

antal



2013/2014

new products



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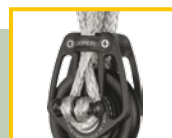
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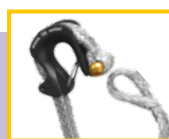
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winches: description



12 standard models and 15 self-tailing models all available in:

CHROME-PLATED (CH)

Winch with chrome-plated drum; the units are highly polished, then thickly nickel-plated and finally finished in chrome.

NATURAL BRONZE (BN)

The more traditional winch with the natural bronze drum; the units are highly polished.

HARD BLACK ANODIZED ALUMINIUM (AL)

Winch with hard black anodized aluminium drum, scratch-proof and very hard-wearing.

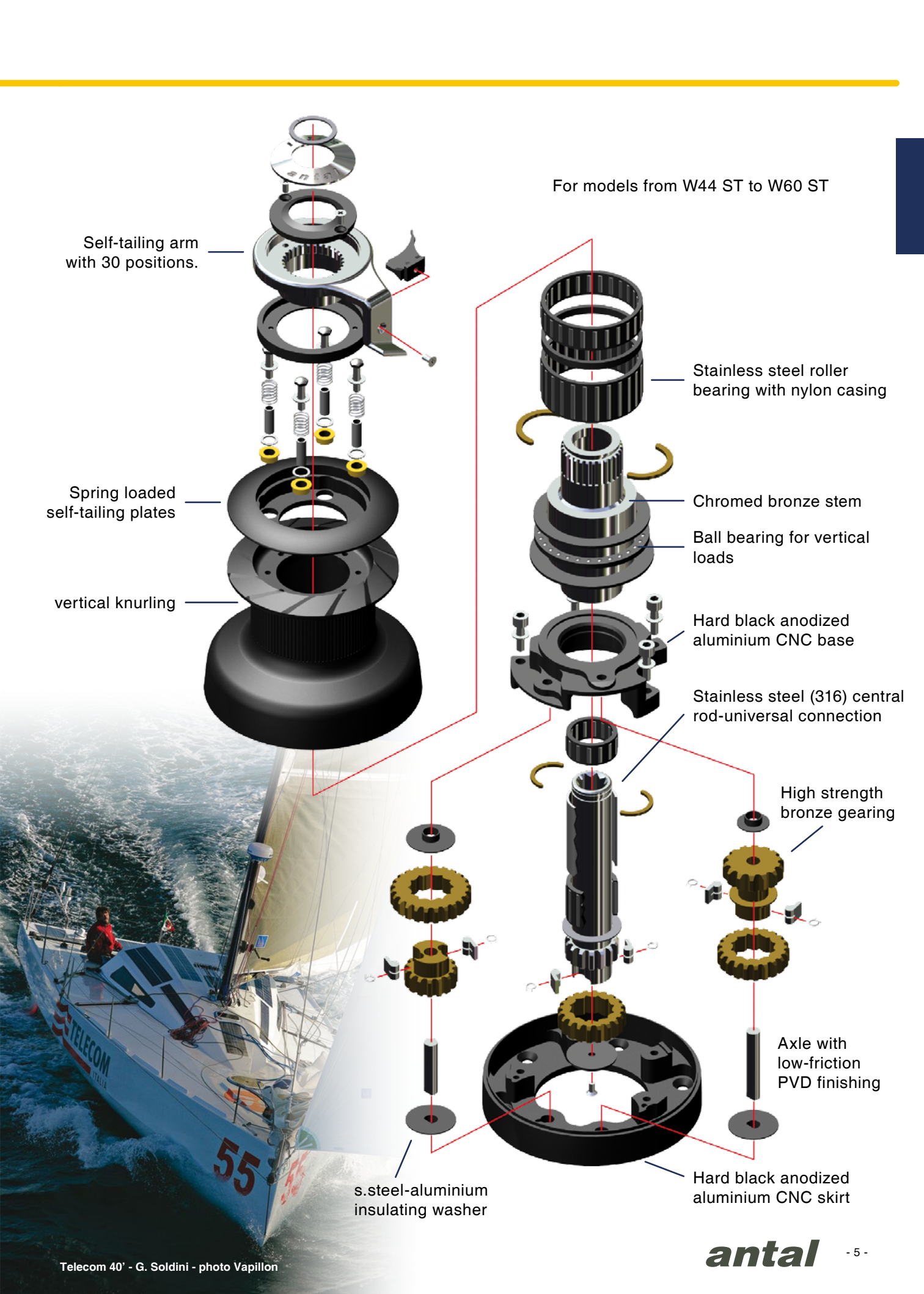
Moreover the electric powered series (page 16) and the hydraulic powered series (page 22) are also available.

