

# ***Nautos***<sup>®</sup>



# Ventos que impulsionam uma paixão

## Winds that drive a passion

Es erfüllt mich mit großem Stolz und großer Genugtuung, dass Nautos 40 Jahre alt wird, ein Unternehmen mit jungem Geist und der gleichen Dynamik wie in den Anfangsjahren.

Im Laufe der Jahre formen uns die Umstände zu dem, was wir heute sind, und in ein paar Jahren werden wir noch größer und vielfältiger sein, sowohl in Bezug auf Produkte als auch kommerziell.

Den Seglern, die uns noch nicht kennen, und den langjährigen Freunden möchte ich betonen, dass der Geist, der uns seit 1976 bewegt, der Segelgeist ist. Der Abenteuergeist, wenn auch vorsichtig, mit viel Liebe zum Detail. Dazu noch Herzlichkeit, Ehrlichkeit und das Ausnutzen der Windrichtung mit großer Leidenschaft! Auf diese Weise entwickeln und produzieren wir unsere Produkte. So definieren wir unseren Kurs.

Ich hoffe, dieser Katalog hilft Ihnen dabei, das zu finden, was Sie suchen, und gibt Ihnen einen guten Überblick darüber, wer wir sind.

Wenn Sie Fragen haben oder uns einfach besser kennenlernen möchten, wenden Sie sich bitte direkt an uns. Was wir am meisten schätzen, ist die Möglichkeit des Kontakts mit unseren Kunden.

AMILCAR ROSSI UND DAS NAUTOS-TEAM

It is a great pride and satisfaction that I see Nautos turning 40 years old, a company with young spirit and the same dynamism of its early years.

Along the years, circumstances mold us in what we are today, and in a few years we will be even bigger and more diverse, both product-wise and commercially.

To the sailors that not yet know us, and to the longtime friends, I wish to underline that the spirit that moves us since 1976 it's the sailing spirit. The adventurous spirit, although cautious, with many attention to detail. In addition to cordiality, honesty and taking advantage of the winds direction with great passion! This is the way we develop and produce our products. This is the way we define our course.

I hope this catalog helps you to find what you are looking for, and gives you a good perspective about who we are.

If you have any questions, or just wish to know us better, please contact us directly. What we cherish the most is the opportunity of contact with our customers.

AMILCAR ROSSI AND THE NAUTOS TEAM



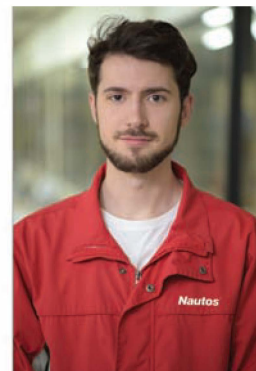
Amilcar Rossi



Júlio Rossi



Hamilton Angonese

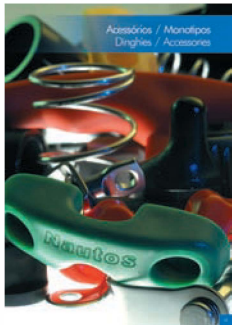


Bruno Rossi

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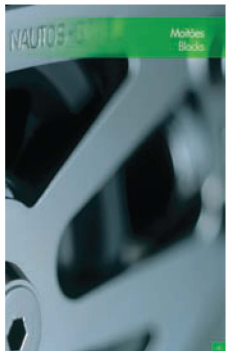
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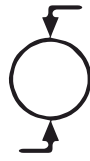
# Legende Icon Meaning

**D**  
mm

Diâmetro do eixo  
**Diameter pin**



Diâmetro interno  
**Internal diameter**



Diâmetro externo  
**External diameter**



Área vélica (m<sup>2</sup>) genoa  
**Fore Sail area (m<sup>2</sup>)**



Área vélica do grande  
**Mainsail area (m<sup>2</sup>)**



Vela grande talada área (m<sup>2</sup>)  
**Full batten mainsail area (m<sup>2</sup>)**



Spinnaker área (m<sup>2</sup>)  
**Spinnaker area (m<sup>2</sup>)**



Diâmetro do cabo (mm)  
**Rope diameter (mm)**



Diâmetro do parafuso (mm)  
**Screw diameter (mm)**



Carga de ruptura (Kg)  
**Breaking load (Kg)**



Carga de trabalho (Kg)  
**Working load (Kg)**

Diâmetro da roldana (mm)  
**Sheave diameter (mm)**



Comprimento do barco (pés)  
**Boat length (feet)**



Diâmetro do eixo (mm)  
**Clevis pin diameter (mm)**



Diâmetro do cabo de aço  
**Cable diameter (mm)**



Comprimento máximo  
estai de proa (m)  
**Maximum headstay  
length (m)**



Peso (g)  
**Weight (g)**

Trilho deslizante (mm)  
**Sliding track (mm)**



Trilho recirculante (mm)  
**Recirculating track (mm)**

**L**  
mm

Distância entre furos  
**Hole spacing**

**B**  
mm

Extensão mínima  
**Extend min**

**W**  
mm

Largura  
**Width**

**M**  
mm

Comprimento  
**Length**

**H**  
mm

Altura  
**Useful height**

**A**  
mm

Extensão máxima  
**Extend max**



Diâmetro do pino  
**Pin diameter**

# Conversões Métricas

## Metric Conversions

All drawings and specs are show metric dimensions. Use this conversion table to determine Imperial value. In values for fastener drilling, use takes the nearest upper value. Check carefully the values for tapping and consider soft materials as wood and hard material as aluminum or steel.

Length			Area		
When you know	Multiply by	To find	When you know	Multiply by	To find
Inches	25.40	Millimeters	Square inches	645.2	Square millimeters
Inches	2.540	Centimeters	Square inches	6.45	Square centimeters
Feet	304.80	Millimeters	Square feet	929.0	Square centimeters
Feet	30.48	Centimeters	Square feet	0.09	Square meters
Feet	0.30	Meters	Square yards	0.84	Square meters
When you know	Divide by	To find	When you know	Divide by	To find
Millimeters	25.40	Inches	Square millimeters	645.2	Square inches
Centimeters	2.54	Inches	Square centimeters	6.45	Square inches
Millimeters	304.48	Feet	Square centimeters	929.0	Square feet
Centimeters	30.48	Feet	Square meters	0.09	Square feet
Meters	0.30	Feet	Square meters	0.84	Square yards

Weight					
When you know	Multiply by	To find	When you know	Divide by	To find
3	3.25	2.5	10-24	13/64	#25
4	4.25	3.25	10-32	13/64	#21

Liquid					
When you know	Multiply by	To find	When you know	Multiply by	To find
Liters	0.26	Gallons	Gallons	3.78	Liters
Liters	2.11	Pints	Pints	0.47	Liters

To use the online calculator for finding length, area and weight go to [www.nautos.com.br](http://www.nautos.com.br)

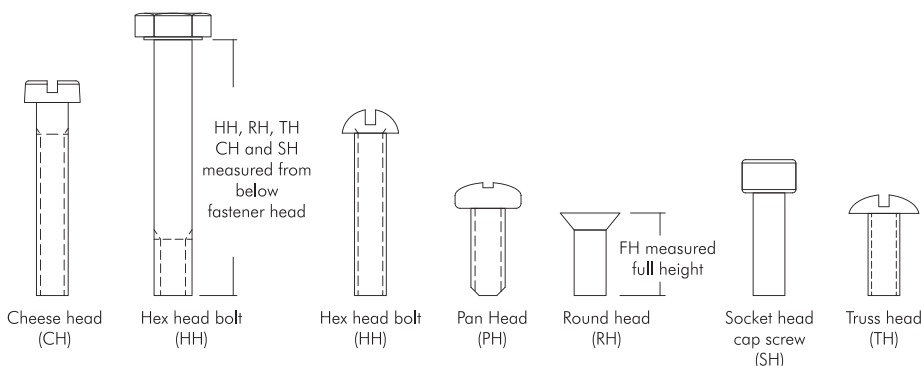
### Drilling Guide

Fastener (mm)	Drill for clearance hole (mm)	Drill for tapping (mm)	Fastener	Drill for clearance hole (in)	Drill for tapping
2	2.25	1.6	6-32	9/64	#36
2.5	2.75	2.05	8-32	11/64	#29
3	3.25	2.5	10-24	13/64	#25
4	4.25	3.25	10-32	13/64	#21
5	5.25	4.25	1/4-20	17/64	#7
6	6.25	5	5/16-18	21/64	#F
8	8.25	6.75	3/8-16	25/64	5/18*
10	10.25	8.5	7/16-14	29/64	#T
12	12.25	10.25	1/2-13	33/64	27/64"
16	16.26	14	5/8-11	41/64	17/32"

### Equivalency Table

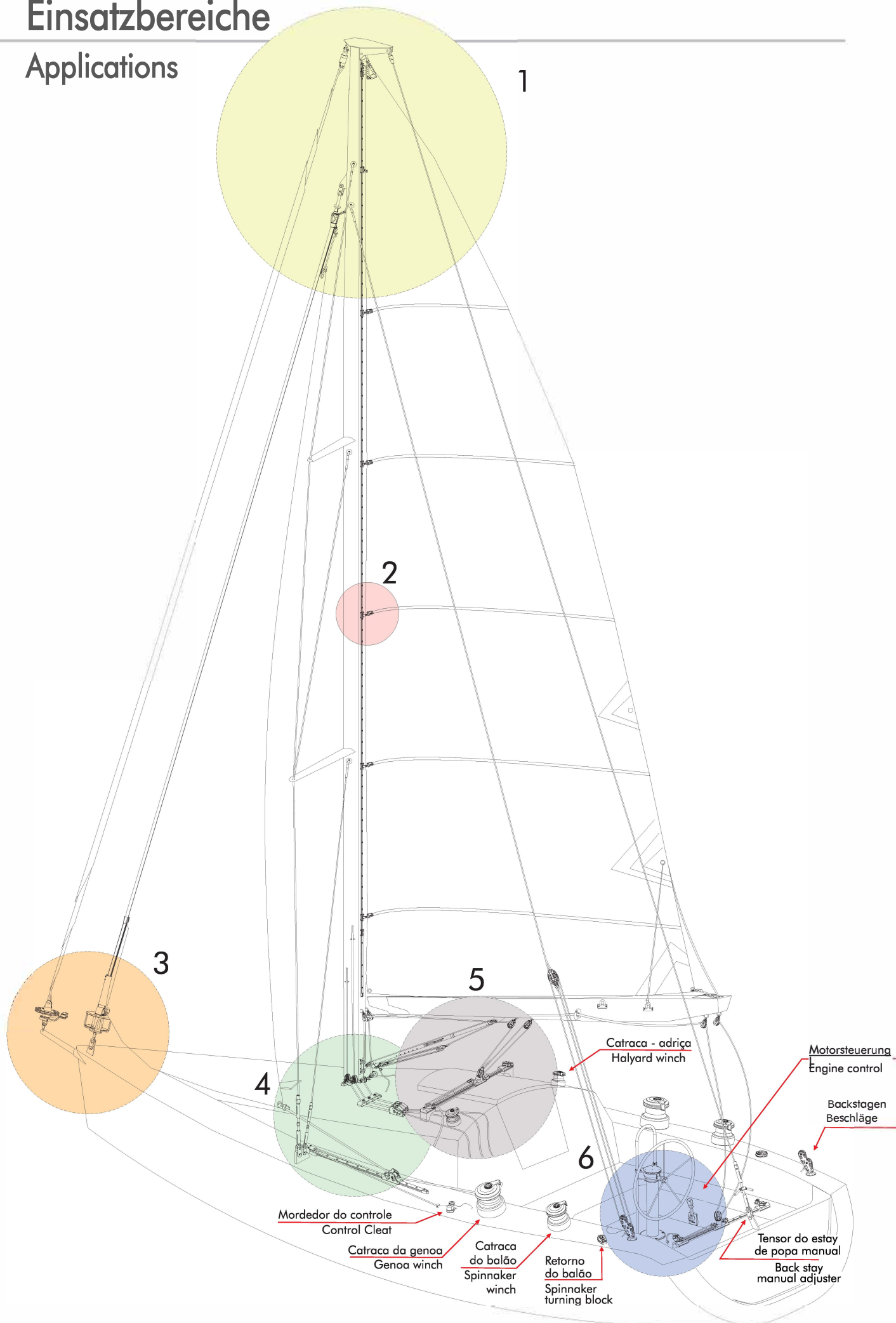
Fraction	Decimal	mm
1/32	0.03	0.79
1/16	0.06	1.59
3/32	0.09	2.38
1/8	0.13	3.18
5/32	0.16	3.97
3/16	0.19	4.76
7/32	0.22	5.56
1/4	0.25	6.35
9/32	0.28	7.14
5/16	0.31	7.94
11/32	0.34	8.73
3/8	0.38	9.53
13/32	0.41	10.32
7/16	0.44	11.11
15/32	0.47	11.91
1/2	0.50	12.70
17/32	0.53	13.49
9/16	0.56	14.29
19/32	0.59	15.08
5/8	0.63	15.88
21/32	0.66	16.67
11/16	0.69	17.46
23/32	0.72	18.26
3/4	0.75	19.05
25/32	0.78	19.84
13/18	0.81	20.64
27/32	0.84	21.43
7/8	0.88	22.23
29/32	0.91	23.02
15/16	0.94	23.81
31/32	0.97	24.61

### Fastener Types

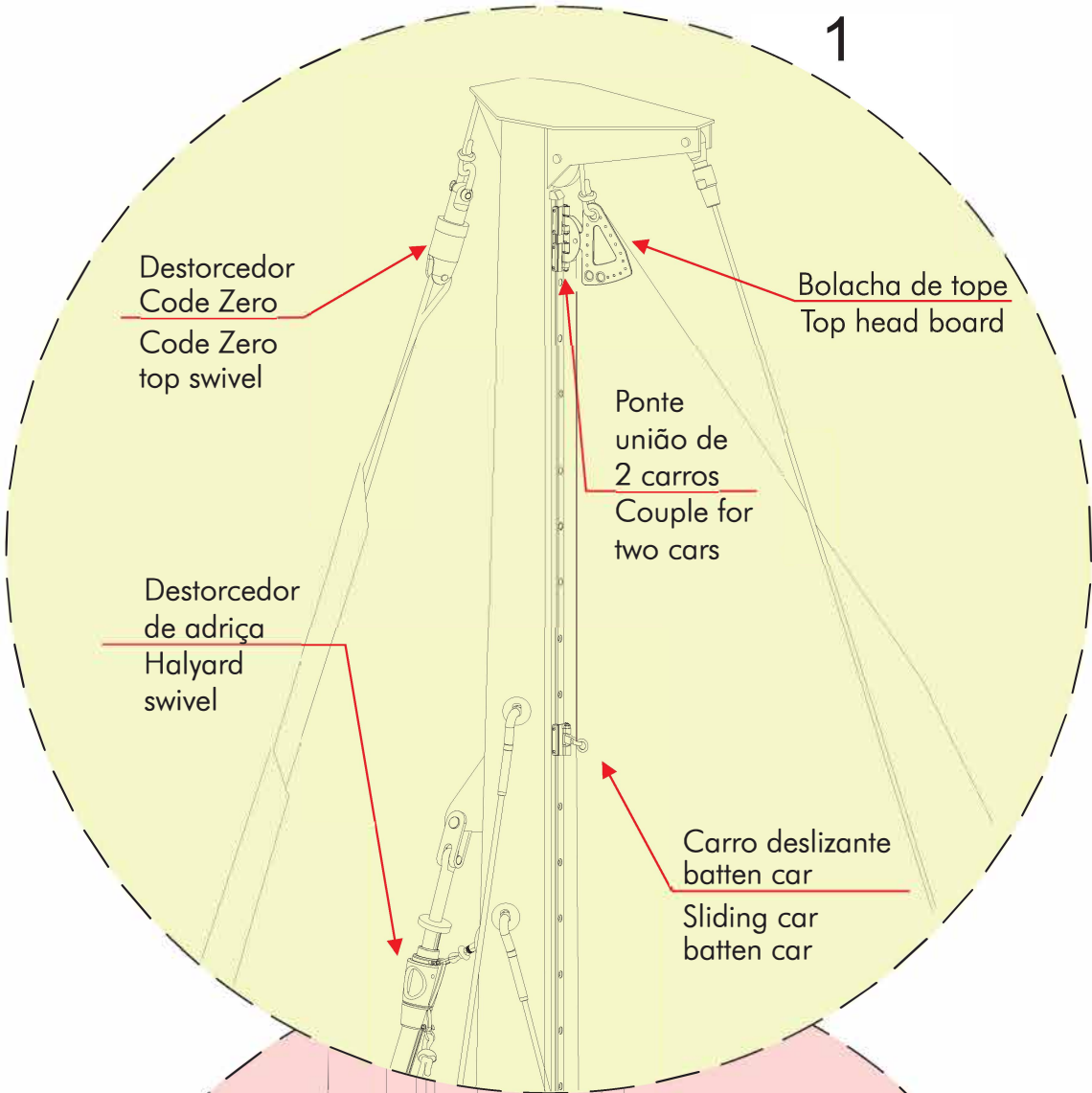


# Einsatzbereiche

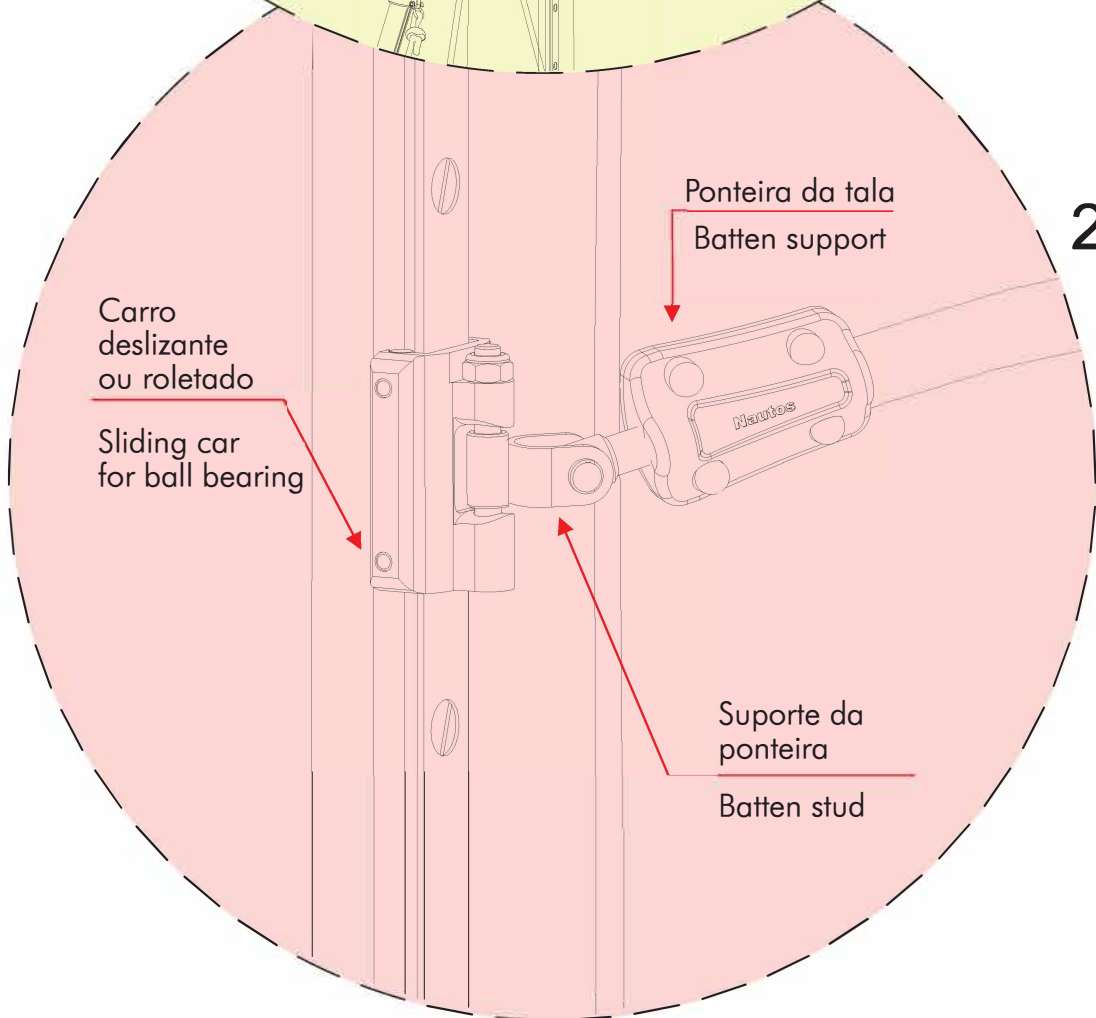
## Applications



1



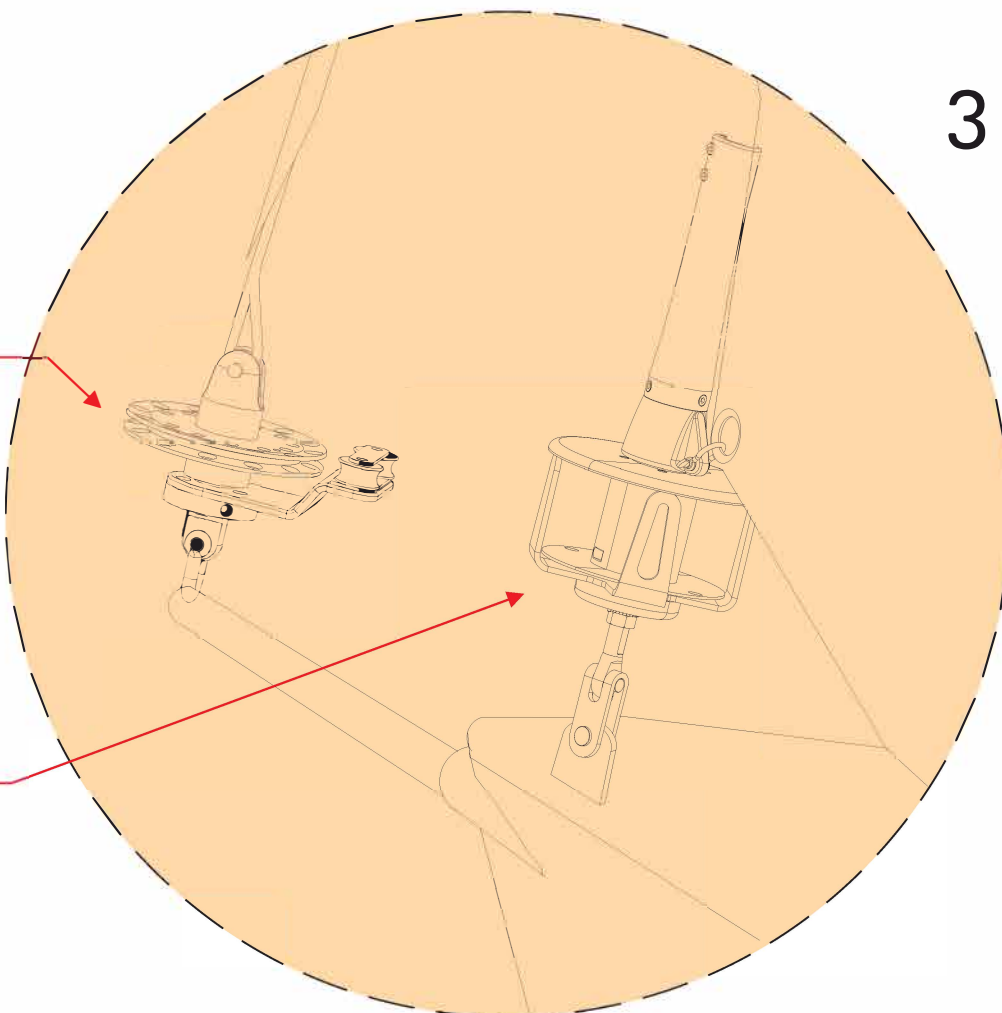
2



3

Code Zero

Enrolador  
Furler



4

Moitão  
alta carga  
High-load  
block

Base redonda  
com alça  
Pad eye

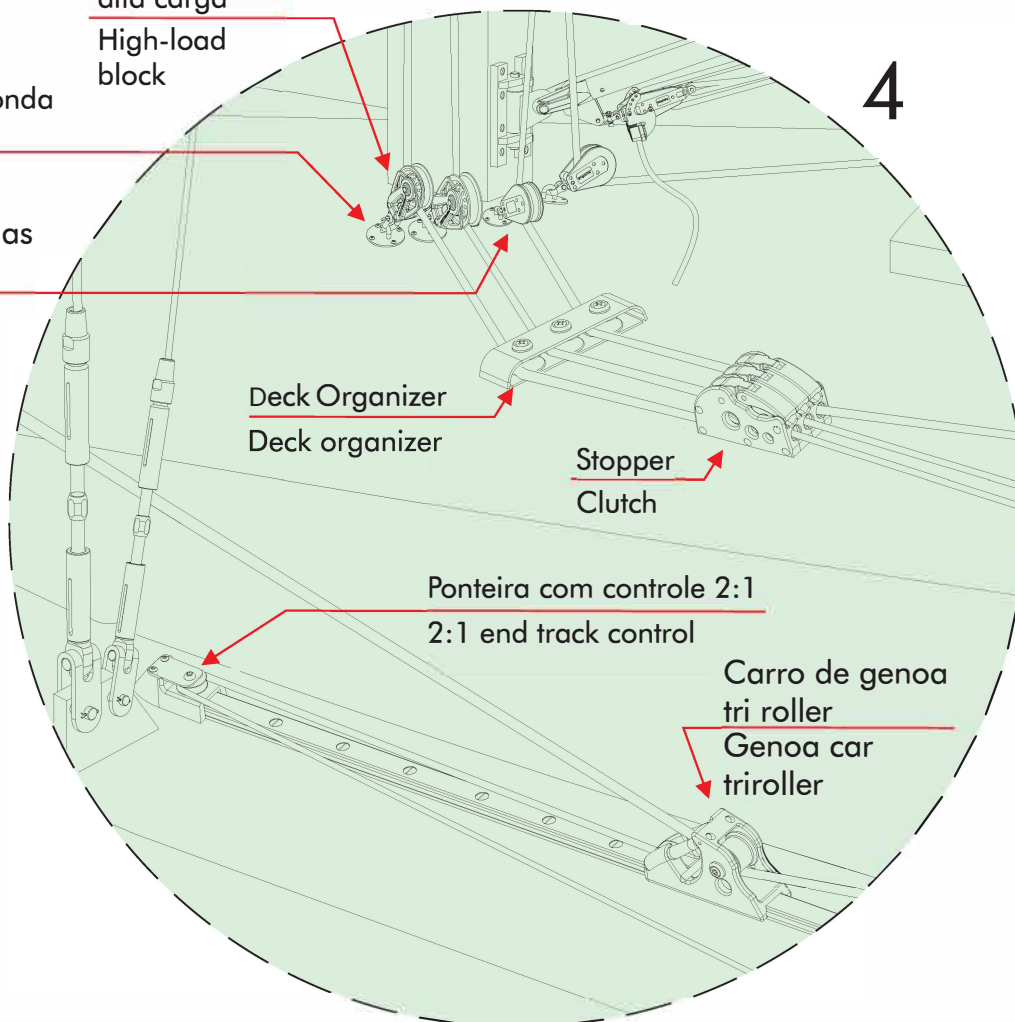
Moitão das  
adriças  
Halyard  
blocks

Deck Organizer  
Deck organizer

Stopper  
Clutch

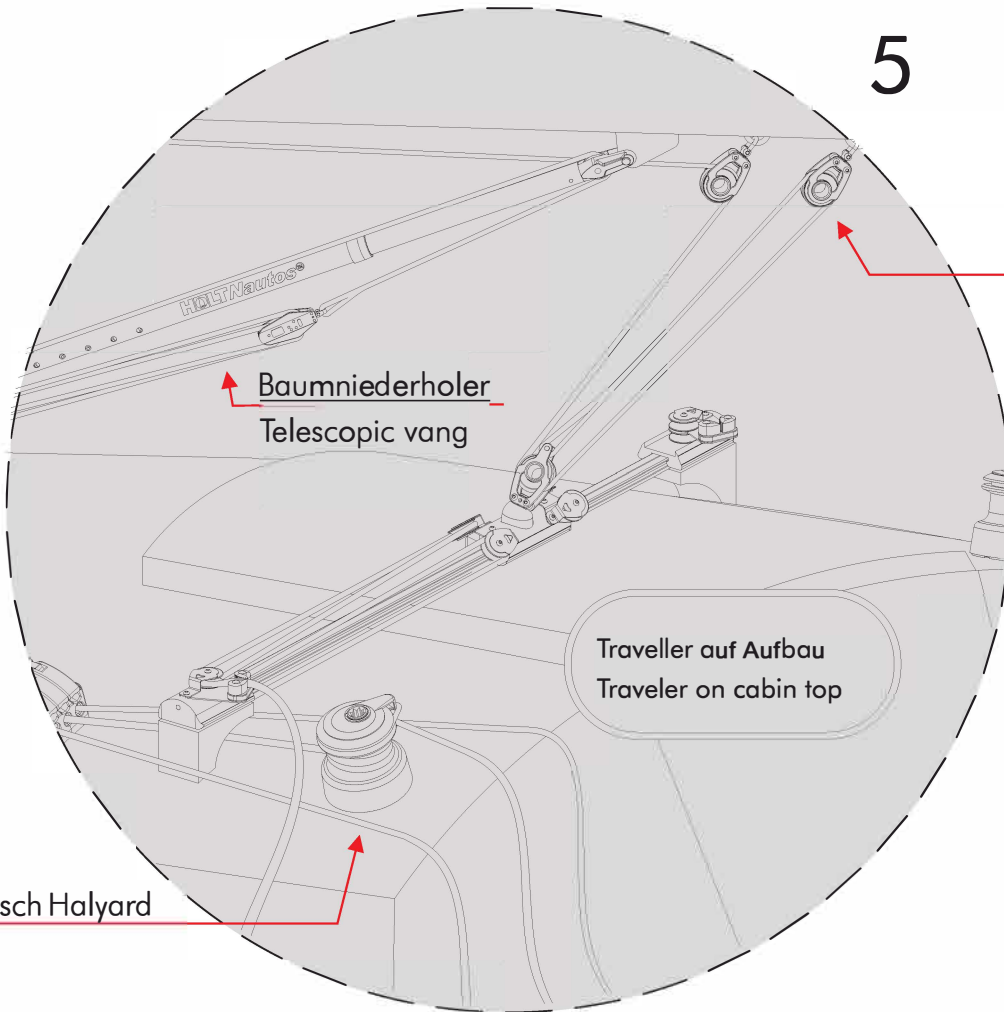
Ponteira com controle 2:1  
2:1 end track control

Carro de genoa  
tri roller  
Genoa car  
triroller





5



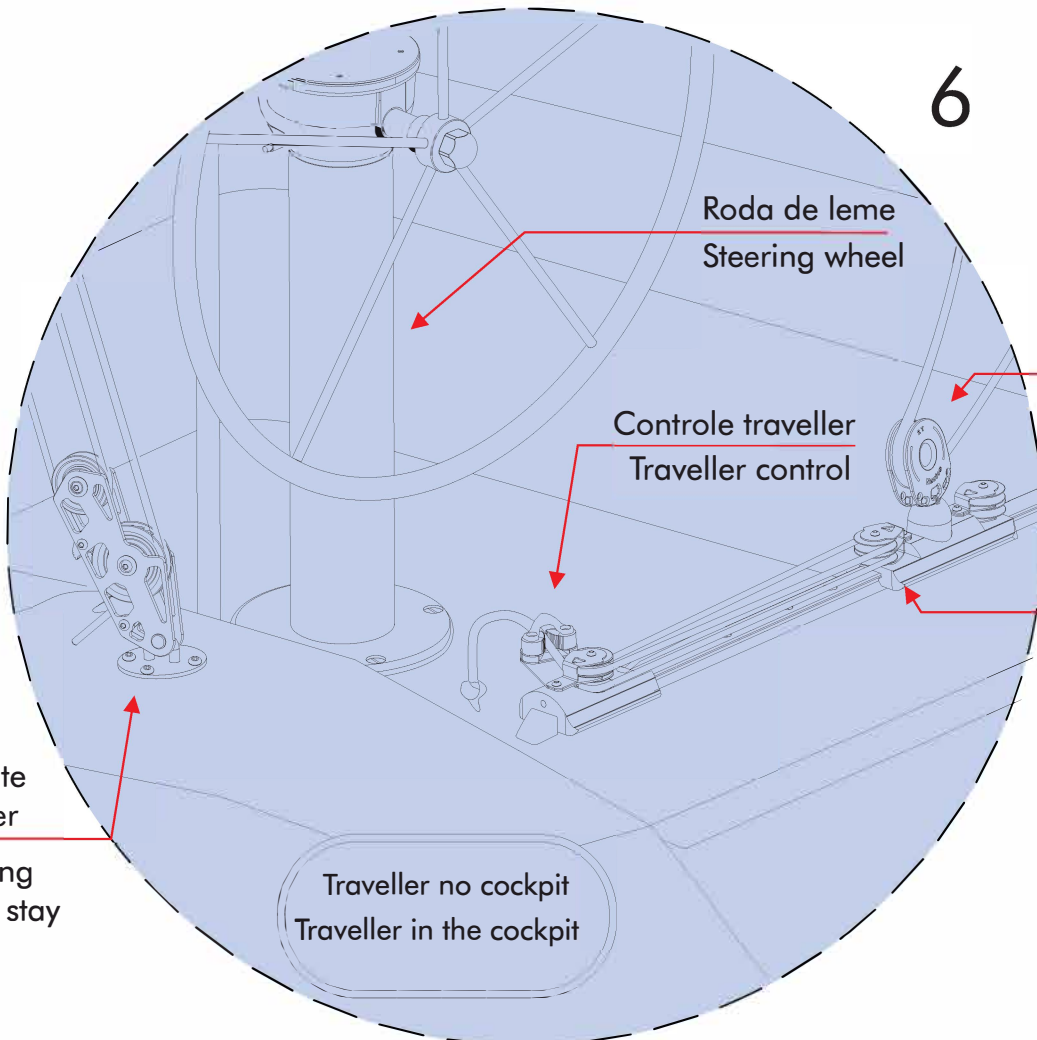
Schotblock  
Sheet boom block

Baumniederholer  
Telescopic vang

Traveller auf Aufbau  
Traveler on cabin top

Fallwisch Halyard  
Winch

6



Roda de leme  
Steering wheel

Moitão sobre traveller  
Traveller block

Controle traveller  
Traveller control

Carro de traveller  
Traveller car

Moitão p/  
estay volante  
com stopper  
Self Jamming  
flying back stay  
block

Traveller no cockpit  
Traveller in the cockpit

# Índice

## Guia de Seleção

- Números em preto  
página de referência
- Números em vermelho  
código de referência
- Ponto em azul  
consultar fornecedor

	Veleiros Monotipo									Veleiros de Regata e Cruzeiro Cabinados de Oceano								
	Monotipos			Com quilha			Multicascos			17' < 24'			25' < 30'			31' < 35'		
	< 18' < 400 kg			< 27' < 1900 kg			< 18' < 800 kg			< 2,5 t			< 4,5 t			< 7,0 t		
m <sup>2</sup>	13	7	25	20	10	35	18	7	25	25	25	50	30	30	75	35	35	85
Trilho	88			88			88			88			88			88		
Ponto no fim da retranca	82 <small>HT 4414</small>			82 <small>91643</small>			82			82			82 <small>91645</small>			82		
Ponto a 3/4 da retranca	82			82			82			82			82			83		
Controle do carro	36			89			89			89			89			89		
Amantilho	36			36			37			37			44			44		
Burro	36/37 /24			54			46			54			81			81		
Cunningham	36/37 /24			36/37 /24			36/37 /24			36/37 /24			36/37 /24			36/37 /24		
Escota	36/41			36/41			41/49			36/41			48			56/51		
Esteira	36/37			36/37			36/37			36/37			45			55		
Rizo				37/32			37/32			37/32			55/47			67		
adriça / halyard				45/47			45/47			45/47			47/67			47/67		

### Sistemas de Spinnaker

Trilho				88									88			88		
Carro do pau				90			●			●			90			90		
Amantilho do pau				37									92359			92219 92659		
Barber			37	37			37			37			37			37		
Burro do pau				36			36			36			37			47		
Desvio 90°			37/45 <small>HT2240</small>	49			49			49			92150			62/63		
Desvio 120°			37/45 <small>HT2240</small>	49			49			49/53			92150			62/63		

### Genoa e Buja

Trilho			88			88				88			88			88		
Carro de genoa		HT4414		84			HT4414			84			84			84/85		
Controle do carro		28 <small>HT2026</small>		36/28			36/28			36/28			36/28			37/89		
Desvio 45°		42/44		47			42/44			44			92250			92250		
Desvio 90°		42/44		47			42/44			92250			92150			62		
Desvio 120°		42/44		92250			42/44			92250			62					

Veja página 49

### Sistemas de adriça e mastro

Moitão da adriça	36	44/46	37/46	45/47			45/47			47 <small>92250</small>	47 <small>92250</small>	47 <small>92210</small>	47 <small>92250</small>	47 <small>92250</small>	47 <small>92210</small>	92838	92838	47/55
Desviador horizontal		57		100			57			100			100					100
Estai de popa		37/42		36 <small>92250</small>						47			47/67/37					67/37
Runners				36 <small>92250</small>			●			47			47/67/37					67/37

Veleiros de Regata e Cruzeiro Cabinados de Oceano									Maxi Barcos			Multicascos de Regata e Cruzeiro																	
36' < 42' < 11,0 t			43' < 48' < 15,0 t			49' < 55' < 19,0 t			56' < 70' < 25,0 t			23' < 30' < 3,5 t			31' < 35' < 6,0 t			36' < 42' < 8,0 t			43' < 48' < 12,0 t			49' < 55' < 14,0 t					
50	50	100	60	55	120	100	80	150	130	120	200	40	25	60	60	35	85	75	35	110	90	60	130	110	80	180			
88			88			88			88			88			88			88			88			88			88		
83 91666			83			83 91652 91667			83 2x91668			83			83			83			83 2x91667 91653			83 2x91668			83 2x91668		
83 91652			83 91653			83 91668			●			83			83			83 2x91668			83 3x91652 3x91667			●			●		
89 92838			89			89			●			89			89			89			89			89			●		
46/81			46/81			●			●			46/81			46/81			46/81			46/81			●			●		
36/37 /24			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61		
56/62			62/63			64			65			48/49			50/53			62/63			63			64			64		
67			67			●			●			45			67			67			67			67			67		
67			67			67			67			67			67			67			67			67			67		
67			67			67			●			67 92232			67			67			67			67			●		

		88			88			88			●			88			88			88			88			●
		90			90			90			●			90			90			90			90			●
		67			67			67			●		2x92259	67			67			67			67			●
		37			●			●			●			37			●			●			●			●
		92250			92800			92815			●			47			92800			92815			●			●
		92823			92828			92835			●			50/62			92815			92823			92828			●
		92823			92828			92835			●			50/62			62/63			62/63			63/64			●



















		88			88			88			●			88			88			88			88			●
		85 91480			86/87 91485			86			●			84			84/85			86/87			86			●
		37/89			58/89			89			58			36/28			37/89			89			58			58
		58/62			62/58			63/58			58			92250			62/58			62/63			63/58			64/58
		63/58			64/58			64/65 /58			58			92150			63/58			63/58			64/58			●
		63/58			65/58			65/58			●			62			58/58			64/58			65/58			●

67	67	67	67	67	67	67	67	67	67	67	●	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
		100			100			100			●			101			101			101			101			●
		47/67			67			67			●			47/37			●			●			67			●
		47/67			67			67			●			67/45			●			67			67			●

# Index

## Selection Guide

- Black numbers  
page
- Red number  
Reference code
- Blue point  
Consult supplier

		Small Sailing Boat									Racing and Cruising Cabin Boats								
		Dinghy			Keel-boats			Multihulls			17' < 24'			25' < 30'			31' < 35'		
		< 18'			< 27'			< 18'			< 2,5 t			< 4,5 t			< 7,0 t		
		< 400 kg			< 1900 kg			< 800 kg											
																			
m <sup>2</sup>		13	7	25	20	10	35	18	7	25	25	25	50	30	30	75	35	35	85
<b>Mainsheet System</b>	Track	88			88			88			88			88			88		
	Traveller end boom	82 HT 4414			82 91643			82			82			82 91643			82		
	Traveller mid boom	82			82			82			82			82			83		
	Traveller control	36			89			89			89			89			89		
	Topping lift	36			36			37			37			44			44		
	Vang	36/37 /24			54			46			54			81			81		
	Cunningham	36/37 /24			36/37 /24			36/37 /24			36/37 /24			36/37 /24			36/37 /24		
	Mainsheet	36/41			36/41			41/49			36/41			48			56/51		
	Outhaul	36/37			36/37			36/37			36/37			45			55		
	Reefing				37/32			37/32			37/32			55/47			67		
Trim				45/47			45/47			45/47			47/67			47/67			

<b>Spinnaker System</b>	Track					88								88			88		
	Pole cars					90		●		●				90			90		
	Pole lift					37		●		●				92359			92219 92659		
	Barber			37		37			37		37			37			37		
	Pole downhaul					36			36		36			37			47		
	Turning block 90°			37/45 HT2240		49			49		49			92150			62/63		
	Turning block 120°			37/45 HT2240		49			49		49/53			92150			62/63		

<b>Fore Sails</b>	Track		88			88				88			88			88		
	Genoa lead car		HT4414			84			HT4414		84			84			84/85	
	Traveller control		28 HT2026			36/28			36/28		36/28			36/28			37/89	
	Turning block 45°		42/44			47			42/44		44			92250			92250	
	Turning block 90°		42/44			47			42/44		92250			92150			62	
	Turning block 120°		42/44			92250			42/44		92250			62				

See page 49

<b>Rigging</b>	Halyard block	36	44/46	37/46		45/47			45/47		47 92250	47 92250	47 92210	47 92250	47 92250	47 92210	92838	92838	47/55
	Deck organizer		57			100			57		100			100			100		
	Bacstay Adjuster		37/42			36 92250					47			47/67/37			67/37		
	Runners					36 92250		●			47			47/67/37			67/37		

This page is a basic guide to select blocks always check loads.

