

spinlock



RIG-sense



INTRODUCTION

Rig-Sense by Spinlock is a new Rig tension device for measuring the loads in wire and rope standing rigging used on boats.

Rig-Sense is a simple to use device, measuring the tension directly in kilogrammes to eliminate any conversions. Rig-Sense also benefits from being able to operated one handed and can support itself on the rig whilst being used. It uses quality parts for long term performance and consistent accurate readings over time.

KEY INFORMATION



- Direct measurement of tension in KG
- Compatible with both wire and rope
- RGS0205 2-5mm diameter lines
- RGS0508 5-8mm diameter lines
- Consistent, repeatable output
- Single handed operation
- Easily readable scale from turnbuckle
- Robust design
- Carry bag included

HOW TO USE

Rig-Sense is simple to use, but requires a procedure to get a consistent and accurate measurement.

1. Pull the top slider down fully.
2. Attach the Rig-Sense to the wire or cable making sure the slider is pushed fully up to connect with the wire. At this point, the Rig-Sense will be able to hang on the rig unsupported.
3. Using your thumb, push the bottom of the leaf spring so the wheel hooks on to the wire.
4. To get consistent results, push the base so the pointer goes towards 0kg and release.
5. Your measurement can be read in KG from the pointer on the leaf spring.

Please refer to conversion charts at the back of this document to convert from Loos or LBS.

CAUTION

- Do not push the leaf spring beyond the scale.
- Do not leave out in direct sun light for prolonged periods.
- Wash the Rig-Sense off in fresh water if in contact with salt water.
- Do not leave Rig-Sense attached to a rig for long periods (i.e. days).
- Do not disassemble the Rig-Sense due to calibration.

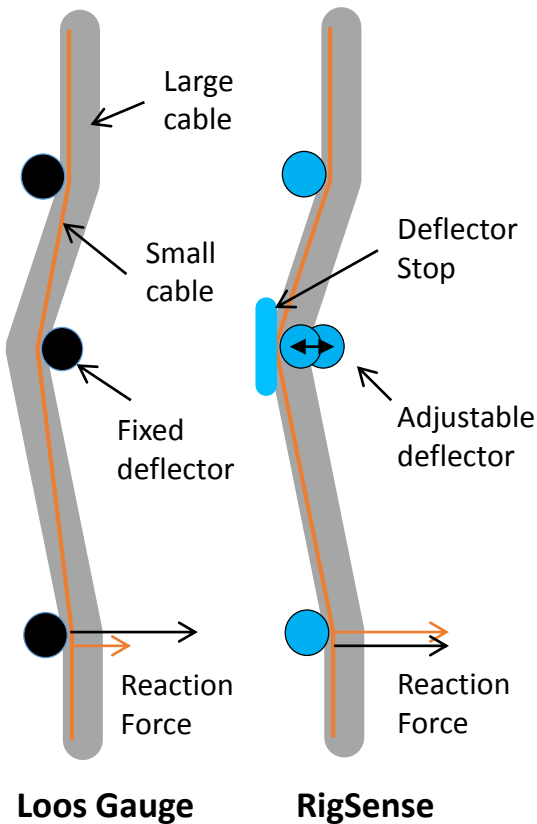
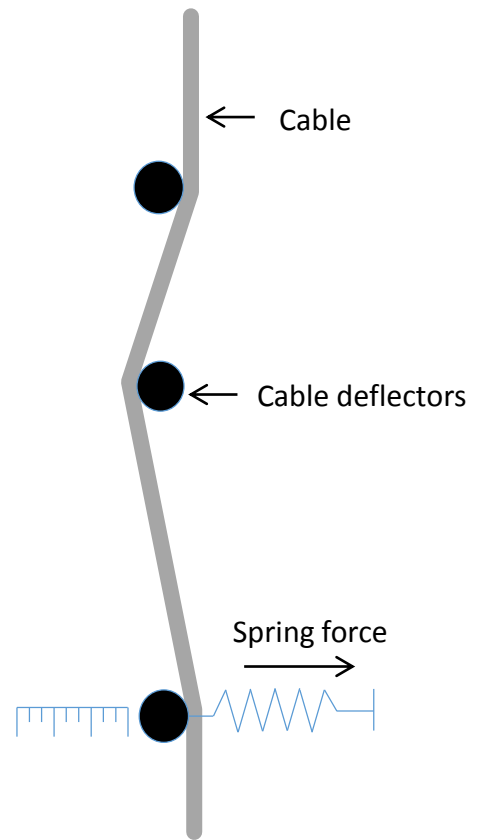


BACKGROUND

Cable tension gauges generally operate using the same principle; bend the cable between three points and measure the reactive force on one of those points:

- Mechanically with a spring
- Electronically with strain

Rig-Sense uses a mechanical principle similar to other rig gauges, but with four distinct improvements to achieve the key features.



