

 **Barient**

International Marine Industries

IMI



**The
International
Standard**



INTRODUCTION TO BARIENT

This catalog represents the most comprehensive and informative document we have assembled since Barient's inception late in the 1950s.

In the following pages we present detailed information on our standard winches, plus our Grand Prix and new Offshore lines of self-tailers. We've also included electrically and hydraulically powered winches, together with custom winches and drive systems for larger yachts.

We believe that the range of Barient products featured in this catalog can fill every possible winch-related job on today's sailing yacht. If you cannot find the product to suit your particular requirement, please let us know. Our ongoing commitment to product development begins with our customers' needs.

In 1986 Barient joined forces with Connecticut-based International Marine Industries, whose associated product lines include Sparcraft, Penguin, Kenyon, Isomat and Francespar. This pooling of talent and resources has enhanced our ability to compete in the international marketplace. It has also expanded our commitment to product development and, most importantly, has given us the ability to offer an interfaced package of premium sailboat hardware.

We hope you find this catalog both informative and enjoyable. Please call us if you require any additional information.



Sidewinder—owner: Randy Short, designer

SELECTING YOUR BARIENT WINCHES

Barient manufactures the most complete range of winches in the world for both racing and cruising yachts. When selecting winches for your boat, you should consider the following factors:

Racing or Cruising—We make a distinction between the needs of racing and cruising sailors. Racing boats are more concerned with quick sail handling, so they tend to use more three-speed winches. Also, racing boats are pushed harder, so they sometimes need larger winches.

Standard or Self-tailing—Self-tailing winches are becoming more and more popular. The advantages of self-tailing are important to racing and cruising sailors alike. With a standard winch, one crewmember must use one hand to crank and the other hand to tail. With a self-tailing winch, however, the same crewmember can crank using two hands plus his or her upper body, letting the winch tail itself.

Power Ratio vs. Efficiency—All winch manufacturers list "power ratio" in their specifications. Power ratio is the theoretical mechanical advantage. Normally, it is calculated as follows:

$$\text{Power Ratio} = \frac{2 \times \text{length of handle}}{\text{drum diameter}} \times \text{gear ratio}$$

As you can see from this formula, a longer winch handle gives a better power ratio, while a shorter handle produces less power (but more speed because the circumference of the circle traveled by the winch handle is shorter). In this catalog, we've listed three

power ratios for most winches, using our 8, 10 and 12-inch handles.

It's important to remember that power ratio is theoretical. If a winch with a power ratio of 20:1 were 100% efficient, then 10 pounds of force on a handle would produce 200 pounds of pull. However, due to friction, no winch is 100% efficient. No matter what size handle you use, power ratio won't be very accurate because of losses from friction.

The best way to reduce friction (and thus improve efficiency) is to replace metal-to-metal or metal-to-plastic sliding contact with roller bearings. That is what we have done with many of the new Barient winches in this catalog. However, we still feel it is better to define the power derived from a winch in a new way.

Power Advantage Rating—Barient invented the Power Advantage Rating (PAR) when we found that our new, improved winch models were pulling more than older models, even when they had identical Power Ratios. The PAR finally provides a way for you to evaluate any winch's true output.

The PAR number is not theoretical—it's an actual measurement determined by testing. It is calculated in the Barient laboratory by measuring the output force developed by each winch as it is subjected to a 100-pound pull on a 10-inch winch handle. We actually use wire instead of rope to attain the best repeatability, and the amount of tailing force

is subtracted from the output readings to equalize standard and self-tailing winch values.

If you apply 100 pounds of force to a 10-inch handle, you will be able to pull the PAR number of the winch in pounds. If you apply 50 pounds to the handle, you will get approximately half of the PAR number output, and so on. For more information on PAR in relation to sheet loads see page 9.

Line Entry Height—In 1983 Barient introduced a new dimensional specification called Line Entry Height to assist you in planning deck layouts, sheet leads, etc. Line Entry Height locates the lowest point on the winch where the line comes into contact with the drum.

Drum Material—In addition to selecting the size of your winches, you must decide whether your drums will be aluminum, chromed bronze or stainless steel. Aluminum winch drums are heat-treated and hard-anodized. They're black in color and have the advantage to the racer of being light in weight. **DO NOT USE WIRE ON ALUMINUM DRUMS.** Chrome-plated bronze winch drums are silver in color and quite rugged. They are suitable for all uses. Stainless steel is the most durable drum material and, of course, never needs re-chroming.

Need More Help? Please refer to our Winch Selection Guide on the facing page for assistance in selecting the proper size Barient winch(es) for your particular needs. If you require more help, don't hesitate to contact your nearest Barient office. (Addresses are on back cover.)



eichel-Pugh, builder: Esprit, L.O.A. 45'

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Cover photo: Barient Model 36 STC. Only Barient offers a range of self-tailing winches that are all chrome—base, drum and self-tailer. For the traditionalist they are also available in all polished bronze. Cover photo by Frank White.



WINCH SELECTION GUIDE

LOA (Feet)			24 to 26 7.3 to 7.9	27 to 29 8.2 to 8.8	30 to 32 9.1 to 9.8	33 to 35 10.1 to 10.7	36 to 38 11.0 to 11.6	39 to 42 11.9 to 12.8	43 to 46 13.1 to 14.0	48 to 51 14.3 to 15.5	52 to 56 15.8 to 17.1
LOA (Meters)											
Approx. Sail Area in Sq. Feet and (Sq. Meters)		Genoa Main	250 (23) 160 (15)	325 (30) 175 (16)	400 (38) 190 (18)	470 (44) 215 (20)	560 (52) 250 (23)	700 (65) 355 (33)	900 (84) 410 (38)	1,110 (103) 660 (61)	1,300 (120) 820 (76)
Genoa Sheet	Racing	Standard Self-Tailing	17/18 17/21	18/21 21	22/24 22/24	27 27	27/28 27/28	32-3/632-3 32-3	36-3/737-3 36-3/737-3	737-3 w/Ped 737-3 w/Ped	SYS10 w/Ped SYS10 w/Ped
	Cruising	Standard Self-Tailing	17/18 17/21	18/21 17/21	22/24 22/24	24/25 24	25/27 27	28/32 28/32	32/36 32/36	32/36 32/36	37-3/737-3 37-3/737-3
Spinnaker Sheet	Racing	Standard Self-Tailing	10/12 17	12/17 17	12/18 17/21	21/22 21	25/27 24/27	28/32 28/32	32/36-3 32/36-3	37-3 37-3	37-3/737-3 37-3/737-3
	Cruising	Standard Self-Tailing	10 17	10/12 17	12/17 17/21	18/21 21	22 22	24 24	25/27 24/27	27/32 27/32	28/32 28/32
Main Sheet	Racing	Standard Self-Tailing	— —	10 17	10 17	12/17/18 21	18/21 21	21/22 21/22	25/27 24/27	27/28 27/28	27/28 27/28
	Cruising	Standard Self-Tailing	— —	10 17	10 17	17 17	18 21	18/21 21	24/25 24/27	25/27 27	27 27
Genoa Halyard	Racing	Standard Self-Tailing	8/10 17	10 17	17/18 17	17/18 21	21 21	22/24 22/24	25/27 24/27	26 26	28/32 28/32
	Cruising	Standard Self-Tailing	8/10 17	10 17	10/17 17	17 21	18/21 21	21 21	22/24 22/24	25/27 27	28/32 28/32
Main Halyard	Racing	Standard Self-Tailing	8/10 17	10 17	10/17 17	10/17 17	18 21	21 21	22/24 22/24	26 27/28	28 28
	Cruising	Standard Self-Tailing	8/10 17	10 17	10 17	10 17	18 21	21 21	22/24 22/24	25/27 27	27/28 27/28
Spinnaker Halyard	Racing	Standard Self-Tailing	8/10 —	10 17	10/17 17	17/18 21	21 21	22 22	24/25/27 24/27	27/28 27/28	28/32 28/32
	Cruising	Standard Self-Tailing	8/10 —	10 17	10/17 17	17 21	18/21 21	22/24 22/24	25/27 24/27	26 27	28 28
Spinnaker Pole Topping Lift	Racing	Standard Self-Tailing	8/10 17	10 17	10 17	12/17 17	18 21	21 21	25/27 24/27	27 27	27/28 27/28
	Cruising	Standard Self-Tailing	8 17	10 17	10 17	12/17 17	18 21	21 21	25/27 24/27	27 27	27/28 27/28
Spinnaker Pole Foreguy	Racing	Standard Self-Tailing	8 17	8/10 17	10 17	10/17 17	18 21	22/24 21	27/28 22/24	27 28	28 28
	Cruising	Standard Self-Tailing	8 17	8/10 17	10 17	10/12 17	12/17 17	18 21	21 21	24 24	27/28 27/28
Reef	Racing	Standard Self-Tailing	10 17	10/12 17	12/17 17	18 21	21 21	22 22	24/25 24	27 27	27/28 27/28
	Cruising	Standard Self-Tailing	10 17	10 17	10/12 17	17 17	18 21	21 21	24/25 24	27 27	27 27
Running Backstay	Racing-Masthead	Standard Self-Tailing	— —	— —	— —	— —	21 21	24 24	27 27	27/28 27/28	28/32 28/32
	Racing-Fractional	Standard Self-Tailing	— —	17 17	18 21	22 22	24 24	24/27 24/27	27/28 27/28	28/32 28/32	32 32

STANDARD WINCHES



MODEL 8P

Specs:	inch	mm	Ratios:	1st
Drum Dia.	2 1/4	65	Gear:	1:1
Base Dia.	3 1/4	94	Power:	
Height	3 1/4	81	10" Handle	7.9:1
Line Entry Ht.	1 1/4	32	8" Handle	6.3:1
Weight	lbs.	kg.		
Alum.	1 1/4	.74		
Chr. or BZ	3/4	1.48		

Power Advantage Rating: 625



MODEL 18

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3 1/4	77	Gear:	1:1	3.6:1
Base Dia.	5 1/4	133	Power:		
Height	4 3/4	111	12" Handle	7.9:1	28.8:1
Line Entry Ht.	1 1/4	48	10" Handle	6.6:1	24:1
Weight	lbs.	kg.	8" Handle	5.3:1	19.2:1
Alum.	6 1/4	2.78			
Chr. or BZ	9 1/4	4.2			

Power Advantage Rating: 1650



MODEL 10P/10

Specs:	inch	mm	Ratios:	1st
Drum Dia.	2 1/4	67	Gear:	1:1
Base Dia.	4 1/4	110	Power:	
Height	3 1/4	95	10" Handle	7.6:1
Line Entry Ht.	1 1/4	35	8" Handle	6.1:1
Weight	lbs.	kg.		
10P-Alum.	2 1/4	1		
Chr. or BZ	3 1/4	1.76		
10-Alum.	3 1/4	1.5		
Chr. or BZ	5 1/4	2.4		

Power Advantage Rating: 10P-600, 10-675



MODEL 21

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	1:1	4.5:1
Base Dia.	5 1/4	132	Power:		
Height	5 1/4	132	12" Handle	8:1	36:1
Line Entry Ht.	2 1/4	57	10" Handle	6.7:1	30:1
Weight	lbs.	kg.	8" Handle	5.4:1	24:1
Alum.	6.8	3.1			
Chr. or BZ	11	5			

Power Advantage Rating: 2000



MODEL 12

Specs:	inch	mm	Ratios:	1st
Drum Dia.	2 1/4	73	Gear:	1:1
Base Dia.	5 1/4	133	Power:	
Height	4 1/4	119	12" Handle	8.4:1
Line Entry Ht.	1 1/4	44	10" Handle	7:1
Weight	lbs.	kg.	8" Handle	5.6:1
Alum.	5 1/2	2.5		
Chr. or BZ	9 1/4	4.2		

Power Advantage Rating: 600



MODEL 22

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3 1/4	81	Gear:	1:1	5.4:1
Base Dia.	5 1/4	146	Power:		
Height	5 1/4	136	12" Handle	7.6:1	40.8:1
Line Entry Ht.	2 1/4	67	10" Handle	6.3:1	34:1
Weight	lbs.	kg.	8" Handle	5:1	27.2:1
Alum.	9	4.1			
Chr. or BZ	13 1/2	6.1			

Power Advantage Rating: 2100



MODEL 17

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	2 1/4	68	Gear:	1:1	2.2:1
Base Dia.	4 1/4	119	Power:		
Height	4 1/4	108	12" Handle	8.8:1	19.5:1
Line Entry Ht.	1 1/4	45	10" Handle	7.4:1	16:1
Weight	lbs.	kg.	8" Handle	5.9:1	13:1
Alum.	4	1.9			
Chr. or BZ	6	2.8			

Power Advantage Rating: 1300*



MODEL 24

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	1:1	6:1
Base Dia.	6 1/4	167	Power:		
Height	6	152	12" Handle	8:1	48:1
Line Entry Ht.	3 1/4	79	10" Handle	6.7:1	40:1
Weight	lbs.	kg.	8" Handle	5.4:1	32:1
Alum.	12 1/4	5.6			
Chr. or BZ	18 1/4	8.5			

Power Advantage Rating: 2900

*Estimated

Mounting Information—Standard Winches



8P

4 holes equally spaced on 2.6" (63.5mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



10P, 10

5 holes equally spaced on 3.15" (80mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



12

6 holes equally spaced on 4.0" (102mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



17

5 holes equally spaced on 3 1/2" (95.2mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



18

5 holes spaced 60 degrees apart on 3.375" (85.7mm) diameter bolt circle, for 1/4" (6mm) round-head/hexhead machine screws.