Racing and Cruising Cabin Boats									Maxi Boats			Racing and Cruising Multihulls																				
36' < 42' < 11,0 t			43' < 48' < 15,0 t			49' < 55' < 19,0 t			56' < 70' < 25,0 t			23' < 30' < 3,5 t			31' < 35' < 6,0 t			36' < 42' < 8,0 t			43' < 48' < 12,0 t			49' < 55' < 14,0 t								
50	50	100	60	55	120	100	80	150	130	120	200	40	25	60	60	35	85	75	35	110	90	60	130	110	80	180						
88			88			88			88			88			88			88			88			88			88					
83 91666			83			83 91652 91667			83 2x91668			83			83			83			83 2x91667 91653			83 2x91668			83 2x91668					
83 91652			83 91653			83 91668			●			83			83			83 2x91668			83 3x91652 3x91667			●			●					
89 92838			89			89			●			89			89			89			89			89			●					
46/81			46/81			●			●			46/81			46/81			46/81			46/81			●			●					
36/37 /24			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61			44/47 /61					
56/62			62/63			64			65			48/49			50/53			62/63			63			64			64					
67			67			●			●			45			67			67			67			67			67					
67			67			67			67			67			67			67			67			67			67					
67			67			67			●			67 92232			67			67			67			67			●					

		88		88		88			●		88		88		88		88		88		88		88		●
		90		90		90			●		90		90		90		90		90		90		90		●
		67		67		67			●		2x92259		67		67		67		67		67		67		●
		37		●		●			●		37		●		●		●		●		●		●		●
		92250		92800		92815			●		47		92800		92815		92815		●		●		●		●
		92823		92828		92835			●		50/62		92815		92823		92828		92828		92828		92828		●
		92823		92828		92835			●		50/62		62/63		62/63		63/64		63/64		63/64		63/64		●

	88		88		88		●		88		88		88		88		88		88		88		88		●
	85 91480		86/87 91485		86		●		84		84/85		84/85		86/87		86		86		86		86		●
	37/89		58/89		89		58		36/28		37/89		89		58		58		58		58		58		58
	58/62		62/58		63/58		58		92250		62/58		62/58		62/63		63/58		63/58		63/58		64/58		●
	63/58		64/58		64/65 /58		58		92150		63/58		63/58		63/58		64/58		64/58		64/58		64/58		●
	63/58		65/58		65/58		●		62		58/58		58/58		64/58		65/58		65/58		65/58		65/58		●

67	67	67	67	67	67	67	67	67	67	●	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
	100		100		100		●		101		101		101		101		101		101		101		101		●
	47/67		67		67				47/37		●		●		●		●		●		●		●		●
	47/67		67		67		●		67/45		●		67		67		67		67		67		67		●

# Seleção do Moitão

Antes do tipo correto, devem ser determinadas as cargas, veja página 06 para uma informação aproximada, em caso de dúvida consulte o projetista, nossos revendedores ou a fábrica. Em nossa página [www.nautos.com.br](http://www.nautos.com.br) você encontra calculadores e uma recomendação mais detalhada.

## Tipos básicos de moitão e roldana

**Mancal:** a roldana gira sobre tubo de material especial. Trabalha bem em altas cargas de baixa velocidade, como estais volantes ou burro.

**Roletado de esferas:** a roldana gira com apoio lateral e radial. Ideal para grandes movimentos como escota da grande ou balão.

**Rolamento de rolos:** a roldana gira sobre rolos - mesma utilidade que esferas - com muito mais capacidade.

**Dynamic®:** a roldana gira sobre esferas de aço inox em eixo de inox - grande capacidade em volume compacto.

**De Amarrar:** muito leves. O moitão é amarrado através do eixo dispensando reforços laterais - recomendado para regata.

Escota da grande	Menor 33"	Deve ser rolamento de esferas, Line 57 ou 75	
	Maior 35"	Deve ser rolamento de rolos, Line 75 ou Offshore	
Escota da genoa	Cruzeiro	Menor 33"	Pode ser mancal
		Maior 33"	Pode ser mancal
	Regata	Menor 33"	Pode ser rolamento de rolos
		Maior 33"	Pode ser mancal
Retorno da genoa	Cruzeiro	Menor 33"	Pode ser mancal
		Maior 33"	Pode ser mancal
	Regata	Menor 33"	Melhor ser rolamento de rolos
		Maior 33"	Deve ser rolamento de rolos
Escota do spy	Cruzeiro	Menor 33"	Melhor ser rolamento de esferas
		Maior 33"	Pode ser mancal
	Regata	Menor 28"	Melhor ser rolamento de esferas, Line 57 ou 75
		Maior 33"	Deve ser rolamento de rolos, Line alta carga
Retorno do spy	Cruzeiro	Menor 33"	Pode ser mancal
		Maior 33"	Pode ser mancal
	Regata	Menor 33"	Melhor ser rolamento de rolos
		Maior 33"	Deve ser rolamento de rolos
Burro	Menor 25"	Deve ser em cascata, com o primeiro moitão de rolos ou mancal, depois rolamento de esferas, série Dynamics®	
	Maior 25"	Deve ser em cascata, com o primeiro moitão de mancal, depois esferas ou rolos - checar as cargas (ver burros telescópicos na página 75)	
Estais volantes ou tensor de popa	Menor 25"	Deve ser em cascata, com o primeiro moitão de rolos ou mancal, depois rolamento de esferas, série Dynamics®	
	Maior 25"	Deve ser em cascata, com o primeiro moitão de mancal, depois esferas ou rolos - checar as cargas	
Desvios de adriça, pé de mastro, organizadores	Cruzeiro	Menor 33"	Pode ser mancal
		Maior 33"	Pode ser mancal
	Regata	Menor 25"	Melhor ser esferas, rápido e "à mão"
		Maior 33"	Pode ser mancal
Controles	Considerar espaço e disponibilidade, usualmente moitões de esferas, em barcos maiores de 40, considerar reduções 2:1 ou 3:1 de mancal e usar catraca		

# Select the Right Block

Before selecting the block, one must establish the loads. See page 08 for this information. In case of doubt, contact the boat design office or our dealers. In our website [www.nautos.com.br](http://www.nautos.com.br) you'll find calculators and detailed recommendation.

## Basic types of block construction

**Sleeved:** the sheave turns on plastic or composite bearing. Good for low speed high loads, with standing static pressure like in backstays and vang.

**Ball bearing:** the sheave turns with lateral and radial support, good for relative low loads with long hauls like in the mainsail and spinnaker sheet.

**Roller bearing:** the sheave turns on rolls, same utility as ball bearing but much more load capacity in the same sheave diameter.

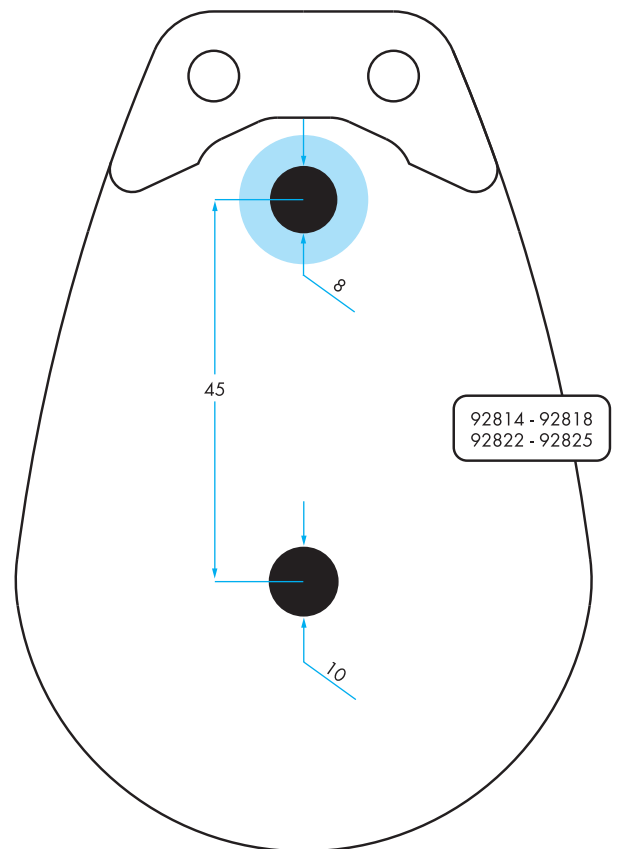
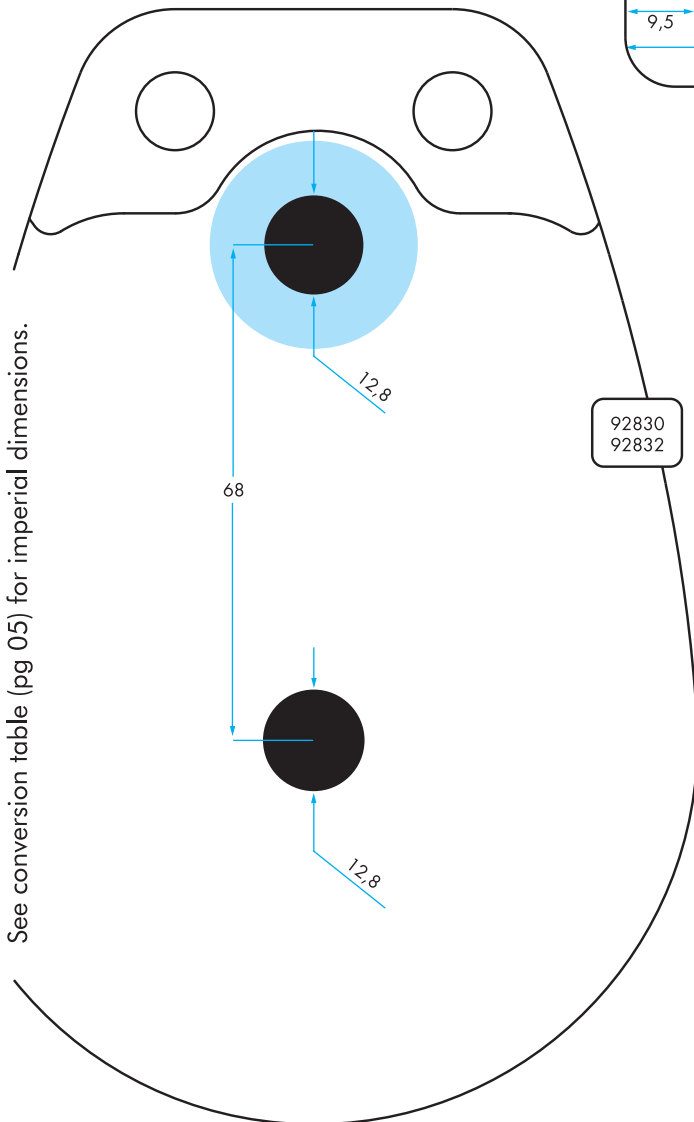
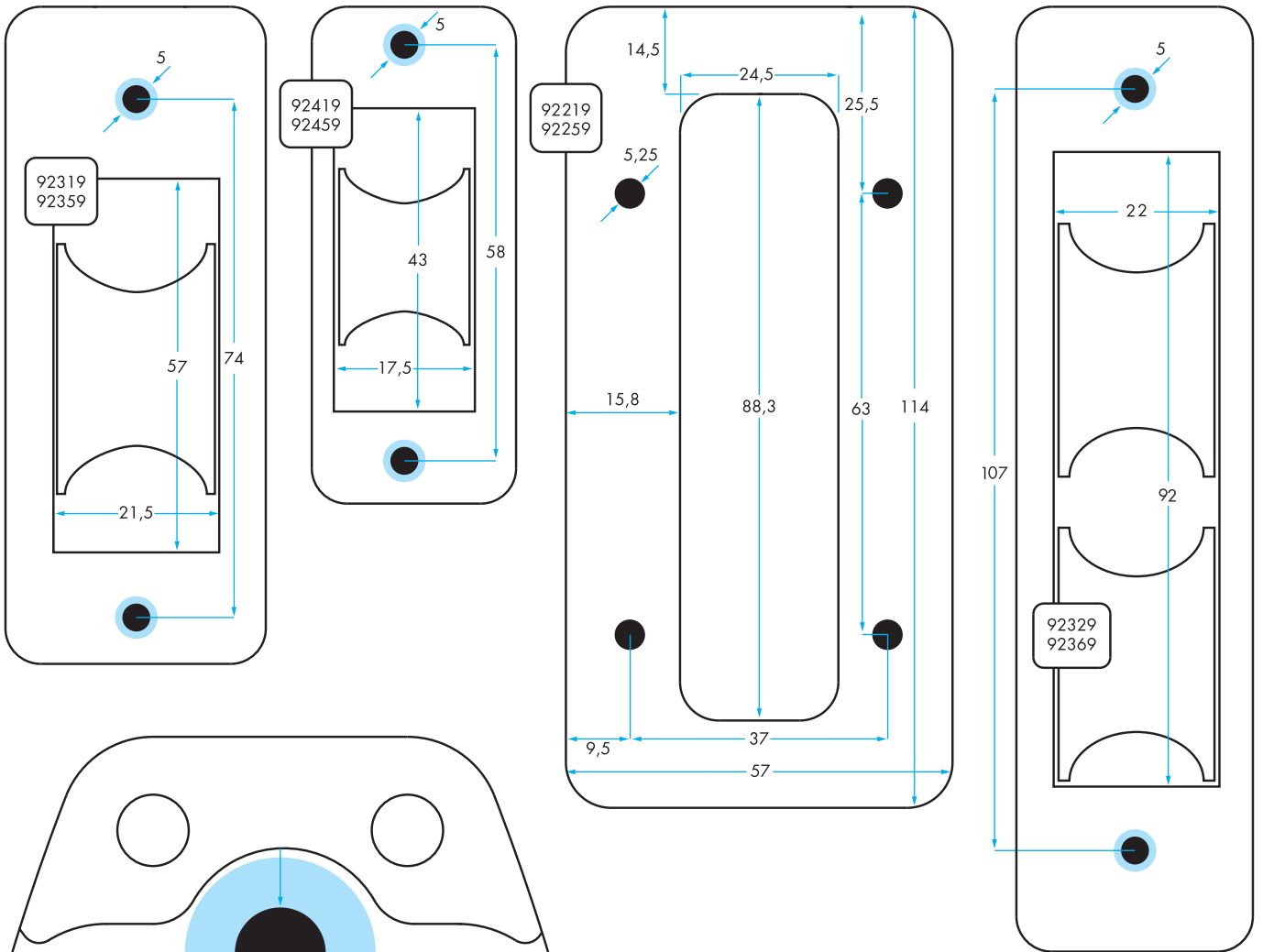
**Dynamic:** blocks with SS ball bearings running over SS track. Big capacity in a compact package. Tie blocks are very light, the load is taken directly by rope loops or straps, allowing light cheeks and eliminating shackles and posts. Highly recommended for racing.

**Tie Blocks:** very light, the block is tied through the axis. Dispensing additional lateral support - recommended for race.

<b>Mainsheet</b>	<b>Smaller than 33"</b>	Must be ball bearing, up to 57mm	
	<b>Bigger than 35"</b>	Must be roller bearing, from Line 75 or Offshore	
<b>Genoa sheet</b>	<b>Cruiser</b>	<b>Smaller than 33"</b>	May be plain bearing
		<b>Bigger than 33"</b>	May be plain bearing
	<b>Racer</b>	<b>Smaller than 33"</b>	Better if roller bearing
		<b>Bigger than 33"</b>	Must be roller bearing
<b>Genoa turning block</b>	<b>Cruiser</b>	<b>Smaller than 33"</b>	May be plain bearing
		<b>Bigger than 33"</b>	May be plain bearing
	<b>Racer</b>	<b>Smaller than 33"</b>	Better if roller bearing
		<b>Bigger than 33"</b>	Must be roller bearing
<b>Spinnaker turning block</b>	<b>Cruiser</b>	<b>Smaller than 33"</b>	May be plain bearing
		<b>Bigger than 33"</b>	May be plain bearing
	<b>Racer</b>	<b>Smaller than 33"</b>	Better if roller bearing
		<b>Bigger than 33"</b>	Must be roller bearing
<b>Vang</b>	<b>Smaller than 25"</b>	Must be cascade, with the fist block roller bearing, then Dynamics, pages 40/41	
	<b>Bigger than 25"</b>	Must be cascade, with the first blocks bushed, then Dynamics or Line, check loads - check page 75 for Telescopic vangs	
<b>Backstay or flying backstays</b>	<b>Smaller than 25"</b>	Must be cascade, with the first block roller bearing, then Dynamics, pages 40/41 - check loads carefully	
	<b>Bigger than 25"</b>	Must be cascade, with the first block roller bearing, then bushed, then roller bearing - check loads carefully	
<b>Halyard turning blocks, deck organizers</b>	<b>Cruiser</b>	<b>Smaller than 33"</b>	May be plain bearing
		<b>Bigger than 33"</b>	May be plain bearing
	<b>Racer</b>	<b>Smaller than 25"</b>	Better if ball bearing for fast hand operation
		<b>Bigger than 33"</b>	May be plain bearing
<b>Car controls, outaul</b>	Consider space and amount of cable - usualy ball bearing blocks. In boats bigger than 40 use 2:1 or 3:1 and go to a winch		

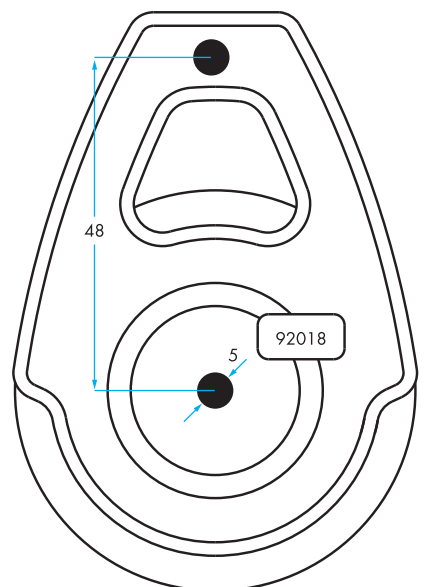
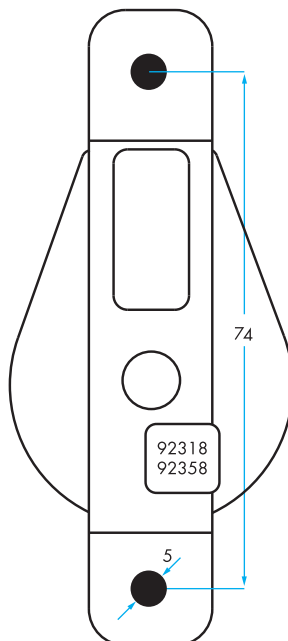
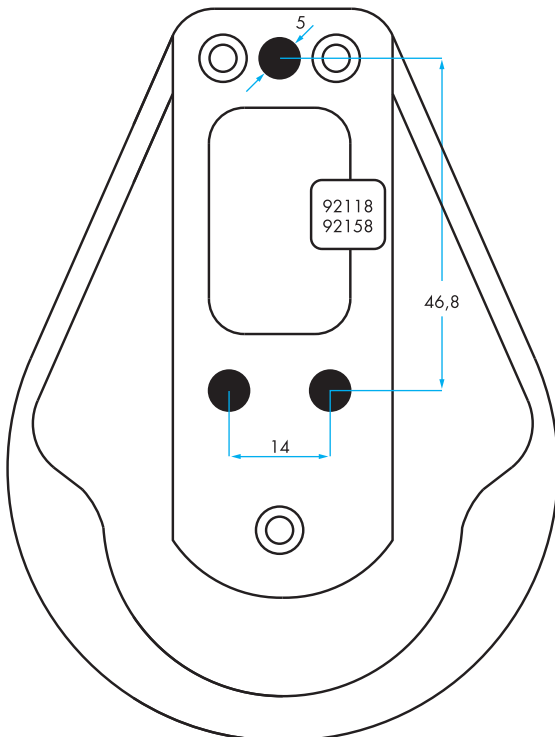
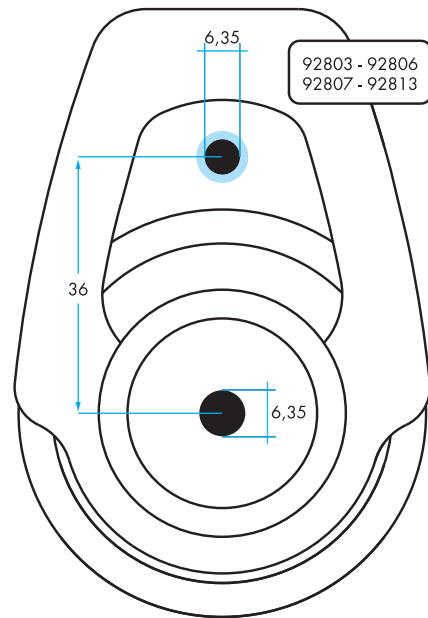
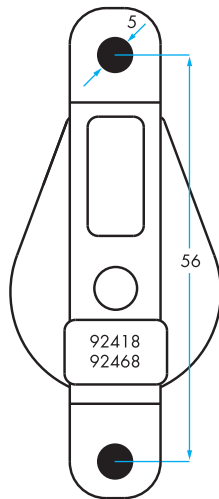
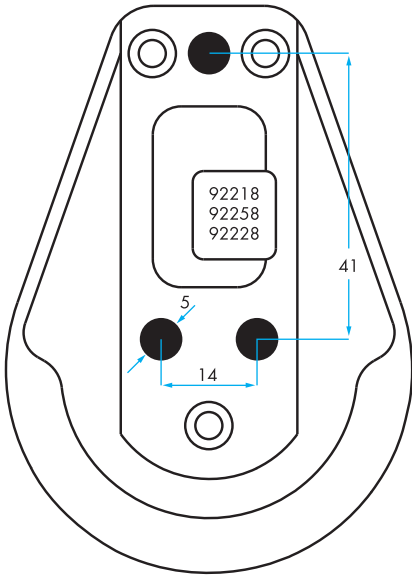
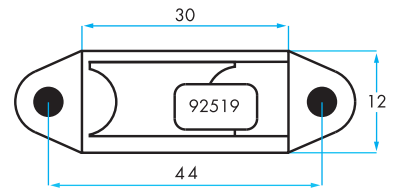
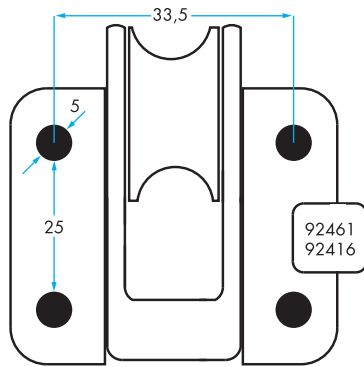
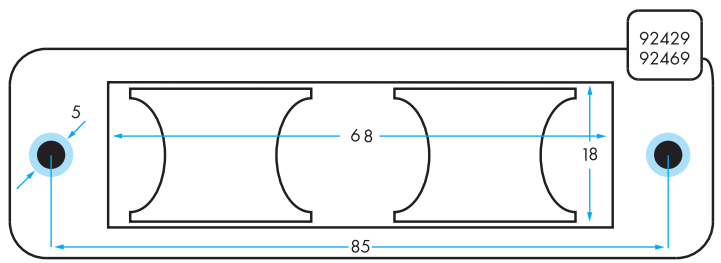
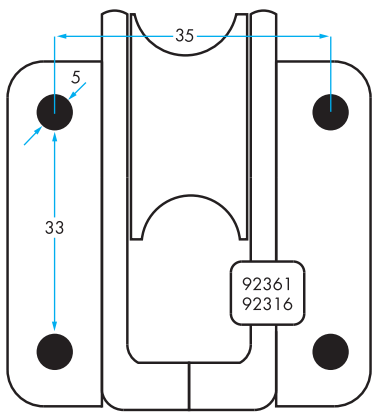
# Dimensões

## Dimensions: metric informations



See conversion table (pg 05) for imperial dimensions.





# Garantia Nautos

## **Cobertura**

Os produtos Nautos estão garantidos em qualquer parte do mundo pela Nautos Indústria Metalúrgica Ltda. quando mantidos e utilizados dentro dos parâmetros estabelecidos pelo catálogo Nautos ou outro documento Nautos. Esta garantia cobre defeitos de material ou fabricação desde a data de sua aquisição até o prazo estabelecido detalhado abaixo

## **Garantia**

Cobre unicamente a utilização dos produtos fabricados pela Nautos Ind. Met. Ltda. para fins recreativos ou de esporte. A Nautos Ind. Met. Ltda. se compromete em substituir o produto ou realizar reparos a seu próprio critério.

## **Garantia limitada**

Cobre produtos vendidos para embarcações com fim comercial, como aluguel, frete, eventos esportivos para embarcações acima de 07 metros, profissionais ou qualquer outra utilização, que não recreativa. Também nesta categoria se enquadram embarcações envolvidas em travessias transoceânicas, ou de longos percursos. Nos casos de travessias ou longos percursos, quando o proprietário consultar previamente a Nautos Ind. Met. Ltda., que realizará sem custos, avaliação da viabilidade de uso dos materiais instalados para este fim, será emitida uma exceção documentada de garantia, com prazos restabelecidos. Dentro da garantia limitada a Nautos Ind. Met. Ltda. se reserva o direito de analisar o equipamento e verificar suas condições de uso antes da substituição ou reparo.

## **Garantidor:**

No Brasil, produtos vendidos através de distribuidores são garantidos pela Nautos Ind. Met. Ltda. na Europa, a garantia dos produtos fabricados pela Nautos é coberta por Holt Marine. Nos Estados Unidos, Canadá e América Central a garantia é coberta por Nautos USA. Para qualquer outra região o cliente deve se dirigir ao local de aquisição do produto, que é o responsável por receber e encaminhar o produto para Nautos Ind. Met. Ltda. no Brasil. A reposição poderá ser feita no local de aquisição ou diretamente pela Nautos Ind. Met. Ltda.

## **Garantia intransferível Nautos:**

A Nautos Ind. Met. Ltda. fornece garantia de seus produtos para o comprador original, e esta não se estende em nenhuma hipótese a terceiros.

## **Prazo de garantia:**

A garantia Nautos cobre defeitos de fabricação ou material por um período de 05 (cinco) anos a contar da data de entrega do produto ao cliente. Este período tem as seguintes exceções:

**Enroladores de Vela:** A garantia Nautos dos enroladores se estende por 07 (sete) anos. Esta garantia não cobre o terminal prensado se este não foi prensado por pessoal autorizado;

**Code Zero:** A garantia para estes produtos é de 02 (dois) anos;

**Catracas Elétricas:** Catracas elétricas, motores, relés e chaves de comando possuem garantia de 02 (dois) anos;

**Produtos Especiais:** Produtos especiais como pedestais, rolamentos de leme, desvios e outras construções tem uma garantia de 02 (dois) anos com exceção de acertos documentados e personalizados em outro documento;

**Terminais e Esticadores:** Para esticadores e terminais rápidos a garantia é de 04 (quatro) anos. Para terminais e esticadores prensáveis a garantia é 04 (anos) apenas nos casos em que a instalação for executada por pessoal autorizado. Nestes casos o cliente deve apresentar comprovante de pagamento para este serviço prestado por pessoal autorizado. Para sua segurança, os terminais e esticadores Nautos devem mantidos de acordo com a tabela de manutenção;

**Cilindros e Válvulas hidráulicas:** A garantia destes produtos é de 01 (um) ano ou conforme especificado em caso de produtos one off;

**Produtos Nautos safety:** A garantia destes produtos é de 01 (um) ano;

**Produtos marcados Nautos, mas não fabricados por Nautos Ind. Met. Ltda.:** Estes produtos possuem etiquetas que estabelecem condições de uso e garantias estabelecidas pelo fabricante.

**Prazo da garantia limitada:** A garantia limitada contra defeitos de fabricação e material é de 01 (um) ano com exceções documentadas.

**A garantia e a garantia limitada não cobrem:** A Nautos não se responsabiliza por danos ou despesas decorrentes relativas às situações relatadas a seguir:

- Defeitos oriundos de mau uso;
- Defeito causado por má instalação;
- Dimensionamento incorreto;
- Desconsideração das recomendações da tabela de manutenção;
- Aplicação dos produtos Nautos para qualquer outra finalidade que não a de náutica de vela de esporte e lazer.

**Atenção: os produtos Nautos foram projetados para uso exclusivo em embarcações à vela de esporte e lazer. Em hipótese alguma use os produtos Nautos destinados a náutica de vela para outros fins, em particular suspensão de pessoas.**

**Garantias Nautos perdem o efeito nos seguintes casos:**

- Defeitos de material ou de acabamento ocorridos durante transporte;
- Ocorrências de defeitos ou acabamento reportadas fora do prazo de garantia;
- Defeito reportado 60 dias após o ocorrido;
- Produto alterado fora das especificações de fábrica;
- Pequenas deteriorações de superfície, como descoloração ou manchas;
- Utilização acima dos limites estabelecidos em manuais, catálogo ou especificações;
- Desgaste normal ou deterioração de superfície devido ao uso ou exposição aos elementos;
- Não cumprimento por parte do cliente das normas estabelecidas na tabela de manutenção, do catálogo Nautos ou nos manuais dos produtos.

**Produtos e componentes que não estão cobertos por garantia:**

- Martelos e molas das catracas;
- Manicacas;
- Arruelas e espaçadores;
- Rolamento de esferas e rolamentos de rolos;
- Grip da catraca.

**Suporte para benefício da garantia:**

Nos casos de aplicação de garantia, o cliente deve entrar em contato com um representante Nautos ou visitar [www.Nautos.com.br](http://www.Nautos.com.br) para detalhes de contato. Para obter o serviço de troca de mercadoria o cliente deve relatar o problema e garantir que a Nautos receba este relato por escrito, dentro do período estabelecido nos termos da garantia, com endereço completo e informações pessoais de contato. A Nautos poderá solicitar ao cliente a nota fiscal, juntamente com respostas às perguntas formuladas para auxílio no diagnóstico. A Nautos Ind. Met. Ltda., e somente ela, examinará a peça e decidirá por substituição ou concerto, informando os custos se houverem.

**Limitações da garantia:**

A garantia presente é único e exclusivo recurso do proprietário em relação ao produto. Esta garantia e suas condições previstas prevalecem sobre quaisquer condições expressas ou verbais, escritas ou implícitas. Nenhum agente Nautos ou empregado não autorizado da Nautos Ind. Met. Ltda. está permitido a modificar ou estender esta garantia. A Nautos Ind. Met. Ltda. não autoriza nenhuma pessoa a assumir qualquer outra obrigação ou responsabilidade com relação aos seus produtos. Esta garantia é regida e interpretada de acordo com as leis do país em que a compra do produto foi realizada.

**Lei de proteção ao consumidor:**

A garantia Nautos concede ao cliente determinados direitos, complementando-os aos já existentes dentro das leis aplicáveis ao seu país, província ou estado. A Nautos Ind. Met. Ltda. não desconsidera, limita, ou interrompe esses direitos, nos casos de acordos extrajudiciais.

**Lei aplicável para demandas judiciais:**

Esta garantia é regida pelas leis brasileiras independente de onde o produto foi comercializado. A jurisdição e foro para qualquer ação judicial iniciada por você, ou relacionada com esta garantia limitada ou qualquer garantia implícita, devem ser resolvidas exclusivamente no foro da comarca de Caxias do Sul, RS.

# Nautos Warranty

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## Coverage

Nautos products are guaranteed anywhere in the world by Nautos Indústria Metalúrgica Ltda when maintained and operated within the parameters established by the Nautos Catalogue or by another Nautos document. This warranty covers material or manufacturing defects from the date of acquisition until the end of the warranty term as detailed below.

## Warranty

Covers only the use of products manufactured by Nautos Ind. Met. Ltda. for recreational or sport purposes. Nautos commits to replace the product or carry out repairs on their diagnosis.

## Limited warranty

Covers products sold for use on vessels with commercial purposes such as rent, freight, professional and sporting events for boats over 07 meters or any other use that is not recreational. Also into this category fall vessels involved in transoceanic crossings or long journeys. In the case of crossings or long distances, if the owner consults Nautos Ind. Met. Ltda. beforehand, an evaluation of viability of the materials installed for this purpose will be performed free of charge, and a documented exception of warranty will be issued with re-established deadlines.

Within the limited warranty, Nautos Ind. Met. Ltda. reserves the right to review the equipment and check its terms of use before replacement or repair.

## Warrantor

In Brazil, products sold through distributors are guaranteed by Nautos Ind. Met. Ltda. in Europe, products manufactured by Nautos are covered by Holt Marine. In the United States, Canada and Central America the warranty is covered by Nautos Usa. In any other region, the customer must refer to the place of purchase, which is responsible for receiving and forwarding the product to Nautos Ind. Met. Ltda. in Brazil. The replacement maybe done at the place of purchase or directly by Nautos Ind. Met. Ltda.

## Nautos non-transferable warranty

Nautos Ind. Met. Ltda. provides warranty of its products to the original customer. This warranty does not extend in any circumstances to third parties.

## Warranty term

The Nautos warranty covers manufacturing and material defects for a period of five (05) years starting from the date of delivery of the product to the final customer. This period has the following exceptions:

**Furlers:** Nautos warranty for furlers extends for seven (07) years. This warranty does not cover the swaged terminal if the swaging was not carried out by authorized personnel;

**Code Zero:** the code zero is warranted for two (2) years;

**Electric Winches:** electric winches, motors, relays and throttle controls are warranted for two (02) years;  
custom products: special products (custom products) such as pedestals, rudder bearings, turning blocks and other constructions are warranted for two (02) years with exception of documented personalised agreements elsewhere;

**Terminals and Turnbuckles:** terminals and turnbuckles are warranted for four (04) years. For swaged terminals and turnbuckles the warranty is for four (04) years only in cases where the installation is performed by authorized personnel. In these cases the customer must present proof of payment for this service provided by authorized personnel. For your safety, Nautos terminals and rigging products must be maintained according to the maintenance chart;

**Cilinders and Hydraulic Valves:** the warranty of these products is one (01) year or as specified in the case of one off products;

**Nautos Safety products:** these products are warranted for one (01) year;

**Products branded Nautos but not manufactured by Nautos Ind. Met. Ltda.:** these products have labels that establish conditions of use and guarantees established by the manufacturer.

## Limited Warranty Term:

The limited warranty covers manufacturing and materials defects for one (01) year with documented exceptions.

**Warranty and limited warranty does not cover:**

Nautos is not liable for damages or expenses concerning the following reported situations:

- Defects caused from misuse;
- Damage caused by incorrect installation;
- Incorrect dimensioning;
- Disregard the recommendations of the maintenance chart;
- Application of Nautos products for any purpose other than the sport and leisure sailing boats.

**Warning: under no circumstances should Nautos products, which are designed only for sport and leisure sailing, be used for any other purposes, in particular for human suspension. Nautos warranties do not cover the following cases.**

**Nautos warranties become void in the following cases:**

- Defects in materials or workmanship occurring during transport;
- Occurrences of defects or workmanship reported out of the current period of the warranty;
- Defects reported after 60 days from the receipt date;
- Products modified from the original factory specifications;
- Small surface deterioration, such as discoloration or stains;
- Use above load limits established in manuals, catalogue or specifications;
- Usual wear or surface deterioration due to the use or exposure to the elements;
- Non-compliance of the standards set in the maintenance schedule, in the Nautos catalogue or in the product manuals.

**Products and components not covered by warranty:**

- Winch pawls and springs;
- Winch handles;
- Washers and spacers;
- Ball bearings and roller bearings;
- Winch grips.

**Support for the claiming of the warranty:**

In the cases of guarantee application, the customer must contact a Nautos representative or visit the Nautos website at [www.nautos.com.br](http://www.nautos.com.br) for contact details. For merchandise exchange service, the customer should report the problem and ensure that Nautos receive a written report, within the period established under the warranty, with full address and personal contact information. Nautos may request the customer invoice, along with answers to questions formulated to aid the diagnosis. Solely Nautos Ind. Met. Ltda. will examine the piece and decide on replacement or repair, informing the costs if any.

**Warranty limitations:**

This warranty is the sole and exclusive appeal of the owner of the product in relation to the product. This warranty and its conditions prevail over any verbal, written or implied express conditions. No Nautos agent or unauthorized Nautos Ind. Met. Ltda. employee is allowed to modify or extend this warranty. Nautos Ind. Met. Ltda. does not authorize any person to assume any other obligation or responsibility with respect to its products. This guarantee is governed and interpreted in accordance with the laws of the country in which the product purchase took place.

**Consumer protection law:**

The Nautos warranty gives to the customers certain rights, complementing the ones existing under the laws applicable to your country, province or state. Nautos Ind. Met. Ltda. Does not ignore, limit or interrupt these rights but only in case of extrajudicial agreements between the parties.

**Applicable law for legal demands:**

This warranty is governed by brazilian laws independent of where the product was sold. The jurisdiction and venue to any legal action initiated by you, or relating to this limited warranty or any implied warranty, should be resolved through mediation or arbitration through the venue of comarca in Caxias do Sul, RS, Brazil.

**Catalogue:**

This catalogue cannot be reproduced in part or in its entirety, without prior written permission. All contents, whether written or photographic, are subject to modification without prior notice and do not constitute a supply contract. Products as shown in this catalog are intended exclusively for nautical uses as per designs intent.

Product	Period	Maintenance	Long-Term Care	Action
Small Blocks	6 Months	Keep Washed / Keep Clean	Inspect for signs of cracks, surface kinks or wear.	Cracked parts are under fatigue. Replacement is considered replace by largest model to twist, check mobility.
Plastic Blocks	6 Months	Keep Washed / Keep Clean	Inspect for signs of cracks, surface kinks or wear.	
Aluminium Blocks	6 Months	Wash and Lubricate It	Inspect for signs of cracks, kinks and corrosion on bolts. Inspect shackles for signs of kinks and cracks.	
Cars and Tracks	1 Year	Wash and Lubricate It		
Clutches	1 Year	Keep Washed / Keep Clean	Inspect for springs integrity	-
Winches	6 Months	Basic maintenance: disassemble, wash using kerosene and absorbent cloth, check the teeth status. Mobility of hammers and springs, use water proof grease for the gears and fine oil for hammers and springs for bolts fixed on parts inox is needed a chemical lock and aluminium compound antiseise check clogged openings and water accumulation inside, check the owner's manual for detailed procedures.		
Term. & rigging	6 Months	Wash and Dry - use Cloth with fine oil on the terminals	Check Body for Cracks Check cotter pin and Locks	Cracked Parts are under fatigue - Replace Them.
Furlers and Code Zero	1 Year	Wash and Dry - Use cloth with vaseline	Check owner's Manual for maintenance instructions	Cracked Parts are Under fatigue - Replace Them.
Engine Controls	6 Months	Remove the Cover and Clean the interior with cloth and vaseline	Check terminals and cables - Lubricate	Replace Rუსity Cable or Broken cover
Cam Cleats	6 Months	Wash and Dry - Use Cloth with vaseline	Keep Washed / Keep Clean	-
Deck Organizers	1 Year	Wash and Dry - Use Cloth with vaseline	Remove the cover and lubricate with fine oil	Replace worn sheave
Swivel Bases	1 Year	Wash and Dry - Use Cloth with vaseline	Keep Washed	-
Baten Car	1 Year	Clean the track with cloth and kerosene lubricate the cars with an oil drop on the balls.	Check Batten Support and Holder	Cracked parts are under fatigue - Replace Them.
Marine Toilet	6 Months	Beyond the normal hygiene care drop some vaseline drops into the toilet.	Check the valves.	Replace defective valves.
Hydraulics	6 Months	Clean with cloth and kerosene.	Check cracks and leaks. Change filters and oil as the manual specifications.	Cracked parts are under fatigue - Replace Them.