Antal winches have a three-year warranty.

The new **SELF-TAILING** winches with **SPRING LOADED DISK** adapt automatically to even the thinnest ropes and, if overloading occurs, they release the line to avoid excess force on the self-tailing arm.

The **NEW BASE**, machined by the CNC process (produced with computer numeric control machines with no cast components), is lighter and stronger than normal castings. Easy removal from the winch makes maintenance a simple affair.

The **VERTICAL KNURLING** on the drum gives the right horizontal grip, but at the same time allows the rope to run vertically upwards without undue resistance, making the winch even more efficient.



For models from W44 ST to W60 ST

Self-tailing arm
with 30 positions.

Spring loaded
self-tailing plates

vertical knurling

Stainless steel roller
bearing with nylon casing

Chromed bronze stem

Ball bearing for vertical
loads

Hard black anodized
aluminium CNC base

Stainless steel (316) central
rod-universal connection

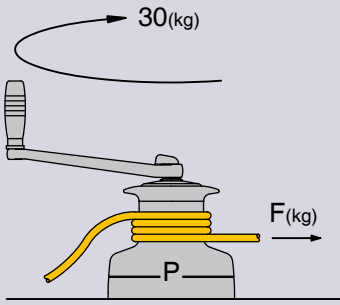
High strength
bronze gearing

Axle with
low-friction
PVD finishing

s. steel-aluminium
insulating washer

Hard black anodized
aluminium CNC skirt

winches: technical information

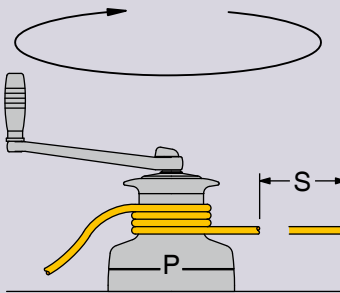


WINCH POWER AND MAXIMUM FORCE

To calculate the maximum force (F), first use the tables to find winch power (P). Assuming the efficiency is 70% and the maximum force exerted on the handle is 30 kg, the maximum force obtainable will be:

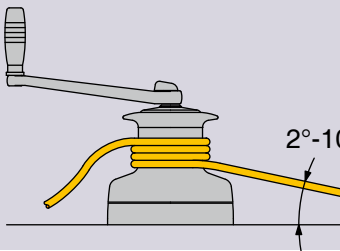
$F = 20 \times P$ (kg) i.e. twenty times the winch power.

For example, for a model with a winch power 50, the maximum force would be $F = 20 \times 50 = 1000$ Kg



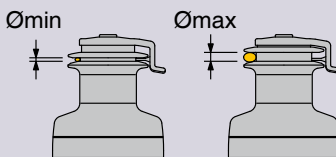
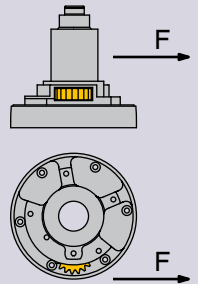
RECOVERY SPEED

The recovery speed (S) is the length of line recovered with one turn of the handle. It is the converse of the winch power (P), and can be calculated using the formula: $S = 1600/P$ (mm) For example, a model with winch power 50 would have a recovery speed of $S = 1600/50 = 32$ mm for each 360° turn of the handle.



