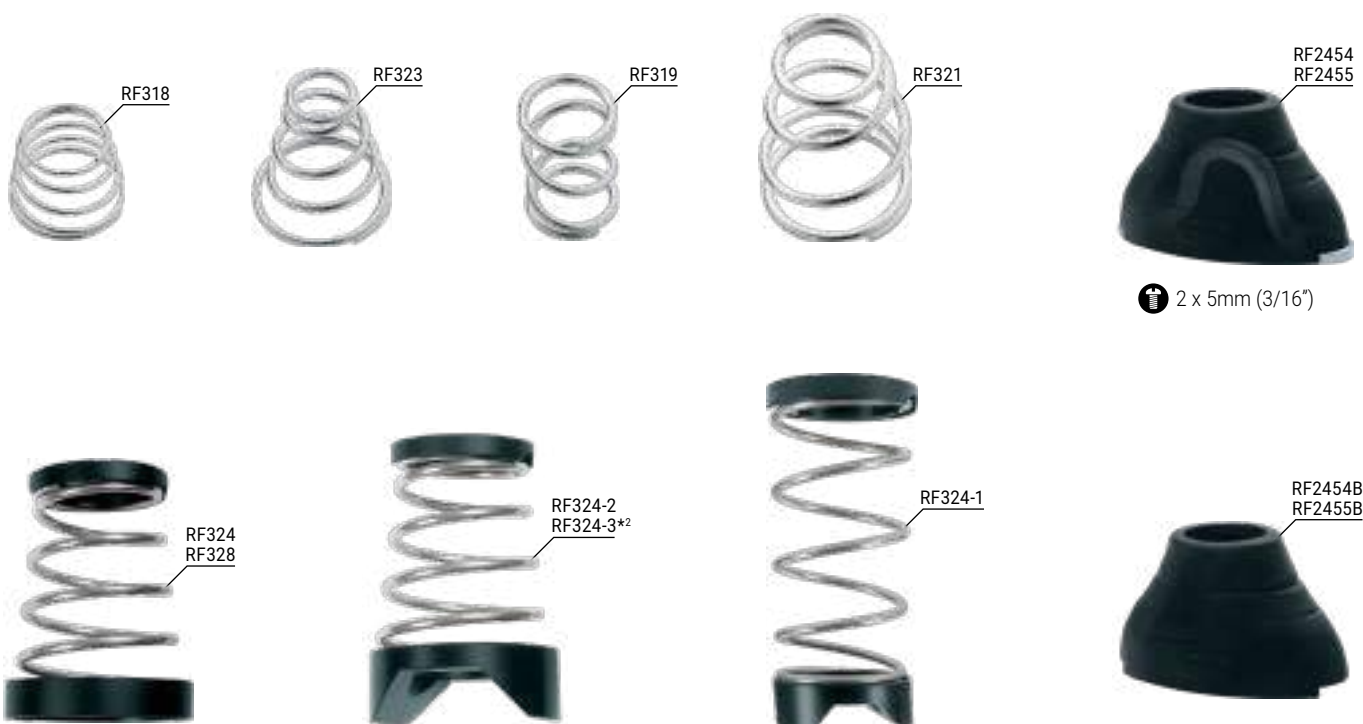


Sister clip to sister clip connections

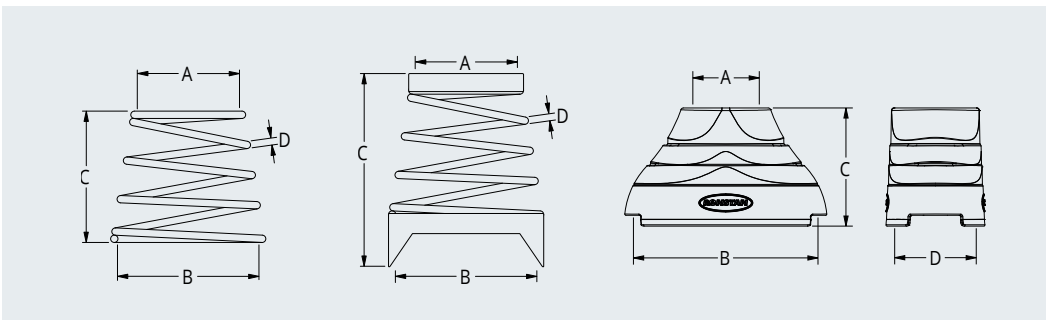


PRODUCT No.	TYPE	A mm	B mm	C mm	D mm	E mm	B.L. kg	WEIGHT g	A in	B in	C in	D in	E in	B.L. lb	WEIGHT oz
<b>Swivels - Ball Bearing</b>															
RF78*		8.1	19.1	51.8	-	-	1000	65	5/16	3/4	2 3/32	-	-	2200	2.3
RF78A		6.4	9.6	54.0	19.0	-	1700	80	1/4	3/8	2 1/8	3/4	-	3740	2.8
RF78B*		6.4	9.6	44.3	19.0	8.1	1700	60	1/4	3/8	1 3/4	3/4	5/16	3740	2.1
RF79		7.9	12.7	89.8	25.1	16.0	2600	190	5/16	1/2	3 17/32	1	5/8	5720	6.7
<b>Sister Clips</b>															
RF536		7.0	27.0	24.0	-	-	70	5	9/32	1 1/16	15/16	-	-	150	0.2
RF89		10.0	43.0	37.0	-	-	250	10	13/32	1 11/16	1 7/16	-	-	550	0.4
RF2665		15.0	60.0	58.0	-	-	1800	81	19/32	2 3/8	2 1/4	-	-	3960	2.9
<b>S-Hooks</b>															
RF50		10.0	6.8	44.0	4.8	-	250	14	13/32	1/4	1 3/4	3/16	-	550	0.5
RF48A		10.0	9.0	62.0	6.0	-	400	35	13/32	11/32	2 7/16	1/4	-	880	1.2
RF49		12.0	11.0	76.0	8.0	-	600	65	15/32	7/16	3	5/16	-	1320	2.3
RF51		15.0	16.0	87.0	9.5	-	800	110	19/32	5/8	3 7/16	3/8	-	1760	3.9
<b>Becketts</b>															
RF88	Hook becket	50.5	5.0	13.5	8.0	-	-	13	2	3/16	17/32	5/16	-	-	0.5
RF1050	Eye becket	8.0	5.0	9.0	-	-	-	6	5/16	3/16	11/32	-	-	-	0.2
RF1051	Eye becket	8.0	6.0	9.0	-	-	-	6	5/16	1/4	11/32	-	-	-	0.2
RF1052	Fork becket / block anchor	5.0	5.0	11.5	-	-	-	9	3/16	3/16	7/16	-	-	-	0.3
RF1053	Fork becket / block anchor	5.0	6.0	14.0	-	-	-	9	3/16	1/4	9/16	-	-	-	0.3

\*Eye thickness = 6.4mm (1/4")



2 x 5mm (3/16")



- ☑ RF324, RF324-1, RF324-2, RF324-3, RF328 include top and bottom acetal collars.
- ⬆ Springs and boots are used to support blocks in an upright position.
- 🌀 Grade 316 stainless steel springs.

PRODUCT No.	DESCRIPTION	A mm	B mm	C mm	D mm	WEIGHT g	A in	B in	C in	D in	WEIGHT oz
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### Stand-Up Springs

RF318*1	Stand-up spring, suits Series 15 and Series 20 Utility blocks with saddle RF498	16	23	22	1	3	5/8	7/8	7/8	1/32	0.1
RF319	Stand-up spring	16	16	32	2	3	5/8	5/8	1 1/4	3/32	0.1
RF321*1	Stand-up spring, suits Series 40 Utility blocks (use saddle RF134 or RF134A) or Series 50 (use saddle RF1055)	16	24	41	2	9	5/8	15/16	1 5/8	3/32	0.3
RF323*1	Stand-up spring, suits Series 30 Utility blocks and Orbit Blocks™ with saddle RF134/RF134A	19	25	32	1	4	3/4	1	1 1/4	1/32	0.1
RF324	Stand-up spring, suits Series 60 & 75 Core Blocks™ and Orbit Blocks™ with padeye RF2433-09	20	30	81	4	80	3/4	1 3/16	3 3/16	5/32	2.8
RF324-1	Stand-up spring, suits Series 60 & 75 Core Blocks™ and Orbit Blocks™	20	24	103	3	60	3/4	15/16	4 1/16	1/8	2.1
RF324-2	Stand-up spring, suits Series 60 & 75 Core Blocks™ and Orbit Blocks™, S26 & S30 traveller cars	20	38	89	4	60	3/4	1 1/2	3 1/2	5/32	2.1
RF324-3*2	Stand-up spring, suits Series 60, 75 & 100 Core Blocks™ and Orbit Blocks™, S26 traveller cars	20	38	94	4	60	3/4	1 1/2	3 11/16	5/32	2.1
RF328	Stand-up spring, suits S100 Orbit Blocks™ with padeye RF2429-10	47	72	95	4	120	1 7/8	2 7/8	3 3/4	5/32	4.2

### Stand-Up Bases & Boots

RF2454	Stand-up base, suits S40 Orbit Blocks™ - includes RF134 stainless steel saddle	17	42	28	19	11	5/8	1 5/8	1 1/8	3/4	0.4
RF2455	Stand-up base, suits S55 Orbit Blocks™ - includes RF1055 stainless steel saddle	20	53	35	23	26	3/4	2 1/8	1 3/8	15/16	0.9
RF2454B	Stand-up boot, suits S40 Orbit Blocks™ - boot only	17	42	28	19	6	5/8	1 5/8	1 1/8	3/4	0.2
RF2455B	Stand-up boot, suits S55 Orbit Blocks™ - boot only	20	53	35	23	11	3/4	2 1/8	1 3/8	15/16	0.4

\*1Tapered spring.

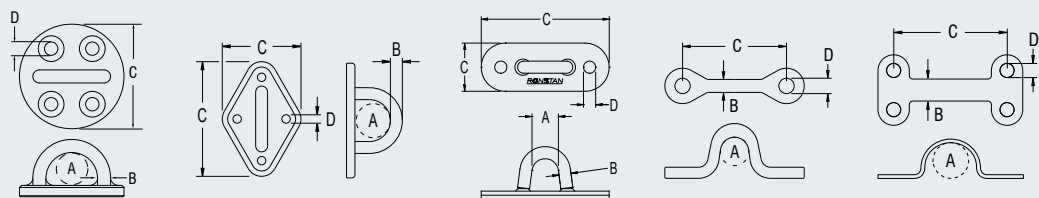
\*2 Suits no end cap version Series 26 traveller cars.



**PADEYES**



- Grade 316 stainless steel.
- RF2429-xx - Grade 15-5PH stainless steel.



PRODUCT No.	DESCRIPTION	A	B	C	D	B.L.	WEIGHT	A	B	C	D	B.L.	WEIGHT
		mm	mm	mm	mm	kg	g	in	in	in	in	lb	oz
<b>Padeyes - Fixed, Round</b>													
RF2429-02	2 mounting holes	7.2	5.0	34.0	6.4	1500**	26	9/32	3/16	1 5/16	1/4	3310**	0.9
RF2429-06	4 mounting holes	16.0	7.3	50.0	6.4	4000**	82	5/8	5/16	2	1/4	8800**	2.9
RF2429-08	4 mounting holes	17.2	10.0	57.7	8.3	6000**	127	43/64	25/64	2 1/4	21/64	13200**	4.5
RF2429-10	4 mounting holes	21.1	11.5	72.3	10.2	9000**	240	53/64	7/16	2 3/4	13/32	19800**	8.5
<b>Padeyes - Fixed, Diamond Base</b>													
RF87	Straight sided, concave underside	10.0	5.0	51 x 19	5.1	-	15	3/8	3/16	2 x 3/4	3/16	-	0.5
RF529*	Includes nylon mounting pad	18.0	8.0	75 x 51	6.4	2000	100	23/32	5/16	3 x 2	1/4	4400	4.0
RF415	Includes nylon mounting pad	21.0	8.0	75 x 51	5.0	1000	75	13/16	5/16	3 x 2	3/16	2200	2.7
RF44	Includes nylon mounting pad	22.0	11.0	94 x 60	6.7	2000	130	7/8	7/16	3 11/16 x 2 3/8	1/4	4400	4.6
RF416		25.0	6.4	83 x 35	4.8	800	40	1	1/4	3 1/4 x 1 3/8	3/16	1760	1.4
<b>Saddles - Narrow</b>													
RF133		9.0	4.0	27.0	4.8	-	2	3/8	5/32	1 1/16	3/16	-	0.1
RF134		14.0	5.1	36.6	4.5	-	5	9/16	3/16	1 7/16	3/16	-	0.2
RF134A	Countersunk holes	14.0	5.1	36.6	5.0	-	5	9/16	3/16	1 7/16	3/16	-	0.2
RF498		12.0	3.2	27.7	4.3	-	4	15/32	1/8	1 3/32	5/32	-	0.1
RF528		12.0	6.8	44.5	8.1	-	25	15/32	9/32	1 23/32	5/16	-	0.9
RF1054		18.0	7.0	60.0	8.4	-	35	23/32	9/32	2 3/8	5/16	-	1.2
RF1055		16.0	5.8	43.0	6.6	-	15	5/8	7/32	1 11/16	1/4	-	0.5
<b>Saddles - Flared Top</b>													
RF94		6.0	9.0	27.0	5.0	-	3	1/4	11/32	1 1/16	3/16	-	0.1
RF94A		5.0	5.8	29.0	5.0	-	3	3/16	7/32	1 1/8	3/16	-	0.1
RF96		10.0	8.3	29.0	6.4	-	5	3/8	5/16	1 1/8	1/4	-	0.2
RF148		15.0	11.0	40.0	6.5	-	8	9/32	7/16	1 5/8	1/4	-	0.3
RF291		12.0	9.0	31.8	5.3	-	7	1/2	11/32	1 1/4	3/16	-	0.2
RF4714	4 fixing points	9.0	8.0	32.0 / 19.5	5.0	-	9	11/32	5/16	1 1/4 / 3/4	3/16	-	0.3
RF5003		7.0	9.0	27.0	5.0	-	4	1/4	3/8	1 1/16	3/16	-	0.1
RF5013		15.0	12.5	38.1	5.0	-	8	5/8	1/2	1 1/2	3/16	-	0.3
RF5023		18.0	14.0	51.0	6.6	-	11	3/4	9/16	2	1/4	-	0.4
<b>Saddles - Ferrule Eye</b>													
RF499		9.4	4.9	27.7	4.3	-	4	3/8	3/16	1 3/32	5/32	-	0.1
RF1056		16.3	8.8	60.0	8.4	-	40	5/8	5/16	2 3/8	5/16	-	1.4
RF1057		13.0	6.8	45.7	6.6	-	18	1/2	1/4	1 3/4	1/4	-	0.6
RF1058		10.0	9.0	36.6	5.1	-	11	3/8	11/32	1 7/16	3/16	-	0.4

\* Turned U-Bolt with a pad eye base. Thread size is 6.4mm (1/4" UNC). Suits maximum deck thickness of 22mm (7/8")

\*\* A4-80 DIN7991 grade fasteners recommended to achieve BL





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- RF2433-09 4 X M6
- RF2433-10 4 X M8
- RF2435-14 4 X M10



REMOVABLE

- RF2435-12B 4 X M8
- RF2435-16B 4 X M10
- RF2435-20B 6 X M12

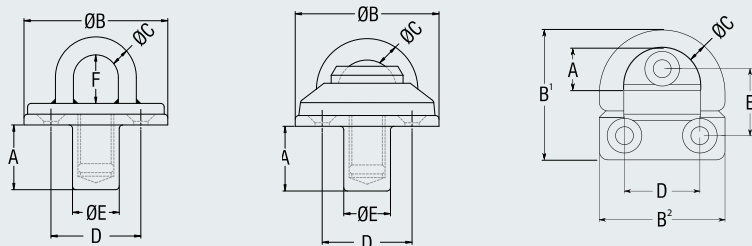


REMOVABLE, NON-TUMBLE

- RF2436-06 3 X M6
- RF2436-08 3 X M8
- RF2436-10 3 X M10



FOLDING



- ✔ Screw in, removable padeyes allow the block and padeye to be easily removed when not in use.
- ✔ Integral threaded plug in removable padeyes prevents grit from entering the threaded socket when the padeye is removed.
- ✔ Folding padeyes provide a low profile solution with the eye pivoting upright when required for use.
- ✔ Removable screw-in padeyes are ideal for attaching blocks which may be removed when not in use or while cruising. A threaded plug remains in the base section when the top plate is removed to prevent dirt and grit from entering the threads.
- ✔ Hand-polished finish.
- ✔ Grade 316 stainless steel.

PRODUCT No.	DESCRIPTION	A mm	B mm	C mm	D mm	E mm	F mm	M.W.L. kg	B.L.*3 kg	WEIGHT g	A in	B in	C in	D in	E in	F in	M.W.L. lb	B.L.*3 lb	WEIGHT oz
<b>Padeyes</b>																			
RF2435-12B	Removable, non-tumble	36	80	12.0	50.0	26	-	4000	8000	560	1 7/16	3 5/32	15/32	1 31/32	1 1/32	-	8800	17600	19.8
RF2433-09	Removable	30	55	9.0	38.0	14	23	2000	4000	285	1 3/16	2 5/32	11/32	1 1/2	9/16	29/32	4410	8820	10.1
RF2433-10	Removable	32	72	10.0	99.5	19	30	2500	5000	550	1 1/4	2 27/32	13/32	1 15/16	3/4	1 3/16	5510	11020	19.4
RF2435-14	Removable	40	100	14.0	70.0	32	32	7500	15000	1100	1 9/16	3 15/16	9/16	2 3/4	1 1/4	1 1/4	16530	33070	38.8
RF2435-16B	Removable, non-tumble	40	100	16.0	70.0	-	-	8000	16000	2200	1 9/16	3 15/16	5/8	2 3/4	1 1/4	-	17640	35270	77.6
RF2435-20B	Removable, non-tumble	52	135	19.8	74.5	-	-	13500	27000	3700	2 1/16	5 5/16	25/32	2 15/16	-	-	29760	59520	130.4
RF2436-06	Folding	13.5*1	46.5 x 45*2	7.7	27.0	24	-	1100	2200	74	1/2*1	1 7/8 x 1 13/16*2	5/16	1 1/16	-	-	2420	4840	2.6
RF2436-08	Folding	18.5*1	61 x 59*2	10.4	35.0	29.5	-	2000	4000	172	1 1/16*1	2 7/16 x 2 3/8*2	7/16	1 3/8	1 5/32	-	4400	8800	6.1
RF2436-10	Folding	23.5*1	77 x 75*2	13.2	45.0	39	-	3650	7300	356	7/8*1	3 1/16 x 3*2	9/16	1 3/4	1 17/32	-	8030	16060	12.6

\*1 Eye clearance when upright.

\*2 B' x B²

\*3 A4-80 DIN7991 grade fasteners recommended to achieve BL



# EYE BOLTS & U-BOLTS



RING BOLTS



EYE BOLTS



U-BOLTS - STEPPED



RF5270  
RF5271  
RF5272



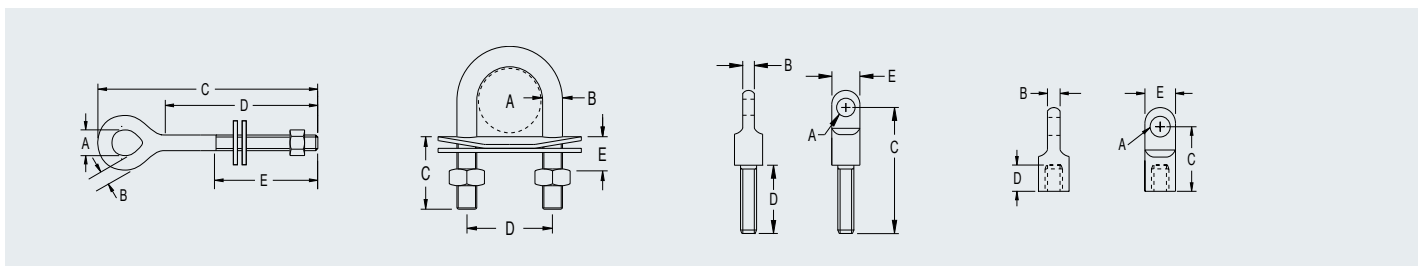
RF5280



RF5290  
RF5292-M6  
RF5292-M8

ANCHOR BOLTS

- ✔ Eye bolts and ring bolts are supplied with washers and a nut.
- ✔ U-bolts are supplied with a top plate, backing plate and nuts.
- ✔ RF5280 is supplied with a washer and nut.
- ✔ Grade 316 stainless steel.



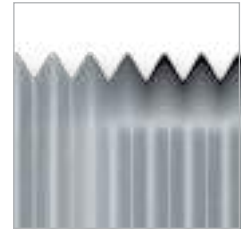
PRODUCT No.	THREAD TYPE	A mm	B mm	C mm	D mm	E mm	WEIGHT g	A in	B in	C in	D in	E in	WEIGHT oz
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Ring Bolts													
RF26	1/4 UNC	25	5.0	63	25	20	35	1	3/16	2 1/2	1	3/4	1.2
RF424	1/4 UNC	25	5.0	90	51	22	40	1	3/16	3 1/2	2	7/8	1.4

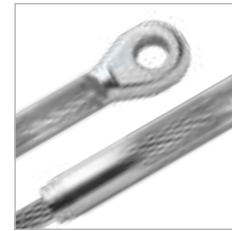
Eye Bolts													
RF156	3/16 UNC	10	4.0	76	51	38	10	13/32	5/32	3	2	1 1/2	0.4
RF157	3/16 UNC	10	4.0	100	75	51	15	13/32	5/32	4	3	2	0.5
RF159	1/4 UNC	12	5.5	81	51	38	25	15/32	7/32	3 3/16	2	1 1/2	0.9
RF160	1/4 UNC	12	5.5	108	76	51	30	15/32	7/32	4 1/4	3	2	1.1
RF161	1/4 UNC	12	5.5	132	102	51	35	15/32	7/32	5 3/16	4	2	1.2
RF162	1/4 UNC	12	5.5	160	127	51	40	15/32	7/32	6 5/16	5	2	1.4
RF163	1/4 UNC	12	5.5	180	152	51	50	15/32	7/32	7	6	2	1.8
RF164	5/16 UNC	13	7.0	111	76	51	60	1/2	9/32	4 3/8	3	2	2.1
RF165	5/16 UNC	13	7.0	139	102	51	65	1/2	9/32	5 1/3	4	2	2.3
RF166	5/16 UNC	13	7.0	162	127	51	75	1/2	9/32	6 3/8	5	2	2.7
RF167	5/16 UNC	13	7.0	187	152	51	80	1/2	9/32	7 3/8	6	2	2.8
RF168	3/8 UNC	17	8.5	116	76	51	80	21/32	11/32	4 1/2	3	2	2.8
RF169	3/8 UNC	17	8.5	140	102	51	90	21/32	11/32	5 1/2	4	2	3.2
RF170	3/8 UNC	17	8.5	167	127	51	100	21/32	11/32	6 5/8	5	2	3.5
RF171	3/8 UNC	17	8.5	193	152	51	110	21/32	11/32	7 5/8	6	2	3.9

Anchor Bolts & Nuts													
RF5270	1/4 UNF	6.4	4.8	50.0	27	14.4	19	1/4	3/16	1 31/32	11/16	9/16	0.7
RF5271	1/4 UNF	6.4	4.8	77.0	54	14.4	27	1/4	3/16	3	2 1/8	9/16	1.0
RF5272	M6	6.1	4.8	22.5	9	14.4	18	1/4	3/16	7/8	11/32	9/16	0.7
RF5280	1/4 UNF	6.4	4.8	50.0	27	14.4	26	1/4	3/16	1 31/32	11/16	9/16	0.9
RF5290	1/4 UNF	6.4	4.8	22.5	8	14.4	12	1/4	3/16	7/8	5/16	9/16	0.4
RF5292-M6	M6	6.4	4.8	22.5	8	14.4	12	1/4	3/16	7/8	5/16	9/16	0.4
RF5292-M8	M8	6.4	4.8	22.5	8	14.4	12	1/4	3/16	7/8	5/16	9/16	0.4

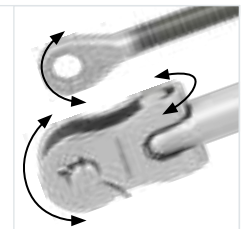
U-Bolts - Stepped													
RF559	1/4 UNC	24	8.0	38	25.5	6	70	15/16	5/16	1 1/2	3/4	1/4	2.5
RF543	5/16 UNC	28	9.5	25	33.5	4	95	1 1/8	3/8	1	1	5/32	3.4
RF541	5/16 UNC	28	9.5	38	33.5	8	105	1 1/8	3/8	1 1/2	1	5/16	3.7
RF544	5/16 UNC	28	9.5	51	33.5	6	110	1 1/8	3/8	2	1	1/4	3.9
RF547	5/16 UNC	28	9.5	77	33.5	32	130	1 1/8	3/8	3	1	1 1/4	4.6
RF548	5/16 UNC	28	9.5	103	33.5	58	150	1 1/8	3/8	4	1	2 9/32	5.3
RF549	5/16 UNC	28	9.5	127	33.5	71	170	1 1/8	3/8	5	1	2 13/16	6.0



Rolled threads for maximum strength



Roll swage integrity



Versatile end connection options



Calibrated models

# TYPE 10 TURNBUCKLES

## ELEGANT DESIGN, EXCEPTIONAL PERFORMANCE

From their clean lines to the use of the highest grade materials and quality finish, Ronstan Type 10 turnbuckles are engineered to deliver performance while enhancing the appearance of any yacht, or tensile project.

### Type 10

Type 10 closed body turnbuckles have a sleek, modern profile with no sharp edges. They are easily adjusted by turning the unique adjustment nut, which is free to rotate within the sleeve on the turnbuckle body, and are secured with a quick turn on the locking nut. A sight hole is provided in the body to verify adequate thread engagement. With fine thread and single end adjustment, Type 10 turnbuckles are much easier to adjust than conventional turnbuckles, and the use of dissimilar but compatible metals for the threaded components avoids the risk of thread seizure. Toggles are designed with full lateral articulation for easy installation and connection compatibility.

### Fine, rolled threads

Ronstan rigging fittings have rolled threads for maximum strength and reliability – unlike cut threads, the stainless steel bar is formed up and down to create a thread with the grain remaining unbroken and flowing the full length of the thread. Threads are UNF (Unified National Fine), short pitch threads for fine adjustment and reduced adjustment effort.

### Roll swage integrity

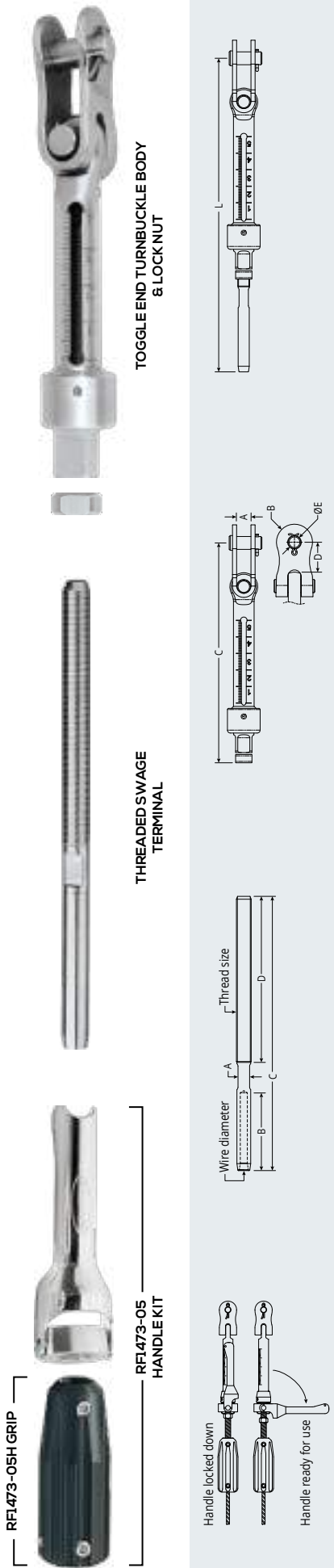
Swage fittings suit industry-standard roll swaging presses and dimensions are derived from the original 'Milspec' for maximum integrity. They are suitable for use with modern and traditional wire constructions, including 1x19, 7x19 and compact strand.