Acessórios / Monotipos  
Dinghies / Accessories



# Monotipos

## Dinghies Parts

Laser, Optimist, 420, 470, Sunfish, Snipe, Hobie Cat

<p><b>91115</b></p>  <p><b>Esgotador completo</b> Complete dinghy Bailer</p>	<p><b>HT 5848</b></p>  <p><b>Base com alça e dois mordedores pequenos</b> Fairleads + Cleat &amp; Plate</p>	<p><b>HT 5847</b></p>  <p><b>Base com alça para mordedores</b> Cleat Plate Inc Wire Loops</p>	<p><b>HT 5849</b></p>  <p><b>Base com duas alças e dois moitões</b> SS Plate C/W HT2021F Blocks</p>	<p><b>HT 5850</b></p>  <p><b>Base retangular c/ alças 4mm</b> Block Plate Only</p>
<p><b>HT96113SILVER</b></p>  <p><b>Cabeça de leme Nautos</b> Rudder Head</p>	<p><b>HT 81919</b></p>  <p><b>Tiller Gorilla completo</b> Gorilla Tiller with Clam Cleat + Joint - No Extension</p>	<p><b>95400</b></p>  <p><b>Extensão cana leme 1,10m</b> Tiller extension 1,10m</p>	<p><b>95401</b></p>  <p><b>Extensão cana leme cinza 0,60m</b> Tiller extensio 0,60m</p>	<p><b>HT 4266 COMP</b></p>  <p><b>Base giratória curta com mordedor 91035</b> Mainsheet swivel jammer short arm standard with cam 91035</p>
<p><b>91119</b></p>  <p><b>Macho de cabeça de leme (infer. e super.)</b> Stainless Steel Transom Pintle</p>	<p><b>91158</b></p>  <p><b>Femea de popa com contra chapa</b> Gudgeon</p>	<p><b>91120 ● 91629 ●</b></p>  <p><b>Femea de popa plástica</b> Nylon Transom Gudgeon ( 4 Mouting Holes)</p>	<p><b>91142</b></p>  <p><b>Conj. burro do dinghy completo</b> Complete dinghy Vang</p>	<p><b>91110 ● 91627 ●</b></p>  <p><b>Moitão simples plástico com saída (sem esfera)</b> Plastic block/with becket (no ball bearing)</p>
<p><b>91109 ● 91626 ●</b></p>  <p><b>Moitão simples 40mm plástico (sem esfera)</b> Plastic block (no ball bearing)</p>	<p><b>91124 ● 91631 ●</b></p>  <p><b>Moitão simples plástico com engate rápido em alumínio (sem esfera)</b> Plastic block/with sister clip (no ball bearing)</p>	<p><b>91125 ● 91632 ●</b></p>  <p><b>Moitão simples plástico com engate rápido em alumínio (sem esfera)</b> Plastic block/with sister clip (no ball bearing)</p>	<p><b>91619 ● 91618 ●</b></p>  <p><b>Moitões da escoteira amarrados (40 e 28)</b> 40 and 28mm Linked block</p>	<p><b>91117</b></p>  <p><b>Moitão violino em alumínio/roldana plástica/mordedor em V (sem esfera)</b> Fiddle aluminum block/ plastic sheave/jam cleat (no ball bearing)</p>



**91118**



**Moitão simples em alumínio/saída/roldana plástica (sem esfera)**  
Single aluminum block/ becket/plastic sheave/ (no ball bearing)

100  
200  
6  
20

**HT2021HK**



**Moitão dynamic 20 simples c/gancho**  
20mm dynamic ball block with hook

115  
200  
2,5-6  
20  
17

**HT2021**



**Moitão dynamic 20 simples fixo c/bucha**  
20mm Dynamic Multi Function

115  
540  
2,5-6  
20  
11

**HT2021F**



**Moitão dynamic 20 simples fixo c/garfo**  
20mm Dynamic Fork Block

115  
350  
2,5-6  
20  
15

**HT 2023**



**Moitão dynamic 20 duplo fixo c/saída**  
20mm Dynamic DBL/Becket Block

225  
500  
2,5-6  
20  
33

**HT2020**



**Moitão dynamic 20 simples fixo**  
20mm Dynamic Ball Blocks

115  
540  
2,5-6  
20  
11

**HT2020LZ**



**Moitão dynamic 20 stand-up**  
20mm Dynamic Blocks on Saddle

115  
520  
2,5-6  
20  
15


**HT2031F**



**Moitão dynamic 30 com garfo**  
30mm Dynamic Fork Block

140  
450  
5-10  
30  
19

**HT2030**



**Moitão dynamic 30 simples fixo**  
30mm Dynamic Block

140  
750  
5-10  
30  
18

**HT2030LZ**



**Moitão dynamic 30 stand-up**  
30mm Dynamic Block on Saddle

140  
500  
5-10  
30  
30

**HT4380F-HL**



**Moitão simples fixo 28 rol. alum. e saída**  
27mm B.BLK & Fork-HI Load

**92511**



**Moitão simples girat. c/saída 20mm**  
Mininox single swivel / becket

**92592**



**Moitão simples fixo inox (sem esfera)**  
Single swivel fixed block (no ball bearing)

120  
6  
20

**92590**



**Moitão simples inox com distorcedor/roldana composite (sem esfera)**  
Single swivel block/ (no ball bearing)

100  
6  
20

**92591**



**Moitão simples inox com distorcedor/saída (sem esfera)**  
Single swivel block/becket (no ball bearing)

100  
6  
20

**91035**



**Mordedor forjado de alumínio**  
Aluminum, 3 row ball bearing cam cleat

5  
L mm 38  
H mm 30  
W mm 65  
S12  
140  
330

**91025**



**Mordedor roletado de nylon**  
Composite, 2 row ball bearing cam cleat

5  
L mm 38  
H mm 27  
W mm 65  
S10  
92  
220

**91105 ●  
91624 ●**




**Tampo do garlindou**  
Goose Neck Boom Cap

**91100 ●  
91620 ●**



**Tampo do mastro superior**  
Top Mast/ Boom Cap

**91103 ●  
91623 ●**



**Base mastro inferior**  
Lower Mast Base

91101 ●  
91621 ●



**Base mastro superior**  
Top Mast Base

91145



26  
20

**Boca de lobo**  
Boom Plastic Jaws

91146



26  
20

**Tampa da esteira c/passa cabo**  
Boom Plastic End

91147



6

**Femea de popa nylon**  
Nylon Transom Gudgeon  
(2 Mouting Holes)

91148



**Macho de cabeça de leme**  
Stainless Steel Transom Pintle

91150



22  
17

**Ponte concêntrica de espicha**  
Lower Plastic Gaff End

91151



22  
17

**Ponteira excêntrica da espicha**  
Upper Plastic Gaff End

91152



**Pé de mastro inox regulável sobre 35mm, para mastro de 50mm (Optimist)**  
S/S mastfoot fitting with 35mm adjustment, for a maximum 50mm mast (Optimist)

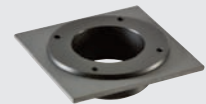
91104



4,8

**Garlindou inox**  
Stainless steel gooseneck

91153



**Enora plástica com contra-chapa para mastro 50mm**  
Mast 50mm partner & black plate

92784



80  
200  
10  
57  
117

**Simple girat. catraca transp./ rold. alumínio**  
Single swivel ratchet/alloy sheave (Optimist)

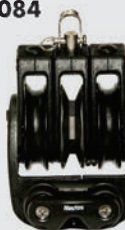
92074



240  
500  
5-12  
57  
107

**Moitão simples girat. c/cat preto 57mm**  
Organic 57 single swvl / ratchet

92084



400  
600  
5-12  
57  
414

**Moitão triplo girat. 57mm catraca c/ mordedor 91025**  
Block Triple Swivel Ratchet With Cam(91025) And Becket Black

92083



400  
600  
5-12  
57  
414

**Moitão triplo giratório 57mm catraca**  
Organic 57 triple swivel rat / cam

92030



400  
600  
5-12  
57  
241

**Moitão triplo giratório 57mm**  
Organic 57 triple swivel

Ht5766



**Base pivotante com mordedor pequeno (91026) e guia**  
Small base with plastic eye cam (91026)

Ht5566



**Base pivotante com mordedor grande (91035) e guia**  
Big base with plastic eye cam (91035)

96134



**Enrolador # 00 inox**  
Stainless steel furling for classic boats - until 28'

91193



**Enrolador pequeno com destorcedor superior**  
Dinghy furler with top head swivel - until 19'

91154





**Chapa de fixação de flutuante**  
Strap Plate In Aluminium (for Strap Or Buoyancy)

# Acessórios

## Accessories



<p><b>91137</b></p>  <p><b>Moitão simples fixo inox para cabo de aço/roldana alumínio</b> Stainless Steel simple fixed block aluminum sheave</p>	<p><b>92593</b></p>  <p><b>Moitão simples fixo inox/saida (s/esfera)</b> Single swivel fixed block/becket (no ball bearing)</p>	<p><b>92784</b></p>  <p><b>Simple giratório catraca transp./roldana alumínio</b> Single swivel ratchet/alloy sheave</p>	<p><b>91033</b></p>  <p><b>Manilha estampada com cupilha</b> Stamped shackle with cotter ring</p>	<p><b>91040</b></p>  <p><b>Manilha estampada com cupilha</b> Stamped shackle with cotter ring</p>
<p><b>91012</b></p>  <p><b>Manilha estampada com cupilha</b> Stamped shackle with cotter ring</p>	<p><b>91079</b></p>  <p><b>Manilha forjada com cupilha</b> Forged shackle with cotter ring</p>	<p><b>91136</b></p>  <p><b>Alça forjada</b> Forged stainless steel eye strap</p>	<p><b>91042</b></p>  <p><b>Alça estampada</b> Large stainless steel eye strap</p>	<p><b>91021</b></p>  <p><b>Alça pequena</b> Small stainless steel eye strap</p>
<p><b>91022</b> 8mm <b>91023</b> 10mm <b>91049</b> 12mm <b>91050</b> 14mm</p>  <p><b>Cupilhas de inox</b> Cotter ring</p>	<p><b>91112</b></p>  <p><b>Porca plástica</b> Plastic nut</p>	<p><b>91051</b> ● <b>91052</b> ●</p>  <p><b>Manipulo para trapézio</b> Trapeze handle</p>	<p><b>91029</b></p>  <p><b>Destorcedor duplo 6,5mm</b> Double swivel 6,5mm</p>	<p><b>91082</b> 2mm <b>91083</b> 2,5mm <b>91084</b> 3mm <b>91085</b> 4-5mm</p>  <p><b>Nicopress</b> Nicopress</p>
<p><b>91122</b> ● <b>91226</b> ● <b>91630</b> ○</p>  <p><b>Chapa plástica para alça de escora</b> Plastic toe strap plate</p>	<p><b>91127</b></p>  <p><b>Conj. parafuso da cabeça de leme</b> Rudder Closing Screw With Plastic Bushing</p>	<p><b>91102</b> ● <b>91622</b> ●</p>  <p><b>Encaixe externo do mastro</b> External Mast Liner</p>	<p><b>91139</b></p>  <p><b>Base de mastro</b> Lower Plastic Mast End</p>	<p><b>91140</b></p>  <p><b>Topo de mastro</b> Upper Plastic Mast End</p>

**91063 Pequeno Small**  
**91064 Grande Big**



**L**  
mm 77  
**H**  
mm 28  
**W**  
mm 6,5

**Engate rápido em alumínio (cri-cri)**  
Sister clip

**91014** 5/32"  
**91015** 3/16"  
**91034** 1/4"  
**91041** 5/16"



**Pino com cupilha**  
Clevis pin

**91070**



**L**  
mm 25

**Passa cabo bipartido**  
Bullseye composite

**HT 450 A**



**Ø**  
25  
**L**  
mm 10

**Guia guarda mancebo roldana removível**  
Stanchion fair leads

**HT 455**



**Ø**  
25  
**L**  
mm 10

**Passador para guarda mancebo**  
Stanchion lead eye

**SHT 873**



**Pino curvo do burro**  
Curved Kicker Key

**91108**



**Adaptador de fixação para moitões**  
Vang lower fitting

**91157**



**Mola segurança do leme**  
Rudder retaining clip

**HT 4034**



**Mola stand up 20mm**  
Stainless Steel spring  
20mm

**91032 Pequeno Small**  
**91024 Grande Big**



**Mola stand-up**  
Stainless steel spring

**91121**



**Destorcedor especial do burro**  
Vang lower swivel fitting

**91116**



**Mordedor plástico jumb**  
Tiller Cleat 6mm Rope

**91112 ●**  
**91128 ○**



**Porca plástica**  
Plastic Nut

**34.018**



**Rolha borracha para esgotador**  
Rubber Bung

**91107 ●**  
**91625 ●**



**Alça plástica**  
Plastic eye strap

**91053**



**Ø**  
38  
**L**  
mm 135  
**W**  
mm 38

**Argola dupla trapézio inox**  
Trapeze double ring

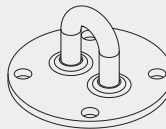
**91058**



**Ø**  
5  
**L**  
mm 31  
**H**  
mm 14  
**W**  
mm 55  
**L**  
1500

**Base redonda com alça 6mm com contra-chapa**  
Stainless steel pad eye & alloy underdeck plate

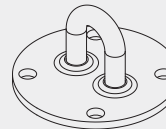
**91059**



**Ø**  
6  
**L**  
mm 37  
**H**  
mm 20  
**W**  
mm 64  
**L**  
2800

**Base redonda com alça 8mm com contra-chapa**  
Stainless steel pad eye & alloy underdeck plate

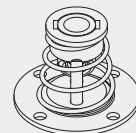
**91060**



**Ø**  
8  
**L**  
mm 45  
**H**  
mm 26  
**W**  
mm 77  
**L**  
3800

**Base redonda com alça 10mm com contra-chapa**  
Stainless steel pad eye & alloy underdeck plate

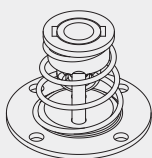
**91043**



**B**  
mm 10  
**L**  
mm 31  
**H**  
mm 28  
**W**  
mm 56  
**L**  
5

**Base com mola stand-up para pino 5mm com contra-chapa**  
Stainless steel base with alloy underdeck plate

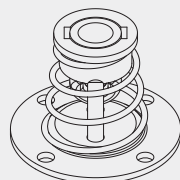
**91044**



**B**  
mm 13  
**L**  
mm 37  
**H**  
mm 34  
**W**  
mm 64  
**L**  
6

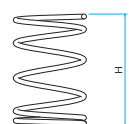
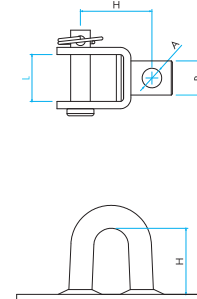
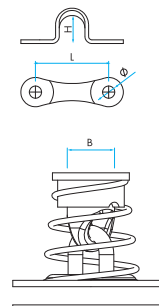
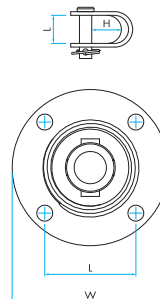
**Base com mola stand-up para pino 6,5mm com contra-chapa**  
Stainless steel base with alloy underdeck plate

**91045**



**B**  
mm 16  
**L**  
mm 45  
**H**  
mm 38  
**W**  
mm 77  
**L**  
8

**Base com mola stand-up para pino 8mm com contra-chapa**  
Stainless steel base with alloy underdeck plate



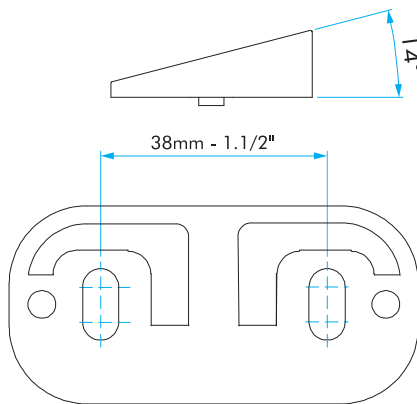
# Mordedores

## Cam cleats



Versões composite e alumínio com nova configuração de ranhuras para facilitar o agarre. O composite é robusto e oferece grande resistência. Para aplicações em alta carga, a versão em alumínio oferece ainda mais resistência e durabilidade.

*Composite and aluminum versions with new teeth configuration for ease of cleating. The composite material is very robust offering greater wear resistance. For high load applications, the aluminum version offers even greater strength and durability.*



**91035**

**91025**

Ø 5  
 L mm 38  
 H mm 27  
 W mm 65  
 5-10  
 92  
 220

**Mordedor roletado de nylon**  
Composite, 2 row ball bearing cam cleat

**91035**

Ø 5  
 L mm 38  
 H mm 30  
 W mm 65  
 5-12  
 140  
 330

**Mordedor forjado de alumínio**  
Aluminum, 3 row ball bearing cam cleat

**91026**

Ø 4  
 L mm 27  
 H mm 21,5  
 W mm 48,5  
 2-6  
 80  
 180

**Mordedor composite pequeno**  
Composite cam cleat

**91026** ●  
**91026BR** ●  
**91026BG** ●  
**91026BY** ●

2-6  
 L mm 27

**Mordedor composite pequeno (sem alça)**  
Composite Cam cleat ( no Fairlead )

**91026** ●  
**91026TR** ●  
**91026TG** ●  
**91026TY** ●

2-6  
 L mm 27

**Mordedor composite pequeno (sem alça)**  
Composite Cam cleat ( no Fairlead )

**91013**

Ø 5  
 L mm 63  
 H mm 48  
 W mm 95  
 8-12

**Mordedor duplo, alta resistência**  
Double cam cleat

91185 ●  
91186 ●



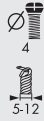
**Guia plástico do mordedor grande**  
Fairlead for big cam cleat

91182 ●  
91183 ●



**Guia plástico do mordedor pequeno**  
Fairlead for small cam cleat

HT91078



**Conjunto base plástico mordedor pequeno com alça metálica**  
27mm base with loops for small cleat

HT91077



**Conjunto base plástico mordedor grande com alça metálica**  
38mm base with loops for big cleat

91062 ●  
91054 ●  
91055 ●  
91056 ●  
91057 ●



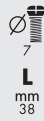
**Alça plástico para mordedor**  
Fairlead for cam plastic

91107 ●  
91625 ●



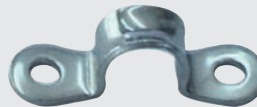
**Alça plástica**  
Plastic eye strap

91038



**Alça baixa para mordedor nylon**  
Stainless steel flat eye strap

91021



**Alça pequena**  
Small stainless steel eye strap

91020



**Alça média**  
Medium stainless steel eye strap

91233



**Alça plástico para mordedor pequeno**  
Fairlead for small cam plastic

91018



**Base inclinada para mordedor pequeno**  
Wedge base for small cam

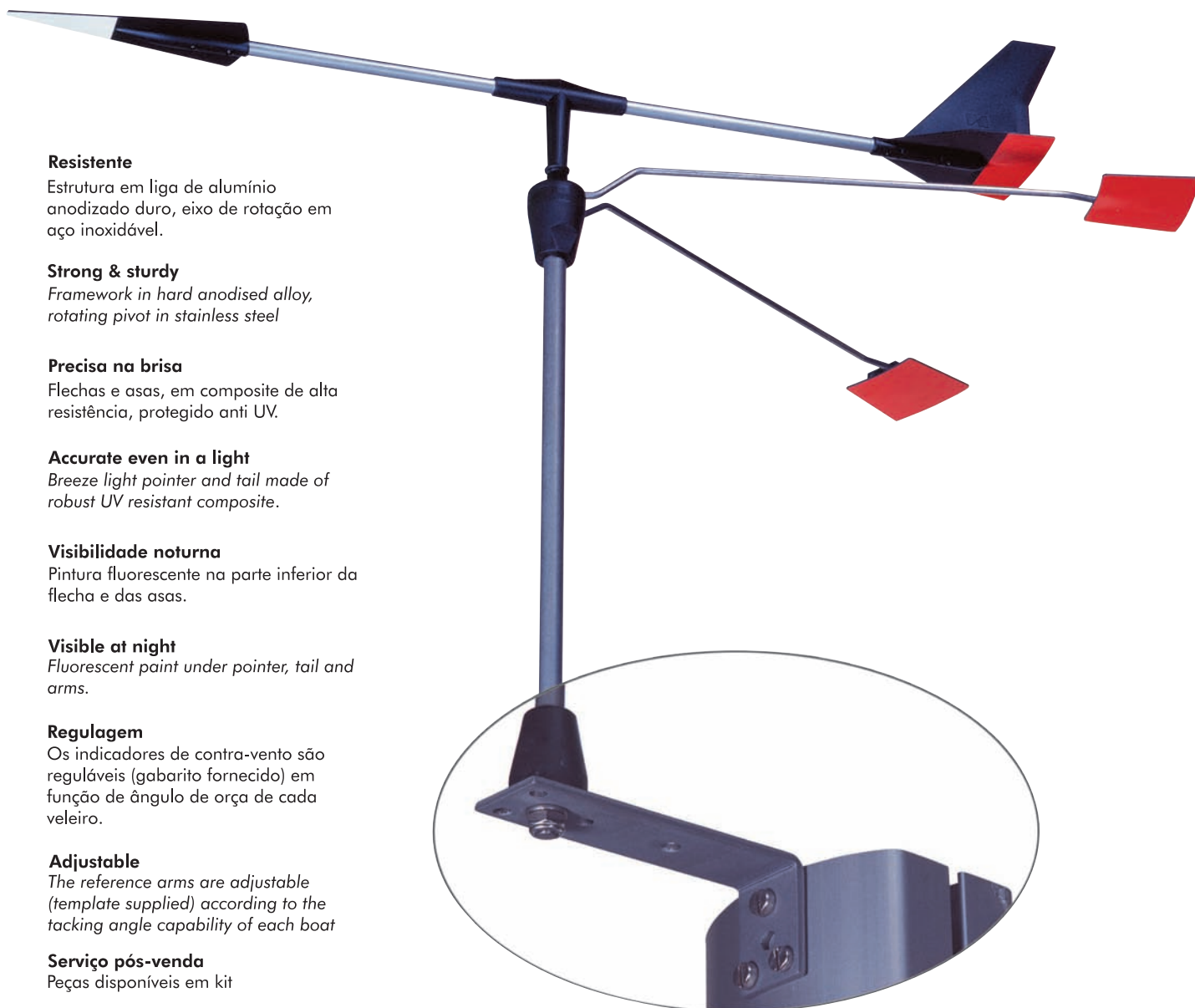
91019



**Base inclinada para mordedor grande**  
Wedge base for big cam

A biruta Wintec resolve o dilema entre a sensibilidade a pequenas brisas e a robustez contra choques e pássaros. A estrutura é feita em liga de alumínio e os indicadores, flechas e asas, em policarbonato. Sua forma aerodinâmica garante uma grande precisão. Outra importante vantagem é que as principais peças de montagem podem ser obtidas separadamente.

*The Wintec Vane is an original approach to the dilemma of lightness versus resistance. With all supporting parts, such as the body and rod made out of aluminum alloy, the Wintec wind vane hits the target with the correct balance between weight and resistance. Feathers and reference tabs are molded from super-strong polycarbonate. It's aerodynamic shape provides a high degree of precision. Another important attribute of this design is the availability of spare parts that can be purchased*



#### Resistente

Estrutura em liga de alumínio anodizado duro, eixo de rotação em aço inoxidável.

#### Strong & sturdy

Framework in hard anodised alloy, rotating pivot in stainless steel

#### Precisa na brisa

Flechas e asas, em composite de alta resistência, protegido anti UV.

#### Accurate even in a light

Breeze light pointer and tail made of robust UV resistant composite.

#### Visibilidade noturna

Pintura fluorescente na parte inferior da flecha e das asas.

#### Visible at night

Fluorescent paint under pointer, tail and arms.

#### Regulagem

Os indicadores de contra-vento são reguláveis (gabarito fornecido) em função de ângulo de orça de cada veleiro.

#### Adjustable

The reference arms are adjustable (template supplied) according to the tacking angle capability of each boat

#### Serviço pós-venda

Peças disponíveis em kit

#### Maintenance

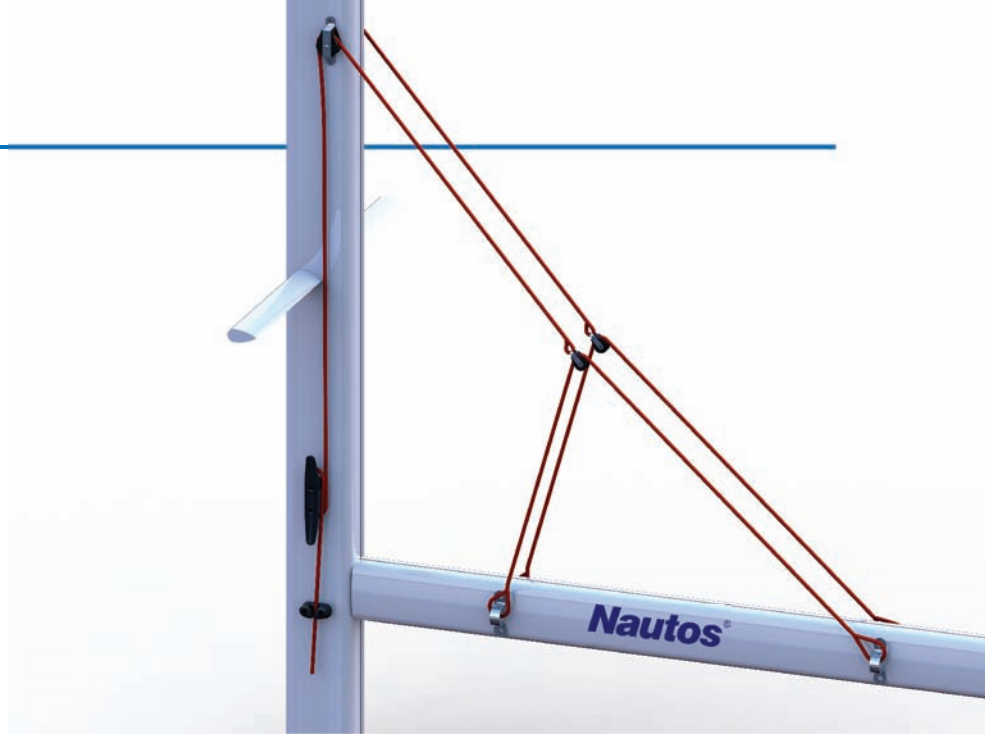
Spare parts available

					<b>H</b>	<b>H</b>
<b>91170</b>	11m	33'	140	5.64	300mm	12"
<b>91180</b>	16m	51'	145	5.96	387mm	15"
<b>91190</b>	18m	60'	155	6.03	457mm	18"
<b>91159</b>	<b>Kit partes plásticas (flechas, asas)</b> Plastic part kit					

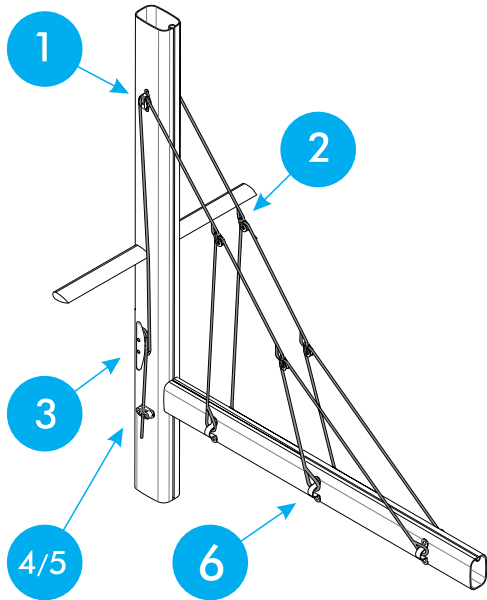
# Lazy Jack

O Lazy Jack Nautos oferece grande resistência e componentes de simples montagem. Pode ser usado em velas Full Baten ou Convencionais.

*The Lazy Jack Nautos offers high strength and ease of assembly components. Can be used with full batten mains or conventional sails.*

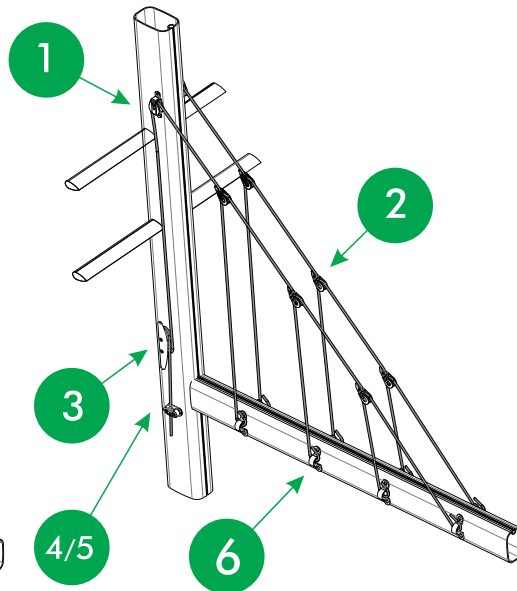


**Type A Small Size Up to 31'**  
91915 and 91915R\*



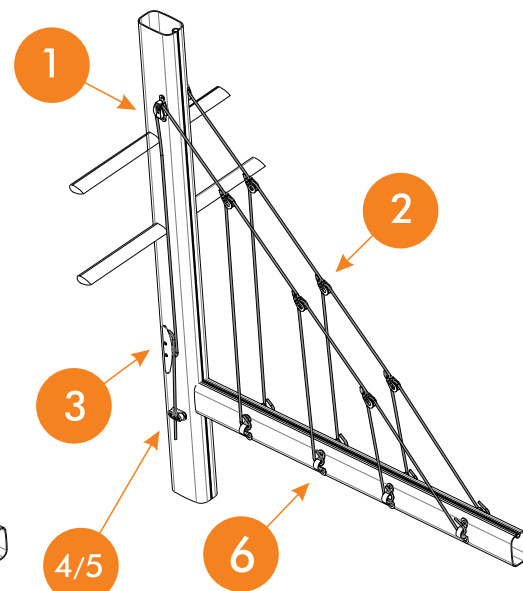
area		code	qty
2		92414	4
1		92418	2
5		91026 Not included optional	2
4		91233 Not included optional	2
6		91021	6
-		5mm - 3/16"	Not included 16
-		5mm - 3/16"	Not included 4
Total Rope:			180'

**Type B Medium Size 32' to 38'**  
91916 and 91916R\*



area		code	qty
2		92414	6
1		92318	2
5		91025 Not included optional	2
4		91054 Not included optional	2
6		91021	8
3		Wm02	2
-		5mm - 3/16"	Not included 20
-		5mm - 3/16"	Not included 4
Total Rope:			215'

**Type C Large Size 39' to 46'**  
91917 and 91917R\*



area		code	qty
2		92314	6
1		92318	2
5		91025	2
4		91054	2
6		91020	8
3		Wm02	2
-		5mm - 3/16"	Not included 20
-		5mm - 3/16"	Not included 4
Total Rope:			275'



NAUTOS-3120

# Moitões Blocks

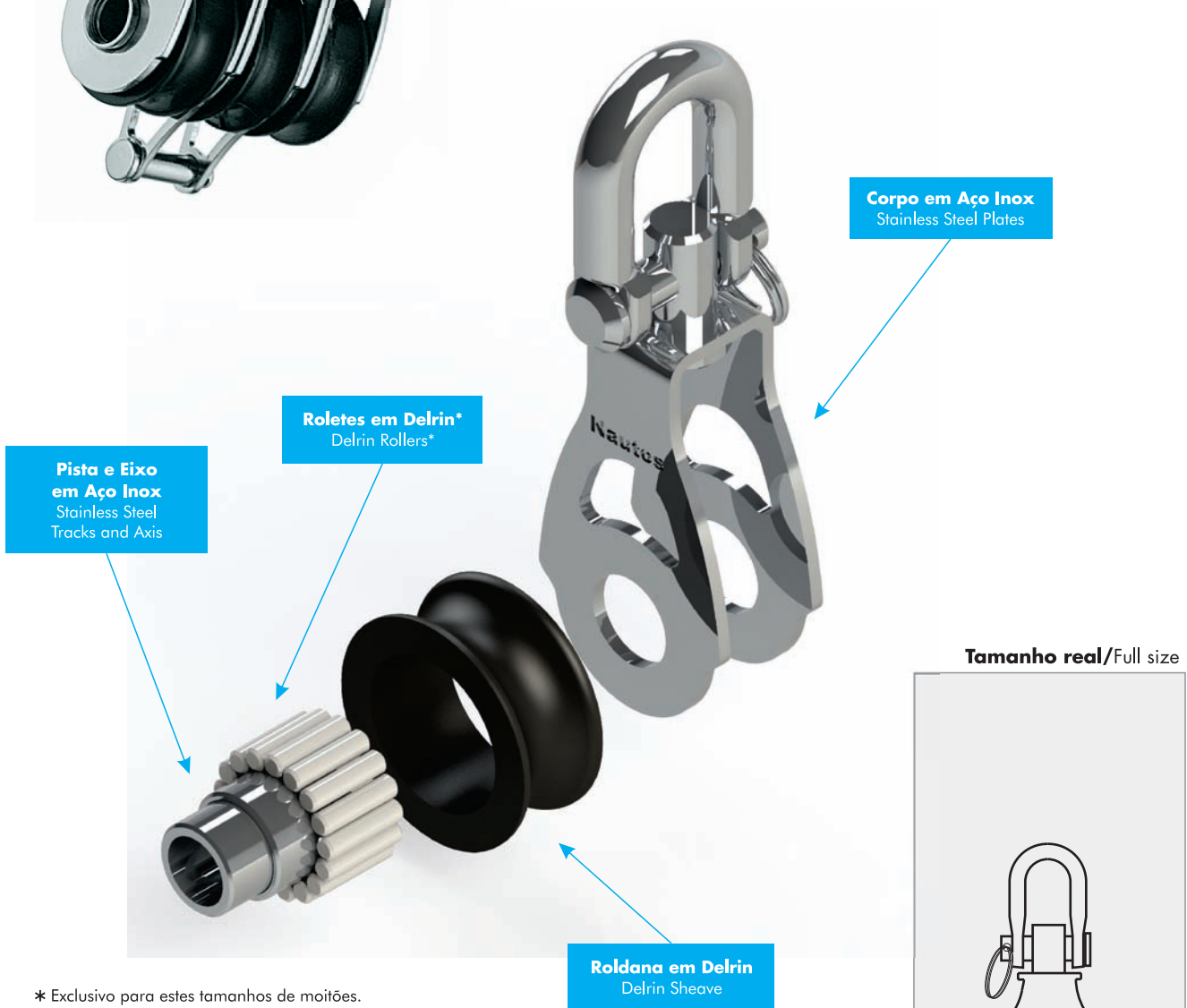


# Mininox 20



Rendimento real nos moitões, mesmo nos menores, sempre foi um princípio da Nautos. O Mininox comprova isto. Roletes sobre eixo rígido absorvem mais carga que esferas.

Real performance even in the small blocks has always been a Nautos principle. The Mininox is evidence of this. Rollers over a hard axle handle a greater load than balls.



\* Exclusivo para estes tamanhos de moitões.  
Exclusive for this blocks size.

**Double fixed**  
Duplo fixo

220  
600  
6 mm  
20 mm  
40

92524

**Double fixed / becket**  
Duplo fixo / saída

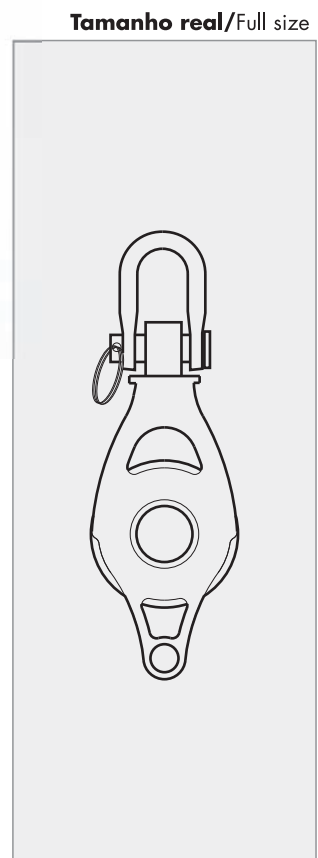
240  
600  
6 mm  
20 mm  
44

92525

**Single footblock pivoting**  
Simples de encosto pivotante

120  
350  
6 mm  
20 mm  
18

92512



**Single swivel**  
Simples giratório

120  
350  
6 mm  
20 mm  
24

**92510**

**Single swivel / alloy sheave**  
Simples giratório / roldana alumínio

150  
350  
6 mm  
20 mm  
28

**92550**

**Single swivel / becket**  
Simples giratório / saída

150  
350  
6 mm  
20 mm  
26

**92511**

**Single swivel, becket / alloy sheave**  
Simples giratório / saída / roldana alumínio

180  
350  
6 mm  
20 mm  
32

**92551**

**Single fixed head**  
Simples fixo

120  
550  
6 mm  
20 mm  
12

**92514**

**Single fixed head / alloy sheave**  
Simples fixo / roldana alumínio

150  
550  
6 mm  
20 mm  
18

**92554**

**Single fixed head / becket**  
Simples fixo / saída

180  
550  
6 mm  
20 mm  
14

**92515**

**Single fixed head, becket / alloy sheave**  
Simples fixo / saída / roldana alumínio

180  
550  
6 mm  
20 mm  
20

**92555**

**Triple fixed**  
Triplo fixo

300  
600  
6 mm  
20 mm  
60

**92534**

**Triple fixed / becket**  
Triplo fixo / saída

300  
600  
6 mm  
20 mm  
64

**92535**

**Triple fixed / cam**  
Triplo fixo / mordedor

300  
600  
6 mm  
20 mm  
100

**92536**

**Triple fixed / cam / becket**  
Triplo fixo / mordedor / saída

300  
600  
6 mm  
20 mm  
105

**92537**

**Back to back**  
Simples engatados

120  
550  
6 mm  
20 mm  
24

**92540**

**Back to back / becket**  
Simples engatados / saída

120  
550  
6 mm  
20 mm  
24

**92541**

**Single vertical lead**  
Simples passador vertical

120  
400  
6 mm  
20 mm  
22

**92516**

**Single vertical lead / alloy sheave**  
Simples passador vertical / roldana alumínio

150  
400  
6 mm  
20 mm  
32

**92561**

**Single through deck**  
Simples de embutir

120  
400  
6 mm  
20 mm  
22

**92519**

**Single through deck / alloy sheave**  
Simples de embutir / roldana alumínio

150  
400  
6 mm  
20 mm  
28

**92559**

**Single footblock**  
Simples de encosto

120  
400  
6 mm  
20 mm  
16

**92518**

**Single footblock / alloy sheave**  
Simples de encosto / roldana alumínio

150  
400  
6 mm  
20 mm  
22

**92558**

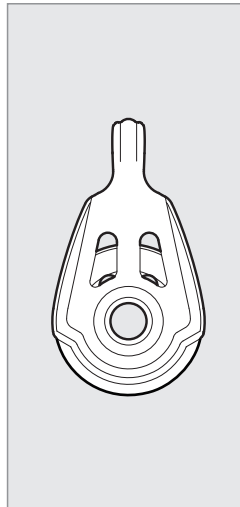
# Dynamic 20



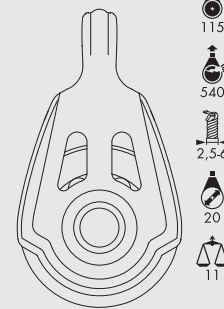
Qualidades especiais desta linha de moitões:  
 Esferas de inox sobre eixo de inox, resultando em grande capacidade e pequeno volume. A alça moldada é suave para os cabos. Além disso, é forte, devido ao seu desenho em dupla curva.  
 Eixo oco que permite ser usado como saída.  
 Lateral completa sobre a roldana, proporcionando proteção no ambiente agressivo das regatas.

*Special features of these blocks:*  
 Stainless steel balls running over stainless steel rails result in a high capacity and performance for such a compact product, Cold forged radiused head increases articulation, is kind to rope and super strong due to the double curved design.  
 Light open axle allows rope to be tied through negating the need for an additional becket. Full molded jacket provides sheave protection for harsh racing environments.

## Tamanho real/Full size

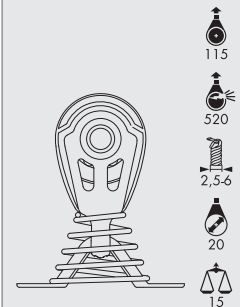


### HT 2020



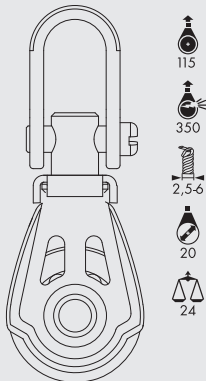
**Simples fixo**  
 Single fixed

### HT 2020 LZ



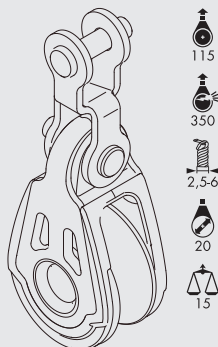
**Stand-up**  
 Stand-up

### HT 2020 SC



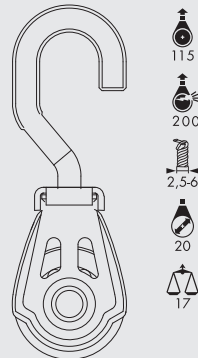
**Simples giratório**  
 Single swivel

### HT 2021 F



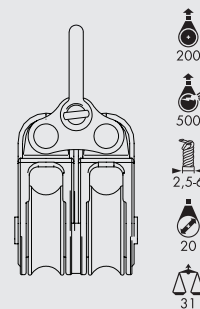
**Simples fixo com garfo**  
 With fork

### HT 2021 HK



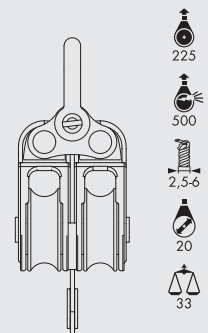
**Simples giratório com gancho**  
 With hook

### HT 2022



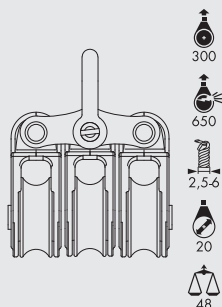
**Duplo fixo**  
 Double fixed

### HT 2023



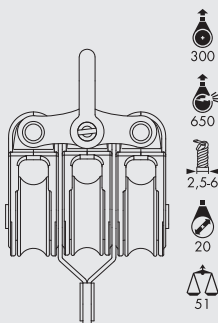
**Duplo fixo/saída**  
 Double fixed/becket

### HT 2024



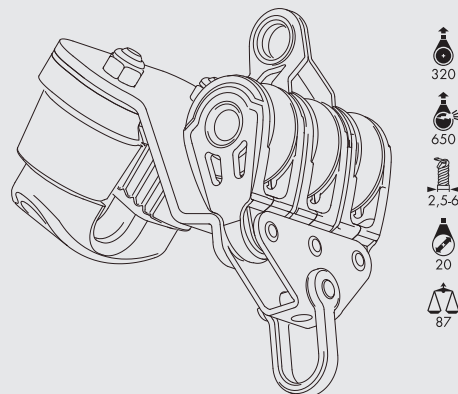
**Tripla fixo**  
 Triple fixed

### HT 2025



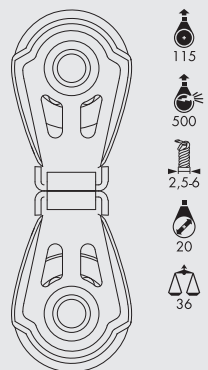
**Tripla fixo/saída**  
 Triple fixed/becket

### HT 2027



**Tripla fixo/mordedor/saída**  
 Triple fixed/cam/becket

### HT 2028



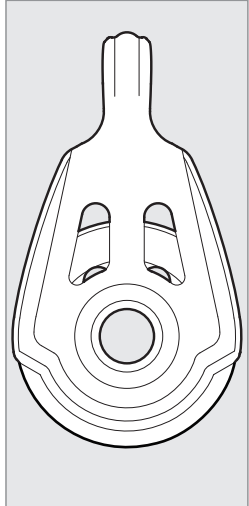
**Engatados**  
 Back to back

**Alça em Aço Inox Estampado**  
Stainless Steel Stamped Loop

**Rolamento em Aço Inox**  
Stainless Steel Bearings

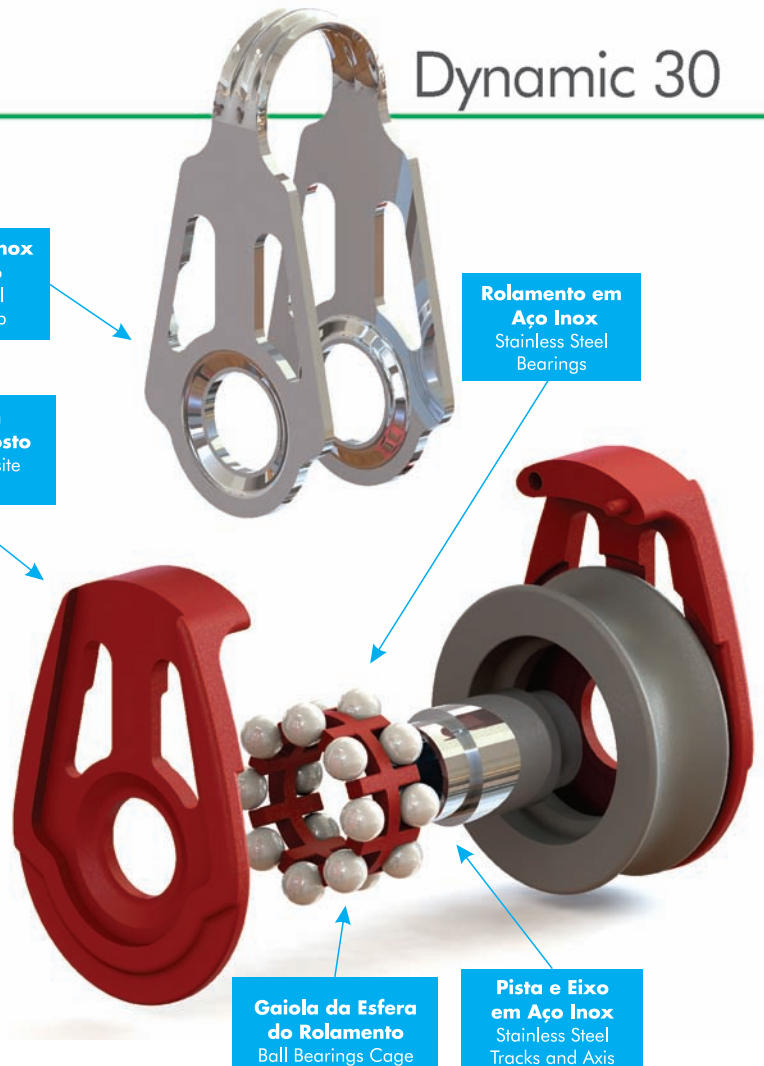
**Lateral em Nylon Composto**  
Nylon Composite Side Plate

Tamanho real/Full size



**HT 2030**

**Simples fixo**  
Single fixed



**Gaiola da Esfera do Rolamento**  
Ball Bearings Cage

**Pista e Eixo em Aço Inox**  
Stainless Steel Tracks and Axis

**HT 2030 LZ**

**Stand-up**  
Stand-up

**HT 2030 SC**

**Simples giratório**  
Single swivel

**HT 2031 HK**

**Simples giratório com gancho**  
Single swivel with hook

**HT 2031 F**

**Com garfo**  
With fork

**HT 2032**

**Duplo fixo**  
Double fixed

**HT 2033**

**Duplo fixo/saída**  
Double fixed/becket

**HT 2034**

**Triplo fixo**  
Triple fixed

**HT 2039**

**Violino/mordedor/saída**  
Fiddle swivel/cam/becket

**HT 2039 CAM**

**Simples com gancho rápido**  
Single with fast hook






# Moitão Catraca Automática

## Automatic Ratchet Block

Catraca sensível a carga é uma necessidade em muitas situações. A Nautos oferece dois novos modelos com sistema de gatilho seguro e rápido. Característica única, o pino giratório é removível, transformando um moitão de manilha em um de amarrar.

Sensitive load ratchet is a must in many situation. Nautos offer two new models with clean and secure triggering action. Unique feature, removable swivel pin turns shackle block into Tie-on Block.