21

5 holes spaced as shown on 4.375" (111mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



22

6 holes equally spaced on 4.375" (111mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



24

6 holes equally spaced 5.5" (140mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



Regardless—owner: Bill Corcoran, designer: Nelson & Marek, builder: Kiwi Boats, L.O.A. 40'.

Photo by Sharon Green



MODEL 28+

Specs:	inch	mm	Ratio:	1st	2nd
Drum Dia.	4	102	Gear:	2.5:1	8.5:1
Base Dia.	8	203	Power:		
Height	7 1/8	198	12" Handle	15.4:1	51.1:1
Line Entry Ht.	3 1/4	98	10" Handle	12.8:1	42.6:1
Weight	lbs.	kg.	8" Handle	10.2:1	34.1:1
Alum.	21	9.5			
Chr. or BZ	29	13.2			
St. Steel	29	13.2			
Ultra Light	15.2	6.9			

Power Advantage Rating: 3450



MODEL 32

Specs:	inch	mm	Ratio:	1st	2nd
Drum Dia.	4 1/4	121	Gear:	2.4:1	11.1:1
Base Dia.	9 1/2	241	Power:		
Height	8 1/4	225	12" Handle	12.2:1	56.4:1
Line Entry Ht.	4	102	10" Handle	10.2:1	47.1:1
Weight	lbs.	kg.	8" Handle	8.2:1	37.6:1
Alum.	32	14.5			
Chr. or BZ	45.5	20.7			
St. Steel	45.5	20.7			
Ultra Light	23.8	10.8			

Power Advantage Rating: 3950



MODEL 25

Specs:	inch	mm	Ratio:	1st	2nd
Drum Dia.	3 1/2	89	Gear:	1:1	7.75:1
Base Dia.	6 1/4	172	Power:		
Height	6 1/2	164	12" Handle	6.8:1	52.8:1
Line Entry Ht.	3 1/4	79	10" Handle	5.7:1	44:1
Weight	lbs.	kg.	8" Handle	4.6:1	35.2:1
Alum.	11.8	5.3			
Chr. or BZ	17	7.7			

Power Advantage Rating: 2300



MODEL 632

Specs:	inch	mm	Ratio:	1st	2nd
Drum Dia.	6	152	Gear:	2.4:1	11.1:1
Base Dia.	9 1/2	241	Power:		
Height	8 1/4	225	12" Handle	8.7:1	44.6:1
Line Entry Ht.	3 1/4	95	10" Handle	8.1:1	37.2:1
Weight	lbs.	kg.	8" Handle	6.4:1	29.8:1
Alum.	35	15.9			
Ultra Light	26.8	12.2			

Power Advantage Rating: 3300



MODEL 27

Specs:	inch	mm	Ratio:	1st	2nd
Drum Dia.	3 3/4	95	Gear:	1.85:1	8.5:1
Base Dia.	7 1/4	181	Power:		
Height	6 1/2	171	12" Handle	11.8:1	54.6:1
Line Entry Ht.	3 1/4	83	10" Handle	10:1	46:1
Weight	lbs.	kg.	8" Handle	7.9:1	36.4:1
Alum.	15.4	7.0			
Chr. or BZ	23.6	10.7			

Power Advantage Rating: 2900*



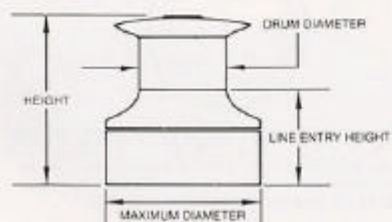
MODEL 32-3

Specs:	inch	mm	Ratio:	1st	2nd	3rd
Drum Dia.	4 3/4	121	Gear:	1.7:1	4.9:1	11.4:1
Base Dia.	9 1/2	241	Power: (3 Handle Lengths)			
Height	10 1/2	270	12" Handle	8.6:1	24.8:1	57.4:1
Line Entry Ht.	5 1/4	146	10" Handle	7.2:1	20.7:1	47.8:1
Weight	lbs.	kg.	8" Handle	5.8:1	16.6:1	38.2:1
Alum.	36	16.4				
Chr. or BZ	45	20.7				
St. Steel	45	20.7				
Ultra Light	26.2	12.8				

Power Advantage Rating: 3950

*Estimated

Mounting Information—Standard Winches



25

5 holes spaced as shown on 5.5" (140mm) diameter bolt circle, for 1/4" (8mm) flathead machine screws.



27

5 holes equally spaced on 6" (152.4mm) diameter bolt circle, for 1/4" (8mm) flathead machine screws.



28+

6 holes equally spaced on 6.375" (162mm) diameter bolt circle, for 1/4" (10mm) flathead machine screws.



32, 632, 32-3

6 holes equally spaced on 7.75" (197mm) diameter bolt circle, for 1/4" (10mm) fasteners. Note: Use flathead machine screws for two-speed and hexhead machine screws for three-speed.

MODEL 632-3



Specs:	inch	mm	Ratios:	1st	2nd	3rd
Drum Dia.	6	152	Gear:	1.7:1	4.9:1	11.4:1
Base Dia.	9 1/2	241	Power: (3 Handle Lengths)			
Height	10 1/2	270	12"	6.8:1	19.7:1	45.5:1
Line Entry Ht.	5 1/2	140	10"	5.7:1	16.4:1	37.9:1
Weight	lbs.	kg.	8"	4.6:1	13.1:1	30.3:1
Alum.	39	17.7				
Ultra Light	31.2	14.2				

Power Advantage Rating: 3300

MODEL 736/737



Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	7	178	Gear:		
Base Dia.	10 1/4	257	736	6.4:1	19.4:1
Height	11 1/4	286	737	6.4:1	25.1:1
Line Entry Ht.	6	152	Power:		
Weight	lbs.	kg.	736		
Alum.	50	22.7	12" Handle	21.6:1	67.2:1
St. Steel	57	25.9	10" Handle	18:1	56:1
			8" Handle	14.4:1	44.8:1
			737		
			12" Handle	21.6:1	86.4:1
			10" Handle	18:1	72:1
			8" Handle	14.4:1	57.6:1

Power Advantage Rating: 736-4950, 737-6400

MODEL 36/37



Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	5 1/2	146	Gear:		
Base Dia.	10 1/4	257	36	6.4:1	19.4:1
Height	11 1/4	286	37	6.4:1	25.1:1
Line Entry Ht.	6 1/2	156	Power:		
Weight	lbs.	kg.	36		
Alum.	44	20	12" Handle	27:1	81.8:1
Chr. or B2	63.5	28.9	10" Handle	22.5:1	68.2:1
St. Steel	63.5	28.9	8" Handle	18.0:1	54.6:1
			37		
			12" Handle	104:1	104:1
			10" Handle	22.5:1	87:1
			8" Handle	18.5:1	69.6:1

Power Advantage Rating: 36-5700, 37-7350

MODEL 736-3/737-3



Specs:	inch	mm	Ratios:	1st	2nd	3rd
Drum Dia.	7	178	Gear:			
Base Dia.	10 1/4	257	736-3	2:1	6.4:1	19.4:1
Height	11 1/4	286	737-3	2.0:1	7.2:1	25.1:1
Line Entry Ht.	6	152	Power: (3 Handle Lengths)			
Weight	lbs.	kg.	736-3			
Alum.	52	23.6	12"	6.8:1	21.6:1	67.2:1
St. Steel	59	26	10"	5.7:1	18.1:1	56.1:1
			8"	4.6:1	14.4:1	44.8:1
			737-3			
			12"	6.8:1	24.7:1	86.4:1
			10"	5.7:1	20.6:1	72:1
			8"	4.6:1	16.5:1	57.6:1

Power Advantage Rating: 736-4950, 737-6400

MODEL 36-3/37-3



Specs:	inch	mm	Ratios:	1st	2nd	3rd
Drum Dia.	5 1/2	146	Gear:			
Base Dia.	10 1/4	257	36-3	2:1	6.4:1	19.4:1
Height	11 1/4	286	37-3	2.0:1	7.2:1	25.1:1
Line Entry Ht.	6 1/2	156	Power: (3 Handle Lengths)			
Weight	lbs.	kg.	36-3			
Alum.	46	20.9	12"	8.5:1	27.0:1	81.8:1
Chrome	60.5	27.5	10"	7.1:1	22.5:1	68.2:1
St. Steel	60.5	27.5	8"	5.7:1	18.0:1	54.6:1
			37-3			
			12"	8.5:1	30:1	104:1
			10"	7.1:1	25:1	87:1
			8"	5.7:1	20:1	69.6:1

Power Advantage Rating: 36-3-5700, 37-3-7350

ULTRA-LIGHTS



Models Available: 27ST, 28, 28ST, 32, 32ST, 32-3, 32-3ST, 632, 632-3

Utilizing state-of-the-art alloys and composites Barient's latest ultra-light models are designed for use on today's super lightweight racing yachts. Ultra-lights can reduce the weight of your winch by as much as 30% compared to conventional aluminum models.

Mounting Information—Standard Winches



632-3

6 holes equally spaced on 7.75" (197mm) diameter bolt circle, for 3/4" (10mm) fasteners. Note: Use flathead machine screws for two-speed and hexhead machine screws for three-speed.



Winch Mounting Help

When mounting winches it is important to plan your deck layout to help prevent overrides. One way to do this is to be sure you have the proper lead angle of the line or wire to the winch drum. For most winches, 3° to 8° is about right.



36, 37, 36-3, 37-3, 736, 737, 736-3, 737-3

6 holes equally spaced on 8.5" (216mm) diameter bolt circle, for 3/4" (12mm) flathead machine screws. Note: 35ST has same bolt pattern as 36, but uses 3/8" (10mm) flathead fasteners.

BARIENT SELF-TAILING WINCHES

Now There is a Choice

The Advantages Of Self-Tailing

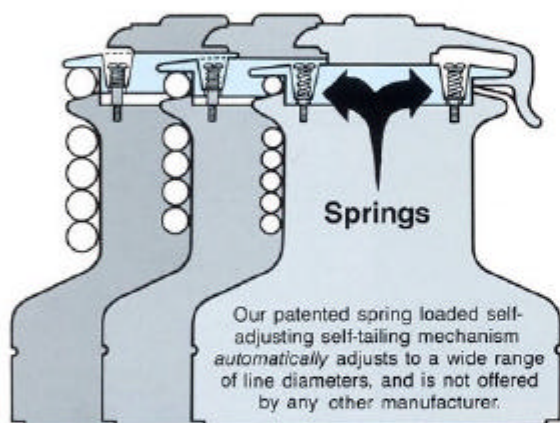
The advantage of self-tailing is important to racing and cruising sailors alike. With a standard winch, one crew member must crank with one hand and tail with the other (or have a second crew member tail). With a self-tailing winch one crew can crank (using both hands if required) while the winch tails itself. The jaws of a self-tailer take the place of a human hand, gripping the line firmly enough to prevent it from falling out yet allowing it to move around the jaws from the feeder to the stripper without building friction.

When a self-tailer works efficiently, the "feed rate" from the drum through the self-tailing device remains constant. The jaws are

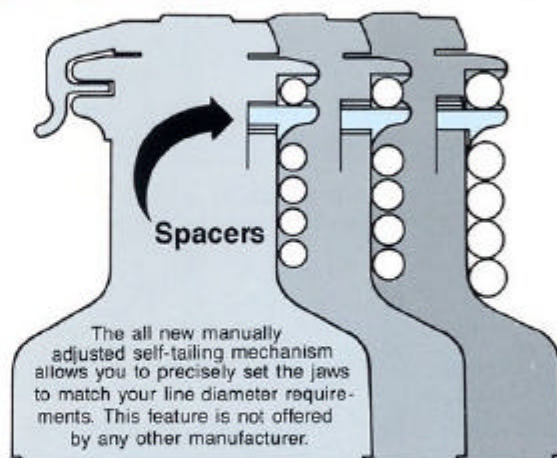
therefore able to accept and forward the line at precisely the same rate that it comes off the drum. Should the drum feed the line faster than the jaws can take it up, the line spills out; if the jaws take up line faster than the drum can feed it, efficiency falls off and friction and line wear increase.