### Termination options

A full range of eye, fork and toggle fittings complement the turnbuckles to permit assembly of finished rigging elements to suit virtually any application.

### Calibrated turnbuckles

For accurate, repeatable settings of rig tension and precise adjustment, calibrated turnbuckle models are available for wire sizes up to 8mm (5/16"); thread sizes 1/4", 5/16", 3/8", 1/2" UNF.



**METRIC DIMENSIONS**

WIRE DIAM.	TYPICAL GRADE 1570 1x19 WIRE B.L. kg	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	WEIGHT g
3mm	760	RF1512M0304	1350	1/4" UNF	4.9	39.2	133	74	24
4mm	1350	RF1512M0404	1480	1/4" UNF	6.0	45.5	141	74	30
4mm	1350	RF1512M0405	1780	5/16" UNF	6.0	45.5	153	89	44
5mm	2120	RF1512M0505	2360	5/16" UNF	7.5	55.5	164	89	52
5mm	2120	RF1512M0506	2550	3/8" UNF	7.5	55.5	179	105	76
6mm	3020	RF1512M0606	3580	3/8" UNF	10.5	70.4	195	105	115
6mm	3020	RF1512M0608	5410	1/2" UNF	10.5	70.4	245	143	196
7mm	4120	RF1512M0708	5410	1/2" UNF	12.2	79	250	143	222
8mm	5380	RF1512M0808	5410	1/2" UNF	14.0	88.5	263	143	258

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF1481-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75
RF1481-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144
RF1481-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245
RF1481-08	5410	1/2" UNF	13.9	17.5	213	29.1	12.4	506

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF1481-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75
RF1481-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144
RF1481-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245
RF1481-08	5410	1/2" UNF	13.9	17.5	213	29.1	12.4	506

PRODUCT No.	DESCRIPTION	WEIGHT g	WEIGHT oz
RF1473-05	Handle kit, suits 5/16" threaded turnbuckle body combinations. Features 87mm (3 7/16") long handle for maximum tensioning leverage, and lift and re-position operation for ease of use or when rotation space is restricted. Handle snaps into snag-free locked position. Includes black plastic grip.	75	2.6
RF1473-05H	Black plastic upper grip for 5/16" threaded swage terminals	50	1.8

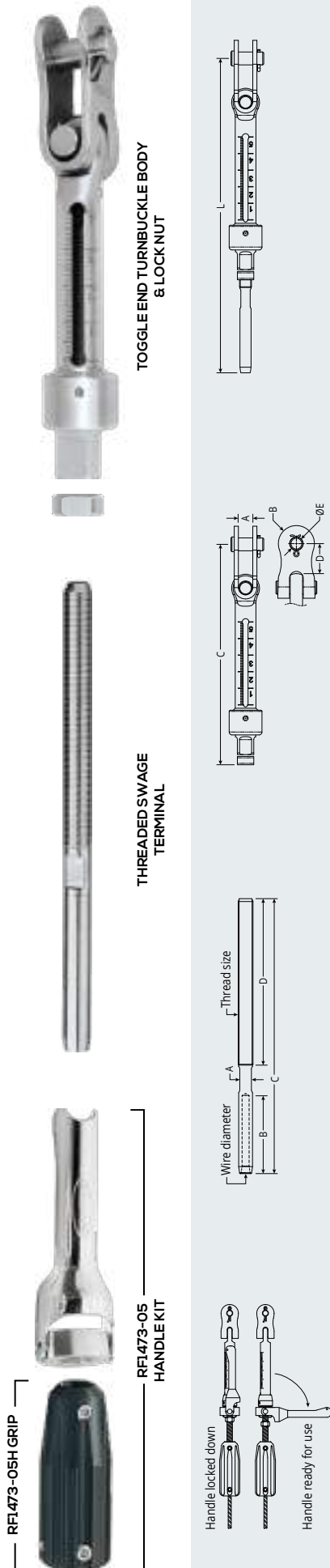
**Handles**

Handle kit, suits 5/16" threaded turnbuckle body combinations. Features 87mm (3 7/16") long handle for maximum tensioning leverage, and lift and re-position operation for ease of use or when rotation space is restricted. Handle snaps into snag-free locked position. Includes black plastic grip.

Black plastic upper grip for 5/16" threaded swage terminals

\* The sight hole relates to a length (L), slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.

# CALIBRATED TURNBUCKLES - METRIC WIRE



TOGGLE END TURNBUCKLE BODY &amp; LOCK NUT

THREADED SWAGE TERMINAL

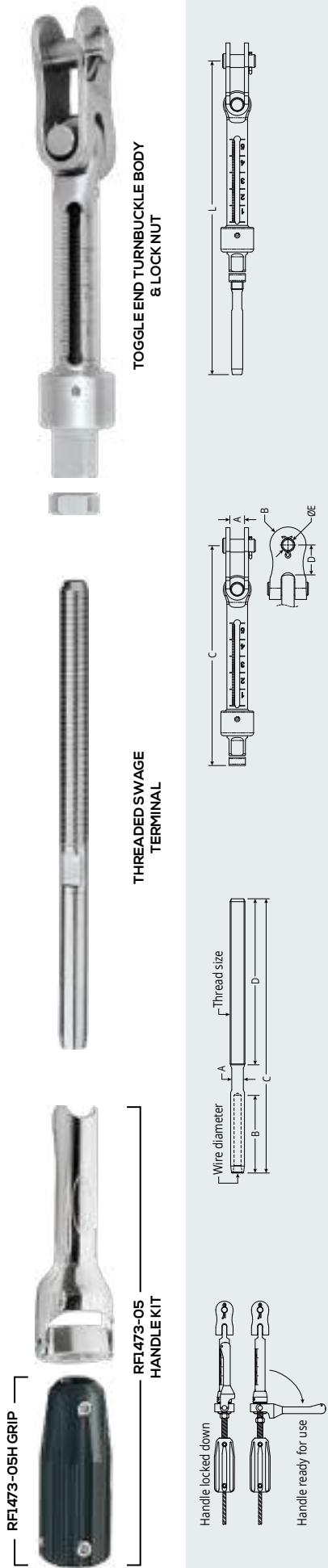
RF1473-05 HANDLE KIT

## IMPERIAL DIMENSIONS

WIRE DIAM.	TYPICAL GRADE 1570 1x19 WIRE B.L. lb	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. lb	THREAD SIZE	A in	B in	C in	D in	E in	TURNBUCKLE B.L. lb	TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	W. WEIGHT oz	L MIN. in	L MAX.* in
3mm	1670	RF1512M0304	2970	1/4" UNF	3/16	19/16	5 1/4	2 15/16	0.8	3250	RF1481-04	2.7	6 13/16	9
4mm	2970	RF1512M0404	3250	1/4" UNF	1/4	1 3/8	5 1/2	2 15/16	1.1	5190	RF1481-05	5.1	5 1/8	9 3/8
4mm	2970	RF1512M0405	3910	5/16" UNF	1/4	1 3/8	6	3 1/2	1.6	7870	RF1481-06	8.6	7 15/16	10 9/16
5mm	4660	RF1512M0505	5190	5/16" UNF	9/32	2 3/16	6 1/2	3 1/2	1.8	11900	RF1481-08	17.8	8 3/8	11
5mm	4660	RF1512M0506	5610	3/8" UNF	9/32	2 3/16	7 1/16	4 1/8	2.7	11900			9 5/16	12 1/2
6mm	6640	RF1512M0606	7870	3/8" UNF	7/16	2 3/4	7 11/16	4 1/8	4.1	11900			9 15/16	13 1/8
6mm	6640	RF1512M0608	11900		7/16	2 3/4	9 5/8	5 5/8	196				12 1/4	16 5/8
7mm	9060	RF1512M0708	11900	1/2" UNF	1/2	3 1/8	9 7/8	5 5/8	222				12 9/16	16 15/16
8mm	11840	RF1512M0808	11900		9/16	3 1/2	10 3/8	5 5/8	258				13 1/8	17 7/16

### Calibrated Turnbuckles - Metric Wire

\* The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.



**METRIC DIMENSIONS**

WIRE DIAM.	TYPICAL GRADE 1570 1x19 WIRE B.L. kg	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	WEIGHT g
1/8"	860	RF1510-0404	1300	1/4" UNF	4.9	39.2	133	74	22
5/32"	1350	RF1510-0504*	1480	1/4" UNF	6.0	45.5	141	74	30
5/32"	1350	RF1510-0505**	1780	5/16" UNF	6.0	45.5	153	89	44
3/16"	1930	RF1510-0605	2360	5/16" UNF	7.5	55.5	164	89	56
3/16"	1930	RF1510-0606	2620	3/8" UNF	7.5	55.5	179	105	78
7/32"	2630	RF1510-0706	3580	3/8" UNF	9.0	61.0	185	105	90
1/4"	3440	RF1510-0806	3580	1/2" UNF	9.0	70.4	195	105	110
1/4"	3450	RF1510-0808	5360	1/2" UNF	10.5	70.4	245	143	196
9/32"	4130	RF1510-0908**	5410	1/2" UNF	12.2	79	253	143	222
5/16"	5380	RF1510-1008**	5410	1/2" UNF	14.0	88.5	267	143	258

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF1481-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75
RF1481-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144
RF1481-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245
RF1481-08	5410	1/2" UNF	13.9	17.5	213	29.1	12.4	506

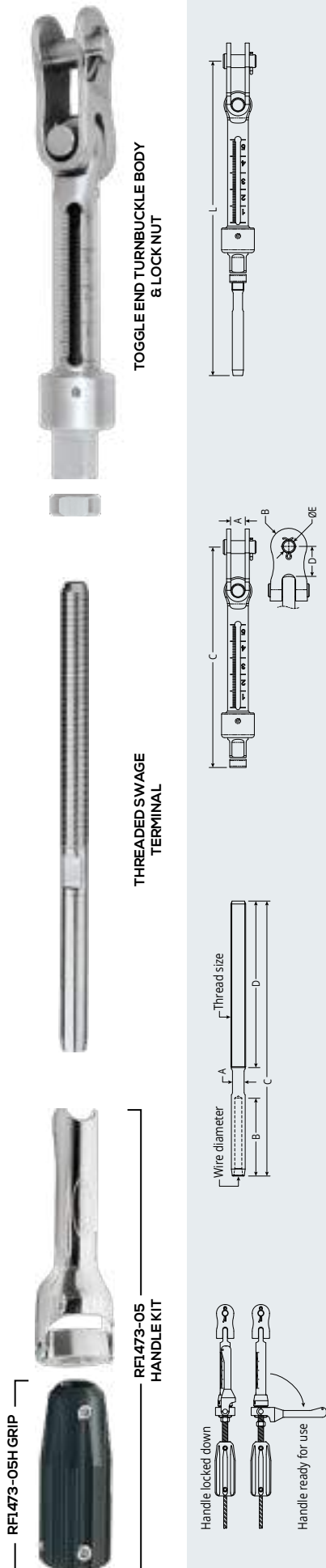
TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
RF1481-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75
RF1481-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144
RF1481-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245
RF1481-08	5410	1/2" UNF	13.9	17.5	213	29.1	12.4	506

PRODUCT No.	DESCRIPTION	WEIGHT g	WEIGHT oz
RF1473-05	Handle kit, suits 5/16" threaded turnbuckle body combinations. Features 87mm (3 7/16") long handle for maximum tensioning leverage, and lift and re-position operation for ease of use or when rotation space is restricted. Handle snaps into snag-free locked position. Includes black plastic grip.	75	2.6
RF1473-05H	Black plastic upper grip for 5/16" threaded swage terminals	50	1.8

\*1 Product supplied as the metric equivalent with metric wire code stamping.  
 \*2 The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.

# CALIBRATED TURNBUCKLES - IMPERIAL WIRE



## IMPERIAL DIMENSIONS

WIRE DIAM.	TYPICAL GRADE 1570.1x19 WIRE B.L. lb	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. lb	THREAD SIZE	A in	B in	C in	D in	WEIGHT oz
1/8"	1890	RF1510-0404	2860	1/4" UNF	3/16	19/16	5 1/4	2 15/16	0.8
5/32"	2980	RF1510-0504*	3250	1/4" UNF	1/4	1 3/8	5 1/2	2 15/16	1.1
5/32"	2980	RF1510-0505**	3920	5/16" UNF	1/4	1 3/8	6	3 1/2	1.6
3/16"	4260	RF1510-0605	5190	5/16" UNF	9/32	2 3/16	6 1/2	3 1/2	2.0
3/16"	4260	RF1510-0606	5760	9/32	2 3/16	7 1/16	4 1/8	4 1/8	2.8
7/32"	5810	RF1510-0706	7870	3/8" UNF	3/8	2 3/8	7 5/16	4 1/8	3.2
1/4"	7580	RF1510-0806	7870	3/8" UNF	3/8	2 3/4	7 11/16	4 1/8	3.9
1/4"	7990	RF1510-0808	11792	7/16	2 3/4	9 5/8	5 5/8	5 5/8	6.9
9/32"	9090	RF1510-0908**	11900	1/2" UNF	1/2	3 1/8	9 15/16	5 5/8	7.8
5/16"	11840	RF1510-1008**	11900	9/16	3 1/2	10 1/2	5 5/8	9.1	

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. lb	THREAD SIZE	A in	B in	C in	D in	E in	WEIGHT oz	L MIN in	L MAX** in
RF1481-04	3250	1/4" UNF	9/32	3/8	49/16	21/32	1/4	2.7	6 13/16	9
RF1481-05	5190	5/16" UNF	11/16	15/32	57/16	13/16	5/16	5.1	5 1/8	9 3/8
RF1481-06	7870	3/8" UNF	13/32	19/32	6 3/8	29/32	3/8	8.6	7 15/16	10 9/16
RF1481-08	11900	1/2" UNF	17/32	11/16	8 3/8	1 1/8	1/2	17.8	8 3/8	11
									9 5/16	12 1/2
									9 9/16	12 11/16
									10 1/16	13 3/16
									12 1/4	16 5/8
									12 9/16	16 15/16
									13 1/8	17 7/16

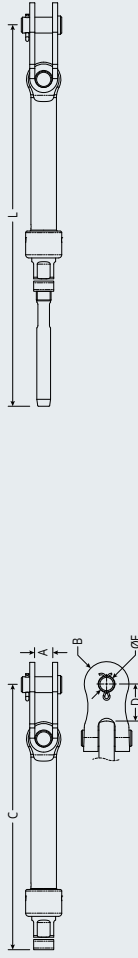
\*1 Product supplied as the metric equivalent with metric wire code stamping.

\*2 The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.

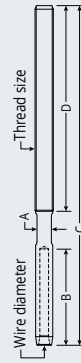




TOGGLE END TURNBUCKLE BODY & LOCK NUT



THREADED SWAGE TERMINAL



**METRIC DIMENSIONS**

WIRE DIAM.	TYPICAL GRADE 1570 1x19 WIRE B.L. kg	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	WEIGHT g
3mm	760	RF1512M0304	1350		4.9	39.2	133	74	24
4mm	1350	RF1512M0404	1480	1/4" UNF	6.0	45.5	141	74	30
5mm	2120	RF1512M0504*1	1480		7.5	32.0	129	74	30
4mm	1350	RF1512M0405	1780	5/16" UNF	6.0	45.5	153	89	44
5mm	2120	RF1512M0505	2360		7.5	55.5	164	89	52
5mm	2120	RF1512M0506	2550	3/8" UNF	7.5	55.5	179	105	76
6mm	3020	RF1512M0606	3580		10.5	70.4	195	105	115
6mm	3020	RF1512M0608	5410		10.5	70.4	245	143	196
7mm	4120	RF1512M0708	5410	1/2" UNF	12.2	79.0	250	143	222
8mm	5380	RF1512M0808	5410		14.0	88.5	263	143	258
8mm	5380	RF1512M0810	7600	5/8" UNF	14.0	88.5	310	190	420
10mm	8420	RF1512M1010	8390		15.8	110.5	330	190	446
11mm	10570	RF1512M1112	10400	3/4" UNF	12.2	122.7	368	205	723
12mm	12130	RF1512M1212	12140		12.2	140.4	386	205	755
14mm	16510	RF1512M1414	16520	7/8" UNF	14.4	157.9	436	234	1150
16mm	21500	RF1512M1616	22450	1" UNF	18.0	176.7	473	240	1610

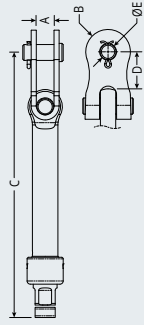
TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g	L MIN mm	L MAX *2 mm
RF1480-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75	174	229
RF1480-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144	182	237
RF1480-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245	170	225
RF1480-08	5410	1/2" UNF	13.9	17.5	213	29.1	12.4	506	202	267
RF1480-10	8670	5/8" UNF	17.0	20.8	267	40.8	15.7	939	213	278
RF1480-12	12630	3/4" UNF	20.0	23.8	314	47.2	18.9	1495	237	317
RF1480-14	17230	7/8" UNF	26.6	28.5	348	44.4	22.0	2444	253	333
RF1480-16	22450	1" UNF	29.3	31.8	379	63.3	25.2	3468	297	377

\*1 Threaded swage terminal B.L. is below the typical B.L. of grade 1570 1x19 stainless steel wire.  
 \*2 The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.  
 Note: Larger sizes available to order.

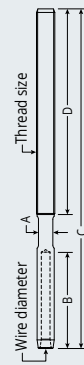
# SWAGE/TOGGLE TURNBUCKLES - METRIC WIRE



TOGGLE END TURNBUCKLE BODY & LOCK NUT



THREADED SWAGE TERMINAL



## IMPERIAL DIMENSIONS

WIRE DIAM.	TYPICAL GRADE 1570 1x19 WIRE B.L. lb	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. lb	THREAD SIZE	A in	B in	C in	D in	WEIGHT oz
3mm	1670	RF1512M0304	2970		3/16	19/16	5 1/4	2 15/16	0.9
4mm	2970	RF1512M0404	3250	1/4" UNF	1/4	13/8	5 1/2	2 15/16	1.1
5mm	4660	RF1512M0504*	3250		9/32	1 1/4	5 1/16	2 15/16	1.1
4mm	2970	RF1512M0405	3910	5/16" UNF	1/4	1 3/8	6	3 1/2	1.6
5mm	4660	RF1512M0505	5190		9/32	2 3/16	6 1/2	3 1/2	1.8
5mm	4660	RF1512M0506	5610	3/8" UNF	9/32	2 3/16	7 1/16	4 1/8	2.9
6mm	6640	RF1512M0606	7870		7/16	2 3/4	7 11/16	4 1/8	4.1
6mm	6640	RF1512M0608	11900		7/16	2 3/4	9 5/8	5 5/8	6.8
7mm	9060	RF1512M0708	11900	1/2" UNF	1/2	3 1/8	9 7/8	5 5/8	7.8
8mm	11840	RF1512M0808	11900		9/16	3 1/2	10 3/8	5 5/8	8.5
8mm	11840	RF1512M0810	16720	5/8" UNF	9/16	3 1/2	12 3/8	7 1/2	14.8
10mm	18520	RF1512M1010	18450		5/8	4 3/8	13	7 1/2	15.7
11mm	23250	RF1512M1112	22880	3/4" UNF	1/2	4 13/16	14 1/2	8 1/16	25.5
12mm	26690	RF1512M1212	26700		1/2	5 1/2	15 3/16	8 1/16	26.6
14mm	36320	RF1512M1414	36340	7/8" UNF	9/16	6 1/4	17 3/16	9 1/4	40.6
16mm	47300	RF1512M1616	49390	1" UNF	3/4	6 15/16	18 5/8	9 7/16	56.8

## Swage/Toggle Turnbuckles - Metric Wire

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. lb	THREAD SIZE	A in	B in	C in	D in	E in	WEIGHT oz	L MIN. in	L MAX.*2 in
RF1480-04	3250	1/4" UNF	9/32	3/8	49/16	5/8	1/4	2.7	6 13/16	9
RF1480-05	5190	5/16" UNF	11/32	15/32	57/16	25/32	5/16	5.1	5 1/8	9 3/8
RF1480-06	7870	3/8" UNF	13/32	19/32	6 3/8	29/32	3/8	8.6	6 11/16	8 7/8
RF1480-08	11900	1/2" UNF	17/32	11/16	8 3/8	1 1/8	1/2	17.8	7 15/16	10 9/16
RF1480-10	19070	5/8" UNF	21/32	27/32	10 7/8	1 5/8	5/8	33.1	8 3/8	11
RF1480-12	27780	3/4" UNF	25/32	15/16	12 3/8	1 7/8	3/4	52.7	9 5/16	12 1/2
RF1480-14	37900	7/8" UNF	1 1/32	1 1/8	13 11/16	1 3/4	7/8	86.2	9 15/16	13 1/8
RF1480-16	49390	1" UNF	1 1/8	1 1/4	14 15/16	2 1/2	1	122.3	10 1/8	14 1/2

\*1 Threaded swage terminal B.L. is below the typical B.L. of grade 1570 1x19 stainless steel wire.

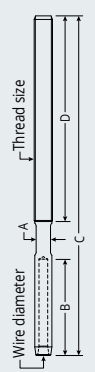
\*2 The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension. Note: Larger sizes available to order.



TOGGLE END TURNBUCKLE BODY & LOCK NUT



THREADED SWAGE TERMINAL



**METRIC DIMENSIONS**

WIRE DIAM.	TYPICAL GRADE 1570.1x19 WIRE B.L. kg	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	WEIGHT g
1/8"	860	RF1510-0404	1300	1/4" UNF	4.9	39.2	133	74	22
5/32"	1360	RF1510-0504*2	1480	1/4" UNF	6.0	45.5	141	74	30
3/16"	1940	RF1510-0604*1	1480		7.5	32.0	129	74	32
5/32"	1360	RF1510-0505*2	1780	5/16" UNF	6.0	45.5	153	89	44
3/16"	1940	RF1510-0605	2360		7.5	55.5	164	89	56
3/16"	1940	RF1510-0606	2620		7.5	55.5	179	105	78
7/32"	2640	RF1510-0706	3580	3/8" UNF	9.0	61.0	185	105	90
1/4"	3450	RF1510-0806	3580		9.0	70.4	195	105	110
1/4"	3450	RF1510-0808	5360		10.5	70.4	245	143	196
9/32"	4130	RF1510-0908*2	5410	1/2" UNF	12.2	79.0	253	143	222
5/16"	5380	RF1510-1008*2	5410		14.0	88.5	267	143	258
5/16"	5380	RF1510-1010*2	7600	5/8" UNF	14.0	88.5	310	190	420
3/8"	7590	RF1510-1210	8670		15.8	110.5	328	190	452
7/16"	10570	RF1510-1412*2	10400	3/4" UNF	12.2	122.7	368	205	723
1/2"	13560	RF1510-1614*1	11360	7/8" UNF	14.4	140.4	410	234	1025
9/16"	16510	RF1510-1814*2	16520		14.4	157.9	436	234	1150
5/8"	21510	RF1510-2016*2	22450	1" UNF	18.0	176.7	473	240	1610

**Swage/Toggle Turnbuckles - Imperial Wire**

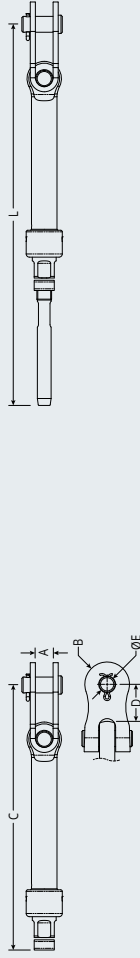
TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g	L MIN mm	L MAX*3 mm
RF1480-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75	174	229
RF1480-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144	182	237
RF1480-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245	170	225
RF1480-08	5410	1/2" UNF	13.9	17.5	213	29.1	12.4	506	202	267
RF1480-10	8670	5/8" UNF	17.0	20.8	276	40.8	15.7	939	213	278
RF1480-12	12630	3/4" UNF	20.0	23.8	314	47.2	18.9	1495	237	317
RF1480-14	17230	7/8" UNF	26.6	28.5	348	44.4	22.0	2444	242	322
RF1480-16	22450	1" UNF	29.3	31.8	379	63.3	25.2	3468	255	335
									312	422
									320	430
									333	443
									397	537
									417	557
									480	640
									523	703
									553	733
									617	797

\*1 Threaded swage terminal B.L. is below the typical B.L. of grade 1570 1x19 stainless steel wire.  
 \*2 Product supplied as the metric equivalent with metric wire code stamping.  
 \*3 The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.  
 Note: Larger sizes available to order.

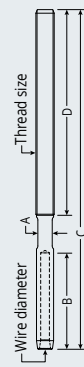
# SWAGE/TOGGLE TURNBUCKLES - IMPERIAL WIRE



TOGGLE END TURNBUCKLE BODY &amp; LOCK NUT



THREADED SWAGE TERMINAL



## IMPERIAL DIMENSIONS

WIRE DIAM.	TYPICAL GRADE 1570 1x19 WIRE B.L. lb	THREADED SWAGE TERMINAL PRODUCT No.	THREADED SWAGE TERMINAL B.L. lb	THREAD SIZE	A in	B in	C in	D in	WEIGHT oz
1/8"	1890	RF1510-0404	2860	3/16	19/16	5 1/4	2 15/16	0.8	
5/32"	2980	RF1510-0504*2	3250	1/4	13/8	5 1/2	2 15/16	1.1	
3/16"	4260	RF1510-0604*1	3250	9/32	1 1/4	5 1/16	2 15/16	1.1	
5/32"	2980	RF1510-0505*2	3916	1/4	13/8	6	3 1/2	1.6	
3/16"	4260	RF1510-0605	5190	9/32	23/16	6 1/2	3 1/2	2.0	
3/16"	4260	RF1510-0606	5764	9/32	23/16	7 1/16	4 1/8	2.8	
7/32"	5810	RF1510-0706	7870	3/8	2 3/8	7 5/16	4 1/8	3.2	
1/4"	7950	RF1510-0806	7870	3/8	2 3/4	7 11/16	4 1/8	3.9	
1/4"	7950	RF1510-0808	11792	7/16	2 3/4	9 5/8	5 5/8	6.9	
9/32"	9090	RF1510-0908*2	11900	1/2	3 1/8	9 15/16	5 5/8	7.8	
5/16"	11840	RF1510-1008*2	11900	9/16	3 1/2	10 1/2	5 5/8	9.1	
5/16"	11840	RF1510-1010*2	16720	9/16	3 1/2	12 3/8	7 1/2	14.8	
3/8"	16700	RF1510-1210	19070	5/8	4 3/8	12 15/16	7 1/2	15.9	
7/16"	23250	RF1510-1412*2	22880	3/4	4 13/16	14 5/8	8 1/16	25.5	
1/2"	29830	RF1510-1614*1	24992	9/16	5 1/2	16 5/32	9 1/4	36.2	
9/16"	36320	RF1510-1814*2	36344	9/16	6 1/4	17 5/8	9 1/4	40.6	
5/8"	47320	RF1510-2016*2	49390	1 1/8	3/4	6 15/16	19	56.8	

## Swage/Toggle Turnbuckles - Imperial Wire

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. lb	THREAD SIZE	A in	B in	C in	D in	E in	WEIGHT oz	L MIN in	L MAX*3 in
RF1480-04	3250	1/4" UNF	9/32	3/8	49/16	5/8	1/4	2.7	6 13/16	9
RF1480-05	5190	5/16" UNF	3/8	15/32	57/16	25/32	5/16	5.1	5 1/8	9 3/8
RF1480-06	7870	3/8" UNF	13/32	19/32	6 3/8	29/32	3/8	8.6	6 11/16	8 7/8
RF1480-08	11900	1/2" UNF	17/32	11/16	8 3/8	1 1/8	1/2	17.8	7 15/16	10 9/16
RF1480-10	19070	5/8" UNF	21/32	27/32	10 7/8	1 5/8	5/8	33.1	8 3/8	11
RF1480-12	27780	3/4" UNF	25/32	15/16	12 3/8	1 7/8	3/4	52.7	9 5/16	12 1/2
RF1480-14	37900	7/8" UNF	1 1/32	1 1/8	13 11/16	1 3/4	7/8	86.2	12 9/16	16 15/16
RF1480-16	49390	1" UNF	1 1/8	1 1/4	14 15/16	2 1/2	1	122.3	13 1/8	17 7/16
									15 5/8	21 3/16
									16 7/16	21 15/16
									18 15/16	25 3/16
									20 5/8	27 11/16
									21 3/4	28 7/8
									24 5/16	31 3/8

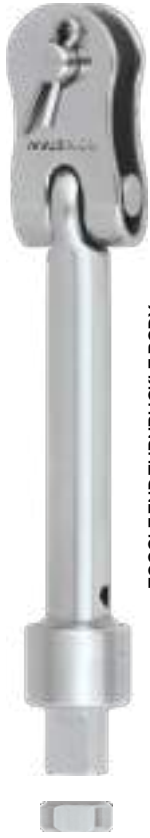
\*1 Threaded swage terminal B.L. is below the typical B.L. of grade 1570 1x19 stainless steel wire.