WINCH MOUNTING

Line drum lead angle: it is correct to provide an angle of between 2 and 10 degrees. It is advisable for the output gear of 2 speed models to be positioned with respect to pull direction, as shown in the figure (90°).



SPRING-LOADED SELF-TAILING

The new self-tailing winches with spring-loaded disks adapt automatically to even the thinnest lines. It is recommended the line being used have at least three wraps around the drum, otherwise excessive load on the self-tailing plates could cause the line to slip.



MAINTENANCE

Clean the winch by removing any old grease with a solvent (e.g. using diesel fuel). Spread a thin layer of marine grease (e.g. teflon grease) on all moving parts. Grease will protect aluminium from corrosion (where contact with dissimilar metal occurs). It is useful to use some grease especially on stainless steel screws, threads and stainless washers.

For a complete documentation ask for the "Winch User's Guide".

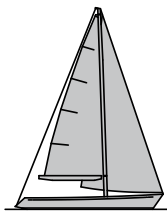
LUBRICATION

(Mod.TFL400) For winch and gear lubrication, use Type 400 (green) with Teflon. Antal can supply this grease in 100gr tubes.

SPARE PARTS

(Kit winch) Antal can supply you with a universal repair kit suitable for all winch types, including 4 pawls, 4 pawl springs, 1 circlip.

winch selection guide

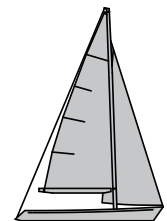


MASTHEAD RIG

LOA up to (m)	7	8	9	10	11	12	13	14	15	16	18	21
LOA up to (ft)	23	26	30	33	36	39	43	46	49	53	60	70
GENOA (m²)	18	24	32	40	50	63	78	92	110	130	180	230
MAIN (m²)	12	14	16	18	23	29	35	42	52	65	80	100
SPIN (m²)	28	40	55	75	92	120	150	185	225	270	360	460

WINCH POWER

GENOA SHEET	8/16	16/30	30/40	40/44	44/48	52	60/62	66	66/70	70/80	70/80	80
MAIN SHEET	-	-	-	-	16	30	30/40	40	44	52	60/62	66
SPIN SHEET	7/8	8/16	16/30	30	40	44	48	48	52	62/66	66	70
GENOA HALYARD	7/8	8	16	30	30/40	40/44	44	44	48	52	60/62	66
MAIN HALYARD	7/8	8	16	30	40	44	44	44/48	48	52	60/62	66
SPIN HALYARD	7/8	8	16	16	30	40	44	44	48	52	60/62	66
TOPPING LIFT	-	-	8	8	16	30	30/40	40	44	48	52	60/62
FOREGUY	-	-	8	8	16	30	30/40	40	44	48	52	60/62
REEFING	-	8	8	16	30	40	40/44	40/44	48	52	60/62	66
VANG	-	-	-	8	8	16	30	30	40	44	52	60/62
RUNNERS	-	-	-	-	8	16	16	30/40	40	44	52	60/62



FRACTIONAL RIG

LOA up to (m)	7	8	9	10	11	12	13	14	15	16	18	21
LOA up to (ft)	23	26	30	33	36	39	43	46	49	53	60	70
GENOA (m²)	10	15	23	30	38	47	56	63	72	79	95	120
MAIN (m²)	14	17	24	32	40	49	57	65	75	82	100	130
SPIN (m²)	22	34	52	68	88	105	122	140	158	175	210	270