					
<b>HT 2240</b>	100	300	8	50	40
<b>HT 2260</b>	250	650	10	60	57

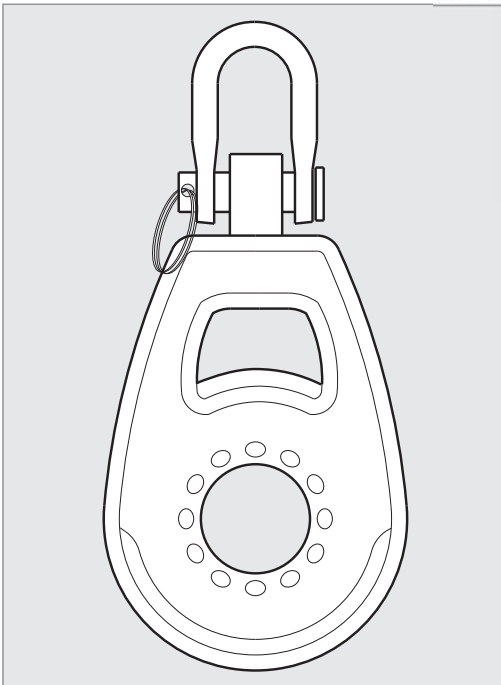


Os moitões da série Organic são um conceito original Nautos que alia laterais em composite e pistas de alumínio, permitindo virtualmente fricção zero extrema resistência ao calor, para a máxima performance em barcos médios e pequenos de regata.

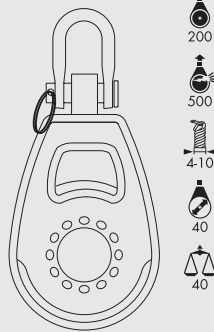
*The Organic block from Nautos is an original concept that allies composite cheeks with aluminum races for near zero friction and heat resistance, allowing maximum performance in racers up to 32 feet.*



Tamanho real/Full size

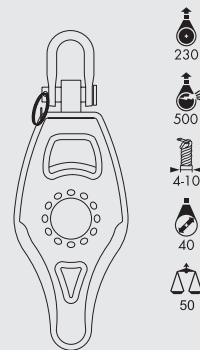


92035



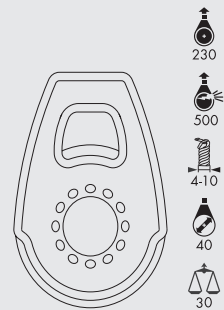
**Simples giratório**  
Single swivel

92040



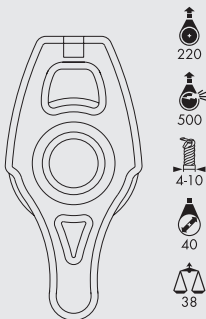
**Simples giratório/saída**  
Single swivel/becket

92045



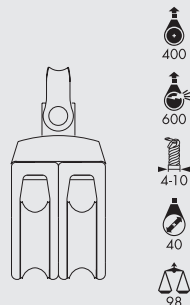
**Simples de amarrar**  
Single for web attachments

92050



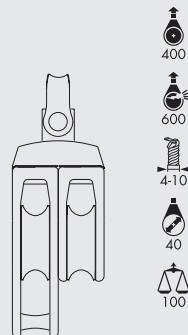
**Simples de amarrar/saída**  
Single for web attachments/becket

92055



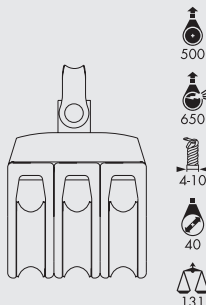
**Duplo giratório**  
Double swivel

92058



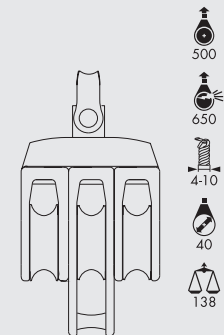
**Duplo giratório/saída**  
Double swivel/becket

92061



**Tripla giratório**  
Triple swivel

92069



**Tripla giratório/saída**  
Triple swivel/becket

# Organic 57

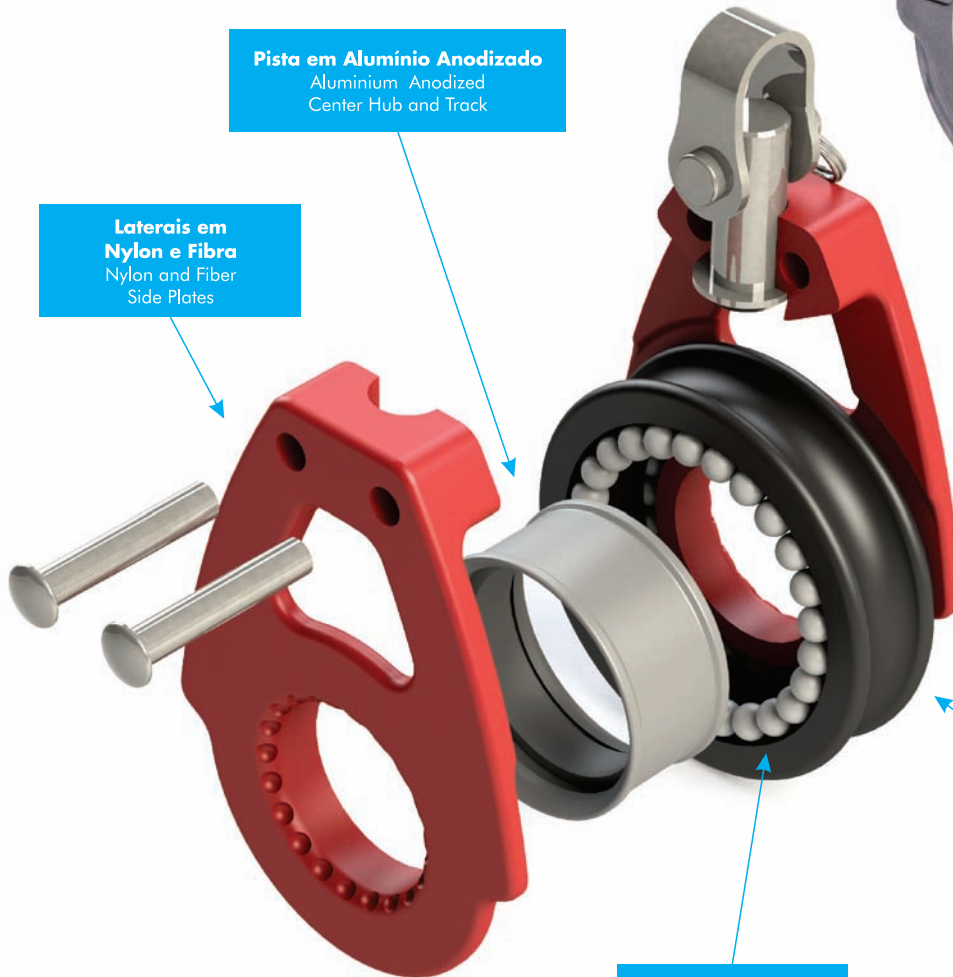
Os moitões da série Organic são um conceito original Nautos que alia laterais em composite e pistas de alumínio, permitindo virtualmente fricção zero extrema resistência ao calor, para a máxima performance em barcos médios e pequenos de regata.

*The Organic block from Nautos is an original concept that allies composite cheeks with aluminum races for near zero friction and heat resistance, allowing maximum performance in racers up to 32 feet.*



**Pista em Alumínio Anodizado**  
Aluminium Anodized  
Center Hub and Track

**Laterais em Nylon e Fibra**  
Nylon and Fiber  
Side Plates



**Roldana em Delrin**  
Delrin Sheave

**Esferas em Delrin**  
Delrin Ball Bearings

**92075**

240  
500  
5-12  
57  
118

**Simples giratório/  
catraca/saída**  
Single swivel/ratchet/  
becket

**92076**

240  
500  
5-12  
57  
187

**Simples giratório/  
catraca/mordedor**  
Single swivel/ratchet/cam

**92077**

240  
500  
5-12  
57  
194

**Simples giratório/  
catraca/mordedor/  
saída**  
Single swivel/ratchet/  
cam/becket



**92000**

**Violino giratório**  
Fiddle swivel

**92001**

**Violino giratório/saída**  
Fiddle swivel/becket

**92002**

**Violino giratório/mordedor**  
Fiddle swivel/cam

**92003**

**Violino giratório/mordedor/saída**  
Fiddle swivel/cam/becket

**92010**

**Simples giratório**  
Single swivel

**92011**

**Simples giratório/saída**  
Single swivel/becket

**92012**

**Simples giratório/mordedor**  
Single swivel/ball bearing alloy cam

**92013**

**Simples giratório/mordedor/saída**  
Single swivel/ball bearing alloy cam/becket

**92014**

**Simples de amarrar**  
Single for web attachments

**92017**

**Simples de amarrar/roldana alumínio**  
Single for web attachments/alloy sheave

**92020**

**Duplo giratório**  
Double swivel

**92021**

**Duplo giratório/saída**  
Double swivel/becket

**92024**

**Duplo fixo**  
Double fixed

**92030**

**Tripla giratório**  
Triple swivel

Utilizado no Hobbie Cat 14 / Used at Hobbie Cat 14

**92034**

**Tripla fixo**  
Triple fixed

**92083**

**Tripla giratório/catraca/mordedor/saída**  
Triple swivel/ratchet/cam/becket

Utilizado no Hobbie Cat 14 / Used at Hobbie Cat 14

**92070**

**Violino giratório/catraca**  
Fiddle swivel/ratchet

**92072**

**Violino giratório/catraca/mordedor**  
Fiddle swivel/ratchet/cam

**92073**

**Violino giratório/catraca/mordedor/saída**  
Fiddle swivel/ratchet/cam/becket

**92074**

**Simples giratório/catraca**  
Single swivel/ratchet

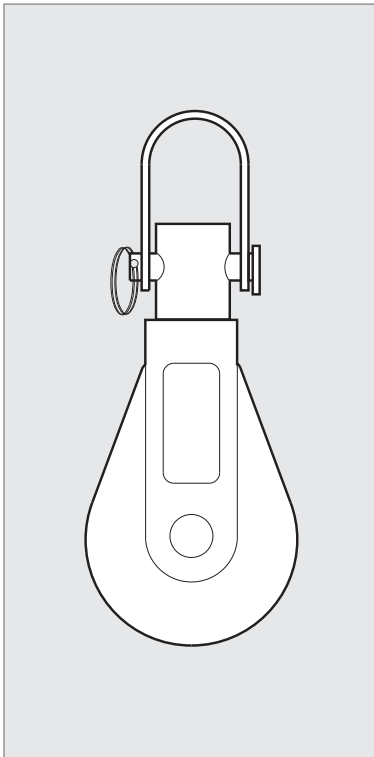
# Line 28

Desenho convencional com duplo rolamento de esferas é comprovada durabilidade. Roldana de alumínio sobre roletes opcional para uso em grandes cargas.

Conventional Ball bearing design with long lasting characteristics. Optional aluminum sheave on roller bearings for higher loads.



## Tamanho real/Full size



**92431**

**92432**  
High-load

**Simples fixo para pé mastro/pino 5mm**  
Single fixed for mast base/5mm clevis pin

**Roldana alumínio**  
Alloy sheave

**92440**

**Simples engatados/28mm + 28mm**  
Back to back

**92441**

**Simples engatados/saída**  
Back to back/becket

**92442**

**Simples engatados/28mm + 39mm**  
Back to back

**92410**

**Simples giratório**  
Single swivel

**92450**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92411**

**Simples giratório/saída**  
Single swivel/becket

**92451**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92424**

**Duplo fixo**  
Double fixed

**92426**

**Duplo fixo/mordedor**  
Double fixed/cam

**92414**

**Simples fixo**  
Single fixed head

**92454**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92415**

**Simples fixo/saída**  
Single fixed head/becket

**92455**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92425**

**Duplo fixo/saída**  
Double fixed/becket

**92427**

**Duplo fixo/mordedor/saída**  
Double fixed/cam/becket

**92416**

**Simples passador vertical**  
Single vertical lead

**92461**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92419**

**Simples de embutir**  
Single through deck

**92459**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92434**

**Triplo fixo**  
Triple fixed

**92436**

**Triplo fixo/mordedor**  
Triple fixed/cam

**92428**

**Simples de encosto pivotante**  
Single footblock pivoting

**92468**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92429**

**De embutir em linha**  
In line through deck

**92469**  
High-load  
**Roldana alumínio**  
Alloy sheave

**92435**

**Triplo fixo/saída**  
Triple fixed/becket

**92437**

**Triplo fixo/mordedor/saída**  
Triple fixed/cam/becket

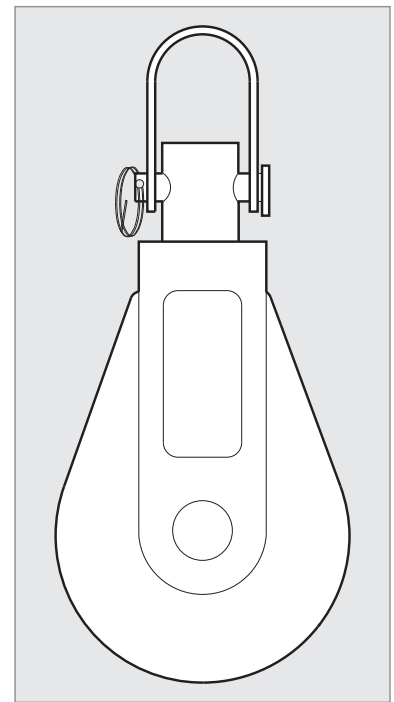
# Line 39

Desenho convencional com duplo rolamento de esferas é comprovado durabilidade. Roldana de alumínio sobre roletes (opcional para uso em grandes cargas).

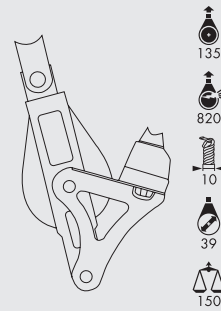
Conventional Ball bearing design with long lasting characteristics. Optional aluminum sheave on roller bearings for higher loads.



Tamanho real/Full size

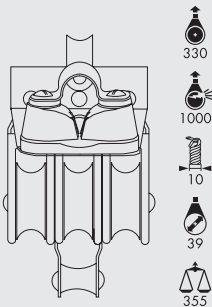


**92313**



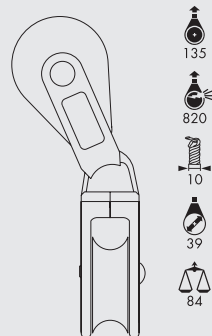
**Simples giratório/  
mordedor/saída**  
Single swivel/ball bearing  
cam/becket

**92337**



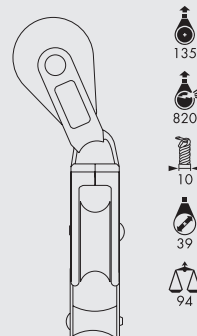
**Triplo fixo/  
mordedor/saída**  
Triple fixed/cam/  
becket

**92340**



**Simples engatados**  
Back to back

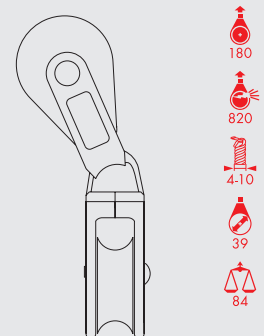
**92341**



**Simples engatados/  
saída**  
Back to back/becket

**92343**

High-load



**Simples engatados/  
28mm + 39mm**  
Back to back **Roldana  
alumínio**  
Alloy sheave

**92310**

**Simples giratório**  
Single swivel

**92350**  
High-load

135  
820  
10  
39  
61

230  
820  
10  
39  
69

**Roldana alumínio**  
Alloy sheave

**92311**

**Simples giratório/saída**  
Single swivel/  
bucket

**92351**  
High-load

135  
820  
10  
39  
71

230  
820  
10  
39  
79

**Roldana alumínio**  
Alloy sheave

**92324**

**Duplo fixo**  
Double fixed

Para fazer o giratório + 91028 / fe build a swivel + 91028

250  
820  
10  
39  
120

**92325**

**Duplo fixo/saída**  
Double fixed/bucket

250  
820  
10  
39  
130

**92314**

**Simples fixo**  
Single fixed head

**92354**  
High-load

135  
820  
10  
39  
22

230  
820  
10  
39  
50

**Roldana alumínio**  
Alloy sheave

**92315**

**Simples fixo/saída**  
Single fixed head/  
bucket

**92355**  
High-load

135  
820  
10  
39  
52

230  
820  
10  
39  
62

**Roldana alumínio**  
Alloy sheave

**92326**

**Duplo fixo/mordedor**  
Double fixed/cam

250  
820  
10  
39  
275

**92327**

**Duplo fixo/mordedor/saída**  
Double fixed/cam/  
bucket

250  
820  
10  
39  
285

**92316**

**Simples passador vertical**  
Single vertical lead

**92361**  
High-load

135  
820  
10  
39  
82

230  
820  
10  
39  
91

**Roldana alumínio**  
Alloy sheave

**92319**

**Simples de embutir**  
Single through deck

**92359**  
High-load

135  
820  
4-10  
39  
63

230  
820  
4-10  
39  
71

**Roldana alumínio**  
Alloy sheave

**92330**

**Tripo giratório**  
Triple swivel

300  
500  
10  
39  
173

**92334**

**Tripo fixo**  
Triple fixed

330  
1000  
10  
39  
181

**92329**

**De embutir em linha**  
In line through deck

**92369**  
High-load

135  
820  
4-10  
39  
71

230  
820  
4-10  
39  
93

**Roldana alumínio**  
Alloy sheave

**92331**

**Simples fixo para pé mastro/pino 5mm**  
Single fixed for mast  
base/5mm clevis pin

**92332**  
High-load

135  
820  
10  
39  
40

230  
820  
10  
39  
68

**Roldana alumínio**  
Alloy sheave

**92335**

**Tripo fixo/saída**  
Triple fixed/bucket

330  
1000  
10  
39  
190

**92336**

**Tripo fixo/mordedor**  
Triple fixed/cam

330  
1000  
10  
39  
345

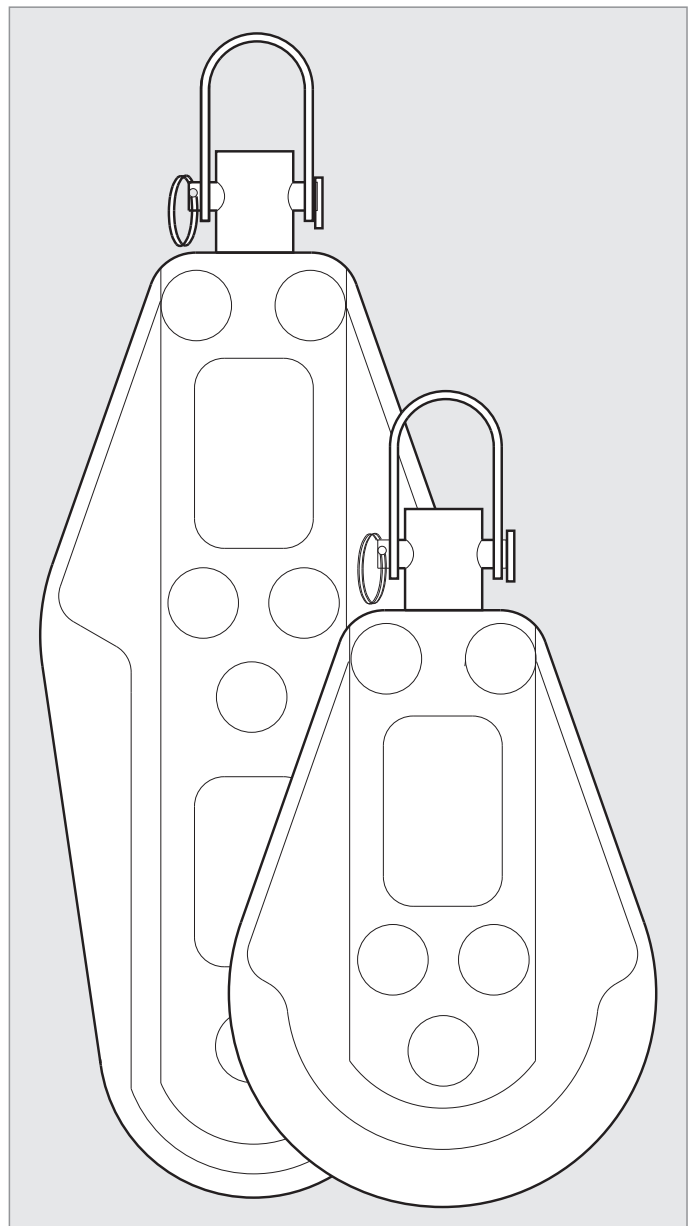
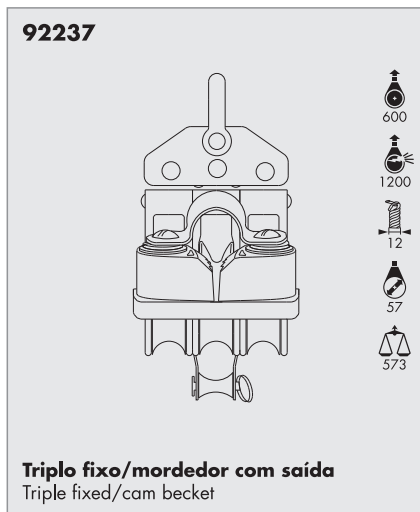
# Line 57

Desenho convencional com duplo rolamento de esferas é comprovado durabilidade. "Alta carga" significa roldana de alumínio sobre roletes.

Conventional Ball bearing design with long lasting characteristics. Optional aluminum sheave on roller bearings for higher loads.



Tamanho real/Full size



**92210**

210  
 950  
 12  
 57  
 125

**Simples giratório**  
Single swivel

**92250**  
High-load  
 400  
 1200  
 12  
 57  
 148

**Roldana alumínio**  
Alloy sheave

**92211**

210  
 950  
 12  
 57  
 145

**Simples giratório/saída**  
Single swivel/becket

**92251**  
High-load  
 400  
 1200  
 12  
 57  
 167

**Roldana alumínio**  
Alloy sheave

**92231**

210  
 950  
 12  
 57  
 154

**Simples fixo pé de mastro/pino 6mm**  
Single fixed mast base/pin 6mm

**92232**  
High-load  
 400  
 1200  
 12  
 57  
 167

**Roldana alumínio**  
Alloy sheave

**92236**

600  
 1200  
 12  
 57  
 553

**Tripla fixo/mordedor**  
Triple fixed/cam

**92220**

480  
 1200  
 12  
 57  
 226

**Duplo giratório**  
Double swivel

**92221**

480  
 1200  
 12  
 57  
 240

**Duplo giratório/saída**  
Double swivel/becket

**92224**

700  
 1200  
 12  
 57  
 420

**Duplo fixo**  
Double fixed

**92225**

480  
 1200  
 12  
 57  
 380

**Duplo fixo/saída**  
Double fixed/becket

**92223**

480  
 900  
 12  
 57  
 320

**Duplo giratório com roldana transversal 39mm**  
Double swivel with cross 39mm

**92230**

500  
 950  
 12  
 57  
 315

**Tripla giratório**  
Triple swivel

Utilizado no Hóbie Car 16 + 92633 / Used at Hóbie Car 16 + 92633

**92234**

600  
 1200  
 12  
 57  
 375

**Tripla fixo**  
Triple fixed

**92235**

600  
 1200  
 12  
 57  
 395

**Tripla fixo/saída**  
Triple fixed/becket

**92200**

400  
 950  
 12  
 57  
 170

**Violino giratório**  
Fiddle swivel

**92202**

400  
 950  
 12  
 57  
 345

**Violino giratório/mordedor**  
Fiddle swivel/cam

**92203**

400  
 950  
 12  
 57  
 358

**Violino giratório/mordedor/saída**  
Fiddle swivel/cam/becket

**92240**

800  
 1200  
 12  
 57  
 380

**Violino duplo giratório**  
Fiddle double swivel

**92212**

210  
 950  
 12  
 57  
 287

**Simples giratório/mordedor**  
Single swivel/ball bearing alloy cam

**92213**

210  
 950  
 12  
 57  
 311

**Simples giratório/mordedor/saída**  
Single swivel/ball bearing alloy cam/becket

# Line 57 Catraca

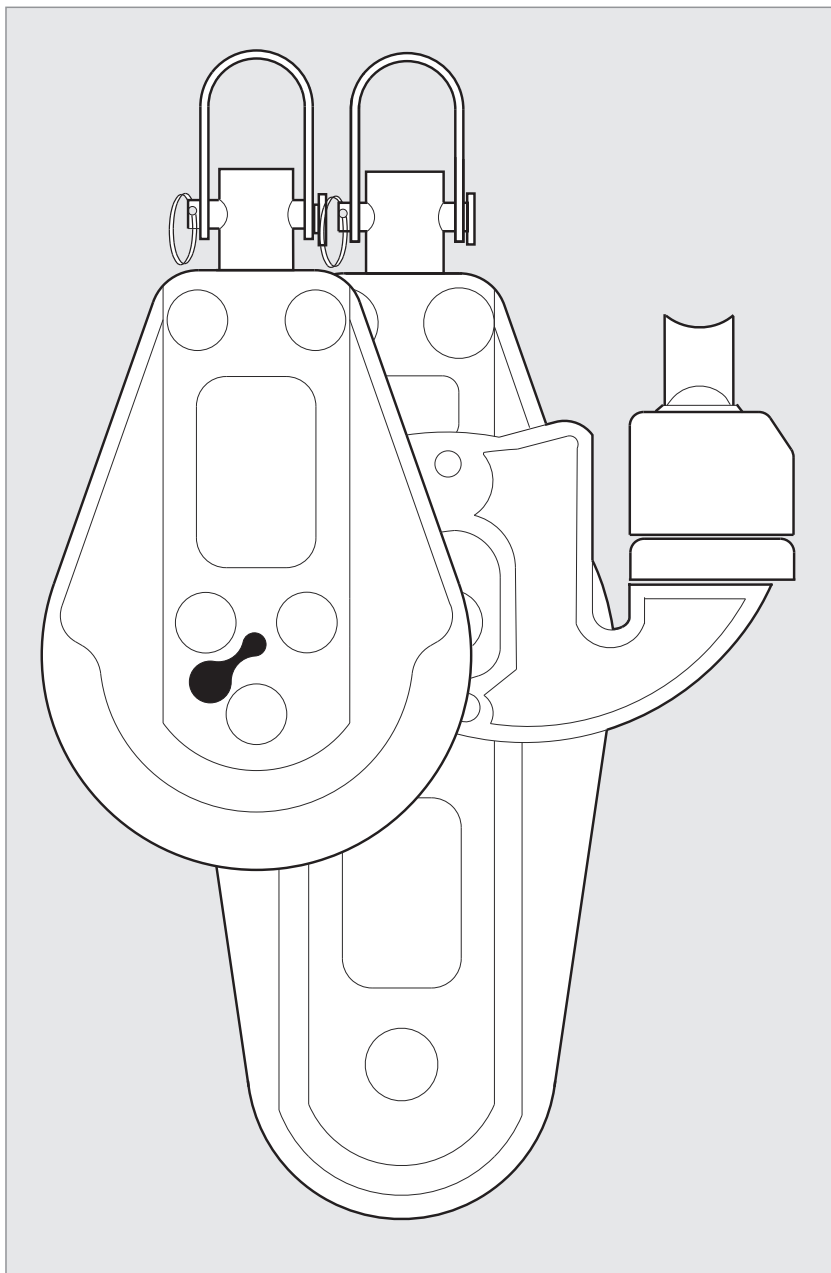
## Ratchet

Moitão catraca roletado com roldana de alumínio.  
Liga-desliga mesmo sob carga.

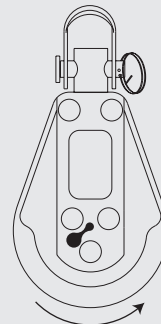
Ball bearing ratchet block with aluminum sheave.  
On-off ability under load.



### Tamanho real/Full size



92709



200

950

10

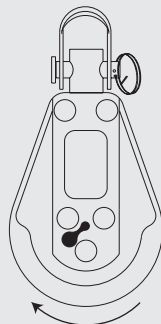
57

136

**Simples giratório/  
catraca/direito  
(horário)**

Single swivel/ratchet/right  
(clockwise)

92710



200

950

10

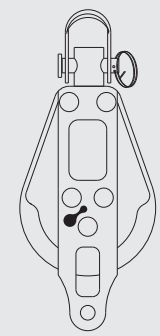
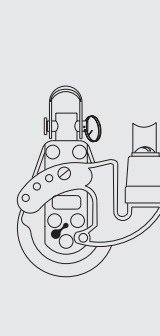
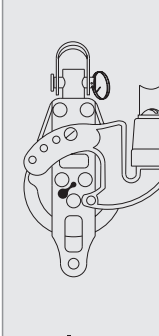
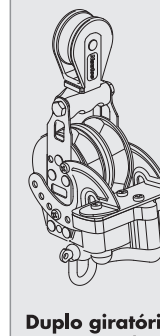
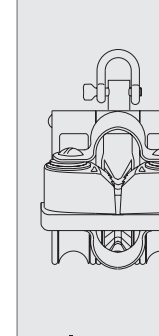
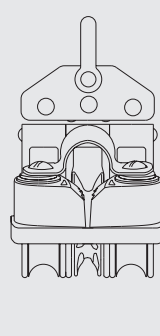
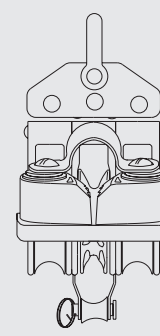
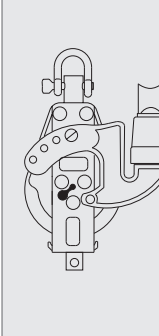
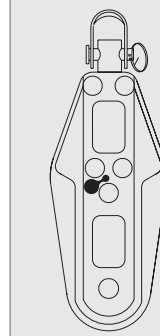
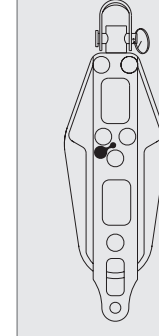
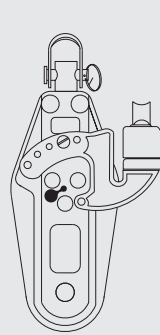
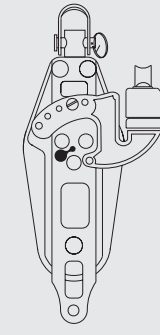
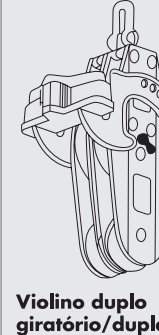
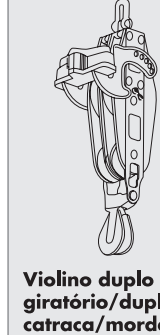
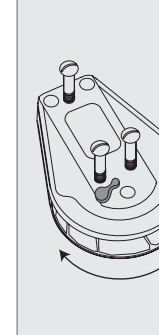
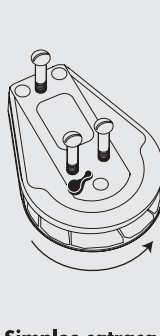
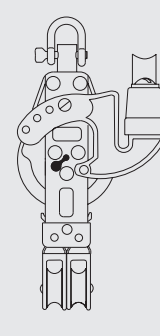
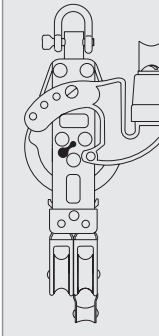
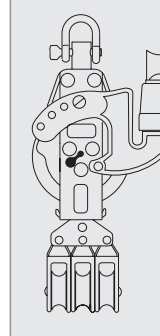
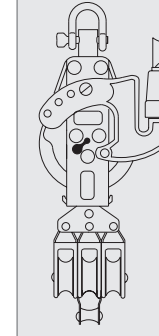
57

136

**Simples giratório/  
catraca/esquerdo  
(anti-horário)**

Single swivel/ratchet/left  
(anti-clockwise)



<p><b>92711</b></p>  <p><b>Simples giratório catraca/saída</b> Single swivel ratchet/becket</p>	<p><b>92712</b></p>  <p><b>Simples giratório catraca/mordedor</b> Single swivel ratchet/cam</p>	<p><b>92713</b></p>  <p><b>Simples giratório catraca/mordedor/saída</b> Single swivel ratchet/cam/becket</p>	<p><b>92727</b></p>  <p><b>Duplo giratório/2 catracas/mordedor duplo/moitião transv. 39mm</b> Double swivel/2 ratches/dual cam/a cross 39mm</p>	<p><b>92733</b></p>  <p><b>Triplo giratório catraca/mordedor/saída</b> Triple swivel/ratchet/cam/becket</p>
<p><b>92736</b></p>  <p><b>Triplo fixo/mordedor</b> Triple fixed/cam</p>	<p><b>92737</b></p>  <p><b>Triplo fixo/mordedor/saída</b> Triple fixed/cam/becket</p>	<p><b>92777</b></p>  <p><b>Base 92777</b> 92777 base</p>	<p><b>92700</b></p>  <p><b>Violino giratório/catraca</b> Fiddle swivel/ratchet</p>	<p><b>92701</b></p>  <p><b>Violino giratório/catraca/saída</b> Fiddle swivel/ratchet/becket</p>
<p><b>92702</b></p>  <p><b>Violino giratório/catraca/mordedor</b> Fiddle swivel/ratchet/cam</p>	<p><b>92703</b></p>  <p><b>Violino giratório/catraca/mordedor/saída</b> Fiddle swivel/ratchet/cam/becket</p>	<p><b>92746</b></p>  <p><b>Violino duplo giratório/dupla catraca/mordedor duplo</b> Fiddle double swivel/double ratchet/double cam</p>	<p><b>92747</b></p>  <p><b>Violino duplo giratório/dupla catraca/mordedor duplo/moitião transv. 39mm</b> Fiddle double swivel/double ratchet/double cam/a cross 39mm</p>	<p><b>92717</b></p>  <p><b>Simples catraca de encosto/esquerdo (anti-horário)</b> Single ratchet footblock/left (anti-clockwise)</p>
<p><b>92718</b></p>  <p><b>Simples catraca de encosto/direito (horário)</b> Single ratchet footblock/right (clockwise)</p>	<p><b>92771</b></p>  <p><b>Base 92777 com duplo 39mm</b> 92777 base and double 39mm</p>	<p><b>92772</b></p>  <p><b>Base 92777 com duplo 39mm/saída</b> 92777 base and double 39mm/becket</p>	<p><b>92773</b></p>  <p><b>Base 92777 com triplo 39mm</b> 92777 base and triple 39mm</p>	<p><b>92774</b></p>  <p><b>Base 92777 com triplo 39mm/saída</b> 92777 base and triple 39mm/becket</p>

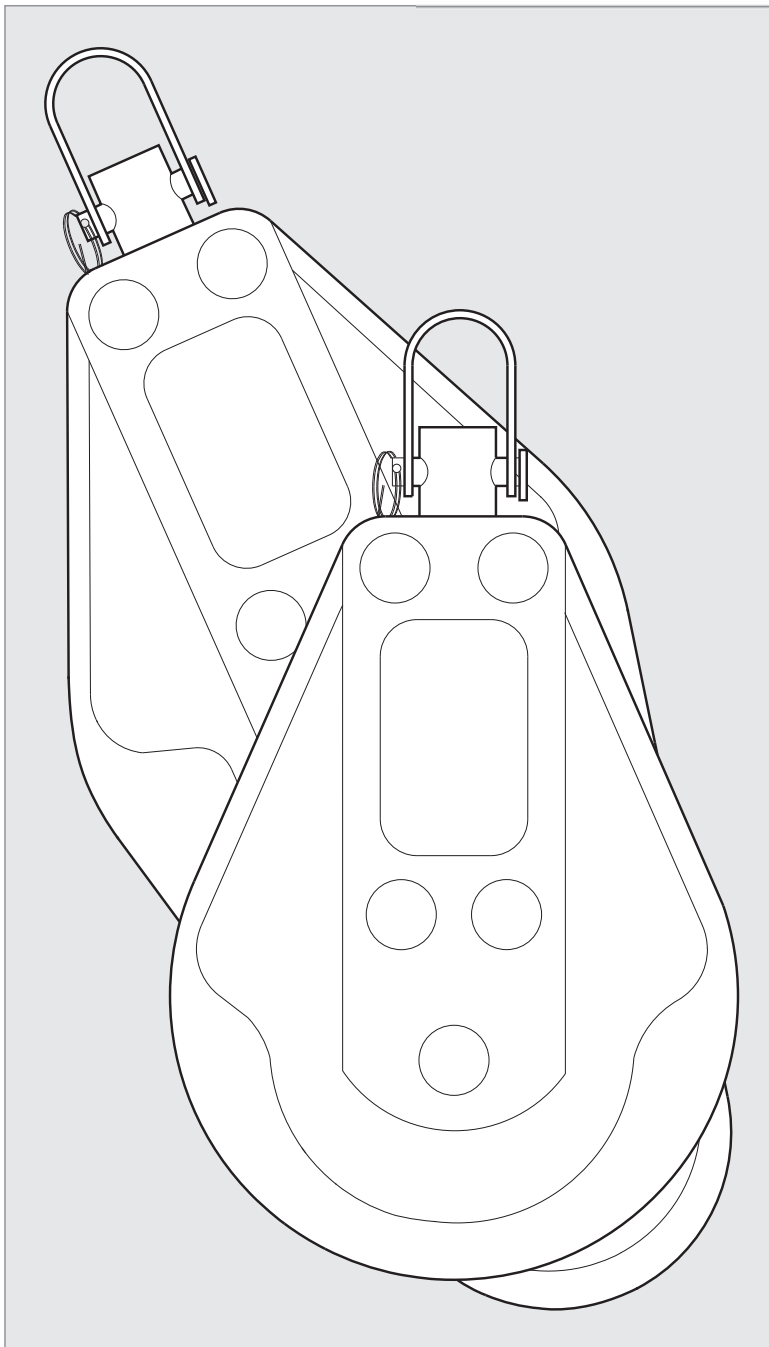
# Line 75

Desenho convencional com duplo rolamento de esferas e comprovada durabilidade. Roldana de alumínio sobre roletes (opcional para uso em grandes cargas).

*Conventional Ball bearing design with long lasting characteristics. Optional aluminum sheave on roller bearing for higher load.*



**Tamanho real/Full size**



**92111**

330  
1100  
14  
75  
212

**Simples giratório/  
saída**  
Single swivel/becket

**92151**  
High-load

450  
1200  
14  
75  
250

**Roldana  
alumínio**  
Alloy sheave

**92110**

330  
1100  
14  
75  
201

**Simples giratório**  
Single swivel

**92150**  
High-load

450  
1200  
14  
75  
235

**Roldana  
alumínio**  
Alloy sheave

**92100**

400  
1100  
14  
75  
287

**Violino giratório**  
Fiddle swivel

**92101**

400  
1100  
14  
75  
300

**Violino giratório/saída**  
Fiddle swivel/becket

**92102**

400  
1100  
14  
75  
446

**Violino giratório/mordedor**  
Fiddle swivel/cam

**92103**

400  
1100  
14  
75  
462

**Violino giratório/mordedor/saída**  
Fiddle swivel/cam/becket

**92124**

600  
1500  
14  
75  
392

**Duplo fixo**  
Double fixed

**92125**

600  
1500  
14  
75  
415

**Duplo fixo/saída**  
Double fixed/becket

**92130**

600  
1100  
14  
75  
550

**Tripla giratório**  
Triple swivel

**92134**

800  
1350  
14  
75  
595

**Tripla fixo**  
Fiddle fixed

**92135**

800  
1350  
14  
75  
615

**Tripla fixo/saída**  
Triple fixed/becket

**92136**

600  
1350  
14  
75  
743

**Tripla fixo/mordedor**  
Triple fixed/cam

# Line 75 Catraca

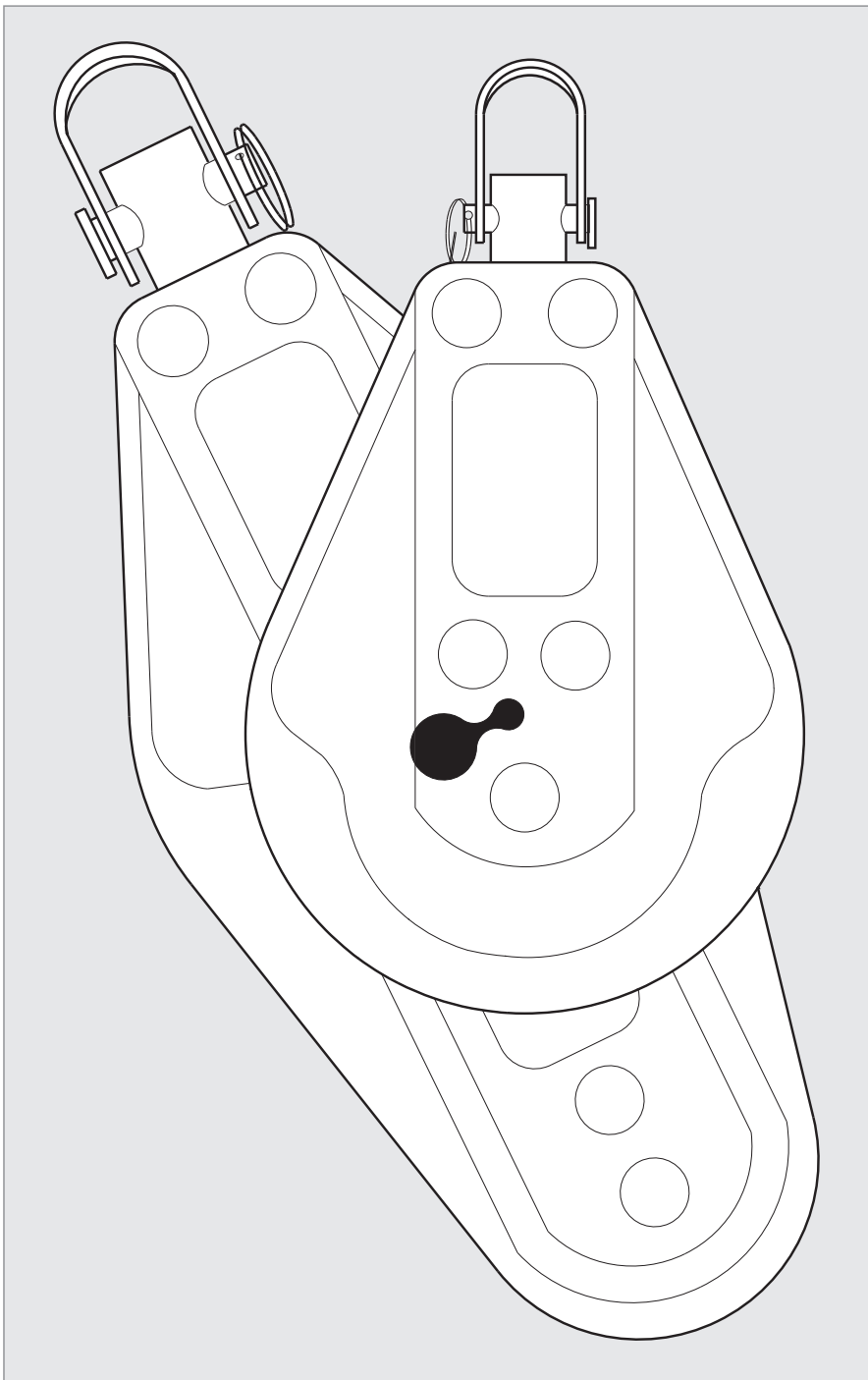
## Ratchet

Moitão catraca roletado com roldana de alumínio. Liga-desliga mesmo sob carga.