\*2 Product supplied as the metric equivalent with metric wire code stamping.

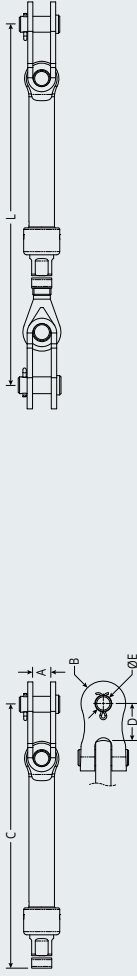
\*3 The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.

Note: Larger sizes available to order.

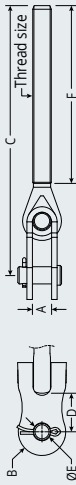
# TOGGLE/TOGGLE TURNBUCKLES



TOGGLE END TURNBUCKLE BODY & LOCK NUT



THREADED TOGGLE



## METRIC DIMENSIONS

WIRE DIAM.	THREADED TOGGLE PRODUCT No.	THREADED TOGGLE B.L. kg	THREADED TOGGLE						L MIN. mm	L MAX.* mm		
			THREAD SIZE	A mm	B mm	C mm	D mm	E mm			F mm	WEIGHT g
3mm, 4mm, 5mm 1/8", 5/32", 3/16"	RF1504-0404	1480	1/4" UNF	7.8	9.1	112	15.5	6.2	74.6	46		
4mm, 5mm 5/32", 3/16"	RF1504-0505	2360	5/16" UNF	9.4	11.2	131	20.0	7.9	89.0	88		
5mm, 6mm 3/16", 7/32", 1/4"	RF1504-0606	3580	3/8" UNF	10.5	14.4	154	20.8	9.4	104.8	160		
6mm, 7mm, 8mm 1/4", 9/32", 5/16"	RF1504-0808	5410	1/2" UNF	13.9	17.5	212	28.0	12.4	142.8	358		

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	TOGGLE END TURNBUCKLE BODY & LOCK NUT						L MIN. mm	L MAX.* mm
		THREAD SIZE	A mm	B mm	C mm	D mm	E mm		
RF1480-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75	207
RF1480-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144	245
RF1480-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245	292
RF1480-08	5410	1/2" UNF	13.9	17.5	213	29.1	12.4	506	392

## IMPERIAL DIMENSIONS

WIRE DIAM.	THREADED TOGGLE PRODUCT No.	THREADED TOGGLE B.L. lb	THREADED TOGGLE						L MIN. in	L MAX.* in		
			THREAD SIZE	A in	B in	C in	D in	E in			F in	WEIGHT oz
3mm, 4mm, 5mm 1/8", 5/32", 3/16"	RF1504-0404	3250	1/4" UNF	9/32	3/8	4 3/8	5/8	1/4	2 15/16	1.6		
4mm, 5mm 5/32", 3/16"	RF1504-0505	5190	5/16" UNF	3/8	7/16	53/16	13/16	5/16	3 1/2	3.1		
5mm, 6mm 3/16", 7/32", 1/4"	RF1504-0606	7870	3/8" UNF	13/32	9/16	6 1/16	29/32	3/8	4 1/8	5.6		
6mm, 7mm, 8mm 1/4", 9/32", 5/16"	RF1504-0808	11900	1/2" UNF	9/16	11/16	8 3/8	1 1/8	1/2	5 5/8	12.6		

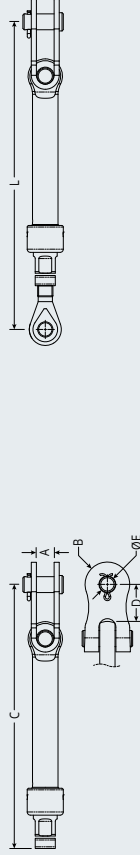
  

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. lb	TOGGLE END TURNBUCKLE BODY & LOCK NUT						L MIN. in	L MAX.* in
		THREAD SIZE	A in	B in	C in	D in	E in		
RF1480-04	3250	1/4" UNF	9/32	3/8	4 9/16	5/8	1/4	2.7	8 1/8
RF1480-05	5190	5/16" UNF	11/32	15/32	5 7/8	25/32	5/16	5.1	9 5/8
RF1480-06	7870	3/8" UNF	13/32	19/32	6 3/8	29/32	3/8	8.6	11 1/2
RF1480-08	11900	1/2" UNF	17/32	11/16	8 3/8	1 1/8	1/2	17.8	15 7/16

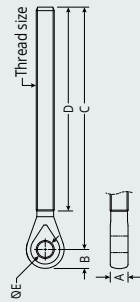
\* The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.  
Note: Larger sizes available to order.



TOGGLE END TURNBUCKLE BODY &amp; LOCK NUT



THREADED EYE


**METRIC DIMENSIONS**

WIRE DIAM.	THREADED EYE PRODUCT No.	THREADED EYE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
3mm, 4mm, 5mm 1/8", 5/32", 3/16"	RF1502-0404	1480	1/4" UNF	4.6	5.7	88	75	6.5	19
4mm, 5mm 5/32", 3/16"	RF1502-0505	2360	5/16" UNF	6.1	9.0	102	87	8.1	37
5mm, 6mm 3/16", 7/32", 1/4"	RF1502-0606	3580	3/8" UNF	7.7	10.5	126	105	9.7	73

**Eye/Toggle Turnbuckles**

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g	L MIN. mm	L MAX.* mm
RF1480-04	1480	1/4" UNF	7.8	9.1	115	16.3	6.2	75	130	185
RF1480-05	2360	5/16" UNF	9.4	11.2	138	20.7	7.9	144	150	215
RF1480-06	3580	3/8" UNF	10.5	14.4	162	23.2	9.4	245	178	258

**IMPERIAL DIMENSIONS**

WIRE DIAM.	THREADED EYE PRODUCT No.	THREADED EYE B.L. lb	THREAD SIZE	A in	B in	C in	D in	E in	WEIGHT oz
3mm, 4mm, 5mm 1/8", 5/32", 3/16"	RF1502-0404	3250	1/4" UNF	3/16	7/32	3 1/2	2 15/16	1/4	0.7
4mm, 5mm 5/32", 3/16"	RF1502-0505	5190	5/16" UNF	1/4	11/32	4	3 7/16	5/16	1.3
5mm, 6mm 3/16", 7/32", 1/4"	RF1502-0606	7870	3/8" UNF	5/16	13/32	4 15/16	4 1/8	3/8	2.6

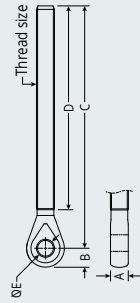
**Eye/Toggle Turnbuckles**

TOGGLE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. lb	THREAD SIZE	A in	B in	C in	D in	E in	WEIGHT oz	L MIN. in	L MAX.* in
RF1480-04	3250	1/4" UNF	9/32	3/8	4 9/16	5/8	1/4	2.7	5 1/8	7 5/16
RF1480-05	5190	5/16" UNF	11/32	15/32	5 7/8	25/32	5/16	5.1	5 15/16	8 1/2
RF1480-06	7870	3/8" UNF	13/32	19/32	6 3/8	29/32	3/8	8.6	7	10 3/16

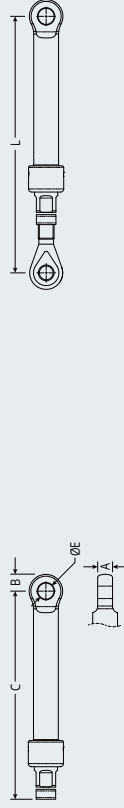
\*The sight hole relates to a length (L) slightly less than L.MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L.MAX. dimension.



**THREADED EYE**



**EYE END TURNBUCKLE BODY & LOCK NUT**



**METRIC DIMENSIONS**

WIRE DIAM.	THREADED EYE PRODUCT No.	THREADED EYE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g
3mm, 4mm, 5mm 1/8", 5/32", 3/16"	RF1502-0404	1480	1/4" UNF	4.6	5.7	88	75	6.5	19
4mm, 5mm 5/32", 3/16"	RF1502-0505	2360	5/16" UNF	6.1	9.0	102	87	8.1	37
5mm, 6mm 3/16", 7/32", 1/4"	RF1502-0606	3580	3/8" UNF	7.7	10.5	126	105	9.7	73

**Eye/Eye Turnbuckles**

EYE END TURNBUCKLE BODY & LOCK NUT PRODUCT No.	TURNBUCKLE B.L. kg	THREAD SIZE	A mm	B mm	C mm	D mm	E mm	WEIGHT g	L MIN. mm	L MAX.* mm
RF1484-04	1480	1/4" UNF	4.6	7.0	92	-	6.5	48	107	162
RF1484-05	2360	5/16" UNF	6.1	8.8	109	-	8.1	93	121	186
RF1484-06	3580	3/8" UNF	7.7	9.8	129	-	9.7	153	145	225

**IMPERIAL DIMENSIONS**

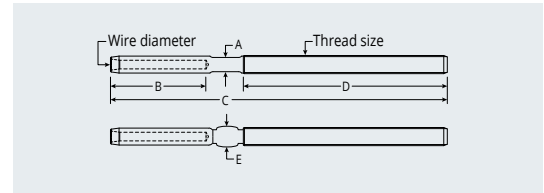
Eye/Eye Turnbuckles	lb	in	in	in	in	in	in	oz
3mm, 4mm, 5mm 1/8", 5/32", 3/16"	3250	3/16	7/32	3 1/2	2 15/16	1/4	0.7	
4mm, 5mm 5/32", 3/16"	5190	5/16" UNF	1/4	11/32	4	3 7/16	5/16	1.3
5mm, 6mm 3/16", 7/32", 1/4"	7870	3/8" UNF	5/16	13/32	4 15/16	4 1/8	3/8	2.6

Eye End Turnbuckle Body & Lock Nut	lb	in	in	in	in	in	in	oz	in	in
RF1484-04	3250	1/4" UNF	3/16	9/32	3 5/8	-	1/4	1.7	4 3/16	6 3/8
RF1484-05	5190	5/16" UNF	1/4	11/32	4 5/16	-	5/16	3.3	4 3/4	7 5/16
RF1484-06	7870	3/8" UNF	5/16	3/8	5 1/8	-	3/8	5.4	5 11/16	8 7/8

\*The sight hole relates to a length (L) slightly less than L MAX. If maximum length (L) is required the threaded end can be unscrewed beyond the sight hole, but the length must not exceed the specified L MAX dimension.



THREADED SWAGE  
TERMINAL



THREADED SWAGE TERMINAL PRODUCT No.	WIRE DIAM.	THREAD SIZE	SUITS TYPE 10 TURNBUCKLE BODY	A mm	B mm	C mm	D mm	E mm	WEIGHT g	A in	B in	C in	D in	E in	WEIGHT oz
<b>Threaded Swage Terminals - Metric Wire</b>															
				<b>METRIC DIMENSIONS</b>						<b>IMPERIAL DIMENSIONS</b>					
RF1512M0304	3mm	1/4" UNF	RF1480-04 RF1481-04	4.9	39.2	133	74	6.4	24	7/32	19/16	51/4	215/16	1/4	0.9
RF1512M0404	4mm			6.0	45.5	141	74	7.5	30	1/4	13/8	51/2	215/16	5/16	1.1
RF1512M0504*1	5mm			7.5	32.0	129	74	9.1	30	5/16	23/16	51/16	215/16	3/8	1.1
RF1512M0405	4mm	5/16" UNF	RF1480-05 RF1481-05	6.0	45.5	153	89	7.5	44	1/4	13/8	6	31/2	5/16	1.6
RF1512M0505	5mm			7.5	55.5	164	89	9.1	52	5/16	23/16	61/2	31/2	3/8	1.8
RF1512M0506	5mm	3/8" UNF	RF1480-06 RF1481-06	7.5	55.5	179	105	9.1	76	5/16	23/16	71/16	41/8	3/8	2.9
RF1512M0606	6mm			10.5	70.4	195	105	12.5	115	7/16	23/4	711/16	41/8	1/2	4.1
RF1512M0608	6mm	1/2" UNF	RF1480-08	10.5	70.4	245	143	12.5	194	7/16	23/4	95/8	55/8	1/2	6.8
RF1512M0708	7mm			12.2	79.0	250	143	14.3	222	1/2	31/8	97/8	55/8	9/16	7.8
RF1512M0808	8mm			14.0	88.5	263	143	16.1	258	9/16	31/2	103/8	55/8	21/32	8.5
RF1512M0810	8mm	5/8" UNF	RF1480-10	14.0	88.5	310	190	16.1	420	9/16	31/2	123/8	71/2	21/32	14.8
RF1512M1010	10mm			15.8	110.5	330	190	17.9	446	5/8	43/8	13	71/2	23/32	15.7
RF1512M1112	11mm	3/4" UNF	RF1480-12	12.2	122.7	368	205	20.7	723	1/2	413/16	141/2	81/16	13/16	25.5
RF1512M1212	12mm			12.2	140.4	386	205	21.4	755	1/2	51/2	153/16	81/16	27/32	26.6
RF1512M1414	14mm	7/8" UNF	RF1480-14	14.4	157.9	436	234	25.0	1150	9/16	61/4	173/16	91/4	1	40.6
RF1512M1616	16mm	1" UNF	RF1480-16	18.0	176.7	473	240	28.2	1610	3/4	615/16	185/8	97/16	11/8	56.8
<b>Threaded Swage Terminals - Imperial Wire</b>															
RF1510-0404	1/8"	1/4" UNF	RF1480-04 RF1481-04	4.9	39.2	133	74	6.4	22	7/32	19/16	51/4	215/16	1/4	0.8
RF1510-0504*2	5/32"			6.0	45.5	141	74	7.5	30	1/4	13/8	51/2	215/16	5/16	1.1
RF1510-0604*1	3/16"			7.5	32.0	129	74	9.1	32	5/16	11/4	51/16	215/16	3/8	1.1
RF1510-0505*2	5/32"	5/16" UNF	RF1480-05 RF1481-05	6.0	45.5	153	89	7.5	44	1/4	13/8	6	31/2	5/16	1.6
RF1510-0605	3/16"			7.5	55.5	164	89	9.1	56	5/16	23/16	61/2	31/2	3/8	2.0
RF1510-0606	3/16"	3/8" UNF	RF1480-06 RF1481-06	7.5	55.5	179	105	9.1	78	5/16	23/16	71/16	41/8	3/8	2.8
RF1510-0706	7/32"			9.0	61.0	185.0	105	10.8	90	3/8	23/8	75/16	41/8	7/16	3.2
RF1510-0806	1/4"			9.0	70.4	195.0	105	12.5	110	3/8	23/4	711/16	41/8	1/2	3.9
RF1510-0808	1/4"	1/2" UNF	RF1480-08	10.5	70.4	245	143	12.5	196	7/16	23/4	95/8	55/8	1/2	6.9
RF1510-0908*2	9/32"			12.2	79.0	253	143	14.3	222	1/2	31/8	915/16	55/8	9/16	7.8
RF1510-1008*2	5/16"			14.0	88.5	267	143	16.1	258	9/16	31/2	101/2	55/8	21/32	9.1
RF1510-1010*2	5/16"	5/8" UNF	RF1480-10	14.0	88.5	310	190	16.1	420	9/16	31/2	123/8	71/2	21/32	14.8
RF1510-1210	3/8"			15.8	110.5	328	190	17.9	452	5/8	43/8	1215/16	71/2	23/32	15.9
RF1510-1412*2	7/16"	3/4" UNF	RF1480-12	12.2	122.7	368	205	20.7	723	1/2	413/16	141/2	81/16	13/16	25.5
RF1510-1614*1	1/2"	7/8" UNF	RF1480-14	14.4	140.4	423	234	24.0	1025	9/16	51/2	165/8	91/4	31/32	36.2
RF1510-1814*2	9/16"			14.4	157.9	436	234	25.0	1150	9/16	61/4	173/16	91/4	1	40.6
RF1510-2016*2	5/8"	1" UNF	RF1480-16	18.0	176.7	473	240	28.2	1610	3/4	615/16	185/8	97/16	11/8	56.8

\*1 Threaded swage terminal BL is below the typical BL of grade 1570 1x19 stainless steel wire.

\*2 Product supplied as the metric equivalent with metric wire code stamping.

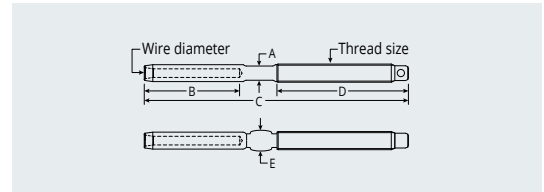
Note: Larger sizes available to order.



# SHORT THREADED SWAGE TERMINALS



SHORT THREADED SWAGE TERMINAL



THREADED SWAGE TERMINAL PRODUCT No.	WIRE DIAM.	THREAD SIZE	SUITS OPEN BODY TURNBUCKLE*3	METRIC DIMENSIONS						IMPERIAL DIMENSIONS					
				A mm	B mm	C mm	D mm	E mm	WEIGHT g	A in	B in	C in	D in	E in	WEIGHT oz
RF1519M0304	3mm	1/4" UNF	RF1532M0304	4.9	39.2	109	56.0	6.4	21	3/16	1 9/16	4 5/16	2 3/16	1/4	0.7
RF1519M0404	4mm		RF1532M0404	6.0	45.5	123	56.0	7.5	25	1/4	1 3/8	4 13/16	2 3/16	5/16	0.9
RF1519M0504*1	5mm		RF1532M0504	7.5	55.5	134	56.0	9.1	35	9/32	2 3/16	5 1/4	2 3/16	3/8	1.2
RF1519M0405	4mm	5/16" UNF	RF1532M0405	6.0	45.5	123	60.0	7.5	40	1/4	1 3/8	4 7/8	2 3/8	5/16	1.4
RF1519M0505	5mm		RF1532M0505	7.5	55.5	135	60.0	9.1	44	9/32	2 3/16	5 5/16	2 3/8	3/8	1.6
RF1519M0506	5mm	3/8" UNF	RF1532M0506	7.5	55.5	144	70.0	9.1	60	9/32	2 3/16	5 5/8	2 3/4	3/8	2.1
RF1519M0606	6mm		RF1532M0606	10.5	70.4	160	70.0	12.5	92	7/16	2 3/4	6 5/16	2 3/4	1/2	3.3
RF1519M0608	6mm	1/2" UNF	RF1532M0608	10.5	70.4	177	80.0	12.5	141	7/16	2 3/4	7	3 1/8	1/2	5.0
RF1519M0708	7mm		RF1532M0708	12.2	79.0	193	80.0	14.3	172	1/2	3 1/8	7 5/8	3 1/8	9/16	6.1
RF1519M0808	8mm		RF1532M0808	14.0	88.5	200	80.0	16.1	202	9/16	3 1/2	7 7/8	3 1/8	21/32	7.1
RF1519M0810	8mm	5/8" UNF	RF1532M0810	14.0	88.5	219	98.0	16.1	290	9/16	3 1/2	8 5/8	3 7/8	21/32	10.2
RF1519M1010	10mm		RF1532M1010	15.8	110.5	238	98.0	17.9	313	5/8	4 3/8	9 3/8	3 7/8	23/32	11.1
RF1519M1112	11mm	3/4" UNF	RF1532M1112	12.2	122.7	280	125.0	20.7	500	1/2	4 13/16	11	4 15/16	13/16	17.7
RF1519M1212	12mm		RF1532M1212	12.2	140.4	306	125.0	20.7	597	1/2	5 1/2	12 1/16	4 15/16	13/16	21.1
RF1519M1414	14mm	7/8" UNF	RF1532M1414	14.4	157.9	346	144.0	25.0	916	9/16	6 3/16	13 5/8	5 11/16	1	32.4
RF1519M1616	16mm	1" UNF	RF1532M1616	18.0	176.7	388	158.0	28.0	1323	3/4	6 15/16	15 1/4	6 1/4	1 1/8	46.7
RF1518-0404	1/8"	1/4" UNF	RF1531-0404	4.9	39.2	109	56.0	6.4	21	3/16	1 9/16	4 5/16	2 3/16	1/4	0.7
RF1518-0504*2	5/32"		RF1531-0504	6.0	45.5	123	56.0	7.5	25	1/4	1 3/8	4 13/16	2 3/16	5/16	0.9
RF1518-0604*1	3/16"		RF1531-0604	7.5	55.5	134	56.0	9.1	35	9/32	2 3/16	5 1/4	2 3/16	3/8	1.2
RF1518-0505*2	5/32"	5/16" UNF	RF1531-0505	6.0	45.5	123	60.0	7.5	40	1/4	1 3/8	4 7/8	2 3/8	5/16	1.4
RF1518-0605	3/16"		RF1531-0605	7.5	55.5	135	60.0	9.1	44	9/32	2 3/16	5 5/16	2 3/8	3/8	1.6
RF1518-0606	3/16"	3/8" UNF	RF1531-0606	7.5	55.5	144	70.0	9.1	60	9/32	2 3/16	5 5/8	2 3/4	3/8	2.1
RF1518-0706	7/32"		RF1531-0706	9.0	61.0	150	70.0	10.8	70	3/8	2 3/8	5 7/8	2 3/4	7/16	2.5
RF1518-0806	1/4"		RF1531-0806	10.5	70.4	160	70.0	12.5	94	3/8	2 3/4	6 5/16	2 3/4	1/2	3.3
RF1518-0808	1/4"	1/2" UNF	RF1531-0808	10.5	70.4	177	80.0	12.5	139	7/16	2 3/4	7	3 1/8	1/2	4.9
RF1518-0908*2	9/32"		RF1531-0908	12.2	79.0	193	80.0	14.3	172	1/2	3 1/8	7 5/8	3 1/8	9/16	6.1
RF1518-1008*2	5/16"		RF1531-1008	14.0	88.5	200	80.0	16.1	202	9/16	3 1/2	7 7/8	3 1/8	21/32	7.1
RF1518-1010*2	5/16"	5/8" UNF	RF1531-1010	14.0	88.5	219	98.0	16.1	290	9/16	3 1/2	8 5/8	3 7/8	21/32	10.2
RF1518-1210	3/8"		RF1531-1210	15.8	110.5	238	98.0	17.9	323	5/8	4 3/8	9 3/8	3 7/8	23/32	11.4
RF1518-1412*2	7/16"	3/4" UNF	RF1531-1412	12.2	122.7	280	125.0	20.7	500	1/2	4 13/16	11	4 15/16	13/16	17.7
RF1518-1614*1	1/2"	7/8" UNF	RF1531-1614	14.4	140.4	331	144.0	24.0	758	9/16	5 1/2	13	5 11/16	31/32	26.8
RF1518-1814*2	9/16"		RF1531-1814	14.4	157.9	346	144.0	25.0	916	9/16	6 3/16	13 5/8	5 11/16	1	32.4
RF1518-2016*2	5/8"	1" UNF	RF1531-2016	18.0	176.7	388	158.0	27.4	1323	23/32	6 31/32	15 9/32	6 1/8	1 3/32	46.7

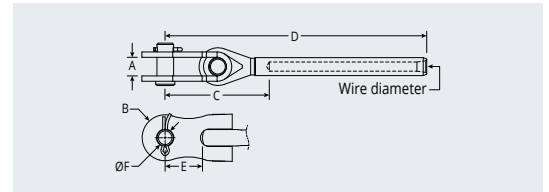
\*1 Threaded swage terminal BL is below the typical BL of grade 1570 1x19 stainless steel wire.

\*2 Product supplied as the metric equivalent with metric wire code stamping.

\*3 'Open Body' turnbuckles discontinued in 2017.



**TOGGLE SWAGE  
TERMINAL**

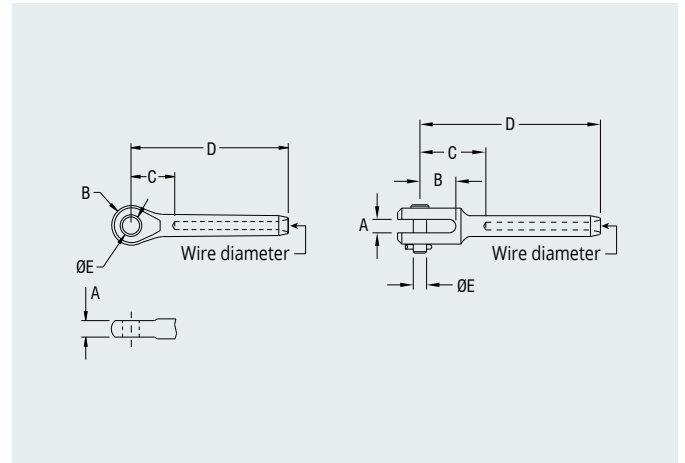
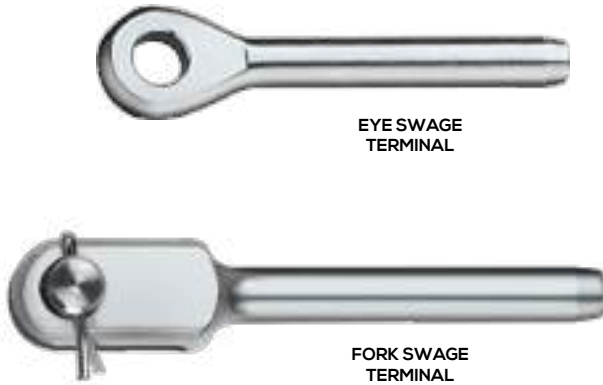


PRODUCT No.	WIRE DIAM.	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT g	A in	B in	C in	D in	E in	F in	WEIGHT oz
<b>Toggle Swage Terminals - Metric Wire</b>															
RF1507M0304	3mm	7.8	9.1	37.9	77.0	16.8	6.2	44	5/16	11/32	1 1/2	3 1/32	21/32	1/4	1.6
RF1507M0404	4mm	7.8	9.1	43.2	87.1	16.8	6.2	44	5/16	11/32	1 11/16	3 7/16	21/32	1/4	1.6
RF1507M0405	4mm	9.4	11.2	48.1	93.6	20.7	7.9	74	3/8	7/16	1 29/32	3 11/16	13/16	5/16	2.6
RF1507M0504*1	5mm	7.8	9.1	38.4	94.8	16.8	6.2	72	5/16	11/32	1 1/2	3 23/32	21/32	1/4	2.5
RF1507M0505	5mm	9.4	11.2	48.2	103.7	20.7	7.9	56	3/8	7/16	1 29/32	4 3/32	13/16	5/16	2.0
RF1507M0506	5mm	10.0	14.4	49.4	104.9	23.0	9.4	130	13/32	9/16	1 15/16	4 1/8	29/32	3/8	4.6
RF1507M0606	6mm	10.0	14.4	58.1	128.5	23.0	9.4	129	13/32	9/16	2 9/32	5 1/16	29/32	3/8	4.6
RF1507M0608	6mm	13.9	17.5	70.9	141.3	29.4	12.4	285	9/16	11/16	2 25/32	5 9/16	1 5/32	1/2	10.1
RF1507M0708	7mm	13.9	17.5	73.2	151.9	29.4	12.4	332	17/32	11/16	2 7/8	5 31/32	1 5/32	1/2	11.7
RF1507M0808	8mm	13.9	17.5	72.1	160.6	29.4	12.4	365	9/16	11/16	2 27/32	6 3/8	1 5/32	1/2	12.9
RF1507M0810	8mm	17.0	20.8	87.5	176.0	42.2	15.7	492	21/32	13/16	3 7/16	6 15/16	1 21/32	5/8	17.4
RF1507M1010	10mm	17.0	20.8	87.7	198.2	42.2	15.7	540	21/32	13/16	3 7/16	7 13/16	1 21/32	5/8	19.1
RF1507M1112	11mm	20.0	23.8	101.9	224.4	48.9	18.9	838	3/4	15/16	4	8 27/32	1 15/16	3/4	29.6
RF1507M1212	12mm	20.0	23.8	108.2	249.0	46.0	18.9	930	25/32	15/16	4 1/4	9 13/16	1 13/16	3/4	32.8
RF1507M1414	14mm	26.5	28.5	120.4	278.3	44.4	22.0	1460	1 1/32	1 1/8	4 3/4	10 31/32	1 3/4	7/8	51.5
RF1507M1616	16mm	29.3	31.8	147.8	324.5	60.3	25.2	2350	1 5/32	1 1/4	5 13/16	12 25/32	2 3/8	1	82.9
<b>Toggle Swage Terminals - Imperial Wire</b>															
RF1506-0404	1/8"	7.8	9.1	37.9	77.0	16.8	6.2	44	5/16	11/32	1 1/2	3 1/16	21/32	1/4	1.6
RF1506-0504*2	5/32"	7.8	9.1	42.2	87.1	16.8	6.2	44	5/16	11/32	1 21/32	3 7/16	21/32	1/4	1.6
RF1506-0505*2	5/32"	9.4	11.2	48.1	93.6	20.7	7.9	70	3/8	7/16	1 29/32	3 11/16	13/16	5/16	2.5
RF1506-0604*1	3/16"	7.8	9.1	38.7	94.8	16.8	6.2	56	5/16	11/32	1 1/2	3 23/32	21/32	1/4	2.0
RF1506-0605	3/16"	9.4	11.2	42.5	98.0	20.7	7.9	78	3/8	7/16	1 11/16	3 27/32	13/16	5/16	2.8
RF1506-0606	3/16"	10.0	14.4	49.4	104.9	23.0	9.4	130	13/32	9/16	1 15/16	4 1/8	29/32	3/8	4.6
RF1506-0706	7/32"	10.0	14.4	49.9	110.9	23.0	9.4	142	13/32	9/16	1 31/32	4 3/8	29/32	3/8	5.0
RF1506-0806	1/4"	10.0	14.4	58.1	128.5	23.0	9.4	185	13/32	9/16	2 9/32	5 1/16	29/32	3/8	6.5
RF1506-0808	1/4"	13.9	17.5	70.9	141.3	29.4	12.4	276	17/32	11/16	2 25/32	5 9/16	1 5/32	1/2	9.7
RF1506-0908*2	9/32"	13.9	17.5	73.2	151.9	29.4	12.4	322	9/16	11/16	2 7/8	5 31/32	1 5/32	1/2	11.4
RF1506-1008*2	5/16"	13.9	17.5	72.1	160.6	29.4	12.4	356	9/16	11/16	2 27/32	6 11/32	1 5/32	1/2	12.6
RF1506-1010*2	5/16"	17.0	20.8	87.5	176.0	42.2	15.7	494	21/32	13/16	3 7/16	6 15/16	1 21/32	5/8	17.4
RF1506-1210	3/8"	17.0	20.8	87.7	198.2	42.2	15.7	554	21/32	13/16	3 7/16	7 13/16	1 21/32	5/8	19.5
RF1506-1412*2	7/16"	20.0	23.8	101.9	224.4	48.9	18.9	838	3/4	15/16	4	8 27/32	1 15/16	3/4	29.6
RF1506-1614	1/2"	26.6	28.5	116.5	257.0	44.4	22.0	1368	1 1/16	1 1/8	4 19/32	10 1/8	1 3/4	7/8	48.3
RF1506-1814*2	9/16"	26.5	28.5	120.4	278.3	44.4	22.0	1536	1 1/16	1 1/8	4 3/4	10 31/32	1 3/4	7/8	54.2
RF1506-2016*2	5/8"	29.3	31.8	147.8	324.5	60.3	25.2	2632	1 5/32	1 1/4	5 13/16	12 25/32	2 3/8	1	92.8

\*1 Toggle swage terminal BL is below the typical BL of grade 1570, 1x19 stainless steel wire.