WINCH POWER

GENOA SHEET	8	16	30	40	44	48	52	62	62/66	70	66/70	80
MAIN SHEET	-	-	-	-	16	30	40	44	48	52	66	66
SPIN SHEET	7/8	8	16	30	40	40	44	44/48	48	60/62	66	66
GENOA HALYARD	7	8	16	16	30	40	44	44	48	52	60/62	66
MAIN HALYARD	7/8	8	16	30	30/40	40/44	44	48	48	52	60/62	66
SPIN HALYARD	7/8	8	16	16	30	40	40	44	48	48	60/62	60/62
TOPPING LIFT	-	-	8	8	16	16	30	40	44	44	48	52
FOREGUY	-	-	8	8	16	16	30	40	44	44	48	52
REEFING	-	8	16	16	30	40	40	44	48	52	60/62	66
VANG	-	-	-	8	16	30	30	40	44	44	52	60/62
RUNNERS	-	16	30	40	40/44	44	48	52	60/62	66	66	70

standard winches

STANDARD WINCHES

There are three series of standard winches:
one direct speed winches, small and fast models for boats up to 6-7 m.
two speed winches, direct and reduced: medium size models for boats up to 9-10 m.
two reduced speed winches, medium-large size models for boats up to 12-13 m.

SNUBBING WINCH W5

Basic model, snubbing winch without handle, completely glass-fiber resin made.



Mod. W5

MODEL	W5
BASE (mm)	80
HEIGHT (mm)	66
WEIGHT (gr)	193
SCREWS N x Ø (mm)	4 x Ø 6

Prysmian - Mini Transat - Cossutti

ONE DIRECT SPEED WINCHES W6 - W7 - W8

Turn the handle clockwise to engage the single direct gear; the handle turns freely counterclockwise.

Model **W6** is the smallest and lightest in the range, with a glass-fibre resin base and drum and an aluminium central rod.

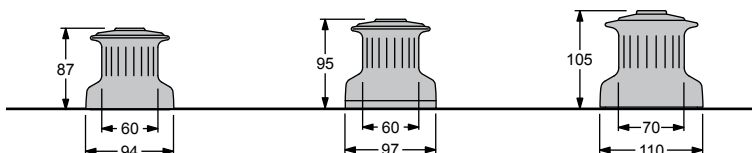
Model **W7** is similar but with a hard black anodized aluminium drum.

Model **W8** has an AISI 316 stainless steel central rod, a bronze base and a black anodized aluminium (AL) or chrome-plated (CH) drum mounted on roller bearings.



Mod. W8 CH

Mod. W8 AL



1 SPEED WINCHES

MODEL	W6	W7	W8
POWER P1	6.7	6.7	7.3
RECOVERY S1 (mm)	188	188	220
WEIGHT AL (kg)	0.43*	0.70	1.60
WEIGHT CH (kg)	-	-	2.10
SCREWS N x Ø (mm)	5 x Ø6	5 x Ø6	5 x Ø6

*Glass fibre resin drum. For mod. W6 and W7 winch power is calculated with short handle (L = 200 mm).

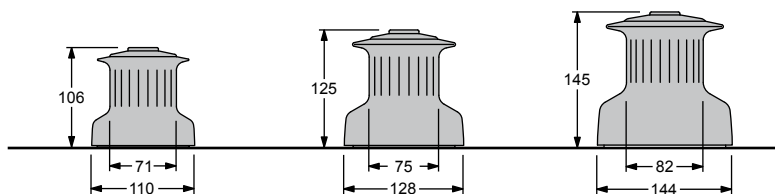


Mod. W42 AL

Mod. W42 CH

TWO SPEED WINCHES: DIRECT, REDUCED W16 - W30 - W42

The first speed is direct (one turn of the drum for each turn of the handle); the second speed is reduced: slower but more powerful. Bronze base and gears, AISI 316 stainless steel central rod and roller bearings, and black anodized aluminium (AL) or chrome-plated (CH) drums.



2 SPEED WINCHES

MODEL	W16	W30	W42
POWER P1-P2	7.3 / 14.5	7.0 / 28.0	6.4 / 42.5
RECOVERY S1-S2 (mm)	220 / 110	235 / 60	250 / 37
WEIGHT AL (kg)	2.00	2.80	4.10
WEIGHT CH (kg)	2.90	3.80	6.00
SCREWS N x Ø (mm)	5 x Ø6	5 x Ø6	5 x Ø8