*Ball bearing ratchet block with aluminum sheave. On-off ability under load.*



**Tamanho real/Full size**



**92609**

300  
1100  
12  
75  
136

**Simples giratório/  
catraca/esquerdo  
(anti-horário)**  
Single swivel/ratchet/left  
(anti-clockwise)

**92610**

300  
1100  
12  
75  
136

**Simples giratório/  
catraca/direito  
(horário)**  
Single swivel/ratchet/right  
(clockwise)

**92611**

300  
1100  
12  
75  
255

**Simples giratório  
catraca/saída**  
Single swivel ratchet/  
becket

**92612**

300  
1100  
12  
75  
428

**Simples giratório  
catraca/mordedor**  
Single swivel ratchet/cam

**92613**

300  
1100  
12  
75  
428

**Simples giratório  
catraca/mordedor/  
saída**  
Single swivel ratchet/  
cam/becket

**92617**

300  
950  
12  
75  
225

**Simples catraca de  
encosto/esquerdo  
(anti-horário)**  
Single ratchet footblock/  
left (anti-clockwise)

**92618**

300  
950  
12  
75  
225

**Simples catraca de  
encosto/direito  
(horário)**  
Single ratchet footblock/  
right (clockwise)

**92633**

Utilizado no Hóbie Car 16 + 92230/Usado at Hóbie Car 16 + 92230

600  
1100  
12  
75  
702

**Tripo giratório  
catraca/mordedor/  
saída**  
Triple swivel/ratchet/  
cam/becket

**92636**

600  
1400  
12  
75  
807

**Tripo fixo/mordedor**  
Triple fixed/cam

**92637**

600  
1400  
12  
75  
832

**Tripo fixo/  
mordedor/saída**  
Triple fixed/cam/becket

**92655**

700  
1350  
12  
75  
969

**Tripo giratório/  
catraca/2  
mordedores/2  
moitões 28mm**  
Triple swivel ratchet/2  
cams/dual/28mm blocks

**92600**

400  
1100  
12  
75  
287

**Violino giratório/  
catraca**  
Fiddle swivel/ratchet

**92601**

400  
1100  
12  
75  
300

**Violino giratório/  
catraca/saída**  
Fiddle swivel/ratchet/  
becket

**92602**

400  
1100  
12  
75  
485

**Violino giratório/  
catraca/mordedor**  
Fiddle swivel/ratchet/cam

**92603**

400  
1100  
12  
75  
502

**Violino  
giratório/catraca/  
mordedor/saída**  
Fiddle swivel/ratchet/  
cam/becket

**92661**

550  
1350  
12  
75  
735

**Base 92666 com  
duplo 57mm**  
92666 base and double  
57mm

**92662**

550  
1350  
12  
75  
750

**Base 92666 com  
duplo 57mm/saída**  
92666 base and double  
57mm/becket

**92663**

650  
1350  
12  
75  
800

**Base 92666 com  
triplo 57mm**  
92666 base and triple  
57mm

**92664**

700  
1350  
12  
75  
870

**Base 92666 com  
triplo 57mm/saída**  
92666 base and triple  
57mm/becket

**92666**

550  
1350  
12  
75  
700

**Base 92666**  
92666 base

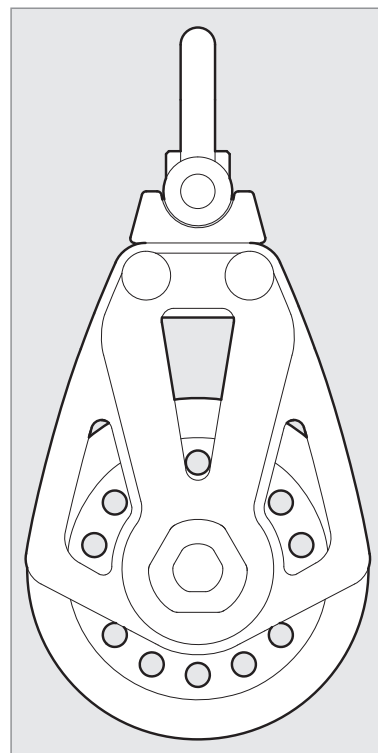
# Plain Block 45

Podem ser usados praticamente em qualquer situação. Perfeito para escotas de cruzeiro, pé de mastro, vang, entre outros. Com design completo que otimiza as vantagens dos materiais composite, essas peças combinam alta resistência e baixo peso.

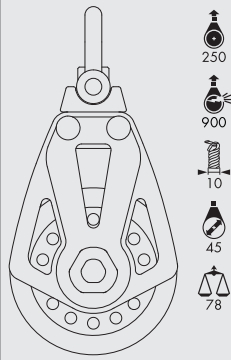
*These can be used almost everywhere. Perfect for cruising, main sheets, vang and control tackle as downhauls. They have been designed using composite materials for high performance and low weight.*



Tamanho real/Full size

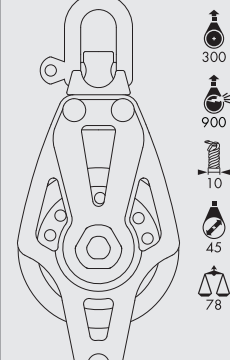


**95310**



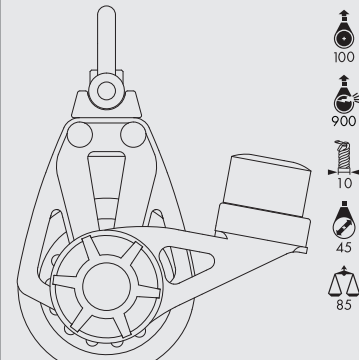
**Simples**  
Single

**95311**



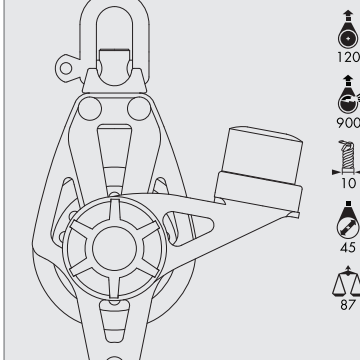
**Simples/saída**  
Single/becket

**95312**



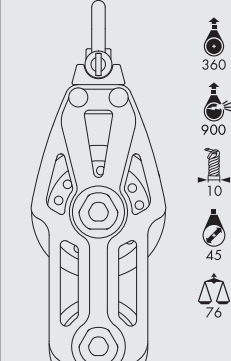
**Simples/mordedor**  
Single/cam

**95313**



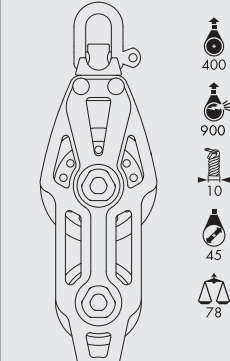
**Simples/mordedor/saída**  
Single/cam/becket

**95300**



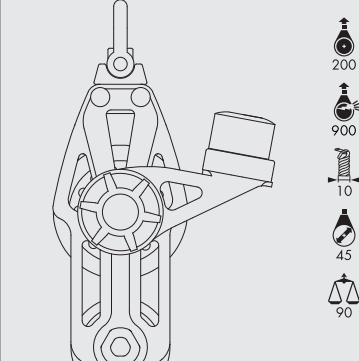
**Violino**  
Fiddle

**95301**



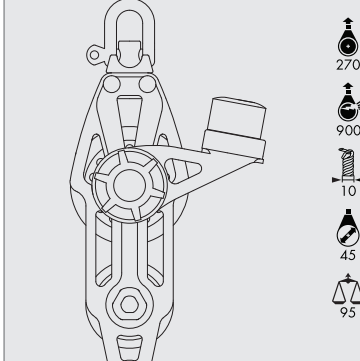
**Violino/saída**  
Fiddle/becket

**95302**



**Violino/mordedor**  
Fiddle/cam

**95303**



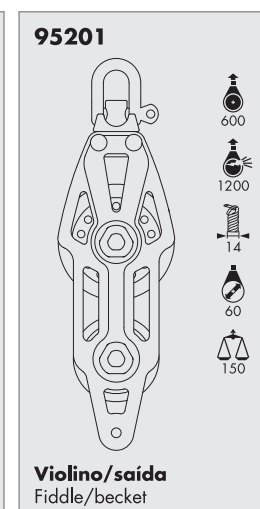
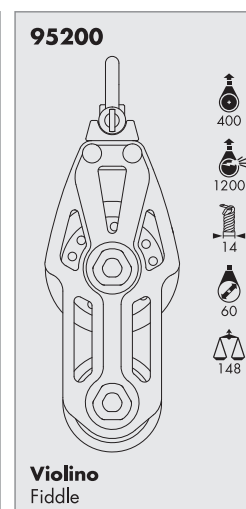
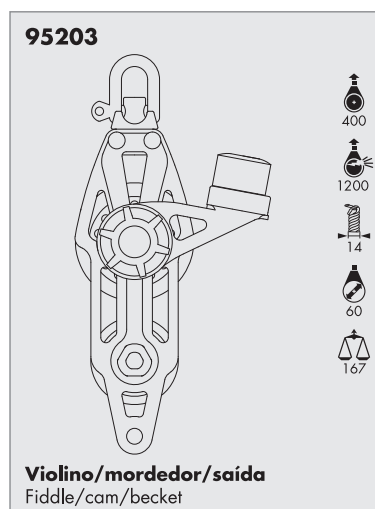
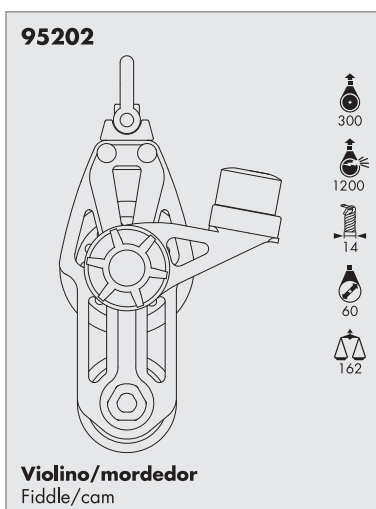
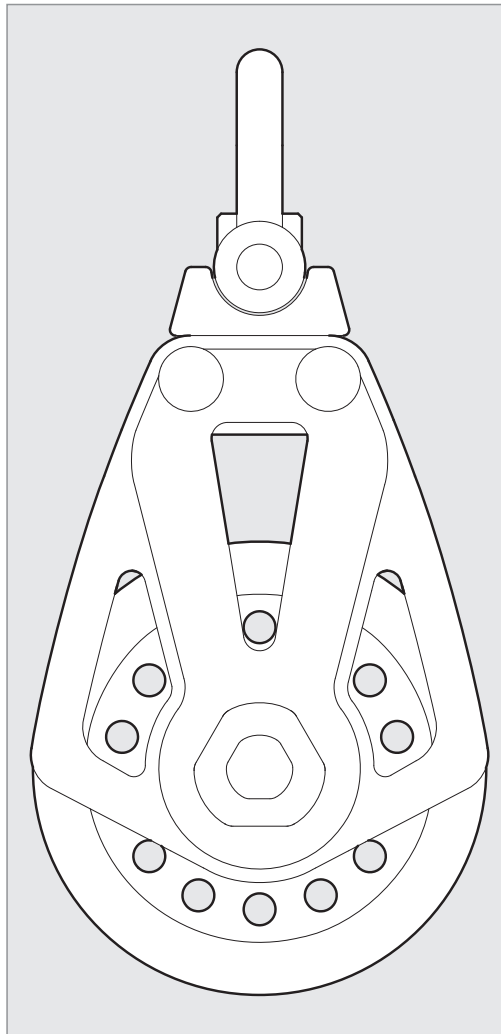
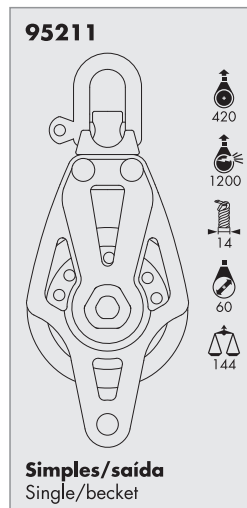
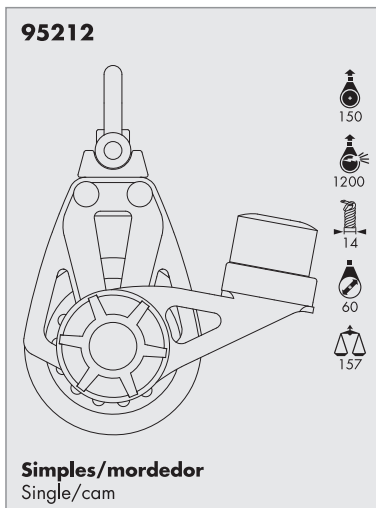
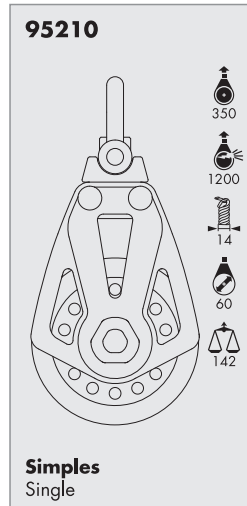
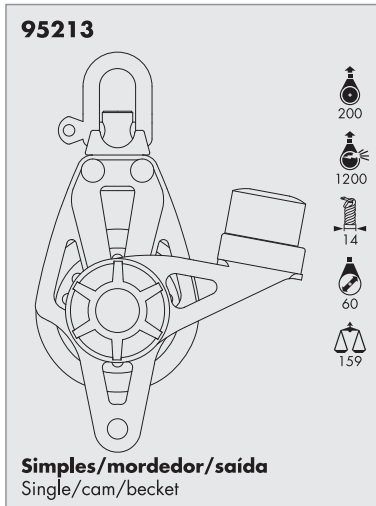
**Violino/mordedor/saída**  
Fiddle/cam/becket

# Plain Block 60

These can be used almost everywhere. Perfect for cruising, main sheets, vang and control tackle as downhauls. They have been designed using composite materials for high performance and low weight.

Podem ser usados praticamente em qualquer situação. Perfeito para escotas de cruzeiro, pé de mastro, vang, entre outros. Com design completo que otimiza as vantagens dos materiais composite, essas peças combinam alta resistência e baixo peso.

Tamanho real/Full size

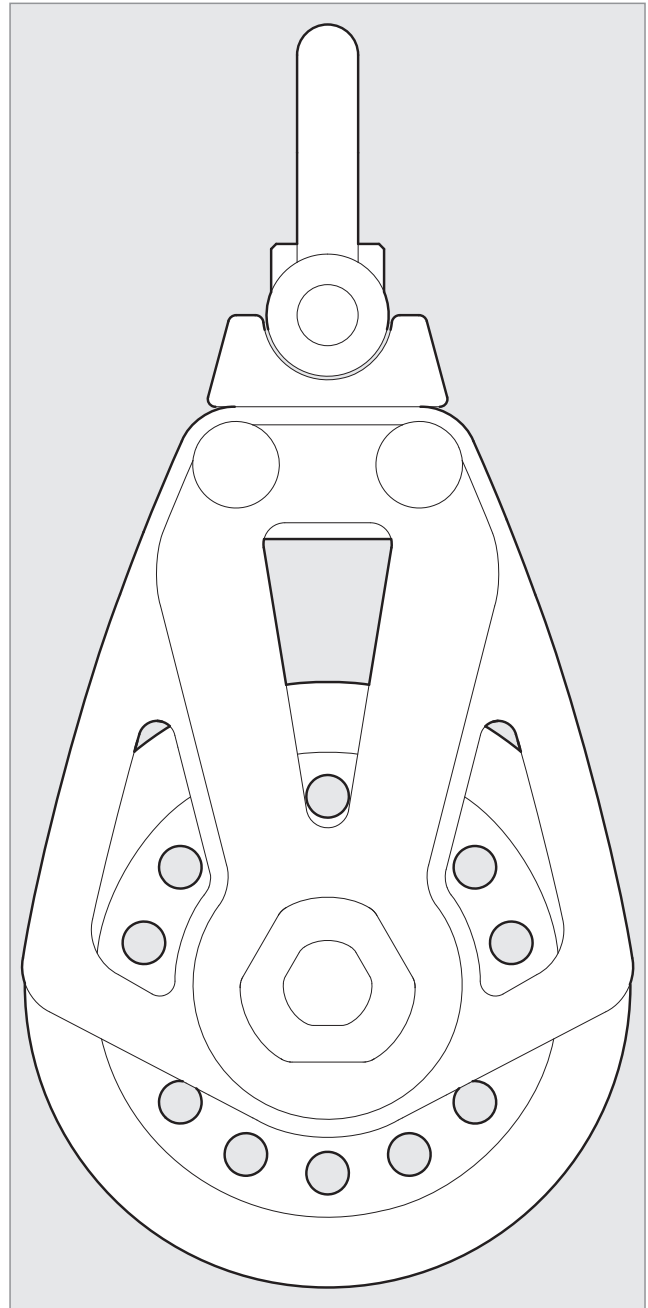


# Plain Block 80

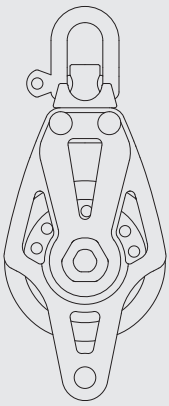
Podem ser usados praticamente em qualquer situação. Perfeito para escotas de cruzeiro, pé de mastro, vangs, entre outros. Com design completo que otimiza as vantagens dos materiais composite, essas peças combinam alta resistência e baixo peso.






*These can be used almost everywhere. Perfect for cruising, main sheets, vang and control tackle as downhauls. They have been designed using composite materials for high performance and low weight.*

Tamanho real/Full size



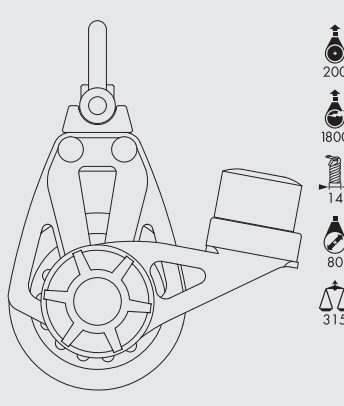
**95111**








-  650
-  1800
-  14
-  80
-  302

**Simples/saída**  
Single/becket

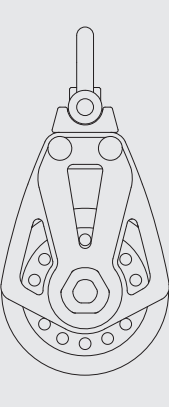
**95112**








-  200
-  1800
-  14
-  80
-  315

**Simples/mordedor**  
Single/cam

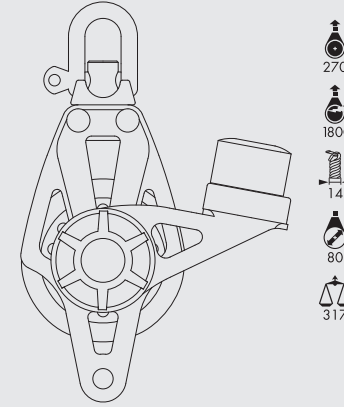
**95110**








-  500
-  1800
-  14
-  80
-  300

**Simples**  
Single

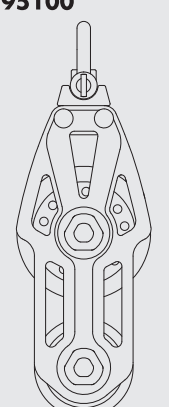
**95113**








-  270
-  1800
-  14
-  80
-  317

**Simples/mordedor/saída**  
Single/cam/becket

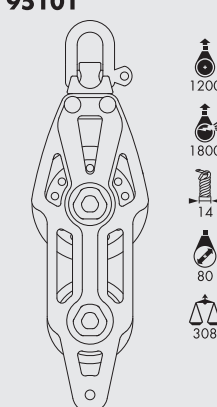
**95100**








-  1000
-  1800
-  14
-  80
-  306

**Violino**  
Fiddle

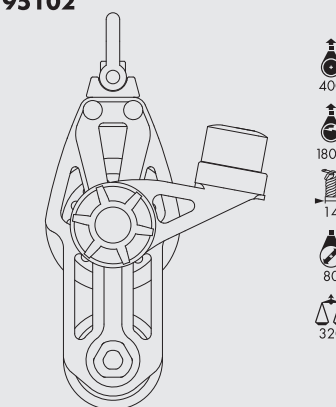
**95101**








-  1200
-  1800
-  14
-  80
-  308

**Violino/saída**  
Fiddle/becket

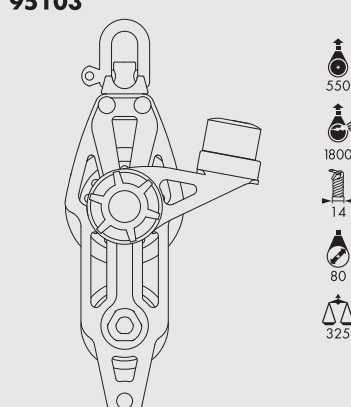
**95102**








-  400
-  1800
-  14
-  80
-  320

**Violino/mordedor**  
Fiddle/cam

**95103**



-  550
-  1800
-  14
-  80
-  325

**Violino/mordedor/saída**  
Fiddle/cam/becket



# Moitão de Encosto

## Footblock



Loads in footblocks can be the highest imposed by sheets. Always be sure of loads when ordering this part. Rope locks are intended to do a temporary job. Do not use high loads as stopper.

Cargas nos moitões de encosto podem ser as mais altas exercidas por escotas.

Sempre tenha certeza das cargas envolvidas quando solicitar esta peça.

Os trancadores em alguns modelos servem para assegurar um cabo. Não use em altas cargas stoppers.

**HT 2026**



120  
350  
6  
20  
24

**HT 2036**  
High-load



150  
350  
6  
30  
28

**Roldana alumínio**  
Alloy sheave

**Dynamic 20/30**

**92018**



450  
900  
5-12  
57  
80

**Organic 57**  
Simples/roldana alumínio  
Single/alloy sheave

**92803**



750  
1500  
14  
57  
120

**92812**  
High-load



1000  
1500  
14  
57  
120

**Offshore 57**  
Simples  
Single

**92806**



600  
1000  
14  
57  
360

**92862**  
High-load



800  
1400  
14  
57  
360

**Offshore 57**  
Duplo  
Double

**92418**



120  
900  
4-8  
28  
28

**92458**  
High-load

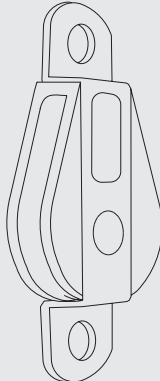


150  
900  
4-8  
28  
33

**Line 28**  
Simples  
Single


**Roldana alumínio**  
Alloy sheave

**92318**



135  
820  
10  
39  
61

**92358**  
High-load



180  
820  
10  
39  
69

**Line 39**  
Simples  
Single

**Roldana alumínio**  
Alloy sheave

**92218**



210  
950  
12  
57  
97

**92258**  
High-load



300  
950  
12  
57  
107

**Line 57**  
Simples  
Single

**Roldana alumínio**  
Alloy sheave

**92228**



400  
1100  
12  
57  
175

**92268**  
High-load



400  
1100  
12  
57  
222

**Line 57**  
Duplo  
Double

**Roldana alumínio**  
Alloy sheave

**92807** ● **92885** ●

**92863** ● **92888** ●

High-load

750  
1500  
14  
57  
210

1000  
2000  
14  
57  
210

**Offshore 57**  
Simple/jammer

● **Direito** Right  
● **Esquerdo** Left

**92813** ● **92886** ●

750  
1500  
14  
57  
480

**Offshore 57**  
Duplo/trancador

● **Direito** Right  
● **Esquerdo** Left

**92118**

**92158** High-load

330  
1000  
14  
75  
152

450  
1200  
14  
75  
212

**Line 75**  
Simple

**Roldana**  
**aluminio**  
Alloy sheave

**92814** ● **Direito** Right  
**92887** ● **Esquerdo** Left

1800  
4400  
14  
75  
260

**Offshore 75**  
Simple/trancador

**92822** ● **Direito** Right  
**92889** ● **Esquerdo** Left

1200  
4400  
14  
75  
480

**Offshore 75**  
Duplo/trancador

**92818**

**92825** High-load

1800  
4400  
14  
75  
210

2200  
4400  
14  
75  
210

**Offshore 75**  
Simple

**92821**

**92864** High-load

1800  
4400  
14  
75  
540

2200  
4400  
14  
75  
540

**Offshore 75**  
Duplo

**95876**

**95875** High-load

1200  
3000  
14  
80  
360

1800  
3000  
14  
80  
360

**Offshore 80**  
Simple

**92831**

3800  
6000  
18  
100  
580

**Offshore 100**  
Simple

**92832**

3800  
6000  
18  
100  
1100

**Offshore 100**  
Duplo

**92836**

4500  
8000  
20  
125  
1400

**Offshore 125**  
Simple

Jammers in the block are not intended for continuous loads

# Moitões de Amarrar

## Tie-on Blocks

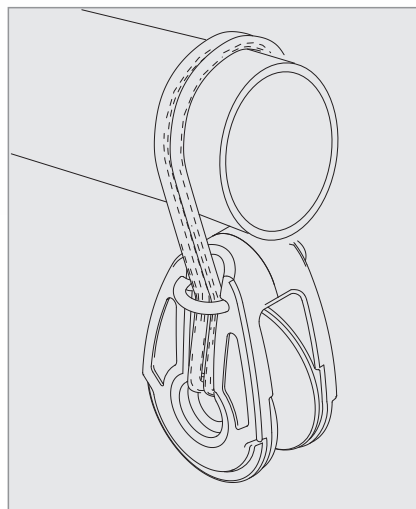
Fortes, seguros, simples e eficientes. As cargas são direcionadas diretamente da roldana ou ponto de fixação, permitindo laterais leves. Projetadas principalmente para regatas, podem ser usadas praticamente em qualquer lugar. Os moitões Tie-on usam o mesmo sistema de alto rendimento dos moitões Dynamic por eixo e roldana.

*Strong, secure, simple and efficient. Loads are lead directly from sheaves to attachment point allowing for light side plates. Designed primarily for racing they can be used in almost every possible situation. Tie-on blocks share the same performance bearing system as the Dynamic blocks.*



**HT2020 T**

**De amarrar 20mm**  
Tie-on block 20mm



**HT2030 T**

**De amarrar 30mm**  
Tie-on block 30mm

**HT2040 T**

**De amarrar 40mm**  
Tie-on block 40mm

**HT2060 T**

**De amarrar 60mm**  
Tie-on block 60mm

## Snatch block

A Patesca Nautos foi projetada a partir do conceito "one-handed" aliando robustez, eficiência e baixo custo.

Produzida em alumínio naval anodizado duro tem a superfície das duas faces coberta com elastômero termoplástico, garantindo total integridade ao convés da embarcação.

A facilidade de manuseio, as faces em elastômero e o excelente preço de venda fazem da Patesca Nautos o produto do gênero com a melhor relação custo-benefício do mercado.

*Snatch block Nautos was designed from the concept "one-hand operation" combined with strength, efficiency and low cost.*

*Machined from aluminum alloy and hard anodized, the side plates are covered with thermoplastic elastomer, protecting decks and rig against damage*

*The ease handling, the elastomer's faces and the excellent price makes the Nautos Snatch block the best cost-benefit choice in the market*

### Aplicação:

- Na troca de escotas;
- Auxiliar para cabos de rizo;
- Ajuste no ponto da Genoa;
- Ajuste no ângulo da escota do balão.

### Application:

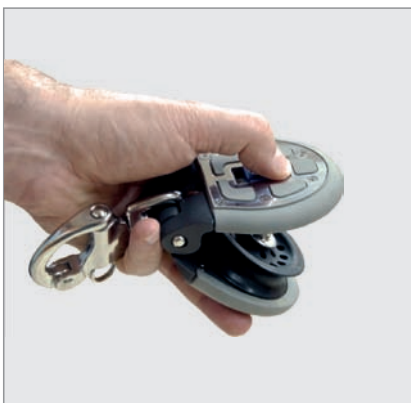
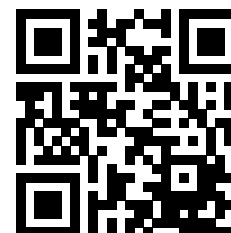
- Change Sheets;
- Spinnaker sheet deflector blocks;
- Genoa leads;
- Mast base reefing blocks.



						<b>M</b>
92910	1200	2500	16	422	60	153
92910SG	1200	2500	16	300	60	110



Vídeo / info.



# Moitões Donuts

## Donut Blocks

Desenvolvido para aplicações em alta carga com máxima resistência e leveza. Esta roldana foi fabricada em CNC e tem roletes de torlon, ideal para spinnaker e sistema da vela grande.

*Designed for high load applications with maximum strength and lightness, CNC aluminum cheeks and sheaves with Torlon rollers. Ideal for spinnaker headsail and mainsheet systems.*

**96169**



1000  
2000  
12  
57  
100

**Donut 57mm**  
Donut 57mm

**96170**



2000  
4500  
14  
75  
245

**Donut 75mm**  
Donut 75mm

**96171**



3400  
7000  
16  
100  
400

**Donut 100mm**  
Donut 100mm

**96172**



5000  
7500  
19  
125  
760

**Donut 125mm**  
Donut 125mm

# Roldana de Amarrar

## Friction Sheave

Fabricado com alumínio sólido e anodização dura, esta roldana foi desenhada para ser amarrada ou fixada com "mão" em sistema de alta carga estática e criar um ponto de deslizamento suave e extremamente resistente. Usado em burros e volantes de barcos de regata.

*Manufactured from solid aluminum and hard anodized, these plain sheaves are designed to be strapped or spliced into systems to form high load plain bearing turning points. Used in vang and permanent or flying backstays.*

**95010**



980  
1800  
16  
12  
16

**De amarrar/40mm**  
40mm web/Tie sheave

**95011**



2400  
5000  
16  
16  
60

**De amarrar/60mm**  
60mm web/Tie sheave

**95012**



5000  
10000  
16  
20  
140

**De amarrar/80mm**  
80mm web/Tie sheave

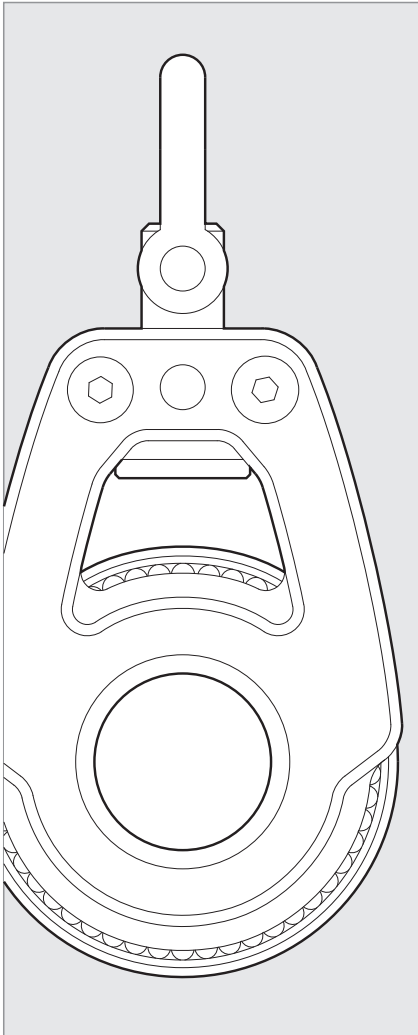
# Offshore 57

Moîtões usinados em CNC. Roldana com duplo rolamento, esferas e roletes de Torlon®.

CNC machined roller/  
ball bearing blocks  
Torlon® rollers.

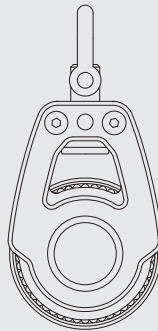


## Tamanho real/Full size



**92800**

Compatible with 91044/  
91044/Compatible with 91044



**Simple giratório**  
Single swivel

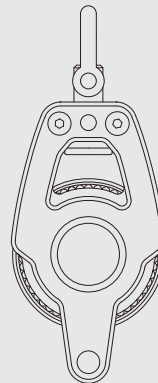
**92808**

High-load



**Roldana alumínio**  
Alloy sheave

**92801**



**Simple giratório/saída**  
Single swivel/becket

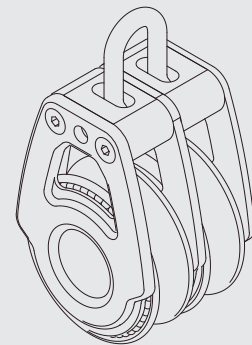
**92809**

High-load



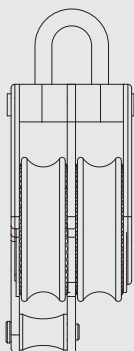
**Roldana alumínio**  
Alloy sheave

**92804**



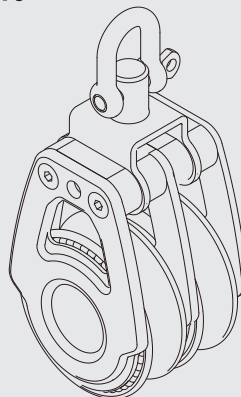
**Duplo fixo**  
Double fixed

**92805**



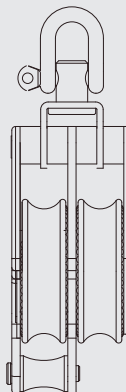
**Duplo fixo/saída**  
Double fixed/becket

**92810**



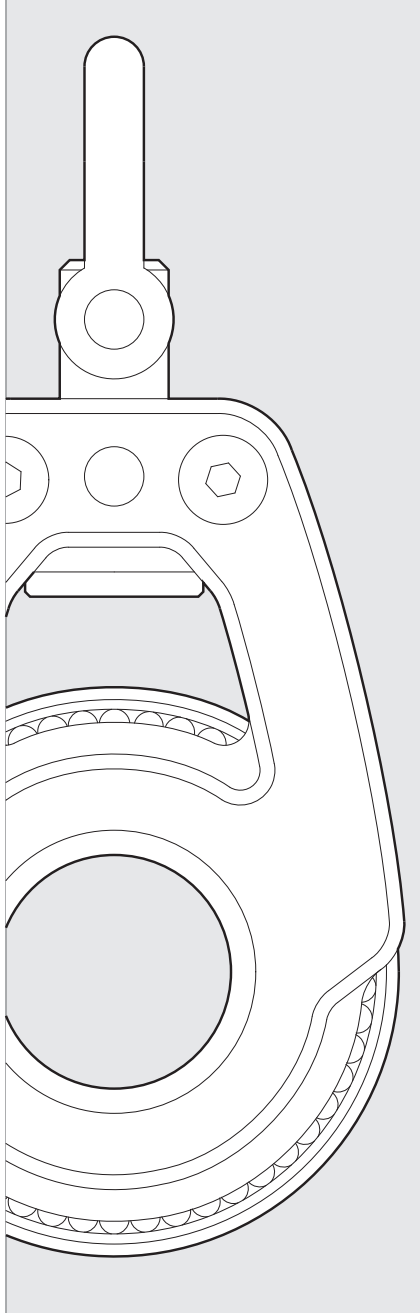
**Duplo giratório**  
Double swivel

**92811**



**Duplo giratório/saída**  
Double swivel/becket

Tamanho real/Full size



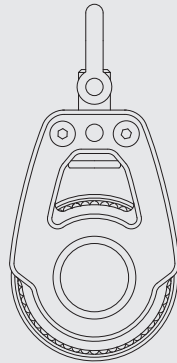
Moitões usinados em CNC. Roldana com duplo rolamento, esferas e roletes de Torlon®.

CNC machined roller/  
Ball bearing blocks.  
Torlon® rollers.



**92815**

Compatible com 91045/Compatible with 91045



**92823**

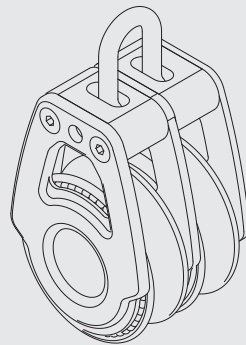
High-load



**Simples giratório**  
Single swivel

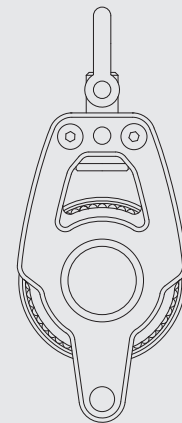
**Roldana alumínio**  
Alloy sheave

**92819**



**Duplo fixo**  
Double fixed

**92816**



**92824**

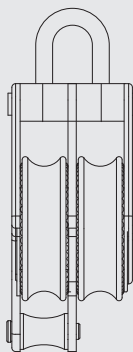
High-load



**Simples giratório/saída**  
Single swivel/becket

**Roldana alumínio**  
Alloy sheave

**92820**



**Duplo fixo/saída**  
Double fixed/becket

**92826**



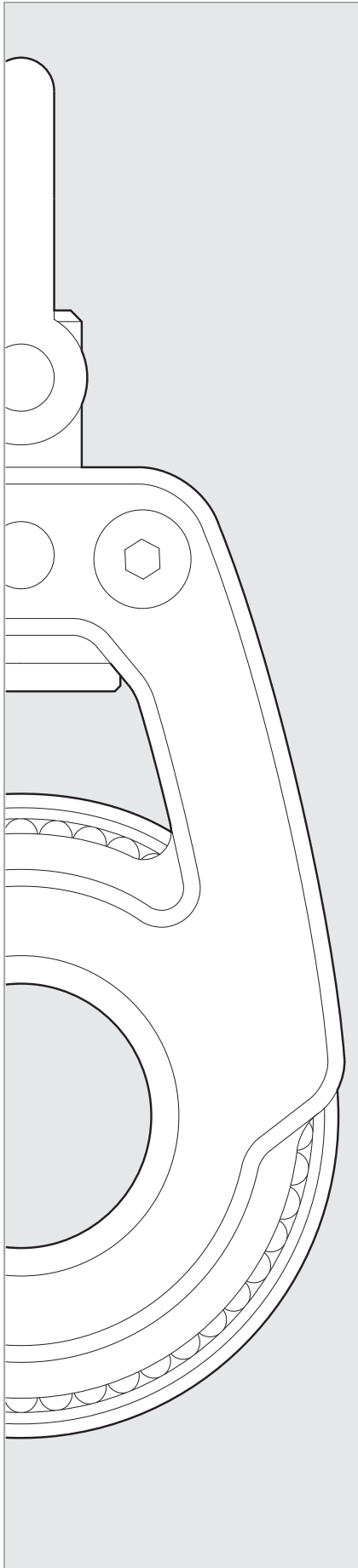
**Violino giratório**  
Fiddle swivel

**92827**



**Violino giratório/saída**  
Fiddle swivel/becket

Tamanho real/Full size

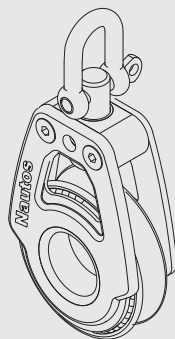


Moitões usinados em CNC. Roldana com duplo rolamento, esferas e roletes de Torlon®.

CNC machined roller/ Ball bearing blocks. Tarlon® rollers.



**92828**



**Simples giratório**  
Single swivel

**92829**



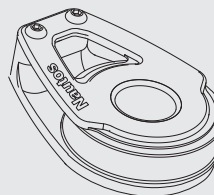
**Simples giratório/saída**  
Single swivel/becket

**92830**



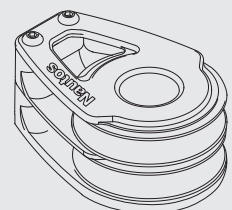
**Simples de amarrar**  
Single for web attachments

**92831**



**Simples de encosto**  
Single footblock

**92832**



**Duplo de encosto**  
Double footblock





Tamanho real/Full size

Moitões usinados em CNC.  
Roldana com duplo rolamento,  
esferas e roletes de Torlon®.

CNC machined roller/Ball  
bearing blocks. Tarlon® rollers .

**92835**



**Simples de amarrar**  
Single for web attachments

**92834**



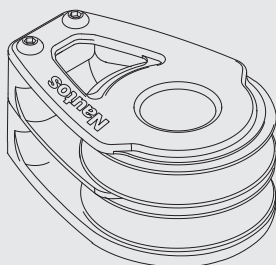
**Simples giratório/saída**  
Single swivel/becket

**92833**



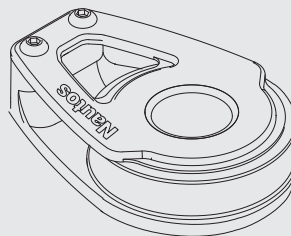
**Simples giratório**  
Single swivel

**92837**

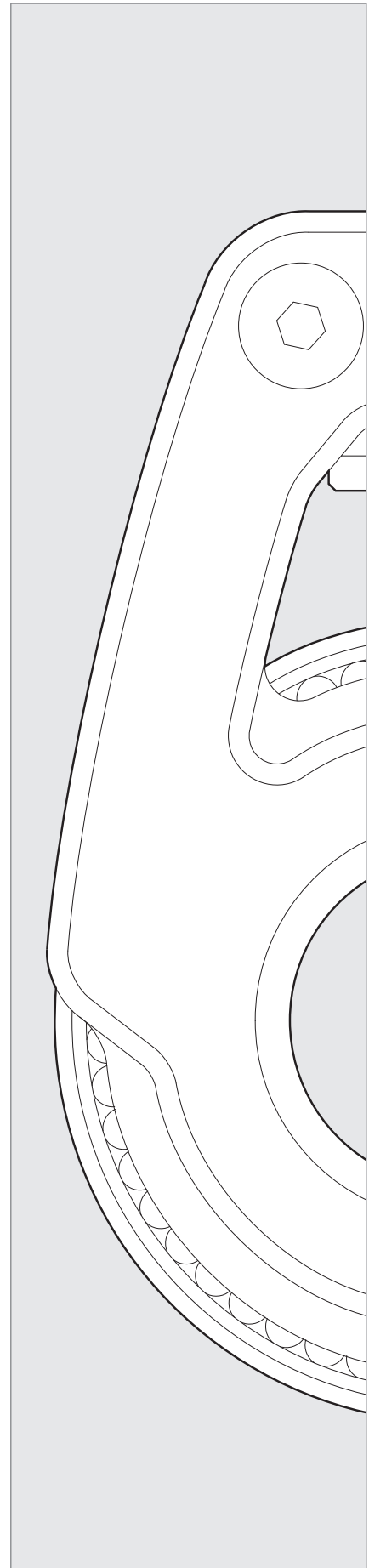


**Duplo de encosto**  
Double footblock

**92836**



**Simples de encosto**  
Single footblock



# Offshore - Adriça e Estai Volante

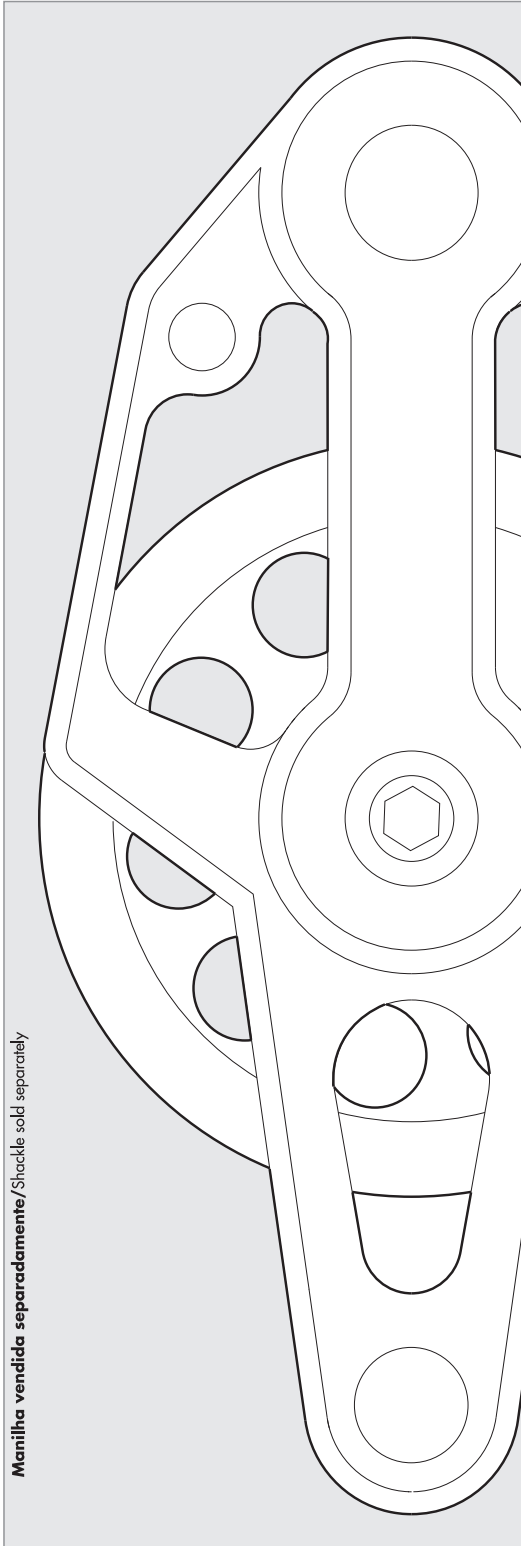
## Offshore - Halyard & Runner

Moitões usinados em CNC.  
Roldana com mancal  
composite e esferas para  
encosto lateral.