Constant "feed rate" can be achieved only if the line on the drum and the line in the self-tailer are in precise vertical alignment. All Barient self-tailing winches achieve this critical alignment with a variety of line diameters within the range of the winch. The Grand Prix series adjusts automatically and the offshore series is adjusted manually.

Barient Grand Prix Series



INTRODUCING—Barient Offshore Series



Here's How They Work:

Grand Prix Series self-tailers utilize an upper jaw (clamp ring) that incorporates four compression springs*. These gently apply pressure to the line as it travels the jaws' inner radius. The versatility of this design accommodates a range of line diameters from $\frac{3}{16}$ " to $1\frac{1}{4}$ " (depending on model selected) with equal efficiency.

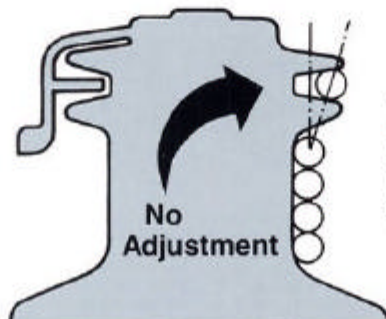
As larger or smaller diameters are used, the clamp ring compensates for the difference automatically. On racing yachts, where one winch must serve multi-functions, this feature is invaluable.

*G.P. Model 17ST utilizes a spring-loaded bottom jaw.

Offshore Series self-tailers utilize upper and lower jaws with staggered radial ridges that gently grip the line as it travels the jaws' inner radius. A series of spacers fit beneath the lower jaw and may be manually positioned between the jaws to raise or lower the bottom jaw. This design accommodates a range of line diameters from $\frac{3}{16}$ " to $\frac{3}{4}$ " (depending on model selected).

To position, remove the screws that hold the jaws in place, lift off the jaws and position the spacers for optimum performance. The offshore cruiser/racer will find these units the perfect answer for all self-tailing requirements.

And Here's What
The Competition Can
Offer You:



The Competition offers vee jaws that allow only one size line to function properly in the self-tailing mechanism. These units cannot be adjusted—manually or automatically. Barient rejected this design 15 years ago because of the severe restrictions it places on line diameter.

**MODEL G.P. 17 ST**

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	2 1/4	68	Gear:	2.2:1	
Base Dia.	4 1/4	119	Power:		
Height	5 1/4	146			
Line Entry Ht.	1 1/4	45	12" Handle	19.5:1	
Line Size	5/16 - 1/2	8-13	10" Handle	16:1	
Weight	lbs.	kg.	8" Handle	13:1	
Alum.	5	2.3			
Chr. or BZ	7.3	3.3			

Power Advantage Rating: 1300*

*Estimated

**MODEL G.P. 27ST**

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3 3/4	95	Gear:	1.85:1	8.53:1
Base Dia.	7 1/4	181	Power:		
Height	8	203			
Line Entry Ht.	3 1/4	83	12" Handle	11.8:1	54.6:1
Line Size	3/8 - 9/16	10-14	10" Handle	10:1	46:1
Weight	lbs.	kg.	8" Handle	7.9:1	36.4:1
Alum.	17	7.7			
Chr. or BZ	25.3	11.5			
Ultra Light	10.8	4.9			

Power Advantage Rating: 2900*

*Estimated

**MODEL G.P. 21ST**

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	1.8:1	4.5:1
Base Dia.	5 3/8	132	Power:		
Height	7	178			
Line Entry Ht.	2 1/4	57	12" Handle	14.2:1	36:1
Line Size	5/16 - 1/2	8-13	10" Handle	11.8:1	30:1
Weight	lbs.	kg.	8" Handle	9.4:1	24:1
Alum.	10	4.5			
Chr. or BZ	14 1/2	6.6			

Power Advantage Rating: 2000

**MODEL G.P. 28+ST**

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	4	102	Gear:	2.5:1	8.5:1
Base Dia.	8	203	Power:		
Height	9 1/8	232			
Line Entry Ht.	3 3/8	99	12" Handle	15.4:1	51.1:1
Line Size	5/16 - 5/8	11-15	10" Handle	12.8:1	42.6:1
Weight	lbs.	kg.	8" Handle	10.2:1	34.1:1
Alum.	24 1/2	11.1			
Chr. or BZ	37	16.8			
St. Steel	37	16.8			
Ultra Light	18.5	8.4			

Power Advantage Rating: 3450

**MODEL G.P. 22ST**

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	2.3:1	5.3:1
Base Dia.	5 1/4	145	Power:		
Height	7	178			
Line Entry Ht.	2 3/4	70	12" Handle	18.4:1	42.4:1
Line Size	5/16 - 1/2	8-13	10" Handle	15.3:1	35.3:1
Weight	lbs.	kg.	8" Handle	12.2:1	28.2:1
Alum.	11 1/4	5.3			
Chr. or BZ	17	7.7			

Power Advantage Rating: 2100

**MODEL G.P. 32ST**

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	4 3/4	121	Gear:	2.4:1	11.1:1
Base Dia.	9 1/2	241	Power:		
Height	10	254			
Line Entry Ht.	4	102	12" Handle	12.2:1	56.4:1
Line Size	1/2 - 3/4	13-19	10" Handle	10.2:1	47.1:1
Weight	lbs.	kg.	8" Handle	8.2:1	37.6:1
Alum.	33.5	15.2			
Chr. or BZ	52	23.6			
St. Steel	52	23.6			
Ultra Light	24.9	11.3			

Power Advantage Rating: 3950

**MODEL G.P. 24ST**

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	2.4:1	6.3:1
Base Dia.	6 3/4	167	Power:		
Height	7 3/4	192			
Line Entry Ht.	2 3/4	73	12" Handle	17.5:1	50.4:1
Line Size	3/8 - 9/16	10-14	10" Handle	14.6:1	42:1
Weight	lbs.	kg.	8" Handle	11.7:1	33.6:1
Alum.	16 1/4	7.4			
Chr. or BZ	22	10			

Power Advantage Rating: 2900

**MODEL G.P. 32-3ST**

Specs:	inch	mm	Ratios:	1st	2nd	3rd
Drum Dia.	4 3/4	121	Gear:	1.7:1	4.9:1	11.4:1
Base Dia.	9 1/2	241	Power:			
Height	11 1/2	298				
Line Entry Ht.	5 1/4	146	12" Handle	8.6:1	24.8:1	57.4:1
Line Size	1/2 - 3/4	13-19	10" Handle	7.2:1	20.7:1	47.8:1
Weight	lbs.	kg.	8" Handle	5.8:1	16.6:1	38.2:1
Alum.	37.5	17				
Chr. or BZ	51	23				
St. Steel	51	23				
Ultra Light	29.2	13.3				

Power Advantage Rating: 3950

Mounting Information—Grand Prix Series**17ST**

5 holes equally spaced on 3 1/4" (95.2mm) diameter bolt circle for 1/4" (6mm) flathead machine screws.

**21ST**

5 holes spaced as shown on 4.375" (111mm) diameter bolt circle, for 5/16" (8mm) flathead machine screws.

**22ST**

6 holes equally spaced on 4.375" (111mm) diameter bolt circle, for 5/16" (8mm) flathead machine screws.

**24ST**

5 holes spaced as shown on 5.5" (140mm) diameter bolt circle, for 3/8" (8mm) flathead machine screws.

**27ST**

5 holes equally spaced on 6" (152.4mm) diameter bolt circle for 3/8" (8mm) flathead machine screws.

**28+ST**

6 holes equally spaced on 6.375" (162mm) diameter bolt circle, for 3/8" (10mm) flathead machine screws.

**32ST, 32-3ST**

6 holes equally spaced on 7.75" (197mm) diameter bolt circle, for 3/4" (19mm) fasteners. Note: Use flathead machine screws for two-speed and hexhead machine screws for three-speed.

PAR and Sheet Loads

The following formula can be used to calculate approximate sheet loads:

$$\text{SHEET LOAD (lb)} = \text{Sail Area} \times V^2 \times 0.00431$$

where sail area is measured in square feet and V is the apparent wind speed in knots.

To see how this relates to our WINCH GUIDE and PAR, let's look at the primary winch recommendation for a 27 to 29 foot boat which has a No. 1 genoa of 325 square feet. We recommend using a No. 18 or No. 21 winch for this size boat. The No. 18 has a PAR value of 1650, while the No. 21 has a PAR value of 2000.

Assuming that the No. 1 genoa can be carried in 20 knots of wind apparent, the sheet load would be:

$$325 \times (20)^2 \times 0.00431 = 560.3 \text{ lb.}$$

To calculate how much you must push or pull on the end of a 10-inch handle to pull in the sail, use the following formula:

$$\text{*Handle Load (lb)} = \frac{\text{Sheet Load (lb)}}{\text{PAR}} \times 100$$

$$\text{No. 18 Handle Load} = \frac{560 \text{ lb}}{1650} \times 100 = 33.9 \text{ lb}$$

$$\text{No. 21 Handle Load} = \frac{560 \text{ lb}}{2000} \times 100 = 28 \text{ lb}$$

Thus it will take 5.9 lb (17%) less force on a standard length winch handle to pull in the sail with a Barient No. 21 than with a Barient No. 18.

*Actual handle load will depend on friction in turning blocks, etc.

—Excerpted from the book, "Designed to Win," by Roger Marshall, published by W.W. Norton.

MODEL G.P. 36ST/37ST



Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	5 1/4	146			
Base Dia.	10 1/4	257			
Height	12 1/4	316			
Line Entry Ht.	6 1/4	156			
Line Size	1/2 - 3/4	13-19			
Weight	lbs.	kg.			
Alum.	48	21.8			
Chrome	70	31.8			
St. Steel	70	31.8			
			36ST		
			12" Handle	27:1	81.8:1
			10" Handle	22.5:1	68.2:1
			8" Handle	18:1	54.6:1
			37ST		
			12" Handle	27:1	104:1
			10" Handle	22.5:1	87:1
			8" Handle	18:1	69.6:1

Power Advantage Rating: 36ST-5700, 37ST-7350

MODEL G.P. 736ST/737ST



Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	7	178			
Base Dia.	10 1/4	257			
Height	12 1/4	316			
Line Entry Ht.	6	152			
Line Size	1/2 - 3/4	13-19			
Weight	lbs.	kg.			
Alum.	57	25.9			
St. Steel	62	28.1			
			736ST		
			12" Handle	21.6:1	67.2:1
			10" Handle	18:1	56:1
			8" Handle	14.4:1	44.8:1
			737ST		
			12" Handle	21.6:1	86.4:1
			10" Handle	18:1	72:1
			8" Handle	14.4:1	57.6:1

Power Advantage Rating: 736ST-4950, 737ST-6400

MODEL G.P. 36-3ST/37-3ST



Specs:	inch	mm	Ratios:	1st	2nd	3rd
Drum Dia.	5 1/4	146				
Base Dia.	10 1/4	257				
Height	12 1/4	316				
Line Entry Ht.	6 1/4	156				
Line Size	1/2 - 3/4	13-19				
Weight	lbs.	kg.				
Alum.	50	22.7				
Chrome	68	31				
St. Steel	68	31				
			36-3ST			
			12" Handle	8.5:1	27.1:1	81.8:1
			10" Handle	7.1:1	22.5:1	68.2:1
			8" Handle	5.7:1	18.1:1	54.6:1
			37-3ST			
			12" Handle	8.5:1	30:1	104:1
			10" Handle	7.1:1	25:1	87:1
			8" Handle	5.7:1	20:1	69.6:1

Power Advantage Rating: 36-3ST-5700, 37-3ST-7350

MODEL G.P. 736-3ST/737-3ST



Specs:	inch	mm	Ratios:	1st	2nd	3rd
Drum Dia.	7	178				
Base Dia.	10 1/4	257				
Height	12 1/4	316				
Line Entry Ht.	6	152				
Line Size	1/2 - 3/4	13-19				
Weight	lbs.	kg.				
Alum.	59	26.8				
St. Steel	64	29.1				
			736-3ST			
			12" Handle	6.8:1	21.6:1	67.2:1
			10" Handle	5.7:1	18.0:1	56.0:1
			8" Handle	4.6:1	14.4:1	44.8:1
			737-3ST			
			12" Handle	6.8:1	24.7:1	86.4:1
			10" Handle	5.7:1	20.6:1	72:1
			8" Handle	4.6:1	16.5:1	57.6:1

Power Advantage Rating: 736ST-4950, 737ST-6400



Mounting Information—Grand Prix Series

36ST, 37ST, 36-3ST, 37-3ST, 736ST, 737ST, 736-3ST, 737-3ST

6 holes equally spaced on 8.5" (216mm) diameter bolt circle, for 1/2" (12mm) flathead machine screws. Note: 35ST has same bolt pattern as 36, but uses 3/4" (19mm) flathead fasteners.