1. ADJUSTABLE CABLE DEFLECTOR

Rig-Sense uses an adjustable central deflector, same deflection for all cable sizes. So output does not vary with cable size.

The other rig tension gauges have a fixed central deflector which means larger diameter cable will have larger deflection than smaller cable diameter, so output varies with cable size.

2. WHY MEASURE IN KG?

With the **Rig-Sense** scale, we've kept the scale true, so there's no need for conversion. We believe it's important not to hide this as rig tuning can be massively effected.

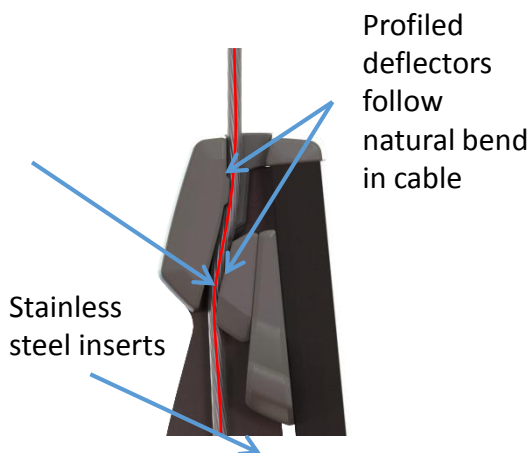
All cable sizes use the whole scale and works with both imperial and metric cable, fibre and even rope. Other gauge scales are linear, but it is misleading.

- At bottom of scale 3mm, 1 increment = 5kg
- At top of scale 3mm, 1 increment = 35kg

Also, each cable size only uses half of the scale.



3. PROFILED STAINLESS STEEL DEFLECTORS



Rig-Sense uses large radius stainless steel deflectors which follows the natural bend in cable. This cancels out differences in cable bending stiffness. Tension will measure the same for different sizes and materials.

Hard material supports cable over larger area – with no indentation and consistent repeatable output.

4. COMPOSITE LEAF SPRING

Rig-Sense uses a composite leaf spring. The advantages are:

- High precision control of spring rate
- Compact shape allows slender design less likely to be damaged
- Cannot over-stretch
- Allows for calibration during assembly
- No corrosion.



SS Coil spring

Other gauges use stainless steel coil springs. There are a number of disadvantages to this:

- Makes it difficult to keep consistent spring rate over production runs.
- No way to adjust or calibrate.
- Can over-stretch without knowing.
- Friction.



THE RIG-SENSE APP

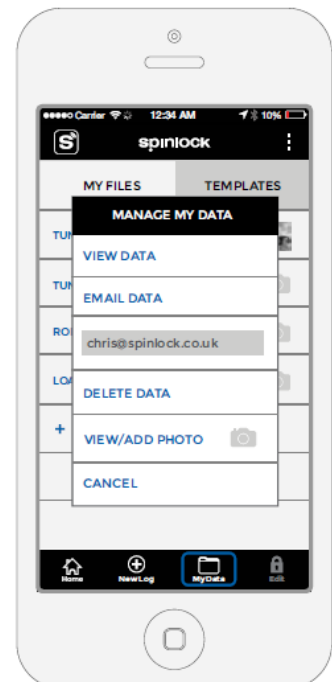
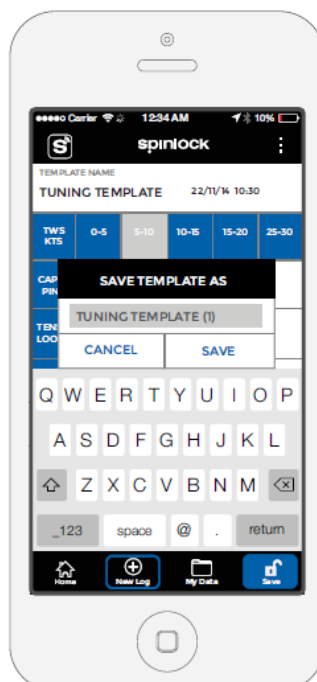
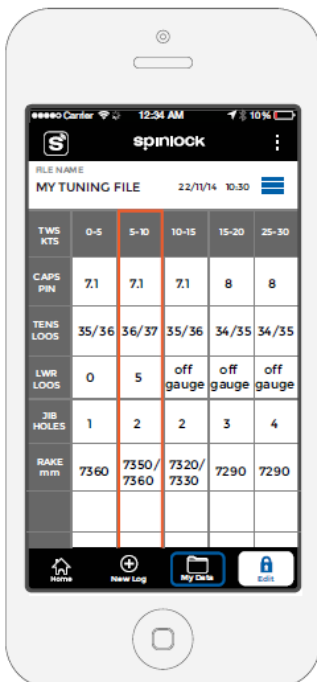
The Rig-Sense App is a simple mobile application for logging rig settings. By using the App you can store multiple settings, for multiple boats and share with the crew, training partners, clubs, classes, coaches or the rest of the world.