\*2 Product supplied as the metric equivalent with metric wire code stamping.

Note: Larger sizes available to order.



PRODUCT No.	WIRE DIAM.	A mm	B mm	C mm	D mm	E mm	WEIGHT g	A in	B in	C in	D in	E in	WEIGHT oz
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**Eye Swage Terminals - Metric Wire**

RF1501M2.503	2.5mm	3.1	6.3	15.2	48.0	5.1	8	1/8	1/4	19/32	1 7/8	3/16	0.4
RF1501M0304	3mm	4.6	6.2	16.1	55.3	6.5	14	3/16	1/4	21/32	2 3/16	1/4	0.5
RF1501M0405	4mm	6.1	8.5	18.5	64.0	8.1	22	1/4	11/32	5/8	2 1/2	5/16	0.9
RF1501M0505	5mm	6.1	8.5	19.1	74.6	8.1	30	1/4	11/32	5/8	3	5/16	1.1
RF1501M0506	5mm	7.7	10.0	21.1	76.6	9.7	38	9/32	13/32	7/8	3 1/16	3/8	1.6
RF1501M0608	6mm	9.5	12.5	27.1	97.5	13.0	95	3/8	1/2	1 3/16	3 14/16	1/2	3.4
RF1501M0708	7mm	12.5	13.5	30.9	109.9	13.0	138	1/2	17/32	1 3/16	4 5/16	1/2	5.5
RF1501M0808	8mm	12.5	13.5	29.5	118.0	13.0	174	1/2	9/16	1 1/4	4 11/16	1/2	6.5
RF1501M0810	8mm	14.0	15.5	28.0	116.5	16.3	182	9/16	5/8	1 1/4	4 5/8	5/8	7.1
RF1501M1010	10mm	14.0	15.5	29.0	139.5	16.3	228	5/8	5/8	1 7/16	5 3/4	5/8	9.9
RF1501M1112	11mm	15.5	18.2	35.9	158.6	19.5	324	23/32	23/32	1 1/2	6 1/4	3/4	9.9
RF1501M1212	12mm	15.5	19.5	42.4	182.8	19.5	420	5/8	11/16	1 5/8	7 1/8	3/4	14.1
RF1501M1414	14mm	20.0	23.2	54.2	212.1	22.5	746	27/32	15/16	2 3/16	8 5/16	7/8	28.1
RF1501M1616	16mm	25.0	27.2	58.1	234.8	25.8	1074	1	11/16	2 3/8	9 1/8	1	41.3

**Eye Swage Terminals - Imperial Wire**

RF1500-0303*	3/32"	3.1	6.3	15.2	48.0	5.1	8	1/8	1/4	19/32	1 7/8	3/16	0.4
RF1500-0404	1/8"	4.6	6.2	16.1	55.3	6.5	12	3/16	1/4	21/32	2 3/16	1/4	0.4
RF1500-0505*	5/32"	6.1	8.5	18.5	64.0	8.1	20	1/4	11/32	5/8	2 1/2	5/16	0.5
RF1500-0605	3/16"	6.1	8.5	19.1	74.6	8.1	32	1/4	11/32	5/8	3	5/16	1.1
RF1500-0606	3/16"	7.7	10.0	21.1	76.9	9.7	38	5/16	13/32	7/8	3 1/16	3/8	0.7
RF1500-0706	7/32"	7.7	10.0	22.4	83.4	9.7	56	3/8	13/32	1	3 5/16	3/8	1.3
RF1500-0808	1/4"	9.5	12.5	27.1	97.5	13.0	90	3/8	1/2	1 3/16	3 7/8	1/2	2.3
RF1500-0908*	9/32"	12.5	13.5	30.9	109.9	13.0	138	1/2	17/32	1 5/16	4 5/16	1/2	3.4
RF1500-1008*	5/16"	12.5	13.5	29.5	118.0	13.0	174	1/2	17/32	1 1/4	4 5/8	1/2	5.1
RF1500-1010*	5/16"	14.0	15.5	28.0	116.5	16.3	182	9/16	5/8	1 1/4	4 5/8	5/8	6.5
RF1500-1210	3/8"	14.0	15.5	29.0	139.5	16.3	232	9/16	5/8	1 1/2	5 5/8	5/8	7.8
RF1500-1412*	7/16"	15.5	18.2	35.9	158.6	19.5	324	23/32	23/32	1 1/2	6 1/4	3/4	9.9
RF1500-1614	1/2"	20.0	24.0	51.8	192.2	22.5	566	27/32	15/16	2 3/16	7 11/16	7/8	13.1
RF1500-1814*	9/16"	20.0	23.2	54.2	212.1	22.5	730	27/32	15/16	2 3/16	8 5/16	7/8	21.9
RF1500-2016*	5/8"	25.0	27.2	58.1	234.8	25.8	1070	1	11/16	2 3/8	9 1/4	1	29.6

PRODUCT No.	WIRE DIAM.	A mm	B mm	C mm	D mm	E mm	WEIGHT g	A in	B in	C in	D in	E in	WEIGHT oz
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**Fork Swage Terminals - Metric Wire**

RF1509M0304	3mm	4.9	15.4	25.1	64.4	6.2	22	3/16	19/32	1	2 17/32	1/4	0.8
RF1509M0405	4mm	4.9	16.8	30.0	75.5	7.8	34	3/16	21/32	1 3/16	2 31/32	5/16	1.2
RF1509M0506	5mm	6.3	18.2	33.7	89.3	9.4	65	1/4	23/32	1 5/16	3 17/32	3/8	2.3

**Fork Swage Terminals - Imperial Wire**

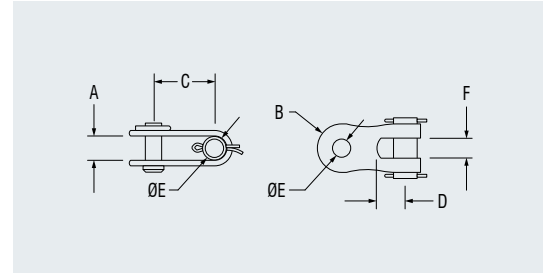
RF1508-0404	1/8"	4.9	15.4	25.1	64.4	6.2	22	3/16	19/32	1	2 17/32	1/4	0.8
RF1508-0505*	5/32"	4.9	16.8	30.0	75.5	7.8	34	3/16	21/32	1 3/16	2 31/32	5/16	1.2
RF1508-0606	3/16"	6.3	18.2	33.7	89.3	9.4	65	1/4	23/32	1 5/16	3 17/32	3/8	2.3

\* Product supplied as the metric equivalent with metric wire code stamping.



**DOUBLE JAW TOGGLE**

✓ Double jaw toggles are supplied with washers and split pins as shown.



PRODUCT No.	PIN DIAM. mm	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT g	PIN DIAM. in	A in	B in	C in	D in	E in	F in	WEIGHT oz
<b>Double Jaw Toggles</b>																
RF1505-05	7.9	9.4	11.2	28.5	8.3	7.9	7.1	55	5/16	3/8	7/16	1 1/8	5/16	5/16	9/32	2.0
RF1505-06	9.4	10.0	14.4	32.5	10.2	9.4	8.8	99	3/8	13/32	9/16	1 9/32	3/8	3/8	11/32	3.5
RF1505-08	12.5	13.9	17.5	42.0	15.1	12.5	13.4	202	1/2	17/32	11/16	1 21/32	19/32	1/2	17/32	7.1
RF1505-10	15.7	17.0	20.8	57.6	18.1	15.7	15.5	350	5/8	21/32	13/16	2 9/32	5/8	5/8	5/8	12.4
RF1505-12	18.9	20.0	23.8	66.2	18.5	18.9	16.2	577	3/4	25/32	15/16	2 19/32	23/32	3/4	5/8	20.3



**LOCK NUT, R/H THREAD**

PRODUCT No.	THREAD TYPE
<b>Lock Nuts, R/H Thread</b>	
RF1415-04	1/4" UNF
RF1415-05	5/16" UNF
RF1415-06	3/8" UNF
RF1415-08	1/2" UNF
RF1415-10	5/8" UNF
RF1415-12	3/4" UNF
RF1415-14	7/8" UNF
RF1415-16	1" UNF

## SWAGING DIMENSIONS

Correct installation of a swage fitting requires that the swage portion of the fitting be formed down onto the wire with specialised dies and presses in accordance with the following dimensions:

WIRE DIAM. mm	CODE mm	LENGTH OF WIRE INSIDE SWAGE mm	O.D. BEFORE SWAGING mm	O.D. AFTER SWAGING mm	TOLERANCE ON O.D. mm
<b>Swaging Dimensions - Metric Wire</b>					
2.5	2.5M	32.3	5.54	4.83	+0, -0.13
3.0	03M	38.4	6.35	5.56	+0, -0.13
4.0	04M	45.0	7.54	6.35	+0, -0.13
5.0	05M	55.0	9.12	7.95	+0, -0.13
5.6	-	60.5	10.85	9.53	+0, -0.18
6.0	06M	70.0	12.55	11.13	+0, -0.18
7.0	07M	78.5	14.30	12.70	+0, -0.20
8.0	08M	88.0	16.13	14.30	+0, -0.20
10.0	10M	110.0	17.86	15.88	+0, -0.20
11.0	-	122.0	19.84	17.48	+0, -0.20
12.0	12M	140.0	21.44	19.05	+0, -0.23
14.0	14M	157.0	24.99	22.23	+0, -0.23
16.0	16M	176.0	28.17	25.40	+0, -0.26

WIRE DIAM. in	CODE in	LENGTH OF WIRE INSIDE SWAGE in	O.D. BEFORE SWAGING in	O.D. AFTER SWAGING in	TOLERANCE ON O.D. in
<b>Swaging Dimensions - Imperial Wire</b>					
3/32	03	1.27	0.218	0.190	+0, -0.005
1/8	04	1.51	0.250	0.219	+0, -0.005
5/32	05	1.77	0.297	0.250	+0, -0.005
3/16	06	2.17	0.359	0.313	+0, -0.005
7/32	07	2.38	0.427	0.375	+0, -0.007
1/4	08	2.76	0.494	0.438	+0, -0.007
9/32	09	3.09	0.563	0.500	+0, -0.008
5/16	10	3.46	0.635	0.563	+0, -0.008
3/8	12	4.33	0.703	0.625	+0, -0.008
7/16	14	4.80	0.781	0.688	+0, -0.008
1/2	16	5.51	0.844	0.750	+0, -0.009
9/16	18	6.18	0.984	0.875	+0, -0.009
5/8	20	6.93	1.109	1.000	+0, -0.010



**SPLIT RINGS**  
RF113  
RF114



**SPLIT RINGS**  
RF686  
RF687  
RF688



**RETAINING CLIP**  
RF413



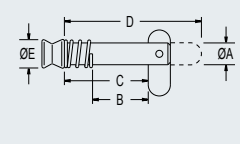
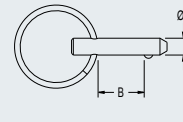
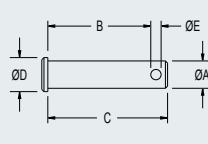
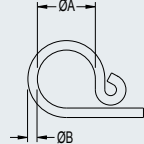
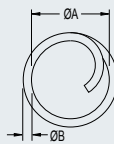
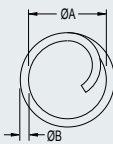
**CLEVIS PINS**



**FAST PIN**  
RF5310



**TOGGLE PINS**



PRODUCT No.	SUITS CLEVIS PINS	DESCRIPTION	A mm	B mm	WEIGHT g	A in	B in	WEIGHT oz
<b>Split Rings &amp; Clips</b>								
RF113	RF258 - RF266	Split ring	9.5	1.0	1	3/8	1/32	0.1
RF114	RF260 - RF266	Split ring	11.1	1.3	2	7/16	1/16	0.1
RF413	RF267 - RF274	Retaining clip	16.0	2.7	3	5/8	3/32	0.1
RF686	RF260 - RF274	Split ring	14.3	1.3	4	9/16	1/16	0.1
RF687	RF260 - RF274	Split ring	18.8	1.6	5	3/4	1/16	0.2
RF688	RF267 - RF278	Split ring	25.0	2.0	5	1	3/32	0.2

PRODUCT No.	A mm	B mm	C mm	D mm	E mm	WEIGHT g	A in	B in	C in	D in	E in	WEIGHT oz
<b>Clevis Pins</b>												
RF259	4.6	9.0	12.2	6.4	2.0	2	3/16	11/32	15/32	1/4	5/64	0.1
RF260	4.8	12.7	16.0	6.4	2.2	3	3/16	1/2	5/8	1/4	3/32	0.1
RF261	4.8	19.0	22.0	6.4	2.2	3	3/16	3/4	7/8	1/4	3/32	0.1
RF262	4.8	25.0	28.0	6.4	2.2	5	3/16	1	1 1/8	1/4	3/32	0.2
RF263	6.4	12.7	16.5	7.9	2.4	5	1/4	1/2	21/32	5/16	3/32	0.2
RF264	6.4	19.0	23.0	7.9	2.4	5	1/4	3/4	29/32	5/16	3/32	0.2
RF265	6.4	25.0	30.0	7.9	2.4	10	1/4	1	1 3/16	5/16	3/32	0.4
RF266	6.4	32.0	36.0	7.9	2.4	10	1/4	1 1/4	1 7/16	5/16	3/32	0.4
RF267	7.9	12.7	16.5	9.5	2.7	10	5/16	1/2	21/32	3/8	3/32	0.4
RF268	7.9	19.0	23.0	9.5	2.7	10	5/16	3/4	29/32	3/8	3/32	0.4
RF269	7.9	25.0	30.0	9.5	2.7	10	5/16	1	1 3/16	3/8	3/32	0.4
RF270	7.9	32.0	36.0	9.5	2.7	15	5/16	1 1/4	1 7/16	3/8	3/32	0.5
RF271	9.5	19.0	24.0	12.7	4.0	15	3/8	3/4	15/16	1/2	5/32	0.5
RF272	9.5	25.0	31.0	12.7	3.6	20	3/8	1	1 1/4	1/2	5/32	0.7
RF273	9.5	32.0	37.0	12.7	3.7	20	3/8	1 1/4	1 7/16	1/2	5/32	0.7
RF274	9.5	38.0	43.0	12.7	3.7	25	3/8	1 1/2	1 11/16	1/2	5/32	0.9
RF275	12.7	19.0	25.0	15.9	3.5	30	1/2	3/4	1	5/8	1/8	1.1
RF276	12.7	25.0	31.0	15.9	3.5	35	1/2	1	1 1/4	5/8	1/8	1.2
RF277	12.7	32.0	38.0	15.9	3.5	40	1/2	1 1/4	1 1/2	5/8	1/8	1.4
RF278	12.7	38.0	44.0	15.9	3.5	50	1/2	1 1/2	1 3/4	5/8	1/8	1.8
RF537	15.9	25.0	33.0	19.0	4.0	55	5/8	1	1 5/16	3/4	5/32	1.9
RF538	15.9	32.0	38.0	19.0	4.4	65	5/8	1 1/4	1 1/2	3/4	5/32	2.3
RF539	15.9	38.0	45.0	19.0	4.4	75	5/8	1 1/2	1 3/4	3/4	5/32	2.7

<b>Fast Pin</b>												
RF5310	4.8	12.5	-	-	-	7	3/16	1/2	-	-	-	0.2

<b>Toggle Pins</b>												
RF115 x 1/2	6.4	7.8*	17.4	32.5	7.9	10	1/4	5/16*	11/16	1 9/32	5/16	0.4
RF115 x 5/8	6.4	11.2*	20.8	35.9	7.9	10	1/4	7/16*	13/16	1 13/32	5/16	0.4
RF115 x 3/4	6.4	14.2*	23.8	38.9	7.9	10	1/4	9/16*	15/16	1 17/32	5/16	0.4
RF115 x 1	6.4	20.5*	30.1	45.2	7.9	10	1/4	13/16*	1 1/8	1 25/32	5/16	0.4
RF115 x 1 1/4	6.4	27.1*	36.7	51.8	7.9	13	1/4	1 1/16*	1 7/16	2	5/16	0.5

\*Maximum thickness of material the toggle pin can pass through, allowing correct toggle operation.



THIMBLES



SAILMAKER THIMBLES



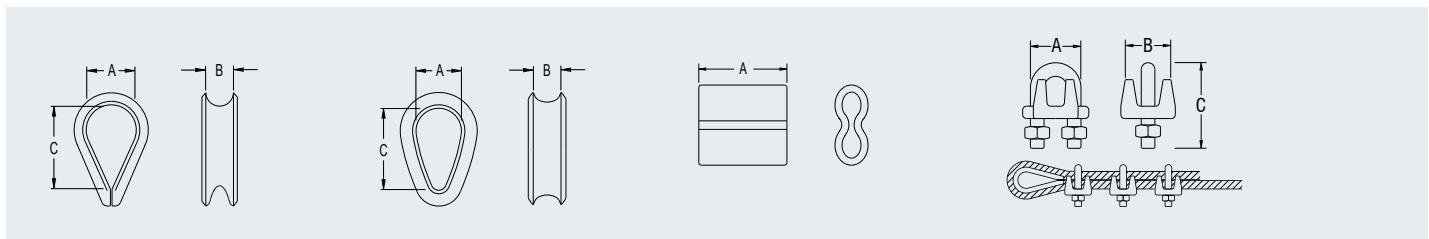
COPPER FERRULES



WIRE ROPE GRIPS

✔ Copper ferrules are nickel plated for aesthetic appearance and long-term weather resistance.

✔ Stainless steel wire rope grips require no special tools for assembly and can be disassembled and reused.

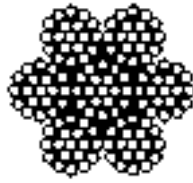


PRODUCT No.	WIRE DIAM. mm	A mm	B mm	C mm	WEIGHT g	WIRE DIAM. in	A in	B in	C in	WEIGHT oz
<b>Thimbles - Stainless Steel</b>										
RF481	2.5	9.0	3.0	16	2	3/32	11/32	1/8	5/8	0.1
RF482	3.0	10.0	4.0	18	2	1/8	3/8	5/32	23/32	0.1
RF483	4.0	11.0	5.0	19	5	5/32	7/16	3/16	3/4	0.2
RF484	5.0	13.0	6.0	23	5	3/16	1/2	1/4	29/32	0.2
RF485	6.0, 7.0	19.0	9.0	36	15	1/4, 9/32	3/4	11/32	1 3/8	0.5
RF486	8.0	21.0	10.5	38	25	5/16	13/16	13/32	1 1/2	0.9
RF487	10.0	27.0	11.5	53	40	3/8	1 1/16	7/16	2 1/16	1.4
RF2488	12.0	29.0	15.5	55	65	1/2	1 1/8	5/8	2 3/16	2.3
RF2490	16.0	40.0	20.0	67	125	5/8	1 9/16	25/32	2 5/8	4.4
RF2492	19.0	51.0	22.0	87	275	3/4	2	7/8	3 7/16	9.7
RF2494	26.0	65.0	29.0	115	615	1	2 1/2	1 1/8	4 1/2	21.7
<b>Sailmaker Thimbles - Stainless Steel</b>										
RF2180	3.0	9.0	4.5	16	3	1/8	11/32	3/16	5/8	0.1
RF2181	4.0	11.0	5.5	20	5	5/32	7/16	7/32	25/32	0.2
RF2182	5.0	17.0	6.3	27	10	3/16	21/32	1/4	1 1/16	0.4
RF2183	6.0	21.0	8.5	33	20	1/4	13/16	11/32	1 5/16	0.7
RF2184	8.0	26.0	11.0	40	40	5/16	1	7/16	1 9/16	1.4
<b>Copper Ferrules</b>										
RF3169	1.5	8.0	-	-	2	1/16	5/16	-	-	0.1
RF3170	2.0	10.0	-	-	2	5/64	3/8	-	-	0.1
RF3171	2.5	11.0	-	-	3	3/32	7/16	-	-	0.1
RF3172	3.0	14.0	-	-	5	1/8	9/16	-	-	0.2
RF3173	4.0	18.5	-	-	10	5/32	23/32	-	-	0.4
RF3174	5.0	19.0	-	-	15	3/16	3/4	-	-	0.5
RF3175	6.0	20.0	-	-	22	1/4	25/32	-	-	0.8
<b>Wire Rope Grips</b>										
RF1685-2	2.0	14.0	14.0	18	10	5/64	23/32	23/32	11/16	0.3
RF1685-4	4.0	18.0	18.0	24	20	5/32	11/16	23/32	15/16	0.7
RF1685-5	5.0	18.0	20.0	28	30	3/16	11/16	13/16	1 1/8	1.0
RF1685-6	6.0	21.0	21.0	33	40	1/4	27/32	27/32	1 9/32	1.4
RF1685-8	8.0	27.0	24.0	43	80	5/16	1 1/16	15/16	1 5/8	2.8
RF1685-10	10.0	31.6	34.0	51	140	3/8	1 7/8	1 5/16	2	4.9
RF1685-12	12.0	37.7	36.0	65	220	1/2	1 1/2	1 7/16	2 9/16	7.7



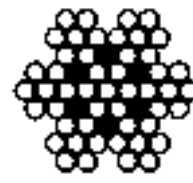
**1 X 19  
CONSTRUCTION**  
19 single strands

- ✓ Strongest
- ✓ Lowest stretch
- ✓ Least flexible
- ⬆ Standing rigging
- ⬆ Life lines



**7 X 19  
CONSTRUCTION**  
7 strands of 19 wires

- ✓ Most flexible
- ⬆ Halyards
- ⬆ Steering
- ⬆ Running rigging
- ⬆ Vang cascades



**7 X 7  
CONSTRUCTION**  
7 strands of 7 wires

- ✓ Semi-flexible
- ✓ PVC coated (optional)
- ⬆ Soft luff dinghy forestay (coilable)
- ⬆ Removable dinghy stays (coilable)

## STRETCH IN WIRE

Stretch is a characteristic of all wire, initially as permanent stretch when the load is first applied and the individual wires bed down, and then as conventional elastic stretch within the wires as load increases. Where stretch is critical to the application, initial stretch can be accounted for with cables stretched (pre-stressed) during swaging and cable manufacturing. Elastic stretch can be estimated by the following formula:

$$\text{Elastic stretch (mm)} = \frac{W \times L}{E \times A}$$

where:

**W** = Applied load (kN)

**L** = Cable length (mm)

**E** = Strand modulus (kN/mm<sup>2</sup>)

**A** = Metallic Cross Sectional Area (mm<sup>2</sup>) as indicated in the tables below

### Typical values for E are:

**1 x 19** 127 kN/mm<sup>2</sup> (18.42 x 10<sup>6</sup> P.S.I.)

**7 x 19** 97.1 kN/mm<sup>2</sup> (14.08 x 10<sup>6</sup> P.S.I.)

**7 x 7** 106 kN/mm<sup>2</sup> (15.37 x 10<sup>6</sup> P.S.I.)

PRODUCT No.	WIRE DIAM. mm	A mm <sup>2</sup>	REEL LENGTH m	B.L.* <sup>3</sup> kg	WEIGHT PER METRE kg	A in <sup>2</sup>	REEL LENGTH ft	B.L.* <sup>3</sup> lb	WEIGHT PER 100ft lb
<b>1 x 19 Grade 316 Stainless Steel [Tensile Strength Grade 1570 N/mm<sup>2</sup>]*<sup>1</sup></b>									
WR6119-1.5M	1.5	1.3	305	180	0.012	0.002	1000	397	0.77
WR6119-02M	2.0	2.3	305	330	0.020	0.004	1000	728	1.37
WR6119-2.5M	2.5	3.7	305	530	0.032	0.006	1000	1168	2.14
WR6119-03M	3.0	5.4	305	760	0.046	0.008	1000	1675	3.09
WR6119-04M	4.0	9.6	305	1350	0.082	0.015	1000	2975	5.49
WR6119-05M	5.0	15.0	305	2100	0.128	0.023	1000	4630	8.61
WR6119-06M	6.0	21.5	305	3020	0.184	0.033	1000	6657	12.37
WR6119-07M	7.0	29.2	305	4130	0.250	0.045	1000	9105	16.81
WR6119-08M	8.0	38.2	305	5380	0.320	0.059	1000	11860	21.92
WR6119-10M	10.0	59.7	305	8420	0.510	0.093	1000	18562	34.29
WR6119-12M	12.0	86.0	305	12130	0.734	0.133	1000	26742	49.35
WR6119-14M	14.0	117.0	305	16510	1.000	0.181	1000	36398	67.24
WR6119-16M	16.0	153.0	305	21510	1.310	0.237	1000	47421	88.09
<b>7 x 19 Grade 316 Stainless Steel</b>									
WR6719-1.5M	1.5	1.2	305	150	0.009	0.002	1000	331	0.62
WR6719-02M	2.0	2.0	305	250	0.016	0.003	1000	551	1.10
WR6719-2.5M	2.5	3.2	305	380	0.026	0.005	1000	838	1.72
WR6719-03M	3.0	4.6	305	540	0.037	0.007	1000	1191	2.47
WR6719-04M	4.0	8.2	305	960	0.066	0.013	1000	2117	4.40
WR6719-05M	5.0	12.9	305	1480	0.103	0.020	1000	3263	6.90
WR6719-06M	6.0	18.5	305	2150	0.148	0.029	1000	4740	9.92
WR6719-07M	7.0	25.1	305	2920	0.201	0.039	1000	6439	13.47
WR6719-08M	8.0	32.8	305	3810	0.262	0.051	1000	8401	17.55
WR6719-10M	10.0	51.3	305	5960	0.410	0.080	1000	13140	27.47
WR6719-12M	12.0	73.8	305	8600	0.590	0.114	1000	18960	39.53
WR6719-14M	14.0	100.5	305	11690	0.804	0.156	1000	25772	53.87
WR6719-16M	16.0	131.3	305	14450	1.050	0.204	1000	31857	70.35
<b>7 x 7 Grade 316 Stainless Steel</b>									
WR677-03M	3.0	4.2	305	580	0.037	0.007	1000	1279	2.35
WR677-04M	4.0	7.5	305	1040	0.066	0.012	1000	2293	4.23
WR677-03MP* <sup>2</sup>	3.0	4.2	305	580	0.055	0.007	1000	1279	4.84

\*1 Larger diameters available on request.