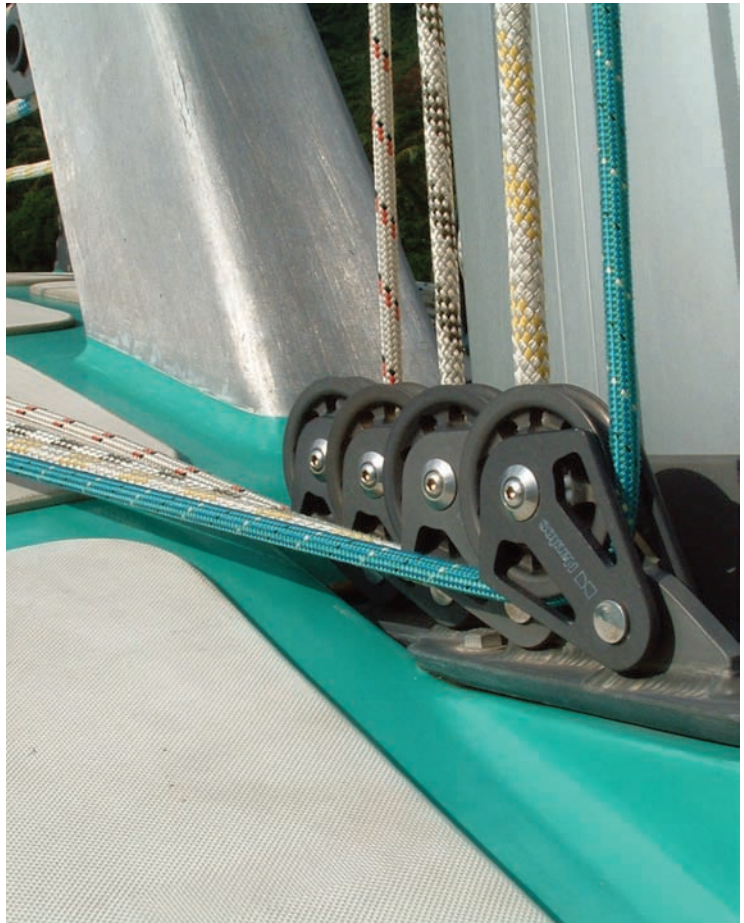
CNC machined blocks.  
Composite bearing for  
high-load.



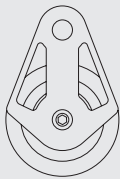
**Tamanho real/Full size**



Manilha vendida separadamente/Shackle sold separately



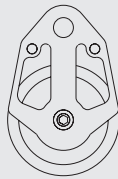
92838



- 850
- 1500
- 10
- 57
- 120
- 9,50

**Simples fixo**  
Single fixed head

92839



- 850
- 1500
- 10
- 57
- 130
- 9,50

**Simples fixo para runner**  
Single fixed head for runner

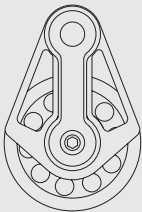
92840



- 850
- 1500
- 10
- 57
- 148
- 9,50

**Simples fixo/saída para runner**  
Single fixed head/becket for runner

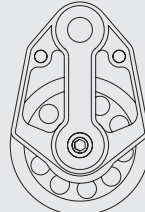
92841



- 1600
- 3500
- 12
- 75
- 190
- 10,50

**Simples fixo**  
Single fixed head

92842



- 1900
- 3500
- 12
- 75
- 220
- 10,50

**Simples fixo para runner**  
Single fixed head for runner

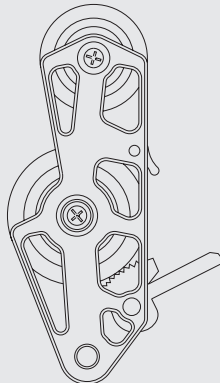
92843



- 1900
- 3500
- 12
- 75
- 225
- 10,50

**Simples fixo/saída para runner**  
Single fixed head/becket for runner

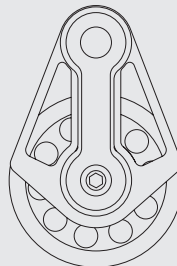
92844



- 2000
- 3500
- 12
- 75
- 410
- 10,50

**Violino fixo/catraca/mordedor**  
Fiddle fixed/ratchet/stopper

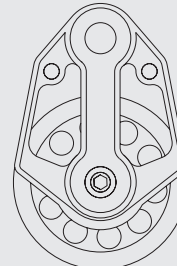
92845



- 4000
- 8000
- 14
- 100
- 480
- 15,80

**Simples fixo**  
Single fixed head

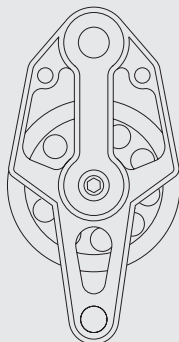
92846



- 4000
- 8000
- 14
- 100
- 500
- 15,80

**Simples fixo para runner**  
Single fixed head for runner

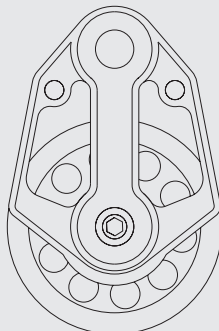
92847



- 4000
- 8000
- 14
- 100
- 530
- 15,80

**Simples fixo/saída para runner**  
Single fixed head/becket for runner

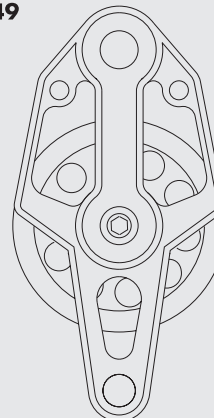
92848



- 5000
- 10000
- 16
- 125
- 680
- 19

**Simples fixo para runner**  
Single fixed head for runner

92849



- 6500
- 10000
- 16
- 125
- 720
- 19

**Simples fixo/saída para runner**  
Single fixed head/becket for runner

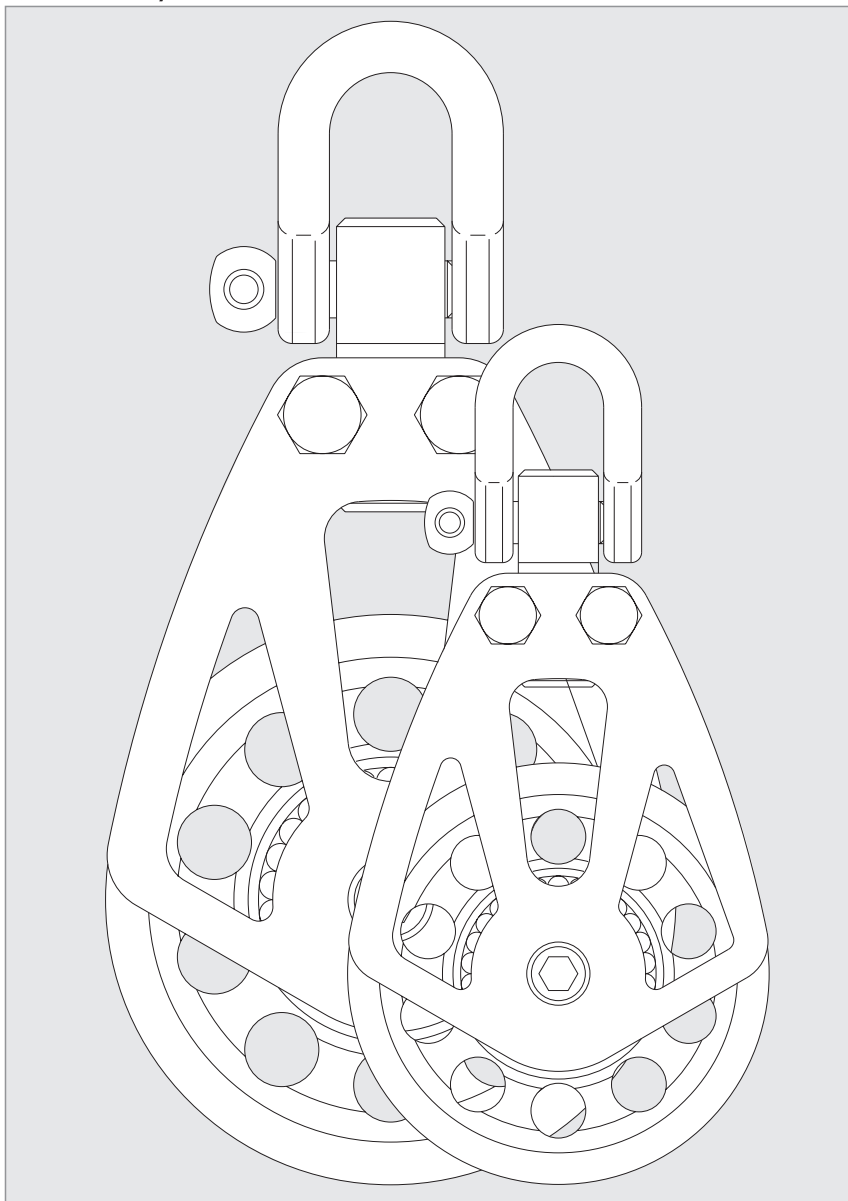
# Maxinox 57-75



Moitões em inox polido sempre combinam com grandes veleiros. Roldana em alumínio sobre mancal de composite para performance e durabilidade.

*Highly polished stainless steel always combines well with big boats. Aluminum sheave over composite bearing for performance and durability.*

**Tamanho real/Full size**



**92902**

- 1000
- 2000
- 12
- 57
- 380

**Simples giratório**  
Single swivel

**92903**

- 1300
- 2000
- 12
- 57
- 410

**Simples giratório/saída**  
Single swivel/becket

**92860**

- 1800
- 2900
- 14
- 75
- 510

**Simples giratório**  
Single swivel

**92901**

- 2000
- 2900
- 14
- 75
- 580

**Simples giratório/saída**  
Single swivel/becket

**92850**

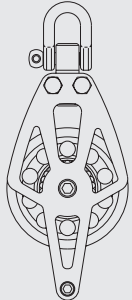







-  3800
-  6000
-  16
-  100
-  613

**Simples giratório/alta carga**  
Single swivel/high-load



**92851**



-  3800
-  6000
-  16
-  100
-  655

**Simples giratório/saída/alta carga**  
Single swivel/becket/high-load

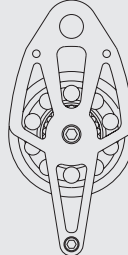
**92852**









-  3800
-  6000
-  16
-  100
-  600
-  16

**Simples fixo**  
Single fixed head

**92853**





-  3800
-  6000
-  16
-  100
-  650
-  16

**Simples fixo/saída**  
Single fixed head/becket

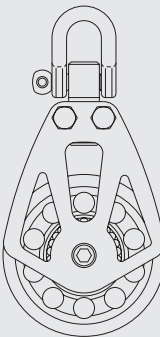
**92854**








-  3800
-  6000
-  18
-  100
-  590

**Simples fixo**  
Single fixed head

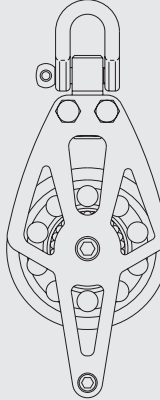
**92855**








-  5000
-  8000
-  18
-  125
-  1911

**Simples giratório/alta carga**  
Single swivel/high-load

**92856**



-  5000
-  8000
-  18
-  125
-  2145

**Simples giratório/saída/alta carga**  
Single swivel/becket/high-load

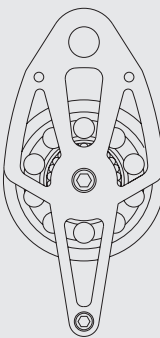
**92857**









-  5000
-  10000
-  18
-  125
-  1490
-  18

**Simples fixo**  
Single fixed head

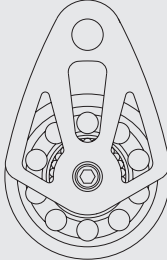
**92858**









-  5000
-  10000
-  18
-  125
-  1720
-  18

**Simples fixo/saída**  
Single fixed head/becket

**92859**



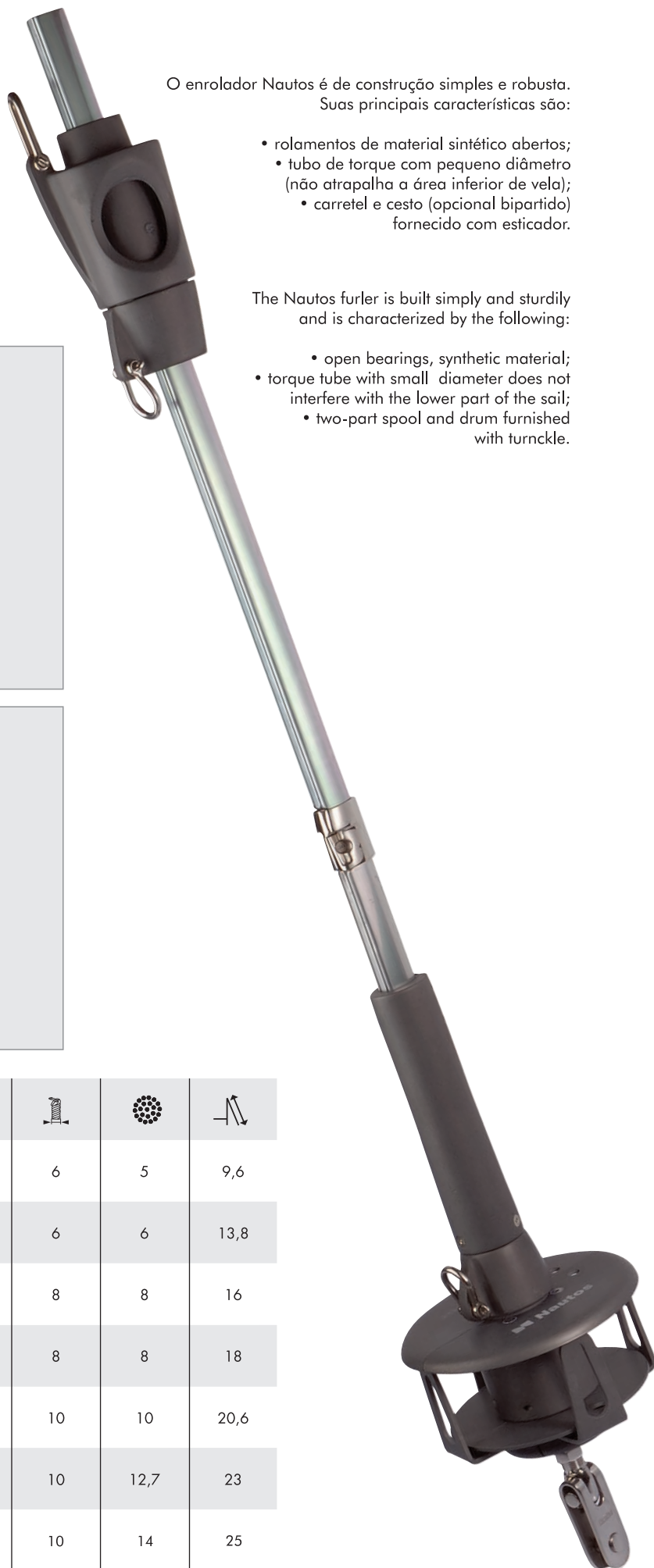
-  5000
-  10000
-  18
-  125
-  1609
-  18

**Simples fixo**  
Single fixed head



# Enroladores de Velas

## Furlers



O enrolador Nautos é de construção simples e robusta. Suas principais características são:

- rolamentos de material sintético abertos;
- tubo de torque com pequeno diâmetro (não atrapalha a área inferior de vela);
  - carretel e cesto (opcional bipartido) fornecido com esticador.

The Nautos furler is built simply and sturdily and is characterized by the following:

- open bearings, synthetic material;
- torque tube with small diameter does not interfere with the lower part of the sail;
- two-part spool and drum furnished with turnckle.

**96134**



**Enrolador # 00 inox**

Stainless steel furling for classic boats - until 28'

**91193**



**Enrolador pequeno com destorcedor superior**

Dinghy furler with top head swivel

Código Part n° with turnbuckle	Descrição Description					
<b>95350</b>	#0 STD	25	25	6	5	9,6
<b>95351</b>	#0 high-load	28	30	6	6	13,8
<b>95355</b>	#1	35	40	8	8	16
<b>95356</b>	#1,5	38	52	8	8	18
<b>95360</b>	#2	46	70	10	10	20,6
<b>95360 PLUS</b>	#2 Plus (12mm dyform)	49	90	10	12,7	23
<b>95365</b>	#3	60	110	10	14	25

# Code Zero

# Code Zero



Code Zero é especificamente desenhado para uso em velas de proa sem stay, ou assimétricos de vários desenhos.

O Modelo Básico "Z" é usado em velas de testa reta ou quase, como screachers, genakers, etc, e o modelo "SZ" usado para spynakers assimétricos e variações deste desenho que apresentem testa mais curva, geralmente uma opção para ventos folgados, até popa. A característica deste modelo é o destorcedor extra na base que permite enrolar qualquer formato de vela.

The Code Zero is specifically designed for use on headsails without stay or asymmetricals of various designs

The basic model "Z" is used for foresails, screachers, genakers etc and the model "SZ" is used for asymmetrical spinnakers and variations of these designs that are more curved. Sails that are used from run to reach.

The feature of this model is the extra swivel in the base that allows for rolling any snape of sail.

**95347 Enrolador Code Zero até 35'**  
Furler Code Zero up - until 35' monohull

**95348 Enrolador Code Zero SZ até 35'**  
Furler Code Zero SZ up - until 35' monohull

**95396 Enrolador Code Zero até 45'**  
Furler Code Zero up - until 45' monohull

**95397 Enrolador Code Zero SZ até 45'**  
Furler Code Zero SZ up - until 45' monohull

## Acessórios

## Accessories

91600 (Z)	91602 (SZ)
	
850	1600
	
1500	3500
	
10	12
	
120	190

**Moitão sobre o destorcedor p/ adriças 2:1**  
Block on swivel for 2:1 halyard



# Escolha o Batten Car

## Choose the Batten Car

Para montagens importantes como enroladores, catracas ou Batten cars, sempre recomendamos pessoal autorizado de nossas revendas. Porém é possível adquirir e montar seu sistema, seguindo o manual disponível em nosso site ([www.nautos.com.br](http://www.nautos.com.br)). Para adquirir seu sistema de Batten car siga esse roteiro:

### 1) QUAL O SISTEMA?

Determine a área vélica e o tamanho do barco com a ajuda da tabela ao lado. No caso de valores intermediários decida a escolha levando em conta a área vélica.

### 2) QUANTOS CARROS?

Para cada tala inteira, é necessário um carro com suporte e ponteira. No mínimo a cada metro deverá existir um carro de tala ou um carro intermediário. Para todas as velas deverá existir um sistema de carro de tope. Geralmente dois carros ligados por uma ponte.

### 3) TOTAL DE CARROS:

No mínimo um a cada metro de "P", dois carros extras para o tope.

### 4) QUANTOS METROS DE TRILHO?

Meça desde a parte do mastro acessível próximo ao garlindau até o mais próximo possível do tope. Para cada metro são necessários 10 parafusos e 10 slugs.

### 5) BOLACHA DO TOPE:

Se a vela já existe, verifique se a bolacha é compatível com a ponte. Em caso de dúvida, consulte nossa revenda ou remeta uma foto do tope da vela para a fábrica com as medidas.

### 6) BATENTES E GATE:

Para todos os sistemas é necessário um batente no tope e um "gate" na base que é uma peça para facilitar a montagem ou remoção de carros.

### 7) SUPORTE DE TALA E PONTEIRA:

Verifique o tipo e dimensões da tala fornecida com a vela para escolher a ponteira adequada.



*For complex assemblies like furlers, winches or batten cars, we recommend specialized personal, yet it's possible to do it following instructions from ([www.nautos.com.br](http://www.nautos.com.br)). To buy your batten car system follows these simple instructions*

### 1) WHICH SYSTEM?

*Check the main sail area and boat length. In the table, choose the system according to the boat length. With intermediate values decide considering mainsail area.*

### 2) HOW MANY CARS?

*Each full length batten needs one car with support and one receptacle. At least every meter or 3<sup>ft</sup> one batten car or an intermediate. Every system needs also a top assembly, typically two cars and one coupler.*

### 3) TOTAL CARS:

*Minimum of one every meter or 3<sup>ft</sup> and two extra cars at the top.*

### 4) HOW MUCH TRACK?

*Measure the distance as close as possible from the gooseneck up to masthead. You will use 10 screws and 10 slugs per meter (3ft).*

### 5) HEAD BOARD:

*If you are adapting an existing sail, check if the headboard fits on the coupler. In case of doubt, send a photo with measurements.*

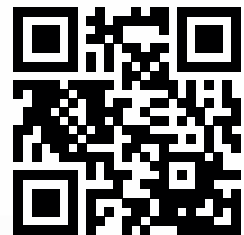
### 6) ENDSTOPS & GATE

*All systems need one end stop and a gate at the base, where you load and unload cars.*

### 7) BATTEN SUPPORT AND STUD:

*Check type and dimensions of the batten you'll use to order the right receptacle.*

Video / info.



95550	Slug plástico menor preto M5 completo (corpo, trava e porca) Small plastic slug M5 complete, black (body, nut and holdfast spring)
95551	Slug plástico maior preto M6 completo (corpo, trava e porca) Large plastic slug M6 complete, black (body, nut and holdfast spring)
95552	Slug plástico menor colorido Small plastic slug - colored
95553	Slug plástico maior colorido Large plastic slug - colored

Fornecimento dos parafusos M5 e M6 mediante solicitação.  
M5 and M6 machine screws available if required.

**MONOCASCO MONOHULL**

Área vélica do grande Mainsail area		Comprimento do barco Boat length		Trilho Track	Carro Car		
Metros quad. Sq. meters	Pés quad. Sq. feet	Metros Meters	Pés Feet		Intermediário Intermediate	Tala Batten	Tope Top assembly
25	270	9,2	28	H 22	Pequeno Small	Pequeno Small	2 Pequenos 2 Small
30	320	11	33	H 22	Pequeno Small	Pequeno Small	2 Pequenos Torlon 2 Small Torlon
40	430	13	38	H 22	Pequeno Small	Médio Medium	2 Pequenos Torlon 2 Small Torlon
50	540	14	43	H 22	Pequeno Small	Médio Medium	2 Médios 2 Medium
70	750	16	48	H 22	Pequeno Small	Médio Medium	2 Médios 2 Medium
80	860	17	53	H 32	Médio Medium	Grande Big	2 Grandes 2 Big
120	1300	20	60	H 32	Grande Big	Grande Torlon Big Torlon	2 Grandes Torlon 2 Big Torlon

**Todos os sistemas levam um carro a cada 1,2 metros ou 4 pés.**  
*All systems have a car at least every 1.2 meters or 4 feet.*

**MULTICASCO MULTIHULL**

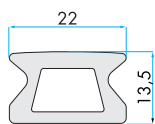
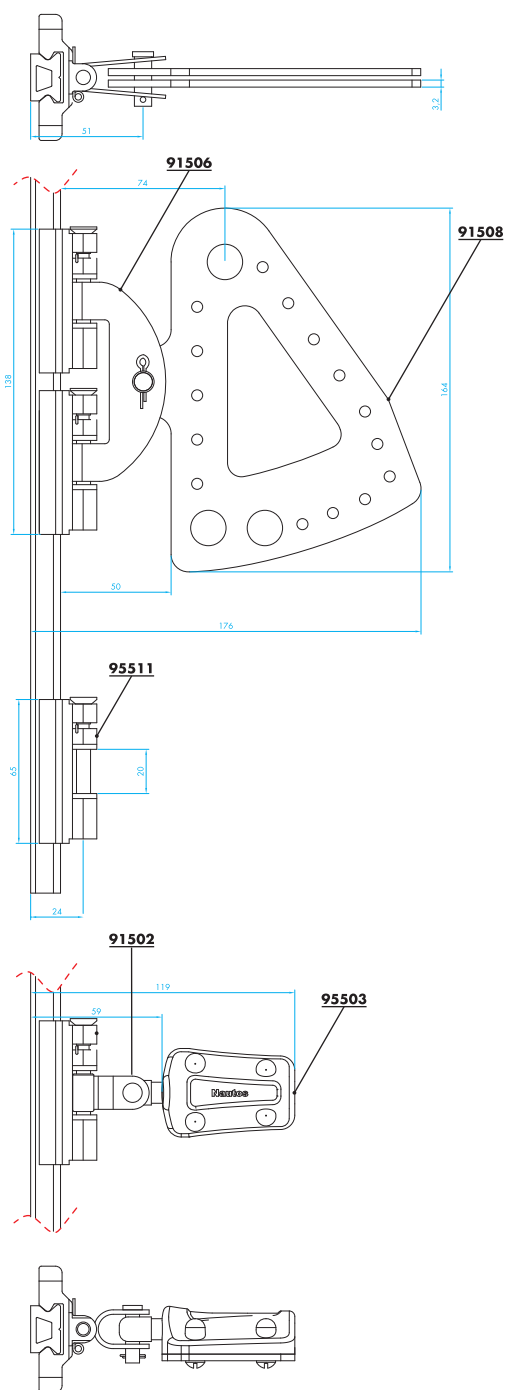
Área vélica do grande Mainsail area		Comprimento do barco Boat length		Trilho Track	Carro Car		
Metros quad. Sq. meters	Pés quad. Sq. feet	Metros Meters	Pés Feet		Intermediário Intermediate	Tala Batten	Tope Top assembly
30	320	8	25	Pequeno Small	Pequeno Small	Pequeno Small	2 Pequenos Torlon 2 Small Torlon
40	430	10	30	Pequeno Small	Pequeno Torlon Small Torlon	Médio Medium	2 Médios 2 Medium
70	750	13	38	Pequeno Small	Médio Medium	Médio Medium	2 Médios 2 Medium
80	860	16	50	Grande Big	Grande Big	Grande Torlon Big Torlon	2 Grandes Torlon 2 Big Torlon
110	1200	21	65	Grande Big	Grande Big	Grande Torlon Big Torlon	2 Grandes Torlon 2 Big Torlon



DO NOT use Nautos equipment for human suspension or equivalent work.

# Batten Car Recirculante pequeno

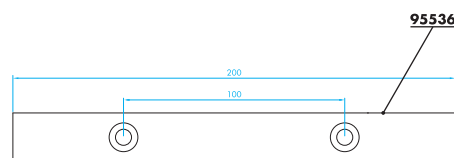
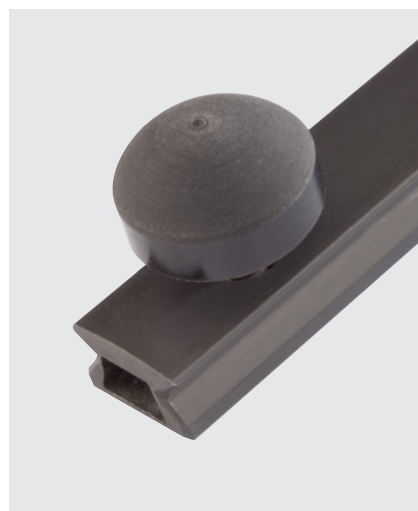
## Small Ball Bearing Batten Car







### Trilho H menor

Batente 91431

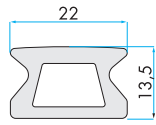
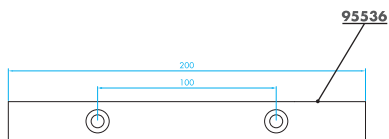
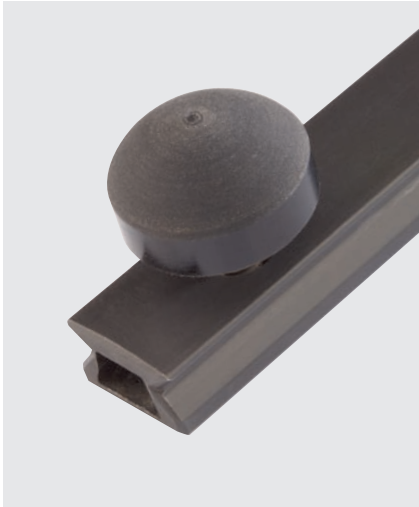
Inserto 91405



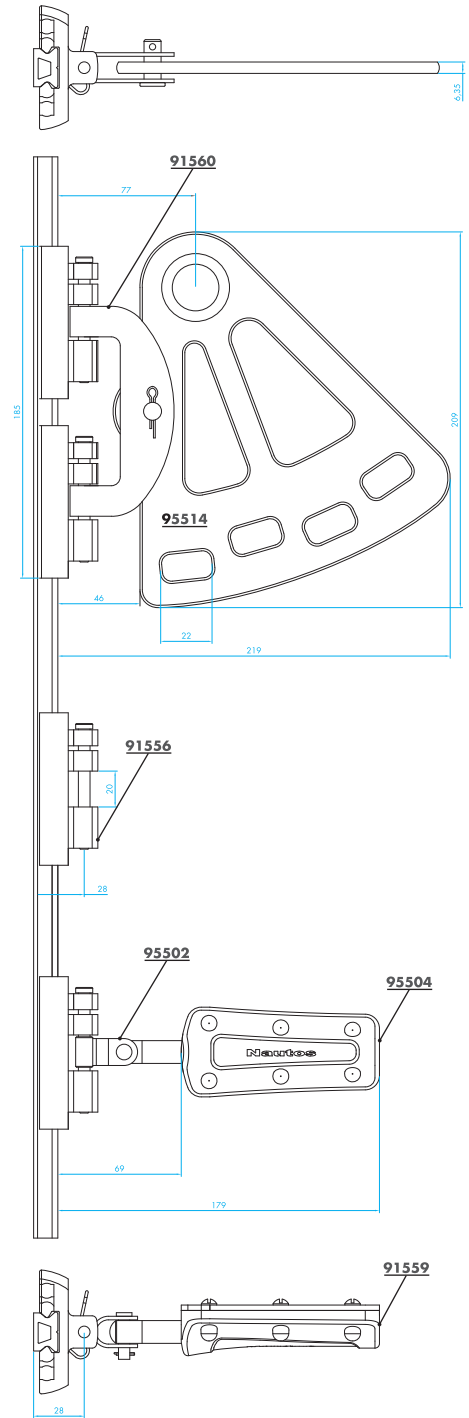
						<b>M</b> mm
<b>91511</b>	Carro roletado pequeno / Small car	180	400	120	-	65
<b>91512</b>	Carro roletado pequeno High-load / Small car hi-ligad	250	600	130	-	65
<b>91502</b>	<b>Suporte para tala pequena e média</b> / Small batten stud	-	-	38	10	80
<b>95503</b>	<b>Ponteira tala pequena</b> / Small batten suport	-	-	58	10	-
<b>91506</b>	<b>Ponte para 2 carros pequenos</b> /Coupler for two small cars	800	1500	90	-	105
<b>91508</b>	<b>Bolacha pequena - 2 peças</b> /Small head board	700	1400	120	-	130
<b>95536</b>	<b>Gate</b>	-	-	-	-	-

# Batten Car Recirculante médio

## Medium Ball Bearing Batten Car



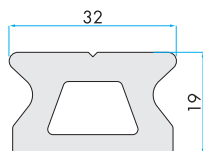
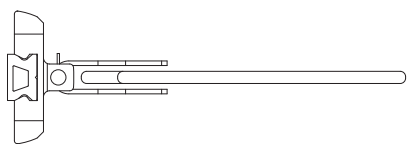
**Trilho H menor**  
 Batente 91431  
 Inserto 91405



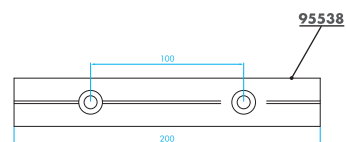
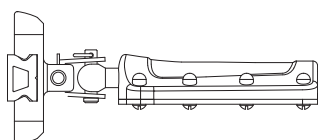
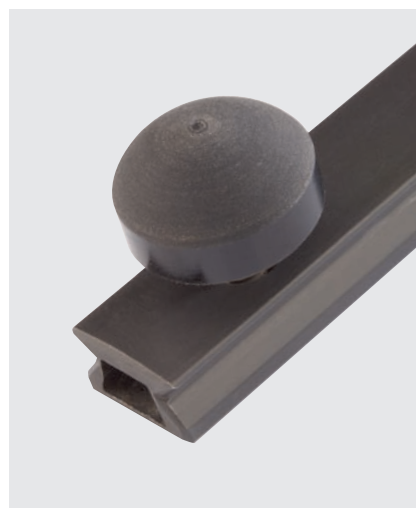
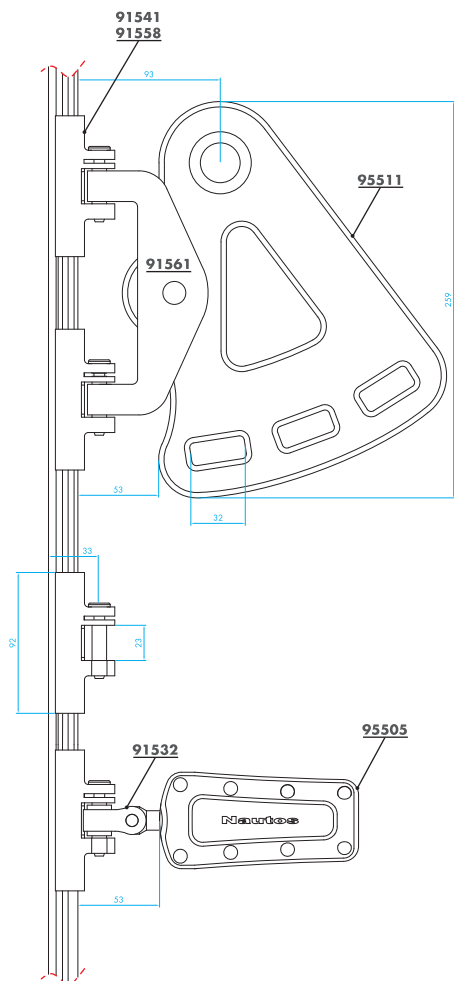
						<b>M</b> mm
<b>91556</b>	<b>Carro roletado médio</b> /Medium car	550	1200	100	-	70
<b>95535</b>	<b>Carro roletado médio p/tala c/Torlon</b> /Medium car high-load	770	1600	100	-	70
<b>91502</b>	<b>Suporte para tala pequena e média</b> /Small batten stud	-	-	38	10	80
<b>95504</b>	<b>Ponteira tala média</b> /Medium batten suport	-	-	200	-	120
<b>91560</b>	<b>Ponte para 2 carros médios</b> /Coupler for two medium cars	800	1600	200	-	120
<b>95514</b>	<b>Bolacha tope média monocasco</b> /Medium head board monohull	1000	2000	240	-	260
<b>95536</b>	<b>Gate</b>	-	-	-	-	-

# Batten Car Recirculante grande

## Big Recirculating Batten Car



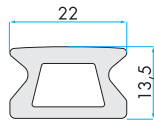
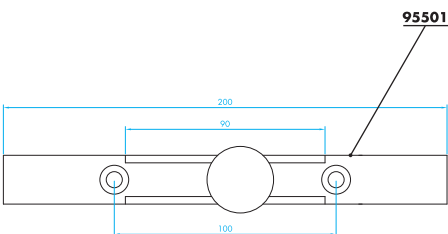
**Trilho H maior**  
**91451** Batente  
**91415** Inserto  
**95508** Gate para Carro Roletado



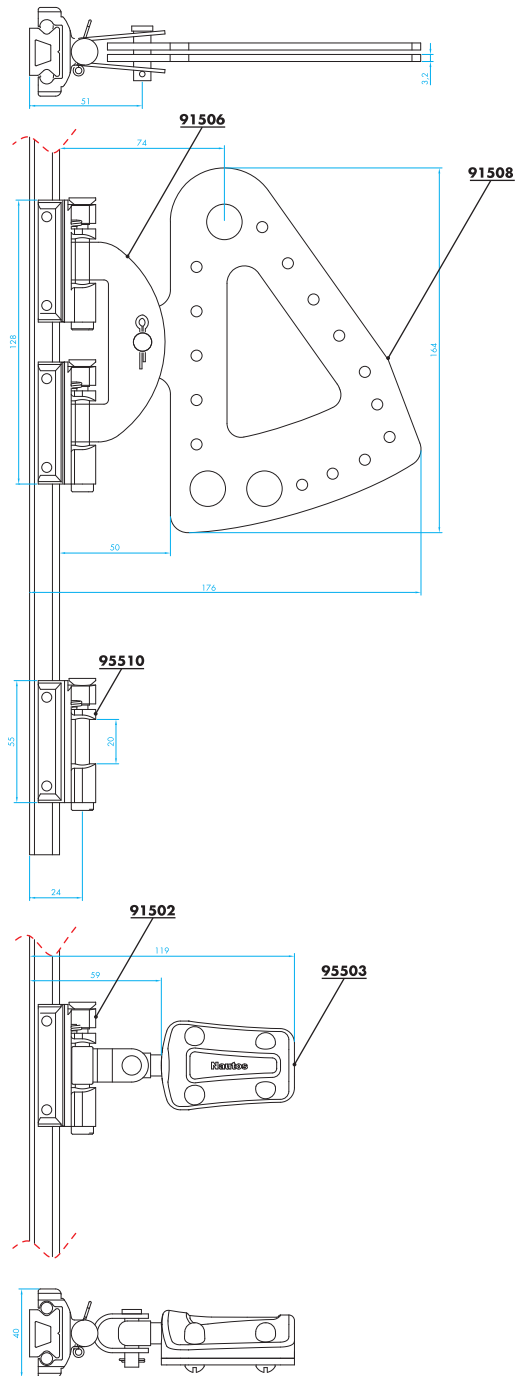
						<b>M</b> mm
<b>91541</b>	<b>Carro roletado grande/Big car</b>	700	1500	298	-	90
<b>91558</b>	<b>Carro roletado grande p/tala c/Torlon/Big car high-load</b>	980	2000	298	-	90
<b>91532</b>	<b>Suporte para tala grande M10/Big batten stud</b>	-	-	130	14	-
<b>95505</b>	<b>Ponteira tala grande/Big batten suport</b>	-	-	280	-	130
<b>91561</b>	<b>Ponte para 2 carros grandes/Coupler for two big cars</b>	2000	4000	250	-	130
<b>95511</b>	<b>Bolacha tope grande monocasco/Big head board monohull</b>	2000	4000	280	-	270
<b>95512</b>	<b>Bolacha tope grande multicasco/Big head board multihull</b>	2000	4000	280	-	270
<b>95538</b>	<b>Gate</b>	-	-	-	-	-

# Batten Car Deslizante pequeno

## Small Sliding Batten Car



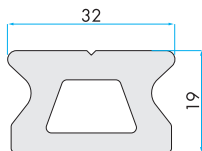
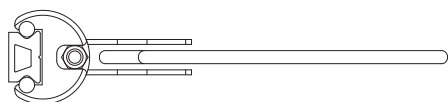
**Trilho H menor**  
 Batente 91431  
 Inserto 91405



						<b>M</b> mm
<b>95510</b>	<b>Carro surface pequeno/Sliding small car</b>	200	400	60	-	6
<b>91502</b>	<b>Suporte para tala pequena e média/Small batten stud</b>	-	-	38	10	80
<b>95503</b>	<b>Ponteira tala pequena/Small batten suport</b>	-	-	58	10	-
<b>91506</b>	<b>Ponte para 2 carros pequenos/Coupler for two small cars</b>	800	1500	90	-	105
<b>91508</b>	<b>Bolacha pequena - 2 peças/Small head board</b>	700	1400	120	-	130
<b>95501</b>	<b>Gate</b>	-	-	-	-	-

# Batten Car Deslizante grande

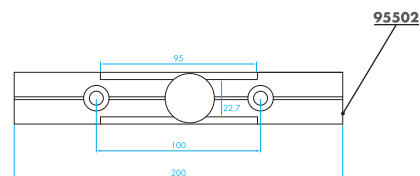
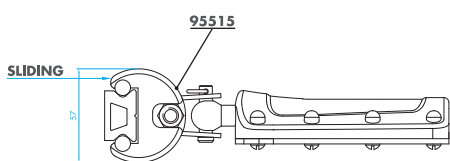
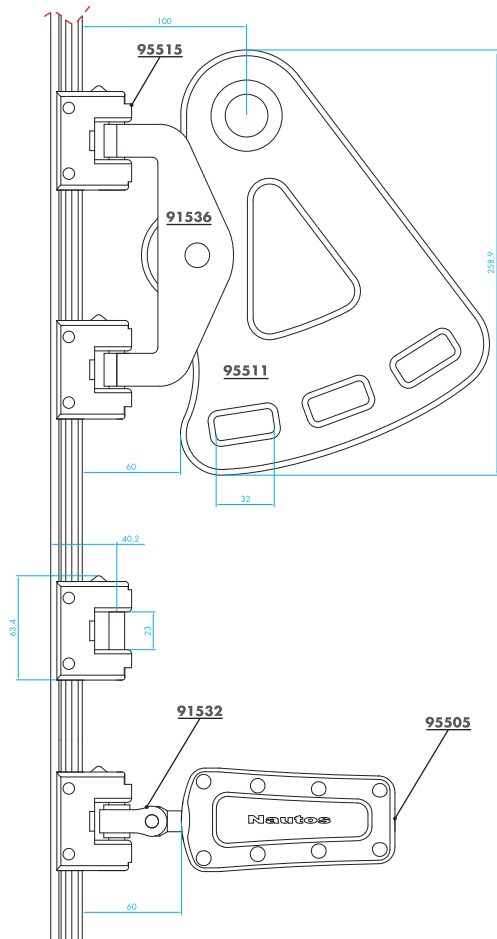
## Big Sliding Batten Car







**Trilho H maior**

Batente 91451

Inserto 91415



						<b>M</b> mm
<b>95515</b>	<b>Carro surface grande/Sliding big car</b>	1000	2000	300	-	80
<b>91532</b>	<b>Suporte para tala grande/Big batten stud</b>	-	-	130	14	-
<b>95505</b>	<b>Ponteira tala grande/Big batten suport</b>	-	-	280	-	130
<b>91561</b>	<b>Ponte para 2 carros grandes/Coupler for two big cars</b>	2000	4000	250	-	130
<b>95511</b>	<b>Bolacha tope grande monocasco/Big head board monohull</b>	2000	4000	280	-	270
<b>95502</b>	<b>Gate</b>	-	-	-	-	-

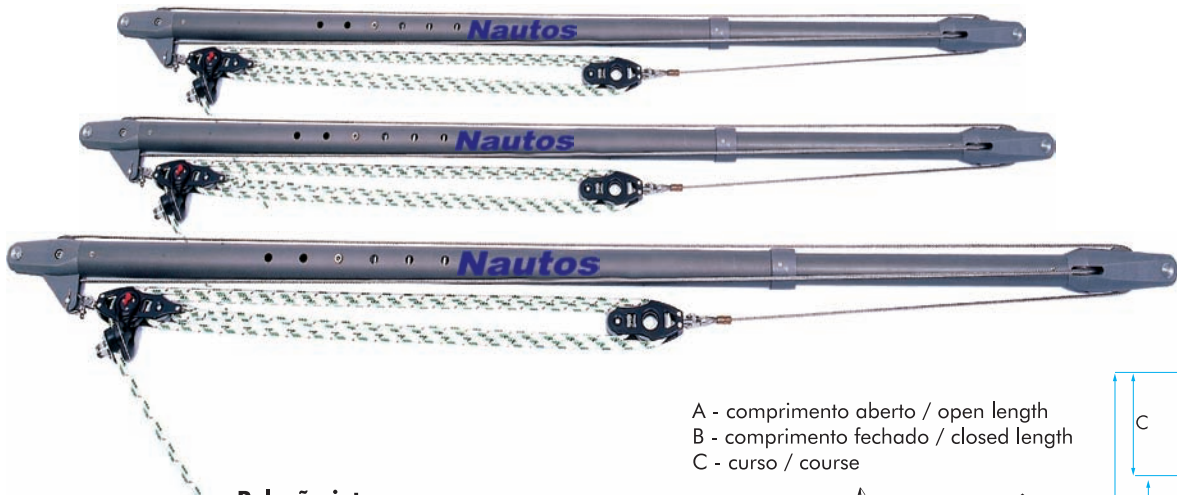
# Burro Telescópico

## Telescopic Vang



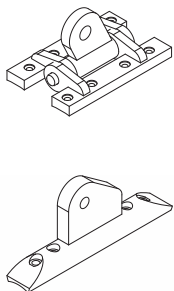
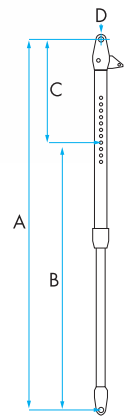
O burro telescópico Nautos é um sistema mecânico compacto que substitui com vantagem o burro clássico da retranca e amantilho. O corpo de telescopicvang já contém internamente uma redução de 3:1 a 5:1 dependendo do modelo, que associada a uma talha externa oferece uma grande potência, com uma relação de redução que pode ir até 40:1.