The intuitive and easy-to-use interface of the App makes it simple to use and understand. You can log many types of information including shroud settings, type of spinnaker and the wind range you choose. The App allows you to customise any aspect of your Tuning Guide and save it as a 'Template' and from there you can create any number of 'Files' for different boats.

All the information is stored on your Phone or Tablet.

If you are sailing a boat for the first time you can go to the class or sailmakers website to input directly to the Spinlock RIG App. You always have the information at your fingertips so you can focus sailing the boat!

Available on Android and iOS devices.



CONVERSION TABLE – LOOS TO KG

Wire Dia.	2.5mm		3mm		4mm		5mm		6mm		7mm			8mm
Loos Gauge	Model A	PT1	Model A	PT1	Model A	PT1	Model B	PT2	Model B	PT2	Model B	PT2	PT3	PT3
5	36													
6	39													
7	42													
8	45	50												
9	48	54												
10	50	58					109						300	
11	54	62					116	95					330	
12	58	66		57			123	110					360	200
13	62	70		60			130	120					400	220
14	65	75		65			137	140					440	240
15	68	82	54	70			145	150					480	270
16	73	90	58	75			154	170					515	300
17	78	100	62	82			163	180					550	330
18	83	110	66	90			172	200					590	360
19	88	120	70	100			181	220					630	400
20	91	130	73	110			190	240	136				684	430
21	97	140	78	120		70	204	260	146				738	460
22	103		82	130		76	218	280	163	160			790	500
23	108		86	140		83	232	310	175	180			845	540
24	113		91	150		90	245	340	186	200			900	590
25	120		95	160		100	263	370	202	210			1000	630
26	127		100	170		115	281	400	218	230			1100	680
27	134		105	180		127	309	440	236	250				720
28	141		109	190		140	336	490	254	270				770
29	150		114	210		150	368	550	277	290				850
30	159		119	220		160	400	620	300	320		220		920
31	170		127	235		170	445		327	350		240		1000
32	181		136	250	91	180	490		354	380		270		1100
33			145	270	100	195	562		395	420		290		1240
34			154	295	110	210	635		435	460		320		1400
35			165	330	118	225			493	510		350		
36			177	370	127	240			550	570		370		
37			190		136	260			638	640		400		
38			204		145	280			725	730	180	440		
39			226		154	320			840		210	470		
40			250		164	360					240	510		
41			283		178						272	550		
42			317		191						304	620		
43					213						340			
44					236						385			
45					273						444			
46					318						508			
47					364						600			
48					432						900			

CONVERSION TABLE – LBS TO KG

LBS	KG	LBS	KG	LBS	KG
66	30	1124	510	2183	990
88	40	1146	520	2205	1000
110	50	1168	530	2227	1010
132	60	1190	540	2249	1020
154	70	1213	550	2271	1030
176	80	1235	560	2293	1040
198	90	1257	570	2315	1050
220	100	1279	580	2337	1060
243	110	1301	590	2359	1070
265	120	1323	600	2381	1080
287	130	1345	610	2403	1090
309	140	1367	620	2425	1100
331	150	1389	630	2447	1110
353	160	1411	640	2469	1120
375	170	1433	650	2491	1130
397	180	1455	660	2513	1140
419	190	1477	670	2535	1150
441	200	1499	680	2557	1160
463	210	1521	690	2579	1170
485	220	1543	700	2601	1180
507	230	1565	710	2623	1190
529	240	1587	720	2646	1200
551	250	1609	730	2668	1210
573	260	1631	740	2690	1220
595	270	1653	750	2712	1230
617	280	1676	760	2734	1240
639	290	1698	770	2756	1250
661	300	1720	780	2778	1260
683	310	1742	790	2800	1270
705	320	1764	800	2822	1280
728	330	1786	810	2844	1290
750	340	1808	820	2866	1300
772	350	1830	830	2888	1310
794	360	1852	840	2910	1320
816	370	1874	850	2932	1330
838	380	1896	860	2954	1340
860	390	1918	870	2976	1350
882	400	1940	880	2998	1360
904	410	1962	890	3020	1370
926	420	1984	900	3042	1380
948	430	2006	910	3064	1390
970	440	2028	920	3086	1400
992	450	2050	930		
1014	460	2072	940		
1036	470	2094	950		
1058	480	2116	960		
1080	490	2138	970		
1102	500	2161	980		

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