Barient's Three-Speed Shift Mechanism

The three-speed winches in this catalog incorporate an improved shift mechanism that allows three-speed winches to be locked into 1st and 2nd range for spinnaker or light-air trimming. With a simple push of the shift lever, the winch is set for automatic shifting between 1st, 2nd and 3rd gears (not available in UK).

OFFSHORE SERIES



Photo by Sharon Green

Boomerang—owner: George Coumantaros, designer: German Frers, builder: R.E. Derecktor, L.O.A. 80'



MODEL O.S. 21ST

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	18:1	45:1
Base Dia.	5 1/4	132	Power:		
Height	7	178	12" Handle	14.2:1	36:1
Line Entry Ht.	2 1/2	57	10" Handle	11.6:1	30:1
Line Size	3/4-1/2	8-13	8" Handle	9.4:1	24:1
Weight	lbs.	kg.			
Alum.	10	4.5			
Chr. or BZ	12 1/4	6.6			

Power Advantage Rating: 2000*

*Estimated



MODEL O.S. 24ST

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	24:1	63:1
Base Dia.	6 1/4	167	Power:		
Height	7 1/4	192	12" Handle	17.5:1	50.4:1
Line Entry Ht.	2 1/2	73	10" Handle	14.6:1	42:1
Line Size	3/4-1/2	10-14	8" Handle	11.7:1	33.6:1
Weight	lbs.	kg.			
Alum.	16 1/4	7.4			
Chr. or BZ	21	10			

Power Advantage Rating: 2900*

*Estimated



MODEL O.S. 22ST

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3	76	Gear:	23:1	53:1
Base Dia.	5 1/4	145	Power Ratio:		
Height	7	178	12" Handle	18.4:1	42.4:1
Line Entry Ht.	2 1/4	70	10" Handle	15.3:1	35.3:1
Line Size	3/4-1/2	8-13	8" Handle	12.2:1	28.2:1
Weight	lbs.	kg.			
Alum.	8 1/4	3.9			
Chr. or BZ	15 1/4	7.0			

Power Advantage Rating: 2100*

*Estimated



MODEL O.S. 27ST

Specs:	inch	mm	Ratios:	1st	2nd
Drum Dia.	3 1/4	95	Gear:	1.85:1	8.53:1
Base Dia.	7 1/4	181	Power:		
Height	8	203	12" Handle	11.8:1	54.6:1
Line Entry Ht.	3 1/4	83	10" Handle	10.1:1	46:1
Line Size	3/4-1/2	10-14	8" Handle	7.9:1	36.4:1
Weight	lbs.	kg.			
Alum.	14.7	6.7			
Chr. or BZ	23	10.5			
Ultra Light	9.9	4.5			

Power Advantage Rating: 2900*

*Estimated

Mounting Information—Offshore Series



21ST

5 holes spaced as shown on 4.375" (111mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



22ST

6 holes equally spaced on 4.375" (111mm) diameter bolt circle, for 1/4" (6mm) flathead machine screws.



24ST

5 holes spaced as shown on 5.5" (140mm) diameter bolt circle, for 3/8" (9.5mm) flathead machine screws.



27ST

5 holes equally spaced on 8" (152mm) diameter bolt circle for 3/8" (9.5mm) flathead machine screws.

BARIENT HANDLES & ACCESSORIES



Maintenance and Service

Periodic maintenance is recommended to insure proper operation and long life of your Barient products. Parts kits and BARLUBE winch lubricant are available for routine service. The Barient drum nut tool permits easy removal of drums (used with a Barient winch handle). A deck plate spanner may also be used.

Kit No. 1

For all standard and self-tailing winches models except "old style" 35 and 36 2-speed, 19-ST, 2-A, 21ST and 1 Halyard:
 2-00330 Pawls
 4-00209 Springs
 2-01045-125 Retaining ring
 1-01045-59 Retaining ring
 1-01045-175 Retaining ring
 20-01077-05 Cotter pins
 1-01-205 Cap screw
 1-01-502 Retaining washer

Kit No. 2

For models 19-ST manufactured prior to 1983; and current model 21ST
 1-00331 Pawls
 2-00215 Springs
 2-01045-125 Retaining ring
 1-01045-59 Retaining ring
 2-01077-05 Cotter pin
 1-00330
 2-00209

Kit No. 3

For all power winches:
 2-00330 Pawls
 4-00209 Springs
 2-00311 Pawls
 4-00201 Springs
 4-00301 Plungers
 1-A-01012-01 Seal
 1-A-01012-07 Seal

Kit No. 4*

For models 35 and 36 2-speed (old style) and models 1 and 2A reel winches:
 2-00311 Pawls
 2-00210 Springs
 4-00301 Plungers

Kit No. 5

For all handles made after January 1979:
 2-01045-62 Snap rings
 2-01063-01 Washers
 2-22016 Cap
 2-01075-03 Roll pin
 2-01144-01 Phillips head screw

* "Old Style" 35 and 36 were produced prior to July 1980.



Folding Winch Seat

Barient's folding winch seat easily inserts into the top of any Barient winch or any other winch that has adopted the Barient socket size. It is covered in white naugaform vinyl, and has aluminum hinges and stainless steel fastenings. The adaptor plate casting is machined of manganese bronze to the same standards as Barient winch handle studs. With resilient waterproof cushioning, the seat is rugged and durable, and may be the most comfortable place on your deck.

Barient Winch Handles



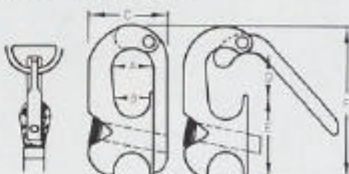
Handles appear top to bottom as listing below

Cat. No.	Description
HDL8AX	8-inch light weight handle (Al)
HDL8	8-inch standard handle (Al, Ch, Bz)
HDL8LI	8-inch lock-in handle (Al, Ch, Bz)
HDL8DG	8-inch standard double-grip handle (Ch)
HDL8DGLI	8-inch lock-in double-grip handle (Ch)
HDL10CX	10-inch light weight handle (Ch)
HDL10	10-inch standard handle (Al, Ch, Bz)
HDL10LI	10-inch lock-in handle (Al, Ch, Bz)
HDL10DG	10-inch standard double-grip handle (Ch)
HDL10DGLI	10-inch lock-in double-grip handle (Ch)
HDL10CM	10-inch combination standard handle (Ch)
HDL10CLI	10-inch combination lock-in handle (Ch)
HDL12LI	12-inch lock-in handle (SS)
HDL12DGLI	12-inch lock-in double grip handle (SS)



J-Lock

These unique stainless steel devices are used on sheets for quick and foolproof attachment to headsails. They permit rapid headsail changes and close sheeting to blocks. Absolutely will not open accidentally when the pin is locked.



	A	B	C	D	E	F
3/8"	3/8"	3/8"	13/16"	1/2"	1 1/4"	2 1/4"
	19mm	16mm	35mm	19mm	37mm	65mm
1/2"	1/2"	1/2"	1 1/8"	3/4"	1 1/2"	2 1/2"
	13mm	13mm	27mm	16mm	29mm	54mm

Safe working load: 1/2": 4000 lbs., 3/8": 6000 lbs.

POWER WINCH SYSTEMS

The Impact of Power Winches—Barient's introduction of electrically powered winches in 1959 changed forever the way in which people sail larger cruising yachts. No longer would large crews be required to tend the multitude of heavily loaded sheets, halyards and guys associated with cruising yachts 40' and larger. With Barient's power winches doing the work, push-button sail control has enabled cruising couples to enjoy the comforts of larger yachts while minimizing the associated physical effort. A much greater degree of privacy is allowed since interior layouts have now been opened up into areas previously required for crew quarters.

Barient Hydraulic Drives—In 1984 Barient took a giant step into the future with the introduction of a drive system that could be centrally located yet would power, along with the yacht's winches, virtually any system aboard. Barient's hydraulic drive systems are presently driving winches, roller furling systems, internal mainsail furling systems, centerboards, mast and boom controls and

windlasses; in many instances all on the same yacht.

Operating a Power Winch—Barient's electric and hydraulic winches are operated in the same manner. Power to the unit is controlled by two foot switches. On two-speed winches one button activates first speed and the other activates second speed. On three-speed winches the first speed button also activates third speed. The motors which drive from beneath the winch simply turn the mainshaft in the winch one way or the other. This is exactly what is done manually from the top of the winch when using a winch handle to drive the unit. When operating the winch manually a *lock-in* handle must be used. When the handle is locked in place the drive motor is automatically disconnected. This prevents the handle from being accidentally cranked by the motor. A spring loaded plunger prevents non-lock-in type handles from being used.

Electric or Hydraulic?—Now that Barient offers both electric and hydraulic drives for its winches, a choice must be made. Generally on

boats smaller than 55 feet, electric winches are the way to go primarily because of the space, weight and cost of installing the hydraulic power source on a relatively small yacht. Boats under 65 feet should definitely consider using Barient's six-function hydraulic system as opposed to the larger 12-function system, if hydraulic is chosen over electric.

On larger yachts that require power assistance for functions in addition to winches, the hydraulic drive becomes more logical and economical since the same hydraulic power source that drives the Barient winches can also drive roller-furling headsails or mainsails, centerboards, backstays, davits, anchor windlasses, etc.

Another advantage of the hydraulic drives is the extreme flexibility they offer. The specifications shown are for our standard hydraulic motors and flow rates. With the Barient hydraulic drive system flow rates can be easily changed as well as the size of the hydraulic motors at the winches. As a result, the customer has an almost infinite choice of power versus speed options.

Electric and Hydraulic Power Winch Specifications

Catalog Number	28+ / 28ST+		32 & 32ST		36 & 36ST		736 & 736ST		37 & 37ST		737 & 737ST		SYS10 & SYS10ST		
	Elec.	Hyd.	Elec.	Hyd.	Elec.	Hyd.	Elec.	Hyd.	Elec.	Hyd.	Elec.	Hyd.	Elec.	Elec. H.D.	Hyd.
*Additional Weight At Winch	Lbs. Kg.	36 16.4	14.77 6.72	37 16.8	15.60 7.05	37.5 17.0	13.12 5.98	37.5 17.0	13.12 5.98	37.5 17.0	13.12 5.98	37.5 17.0	33.0 15.0	20.62 9.37	7.54 3.43
Line Speed 1st*	Ft/Min M/M	39.8 12.1	26.06 7.96	49.2 15	32.20 9.79	71.5 21.8	38.35 11.69	87.2 26.6	46.78 14.21	71.5 21.8	38.35 11.69	87.2 26.6	124.4 37.9	77.75 23.68	51.06 15.54
Line Speed 2nd*	Ft/Min M/M	11.7 3.6	7.63 2.32	10.6 3.2	6.97 2.15	22.3 6.8	11.96 3.67	27.2 8.3	14.62 4.48	19.8 6.1	10.67 3.26	16.2 5.0	8.77 2.65	34.6 10.6	21.62 6.62
Line Speed 3rd*	Ft/Min M/M	— —	— —	— —	— —	7.4 2.3	3.94 1.22	9.1 2.8	4.82 1.49	5.7 1.8	3.06 0.95	4.7 1.5	2.51 0.74	9.9 3.1	6.18 1.93

NOTE: Line speed for 2-speed 36/736 same as 2nd and 3rd above.

*Additional weight for electric or hydraulic drive over and above that listed in standard specifications for the corresponding winch. Electric weights are for vertical drive. An additional 1/2-inch

(12mm) must be added to overall line entry height dimensions listed in the standard specifications on all of the above winches except the SYS10 & SYS10ST to compensate for the additional height of the power adaptor.