The "Telescopicvang" is a compact, mechanical systems which replaces the classic vang, and topping lift features. The Telescopicvang body already possesses an internal reduction between 3: and 5:1 depending on the model. In conjunction with an external tackle, it provides more power, with a relation up to 40:1.

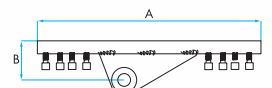
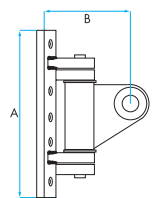


A - comprimento aberto / open length  
B - comprimento fechado / closed length  
C - curso / course

	Relação interna Internal relation		A mm	B mm	C mm	D mm			
91342	2:1	24' - 32'	1350	1150	200	10	25	2,4	150
91330	3:1	29' - 37'	1860	1560	300	13	35	6	300
91334	4:1	38' - 44'	2125	1825	300	16	45	7	450
91338	5:1	45' - 55'	2500	2300	200	16	60	12	450



		A mm	B mm	D mm	
91343	<b>Fixação de mastro para 91342</b> Mast fitting for 91342	138	50	10	M6 x 20
91332	<b>Fixação de mastro para 91330</b> Mast fitting for 91330	138	49	13	M6 x 20
91336	<b>Fixação de mastro para 91334</b> Mast fitting for 91334	148	53	16	M6 x 20
91340	<b>Fixação de mastro para 91338</b> Mast fitting for 91338	173	60	16	M6 x 20
91344	<b>Fixação de retranca para 91342</b> Boom fitting for 91342	160	50		M6 x 15
91333	<b>Fixação de retranca para 91330</b> Boom fitting for 91330	210	42		M6 x 15
91337	<b>Fixação de retranca para 91334</b> Boom fitting for 91334	250	48		M6 x 15
91341	<b>Fixação de retranca para 91338</b> Boom fitting for 91338	320	54		M6 x 15



# Burro Hidráulico

## Hdraulic Vang





# Carros Recirculantes da Grande 14 e 22 mm H

## Mainsail Recirculating Cars 14mm and 22mm H

Carros recirculantes esculpidos a partir de perfil sólido para desempenho e resistência.

Recirculating cars carved from solid alloy stock for performance and resistance



**HT 4414**

- 140
- 500
- 48
- 14
- M**  
mm  
56
- W**  
mm  
40

**Carro com manilha pivotante - 50mm**  
Car with pivoting shackle - 50mm

**91640**

- 230
- 500
- 172
- 22

**Carro com manilha pivotante - 80mm delrin**  
Car with pivoting shackle - 80mm-delrin

**91642**

- 230
- 600
- 192
- 22

**Carro com manilha pivotante e alças - 80mm - torlon**  
Car with pivoting shackle and ears-80mm-torlon

**91643**

- 560
- 1100
- 259
- 22

**Carro com manilha pivotante e alças - 120mm - torlon**  
Car with pivoting shackle and ears-120mm-torlon

**91644**

- 350
- 600
- 110
- 22

**Carro com stand-up e alças 80mm - alta carga - torlon**  
Car with stand-up base and ears 80mm - high-load - torlon

**91645**

- 560
- 1100
- 150
- 22

**Carro com stand-up e alças 120mm - torlon**  
Car with stand-up base and ears - 120mm-torlon

# Carros Recirculantes da Grande 32 mm

## Mainsail Recirculating Cars 32mm



Carros recirculantes esculpidos a partir de perfil sólido para desempenho e resistência.

Recirculating cars carved from solid alloy stock for performance and resistance.

**91667**

**Carro 140mm com manilha Pivotante\***  
Car 140mm with pivoting shackle\*

**91666**

**Carro 120mm com manilha Pivotante\***  
Car 120mm with pivoting shackle\*

**91665**

**Carro 95mm com manilha pivotante**  
Car 95mm with pivoting shackle

**91668**

**Carro 190mm com manilha pivotante\***  
Car 190mm with pivoting shackle\*

**91651**

**Carro 120mm com stand-up\***  
Car 120mm with stand-up base\*

**91652**

**Carro 140mm com stand-up\***  
Car 140mm with stand-up base\*

Controles fornecido separadamente/lowing block supplied separately.

**91653**

**Carro 190mm com dois stand-up\***  
Car 190mm with two stand-up base\*

Controles fornecido separadamente/lowing block supplied separately.

# Carros Genoa 22mm H

## Genoa Cars 22mm H

Carros recirculantes permitem a regulagem precisa das velas de proa nas saídas de bóia ou ajustes finos mesmo sob cargas.

No mesmo trilho podem ser usados carros deslizantes que permitem ser puxados para algum ajuste. Ser for feita a opção para pino de stop, solicite furação (página 66).

O triroller é usado em trilhos mais perto da cabine, não batem durante os bordos e permitem ajustes da escota mesmo em ângulos muito folgados.



*Recirculating cars allow precise sail control after turning the Mark during Racing or fine tuning even under load. Sliding cars can be towed on the same track for additional sail adjusting. If you intend to use a pin stop then you will require track on page 66.*

*Tri-roller cars are used on tracks close to the cabin sides; they are quiet during taking and allow for wide sheet angles.*

**96379**

**Carro de genoa deslizante**  
Genoa sliding car

- 450
- 900
- 310
- M mm 120
- W mm 58
- 1x10
- 30
- 22

**91443**

**Carro de genoa roletado recirculante**  
Recirculating roller bearing genoa car

- 400
- 600
- 310
- M mm 120
- W mm 58
- 2x12
- 30
- 22

**91444**

**Carro de genoa roletado com suporte de inox**  
Recirculating roller bearing genoa car with stainless steel

- 800
- 1200
- 500
- M mm 120
- W mm 58
- 2x16
- 30
- 22

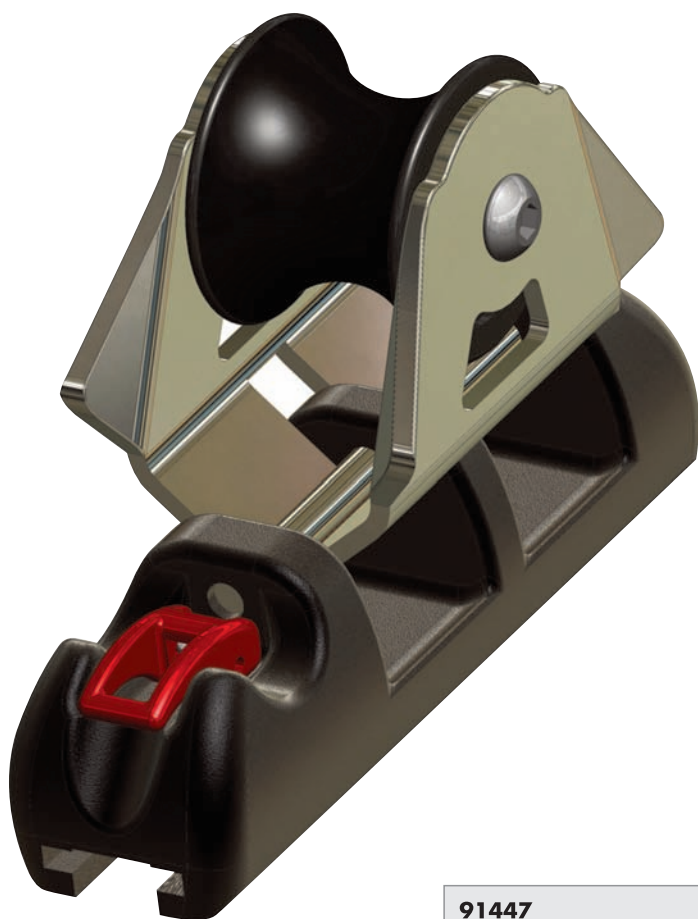
**91480**

**Carro deslizante/pino de stop (Triroller)**  
Sliding genoa car/stopping pin (Triroller)

- 1300
- 2000
- 422
- 2x14
- 22

# Carros Genoa 25mm T

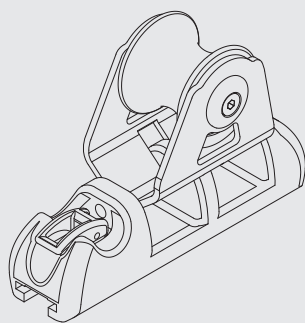
## Genoa Cars 25mm T



Carros com suporte em "U" com pino de stop sobre trilho T. Desenho clássico e prático.

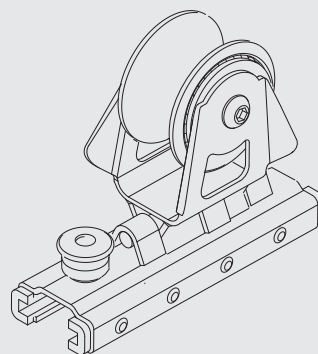
"U" shaped stainless steel wide body with pin stop on T. Track for practical and classic performance.

**91447**



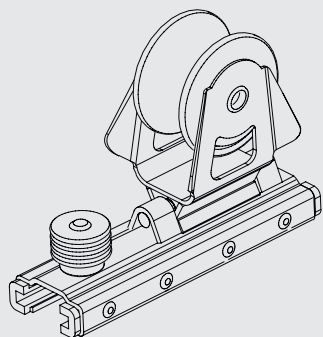
Passa-escota duplo/ stop / roldana alumínio roletada  
Slider Series 2

**91435**



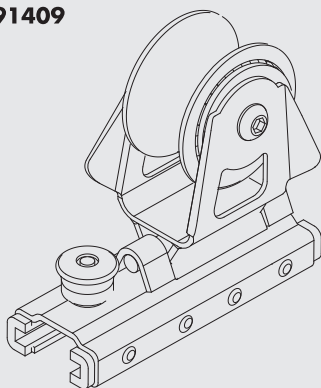
Passa-escota duplo/ stop / roldana roletado c/ mancal  
Double genoa lead/roller bearing/sheave

**91408**



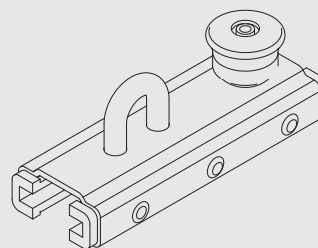
Passa-escota duplo/stop c/ suporte inox e roldana de plástico  
Slider double genoa/lead with stud and plastic sheave

**91409**



Passa-escota duplo/stop/roletado c/suporte e roldana de alumínio  
Slider double/roller bearing/genoa lead with stud and aluminum sheave

**91403**



Alça e stop  
Eye and stop

# Carros Genoa 32mm H

## Genoa Cars 32mm H

Carros recirculantes permitem a regulagem precisa das velas de proa nas saídas de bóia ou ajustes finos mesmo sob cargas.

No mesmo trilho podem ser usados carros deslizantes que permitem ser puxados para algum ajuste. Ser for feita a opção para pino de stop, solicite furação (página 66).

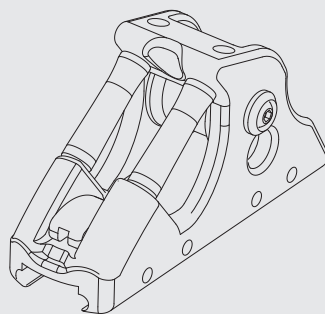
O triroller é usado em trilhos mais perto da cabine, não batem durante os bordos e permitem ajustes da escota mesmo em ângulos muito folgados.

*Recirculating cars allow precise sail control after turning the Mark during Racing or fine tuning even under load. Sliding cars can be towed on the same track for additional sail adjusting. If you intend to use a pin stop then you will require track on page 66.*

*Tri-roller cars are used on tracks close to the cabin sides; they are quiet during taking and allow for wide sheet angles*

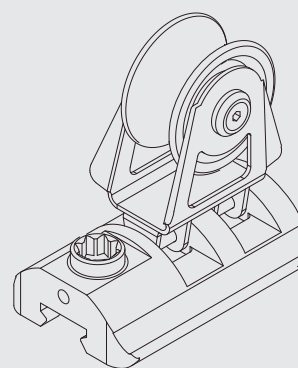


**91485**



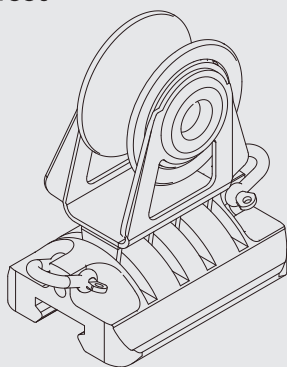
**Carro deslizante/pino de stop (Triroller)**  
Sliding genoa car/stopping pin (Triroller)

**91655**



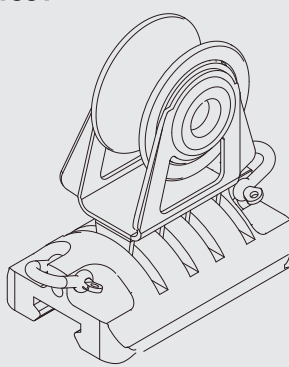
**Carro deslizante/porca de stop**  
Sliding genoa car/stopping nut

**91660**



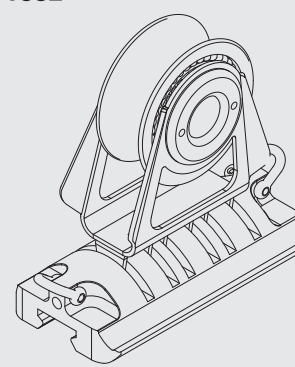
**Carro de genoa roletado 120mm recirculante com roldana 75mm**  
Recirculating roller 120mm bearing with genoa car 75mm sheave

**91661**



**Carro de genoa roletado 140mm recirculante com roldana 75mm**  
Recirculating roller 140mm bearing with genoa car 75mm sheave

**91662**



**Carro de genoa roletado recirculante roldana 100mm**  
Recirculating roller bearing genoa car 100mm sheave

# Carros Genoa 32mm T

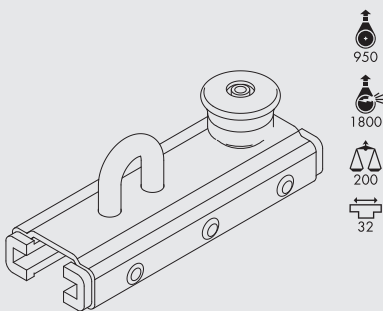
## Genoa Cars 32mm T

Carros com suporte em "U"  
com pino de stop sobre trilho T.  
Desenho prático e clássico.

"U" shaped stainless steel wide  
body with pin stop on T. Track  
for practical and classic  
design.

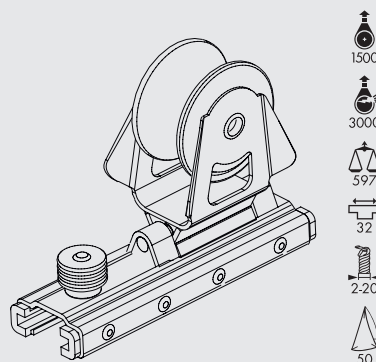


**91413**



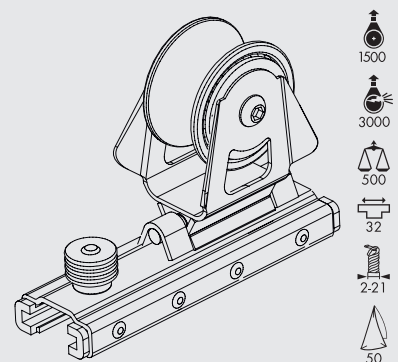
**Deslizante com alça e stop**  
Slider with eye and stop

**91418**



**Deslizante passa-escota duplo alumínio**  
Genoa lead aluminum sheave

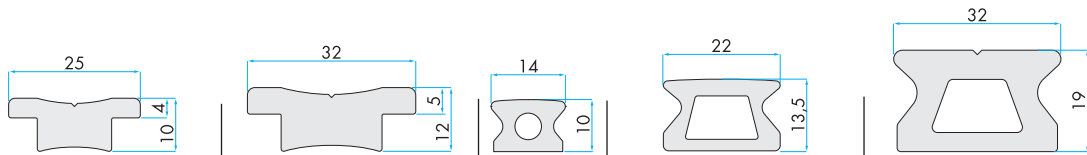
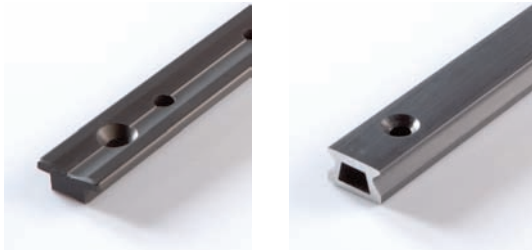
**91419**



**Deslizante passa-escota duplo roletado**  
Double genoa lead rolled bearing sheave

# Trilhos e Controles

## Tracks and Controls



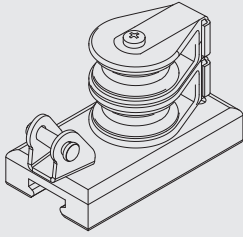
Tamanho/Tipo	25 T		32 T		14 H	22 H		32 H	
Espécie	Batten Car	Standard	Batten Car	Standard	Standard	Standard	Com furo stop	Standard	Com furo stop
500					91736				
750	91700	91704	91702	91710	91737	91716		91722	
1000	91701	91705	91703	91711	91738	91717	91734	91723	91735
1500		91706		91712	91739	91718		91724	
2000		91707		91713		91719		91725	
2500		91708		91714	91740	91720		91726	
3000		91709		91715		91721		91727	
4000	91728	91730	91729	91731		91732		91733	

	<b>Pequeno</b> Small	<b>91405</b>	<b>Inserto plástico para redução 6.5 para 5mm</b> Nylon insert 6.5 to 5mm
	<b>Grande</b> Big	<b>91415</b>	<b>Inserto plástico para redução 8 para 6.5mm</b> Nylon insert 8 to 6.5mm
	<b>Pequeno</b> Small	<b>91406</b>	<b>Batente para trilho T</b> End sliding track
	<b>Grande</b> Big	<b>91416</b>	
	<b>Pequeno</b> Small	<b>91431</b>	<b>Batente para trilho H</b> End recirculating track
	<b>Grande</b> Big	<b>91451</b>	
	<b>Pequeno</b> Small	<b>91515</b>	<b>Emenda para trilho H</b> Conector for H track
	<b>Grande</b> Big	<b>91545</b>	
	<b>Pequeno</b> Small	<b>HT 536</b>	<b>Batente para trilho 14 H</b> End recirculating track

**Todos os trilhos são furados a cada 100mm.**  
All tracks are drilled every 100mm.

**Todos os trilhos padrão deslizante têm furo de stop a cada 50mm.**  
All standard sliding tracks have stop holes every 50mm.

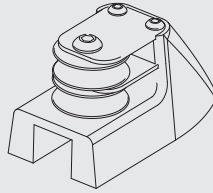
91695



**Ponteira de regulagem para controle 4:1 - 5:1**

Track end control 4:1 - 5:1

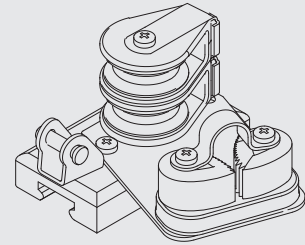
96396



**Ponteira para controle 3:1 - saída vertical**

Control 3:1 vertical lead

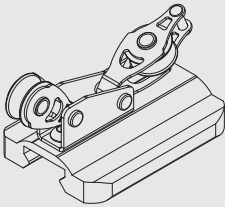
91647 Bombordo Port  
91648 Estibordo Starboard



**Ponteira para controle 4:1 - mordedor**

Track end control with cleat

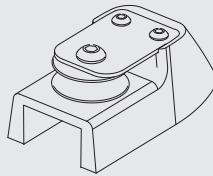
91672



**Ponteira para controle 3:1 - saída vertical**

Control 3:1 vertical lead

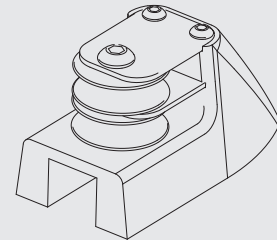
96395



**Ponteira para controle 3:1 - saída vertical**

Control 3:1 vertical lead

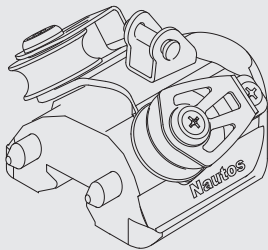
96227



**Ponteira para controle 3:1**

Control 3:1

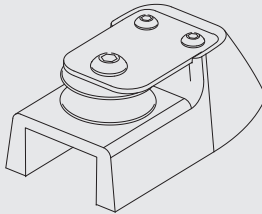
96401



**Ponteira para controle 3:1 - saída vertical 4:1 com batente macio**

Control 3:1 vertical lead 4:1 with soft endstop

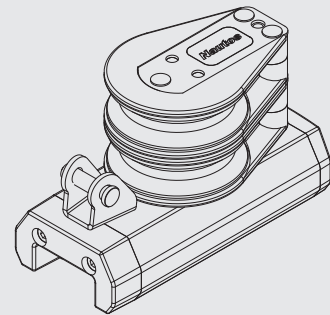
96189



**Ponteira para controle 3:1 - saída vertical**

Control 3:1 vertical lead

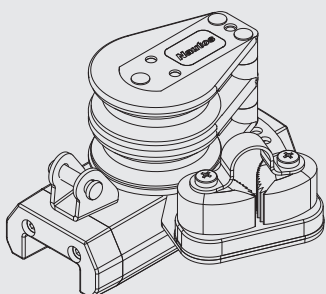
91697



**Ponteira para controle 4:1 - 5:1 - saída lateral**

Track end control 4:1 - 5:1 - lateral lead

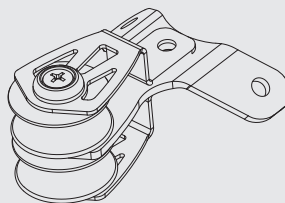
95658 Bombordo Port  
95659 Estibordo Starboard



**Ponteira para controle 4:1 - 5:1 mordedor**

Track end control 4:1 - 5:1 with cleat

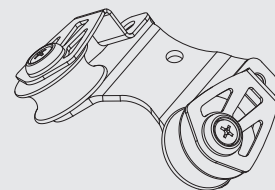
95696



**Ponteira para controle 3:1 - saída vertical**

Towing blocks 3:1 vertical lead

95682



**Ponteira para controle 3:1 - saída lateral**

Towing blocks 3:1 lateral lead



# Carros de Spinnaker

## Spinnaker Cars

Carros para manobra do spinnaker no mastro podem ser de argola, para ponteiros pistão e gatilho ou com pino para sino Nautos. Usam trilhos regulares, com furo de stop ou moitão de controle.

*Spinnaker pole cars: cars for adjusting spinnaker height on the mast can feature ring for piston and trigger pole ends or stud for Nautos Bell. Use regular tracks with stop holes or towing blocks.*



**91404** **91414**

650  
 1300  
 192  
 25  
 75  
 61,5x42

950  
 1800  
 217  
 32  
 85  
 64x41

**Argola de spinnaker/stop**  
Spinnaker ring/stop

**91407** **91417**

650  
 1300  
 197  
 25  
 75  
 61,5x42

950  
 1800  
 343  
 32  
 85  
 64x41

**Argola de spinnaker/alça controle**  
Spinnaker ring/ears

**91427**

1200  
 2500  
 192  
 32  
 75

**Carro deslizante T32 para ponteira sino**  
Bell socket sliding car

**96100**

1200  
 2500  
 197  
 32  
 75

**Carro roletado H32 para ponteira sino grande**  
Bell socket recirculating car

# Ponteira de Pau de Spinnaker

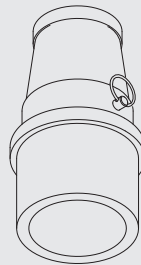
## Spinnaker Pole End



Disponíveis em duas configurações, gancho com pino e automática com gatilho, as ponteiras podem ser usadas em barcos de 16 a 45 pés. Construídas em liga de alumínio anodizado duro e impregnado de teflon, usam pinos, molas e gatilhos em aço inox.

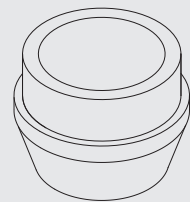
*Presented in two different systems, automatic trigger or piston, these Spinnaker pole ends are designed for boats from 16 up to 45 feet. Aluminum cast alloy, hard anodized, stainless steel pins and Springs*

**96400**



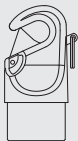
**Ponteira sino para 75mm**  
Spinnaker bell socket for 75mm

**96399**



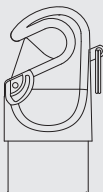
**Adaptador de tubo 75mm para 100mm**  
Adaptor to 75mm for 100mm

**91247**



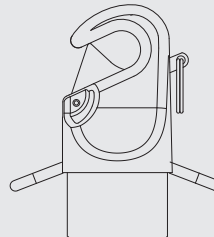
**Ponteira automática 1 1/2"**  
Spinnaker automatic pole end 1 1/2"

**91249**



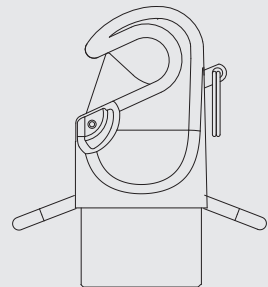
**Ponteira automática 2"**  
Spinnaker automatic pole end 2"

**91253**



**Ponteira automática 2 1/2"**  
Spinnaker automatic pole end 2 1/2"

**91255**



**Ponteira automática 3"**  
Spinnaker automatic pole end 3"

**91248**



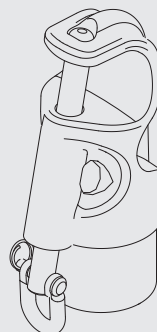
**Ponteira gancho 1 1/2"**  
Spinnaker piston pole end 1 1/2"

**91250**



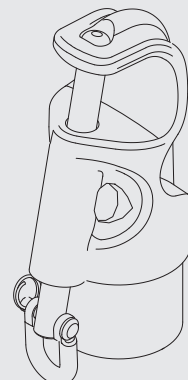
**Ponteira gancho 2"**  
Spinnaker piston pole end 2"

**91254**

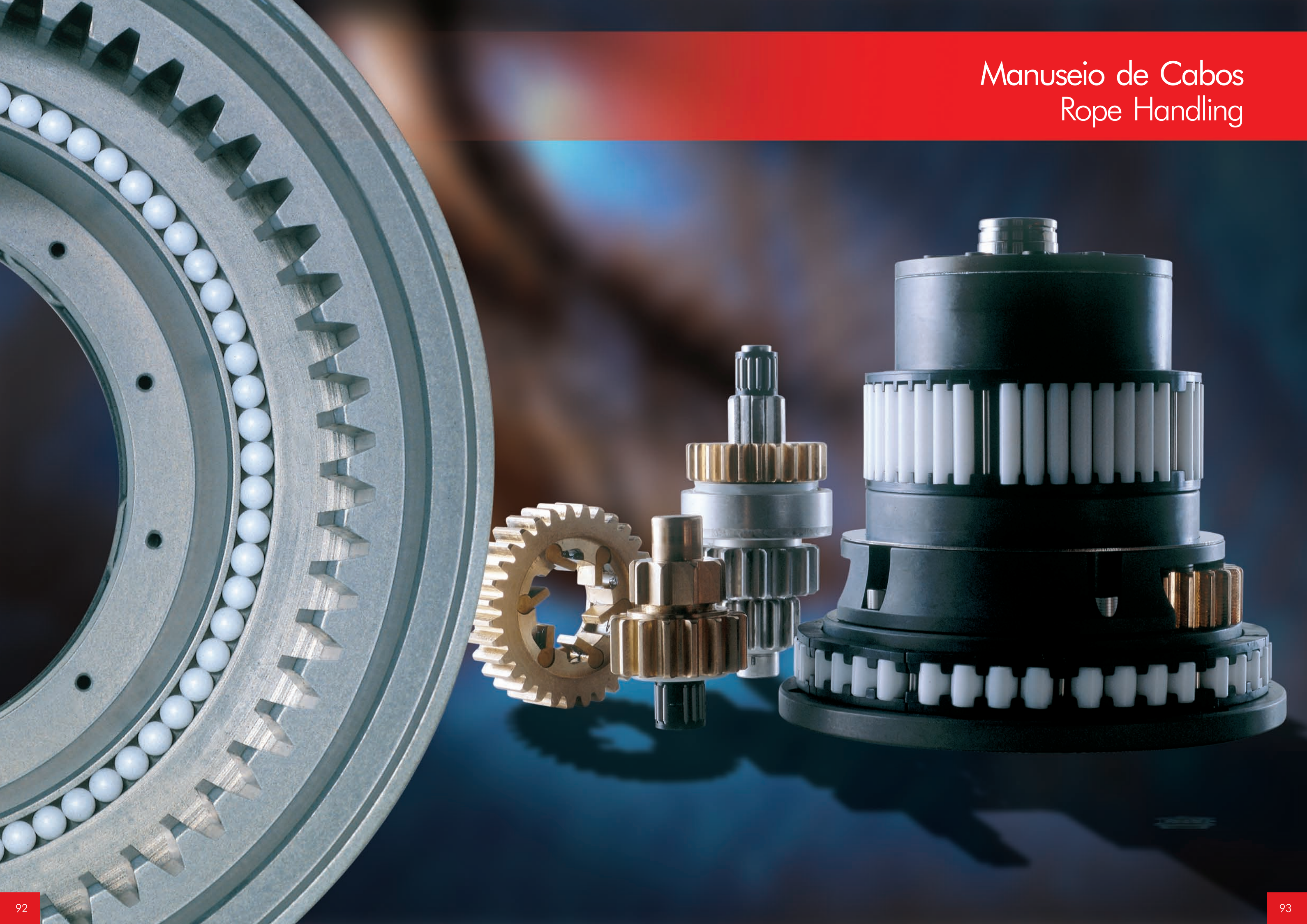


**Ponteira gancho 2 1/2"**  
Spinnaker piston pole end 2 1/2"

**91256**



**Ponteira gancho 3"**  
Spinnaker piston pole end 3"



# Catracas

## Winches



### Catracas

O Conceito totalmente novo apresentado em 2002 é a referência para as Catracas Nautos.

Resultado de três anos de pesquisa, a catraca Nautos rompeu com o desenho tradicional e trouxe novidades e avanços técnicos a uma área de ferragens em que a última inovação importante chegou ao público vinte anos atrás.

Dentre os princípios dos projetos navais contemporâneos, o peso é muito importante, pois rende barcos mais rápidos e divertidos. Mas o volume e a disposição dos objetos no convés também têm merecido a atenção dos designers, porque otimiza o aproveitamento do convés e proporciona maior conforto.

Estas duas premissas estão presentes nas Catracas Nautos, mais leves e de volume menor, características que só eram encontradas em catracas destinadas aos grandes eventos mundiais.

Atualmente os lançamentos dos mais importantes fabricantes de catracas do mundo, apresentam algumas características que seguem o conceito apresentado pela Nautos em 2002.

### Winches

A totally new concept introduced in 2002 is the embodiment of Nautos winch design.

The result of three years of research, the Nautos winch broke with traditional design. Using technical advancements and innovations in an area of marine hardware, where the last major breakthrough came to the public twenty years ago.

Among contemporary boat design projects, lightness is very important because it yields faster boats and more fun.

But the size and arrangement of hardware on the deck have also attracted the attention of designers as they optimize the use of the deck and provide greater comfort to the sailor.

These two concepts are present in the Nautos winches, lighter and smaller, characteristics that were previously only found in winches used in major world events like the America's Cup.

Currently, new products from the largest manufacturers in the world show some, but not all, characteristics that follow the concepts brought to fruition by Nautos 10 years ago.



# 8  
94008

# 16  
94016

# 32  
94032

# 40  
94040

# 44  
94044  
94045\*

# 48  
94048  
94049\*

# 54  
94054  
94055\*

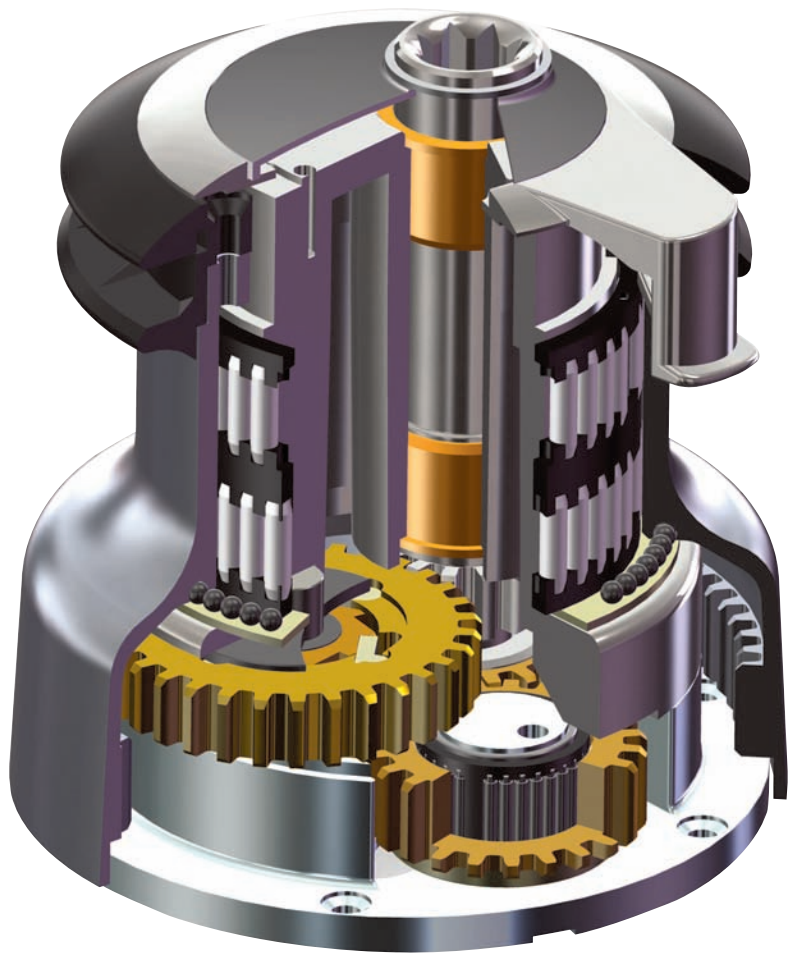
# 66  
94066

Mais diâmetro no tambor significa mais tração no cabo e um self tailing mais eficiente. Corpo inteiro com maior diâmetro permite o uso de alumínio e paredes mais finas, resultando em uma peça mais leve.

*A larger diameter in the drum means more traction on the rope and more efficiency in self-tailing. Larger internal body diameter allows the use of aluminum and thinner walls resulting in a much lighter part.*

Menor altura e menor peso, chegando a 20% de diferença na 44ST. Catracas maiores que a 44, têm rolamento também na base do tambor, o que significa estabilidade do corpo, independente do sentido de entrada da carga. Todos os eixos usam rolamento de agulhas ou bucha sintética autolubrificante de alta resistência. Self tailing autoajustável.

*Low profile and less weight, reaching 20% less in the #44. All winches bigger than the #44 present a roller bearing around the base resulting in a much more stable body, independent from the origin of the load. All shafts use roller bearings or highly-resistant auto-lubricated synthetic bushing. Self-tailing self-adjusting for a variety of cables.*



Com o eixo fora de centro existe mais espaço para engrenagens. Assim, com o mesmo diâmetro de base, as catracas Nautos têm mais vantagem mecânica. Isto dá um "plus" nas cargas muito altas e permite, com pouco vento, o uso de uma alavanca menor. A primeira velocidade, 15 a 25% mais "alta", permite bombear mais tempo antes de usar somente a segunda velocidade.

*Off-center axle means more space for gears. With the same base diameter the Nautos winch delivers greater mechanical advantage. This is a plus in high-load action and even allows the use of a shorter handle in lighter winds. First gear 15% to 25% higher allows a longer period of "pumping" before using the second gear.*

## Snubbing



Instalados entre a carga e a catraca, "snubbings" são mais fáceis e seguros de operar do que stoppers, suportando e soltando altas cargas com mais segurança. Também protegem os cabos, distribuindo o esforço em um comprimento dezenas de vezes maiores que em stoppers. Mesmo sob carga é possível aliviar a pressão sem voltar à catraca. Martelos múltiplos reduzem o retorno e um prático amarrador no topo segura o cabo em todas as situações.

*Installed between the load and winch, snubbings are easier and more secure than clutches, taking and relieving loads safely. Also are softer to ropes distributing load in a 100 times longer length than clutches. Once under load, you can relieve pressure without going back the winch. Multiple pawls minimize backlash and a practical cleat on top secures rope in all situations*

<b>96190</b>	#100	185	127	127	50	6xM10	6
<b>96003</b>	#150	233	160	160	60	6xM12	20

# Especificações técnicas

## Technical



<b>94008</b>	67,5	1:1	8:1	-	900	105	64	3x6	6-10	105	37
<b>94016</b>	94	4:1	17,8	-	3100	140	112	5x6	6-10	130	53
<b>94032</b>	94	8:1	17,8	36,9	3600	140	112	6x6	8-12	145	67
<b>94040</b>	94	8:1	17,8	41	4050	145	125	5x6	8-12	145	67
<b>94044</b>	114	12:1	16,7	45,8	5350	168	146	6x6	8-12	172	72
<b>94045</b>	114	12:1	16,7	45,8	9870	168	146	6x6	8-12	172	72
<b>94048</b>	114	11:1	18	51	7400	192	161	6x6	8-14	175	78
<b>94049</b>	114	11:1	18	51	11920	192	161	6x6	8-14	175	78
<b>94054</b>	158	22:1	22	57,8	11200	215	190	6x8	10-14	210	90
<b>94055</b>	158	22:1	22	57,8	15720	215	190	6x8	10-14	210	90
<b>94066</b>	220	45:1	29	69	15000	268	245	8x8	10-16	260	120

### Descrição/Description

<b>94008</b>	<b>Catraca 8 - 1 velocidade</b> /Winch 8 - 1 speed
<b>94016</b>	<b>Catraca 16 - 1 velocidade</b> /Winch 16 - 1 speed
<b>94032</b>	<b>Catraca 32 - 2 velocidades</b> /Winch self tailing 32 - 2 speed
<b>94040</b>	<b>Catraca 40 - 2 velocidades</b> /Winch self tailing 40 - 2 speed
<b>94044</b>	<b>Catraca 44 - 2 velocidades</b> /Winch self tailing 44 - 2 speed
<b>94045</b>	<b>Catraca 44 - 2 velocidades/elétrica</b> /Winch self tailing 44 - 2 speed/electric
<b>94048</b>	<b>Catraca 48 - 2 velocidades</b> /Winch self tailing 48 - 2 speed
<b>94049</b>	<b>Catraca 48 - 2 velocidades/elétrica</b> /Winch 48 - 2 speed/electric
<b>94054</b>	<b>Catraca 54 - 2 velocidades</b> /Winch self tailing 54 - 2 speed
<b>94055</b>	<b>Catraca 54 - 2 velocidades/elétrica</b> /Winch self tailing 54 - 2 speed/electric
<b>94066</b>	<b>Catraca 66 - 2 velocidades</b> /Winch 66 - 2 speed

# Manicacas

## Winche handles



### Manicacas

As manicacas Nautos são mais leves e mais rígidas que as convencionais.

A manopla pode ser simples, "de bola" ou dupla. O soquete

Nautos, segue os padrões internacionais, com ou sem trava.

### Winches handles

Nautos winch handles are lighter and more rigid. The grip may be simple, double, or "ball-type".

The socket Nautos feature follows international standards and is available with or without lock mechanism.

	Descrição/Description	
94024	Manicaca 250mm com trava/manipulo simples/Handle 250mm with lock/ball single grip	560
94023	Manicaca 250mm com trava/manipulo boleado/Handle 250mm with lock/ball grip	714
94028	Manicaca 250mm com trava/manipulo duplo/Handle 250mm with lock/double grip	620
94029	Manicaca 250mm sem trava/manipulo simples/Handle 250mm without lock/ball single grip	512

### Graxa

A graxa Nautos é um produto de alta qualidade especialmente formulado para as especiais condições de uso em catracas.