\*2 Wire diameter excludes PVC Coating, Ø including PVC = 5.0mm

\*3 Cable Breaking Load: does not include the typical 10% reduction in cable strength due to swaging. B.L. ratings are for standard Ronstan mill ordered, and stocked wire. From time to time wire may be sourced from other suppliers and ratings may vary.



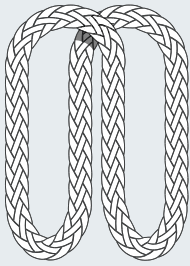




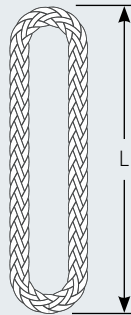
SOFT LINK



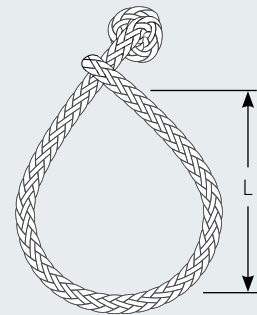
SOFT SHACKLE



Basket Load



Vertical Load



✔ Small diameter puller line allows for easy removal after soft shackle being loaded.

⬇️ Alternative to traditional metal shackles.

⚙️ SK78 Dyneema®.

✔ Lightweight and easy on the boat.

⚙️ XG coating for UV stability and resistance to abrasion.

PRODUCT No.	DESCRIPTION	WHERE USED	DIAM. mm	L mm	B.L.* BASKET kg	B.L.* VERTICAL kg	WEIGHT g	DIAM. in	L in	B.L.* BASKET lb	B.L.* VERTICAL lb	WEIGHT oz
<b>Soft Links</b>												
RF9003-07	Soft Link	S30 Double & Triple, S40 Single & Fiddle Blocks	3.0	70	1200	600	1	1/8	2 3/4	2645	1320	0.1
RF9004-08	Soft Link	S40 Single & Fiddle, S55 Single & Fiddle Blocks	4.0	76	1800	900	1	5/32	3	2970	1985	0.1
RF9004-09	Soft Link	S40 Double & Triple Blocks	4.0	95	1800	900	2	5/32	3 3/4	2970	1985	0.1
RF9004-11	Soft Link		4.0	110	1800	900	2	5/32	4 11/32	2970	1985	0.1
RF9004-13	Soft Link	RC72541	4.0	128	1800	900	2	5/32	5 2/16	2970	1985	0.1
RF9005-10	Soft Link	S55 Double & Triple Blocks	5.0	100	2400	1200	3	3/16	3 15/16	5290	2645	0.1
RF9006-12	Soft Link		6.0	120	3400	1700	5	1/4	4 3/4	7495	3750	0.2
<b>Soft Shackles</b>												
DSH-2.5GRY	Soft Shackle		2.5	50	-	700	10	3/32	1 31/32	-	1540	0.4
DSH-4GRY	Soft Shackle		4.0	65	-	1000	15	5/32	2 9/16	-	2200	0.6
DSH-6GRY	Soft Shackle		6.0	90	-	2000	18	1/4	3 17/32	-	4410	0.7
DSH-9GRY	Soft Shackle		9.0	100	-	4000	20	11/32	3 15/16	-	8820	0.7
DSH-12GRY	Soft Shackle		12.0	70	-	5900	40	1/2	2 3/4	-	13010	1.4
DSH-14GRY	Soft Shackle		14.0	100	-	7000	60	9/16	3 15/16	-	15430	2.2

\* Considerations: Published breaking loads are based on as new condition. Fatigue, wear and UV exposure will deteriorate performance. Inspect regularly and replace if there are significant amount of wear or fibre damage. Attach to a mounting point with a smooth, well rounded profile without sharp edges or burrs.



CARABINER HOOKS



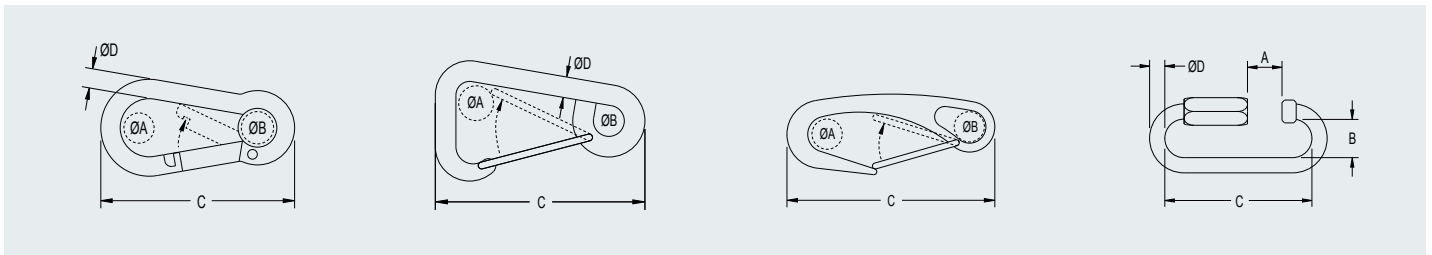
ASYMMETRICAL SNAP HOOKS



SPRING SNAP HOOKS



QUICKLINKS



PRODUCT No.	DESCRIPTION	A	B	C	D	WEIGHT	A	B	C	D	WEIGHT
		mm	mm	mm	mm	g	in	in	in	in	oz
<b>Carabiner Hook</b>											
CS2450-5		8	6	50	5	17	5/16	1/4	2	3/16	0.6
CS2450-6		9	6	60	6	28	3/8	1/4	2 3/8	1/4	1.0
CS2450-8		11	10	81	8	67	7/16	3/8	3 3/16	5/16	2.3
CS2450-10		13	14	100	10	128	1/2	9/16	3 15/16	13/32	4.5
<b>Asymmetrical Snap Hook</b>											
CS2430-6		17	9	60	6	27	11/16	3/8	2 3/8	1/4	0.9
CS2430-8		25	12	80	7.5	66	1	15/32	3 3/16	5/16	2.3
CS2430-10		27	13	101	10	140	1 1/16	1/2	4	3/8	4.9
CS2430-12		33	16	121	12	220	1 5/16	5/8	4 3/4	15/32	7.7
<b>Spring Snap Hook</b>											
CS2470-50		10	6	50	-	18	3/8	1/4	2	-	0.6
CS2470-70		12	10	70	-	47	15/32	3/8	2 3/4	-	1.6
CS2470-100		18	12	100	-	108	23/32	15/32	3 15/16	-	3.8
<b>Quicklinks</b>											
CS7350-4		6.0	11	33	4	13	1/4	7/16	1 5/16	5/32	0.4
CS7350-6		7.0	15	47	6	37	9/32	19/32	1 7/8	1/4	1.3
CS7350-8		9.5	18	58	8	80	3/8	11/16	2 5/16	5/16	2.8
CS7350-10		13.0	20	70	10	143	1/2	25/32	2 3/4	3/8	5.0



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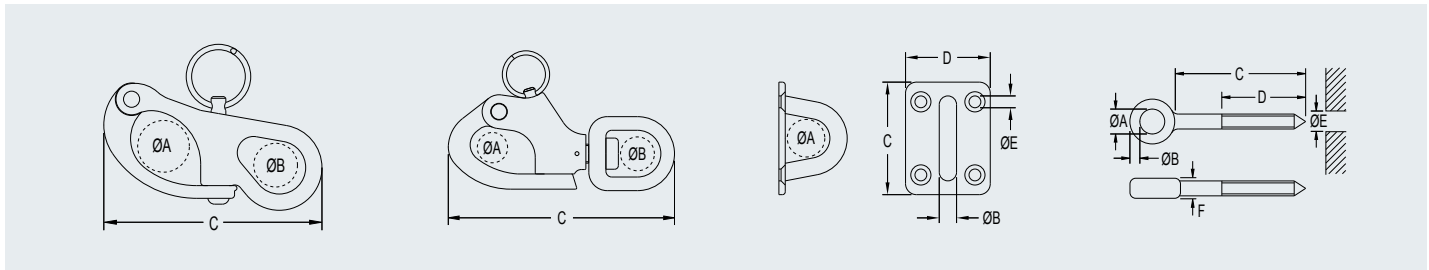


SNAP SHACKLES - FIXED EYE

SNAP SHACKLES - SWIVEL EYE

PAD EYES - SQUARE

EYE COACH SCREWS



PRODUCT No.	THREAD	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT g	A in	B in	C in	D in	E in	F in	WEIGHT oz
<b>Snap Shackle - Fixed Eye</b>															
CS2483-1		11	10	54	-	-	-	47	7/16	3/8	2 1/8	-	-	-	1.6
CS2483-2		18	14	70	-	-	-	95	11/16	9/16	2 3/4	-	-	-	3.3
<b>Snap Shackle - Swivel Eye</b>															
CS2482-1		14	12	67	-	-	-	58	9/16	15/32	2 5/8	-	-	-	2.0
CS2482-2		17	16	88	-	-	-	120	5/8	5/8	3 7/16	-	-	-	4.2
<b>Pad Eyes - Square</b>															
CS321-6	-	17	6	40	34	5	-	38	21/32	1/4	1 9/16	1 5/16	3/16	-	1.3
CS321-8	-	21	8	50	39	6	-	64	13/16	5/16	2	1 17/32	1/4	-	2.2
<b>Eye Coach Screws</b>															
CS3182-555	-	5	4	60	41	4	5	15	3/16	5/32	2 3/8	1 5/8	5/32	3/16	0.6
CS3182-860	-	8	5	96	54	6	9	34	5/16	3/16	3 3/4	2 1/8	1/4	3/8	1.2

Note - Commodity stainless product dimensions are indicative and subject to change

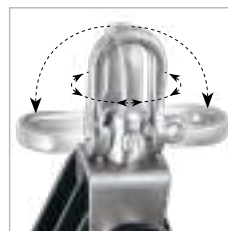
**OUTSIDE MOUNT**

**INSIDE MOUNT**


- ✔ Recognised as the industry standard for automatic bailers.
- ✔ Ingenious design uses venturi effect to produce suction and maximise water transfer – simply open the bailer when the boat is sailing at adequate speed to drain. Close when stationary or at low speed.
- ✔ Available in outside mount and inside mount models.
- ✔ Inside mount models have a plastic grate to prevent lines being sucked out.
- ✔ Robust stainless steel construction, provides long trouble free service life.
- ✔ Bailer and service kit installation instructions are available in the SUPPORT section at [www.ronstan.com](http://www.ronstan.com).
- ✔ Effective means of automatic bailing for dinghies and small one design keelboats.
- ⬆ Install on port and starboard sides for optimum bailing on both tacks.
- ⬆ RA435200 Super Mini Special bailer is designed for racing dinghies where the bailer is operated from a hiking position.
- ⚙ Stainless steel construction.
- ⚙ Rubber gaskets.

PRODUCT No.	DESCRIPTION	SIZE OF DRAINAGE OPENING mm <sup>2</sup>	FLANGE SIZE mm	CUTOUT HOLE mm	NOMINAL HULL THICKNESS mm	WEIGHT g	SIZE OF DRAINAGE OPENING in <sup>2</sup>	FLANGE SIZE in	CUTOUT HOLE in	NOMINAL HULL THICKNESS in	WEIGHT oz	SERVICE KIT
<b>Bailers - Outside Mount</b>												
RA554130	Mini	255	56 x 92	38 x 73	4	100	0.395	2 1/4 x 3 5/8	1 1/2 x 2 7/8	5/32	3.5	RA574153
RA554136	Large	435	80 x 142	41 x 104	4	275	0.674	3 3/16 x 5 9/16	1 5/8 x 4 1/8	5/32	9.7	RA574154
<b>Bailers - Inside Mount</b>												
RA435200	Super Mini Special*	250	61 x 106	40 x 85	7	175	0.387	2 7/16 x 4 3/16	1 5/8 x 3 3/8	1/4	6.2	RA574150
RA554131	Super Mini	250	61 x 106	40 x 85	7	175	0.387	2 7/16 x 4 3/16	1 5/8 x 3 3/8	1/4	6.2	RA574150
RA554132	Super Medium	350	67 x 135	43 x 110	7	275	0.543	2 11/16 x 5 5/16	1 3/4 x 4 3/8	1/4	9.7	RA574151
RA554133	Super Max	540	78 x 135	54 x 110	7	320	0.837	3 1/8 x 5 5/16	2 1/8 x 4 3/8	1/4	11.3	RA574152
<b>Service Kits</b>												
RA574150	Service kit to suit Super Mini bailer (RA54131). Includes internal and external gaskets, rivets											
RA574151	Service kit to suit Super Medium bailer (RA554131). Includes internal and external gaskets, rivets											
RA574152	Service kit to suit Super Max bailer (RA554133). Includes internal and external gaskets, rivets											
RA574153	Service kit to suit Mini bailer (RA554130). Includes internal gasket											
RA574154	Service kit to suit Large bailer (RA554136). Includes internal gasket											

\*Super Mini Special is designed for racing dinghies where the bailer is operated from a hiking position using a control line.



Swivelling & pivoting shackle head



Clevis pin shackle option



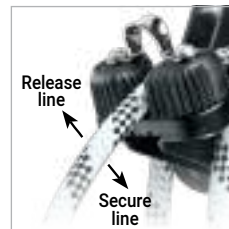
Removable becket pins



Durable, UV stabilised sheaves



Aluminium Rope/Wire sheave (S75)



Simple and secure rope cleating

# INDUSTRIAL PULLEY BLOCKS

## INDUSTRIAL GRADE CONSTRUCTION, RELIABILITY & PERFORMANCE

Ronstan's Industrial Pulley Blocks offer a high quality, reliable solution for a myriad of applications. Full stainless steel housings and attachment fittings provide ultimate durability, long service life and resistance to harsh environments. Self-lubricating acetal polymer sheaves running on polished stainless steel races perform equally well with dynamic loads and high static loads, and an alloy sheave option is available for use with wire rope. Ronstan Industrial Blocks are load rated and are backed by a full factory warranty.

### Swivelling and pivoting shackle head

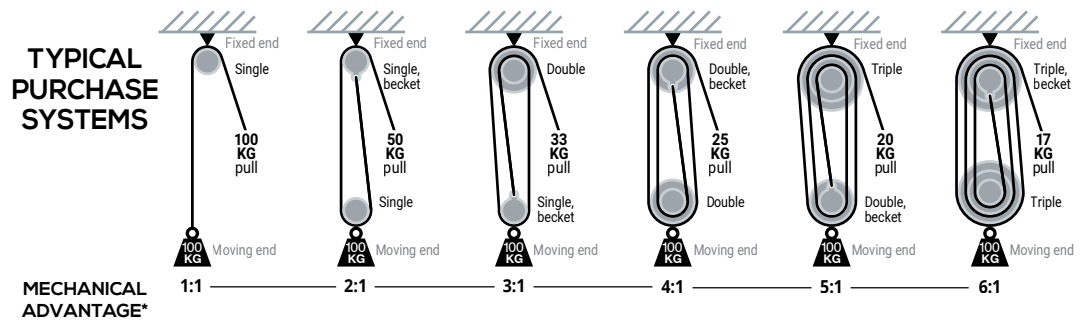
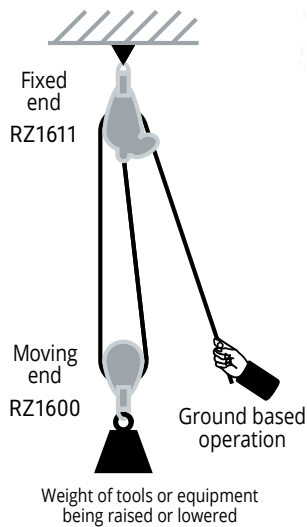
Allows easy attachment and correct alignment of the pulley block. Shackle pins are drilled for use of security wire. The option of shackle with clevis pin and retaining ring is available in Series 75 - order as RZxxxxC. Provides tool-free attachment and removal.

### Removable becket to suit pre-spliced lines

Pre-spliced lines are neat, compact and provide greater security and strength than knotted terminations. Becket on all Ronstan Industrial Blocks are removable to accommodate the use of pre-spliced lines.

### Simple and secure rope holding

Blocks fitted with cam cleats provide a simple means of holding the rope. Just pull the rope through the spring-loaded jaws, which prevent the rope from slipping back. Flick the rope up and out of the jaws to release. A stainless steel eye strap keeps the rope in position ready for re-cleating.



- ✔ Load rated.
- ✔ Fully articulating head/attachment.
- ✔ Durable, low friction acetal polymer sheave.

- ✔ RZ1611 has a cleating angle of 60° from the mounting plane and is ideal for 'remote' operation as in the case of a ground based assistant raising tools or equipment to an overhead worker.
- ✔ UV stabilised acetal sheaves.

- ✔ Grade 316 stainless steel side plate/cheeks, powder coated black.
- ✔ Fibre reinforced polymer rope cleats.
- ✔ Grade 316 stainless steel head, shackle, becket and fastenings.

PRODUCT No.	DESCRIPTION	SHEAVE DIAM.	MAX. ROPE	PIN DIAM.	M.W.L.	B.L.	WEIGHT	SHEAVE DIAM.	MAX. ROPE	PIN DIAM.	M.W.L.	B.L.	WEIGHT
		mm	mm	mm	kg	kg	g	in	in	in	lb	lb	oz
RF617H	Shackle, 6mm (1/4") screw pin with security wire hole	-	-	6	1000*2	2000*2	25	-	-	1/4	2200*2	4410*2	0.9
RZ1600	Single block, swivel shackle head	60	12	6	1000	2000	390	2 3/8	1/2	1/4	2200	4410	13.8
RZ1603	Single block, becket, swivel shackle head	60	12	6	1000	2000	460	2 3/8	1/2	1/4	2200	4410	16.3
RZ1607	Single block, becket, 30° cleat, swivel shackle head	60	12	6	1000*1	2000	705	2 3/8	1/2	1/4	2200*1	4410	24.9
RZ1611	Single block, becket, 60° cleat, swivel shackle head	60	12	6	1000*1	2000	795	2 3/8	1/2	1/4	2200*1	4410	28.1

\*1 Line load through cleat not to exceed 300kg (660lb).

\*2 Uniformly distributed load on shackle; i.e. load applied across the full width of the shackle pin. See page 202 for full details.



PRODUCT No.	DESCRIPTION	SHEAVE	MAX.	PIN	M.W.L.	B.L.	WEIGHT	SHEAVE	MAX.	PIN	M.W.L.	B.L.	WEIGHT
		DIAM.	ROPE	DIAM.	kg	kg	g	DIAM.	ROPE	DIAM.	lb	lb	oz
		mm	mm	mm				in	in	in			
<b>Industrial Pulley Blocks</b>													
RZ1700	Single block, swivel shackle head	75	14	8	1500	3000	630	3	9/16	5/16	3300	6600	22.2
RZ1700AW	Single block, swivel shackle head, aluminium rope/wire sheave	75	8	8	1500	3000	740	3	5/16	5/16	3300	6600	26.1
RZ1703	Single block, becket, swivel shackle head	75	14	8	1500	3000	730	3	9/16	5/16	3300	6600	25.7
RZ1705	Double block, swivel shackle head	75	14	8	1500	3000	940	3	9/16	5/16	3300	6600	33.2
RZ1706	Double block, becket, swivel shackle head	75	14	8	1500	3000	1040	3	9/16	5/16	3300	6600	36.7
RZ1708	Triple block, swivel shackle head	75	14	8	1500	3000	1240	3	9/16	5/16	3300	6600	43.7
RZ1709	Triple block, becket, swivel shackle head	75	14	8	1500	3000	1325	3	9/16	5/16	3300	6600	46.7



- ✔ Load rated.
- ✔ Fully articulating head/attachment.
- ✔ Easy to service removable sheaves (bolt & nylon-insert nut).
- ✔ Durable, low friction acetal polymer sheave.

- ✔ Heavy duty aluminium sheave models available ('AW' suffix) or by conversion with RZ1000AW sheave.
- ✔ Blocks available to order with clevis pin and retaining ring shackle head.
- ✔ UV stabilised acetal sheaves.
- ✔ Aluminium sheave on 'AW' models.

- ✔ Grade 316 stainless steel side plate/cheeks, powder coated black.
- ✔ Fibre reinforced polymer rope cleats.
- ✔ Grade 316 stainless steel head, shackle and fasteners.

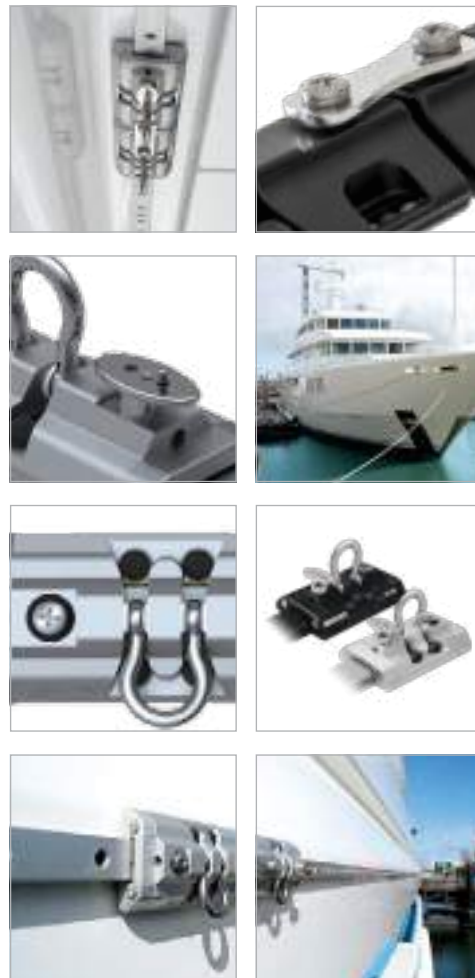
PRODUCT No.	DESCRIPTION	SHEAVE DIAM.	MAX. ROPE	PIN DIAM.	M.W.L.	B.L.	WEIGHT	SHEAVE DIAM.	MAX. ROPE	PIN DIAM.	M.W.L.	B.L.	WEIGHT
		mm	mm	mm	kg	kg	g	in	in	in	lb	lb	oz
<b>Industrial Pulley Blocks</b>													
RZ1707	Single block, becket, 30° cleat, swivel shackle head	75	14	8	1500*1	3000	955	3	9/16	5/16	3300*1	6600	33.7
RZ1710	Triple block, becket, 30° cleat, swivel shackle head	75	14	8	1500*1	3000	1565	3	9/16	5/16	3300*1	6600	55.2

PRODUCT No.	DESCRIPTION	SHEAVE DIAM.	MAX. WIRE	MAX. ROPE	M.W.L.	B.L.	WEIGHT	SHEAVE DIAM.	MAX. WIRE	MAX. ROPE	M.W.L.	B.L.	WEIGHT
		mm	mm	mm	kg	kg	g	in	in	in	lb	lb	oz
<b>Accessories</b>													
RF618H	Shackle, 7.9mm (5/16") diameter screw pin with security wire hole	-	-	-	1500*2	3300*2	50	-	-	-	3300*2	6600*2	1.5
RZ1000	Sheave, acetal (POM)	75	-	14	-	-	70	3	-	9/16	-	-	2.5
RZ1000AW	Sheave, aluminium with solid brass bearing	75	8	-	-	-	180	3	9/16	-	-	-	6.4

\*1 Line load through cleat not to exceed 300kg (660lb).

\*2 Uniformly distributed load on shackle; i.e. load applied across the full width of shackle pin. See page 202 for full details.





# SAFETY RAIL SYSTEMS

## A HIGHER STANDARD OF SAFETY

Track and car systems and single point anchorage systems have long been used to provide a mobile attachment point for crew when cleaning the hull, superstructure and windows of large motor yachts and other vessels.

With today's greater awareness of workplace risks, boat builders and surveyors are seeking to ensure a high standard of safety by specifying systems that are purpose designed, tested and standards-approved.

Ronstan supports this approach, which can only improve the safety and security of the persons using these systems in their everyday work, and has developed Safety Rail & Single Point Anchorage systems which have been tested and certified by Lloyd's Register to the relevant European and Australian Standards.

### Purpose

Ronstan Fall Protection Systems provide a method of attachment for use in conjunction with personal protection equipment to protect against falls from a height, such as when working outside of conventional guardrails for cleaning and maintenance purposes on motor yachts or other vessels. They should not be used for any other purpose.

### Features

#### SAFETY RAIL SYSTEMS

- Certified to European Standard EN795:2012, Type D (S22 system also certified to Australian Standard AS1891.2:2001, Part 2).
- Marine grade aluminium alloy cars, track rails and end stops, anodised for corrosion protection and long service life.
- Recirculating Torlon® ball bearings for free running, low friction performance and low maintenance.
- Grade 316 forged stainless steel pivoting shackles for lanyard attachment.
- Rubber buffers for reduced vibration and to lift pivoting shackles away from car body for quick access.
- Spring-loaded stainless steel plunger for simple, positive repositioning at stop locations. Can be locked in the disengaged position to allow free movement along the track rail. The elliptical knob is easy to grip and turn, and indicates clearly whether the plunger is engaged or not.

#### SINGLE POINT ANCHORAGE SYSTEMS

- Removable Screw-In padeye anchorages are certified to the European standard EN795:2012, Type A, as well as the Australian standards AS1891.4:2009 & AS5532:2013.
- Marine grade 316 stainless steel structural anchor base, screw-in anchor device and identification plate.
- Identification plate features the unique serial number.
- The screw-in anchor device can be removed from the structural anchor base when not in use for safety or maintenance. It should always be locked to the base when in use using the locking screw.

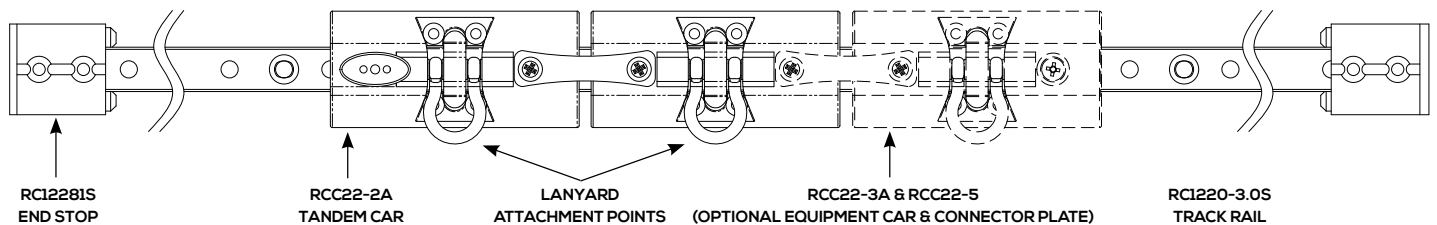
## SAFETY RAIL SYSTEM SYSTEM DESCRIPTION

The complete Safety Rail System consists of the following components:

- One track rail with stop holes at 50mm centres and mounting holes at 100mm centres (centre of the last mounting hole at each end of the track rail is located 48mm from the end).
- One tandem sliding car assembly consisting of two cars joined together with a connecting plate.
  - Each car has a single attachment point for personal protection equipment.
  - One of the cars has a spring-loaded plunger to allow the assembly to be fixed in position at any of the stop holes in the track rail. This plunger can be disengaged to allow free movement of the car assembly along the rail.
- Two end stops installed at the extremities of the track rail.