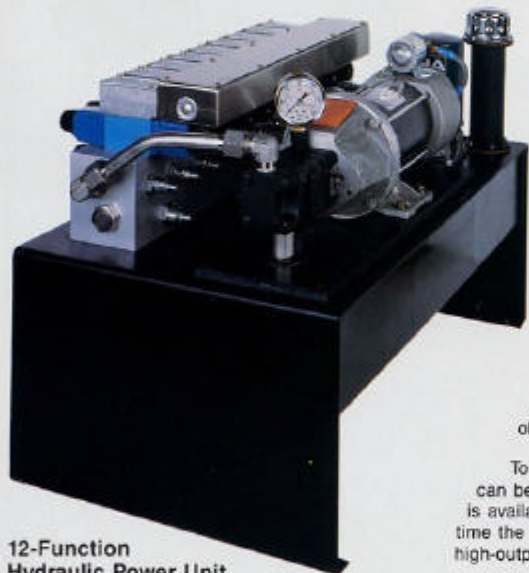
Carom—owner: Marty Roman, designer: John G. Alden Co. of Mass., builder: Abeking & Rasmussen, L.O.A. 68'.

Photo by Bruce Vandale

"HIGH-LOW" HYDRAULIC DRIVE SYSTEM

We developed the Barient "High-Low" Hydraulic System in 1984 to provide a versatile power source for multiple winch drives, furling systems, centerboard lifting and other uses on cruising yachts. "High-Low" refers to a special hydraulic pump that automatically switches to a high-flow lower-pressure mode when multiple function operation is required.

The pump starts in the high-pressure mode, which will drive a single winch at maximum output. As more functions are required, the pump automatically shifts to the high-flow rate that will provide sufficient output to drive four winches simultaneously at the equivalent input force of 50 pounds on a ten-inch winch handle. This is about the same input as a Barient 12-volt power winch will provide. The low-flow will drive a single winch at the equivalent of 120 pounds on a ten-inch handle. For larger winch systems, higher-torque hydraulic motors are used to provide equivalent inputs of up to 400 pounds on a ten-inch handle.



12-Function Hydraulic Power Unit
UHPWUN-L

The control of Barient hydraulic winches is the same as with electric drive winches. Two push-buttons are provided at each winch for the operator to select high- or low-speeds. This system is much safer than always having the winch start in the fast mode, as is done on competitive systems. The buttons are normally mounted near the winch; however, a second set can be provided for control of the winch at a remote location.

Two hydraulic lines are required (customer supplied) to connect each winch to the remote-mounted pump-sump-control module. These can be ridged stainless tubing or hydraulic hose, depending upon the installation. Four small-gauge electric wires connect the pushbuttons to the pump-sump-control module.

The system is constructed from standard components. The controls are simple and easy to trouble-shoot on board, by the crew. No micro-processors or other electronics are required to

control the system. Standard systems are supplied with positions for either six- or twelve-hydraulic functions. A system with less than the maximum functions can be easily expanded at a later date.

The drive for the hydraulic pump is normally provided by a 4-horsepower 24-volt electric motor. This job could also be done by 220 volt AC or from a power take-off on one of the onboard engines.

The hydraulic systems are easily tailored to a specific application. Since different winch uses require different speeds or loads, the system can easily be adjusted to fit a need even after the boat is sailing.

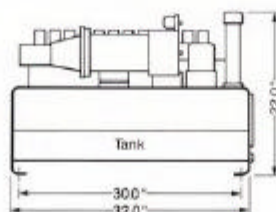
System Options—As an optional feature, a remote manifold is available. This eliminates the need for running all the hydraulic hoses the full-length of the boat when the power unit cannot be centrally located. Two large hoses are run between the power unit and the remote manifold. The two hoses required for each function are then run to either the remote manifold or the power unit (whichever is closest). The remote manifold also can be used to expand the number of functions the system can power.

We offer a number of pump drive options. A Dual Pump System is available for very large systems or to provide a redundant pump for extra reliability. An Engine Driven Pump Option is also available which automatically supplies the hydraulic system when its engine or generator is running. This system is especially desirable for driving hydraulic windlasses where continuous run times of over five minutes are required.

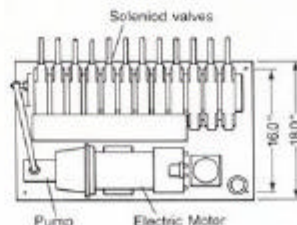
To increase the number of functions which can be run at full power, an accumulator option is available. This stores hydraulic energy each time the pump operates and saves it for special high-output situations.

Custom Systems—The Barient system is easily tailored to specific needs. Most of the systems sold have been customized to fit the specific boat. Please feel free to contact your nearest sales office to discuss your application.

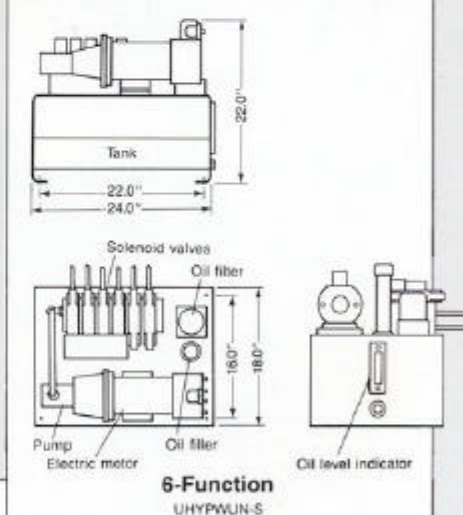
Dual motor 12-function hydraulic power unit is available UHYDWUN-D.



Non-winch hydraulic drive-
UPH-NON-W for furlers, windlasses, etc.



12-Function
UHPWUN-L



6-Function
UHPWUN-S

ELECTRIC WINCHES

The first Barient power winches were introduced to the world in 1959. Today Barient offers many different power winch combinations, including self-tailing models. From the deck up they are virtually identical to Barient manual winches, except that the base is slightly higher. The drive motor is positioned below deck and is operated by two foot switches. They may be operated manually by inserting a Barient lock-in handle. When the handle is engaged, the electrical motor is mechanically disconnected, which prevents the handle from being accidentally cranked by the motor.

All vertical-motor models feature Barient two-stage epicyclic gear reduction. Models 32, 36, 736 and SYS10 are also available with a right-angle drive gear box to allow horizontal mounting of the motor. All mounting and connecting assemblies are sealed for waterproof operation.

All power winches are identical in operation, incorporating two speeds, two foot switches, a stainless steel or chrome-plated bronze drum, and a lock-in handle for manual operation. The two foot switches provide high and low speeds by actuating a self-contained solenoid package mounted directly on the motor. The system is simple, and has proven to be trouble-free.

Current draw on Barient power winches is normally limited by an external circuit breaker to 75 amperes on 12-volt systems, and 40 amperes on 24-volt systems. This provides approximately one horsepower output. If more power in first speed is needed, a 150- or 80-ampere breaker (12 volts and 24 volts, respectively) may be used without damaging the system. Up to 2.5 horsepower may thus be obtained.

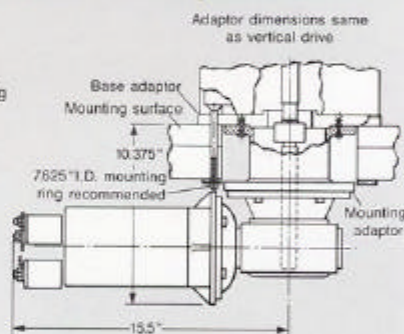
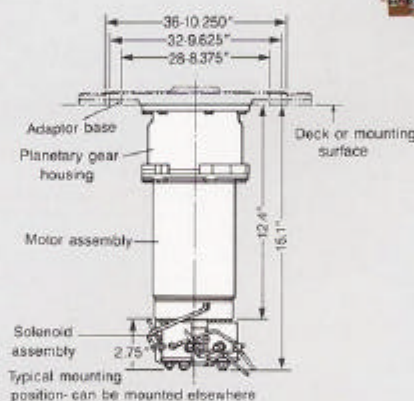
All power winches are identical in operation. They utilize two foot switches that actuate a self-contained solenoid package. The solenoids reverse the direction of the motor, shifting the winch to the next lower speed. The clockwise/counter-clockwise turning of the motor simulates a crew turning a winch handle. It's a simple system and has proven extremely reliable over many many years.



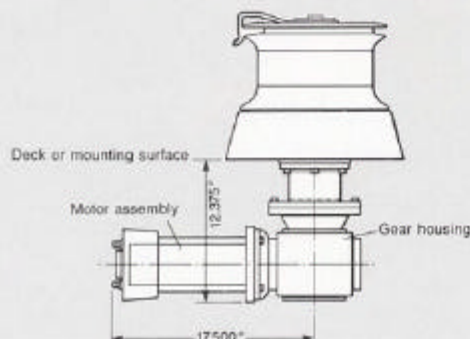
Vertical
Drive
Electric
36STPWC



Right Angle
Drive
Electric
36STPWRTC



System 10
Power
Winch



Barient Models Available With Electric Drive

Standard 2 Speed	Self Tailing 2 Speed	Standard 3 Speed	Self Tailing 3 Speed
27 PW	27 ST PW	36-3/37-3 PW	36-3 ST/37-3 ST PW
28 PW	28 ST PW	736-3/737-3 PW	736-3 ST/737-3 ST PW
32 PW	32 ST PW	SYS 10 PW	SYS 10 ST PW
36/37 PW	36 ST/37 ST PW	SYS 19 PW	SYS 19 ST PW
736/737 PW	736 ST/737 ST PW	SYS 20 PW	SYS 20 ST PW

Power Winch Electrical Specifications

	12 Volt	24 Volt	24 VHD
Recommended Breaker Size (amperes)	75	40	150
Maximum Breaker Size	150	80	200
Motor Horsepower:			
Recommended Breaker	.95	1.10	3.5
Maximum Breaker	1.48	1.92	5.0
Recommended Wire Size: (with recommended breaker, motor to battery)			
Up to 10 feet	#6	#10	#4
10 to 20 feet	#2	#8	#2
20 to 30 feet	#1	#6	#1
30 to 40 feet	#0	#6	#0
Recommended Wire Size: (with maximum breaker, motor to battery)			
Up to 10 feet	#4	#6	#2
10 to 20 feet	#1/0	#4	#1
20 to 30 feet	#2/0	#2	#0
30 to 40 feet	#4/0	#2	#0

Use No. 14 wire for foot switches

CUSTOM WINCH SYSTEMS

The following pages contain the most detailed and comprehensive portfolio of special and custom products that Barient has ever compiled. Our objective in this segment is to provide the owners, designers, and builders of larger custom-built sailing yachts with detailed information on what we regard as the "building blocks" of our custom winch and drive systems.

While it would be impractical to catalog all of Barient's custom products, you will find that the components included allow you to design a wide variety of systems tailored to your particular requirements for racing, cruising or both.

Commitment—Barient's commitment to the custom segment of the market is stronger today than ever before. New and innovative products are continuously under development. Our intimate involvement with the world's very best sailors, yacht designers,

and state-of-the-art boat builders is the basis of an ongoing research and development program tailored to producing high quality winch and drive systems. Apparent in all Barient products, sound engineering and creative design go hand-in-hand with precision manufacturing to form the cornerstone of our custom systems.

Involvement—Barient's System 19, the most efficient maxi boat grinder in existence, with its unique stainless steel drum suspended on ball bearing races, was developed during our involvement with David Pedrick and his design for the magnificent maxi yacht *Nirvana*. Fine-tuned over the past 4 years on the awesome *Boomerang*, the System 19 today is the backbone of the winch system on the new *Il Moro di Venezia* perhaps the fastest maxi ever.

Achievements—Our latest projects include many custom hydraulic and electric systems

for large cruising yachts; 12 meter systems in every corner of the world; dual hydraulic/manual systems for large I.M.S. racing yachts that will also cruise extensively; a host of I.O.R. systems from one tonners to maxis; and two very special projects of which we are particularly proud: The **1st place 1987 New Zealand Admiral's Cup** team were fitted completely with our Performance Hardware Package—Barient winches, Sparcraft spars, and Penguin blocks. In addition **PROSAIL**, the new professional 12 meter yacht racing association, has selected the same winning combination—Barient, Sparcraft, and Penguin—for their spectacular fleet of twelve.