### Grease

Nautos grease is a high quality product custom-made for the particular environment inside the winch.



### Kit de reparo

As travas Nautos em bronze laminadas têm características mecânicas superiores às de aço sinterizado e desgastam menos a sede e os dentes da catraca.

### Service kit

The laminated bronze pawls have superior mechanical characteristics compared to sintered ones and are softer on the socket and ratchet teeth.



	Descrição/Description
94091	Embalagem da graxa 100ml/Grease packing 100ml
94092	Embalagem da graxa 300ml/Grease packing 300ml
94093	Embalagem da graxa 500ml/Grease packing 500ml
94094	Kit de reparo - 10 travas, 20 molas, 1 anel/Service kit - 10 pawls, 20 springs, 1 ring

# Stoppers


## Clutches








Stoppers podem ser difíceis para abrir sob carga. A Nautos criou um sistema de dupla alavanca com dupla dobradiça patenteada que resolve este problema, facilitando a abertura mesmo sob carga. Levantando o manípulo da trava de segurança você obtém máximo de alanca para liberar o cabo.

Standard clutches can be tough to let off, especially under load. However, Nautos has overcome this problem. Our patented "Xtreme Release" hinged two-piece lever allows you to easily release the clutch, even under high loads. Having flipped up the handle from its secure clip, you then have maximum leverage to free the rope.



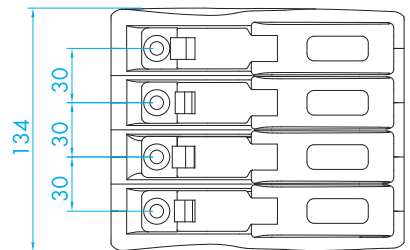
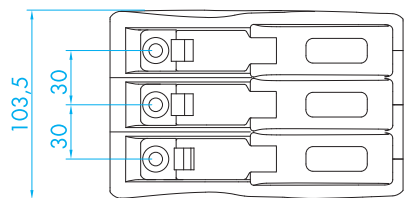
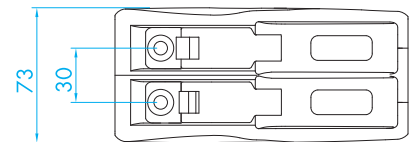
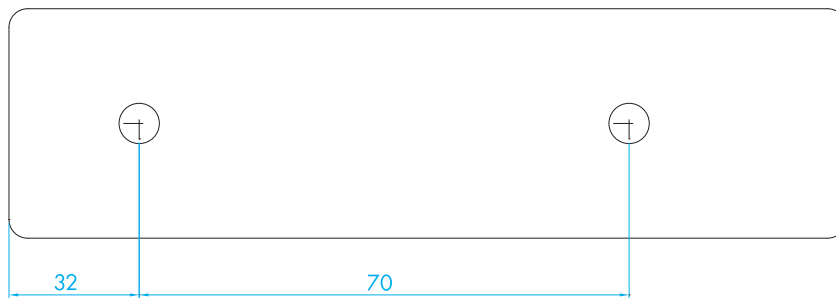
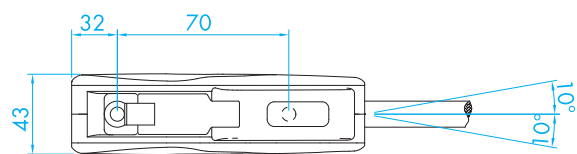
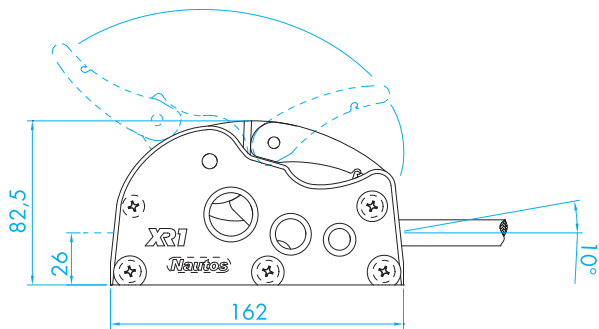
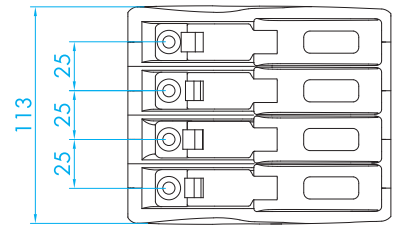
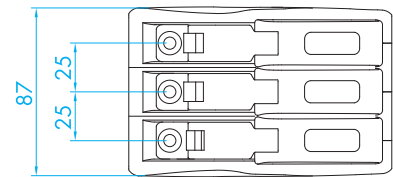
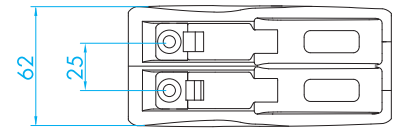
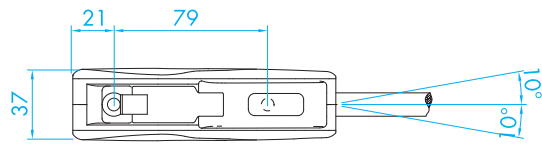
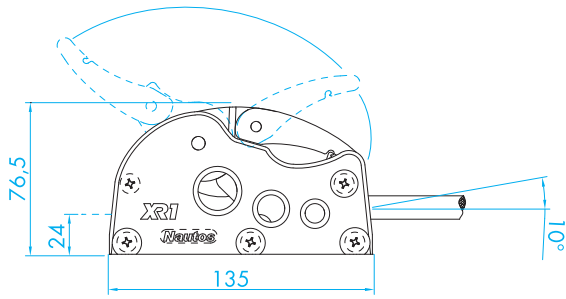
<p><b>95081</b></p>  <p>550</p>  <p>6 - 11 1/4" - 7/16"</p>  <p>386</p>		<p><b>95086</b></p>  <p>700</p>  <p>8 - 14 5/16" - 9/16"</p>  <p>608</p>
<p><b>Stopper simples pequeno</b> Single small clutch</p>	<p><b>Stopper simples grande</b> Single big clutch</p>	

<p><b>95082</b></p>  <p>550</p>  <p>6 - 11 1/4" - 7/16"</p>  <p>658</p>		<p><b>95087</b></p>  <p>700</p>  <p>8 - 14 5/16" - 9/16"</p>  <p>1060</p>
<p><b>Stopper duplo pequeno</b> Double small clutch</p>	<p><b>Stopper duplo grande</b> Double big clutch</p>	

<p><b>95084</b></p>  <p>550</p>  <p>6 - 11 1/4" - 7/16"</p>  <p>936</p>		<p><b>95088</b></p>  <p>700</p>  <p>8 - 14 5/16" - 9/16"</p>  <p>1512</p>
<p><b>Stopper triplo pequeno</b> Triple small clutch</p>	<p><b>Stopper triplo grande</b> Triple big clutch</p>	

<p><b>95085</b></p>  <p>550</p>  <p>6 - 11 1/4" - 7/16"</p>  <p>1214</p>		<p><b>95089</b></p>  <p>700</p>  <p>8 - 14 5/16" - 9/16"</p>  <p>1964</p>
<p><b>Stopper quádruplo pequeno</b> Quadruple small clutch</p>	<p><b>Stopper quádruplo grande</b> Quadruple big clutch</p>	










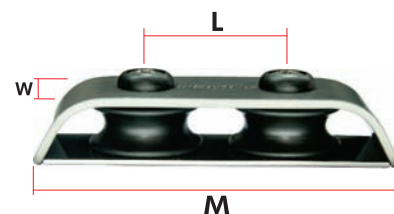
# Organizadores






## Deck Organizers

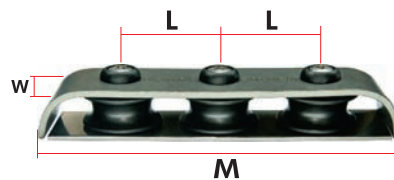
A Nautos apresenta uma original solução para o problema de fixação dos passadores de adriça. Os parafusos de fixação são independentes dos de fechamento e possibilita um melhor acabamento do interior, uma vez que as cabeças ficam por dentro. Outra vantagem é a facilidade de manutenção e a possibilidade de personalizar o passador, combinando roldanas de alumínio e composite.






The Nautos deck organizers present an original solution for the fixation problem on decks, since the fixing screws are independent from the closing ones. Also it's much easier to give a good finish to the boat interior because it's the head of the crew that comes through and not the bolt and washer. This construction also benefits the servicing and makes it possible to personalize the organizer, combining aluminum or composite sheaves without removing the fixing screws.

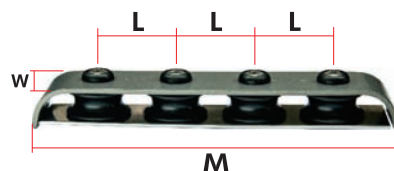
				<b>M</b>	<b>L</b>	<b>W</b>			
<b>91200</b>	<b>Duplo de nylon</b> Double, nylon sheaves	36mm 1.7/13"	10mm 3/8"	106mm 4.1/4"	44mm 1.3/4"	38mm 1.1/2"	200kg	400kg	6mm 1/4"
<b>91201</b>	<b>Duplo de alumínio</b> Double, aluminum sheaves	36mm 1.7/13"	10mm 3/8"	106mm 4.1/4"	44mm 1.3/4"	38mm 1.1/2"	300kg	400kg	6mm 1/4"
<b>91206</b>	<b>Duplo de nylon</b> Double, nylon sheaves	48mm 1.7/8"	12mm 1/2"	133mm 5.1/4"	57mm 2.1/4"	51mm 2"	400kg	800kg	6mm 1/4"
<b>91207</b>	<b>Duplo de alumínio</b> Double, aluminum sheaves	48mm 1.7/8"	12mm 1/2"	133mm 5.1/4"	57mm 2.1/4"	51mm 2"	500kg	800kg	6mm 1/4"
<b>91212</b>	<b>Duplo de nylon</b> Double, nylon sheaves	60mm 2.3/8"	14mm 9/16"	156mm 6.1/4"	66mm 2.5/8"	60mm 2.3/8"	800kg	1200kg	6mm 1/4"
<b>91213</b>	<b>Duplo de alumínio</b> Double, aluminum sheaves	60mm 2.3/8"	14mm 9/16"	156mm 6.1/4"	66mm 2.5/8"	60mm 2.3/8"	1000kg	1200kg	6mm 1/4"



				<b>M</b>	<b>L</b>	<b>W</b>			
<b>91202</b>	<b>Triplo de nylon</b> Triple, nylon sheaves	36mm 1.7/13"	10mm 3/8"	150mm 6"	44mm 1.3/4"	38mm 1.1/2"	200kg	400kg	6mm 1/4"
<b>91203</b>	<b>Triplo de alumínio</b> Triple, aluminum sheaves	36mm 1.7/13"	10mm 3/8"	150mm 6"	44mm 1.3/4"	38mm 1.1/2"	300kg	400kg	6mm 1/4"
<b>91208</b>	<b>Triplo de nylon</b> Triple, nylon sheaves	48mm 1.7/8"	12mm 1/2"	190mm 7.1/2"	57mm 2.1/4"	51mm 2"	400kg	800kg	6mm 1/4"
<b>91209</b>	<b>Triplo de alumínio</b> Triple, aluminum sheaves	48mm 1.7/8"	12mm 1/2"	190mm 7.1/2"	57mm 2.1/4"	51mm 2"	500kg	800kg	6mm 1/4"
<b>91214</b>	<b>Triplo de nylon</b> Triple, nylon sheaves	60mm 2.3/8"	14mm 9/16"	224mm 9"	66mm 2.5/8"	60mm 2.3/8"	800kg	1200kg	6mm 1/4"
<b>91215</b>	<b>Triplo de alumínio</b> Triple, aluminum sheaves	60mm 2.3/8"	14mm 9/16"	224mm 9"	66mm 2.5/8"	60mm 2.3/8"	1000kg	1200kg	6mm 1/4"



				<b>M</b>	<b>L</b>	<b>W</b>			
<b>91204</b>	<b>Quádruplo de nylon</b> Quadruple, nylon sheaves	36mm 1.7/13"	10mm 3/8"	194mm 7.3/4"	44mm 1.3/4"	38mm 1.1/2"	200kg	400kg	6mm 1/4"
<b>91205</b>	<b>Quádruplo de alumínio</b> Quadruple, aluminum sheaves	36mm 1.7/13"	10mm 3/8"	194mm 7.3/4"	44mm 1.3/4"	38mm 1.1/2"	300kg	400kg	6mm 1/4"
<b>91210</b>	<b>Quádruplo de nylon</b> Quadruple, nylon sheaves	48mm 1.7/8"	12mm 1/2"	247mm 9.3/4"	57mm 2.1/4"	51mm 2"	400kg	800kg	6mm 1/4"
<b>91211</b>	<b>Quádruplo de alumínio</b> Quadruple, aluminum sheaves	48mm 1.7/8"	12mm 1/2"	247mm 9.3/4"	57mm 2.1/4"	51mm 2"	500kg	800kg	6mm 1/4"
<b>91216</b>	<b>Quádruplo de nylon</b> Quadruple, nylon sheaves	60mm 2.3/8"	14mm 9/16"	292mm 11.1/2"	66mm 2.5/8"	60mm 2.3/8"	800kg	1200kg	6mm 1/4"
<b>91217</b>	<b>Quádruplo de alumínio</b> Quadruple, aluminum sheaves	60mm 2.3/8"	14mm 9/16"	292mm 11.1/2"	66mm 2.5/8"	60mm 2.3/8"	1000kg	1200kg	6mm 1/4"



\* Carga por roldana / Load per Sheave

DO NOT use Nautos equipment for human suspension or equivalent work.

Os amarradores Nautos são construídos em liga de alumínio e tratados com anodização dura. Este tratamento tem grandes vantagens sobre pinturas e anodização branca e apresenta maior capacidade de segurar o cabo.

*Nautos cleats are cast from aluminum alloy and hard anodized. This finishing has great advantage over painting or white anodization and gives superior grip.*



**91071**



**Amarrador de 6" (15cm)**  
Cleat 6"

**91072**



**Amarrador de 7" (18cm)**  
Cleat 7"

**91073**



**Amarrador de 8" (20cm)**  
Cleat 8"

**91074**



**Amarrador de 10" (25cm)**  
Cleat 10"

# Bases Giratórias

## Swivel Bases

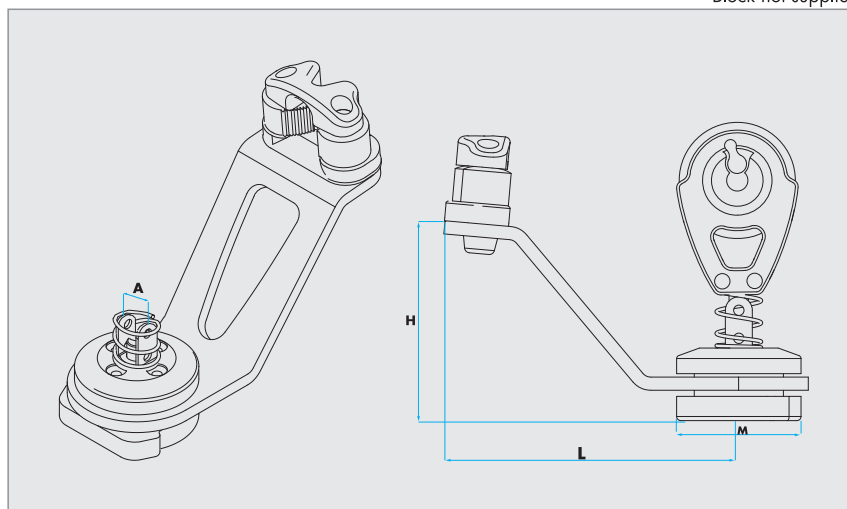
As bases giratórias com esferas Nautos são constituídas com uma estrutura em alumínio anodizado duro. Aceitam moitões com manilhas de 5 a 6,5mm. O mordedor é de alumínio com esferas. Estas bases giratórias podem ser utilizadas em monotipos ou veleiros de até 35 pés.

The Nautos swivel Ball bearings cam bases are completely constructed from hard anodized aluminum. They accept blocks using 5 and 6,5mm shackles. The cam is of aluminum with ball bearings and can be used in monotypes and boats up to 35 feet.

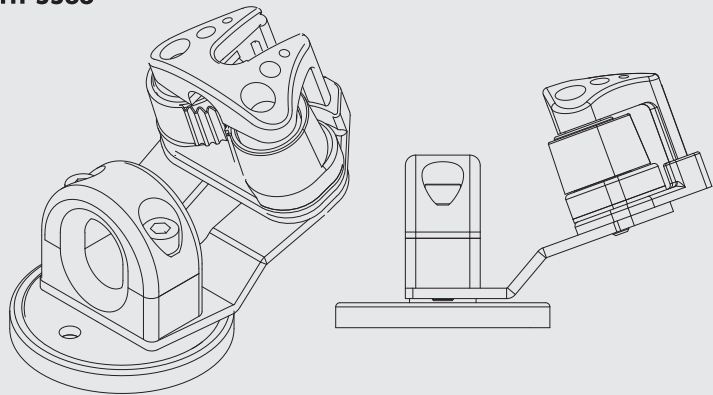


		L mm	H mm	M mm	A mm
<b>HT 4266 COMP</b>	<b>Base giratória curta com mordedor 91035</b> Mainsheet swivel jammer short arm standard with cam 91035	126	82	60	12
<b>HT 4266</b>	<b>Base giratória longa com mordedor 91035</b> Mainsheet swivel jammer standard with cam 91035	142	108	60	12

**Moitão não fornecido**  
Block not supplied

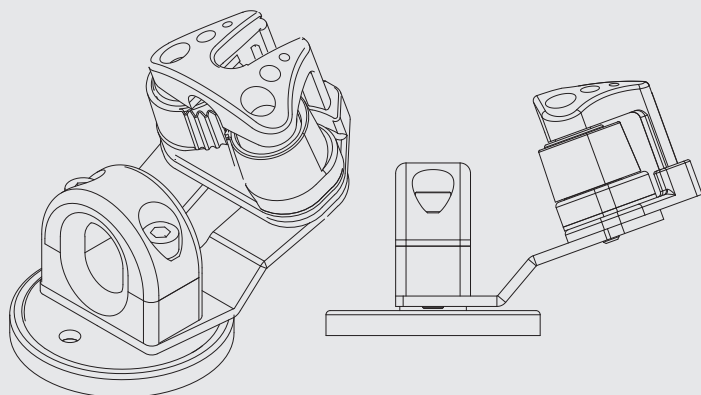


HT 5566



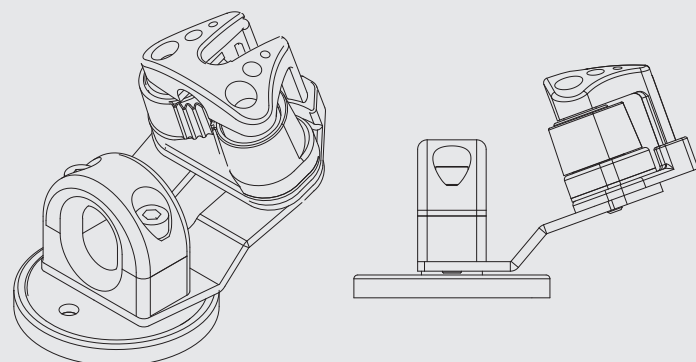
**Base pivotante com mordedor grande (91035) e guia**  
Big base with plastic eye cam (91035)

HT 5766



**Base pivotante com mordedor pequeno (91026) e guia**  
Small base with plastic eye cam (91026)

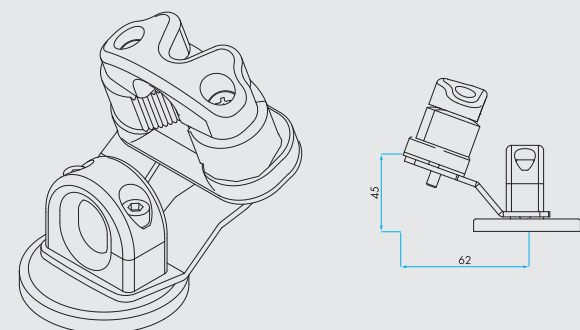
HT 5466



**Base pivotante com mordedor grande (91025) e guia**  
Big base with plastic eye cam (91025)

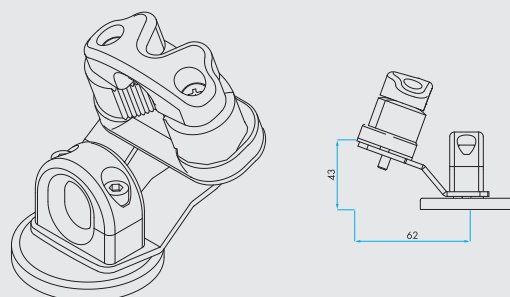


91165



**Base pivotante com mordedor grande (91035)**  
Big base with plastic eye cam (91035)

91164



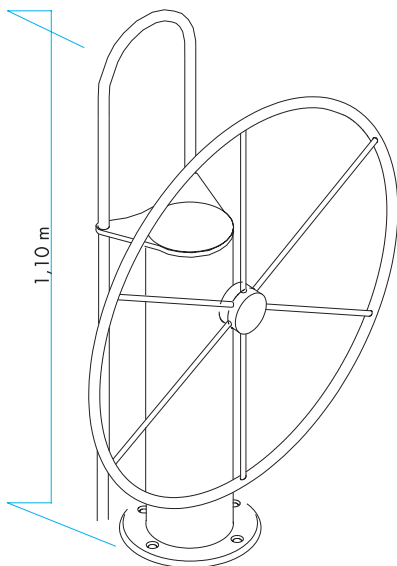
**Base pivotante com mordedor pequeno (91026)**  
Small base with plastic eye cam (91026)

# Sistema de Roda de Leme

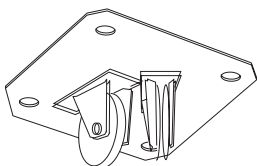
## Steering Wheel

- Construção simples e confiável
- Pedestal em alumínio com pintura eletrostática de alta resistência
- Componentes internos em aço inox
- Eixo principal sobre rolamento de agulha
- Base com duas roldanas orientáveis
- Controle de freio
- Corrente em aço inox
- Volante em aço inox ou alumínio super leve
- Revestimento de couro (opcional)

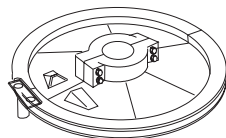
- Simple and dependable construction
- Aluminum pedestal with highly resistant White paint
- Internal parts of stainless steel
- Main axle over roller bearings
- Base with two sheaves with adjustable orientation
- Braking knob
- Stainless steel chain
- Stainless steel or aluminum steering wheel
- Quality leather ring cover (optional).



**Todas as rodas e Santo Antônio têm 1,10m de altura no topo**  
*All wheels and guard top are 1,10m high*



**Base com duas roldanas**  
*Base with two sheaves*



**Quadrante**  
*Quadrant*

**Conjunto de roda em aço inox**  
*Stainless steel wheel*

	∅	Timão Folding
<b>91317</b>	0,70m	91317.80
<b>91318</b>	0,80m	91318.80
<b>91319</b>	0,90m	91319.80
<b>91320</b>	1,00m	91320.80
<b>91321</b>	1,10m	91321.80
<b>91322</b>	1,20m	91322.80

**Quadrante**  
*Quadrant*

	∅
<b>91325</b>	0,40m



Um sistema completo precisa uma referência para a roda (inclui o pedestal) e uma referência para o quadrante. Roldanas e esticadores já incluídos.

*A complete system needs a reference for the Wheel (includes pedestal) and a reference for the quadrant. Sheaves and tumbuckles already included.*

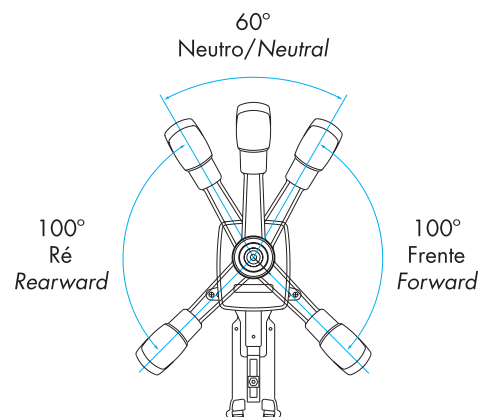
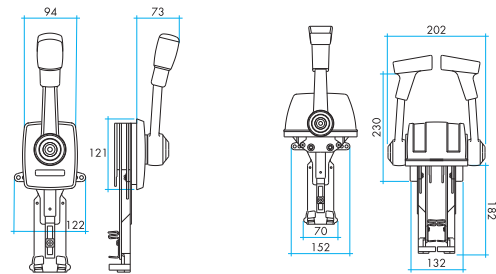
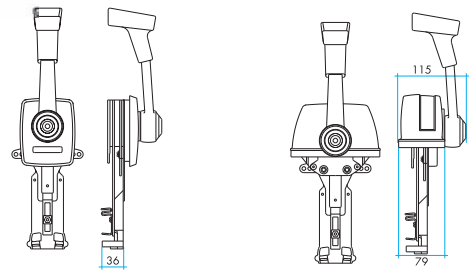


**96184**

Roda de leme somente 1 metro (consulte).  
*Folding wheel 1 meter only (consult).*

# Telecomandos

## Engine Controls



- |              |   |
|--------------|---|
| <b>91303</b> | <b>Comando tope simples</b> /Single top             |
| <b>91305</b> | <b>Comando tope duplo</b> /Double top               |
| <b>91307</b> | <b>Comando lateral lanca</b> /Motorboat side mount  |
| <b>91309</b> | <b>Comando lateral veleiro</b> /Sailboat side mount |

Use cabo standard C3. *Push-Pull.*  
Use cable standard C3. *Push-Pull.*

DO NOT use Nautos equipment for human suspension or equivalent work.

# Terminais e Esticadores

Os esticadores Nautos são construídos por processo de forjamento e usinagem a partir de barras sólidas de aço inox AISI 316. Tratamento térmico, eletropolimento e passivado eletrolítico completam o processo de construção e acabamento. A conexão dos terminais e esticadores "Rápidos" transmite 100% da carga do cabo. A carga indicada nas tabelas corresponde à carga de ruptura. Sob consulta, poderão ser solicitados comprimentos especiais.





## Esticadores - Aço Inox AISI 316

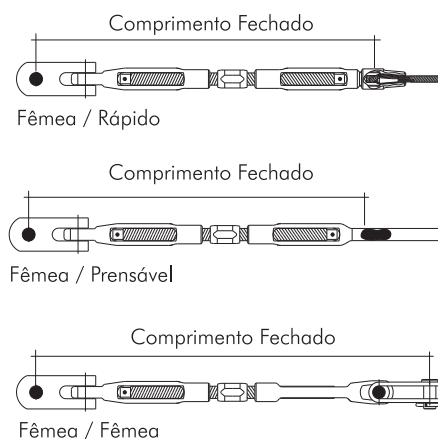
Código	Descrição	Carga de Ruptura kgf	Diâmetro do pino mm	Diâmetro do cabo mm	Curso mm	Comprimento Fechado mm	Dimensão do toggle mm	Abertura do toggle mm
93000	Fêmea					300		
93008	Prensável	1.500	9,5	4	90	250	3 x 26	10
93014	Rápido					260		
93001	Fêmea					300		
93009	Prensável	2.300	9,5	5	90	250	3 x 26	12
93015	Rápido					260		
93002	Fêmea					365		
93010	Prensável	3.300	12,7	6	110	300	4 x 33	13,5
93016	Rápido					305		
93003	Fêmea					365		
93011	Prensável	4.500	12,7	7	110	300	4 x 33	13,5
93017	Rápido					305		
93004	Fêmea					400		
93012	Prensável	5.800	13,8	8	120	325	5 x 38	15
93018	Fêmea					330		
93005	Fêmea					450		
93013	Prensável	8.500	15,5	10	140	365	6,35 x 40,5	17
93019	Rápido					375		
93006	Fêmea					530		
93020	Rápido	12.400	18,5	12	160	445	8,52	20

## Esticadores Plus - Rosca Bronze

Código	Descrição	Carga de Ruptura kgf	Diâmetro do pino mm	Diâmetro do cabo mm	Curso mm	Comprimento Fechado mm	Dimensão do toggle mm	Abertura do toggle mm
93204	Fêmea					400		
93212	Prensável	5.800	13,8	8	120	325	5 x 38	15
93218	Rápido					330		
93205	Fêmea					450		
93213	Prensável	8.500	15,5	10	140	365	6,35 x 40,5	17
93219	Rápido					375		
93206	Fêmea					530		
93220	Prensável	12.400	18,5	12	160	445	8 x 52	20
93207	Fêmea					615		
93221	Prensável	16.500	21,7	14	160	495	8 x 55	23

### Características

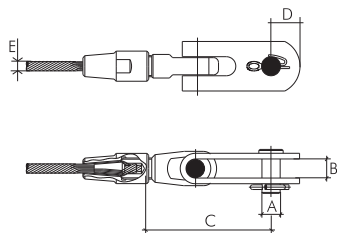
- Toggle Standard: (PARTE FÊMEA) parte inferior – todos os esticadores Nautos são fornecidos com toggle para encaixe direto no fusil;
- Corpo do Esticador Aberto: é de fundamental importância para a segurança, uma vez que permite o uso de contra-pino diretamente sobre o parafuso e a verificação visual da rosca restante;
- Massa Central: adapta-se à chave de boca standard para rápida e fácil regulagem no esticador;
- Rosca: Obtida por processo de rolagem, tem características superiores às roscas obtidas por torneamento;
- Corpo do Esticador: desenho cientificamente estudado, distribui o material com precisão, possibilitando o uso de perfil estreito e leve com máxima segurança;



### Importante

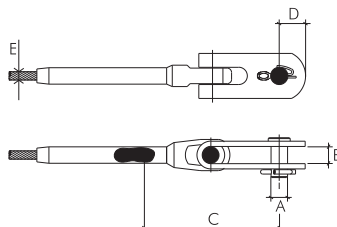
Uma das características do aço inox 316 é a possibilidade de gripamento. Para resolver este problema, os fusos dos esticadores Nautos recebem um tratamento de "cromo duro" o que altera a superfície e evita o contato entre materiais iguais, conseqüentemente também o gripamento. Recomenda-se uma lubrificação leve dos componentes ao menos uma vez por ano. A partir de julho/00 as roscas terminais recebem lubrificação seca com bissulfeto de molibdênio.

## Terminal Fêmea Rápido



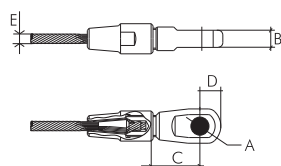
Código	Diâmetro do pino	Abertura do toggle	Comprimento útil	Distância do pino	Diâmetro do cabo	Largura do toggle	Carga de ruptura
	mm	mm	mm	mm	mm	mm	kgf
	A	B	C	D	E	F	
93059	9,5	10	62	15,5	4	19,5	1.500
93060	9,5	12	67	15,5	5	26	2.300
93061	12,7	13,5	85	20	6	33	3.300
93062	12,7	13,5	86	20	7	33	4.500
93063	14,3	15	95	21,5	8	38	5.800
93064	15,8	17	108	23,5	10	40,5	8.500
93065	19	20	140	30	12	52	12.400
93066	22,2	23	160	32,5	14	55	16.500

## Terminal Fêmea Prensável



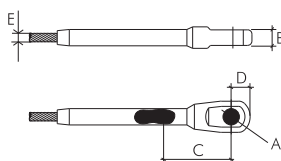
Código	Diâmetro do pino	Abertura do toggle	Comprimento útil	Distância do pino	Diâmetro do cabo	Largura do toggle	Carga de ruptura
	mm	mm	mm	mm	mm	mm	kgf
	A	B	C	D	E	F	
93022	8	9	50	13	3	19,5	900
93023	8	9	50	13	4	19,5	1.500
93024	9,5	12	68	15,5	5	26	2.300
93025	12,7	13,5	85	20	6	33	3.300
93026	12,7	13,5	85	20	7	33	4.500
93027	14,3	15	90	21,5	8	38	5.800
93028	15,8	105	105	23,5	10	40,5	8.500

## Terminal Macho Rápido



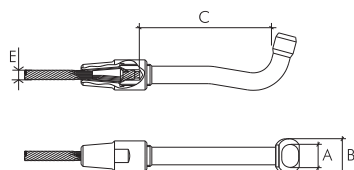
Código	Diâmetro do furo	Espessura do olhal	Comprimento útil	Distância do pino	Diâmetro do cabo	Carga de ruptura	
	mm	mm	mm	mm	mm	kgf	
	A	B	C	D	E	F	
93051	8,3	7,2	21	10	4	-	1.500
93052	9,8	9,2	26	11	5	-	2.300
93053	13	12	33	15	6	-	3.300
93054	13	12	34,5	15	7	-	4.500
93055	14,5	14	37	17	8	-	5.800
93056	16	15,5	43	20	10	-	8.500
93057	19,5	18,7	65	25	12	-	12.400
93058	22,5	20,7	68	31	14	-	16.500

## Terminal Macho Prensável



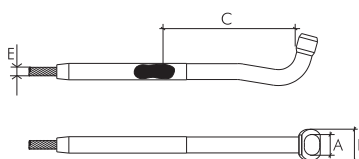
Código	Diâmetro do pino	Espessura do olhal	Comprimento útil	Distância do pino	Diâmetro do cabo	Carga de ruptura	
	mm	mm	mm	mm	mm	kgf	
	A	B	C	D	E	F	
93029	8	7	23	8,5	3	-	900
93030	8,3	7,2	25	10	4	-	1.500
93031	9,8	9,2	27	11	5	-	2.300
93032	13	12	34	15	6	-	3.300
93033	13	12	34	15	7	-	4.500
93034	14,5	14	32,5	17	8	-	5.800
93035	16	15,5	35,5	20	10	-	8.500

## Terminal T Rápido



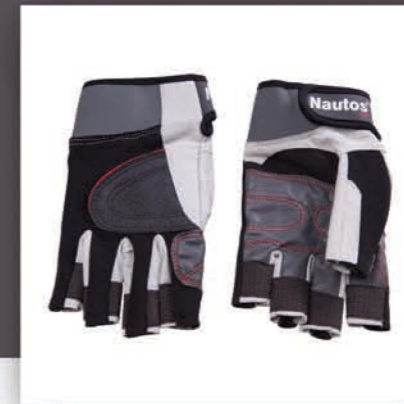
Código	Diâmetro do corpo	Diâmetro da cabeça	Comprimento útil	Diâmetro do cabo	Carga de ruptura		
	mm	mm	mm	mm	kgf		
	A	B	C	D	E	F	
93043	8,5	16,5	68	-	4	-	1.500
93044	10,2	18,5	69	-	5	-	2.300
93045	13,5	22	71	-	6	-	3.300
93046	15,3	25,5	85	-	7	-	4.500
93047	17,2	29	85	-	8	-	5.800
93048	19	29	85	-	10	-	8.500
93049	30,5	30,5	88	-	12	-	12.400
93050	33	33	94	-	14	-	16.500

## Terminal T Prensável



Código	Diâmetro do corpo	Diâmetro da cabeça	Comprimento útil	Diâmetro do cabo	Carga de ruptura		
	mm	mm	mm	mm	kgf		
	A	B	C	D	E	F	
93036	7,4	12,3	38	-	3	-	900
93037	8,6	16,5	43	-	4	-	1.500
93038	10,2	18,2	43	-	5	-	2.300
93039	13,5	22	57	-	6	-	3.300
93040	15,3	24,5	62	-	7	-	4.500
93041	17,2	28	69	-	8	-	5.800
93042	19	28	69	-	10	-	8.500

Com você no sol,  
na água e na  
aventura.  
With you in the sun,  
water and  
adventure.



**Nautos**<sup>®</sup>  
Wear

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82002	111	91032	28	91103	25	91205	100	91336	81
82020	111	91033	27	91104	26	91206	100	91337	81
82021	111	91034	28	91105	25	91207	100	91338	81
82030	113	91035	29	91107	28	91208	100	91340	81
82031	113	91038	30	91108	28	91209	100	91341	81
82032	113	91040	27	91109	24	91210	100	91342	81
82100	113	91041	28	91110	24	91211	100	91343	81
82101	113	91042	27	91112	28	91212	100	91344	81
82102	113	91043	28	91117	24	91213	100	91403	85
82103	113	91044	28	91118	25	91214	100	91404	90
82788	111	91045	28	91119	24	91215	100	91405	88
82789	111	91049	27	91120	24	91216	100	91406	88
82790	111	91050	27	91122	27	91217	100	91407	90
82791	111	91051	27	91124	24	91226	27	91408	85
82792	111	91052	27	91125	24	91233	30	91409	85
82794	111	91053	28	91127	27	91247	91	91413	87
82796	111	91054	30	91128	28	91248	91	91414	90
82797	111	91055	30	91136	27	91249	91	91415	88
82798	111	91056	30	91137	27	91250	91	91416	88
82799	111	91057	30	91148	26	91253	91	91417	90
82802	111	91058	28	91152	26	91254	91	91418	87
82803	111	91059	28	91153	26	91255	91	91419	87
82804	111	91060	28	91154	26	91256	91	91427	90
82805	111	91062	30	91159	31	91270	109	91431	88
82806	111	91063	28	91164	103	91303	105	91435	85
91012	27	91064	28	91165	103	91305	105	91443	84
91013	27	91070	28	91170	31	91307	105	91444	84
91014	28	91071	101	91180	31	91309	105	91447	85
91015	28	91072	101	91182	30	91317	104	91451	88
91018	30	91073	101	91183	30	91318	104	91480	84
91019	30	91074	101	91185	30	91319	104	91485	86
91020	30	91079	27	91186	30	91320	104	91502	76
91021	30	91082	27	91190	31	91321	104	91502	77
91022	27	91083	27	91193	72	91322	104	91506	76
91023	27	91084	27	91200	100	91325	104	91508	76
91024	28	91085	27	91201	100	91330	81	91508	79
91025	29	91100	25	91202	100	91332	81	91511	76

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91541	78	91672	89	91736	88	92075	40	92235	47
91545	88	91695	89	91737	88	92076	40	92236	47
91556	77	91697	89	91738	88	92077	40	92237	46
91558	78	91700	88	91739	88	92083	41	92240	47
91560	77	91701	88	91740	88	92100	51	92250	47
91561	78	91702	88	91915	32	92101	51	92251	47
91561	80	91703	88	91915 R	32	92102	51	92258	57
91600	73	91704	88	91916	32	92103	51	92259	46
91602	73	91705	88	91916 R	32	92110	51	92268	57
91620	25	91706	88	91917	32	92111	51	92310	45
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91622	27	91708	88	92000	41	92124	51	92313	44
91623	25	91709	88	92001	41	92125	51	92314	45
91624	25	91710	88	92002	41	92130	51	92315	45
91625	28	91711	88	92003	41	92134	51	92316	45
91626	24	91712	88	92010	41	92135	51	92318	57
91627	24	91713	88	92011	41	92136	51	92319	45
91629	24	91714	88	92012	41	92150	51	92324	45
91630	27	91715	88	92013	41	92151	51	92325	45
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91642	82	91719	88	92020	41	92203	47	92330	45
91643	82	91720	88	92021	41	92210	47	92331	45
91644	82	91721	88	92024	41	92211	47	92332	45
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91653	83	91727	88	92050	41	92221	47	92341	44
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91665	83	91732	88	92070	41	92230	47	92355	45

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92369	45	92510	35	92662	53	92812	57	92849	67
92410	43	92511	35	92663	53	92813	58	92850	69
92411	43	92514	35	92664	53	92814	58	92851	69
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92415	43	92516	35	92700	49	92816	63	92853	69
92416	43	92518	35	92701	49	92818	58	92854	69
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92419	43	92534	35	92703	49	92820	63	92856	69
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92426	43	92537	35	92711	49	92823	63	92859	69
92427	43	92540	35	92712	49	92824	63	92860	68
92428	43	92541	35	92713	49	92825	58	92862	57
92429	43	92550	35	92717	49	92826	63	92863	58
92431	42	92554	35	92718	49	92827	63	92864	58
92432	42	92555	35	92727	49	92828	64	92885	58
92434	43	92558	35	92733	49	92829	64	92886	58
92435	43	92559	35	92736	49	92830	64	92887	58
92436	43	92561	35	92737	49	92831	58	92888	58
92437	43	92590	25	92746	49	92831	64	92889	58
92440	42	92591	25	92747	49	92832	64	92901	68
92441	42	92592	25	92771	49	92832	58	92902	68
92442	42	92593	27	92772	49	92833	65	92903	68
92450	43	92600	53	92773	49	92834	65	94008	94
92451	43	92601	53	92774	49	92835	65	94008	96
92454	43	92602	53	92777	49	92836	65	94016	94
92455	43	92603	53	92784	27	92836	58	94016	96
92458	57	92609	53	92784	26	92837	65	94023	97
92459	43	92610	53	92800	62	92838	67	94024	97
92461	43	92611	53	92801	62	92839	67	94028	97
92468	43	92612	53	92803	57	92840	67	94029	97
92469	43	92613	53	92804	62	92841	67	94032	94
92480	28	92617	53	92805	62	92842	67	94032	96
92481	28	92618	53	92806	57	92843	67	94040	94
92482	28	92633	53	92807	58	92844	67	94040	96
92483	28	92636	53	92808	62	92845	67	94044	94

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94045	94	95203	55	95536	79	HT 2025	36
94045	96	95210	55	95536	77	HT 2026	57
94048	94	95211	55	95538	78	HT 2027	36
94048	96	95212	55	95550	74	HT 2028	36
94049	94	95213	55	95551	74	HT 2030	37
94049	96	95300	54	95552	74	HT 2030 LZ	37
94054	94	95301	54	95553	74	HT 2030 SC	37
94054	96	95302	54	95658	89	HT 2030 T	59
94055	94	95303	54	95659	89	HT 2031 F	37
94055	96	95310	54	95682	89	HT 2031 HK	37
94066	94	95311	54	95696	89	HT 2032	37
94066	96	95312	54	95875	58	HT 2033	37
94091	97	95313	54	95876	58	HT 2034	37
94092	97	95347	73	96003	95	HT 2036	57
94093	97	95348	73	96100	90	HT 2039	37
94094	97	95350	72	96134	72	HT 2039 CAM	37
95010	61	95351	72	96169	61	HT 2040 T	59
95011	61	95355	72	96170	61	HT 2060 T	59
95012	61	95356	72	96171	61	HT 2240	38
95081	98	95360	72	96172	61	HT 2260	38
95082	98	95360	72	96184	104	HT 4266	102
95083	98	PLUS		96189	89	HT 4266 COMP	102
95084	98	95365	72	96190	95	HT 4414	82
95085	98	95396	73	96227	89	HT 450 A	28
95086	98	95397	73	96379	84	HT 455	28
95087	98	95501	79	96395	89	HT 536	88
95088	98	95502	80	96396	89	HT 5466	103
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95100	56	95503	76	96400	91	HT 5766	103
95101	56	95504	77	96401	89	HT 91077	30
95102	56	95505	78	HT 2020	36	HT 91078	30
95103	56	95505	80	HT 2020 LZ	36	HT 96113	24
95110	56	95510	79	HT 2020 SC	36	SHT 873	28
95111	56	95511	78	HT 2020 T	59		
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