## OPTIONS

- Longer runs can be achieved by using more than one section of track rail and trimming to length as required, provided that the distance between mounting fasteners never exceeds 100mm. The joining insert should be used to aid alignment when fitting multiple sections of track rail.
- Additional sliding cars for supporting tools or equipment can be connected to the main tandem car with the connector plate.
- Optional end stop cover plates.
- Black or silver anodised cars and track.



TRACK RAIL MOUNTED IN VERTICAL PLANE



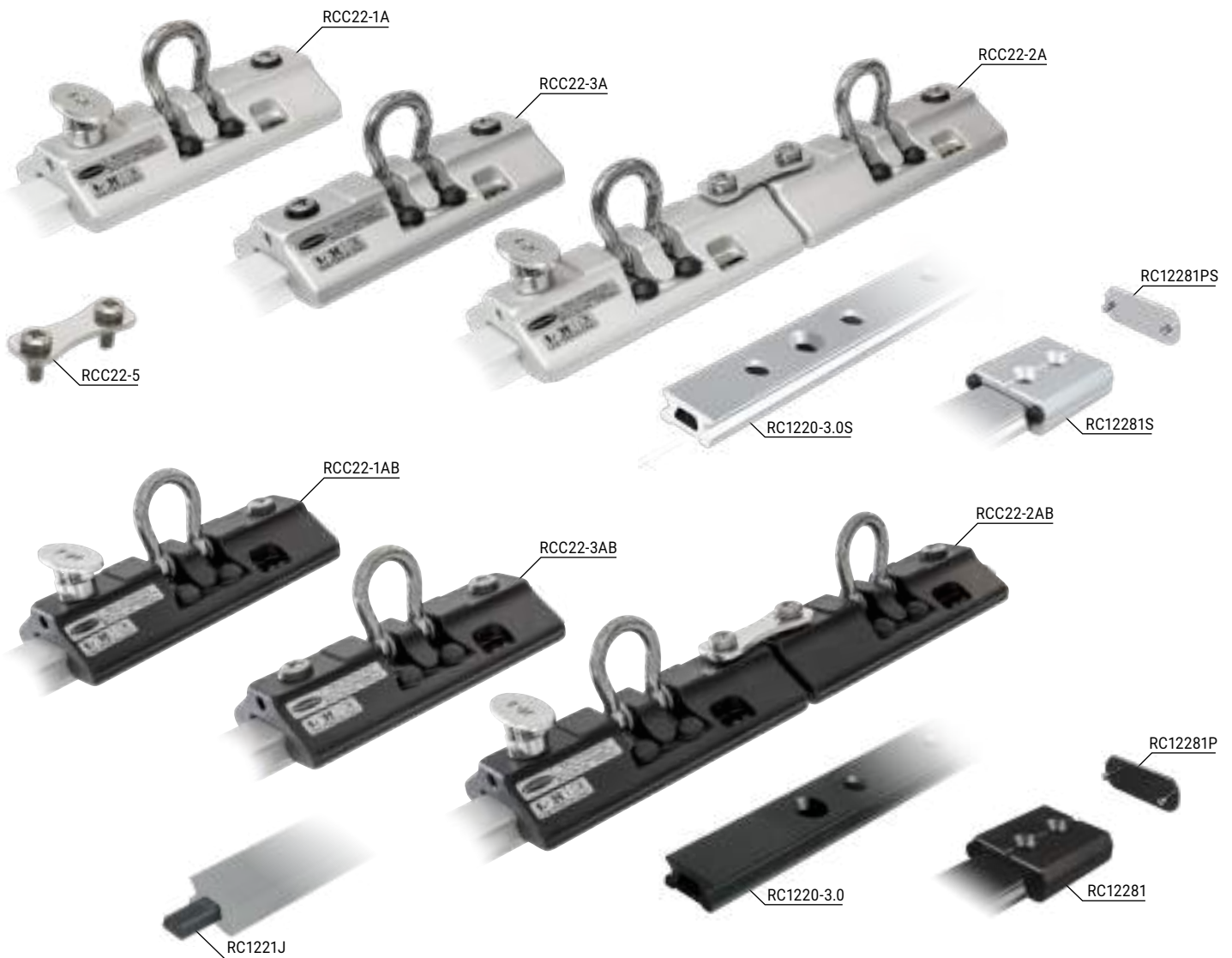
TRACK RAIL MOUNTED IN HORIZONTAL PLANE

## IMPORTANT ADVICE

Ronstan Fall Protection Systems are tested and certified to relevant European and Australian Standards, by Lloyd's Register, Copenhagen (Denmark), and are appropriate for single person use with an energy absorber to the EN355 standard. They must only be used with personal protection equipment (harnesses, lanyards, fall arresters and other devices) that are

approved to the relevant CE or other standards for such equipment. Each harness or device must be secured to a separate attachment point. Full product range details can be found at [www.ronstan.com](http://www.ronstan.com). Installation, usage and maintenance information is available under the **SUPPORT** tab on the site.





Full installation, usage and maintenance details available under the **SUPPORT** tab at [www.ronstan.com](http://www.ronstan.com).

- ✔ Certified to European Standard EN795:2012 Type D and Australian Standard AS1891.2.2001, Part 2.
- ✔ Low friction.
- ✔ Anti-clatter rubber buffers.
- ✔ Lock up/down track position plunger stop.
- ✔ Anodised aluminium car bodies and track.
- ✔ Torlon® ball bearings.
- ✔ Grade 316 shackle, plunger stop, pivot pin, fasteners and connector plate.

PRODUCT No.	DESCRIPTION	LENGTH mm	WIDTH mm	WEIGHT g	LENGTH in	WIDTH in	WEIGHT oz
<b>Series 22 Safety Rail System</b>							
RCC22-1A	Single car, 1 attachment point, plunger stop, silver	124	58	252	4 7/8	2 5/16	8.9
RCC22-1AB	Single car, 1 attachment point, plunger stop, black	124	58	252	4 7/8	2 5/16	8.9
RCC22-2A	Tandem car, 2 attachment points, plunger stop, silver	254	58	504	10	2 5/16	17.8
RCC22-2AB	Tandem car, 2 attachment points, plunger stop, black	254	58	504	10	2 5/16	17.8
RCC22-3A	Single car, 1 attachment point, silver	124	58	234	4 7/8	2 5/16	8.3
RCC22-3AB	Single car, 1 attachment point, black	124	58	234	4 7/8	2 5/16	8.3
RCC22-5	Connector plate, including screws	-	-	37	-	-	1.3
RC1221J	Track rail joiner	-	-	4	-	-	0.1
RC12281S	Track rail end stop, silver	50	45	50	1 31/32	1 25/32	1.8
RC12281	Track rail end stop, black	50	45	50	1 31/32	1 25/32	1.8
RC1220-3.0S	Track rail, silver, 2996mm	2996	22	1380	117 15/16	7/8	48.7
RC1220-3.0	Track rail, black, 2996mm	2996	22	1380	117 15/16	7/8	48.7
RC12281P	End stop cover plate, including screws, black	-	45	5	-	1 25/32	0.2
RC12281PS	End stop cover plate, including screws, silver	-	45	5	-	1 25/32	0.2



Full installation, usage and maintenance details available under the **SUPPORT** tab at [www.ronstan.com](http://www.ronstan.com).

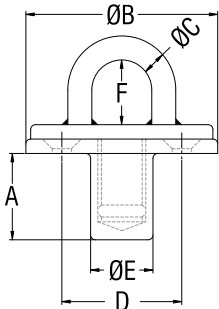
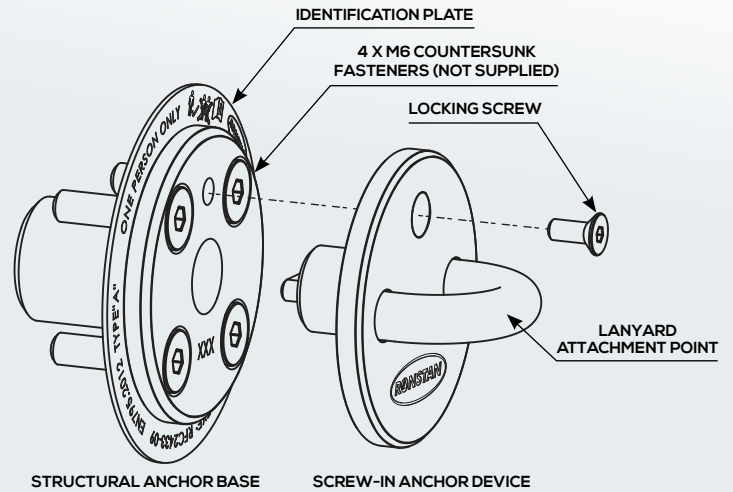
- ✔ Certified to European Standard EN795:2012 Type D.
- ✔ Low friction.
- ✔ Anti-clatter rubber buffers.
- ✔ Lock up/down track position plunger stop.
- ✔ Suitable for curved track installations with a radius of no less than 2500mm (8'2").
- ✔ Anodised aluminium car bodies and track.
- ✔ Torlon® ball bearings.
- ✔ Grade 316 shackle, plunger stop, pivot pin, fasteners and connector plate.

PRODUCT No.	DESCRIPTION	LENGTH	WIDTH	WEIGHT	LENGTH	WIDTH	WEIGHT
		mm	mm	g	in	in	oz
<b>Series 30 Safety Rail System</b>							
RCC22-4	Connector plate, including screws	-	-	37	-	-	1.3
RCC30-1A	Single car, 1 attachment point, plunger stop, silver	104	77	364	4 1/8	3	12.9
RCC30-1AB	Single car, 1 attachment point, plunger stop, black	104	77	364	4 1/8	3	12.9
RCC30-2A	Tandem car, 2 attachment points, plunger stop, silver	215	77	720	8 1/2	3	25.4
RCC30-2AB	Tandem car, 2 attachment points, plunger stop, black	215	77	720	8 1/2	3	25.4
RCC30-3A	Single car, 1 attachment point, silver	104	77	328	4 1/8	3	11.6
RCC30-3AB	Single car, 1 attachment point, black	104	77	328	4 1/8	3	11.6
RC1301J	Track rail joiner	-	-	10	-	-	0.4
RC13081S	Track rail end stop, silver	58	55	89	2 9/32	2 3/16	3.1
RC13081	Track rail end stop, black	58	55	89	2 9/32	2 3/16	3.1
RC1300-3.0S	Track rail, silver, 2996mm	2996	30	2430	117 15/16	1 3/16	85.7
RC1300-3.0	Track rail, black, 2996mm	2996	30	2430	117 15/16	1 3/16	85.7
RC13081P	End stop cover plate, including screws, black	-	55	16	-	2 3/16	0.6
RC13081PS	End stop cover plate, including screws, silver	-	55	16	-	2 3/16	0.6

## SCREW-IN PADEYE SYSTEM DESCRIPTION

The Removable Screw-In Padeye Anchor Device consists of two parts:

- A structural anchor base which is permanently fixed to the structure.
- A screw-in anchor for connection of personal protection equipment.
  - The structural anchor base is to be permanently fastened to the structure using 4 x M6 fasteners.
  - The screw-in anchor is attached to the structural anchor base by means of a central threaded spigot. Once fully threaded in place the anti-rotation locking screw must be engaged to ensure that the anchor cannot unintentionally become detached from the structural anchor base.
  - The screw-in anchor has a single attachment point for personal protection equipment.



- ✔ Certified to European Standard EN795:2012 Type A and Australian Standards AS1891.4:2009 & AS5532:2013.
- ✔ Screw-in lanyard attachment device can be removed from the base when not in use.
- ✔ Separate locking screw ensures that the screw-in lanyard attachment remains secure when in use.
- ✔ A threaded plug remains in the base when the screw-in anchor device is removed to prevent dirt & grit from entering the threads.
- 🌀 Grade 316 stainless steel throughout for maximum corrosion resistance and longevity.

PRODUCT No.	DESCRIPTION	A mm	B mm	C mm	D mm	E mm	F mm	WEIGHT g
-------------	-------------	------	------	------	------	------	------	----------

### METRIC DIMENSIONS

#### Removable Screw-In Padeye Anchor Device

RFC2433-09	Certified, Screw-In Padeye, 9mm Bar	29.0	70	9.0	26.9	14.0	23.2	303
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PRODUCT No.	DESCRIPTION	A in	B in	C in	D in	E in	F in	WEIGHT oz
-------------	-------------	------	------	------	------	------	------	-----------

### IMPERIAL DIMENSIONS

#### Removable Screw-In Padeye Anchor Device

RFC2433-09	Certified, Screw-In Padeye, 11/32" Bar	1 5/32	2 3/4	11/32	1 1/16	9/16	29/32	10.7
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# ANDERSEN WINCHES

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## WINCH SELECTION

Choose your Andersen winches to suit the type and size of your yacht and your sailing requirements. This selection guide is intended for masthead rigged monohull yachts of medium displacement. Refer to the notes to the right of this page regarding other rig or displacement types.

Please note that this table lists typical winch sizing for the given applications, but cannot take into account all variables due to the wide variety of sailing vessels and conditions.

For electric or hydraulic winches, the size selection is generally similar to that of a manually operated winch.

For further details see our website at [www.andersenwinches.com](http://www.andersenwinches.com) or consult your local Andersen winches representative for assistance in selecting your winches and information on features, options and installation.

### Masthead Rigged

Use the length overall (LOA) figures as your primary selection criteria.

### Fractional Rigged

Refer primarily to the sail area rather than LOA.

### Heavy Displacement

For boats with heavy displacement and/or a high righting moment, it is advisable to choose a winch larger than those indicated in the table.

### Multihulls

Catamarans and trimarans have higher righting moments than monohulls of the same size and should use winches larger than those indicated in the table.

LOA (Metres)	7.6 - 8.5	8.8 - 9.8	10.1 - 10.7	11.0 - 11.9	12.2 - 13.1	13.4 - 14.6	14.9 - 16.5	16.8 - 18.6	18.9 - 21.6	21.9 - 24.4	24.4+
LOA (Feet)	25 - 28	29 - 32	33 - 35	36 - 39	40 - 43	44 - 48	49 - 54	55 - 61	62 - 71	72 - 80	80+
Genoa Sail Area (m <sup>2</sup> /ft <sup>2</sup> )	28/300	33/3503	44/470	52/560	72/770	82/880	120/1300	170/1800	200/2100	250/2700	-
Spinnaker Sail Area (m <sup>2</sup> /ft <sup>2</sup> )	38/410	56/600	74/800	111/1200	150/1600	185/2000	260/2800	345/3700	420/4500	500/5400	-
Main Sail Area (m <sup>2</sup> /ft <sup>2</sup> )	14/150	20/210	24/260	30/320	40/430	46/470	70/750	88/950	102/1100	121/1300	-

APPLICATION	RECOMMENDED WINCH SIZE										
Genoa Sheet	12/16/18	28/34/40	40	46/50	50/52	58/62	62/68	68/72	72/82	82	-
Spinnaker Sheet	10/12	16/18	18/28	28/34/40	40/46	46/50/52	52/58	58/62/68	68/72/82	82	-
Main Sheet	10	12	18/28	18/28	34/40	46/50	52	52/58	58/62/68	68/72	82
Genoa Halyard	10/12	12/18	18/28	34/40	40/46	46/50	52	52/58/62	58/62	72	82
Spinnaker Halyard	10	12	12/18	18/28	40	46	46/50/52	52/58	58/62	68/72	82
Main Halyard	10	12	12/18	28/34/40	40	40/46	46/50/52	52/58	58/62	68/72	82
Reef Line	10	10	10	12/18	18/28	34/40	40/46	46/50/52	52/58	58/62	68



# ANDERSEN STAINLESS STEEL WINCHES™

## ENDURING STRENGTH, EVERLASTING FINISH

Every Andersen winch is made with the care and craftsmanship that come from more than fifty years of experience. Andersen winches are built to last, to retain their exceptional finish and to deliver season after season of reliable performance and sailing pleasure to their owner through the years.

### Materials

Andersen winch drums are produced from grade 316L stainless steel, cold formed in stages during manufacture to further increase strength and hardness as it takes its final form. The resulting construction is lightweight, yet stiff and unyielding.

Drive shafts are in grade 329 duplex stainless steel. Pawls are cut from a cold pressed profile in grade 316 stainless steel and are virtually unbreakable.

The upper centre stems of Andersen winches are manufactured from aluminium bronze for ultimate durability. The combination of materials and design contribute to a lightweight, rigid final assembly that enhances the mechanical efficiency of the winch. Andersen winches are of similar weight to winches with aluminium drums, but are far more durable.

### Features

Andersen winch drums incorporate the distinctive Power Rib™ which ensures a controlled grip on the line at all times, whether trimming or easing. The highly polished stainless steel surface minimises vertical friction and allows the loaded rope turns to slide easily upward as the drum rotates, without the shuddering and excessive rope wear seen on winches that rely on a rough surface finish for grip.













Stainless steel roller bearings and ball bearings carry the highest drum loads to the centre stem of the winch, minimising efficiency losses due to friction.

The self-tailing arm can be rotated through 360 degrees for optimum positioning (40ST and larger). Stainless steel self-tailing jaws adjust automatically to suit various rope sizes.

Andersen winches are designed for simple, straightforward installation and maintenance. Servicing is only required every two years or so under normal use.

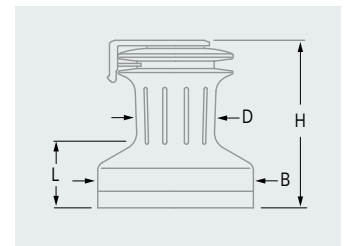


## SELF-TAILING WINCH RANGE

WINCH TYPE	MODEL MANUAL SPEEDS	12ST 1	18ST 1	28ST 2	34ST 2	40ST 2	46ST 2	50ST 2	52ST 2	58ST 2	62ST 2	68ST 2	72ST 2	82ST 3
<b>MANUAL</b>														
Self-Tailing		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>ELECTRIC*</b>														
E1 Single Speed				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
E2 Two Speed												✓ 24V only	✓ 24V only	
Three Speed														✓ 24V only
<b>COMPACT MOTOR™ ELECTRIC*1</b>														
Variable Speed Above Deck				✓	✓	✓	✓	✓	✓	✓	✓	✓ *2	✓ *2	✓
Variable Speed Below Deck				✓	✓	✓	✓	✓	✓	✓	✓	✓ *2	✓ *2	✓
<b>HYDRAULIC</b>														
Single Speed									✓	✓	✓	✓	✓	✓
Three Speed														✓
<b>ELECTRIC CONVERSION KIT*1</b>														
E1 Single Speed				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
E2 Two Speed												✓ 24V only	✓ 24V only	
Compact Motor™ Variable Speed Above Deck				✓	✓	✓	✓	✓	✓	✓	✓	✓ *2	✓ *2	✓
Compact Motor™ Variable Speed Below Deck				✓	✓	✓	✓	✓	✓	✓	✓	✓ *2	✓ *2	✓

\*1 Available in 12V or 24V unless specified otherwise.

\*2 Sizes 68ST & 72ST Compact Motor™ electric winches have low range and high range variable speed control, via the two included push buttons.



PRODUCT No.	WINCH MODEL	GEAR RATIO 1ST SPEED	GEAR RATIO 2ND SPEED	GEAR RATIO 3RD SPEED	POWER RATIO 1ST SPEED	POWER RATIO 2ND SPEED	POWER RATIO 3RD SPEED	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	WEIGHT kg
RA2012010000	12ST	1.3:1	-	-	9.5:1	-	-	8-14	70	115	128	44	2.6
RA2018010000	18ST	2.6:1	-	-	18.8:1	-	-	8-14	70	120	135	50	3.2
RA2028010000	28ST	1.3:1	4.0:1	-	9.5:1	28.6:1	-	8-14	70	125	149	65	3.9
RA2034010000	34ST	1.3:1	4.7:1	-	9.5:1	33.8:1	-	8-14	70	125	149	65	4.1
RA2040010000	40ST	1.3:1	6.0:1	-	8.9:1	40.0:1	-	8-14	75	152	174	71	4.9
RA2046010000	46ST	2.8:1	8.4:1	-	15.7:1	47.1:1	-	8-14	89	180	204	90	7.8
RA2050010000	50ST	2.8:1	8.8:1	-	15.7:1	49.3:1	-	8-14	89	180	204	90	7.8
RA2052010000	52ST	3.2:1	10.5:1	-	16.2:1	52.5:1	-	8-16	100	200	222	106	10.3
RA2058010000	58ST	3.7:1	13.1:1	-	16.0:1	57.1:1	-	8-18	115	230	251	111	16.0
RA2062010000	62ST	3.7:1	14.4:1	-	16.0:1	62.6:1	-	8-18	115	230	251	111	16.0
RA2068010000	68ST	5.8:1	18.8:1	-	20.7:1	67.1:1	-	10-18	140	280	275	120	24.5
RA2072010000	72ST	5.8:1	20.3:1	-	20.7:1	72.6:1	-	10-18	140	280	275	120	24.5
RA2082010000	82-3ST	3.7:1	8.8:1	27.7:1	11.0:1	26.0:1	81.6:1	12-18	170	318	305	127	28.9

**METRIC DIMENSIONS**

PRODUCT No.	WINCH MODEL	GEAR RATIO 1ST SPEED	GEAR RATIO 2ND SPEED	GEAR RATIO 3RD SPEED	POWER RATIO 1ST SPEED	POWER RATIO 2ND SPEED	POWER RATIO 3RD SPEED	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	WEIGHT lb
RA2012010000	12ST	1.3:1	-	-	9.5:1	-	-	5/16-9/16	2 3/4	4 1/2	5 1/16	1 3/4	5.7
RA2018010000	18ST	2.6:1	-	-	18.8:1	-	-	5/16-9/16	2 3/4	4 3/4	5 5/16	1 15/16	7.0
RA2028010000	28ST	1.3:1	4.0:1	-	9.5:1	28.6:1	-	5/16-9/16	2 3/4	4 15/16	5 7/8	2 9/16	8.6
RA2034010000	34ST	1.3:1	4.7:1	-	9.5:1	33.8:1	-	5/16-9/16	2 3/4	4 15/16	5 7/8	2 9/16	9.0
RA2040010000	40ST	1.3:1	6.0:1	-	8.9:1	40.0:1	-	5/16-9/16	2 15/16	6	6 7/8	2 13/16	10.8
RA2046010000	46ST	2.8:1	8.4:1	-	15.7:1	47.1:1	-	5/16-9/16	3 1/2	7 1/16	8	3 9/16	17.2
RA2050010000	50ST	2.8:1	8.8:1	-	15.7:1	49.3:1	-	5/16-9/16	3 1/2	7 1/16	8	3 9/16	17.2
RA2052010000	52ST	3.2:1	10.5:1	-	16.2:1	52.5:1	-	5/16-5/8	3 15/16	7 7/8	8 3/4	4 3/16	22.7
RA2058010000	58ST	3.7:1	13.1:1	-	16.0:1	57.1:1	-	5/16-5/8	4 1/2	9 1/16	9 7/8	4 3/8	35.3
RA2062010000	62ST	3.7:1	14.4:1	-	16.0:1	62.6:1	-	5/16-5/8	4 1/2	9 1/16	9 7/8	4 3/8	35.3
RA2068010000	68ST	5.8:1	18.8:1	-	20.7:1	67.1:1	-	3/8-5/8	5 1/2	11	10 3/16	4 3/4	54.0
RA2072010000	72ST	5.8:1	20.3:1	-	20.7:1	72.6:1	-	3/8-5/8	5 1/2	11	10 3/16	4 3/4	54.0
RA2082010000	82-3ST	3.7:1	8.8:1	27.7:1	11.0:1	26.0:1	81.6:1	1/2-3/4	6 11/16	12 1/2	12	5	63.6

**IMPERIAL DIMENSIONS**



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## SPECIAL FINISHES

Hand polished stainless steel has long been the signature finish for Andersen winches. They are also available in a selection of other high quality special finishes:

### PVD COATING

An extremely durable coating process known as Physical Vapour Deposition that can be used to apply a black or bronze coloured finish to the stainless steel components of our winches. It is a high quality, permanent finish with excellent impact and abrasion resistance.

### ZT FINISH

A surface finish for stainless steel obtained by hand polishing the surface, and then blasting the metal with a finishing media. The ZT finish is often described as "gun metal grey" or "titanium look".





# E1 ELECTRIC WINCHES

## EMPOWERED SAILING

Andersen E1 electric winches allow you to hoist and trim sails at the push of a button regardless of physical strength, so any crew member can easily and safely trim sails and control lines. Perfect for enjoying sailing short-handed or with friends and family. In addition to the host of standard features that make Andersen self-tailing winches the benchmark for quality and performance, Andersen E1 electric winches are engineered with unsurpassed levels of functionality, monitoring and protection.

### Ease of installation

Contactors and controller are contained within the motor unit, so no separate control box is necessary. Simplified electrical installation requires just the connection of positive and negative power cables to the motor terminals and the connection of the push button using the included output cable. Marine grade circuit breakers are also available for protection and isolation.

### Efficient, high quality motor

At the heart of the E1 electric winch is a high quality European engineered and manufactured series wound motor. Carefully matched with the optimum gearbox these winches deliver high speed at low load for fast sheeting in, and low speed at high load for safe, fine tuning when trimming. They are available in 12 volt and 24 volt models providing smooth and quiet operation across a wide working load range.

### Illuminated "intelligent" push button

E1 winches are supplied with a push button with an integrated LED which illuminates when power to the winch system is on. The push button incorporates a hinged safety cover to prevent inadvertent winch operation and is water resistant rated to IP67. The push button also acts with the controller to flash status codes that assist with troubleshooting in the event of overload or where other system protection intervention occurs. A cable for connection of the push button is included for convenient installation.

### Unrivalled monitoring and protection

**Integrated overload protection** – The controller is pre-set to stop the winch if the maximum pull load is exceeded. Operation can resume within a few seconds when the load returns below the limit.

**Thermal overload protection** – The motor is fitted with a thermal cutout that disables the motor in case of overheating; it automatically resets after the temperature returns to normal.

**Reverse polarity protection** – An integrated 5 amp fuse protects the motor against incorrect cable connection.

**Accidental start protection** – Winch operation is disabled if the push button is already inadvertently pressed when the power supply is turned on at the circuit breaker or battery.

**Low voltage detection** – Operation is disabled if the battery charge level is low, which prevents further drain on batteries and avoids triggering low voltage reset of navigation instruments and other electronic devices.

**Continuous run time limit** – Operation is disabled if continuous run time exceeds 10 minutes.

### Manual operation

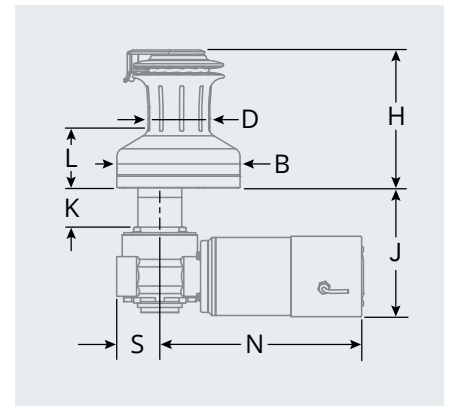
Two speed manual operation is always available as a backup.