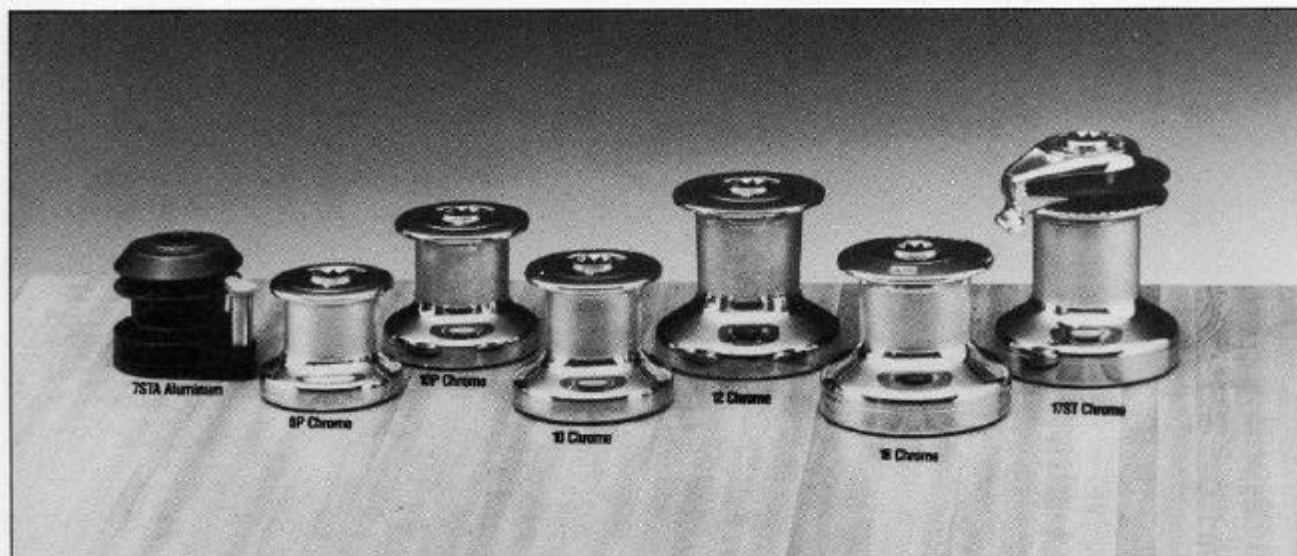
For additional information or assistance with your own custom project, we encourage you to contact your nearest Barient office. We're eager to help.



Photo by J.H. Pearson

Infinity—owner: John Thompson, designer: Nelson & Marek, builder: Kiwi Boats, L.O.A. 50'

BARIENT WINCHES



MODEL 75TA
HEIGHT
3 1/4" 83 mm
DRUM DIA
2 1/2" 65 mm
MAX DIA
4 1/2" 113 mm
LINE ENTRY HGT
1 1/4" 29 mm
POWER ADVANTAGE RATING
625
GEAR RATIO
11
POWER RATIO
7.8:1
WEIGHT
2 1/2 lb 1.1 kg alum
LINE SIZE RANGE
1/4" (fixed paw mechanism)
10 mm
MOUNTING
Bolt Circle Dia 3" 76 mm
Fasteners 3 flathead 1/4"
6 mm
ALUMINUM BAR 75TA

MODEL 8P
HEIGHT
3 1/4" 81 mm
DRUM DIA
2 1/4" 65 mm
MAX DIA
3 7/8" 94 mm
LINE ENTRY HGT
1 1/4" 32 mm
POWER ADVANTAGE RATING
625
GEAR RATIO
11
POWER RATIO
7.9:1
WEIGHT
1 1/2 lb .74 kg alum
3 1/4 lb 1.40 kg chr or brz
MOUNTING
Bolt Circle Dia 2 1/4" 65 mm
Fasteners 4 flathead 1/4"
6 mm
ALUMINUM BAR 8PA
CHROME BAR 8PC

MODEL 10P
HEIGHT
3 1/4" 86 mm
DRUM DIA
2 1/4" 67 mm
MAX DIA
4 1/4" 103 mm
LINE ENTRY HGT
1 1/4" 35 mm
POWER ADVANTAGE RATING
600
GEAR RATIO
11
POWER RATIO
7.6:1
WEIGHT
2 1/2 lb 1.1 kg alum
3 1/4 lb 1.76 kg chr or brz
MOUNTING
Bolt Circle Dia 3 1/2" 80 mm
Fasteners 5 flathead 1/4"
6 mm
ALUMINUM BAR 10PA
CHROME BAR 10PC

MODEL 12
HEIGHT
4 1/4" 119 mm
DRUM DIA
2 1/4" 73 mm
MAX DIA
5 1/4" 133 mm
LINE ENTRY HGT
1 1/4" 44 mm
POWER ADVANTAGE RATING
600
GEAR RATIO
11
POWER RATIO
7:1
WEIGHT
5 1/2 lb 2.5 kg alum
9 1/4 lb 4.2 kg chr or brz
MOUNTING
Bolt Circle Dia 4" 102 mm
Fasteners 6 flathead 1/4"
8 mm
ALUMINUM BAR 12A
CHROME BAR 12C

MODEL 15
HEIGHT
4 1/4" 111 mm
DRUM DIA
3 1/4" 77 mm
MAX DIA
5 1/4" 132 mm
LINE ENTRY HGT
1 1/4" 48 mm
POWER ADVANTAGE RATING
1000
GEAR RATIO
11
POWER RATIO
6.6:1
WEIGHT
6 1/2 lb 2.76 kg alum
9 1/4 lb 4.2 kg chr or brz
MOUNTING
Bolt Circle Dia 3 1/4" 86 mm
Fasteners 5 roundhead hex
head 1/4" 6 mm
ALUMINUM BAR 15A
CHROME BAR 15C

MODEL 17ST
HEIGHT
5 1/4" 138 mm
DRUM DIA
3" 76 mm
MAX DIA
5 1/4" 131 mm
LINE ENTRY HGT
1 1/4" 48 mm
POWER ADVANTAGE RATING
1000
GEAR RATIO
2.4:1
POWER RATIO
16:1
WEIGHT
9 lb 4.1 kg alum
12 1/4 lb 5.8 kg chr or brz
LINE SIZE RANGE
1/4" - 1/2" 8 - 13 mm
MOUNTING
Bolt Circle Dia 3 1/4" 86 mm
Fasteners 5 roundhead hex
head 1/4" 6 mm
ALUMINUM BAR 17SA
CHROME BAR 17SC

MODEL 18
HEIGHT
5 1/4" 95 mm
DRUM DIA
2 1/4" 67 mm
MAX DIA
4 1/4" 110 mm
LINE ENTRY HGT
1 1/4" 35 mm
POWER ADVANTAGE RATING
675
GEAR RATIO
11
POWER RATIO
7.6:1
WEIGHT
3 1/4 lb 1.5 kg alum
5 1/4 lb 2.4 kg chr or brz
MOUNTING
Bolt Circle Dia 3 1/2" 80 mm
Fasteners 5 roundhead hex
head 1/4" 6 mm
ALUMINUM BAR 18A
CHROME BAR 18C

BARIENT WINCHES

Ever since its beginnings in the late 1950's Barient has been the trendsetter in the winch industry. Barient developed the modern sailboat winch as we know it today and their reputation for quality, performance and durability is unmatched. Improvements in efficiency, servability and strength in their smaller winch range have taken place recently. All winches (except the 25) can now be completely serviced from the top down, and the Barient self tailing mechanism is by far the most trouble free, efficient and simple device of any winch manufactured today.

Forged components rather than castings, result in stronger components and a better finish. The large winches (from 28 on up) are still almost completely "hand made" and are available in stainless steel, alloy, or even titanium, in power or manual, with various drive options.

We have always sold Barient with great confidence, and as the "Barient Fact" correctly states, "why not put on Barient to begin with, because sooner or later you will pay for them." Barient will save you money and grief in the long haul.

POWER RATIO VS. EFFICIENCY

All winch manufacturers list "Power Ratio" in their specs. Power ratio calculates theoretical mechanical advantage. The key word is theoretical. If a winch with a power ratio of 20:1 were 100% efficient, then 10 pounds of force on a handle would produce 200 pounds of pull. However, due to friction, no winch is 100% efficient. The best way to reduce friction (and thus improve efficiency) is to replace metal-to-metal sliding contact with roller bearings. This is what has been done to many of the new and improved winches featured here. As a result we find it necessary to define the power derived from a winch in a new way. Normally, Power Ratio is calculated as follows:

$$\text{Power Ratio} = \frac{2 \times \text{length of handle}}{\text{drum diameter}} \times \text{gear ratio}$$

Power ratio, because of losses from friction does not tell you how much a winch will pull.

POWER ADVANTAGE RATING

The Power Advantage Rating (PAR) makes Power Ratio obsolete. PAR values are determined in the Barient laboratory by measuring the actual output force developed by each winch as it is subjected to a 100 pound pull on a 10 inch winch handle.

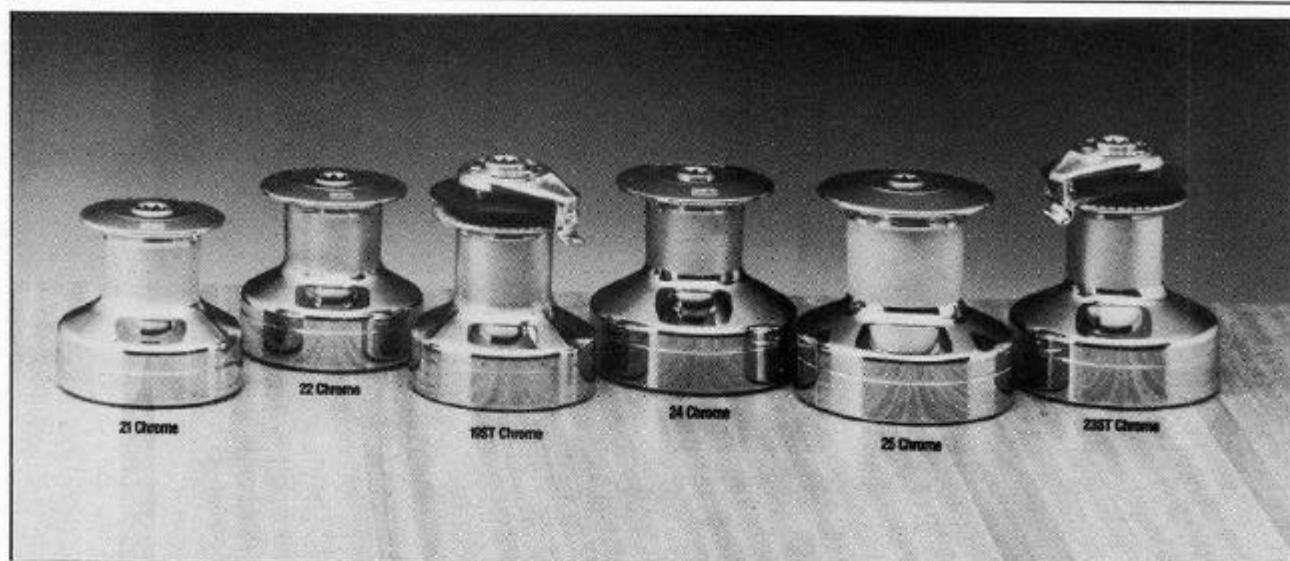
PAR AND SHEET LOADS

The following formula can be used to calculate approximate sheet loads:

$$\text{Sheet Load (lb.)} = \text{Sail Area} \times V^2 \times 0.00431$$

Where sail area is measured in square feet and V is the apparent wind speed in knots.

BARIENT WINCHES



MODEL 21
HEIGHT
5 1/2" 141 mm
DRUM DIA
3" 76 mm
MAX DIA
5 1/2" 141 mm
LINE ENTRY HGT
2 1/4" 61 mm
POWER ADVANTAGE RATING
1850
GEAR RATIO
1:1 1st
4.5:1 2nd
POWER RATIO
6.7:1 1st
30:1 2nd
WEIGHT
8 1/2 lb 3.9 kg alum
13 lb 5.9 kg chr or brz
MOUNTING
Bolt Circle Dia 4 1/4" 111 mm
Fasteners 6 Flathead 1/4" 8 mm

ALUMINUM CHROME BAR 21A
BAR 21C

MODEL 22
HEIGHT
5 1/2" 136 mm
DRUM DIA
3 1/4" 81 mm
MAX DIA
5 1/2" 141 mm
LINE ENTRY HGT
2 1/4" 61 mm
POWER ADVANTAGE RATING
2000
GEAR RATIO
1:1 1st
5.4:1 2nd
POWER RATIO
6.3:1 1st
34:1 2nd
WEIGHT
9 lb 4.1 kg alum
13 1/2 lb 6.1 kg chr or brz
MOUNTING
Bolt Circle Dia 4 1/4" 111 mm
Fasteners 6 Flathead 1/4" 8 mm

ALUMINUM CHROME BAR 22A
BAR 22C

MODEL 18ST
HEIGHT
7" 178 mm
DRUM DIA
3" 76 mm
MAX DIA
5 1/2" 141 mm
LINE ENTRY HGT
2 1/4" 70 mm
POWER ADVANTAGE RATING
2000
GEAR RATIO
2.3:1 1st
5.3:1 2nd
POWER RATIO
15.2:1 1st
25.3:1 2nd
WEIGHT
11 1/4 lb 5.3 kg alum
16 1/4 lb 7.4 kg chr or brz
LINE SIZE RANGE
5/16" - 1/2" 8 - 13 mm
MOUNTING
Bolt Circle Dia 4 1/4" 111 mm
Fasteners 6 Flathead 1/4" 8 mm

ALUMINUM CHROME BAR 18STA
BAR 18STC

MODEL 24
HEIGHT
6" 152 mm
DRUM DIA
3" 76 mm
MAX DIA
5 1/2" 141 mm
LINE ENTRY HGT
3 1/4" 79 mm
POWER ADVANTAGE RATING
2900
GEAR RATIO
1:1 1st
6:1 2nd
POWER RATIO
6.7:1 1st
40:1 2nd
WEIGHT
12 1/4 lb 5.6 kg alum
18 1/4 lb 8.5 kg chr or brz
MOUNTING
Bolt Circle Dia 5 1/2" 140 mm
Fasteners 6 Flathead 1/4" 8 mm

ALUMINUM CHROME BAR 24A
BAR 24C

MODEL 25
HEIGHT
6 1/2" 164 mm
DRUM DIA
3 1/2" 89 mm
MAX DIA
6 1/2" 162 mm
LINE ENTRY HGT
3 1/4" 79 mm
POWER ADVANTAGE RATING
2900
GEAR RATIO
1:1 1st
7.75:1 2nd
POWER RATIO
5.7:1 1st
44:1 2nd
WEIGHT
11.8 lb 5.3 kg alum
17 lb 7.7 kg chr or brz
MOUNTING
Bolt Circle Dia 5 1/2" 140 mm
Fasteners 5 Flathead 1/4" 8 mm

ALUMINUM CHROME BAR 25A
BAR 25C

MODEL 23ST
HEIGHT
7 1/4" 182 mm
DRUM DIA
3" 76 mm
MAX DIA
6 1/2" 165 mm
LINE ENTRY HGT
2 1/4" 73 mm
POWER ADVANTAGE RATING
2900
GEAR RATIO
2.4:1 1st
6.3:1 2nd
POWER RATIO
14.8:1 1st
42:1 2nd
WEIGHT
16 1/2 lb 7.4 kg alum
21 1/2 lb 9.8 kg chr or brz
LINE SIZE RANGE
3/4" - 1/2" 10 - 14 mm
MOUNTING
Bolt Circle Dia 5 1/2" 140 mm
Fasteners 5 Flathead 1/4" 8 mm

ALUMINUM CHROME BAR 23STA
BAR 23STC

To see how this relates to our Winch Guide and PAR, let's look at the primary winch recommendation for a 27 to 29 foot boat which has a No.1 genoa of 325 square feet. We recommend using a No.18 or No.21 winch for this size boat. The No.18 has a PAR Value of 1650, while the No. 21 has a PAR value of 1850. Assuming that the No.1 genoa can be carried in 20 knots of apparent wind, the sheet load would be:

$$325 \times 20^2 \times 0.00431 = 560.3 \text{ lbs.}$$

To calculate how much you must push on the end of a 10 inch handle to pull in the sail, use the following formula:

$$\text{Handle Load (lb.)} = \frac{\text{Sheet Load (lb.)}}{\text{PAR}} \times 100$$

Thus the Handle Load for the No.18 winch will be 33.9 lbs. and for the No.21 winch will be 30.2 lbs. and it will take 3.7 lbs. (11% less force on a standard length winch handle to pull in the sail with a No.21 than with a No.18.

Note that the actual handle load will depend on friction in turning blocks etc.

NEW THREE SPEED SHIFT MECHANISM

The three speed winches incorporate an improved shift mechanism that allows three speed winches to be locked into 1st and 2nd range for spinnaker or light air trimming. With a simple push of the shift lever, the winch is set for automatic shifting between 1st, 2nd, and 3rd gears.

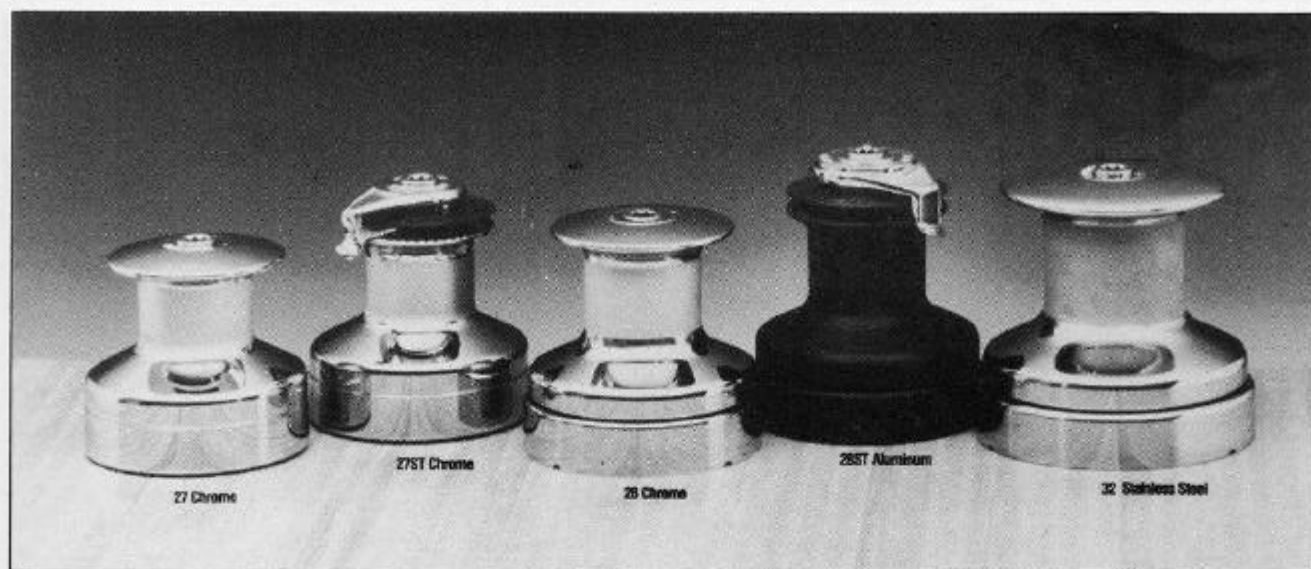
THE BARIENT SELF TAILING WINCH

Barient has been manufacturing self-tailing winches since 1974, and many improvements have been made to their original self-tailing mechanism. Their current self-tailing winches are versatile, simple to use and extremely reliable.

The advantage of self-tailing is important to racing crews and cruising sailors alike. With a standard winch, a crew member must crank with one hand and tail with the other. With a self-tailing winch the same crewmember can crank with both hands and upper body, letting the winch tail itself.

The jaws of a self-tailer take the place of a human hand. They grip the line firmly enough to prevent it from falling out, while at the same time allowing the line to move around the jaws from the feeder to the stripper without building friction.

BARIENT WINCHES



MODEL 27

HEIGHT
6 1/4" 126 mm
DRUM DIA
3 3/4" 95 mm
MAX DIA
7 1/2" 190 mm
LINE ENTRY HGT
3 1/4" 92 mm
POWER ADVANTAGE RATING
(200)
GEAR RATIO
2.1:1
8.4:1 2d
POWER RATIO
10.8:1 1st
44.6:1 2d
WEIGHT
18 1/2 lb 8.5 kg alum
28 1/2 lb 12.9 kg chr or brz
MOUNTING
Bolt Circle Dia 5 1/4" 143 mm
Fasteners 5 roundhead/Hex head
1/4" 9.5 mm

ALUMINUM BAR 27A
CHROME BAR 27C

MODEL 27ST

HEIGHT
8 1/4" 208 mm
DRUM DIA
3 1/4" 95 mm
MAX DIA
7 1/2" 190 mm
LINE ENTRY HGT
3 1/4" 92 mm
POWER ADVANTAGE RATING
(200)
GEAR RATIO
2.1:1
8.4:1 2d
POWER RATIO
10.8:1 1st
44.6:1 2d
WEIGHT
10 lb 4.5 kg alum
27 1/2 lb 12.4 kg chr or brz
LINE SIZE RANGE
3/4" - 1 1/4" 10 - 14 mm
MOUNTING
Bolt Circle Dia 5 1/4" 143 mm
Fasteners 5 roundhead/Hex head
1/4" 9.5 mm

ALUMINUM BAR 27STA
CHROME BAR 27STC

MODEL 26

HEIGHT
7 1/4" 188 mm
DRUM DIA
4" 102 mm
MAX DIA
8" 203 mm
LINE ENTRY HGT
3 1/4" 92 mm
POWER ADVANTAGE RATING
(200)
GEAR RATIO
2.5:1 1st
7.4:1 2d
POWER RATIO
12.8:1 1st
37.7:1 2d
WEIGHT
21 lb 9.5 kg alum
29 lb 11.4 kg chr or brz
29 lb 11.4 kg stainless
MOUNTING
Bolt Circle Dia 6 1/4" 162 mm
Fasteners 6 flathead 1/4" 10 mm

ALUMINUM BAR 26A
CHROME BAR 26C
STAINLESS BAR 26S

MODEL 28ST

HEIGHT
9 1/4" 232 mm
DRUM DIA
4" 102 mm
MAX DIA
8" 203 mm
LINE ENTRY HGT
3 1/4" 92 mm
POWER ADVANTAGE RATING
(200)
GEAR RATIO
2.5:1 1st
7.4:1 2d
POWER RATIO
12.8:1 1st
37.7:1 2d
WEIGHT
28 1/2 lb 11.1 kg alum
30 lb 13.6 kg chr or brz
30 lb 13.6 kg stainless
LINE SIZE RANGE
3/4" - 1 1/4" 10 - 14 mm
MOUNTING
Bolt Circle Dia 6 1/4" 162 mm
Fasteners 6 flathead 1/4" 10 mm

ALUMINUM BAR 28STA
CHROME BAR 28STC
STAINLESS BAR 28STS

MODEL 32

HEIGHT
8 1/4" 225 mm
DRUM DIA
4 1/4" 121 mm
MAX DIA
9 1/4" 241 mm
LINE ENTRY HGT
4" 102 mm
POWER ADVANTAGE RATING
(300)
GEAR RATIO
2.4:1 1st
11:1 2d
POWER RATIO
10.2:1 1st
47:1 2d
WEIGHT
32 lb 14.5 kg alum
45.5 lb 20.7 kg chr or brz
45.5 lb 20.7 kg stainless
MOUNTING
Bolt Circle Dia 7 1/4" 197 mm
Fasteners 6 flathead 1/4" 10 mm

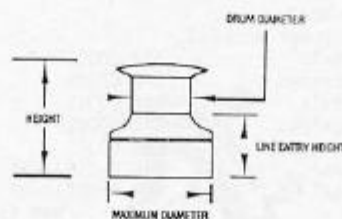
ALUMINUM BAR 32A
CHROME BAR 32C
STAINLESS BAR 32S

When Barient patented their self-tailing mechanism back in 1976, they were free to choose among many designs. After much developing and testing, they chose the spring-loaded principle. They found it to be the only method that worked satisfactorily in the varied, real-life environment of a yacht under sail.

All other self-tailing mechanisms employed today by other manufacturers utilize designs which they rejected, and because of their patents, Barient is the only manufacturer to make available the spring loaded design. Barient manufactures the only self-tailing winch that automatically provides perfect self-tailing alignment for different line sizes.

WINCH MOUNTING HELP

Line Entry Height is a new dimensional specification to assist in planning deck layouts, sheet leads, etc. The dimension locates the lowest point on the winch where the line comes into contact with the drum.



When mounting winches it is important to plan your deck layout to help prevent overrides. One way to do this is to be sure you have the proper lead angle of the line or wire to the winch drum. For most winches, 3° to 8° is about right.