Included with all E1 electric winches and conversion kits:  
 • 1 x RA582000 push button  
 • 1200mm (47") input/output cable from the motor



E1 electric motor conversion kits also available



For full technical and installation details, refer to Winch Data Sheets and User Manuals available on [www.andersenwinches.com](http://www.andersenwinches.com)

WINCH MODEL	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	MAX. DECK "K" mm*	MOTOR DEPTH "J" mm	GEAR LENGTH "S" mm	MOTOR LENGTH "N" mm	WEIGHT kg
28ST	8 - 14	70	125	157	75	49	183	65	300	18
34ST	8 - 14	70	125	157	75	49	183	65	300	18
40ST	8 - 14	75	152	182	79	49	183	65	300	19
46ST	8 - 14	89	181	204	90	57	191	65	300	21
50ST	8 - 14	89	181	204	90	57	191	65	300	21
52ST	8 - 16	100	200	222	106	57	196	65	350	28
58ST	8 - 18	115	230	261	122	41	213	75	384	35
62ST	8 - 18	115	230	261	122	41	213	75	384	35
68ST	10 - 18	140	280	285	130	41	213	75	384	42
72ST	10 - 18	140	280	285	130	41	213	75	384	42

WINCH MODEL	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	MAX. DECK "K" in*	MOTOR DEPTH "J" in	GEAR LENGTH "S" in	MOTOR LENGTH "N" in	WEIGHT lb
28ST	5/16 - 9/16	2 3/4	4 15/16	6 3/16	2 15/16	1 15/16	7 3/16	2 9/16	11 13/16	39.7
34ST	5/16 - 9/16	2 3/4	4 15/16	6 3/16	2 15/16	1 15/16	7 3/16	2 9/16	11 13/16	39.7
40ST	5/16 - 9/16	2 15/16	6	7 3/16	3 1/8	1 15/16	7 3/16	2 9/16	11 13/16	41.9
46ST	5/16 - 9/16	3 1/2	7 1/8	8	3 9/16	2 1/4	7 1/2	2 9/16	11 13/16	46.3
50ST	5/16 - 9/16	3 1/2	7 1/8	8	3 9/16	2 1/4	7 1/2	2 9/16	11 13/16	46.3
52ST	5/16 - 5/8	3 15/16	7 7/8	8 3/4	4 3/16	2 1/4	7 1/2	2 9/16	13 13/16	61.7
58ST	5/16 - 5/8	4 1/2	9 1/16	10 1/4	4 13/16	1 5/8	8 3/8	2 15/16	15 1/8	77.1
62ST	5/16 - 5/8	4 1/2	9 1/16	10 1/4	4 13/16	1 5/8	8 3/8	2 15/16	15 1/8	77.1
68ST	13/32 - 5/8	5 1/2	11	11 1/4	5 1/8	1 5/8	8 3/8	2 15/16	15 1/8	92.6
72ST	13/32 - 5/8	5 1/2	11	11 1/4	5 1/8	1 5/8	8 3/8	2 15/16	15 1/8	92.6

\*Extensions available to suit longer "K" dimensions.

## WINCHES & CONVERSION KITS



WINCH MODEL	E1 FULL STAINLESS WINCHES		E1 WINCH CONVERSION KITS	
	12V	24V	12V	24V
<b>Winches &amp; Conversion Kits</b>				
28ST	RA2028011300	RA2028011400	RA2028211300	RA2028211400
34ST	RA2034011300	RA2034011400	RA2034211300	RA2034211400
40ST	RA2040011300	RA2040011400	RA2040211300	RA2040211400
46ST	RA2046011300	RA2046011400	RA2046211300	RA2046211400
50ST	RA2050011300	RA2050011400	RA2050211300	RA2050211400
52ST	RA2052011300	RA2052011400	RA2052211300	RA2052211400
58ST	RA2058011300	RA2058011400	RA2058211300	RA2058211400
62ST	RA2062011300	RA2062011400	RA2062211300	RA2062211400
68ST	RA2068011300	RA2068011400	RA2068211300	RA2068211400
72ST	RA2072011300	RA2072011400	RA2072211300	RA2072211400

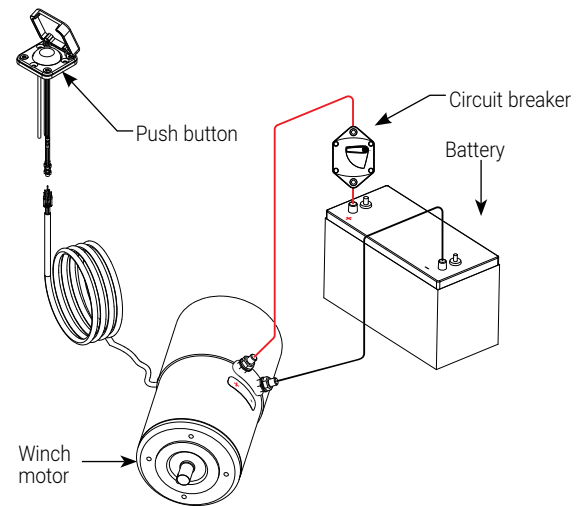
## PUSH BUTTONS



PRODUCT No.	DESCRIPTION
<b>Push Buttons</b>	
RA582000	Push button on/off switch, LED, plastic hinged cover, incl. 500mm (19 5/8") cable with connectors
RA582010	Push button on/off switch, LED, stainless steel hinged cover, incl. 500mm (19 5/8") cable with connectors
RA582020	Push button on/off switch, LED, stainless steel hinged cover with finger access, incl. 500mm (19 5/8") cable with connectors

☑ Rubber gasket included.

☑ Requires only 25mm (1") clearance below mounting surface.



## CIRCUIT BREAKERS

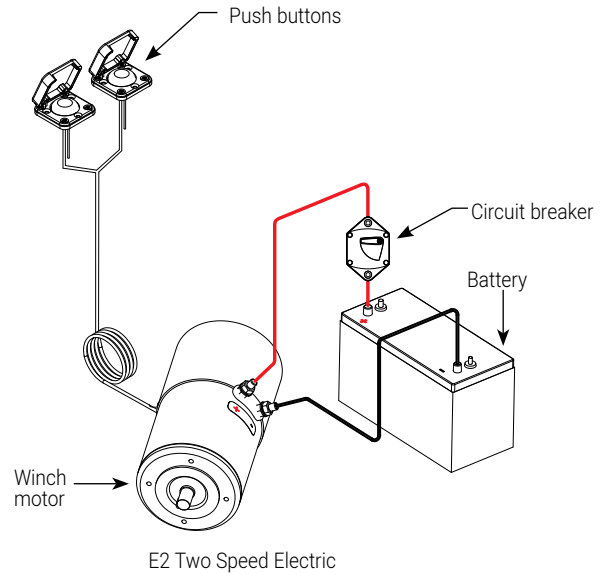
PRODUCT NO.	DESCRIPTION	COMPATIBLE WINCH SIZES
<b>Circuit Breakers</b>		
RA590070	Circuit breaker 70 amp	For full technical and installation details, refer to Winch Data Sheets and User Manuals available on <a href="http://www.andersenwinches.com">www.andersenwinches.com</a>
RA590120	Circuit breaker 120 amp	
RA590150	Circuit breaker 150 amp	
RA590200	Circuit breaker 200 amp	



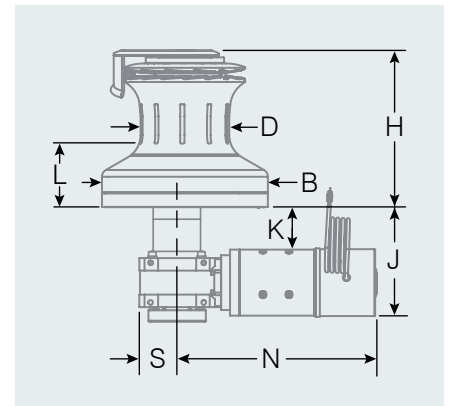
- ☑ "Slow blow" type, manual reset
- ☑ On/Off switch capability
- ☑ External ignition protected (ABYC E-11; CE; SAE J1171)
- ☑ Marine weatherproof rated
- ☑ DC power systems only
- ☑ 8mm (5/16") cable terminals (same as E1 motor unit)



**TWO SPEED ELECTRIC**



PRODUCT No.	DESCRIPTION
<b>E2 Two Speed Electric</b>	
RA2068011800	68ST winch, two speed electric 24V
RA2072011800	72ST winch, two speed electric 24V
RA2068211800	E2 electric conversion kit 24V, to suit 68ST
RA2072211800	E2 electric conversion kit 24V, to suit 72ST



Included with E2 electric winches and conversion kits:  
 • 2 x RA582000 push buttons  
 • 1200mm (47") input/output cable from the motor

E2 electric motor conversion kits also available

For full technical and installation details, refer to Winch Data Sheets and User Manuals available on [www.andersenwinches.com](http://www.andersenwinches.com)

WINCH MODEL	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	MAX. DECK "K" mm*	MOTOR DEPTH "J" mm	GEAR LENGTH "S" mm	MOTOR LENGTH "N" mm	WEIGHT kg
<b>METRIC DIMENSIONS</b>										
68ST	10 - 18	140	280	285	130	75	240	73	382	43.1
72ST	10 - 18	140	280	285	130	75	240	73	382	43.1

WINCH MODEL	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	MAX. DECK "K" in*	MOTOR DEPTH "J" in	GEAR LENGTH "S" in	MOTOR LENGTH "N" in	WEIGHT lb
<b>IMPERIAL DIMENSIONS</b>										
68ST	3/8 - 5/8	5 1/2	11	11 7/32	5 1/8	2 15/16	9 7/16	2 7/8	15	95
72ST	3/8 - 5/8	5 1/2	11	11 7/32	5 1/8	2 15/16	9 7/16	2 7/8	15	95

\*Extensions available to suit longer "K" dimensions.



# THREE SPEED ELECTRIC WINCHES

## EMPOWERED SAILING

Andersen Three Speed electric winches are the perfect solution for larger boats, of 16m (60ft) or more, providing the power and control to safely hoist and trim sails of any size at the push of a button.

In addition to the host of standard features that make Andersen self-tailing winches the benchmark for quality and performance, Andersen Three Speed electric winches are engineered with unsurpassed levels of performance, monitoring and protection.

### Powerful and efficient, high quality motor

At the heart of each Andersen Three Speed electric winch is a powerful European engineered and manufactured series wound motor. Carefully matched with the optimum gearbox these winches deliver high speed at low load for fast sheeting in, and low speed at high load for safe, fine tuning when trimming. For maximum performance and efficiency they are supplied in a 24 volt version, providing smooth operation across a wide working load range.

### Illuminated "intelligent" push buttons

Three Speed electric winches are supplied with push buttons with integrated LED which illuminates when power to the winch system is on. The push buttons incorporate a hinged safety cover to prevent inadvertent winch operation and are water resistant rated to IP67. The push buttons also act with the controller to flash status codes that assist with trouble shooting in the event of overload or where other system protection intervention occurs.

### Manual operation

Manual operation is always available as a backup.

### Unrivalled monitoring and protection

**Integrated overload protection** – The controller is pre-set to stop the winch if the maximum pull load is exceeded. Operation can resume within a few seconds when the load returns below the limit.

**Thermal overload protection** – The motor is fitted with a thermal cutout that disables the motor in case of overheating; it automatically resets after the temperature returns to normal.

**Reverse polarity protection** – An integrated 5 amp fuse protects the controller against incorrect cable connection.

**Accidental start protection** – Winch operation is disabled if a push button is already inadvertently pressed when the power supply is turned on at the circuit breaker or battery.

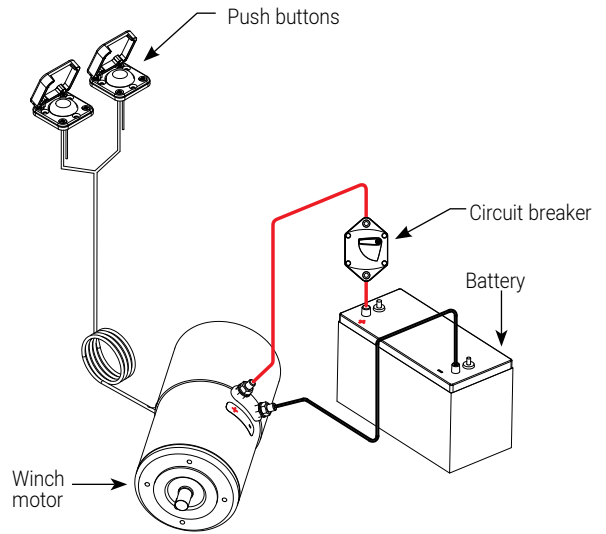
**Low voltage detection** – Operation is disabled if the battery charge level is low, which prevents further drain on batteries and avoids triggering low voltage reset of navigation instruments and other electronic devices.

**Continuous run time limit** – Operation is disabled if continuous run time exceeds 10 minutes.





## THREE SPEED ELECTRIC

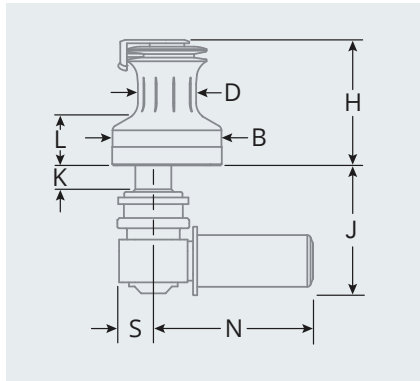


82-3ST Three Speed Electric

PRODUCT No.	DESCRIPTION
<b>Three Speed Electric Winches</b>	
RA2082012200	82-3ST winch, three speed electric 24V



- Included with 82-3ST Three Speed electric winch:
- 2 x RA582000 push buttons
  - 1200mm (47") input/output cable from the motor



For full technical and installation details, refer to Winch Data Sheets and User Manuals available on [www.andersenwinches.com](http://www.andersenwinches.com)

WINCH MODEL	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	MAX. DECK "K" mm*	MOTOR DEPTH "J" mm	GEAR LENGTH "S" mm	MOTOR LENGTH "N" mm	WEIGHT kg
82-3ST	12 - 18	170	318	305	127	106	247	73	382	49.5

**METRIC DIMENSIONS**

WINCH MODEL	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	MAX. DECK "K" in*	MOTOR DEPTH "J" in	GEAR LENGTH "S" in	MOTOR LENGTH "N" in	WEIGHT lb
82-3ST	1/2 - 3/4	6 11/16	12 1/2	12	5	4 3/16	9 3/4	2 7/8	15 1/16	108.9

**IMPERIAL DIMENSIONS**

\* Extensions available to suit longer "K" dimensions.



© X-Yachts

## PUSH BUTTONS



- ✔ Rubber gasket included.
- ✔ Push button requires only 25mm (1") clearance below mounting surface

PRODUCT No.	DESCRIPTION
<b>Push Buttons</b>	
RA582000	Push button on/off switch, LED, plastic hinged cover, incl. 500mm (19 5/8") cable with connectors
RA582010	Push button on/off switch, LED, stainless steel hinged cover, incl. 500mm (19 5/8") cable with connectors
RA582020	Push button on/off switch, LED, stainless steel hinged cover with finger hole, incl. 500mm (19 5/8") cable with connectors

## CIRCUIT BREAKER

PRODUCT NO.	DESCRIPTION	COMPATIBLE WINCH SIZES
<b>Circuit Breaker</b>		
RA590150	Circuit breaker 150 amp	For full technical and installation details, refer to Winch Data Sheets and User Manuals available on <a href="http://www.andersenwinches.com">www.andersenwinches.com</a>



- ✔ "Slow blow" type, manual reset
- ✔ On/Off switch capability
- ✔ External ignition protected (ABYC E-11; CE; SAE J1171)
- ✔ Marine weatherproof rated
- ✔ DC power systems only
- ✔ 8mm (5/16") cable terminals





# EMPOWERED SAILING

## EMPOWERED SAILING

Andersen Compact Motor™ electric winches allow you to hoist and trim sails at the push of a button regardless of physical strength, so any crew member can easily and safely trim sails and control lines.

### Ease of installation

The Andersen Compact Motor™ electric winch is available in two formats for either Above Deck or Below Deck motor placement. Motor gearbox and controller are integrated into one compact unit with no extra control box necessary. Simplified electrical installation requires just the connection of positive and negative power cables to the motor terminals and the connection of the push button using the included output cable.

### Efficient, variable speed

The Andersen Compact Motor™ is a brushless DC motor carefully matched to a low profile planetary gearbox which requires less space for installation and draws considerably less current than traditional motor/gearbox configurations. Available in 12 volt and 24 volt models, Compact Motor™ electric winches operate at variable speed in proportion to the pressure applied to the push button for smooth and quiet operation.

### Illuminated "intelligent" push button

Compact Motor™ winches are supplied with a push button with integrated LED which illuminates when power is applied to the system. The push button incorporates a hinged safety cover to prevent inadvertent winch operation and is water resistant rated to IP67. The push button also acts with the controller to assist with trouble shooting, by flashing in the event of overload or where other system protection intervention occurs. A cable for connection of the push button is included for convenient installation.

### Built-in protection

Integrated overload protection – The controller is pre-set to stop the winch if the maximum pull load is exceeded. Operation can resume within a few seconds when the load returns below the limit.

Thermal overload protection – The motor is fitted with a thermal cutout that disables the motor in case of overheating; it automatically resets after the temperature returns to normal.

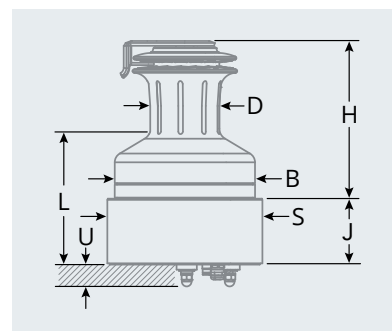
### Manual operation

Two speed manual operation is always available as a backup; to winch beyond the pre-set maximum pull load (but below the winch MWL) or just for the experience.

# COMPACT MOTOR™, VARIABLE SPEED ELECTRIC



Above Deck Compact Motor™ unit



- Included with all above deck Compact Motor™ electric winches:
- 1\*2 x RA866000 push button with 190mm (7 1/2") control cable
  - 1\*2 x RD877610 1m (39") control cable
  - 1 x 877800 terminal extension kit
  - 1 x 877750 circuit breaker with integrated controller
  - Motor has 140mm (5 1/2") control cable included
  - Drain tube
  - Lip seal service kit.

For full technical and installation details, refer to Winch Data Sheets and User Manuals available on [www.andersenwinches.com](http://www.andersenwinches.com)

WINCH MODEL	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	MOTOR HEIGHT "J" mm	MOTOR DIAM. "S" mm	MOTOR DEPTH "U" mm <sup>1</sup>	WEIGHT kg
<b>METRIC DIMENSIONS</b>									
28ST	8 - 14	70	125	149	150	85	200	28	16
34ST	8 - 14	70	125	149	150	85	200	28	16
40ST	8 - 14	75	152	174	156	85	200	28	17
46ST	8 - 14	89	181	204	175	85	200	28	19
50ST	8 - 14	89	181	204	175	85	200	28	19
52ST	8 - 16	100	200	222	191	85	254	28	29
58ST	8 - 18	115	230	251	196	85	254	28	34
62ST	8 - 18	115	230	251	196	85	254	28	34
68ST	10 - 18	140	280	275	209	89	285	27	51
72ST	10 - 18	140	280	275	209	89	285	27	51

WINCH MODEL	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	MOTOR HEIGHT "J" in	MOTOR DIAM. "S" in	MOTOR DEPTH "U" in <sup>1</sup>	WEIGHT lb
<b>IMPERIAL DIMENSIONS</b>									
28ST	5/16 - 9/16	2 3/4	4 15/16	5 7/8	5 15/16	3 3/8	7 7/8	1 1/8	35.3
34ST	5/16 - 9/16	2 3/4	4 15/16	5 7/8	5 15/16	3 3/8	7 7/8	1 1/8	35.3
40ST	5/16 - 9/16	2 15/16	6	6 7/8	6 1/8	3 3/8	7 7/8	1 1/8	37.5
46ST	5/16 - 9/16	3 1/2	7 1/8	8	6 7/8	3 3/8	7 7/8	1 1/8	41.9
50ST	5/16 - 9/16	3 1/2	7 1/8	8	6 7/8	3 3/8	7 7/8	1 1/8	41.9
52ST	5/16 - 5/8	3 15/16	7 7/8	8 3/4	7 1/2	3 3/8	10	1 1/8	63.9
58ST	5/16 - 5/8	4 1/2	9 1/16	9 7/8	7 3/4	3 3/8	10	1 1/8	75
62ST	5/16 - 5/8	4 1/2	9 1/16	9 7/8	7 3/4	3 3/8	10	1 1/8	75
68ST	13/32 - 5/8	5 1/2	11	10 3/16	8 1/4	3 1/2	11 1/4	1 1/16	112.5
72ST	13/32 - 5/8	5 1/2	11	10 3/16	8 1/4	3 1/2	11 1/4	1 1/16	112.5

\*1 All Compact Motor™ Above Deck winches are supplied with 1 set of 41mm (1 5/8") terminal extensions. Additional 877800 terminal extension kits available to order to suit longer "U" dimensions.  
 \*2 Sizes 68ST & 72ST Compact Motor™ electric winches are supplied with 2 x RA866000 control buttons and 2 x RD877610 1m (39") control cables.

**WINCHES & CONVERSION KITS**



WINCH MODEL	COMPACT MOTOR™ ABOVE DECK FULL STAINLESS WINCHES		COMPACT MOTOR™ ABOVE DECK WINCH CONVERSION KITS	
	12V	24V	12V	24V
<b>Winches &amp; Conversion Kits</b>				
28ST	RA2028015100	RA2028015200	RA2028215100	RA2028215200
34ST	RA2034015100	RA2034015200	RA2034215100	RA2034215200
40ST	RA2040015100	RA2040015200	RA2040215100	RA2040215200
46ST	RA2046015100	RA2046015200	RA2046215100	RA2046215200
50ST	RA2050015100	RA2050015200	RA2050215100	RA2050215200
52ST	RA2052015100	RA2052015200	RA2052215100	RA2052215200
58ST	RA2058015100	RA2058015200	RA2058215100	RA2058215200
62ST	RA2062015100	RA2062015200	RA2062215100	RA2062215200
68ST	RA2068015100	RA2068015200	RA2068215100	RA2068215200
72ST	RA2072015100	RA2072015200	RA2072215100	RA2072215200

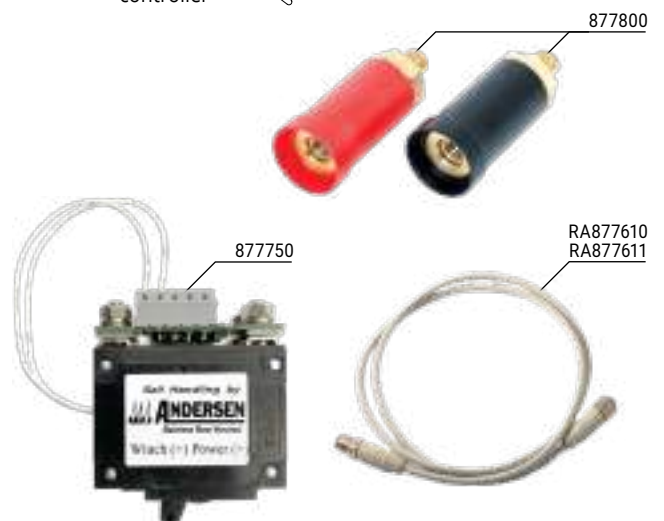
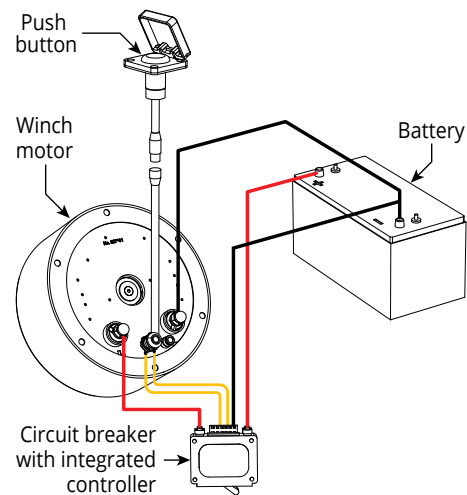
**PUSH BUTTONS & ACCESSORIES**



PRODUCT No.	DESCRIPTION
<b>Push Buttons</b>	
RA866000	Push button, proportional switch, LED, plastic hinged cover, incl. 190mm (7 1/2") cable with connectors
RA866010	Push button, proportional switch, LED, stainless steel hinged cover, incl. 190mm (7 1/2") cable with connectors
RA866020	Push button, proportional switch, LED, stainless steel hinged cover with finger access, incl. 190mm (7 1/2") cable with connectors

- ✔ Rubber gasket included.
- ✔ Requires only 25mm (1") clearance below mounting surface.

PRODUCT No.	DESCRIPTION
<b>Control Cables</b>	
RD877610	Compact Motor™ control cable 1000mm (39") long
RD877611	Compact Motor™ control cable 4000mm (157") long
<b>Power Terminal Extensions</b>	
877800	Compact Motor™ power terminal extension set (1 x Red & 1 x Black) 41mm (1 5/8") long, M8
<b>Circuit Breaker</b>	
877750	Circuit breaker with integrated controller

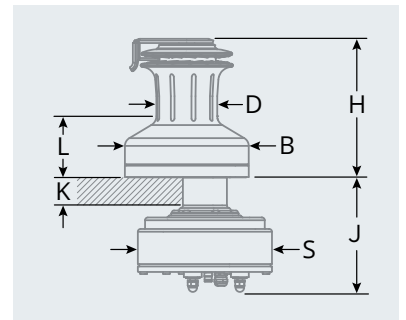




- Included with all below deck Compact Motor™ electric winches:
- 1\*2 x RA866000 push button with 190mm (7 1/2") control cable
  - 1\*2 x RD877610 1m (39") control cable
  - 1 x 877750 circuit breaker with integrated controller
  - Motor has 140mm (5 1/2") control cable included
  - Drain tube
  - Lip seal service kit.



Below Deck Compact Motor™ unit



For full technical and installation details, refer to Winch Data Sheets and User Manuals available on [www.andersenwinches.com](http://www.andersenwinches.com)

WINCH MODEL	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	MAX. DECK "K" mm <sup>1</sup>	MOTOR HEIGHT "J" mm	MOTOR DIAM. "S" mm	WEIGHT kg
28ST	8 - 14	70	125	157	75	50	173	195	17
34ST	8 - 14	70	125	157	75	50	173	195	17
40ST	8 - 14	75	152	182	79	50	173	195	18
46ST	8 - 14	89	181	204	90	57	182	195	21
50ST	8 - 14	89	181	204	90	57	182	195	21
52ST	8 - 16	100	200	222	106	56	179	250	30
58ST	8 - 18	115	230	261	122	44	168	250	36
62ST	8 - 18	115	230	261	122	44	168	250	36
68ST	10 - 18	140	280	285	130	47	171	250	45
72ST	10 - 18	140	280	285	130	47	171	250	45

WINCH MODEL	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	MAX. DECK "K" in <sup>1</sup>	MOTOR HEIGHT "J" in	MOTOR DIAM. "S" in	WEIGHT lb
28ST	5/16 - 9/16	2 3/4	4 15/16	6 3/16	2 15/16	2	6 13/16	7 11/16	37.5
34ST	5/16 - 9/16	2 3/4	4 15/16	6 3/16	2 15/16	2	6 13/16	7 11/16	37.5
40ST	5/16 - 9/16	2 15/16	6	7 3/16	3 1/8	2	6 13/16	7 11/16	39.7
46ST	5/16 - 9/16	3 1/2	7 1/8	8	3 9/16	2 1/4	7 3/16	7 11/16	46.3
50ST	5/16 - 9/16	3 1/2	7 1/8	8	3 9/16	2 1/4	7 3/16	7 11/16	46.3
52ST	5/16 - 5/8	3 15/16	7 7/8	8 3/4	4 3/16	2 3/16	7 1/16	9 7/8	66.2
58ST	5/16 - 5/8	4 1/2	9 1/16	10 1/4	4 13/16	1 3/4	6 5/8	9 7/8	79.4
62ST	5/16 - 5/8	4 1/2	9 1/16	10 1/4	4 13/16	1 3/4	6 5/8	9 7/8	79.4
68ST	13/32 - 5/8	5 1/2	11	11 1/4	5 1/8	1 7/8	6 3/4	9 7/8	99.2
72ST	13/32 - 5/8	5 1/2	11	11 1/4	5 1/8	1 7/8	6 3/4	9 7/8	99.2

\*1 Extensions available to suit longer "K" dimensions.

\*2 Sizes 68ST & 72ST Compact Motor™ electric winches are supplied with 2 x RA866000 control buttons and 2 x RD877610 1m (39") control cables.

**WINCHES & CONVERSION KITS**



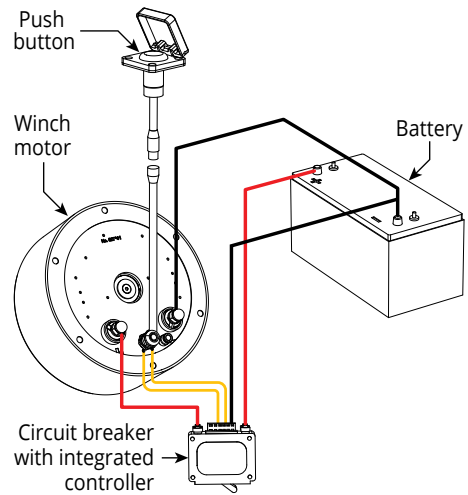
WINCH MODEL	COMPACT MOTOR™ BELOW DECK FULL STAINLESS WINCHES		COMPACT MOTOR™ BELOW DECK WINCH CONVERSION KITS	
	12V	24V	12V	24V
<b>Winches &amp; Conversion Kits</b>				
28ST	RA2028014100	RA2028014200	RA2028214100	RA2028214200
34ST	RA2034014100	RA2034014200	RA2034214100	RA2034214200
40ST	RA2040014100	RA2040014200	RA2040214100	RA2040214200
46ST	RA2046014100	RA2046014200	RA2046214100	RA2046214200
50ST	RA2050014100	RA2050014200	RA2050214100	RA2050214200
52ST	RA2052014100	RA2052014200	RA2052214100	RA2052214200
58ST	RA2058014100	RA2058014200	RA2058214100	RA2058214200
62ST	RA2062014100	RA2062014200	RA2062214100	RA2062214200
68ST	RA2068014100	RA2068014200	RA2068214100	RA2068214200
72ST	RA2072014100	RA2072014200	RA2072214100	RA2072214200

**PUSH BUTTONS & ACCESSORIES**

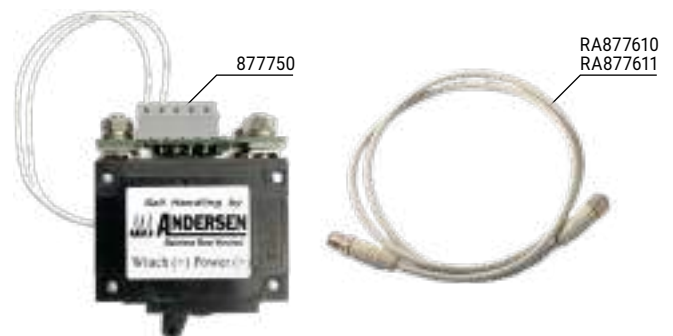


PRODUCT No.	DESCRIPTION
<b>Push Buttons</b>	
RA866000	Push button on/off switch, LED lit, plastic hinged cover, incl. 190mm (7 1/2") cable with connectors
RA866010	Push button on/off switch, LED lit, stainless steel hinged cover, incl. 190mm (7 1/2") cable with connectors

- ✔ Rubber gasket included.
- ✔ Requires only 25mm (1") clearance below mounting surface.



PRODUCT No.	DESCRIPTION
<b>Control Cables</b>	
RD877610	Compact Motor™ control cable 1000mm (39") long
RD877611	Compact Motor™ control cable 4000mm (157") long
<b>Circuit Breaker</b>	
877750	Circuit breaker with integrated controller



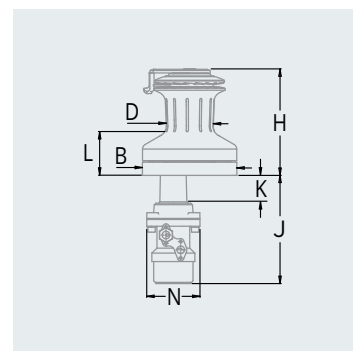




## EMPOWERED SAILING

ANDERSEN hydraulic winches can be powered by an appropriately configured power pack which may already be installed on board for various other equipment such as a furler or anchor windlass.

Fitted with industry-standard hydraulic motors, our hydraulic winches are compatible with most common types of hydraulic systems found on board today's larger yachts.



PRODUCT No.	WINCH MODEL	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	MAX. DECK "K" mm*1	MOTOR DEPTH "J" mm	MOTOR WIDTH "N" mm	WEIGHT kg
RA2052013100	52ST	8 - 16	100	200	220	116	54	246	130	23
RA2058013100	58ST	8 - 18	115	230	251	121	54	252	130	30
RA2062013100	62ST	8 - 18	115	230	251	121	54	252	130	30
RA2068013100	68ST	10 - 18	140	280	273	130	60	232	130	41
RA2072013100	72ST	10 - 18	140	280	273	130	60	232	130	41

PRODUCT No.	WINCH MODEL	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	MAX. DECK "K" in*1	MOTOR DEPTH "J" in	MOTOR WIDTH "N" in	WEIGHT lb
RA2052013100	52ST	5/16 - 5/8	3 15/16	7 7/8	8 11/16	4 3/16	2 1/8	9 11/16	5 1/8	50.7
RA2058013100	58ST	5/16 - 5/8	4 1/2	9 1/16	9 7/8	4 3/8	2 1/8	9 29/32	5 1/8	66.1
RA2062013100	62ST	5/16 - 5/8	4 1/2	9 1/16	9 7/8	4 3/8	2 1/8	9 29/32	5 1/8	66.1
RA2068013100	68ST	3/8 - 5/8	5 1/2	11	10 3/4	4 3/4	2 3/8	9 1/8	5 1/8	90.4
RA2072013100	72ST	3/8 - 5/8	5 1/2	11	10 3/4	4 3/4	2 3/8	9 1/8	5 1/8	90.4

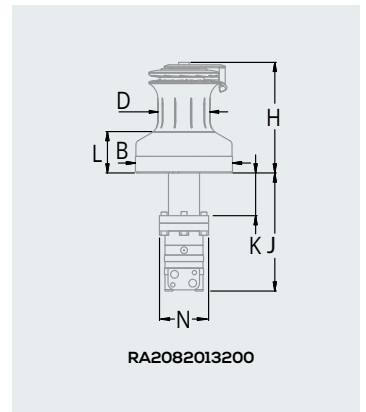
### METRIC DIMENSIONS

### IMPERIAL DIMENSIONS

\*1 Extensions available to suit longer "K" dimensions.



© Spirit Yachts / Carlo Borlenghi



PRODUCT No.	WINCH MODEL	LINE SIZE mm	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	MAX. DECK "K" mm*	MOTOR DEPTH "J" mm	MOTOR WIDTH "N" mm	WEIGHT kg
RA2082013200	82-3ST	12 - 18	170	318	305	127	145	350	132	43

**METRIC DIMENSIONS**

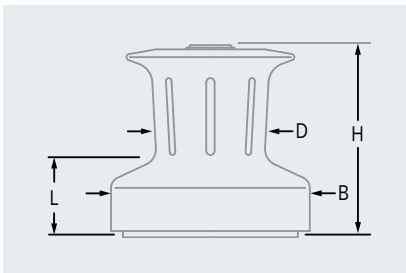
PRODUCT No.	WINCH MODEL	LINE SIZE in	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	MAX. DECK "K" in*	MOTOR DEPTH "J" in	MOTOR WIDTH "N" in	WEIGHT lb
RA2082013200	82-3ST	1/2 - 3/4	6 11/16	12 1/2	12	5	5 23/32	13 25/32	5 3/16	94.8

**IMPERIAL DIMENSIONS**

\* Extensions available to suit longer "K" dimensions.



© David Pichler / Robline



PRODUCT No.	WINCH MODEL	GEAR RATIO 1ST SPEED	GEAR RATIO 2ND SPEED	POWER RATIO 1ST SPEED	POWER RATIO 2ND SPEED	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	LINE ENTRY "L" mm	WEIGHT kg
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### METRIC DIMENSIONS

RA500010	10	1.0:1	-	8.8:1	-	57	92	89	28	1.1
RA500018	18	1.0:1	2.1:1	8.3:1	17.4:1	60	114	110	45	2.6
RA500028	28	1.0:1	4.0:1	7.1:1	28.6:1	70	124	126	53	3.3
RA500040	40	1.0:1	6.4:1	6.5:1	42.5:1	76	136	140	63	3.9
RA500046	46	1.0:1	6.4:1	6.4:1	45.6:1	78	143	140	63	4.0

PRODUCT No.	WINCH MODEL	GEAR RATIO 1ST SPEED	GEAR RATIO 2ND SPEED	POWER RATIO 1ST SPEED	POWER RATIO 2ND SPEED	DRUM "D" in	BASE "B" in	HEIGHT "H" in	LINE ENTRY "L" in	WEIGHT lb
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### IMPERIAL DIMENSIONS

RA500010	10	1.0:1	-	8.8:1	-	2 1/4	3 5/8	3 1/2	1 3/32	2.4
RA500018	18	1.0:1	2.1:1	8.3:1	17.4:1	2 3/8	4 1/2	4 11/32	1 25/32	5.7
RA500028	28	1.0:1	4.0:1	7.1:1	28.6:1	2 3/4	4 7/8	4 31/32	2 3/32	7.3
RA500040	40	1.0:1	6.4:1	6.5:1	42.5:1	3	5 11/32	5 1/2	2 15/32	8.6
RA500046	46	1.0:1	6.4:1	6.4:1	45.6:1	3 1/16	5 5/8	5 1/2	2 15/32	8.8



- ✓ Andersen classic winches are used by the top match racing centres and fitted as standard equipment on a variety of classes that require simplicity combined with utmost dependability.
- ✓ Handles are included as shown.

PRODUCT No.	DESCRIPTION
<b>Classic Winch Handles</b>	
RA510901	Classic winch handle to suit Model 90
RA510911	Classic winch handle to suit Model 91
RA511001	Classic winch handle to suit Model 100
RA511011	Classic winch handle to suit Model 101
RA511021	Classic winch handle to suit Model 102

PRODUCT No.	WINCH MODEL	GEAR RATIO	POWER RATIO	DRUM "D" mm	BASE "B" mm	HEIGHT "H" mm	SHAFT LENGTH "J" mm	HANDLE CLEARANCE "S" mm	HANDLE CLEARANCE "R" mm	WEIGHT kg
RA510091	91	1.0:1	8.0:1	51	80	94	-	-	224	1.0
RA510101	101	1.0:1	5.5:1	83	111	89	-	-	275	1.5
RA510102	102	1.0:1	5.5:1	83	111	74	150	255	-	2.0
RA510103	102	1.0:1	5.5:1	83	111	74	200	255	-	2.1
RA510105	102	1.0:1	5.5:1	83	111	74	100	255	-	1.9

PRODUCT No.	WINCH MODEL	GEAR RATIO	POWER RATIO	DRUM "D" in	BASE "B" in	HEIGHT "H" in	SHAFT LENGTH "J" in	HANDLE CLEARANCE "S" in	HANDLE CLEARANCE "R" in	WEIGHT lb
RA510091	91	1.0:1	8.0:1	2	3 5/32	3 11/16	-	-	8 13/16	2.2
RA510101	101	1.0:1	5.5:1	3 9/32	4 3/8	3 1/2	-	-	10 3/16	3.3
RA510102	102	1.0:1	5.5:1	3 9/32	4 3/8	2 29/32	5 29/32	10	-	4.4
RA510103	102	1.0:1	5.5:1	3 9/32	4 3/8	2 29/32	7 7/8	10	-	4.6
RA510105	102	1.0:1	5.5:1	3 9/32	4 3/8	2 29/32	3 15/16	10	-	4.2

**METRIC DIMENSIONS**

**IMPERIAL DIMENSIONS**



Easy, single-handed  
release button



Secure, auto-insert  
locking mechanism



Ball bearing handle for  
minimum friction



Palm grip models for  
maximum speed and power

## QUICK-LOCK™ HANDLES

### POWER, PERFORMANCE & INTUITIVE OPERATION

The Ronstan Quick-Lock™ is the quickest and most user friendly winch handle available for racing and cruising sailors alike. In addition to its super fast grab-and-release mechanism for intuitive single handed removal, it is the only handle to feature the patented auto quick-locking mechanism that lets you put the handle in the winch without depressing a lever or rotating a knob – it couldn't be easier!

#### Quick-Lock™ automatic insertion

Ronstan Quick-Lock™ allows you to immediately place the drive head into the winch socket without the need to rotate a knob or depress a button. Its stainless steel locking lever then retains the handle securely in place until you are ready to remove it.

#### Intuitive grab & release

The large easy to locate release button extends up the length of the handle providing intuitive grab-and-release operation. This makes the Quick-Lock™ ideal for easy one-handed use by any crew.

#### Power in your hands

A precision ball bearing race in the hand grip provides free rotation for high speed or high power cranking, and the refined ergonomics ensure efficient transfer of effort. 8" (200mm) models cater to situations with restricted space and 10" (250mm) handles provide greater mechanical advantage - the basis on which winch power ratios are calculated. Palm grip handles are the ultimate option where fast two-handed cranking is required.



- ✔ Patented auto lock-in latch.
- ✔ Large grab-and-release button.
- ✔ Single handed insert and release operation .

- ✔ 8" (200mm) and 10" (250mm) models.
- ✔ Standard and palm grip models.
- ✔ Ball bearing hand grips.

- ✔ Lightweight forged construction.
- ✔ Corrosion resistant hard coat anodised finish.

PRODUCT No.	GRIP	LENGTH mm	WEIGHT g	LENGTH in	WEIGHT oz
<b>Single Grip</b>					
RF4410	Single	200	415	8	14.6
RF4415	Single	250	450	10	15.9
<b>Palm Grip</b>					
RF4430	Palm	200	470	8	16.6
RF4435	Palm	250	525	10	18.5



### PLASTIC WINCH HANDLES

- ✔ Lightweight.
- ✔ Two-piece welded construction.
- ✔ Serviceable locking mechanism.
- ✔ Aluminium drive plug.

### STAINLESS STEEL WINCH HANDLES

- ✔ Robust stainless steel construction.
- ✔ Stainless steel drive plug.

### RF4099 WINCH HANDLE POCKET

- ✔ Screw holes and webbing/lashing slots for mounting.
- ✔ UV stabilised.
- ✔ Strong but flexible for maximum durability.

PRODUCT No.	DESCRIPTION	LENGTH mm	WEIGHT g	LENGTH mm	WEIGHT oz
<b>Winch Handles</b>					
RA507297	Stainless steel Andersen winch handle	200	400	8	14.1
RA507298	Stainless steel Andersen winch handle	250	450	10	15.9
RF4110	Plastic winch handle	200	270	8	9.5
RF4115	Plastic winch handle	250	320	10	11.3
RF4109	Locking mechanism service kit, suits plastic winch handles	-	-	-	-
<b>Winch Handle Pockets</b>					
RF3941	Winch handle pocket, grey PVC with mesh	-	230	-	8.1
RF4099	Winch handle pocket, PVC	-	308	-	10.9



**SERVICE KITS**

RA500001-1

✔ For optimum performance and long life of your Andersen winch, it should be serviced every 2 years or so under normal use. Service kits contain the basic replacement parts for your specific winch model service.

✔ See the SUPPORT section of the [www.andersenwinches.com](http://www.andersenwinches.com) website for further information regarding installation, use and service of current and past models of Andersen winches, including Product Manuals, Service Tips, etc.

PRODUCT No.	WINCHES SUITED	DESCRIPTION
<b>Service Kits</b>		
RA700020	Line Tender	Replacement pawls & springs, circlips
RA700021	52ST (v3.0 2009/later)	Replacement pawls & springs, plain bearing, ball bearings, retaining ring, screws, washers
RA710001	12ST, 28ST (10.2005/earlier), 40ST	Replacement pawls & springs, ball bearings, circlips, screws, retaining ring, locking pin
RA710002	46ST (1982 - 1993)	Replacement pawls & springs, circlip, screws
RA710003	56ST, 66ST	Replacement pawls & springs, ball bearings, circlips, screws, washers, locking pin, sealing ring
RA710004	10, 18, 28, 40, 46 Classic	Replacement pawls & springs, circlips
RA710005	56 Classic	Replacement pawls & springs, ball bearings, circlips, locking pin
RA710007	78ST (10.2005/later)	Replacement pawls & springs, O-ring, ball bearings, circlips, screws, washers
RA710008	52ST (v2.5 2009/earlier)	Replacement pawls & springs, plain bearing, ball bearings, circlips, screws, retaining ring
RA710010	Springs for Andersen winches	Replacement pawl springs only: 10 x arm springs, 10 x spiral springs
RA710011	46ST (1993 - 1996)	Replacement pawls & springs, plain bearing, ball bearings, circlip, screws
RA710012	58ST, 62ST	Replacement pawls & springs, plain bearing, ball bearings, circlips, screws, retaining ring
RA710013	68ST, 72ST	Replacement pawls & springs, plain bearing, ball bearings, circlip, screws, retaining ring
RA710014	90, 91, 92 Classic	Replacement pawls & springs, circlip, screws, washers
RA710015	100, 101, 102 Classic	Replacement pawls & springs, circlip, screws, washers
RA710016	6 Classic	Replacement pawls & springs, screws, washers
RA710017	46ST (1997- v3.2 07.2006)	Replacement pawls & springs, plain bearing, ball bearings, circlips, screws
RA710018	12ST, 18ST, 28ST (11.2005/later), 34ST	Replacement pawls & springs, plain bearing, screws, locking pin
RA710019	46ST v.4.0 (08.2006/later), 48ST, 50ST	Replacement pawls & springs, plain bearing, circlip, screws
RA710040	82-3ST v1.0	Replacement pawls, auto-switch pawls, springs, slide plungers, disc springs
<b>Winch Grease</b>		
RA500001		Winch grease tube, 12-pack, including display carton
RA500001-1		Winch grease, single tube



501001	101,151	CS7803-05	234	PNP88A	169	PNP245BLK	175	RA554131	237
501002	96,148	DSH-2.5GRY	234	PNP88B	169	PNP246	175	RA554132	237
501003	109,154,157	DSH-4GRY	234	PNP88C	169	PNP246BLK	175	RA554133	237
501004	117,119,160,161	DSH-6GRY	234	PNP89	173	PNP255	172	RA554136	237
501005	125,127,164	DSH-9GRY	234	PNP94	180	PNP256	172	RA574150	237
501010	104	DSH-12GRY	234	PNP96	175	PNP257	172	RA574151	237
581001	95,146,148	DSH-14GRY	234	PNP97	175	PNP258	172	RA574152	237
581002	140	PNP1	171	PNP98JR	70	PNP259	172	RA574153	237
581004	142	PNP3	170	PNP98KR	70	PNP260	172	RA574154	237
601369	162	PNP5	170	PNP102	168	PNP261	172	RA582000	255,259
601372	141,143,151,152	PNP11	171	PNP103	168	PNP262	172	RA582010	255,259
601373	166	PNP13A	170	PNP104	168	PNP265	171	RA582020	255,259
601391	154,155,157,158	PNP13B	170	PNP105	169	PNP266	171	RA590070	255
601417	146,148,149	PNP14	169	PNP106	169	PNP272	168	RA590120	255
877750	263,265	PNP14A	169	PNP107	169	PNP272A	173	RA590150	255,259
CL16	195	PNP14B	169	PNP108	169	PNP272ABLU	173	RA590200	255,259
CL210	189	PNP16	170	PNP120	171	PNP272AGRN	173	RA700020	273
CL220	189	PNP16A	170	PNP120A	171	PNP272D	173	RA700021	273
CL240	189	PNP16B	170	PNP121	171	PNP272AR	173	RA710001	273
CL250	188	PNP17T	168	PNP121A	171	PNP273	168	RA710002	273
CL260	188	PNP18T	168	PNP122	171	PNP280	168	RA710003	273
CL270	187	PNP20	170	PNP122A	171	PNP280A	168	RA710004	273
CL600	194	PNP27T	168	PNP123	171	PNP290	168	RA710005	273
CL620	194	PNP28T	168	PNP123A	171	PNP291	168	RA710007	273
CL630	194	PNP29T	168	PNP124	171	PNP293	168	RA710008	273
CL640	194	PNP33	171	PNP124A	171	PNP295	168	RA710010	273
CL700	193	PNP33BLK	171	PNP131	174	PNP296	168	RA710011	273
CL710	193	PNP38	170	PNP132A	174	PNP297	168	RA710012	273
CL730	193	PNP39A	172	PNP132B	174	PNP298	168	RA710013	273
CL740	193	PNP39B	172	PNP132C	174	PNP301	177	RA710014	273
CL800	190	PNP43A	170	PNP132E	174	PNP310	174	RA710015	273
CL810	190	PNP43B	170	PNP147	169	PNP310G	174	RA710016	273
CS321-6	236	PNP43C	170	PNP148	169	PNP315	174	RA710017	273
CS321-8	236	PNP43D	170	PNP155	169	PNP387	170	RA710018	273
CS2430-6	235	PNP43E	170	PNP162	167,169	PNP388	170	RA710019	273
CS2430-8	235	PNP43F	170	PNP164	181	PNP389	170	RA710040	273
CS2430-10	235	PNP45	170	PNP165	181	PNP390	175	RA866000	263,265
CS2430-12	235	PNP47	168	PNP166	181	PNP393	175	RA866010	263,265
CS2450-5	235	PNP48	171	PNP171BLU	179	PNP393W	175	RA866020	263
CS2450-6	235	PNP49	171	PNP171R	179	PNP576-2	170	877800	263
CS2450-8	235	PNP52C	171	PNP181	172	PNP577-2	170	RA2012010000	251
CS2450-10	235	PNP53E	171	PNP182	172	PNP578-2	170	RA2018010000	251
CS2470-50	235	PNP54	172	PNP183	172	PNP579-2	170	RA2028010000	251
CS2470-70	235	PNP55	85	PNP186	172	RA435200	237	RA2028011300	255
CS2470-100	235	PNP56	170	PNP187	172	RA500001	273	RA2028011400	255
CS2482-1	236	PNP56B	170	PNP188	172	RA500001-1	273	RA2028014100	265
CS2482-2	236	PNP63	169	PNP189	172	RA500010	268	RA2028014200	265
CS2483-1	236	PNP64	169	PNP197GRN	180	RA500018	268	RA2028015100	263
CS2483-2	236	PNP65	169	PNP197R	180	RA500028	268	RA2028015200	263
CS2831-6	234	PNP68C	173	PNP198GRN	180	RA500040	268	RA2028211300	255
CS3182-555	236	PNP78	171	PNP198R	180	RA500046	268	RA2028211400	255
CS3182-860	236	PNP78A	171	PNP199R	180	RA507297	272	RA2028214100	265
CS7350-4	235	PNP78B	171	PNP200	180	RA507298	272	RA2028214200	265
CS7350-6	235	PNP78C	171	PNP207	173	RA510091	269	RA2028215100	263
CS7350-8	235	PNP81A	169	PNP209	182	RA510101	269	RA2028215200	263
CS7350-10	235	PNP81B	169	PNP241	175	RA510102	269	RA2034010000	251
CS7801-M03M6	234	PNP83	169	PNP242	175	RA510103	269	RA2034011300	255
CS7801-M04M6	234	PNP84	170	PNP243	175	RA510105	269	RA2034011400	255
CS7803-04M5	234	PNP87	169	PNP245	175	RA554130	237	RA2034014100	265

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RA2034015100	263	RA2052215100	263	RA2072214200	265	RC00423	93	RC1261-2.0	156
RA2034015200	263	RA2052215200	263	RA2072215100	263	RC00424	113	RC1261-3.0	156
RA2034211300	255	RA2058010000	251	RA2072215200	263	RC00451	97	RC1261J	106,156
RA2034211400	255	RA2058011300	255	RA2082010000	251	RC00452	97	RC1262-2.0	156
RA2034214100	265	RA2058011400	255	RA2082012200	259	RC00453	97	RC1262-3.0	156
RA2034214200	265	RA2058013100	266	RA2082013200	267	RC00461	102	RC1262J	156
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RA2040011300	255	RA2058015200	263	RC00013	160	RC00465	102	RC1300-2.0	114
RA2040011400	255	RA2058211300	255	RC00014	164	RC00476	90	RC1300-3.0	114,245
RA2040014100	265	RA2058211400	255	RC00015	161	RC00477	90	RC1300-3.0S	245
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RA2040015200	263	RA2058215100	263	RC00022	154,155,157,158	RC00483	111	RC1301J	114,159,245
RA2040211300	255	RA2058215200	263	RC00023	162	RC00485	111	RC1302-2.0	159
RA2040211400	255	RA2062010000	251	RC00024	166	RC00492	120	RC1302-3.0	159
RA2040214100	265	RA2062011300	255	RC00110	167	RC00493	120	RC1302J	159
RA2040214200	265	RA2062011400	255	RC00111	167	RC00495	120	RC1305B-3.0	114
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RA2050015200	263	RA2068211400	255	RC00315	144,150	RC1220-1.0	103	RC1559-0.8L	166
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RA2050214100	265	RA2068214200	265	RC00322	144,150	RC1220-3.0S	244	RC6190-2.0	92
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RA2050215200	263	RA2072010000	251	RC00333	144,153,156	RC1221J	103,153,244	RC6320-1.5	93
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## DEFINITIONS

### Maximum Working Load (M.W.L.)

Maximum Working Load (M.W.L.) is the maximum static and/or dynamic load at which the product will still function without excessive friction, distortion, wear or permanent deformation of components. Above this load, bearing systems may fail, moving parts may seize and stainless steel or plastic components may begin to bend, stretch or otherwise deform. Maximum working loads should never exceed half of the breaking load and should never be exceeded in use.

### Breaking Load (B.L.)

Breaking Load (B.L.) is the load at, or around which, a major failure can be expected to occur to some part of the product's structure when new. Plastic components may split, rivets may give way, shackles may break, and other metallic components may fracture. No product should be used at more than half of the breaking load so as to provide a minimum safety factor of two (2).

## CUSTOMER CONSIDERATIONS

### Product Information Amendments

All catalogue information is subject to specification changes during a product's life cycle. Any alterations will be posted on the website [www.ronstan.com](http://www.ronstan.com), which should be considered the most up to date source of product information.

### Factor of Safety

An appropriate factor of safety should be applied to Breaking Load figures to suit each application before choosing or specifying a particular product. For many industrial and safety related applications, and for some yachting applications, a factor of safety greater than two (2) should be used or may be required by law or other regulations. It is the customer's responsibility to ensure that an appropriate factor of safety is used, and it should allow for factors including but not limited to safety implications, service life, fatigue (as may be caused by wave action, wind stresses or repetitive cyclical loading), type of load (e.g. cyclic, shock, rotational speed), orientation of load, environment (e.g. exposure to ultraviolet light, temperature extremes), corrosion and stress corrosion. Note that a 'safe working load' is not specified as this is dependent on the factor of safety, which must be determined by the user relative to each application.

### Useful Life

The useful life of any product is determined by the above factors and must be assessed in each application, and thus no guarantee can be provided for product life, load capacity or any other factor due to the variability in usage. In some jurisdictions government regulations require the replacement of rigging components within certain periods of time, usually every three to five years. You must ascertain whether any such regulations affect you. Whilst Ronstan takes every precaution in their product design and manufacturing processes to minimise the effects of corrosion and stress corrosion, there are also preventative as well as corrective treatments that can be carried out after installation.

### Warranty

Details of Ronstan's Product Warranty can be found under the SUPPORT tab at [www.ronstan.com](http://www.ronstan.com).

### Distributors

Ronstan products are available through a great distribution network that extends to more countries than we can list on this page. Contact details for your nearest distributor can be found at [www.ronstan.com](http://www.ronstan.com).

## TRADEMARKS

### Trademark Acknowledgements


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### Registered Ronstan Trademarks

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- Andersen Stainless Steel Winches® is a registered trademark of Ronstan Denmark ApS

### Ronstan Trademarks

- Andersen Winches™ (winches)
- Ballslide™ (batten cars)
- Battlestick™ (tiller extensions)
- BoatSmart™ (boat care products)
- Captive Lock™ (utility blocks)
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- T-Cleat™ (cam cleats)
- Triggersnaps™ (trigger snap shackles)
- Ultimate Ratchet Block™ (ratchet blocks)
- V-Cleat™ (rope cleats)

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