BARIENT WINCHES



MODEL 32ST
HEIGHT
10" 254 mm
DRUM DIA
4 1/4" 121 mm
MAX DIA
9 1/2" 241 mm
LINE ENTRY HGT
4" 102 mm
POWER ADVANTAGE RATING
3850
GEAR RATIO
2.4:1
11:1
POWER RATIO
10:2
47:1
WEIGHT
33.5 lb 15.2 kg alum
45 lb 20.5 kg chr or brz
45 lb 20.5 kg stainless
LINE SIZE RANGE
1/8" - 3/4" 13 - 19 mm
MOUNTING
Bolt Circle Dia 7 1/4" 197 mm
Fasteners 6 flathead 1/4" 10 mm
ALUMINUM BAR 32STA
CHROME BAR 32STC
STAINLESS BAR 32STS

MODEL 32-3
HEIGHT
10 1/4" 270 mm
DRUM DIA
4 1/4" 121 mm
MAX DIA
9 1/2" 241 mm
LINE ENTRY HGT
5 1/4" 146 mm
POWER ADVANTAGE RATING
3850
GEAR RATIO
17:1
4.9:1
11:1
POWER RATIO
7.2:1
20:2
47:1
WEIGHT
36 lb 16.4 kg alum
45 lb 20.7 kg chr or brz
45 lb 20.7 kg stainless
MOUNTING
Bolt Circle Dia 7 1/4" 197 mm
Fasteners 6 roundhead hex head
1/4" 10 mm
ALUMINUM BAR 32-3A
CHROME BAR 32-3C
STAINLESS BAR 32-3S

MODEL 32-3ST
HEIGHT
11 1/4" 298 mm
DRUM DIA
4 1/4" 121 mm
MAX DIA
9 1/2" 241 mm
LINE ENTRY HGT
5 1/4" 146 mm
POWER ADVANTAGE RATING
3850
GEAR RATIO
17:1
4.9:1
11:1
POWER RATIO
7.2:1
20:2
47:1
WEIGHT
37.5 lb 17 kg alum
49 lb 22.3 kg chr or brz
49 lb 22.3 kg stainless
LINE SIZE RANGE
1/8" - 3/4" 13 - 19 mm
MOUNTING
Bolt Circle Dia 7 1/4" 197 mm
Fasteners 6 roundhead hex head
1/4" 10 mm
ALUMINUM BAR 32-3STA
CHROME BAR 32-3STC
STAINLESS BAR 32-3STS

MODEL 632
HEIGHT
8 1/4" 225 mm
DRUM DIA
6" 152 mm
MAX DIA
9 1/2" 241 mm
LINE ENTRY HGT
3 1/4" 86 mm
POWER ADVANTAGE RATING
3300
GEAR RATIO
2.4:1
11:1
POWER RATIO
8:1
37:2
WEIGHT
33 lb 15.9 kg alum
MOUNTING
Bolt Circle Dia 7 1/4" 197 mm
Fasteners 6 flathead 1/4" 10 mm
ALUMINUM BAR 632A

MODEL 632-3
HEIGHT
10 1/4" 270 mm
DRUM DIA
6" 152 mm
MAX DIA
9 1/2" 241 mm
LINE ENTRY HGT
5 1/4" 146 mm
POWER ADVANTAGE RATING
3300
GEAR RATIO
17:1
4.9:1
11:1
POWER RATIO
5.7:1
16:4
37:9
WEIGHT
38 lb 17.7 kg alum
MOUNTING
Bolt Circle Dia 7 1/4" 197 mm
Fasteners 6 roundhead hex head
1/4" 10 mm
ALUMINUM BAR 632-3A

MAINTENANCE AND SERVICE

Periodic maintenance is recommended to insure proper operation and long life of your Bariat winch products. Parts kits and Barlube winch lubricant are available for routine service. The new Bariat Drum Nut Tool permits any winch with a drum nut to be disassembled from the top down without additional tools.

KIT NO.1

For all standard and self-tailing winches except "old style" 35 and 36 2-speed, 19-ST, 2-A and 1 Halyard.

2 Pawls	BAR 0030
4 Springs	BAR 00209
2 Retaining rings	BAR 01045-125
1 Retaining ring	BAR 01045-59
1 Retaining ring	BAR 01045-175
2 Cotter pins	BAR 01077-05
1 Cap screw	BAR 01-205
1 Retaining washer	BAR 01-502

BAR KIT-1

KIT NO.2

For 19-ST Manufactured prior to 1983.

2 Pawls	BAR 00331
4 Springs	BAR 00215
2 Retaining rings	BAR 01045-125
1 Retaining ring	BAR 01045-59
2 Cotter pins	BAR 01077-05

BAR KIT-2

KIT NO.3

All power winches.

2 Pawls	BAR 00330
4 Springs	BAR 00209
2 Pawls	BAR 00311
4 Springs	BAR 00201
4 Plungers	BAR 00301
1 Seal	BAR A-01012-01
1 Seal	BAR A-01012-07

BAR KIT-3

KIT NO.4

No. 35 and No 36 2-speed "old style" and 1 Halyard.

2 Pawls	BAR 00311
4 Springs	BAR 00201
4 Plungers	BAR 00301

BAR KIT-4

KIT NO.5

All handles made after Jan. 1979.

2 Snap rings	BAR 01045-62
2 Washers	BAR 01060-01
2 Caps	BAR 22016
2 Roll Pins	BAR 01075-03
2 Phillips screw	BAR 01144-01

BAR KIT-5

Note: "Old style" 35 and 36 were produced prior to July 1980.

DRUM NUT TOOL
Not illustrated.

BAR DNT

BARIENT WINCH GUIDE

LOA (FEET) LOA (METERS)		20 to 25 6.0 to 7.3	24 to 26 7.3 to 7.9	27 to 29 8.2 to 8.8	30 to 32 9.1 to 9.8	33 to 35 10.1 to 10.7	36 to 38 11.0 to 11.6	39 to 42 11.9 to 12.8	43 to 46 13.1 to 14.0	47 to 51 14.3 to 15.5	52 to 56 15.4 to 17.1
APPROXIMATE SAIL AREA IN SQ. FEET AND (SQ. METERS)		200 (19) 150 (12)	250 (23) 160 (15)	325 (30) 175 (16)	400 (38) 190 (18)	475 (44) 215 (20)	560 (52) 250 (23)	700 (65) 355 (33)	900 (84) 410 (38)	1,100 (102) 500 (47)	1,300 (120) 600 (56)
GENOA SHEET	RACING	Standard Self-Tailing	16P - 10 75TA	18 19	18/21 19	22 or 24 23	27 27	27 or 28 27 or 28	32-3 or 32-3 30-3	35-3 or 36-3 33-3 or 33-3	38-3 or 39-3 36-3 or 36-3
	CRUISING	Standard Self-Tailing	16P - 10 75TA	18/21 17/19	18/21 19	22 or 24 23	24 27	25 or 27 27	32 or 36 32 or 36	35 or 38 33 or 36	38 or 42 36 or 36
SPINNAKER SHEET	RACING	Standard Self-Tailing	8P/16P —	10P —	10/12 —	12/18 19	12/22 23	24/27 27	28 or 32 28 or 32	32 or 36-3 32 or 36-3	35-3/38-3 35-3/38-3
	CRUISING	Standard Self-Tailing	8P —	8P/10P —	10/12 —	12/18 19	12/22 23	24/27 27	28 or 32 28 or 32	32 or 36-3 32 or 36-3	35-3/38-3 35-3/38-3
MAIN SHEET	RACING	Standard Self-Tailing	—	—	10P —	10P or 10 —	12/18 19	18/21 19	21/22 19	23/25 23	25/27 27
	CRUISING	Standard Self-Tailing	—	—	10P 75TA	10P/10 17	10/18 17	18 19	18/21 19	21/22 23	23/25 27
GENOA HALWARD	RACING	Standard Self-Tailing	8P —	8P —	10P/10 —	18 17	18 19	21 23	24/27 23/27	28 28	29/32 28/32
	CRUISING	Standard Self-Tailing	8P —	8P —	10P/10 75TA	18/18 17	18 17	18/21 19	21 23	24/27 23	25/27 28/32
MAIN HALWARD	RACING	Standard Self-Tailing	8P 75TA	8P 75TA	10P 17	10 17	10/18 17	18 19	21 23	24/27 23/27	28 28
	CRUISING	Standard Self-Tailing	8P 75TA	8P 75TA	10P 17	10 17	10 17	18 19	21 23	24/27 23	25/27 28/32
SPINNAKER HALWARD	RACING	Standard Self-Tailing	—	10P/8P —	10P/10 —	10/18 17	18 19	21 23	24/27/27 23/27	27/28 27/28	28/32 28/32
	CRUISING	Standard Self-Tailing	—	8P —	10P —	10/18 17	18 19	18 19	21/24 23	25/27 27	28 28
SPINNAKER POLE TURNING LIFT	RACING	Standard Self-Tailing	—	8P 75TA	10P 75TA	10P/18 17	10/18 17/19	18 19	21 23/27	27 27	27/28 27/28
	CRUISING	Standard Self-Tailing	—	8P 75TA	10P 75TA	10P/18 17	10/18 17/19	18 19	21 23	27 23	27/28 23
SPINNAKER POLE FORELAY	RACING	Standard Self-Tailing	—	8P 75TA	8P 75TA	10P 17	10/17 17	18 19	21/27 23/27	27 27	28 28
	CRUISING	Standard Self-Tailing	—	8P 75TA	10P 75TA	10 17	10/12 17	18 17	21 23	24 23	27/28 27/28
REEF	RACING	Standard Self-Tailing	—	10P 75TA	10/12 21/17	10/18 17	18 19	21 23	24/25 23/27	27 27	27/28 27/28
	CRUISING	Standard Self-Tailing	—	10P 75TA	18 75TA	10/12 17	18 17	21 19	24/25 23	27 27	27 27
STAYSAIL HALWARD	RACING	Standard Self-Tailing	—	—	—	10 17	18 17	21 19	22/25 23	25 27	28 28
	CRUISING	Standard Self-Tailing	—	—	—	10 17	18 17	21 19	24 23	27 27	28 28
RUNNING BACKSTAY MASTHEAD	RACING	Standard Self-Tailing	—	—	—	—	21 19	24 23	27 23	27/28 27/28	28/32 28/32
	CRUISING	Standard Self-Tailing	—	—	—	—	21 19	24 23	27 23	27/28 27/28	28/32 27/28
RUNNING BACKSTAY FRACTIONAL	RACING	Standard Self-Tailing	—	—	18 17	18 19	22 19	24 23	24/27 23/27	27/28 27/28	28/32 28/32
	CRUISING	Standard Self-Tailing	—	—	—	—	—	—	—	—	—

RACING vs. CRUISING

Due to our wide range of winches, we are making a distinction between the racing sailor's needs and the cruising sailor's needs. Racing boats are more concerned with quick sail handling, as a result, you will see three-speed winches recommended for them, but two speed winches for the cruising boat of the same size. Also, since racing boats are pushed harder, in some cases larger winches are recommended for them.

SELF TAILING vs. STANDARD WINCHES

As self-tailing winches become more popular, we feel that it is important to list these, since some self-tailing winch sizes are different than standard winches.

ALUMINUM, CHROMED BRONZE OR STAINLESS STEEL

In addition to selecting your winch size, you must also consider the drum material. Aluminum winch drums are heat treated and hard anodized (a must). They are black in colour and have the advantage to the racer of being light in weight. Do not use wire on aluminum winch drums unless you are prepared to purchase new ones. Chrome plated bronze winch drums are silver in color and quite rugged. They are suitable for all uses. Stainless steel is the most rugged drum material, compared to aluminum or chrome plated bronze, and of course never needs re-chroming.

Please inquire about Barient power driven winches or Coffee grinder systems. We would be most happy to help you to specify the appropriate winches for your boat.

LIMITED WARRANTY

Barient, Inc. warrants each piece of equipment to be free from defects in materials and workmanship for a period of one year from date of purchase. Any part which proves to be defective in the normal use of the equipment will be replaced without charge. This warranty does not apply to damage resulting from accident, neglect, or misuse, including repairs or alterations made by firms other than Barient, Inc. Barient, Inc. also reserves the right to alter specifications without notice.



FOLDING WINCH SEAT

A very comfortable folding seat that fits into the standard winch handle socket. White naugaform vinyl cushions, aluminum hinges and stainless steel fastenings. BAR-FWS



WORLDWIDE DISTRIBUTION & SERVICE

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FAX: 46 45 36 59

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Limited Warranty

I.M.I. Barient, Inc. warrants each piece of equipment to be free from defects in materials and workmanship for a period of one year from date of purchase. Any part which proves to be defective in the normal use of equipment will be replaced without charge. This warranty does not apply to damage resulting from accident, neglect or misuse, including repairs or alterations made by firms other than I.M.I. Barient, Inc. or its authorized representatives. I.M.I. Barient, Inc. reserves the right to alter specifications without notice.

In no event shall I.M.I. Barient, Inc. be liable for special or consequential damages arising from a breach of this warranty.

The foregoing is in lieu of all other warranties, express, implied or statutory and disclaims the implied warranties of merchantability and fitness for a particular purpose. I.M.I. Barient, Inc. does not assume or authorize any person to assume for it any other obligation or liability in connection with its products.