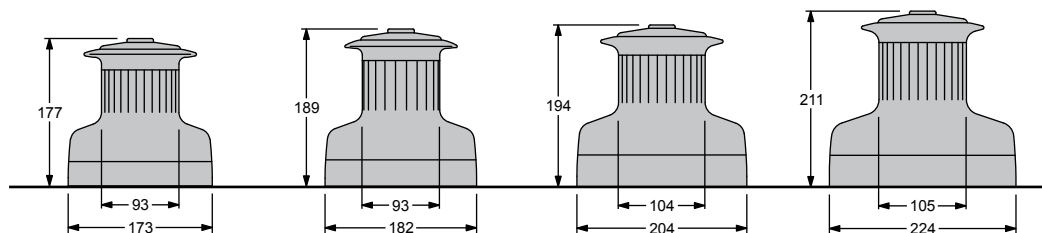


Mod. W52 AL

Mod. W52 CH

TWO REDUCED SPEED WINCH W44 - W48 - W52 - W60

Quick and powerful operation is obtainable with the first reduced speed, then with increasing load, simply wind in the opposite direction the second gear and maximum power is automatically selected. Marine bronze is used for gears, AISI 316 stainless steel for central rod and roller bearings, CNC aluminium base, hard black anodized aluminium (AL) or chrome-plated (CH) drum.



2 SPEED WINCHES

MODEL	W44	W48	W52	W60
POWER P1-P2	20.0 / 43.0	19.0 / 47.4	14.9 / 51.1	18.7 / 61.2
RECOVERY S1-S2 (mm)	81 / 38	84 / 34	107 / 31	85 / 26
WEIGHT AL (kg)	5.50	6.30	7.80	9.50
WEIGHT CH (kg)	8.50	9.50	11.50	12.60
SCREWS N x Ø (mm)	6 x Ø8	6 x Ø8	6 x Ø8	6 x Ø10

P1,P2 : power with the first (fast) and second (slow) gear.

S1,S2 : recovery speed, the length of line recovered with one turn of the handle in first gear and in second gear.

self-tailing winches

SELF-TAILING WINCHES

The new self-tailing winches with spring loaded disk adapt automatically to even the thinnest ropes and, if overloading occurs, they release the line to avoid excess force on the self-tailing arm.

The new base, machined by the CNC process (produced with computer numeric control machines with no cast components), is lighter and stronger than normal castings. Easy removal from the winch makes maintenance a simple affair.

AISI 316 s.steel central rod and roller bearings, bronze gears, hard black anodized drum (AL) or chrome plated drum (CH).

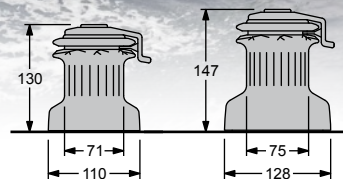


ONE REDUCED SPEED WINCH W16 ST - W30 ST

The two smallest models (W16 ST and W30 ST) have a single reduced gear, giving a slow but powerful force. The handle turns freely the other way.

TWO SPEED WINCHES: DIRECT, REDUCED W16.2 ST - W30.2 ST

The addition of a direct gear to the models described above gives a faster recovery speed, which, combined with reduced weight and bulk, makes the two speed models the best choice for racing.



ONE SPEED WINCHES

MODEL	W16ST	W30ST
POWER P1-P2	14.5	28.0
RECOVERY S1-S2 (mm)	110	60
Ø LINE (mm)	8 / 12	8 / 12
WEIGHT AL (kg)	2.60	3.00
WEIGHT CH (kg)	3.60	4.30
SCREWS N x Ø (mm)	5 x Ø6	5 x Ø6

TWO SPEED WINCHES

MODEL	W16.2ST	W30.2ST
POWER P1-P2	7.3 / 14.5	7.0 / 28.0
RECOVERY S1-S2 (mm)	220 / 110	235 / 60
Ø LINE (mm)	8 / 12	8 / 12
WEIGHT AL (kg)	2.60	3.00
WEIGHT CH (kg)	3.60	4.30
SCREWS N x Ø (mm)	5 x Ø6	5 x Ø6



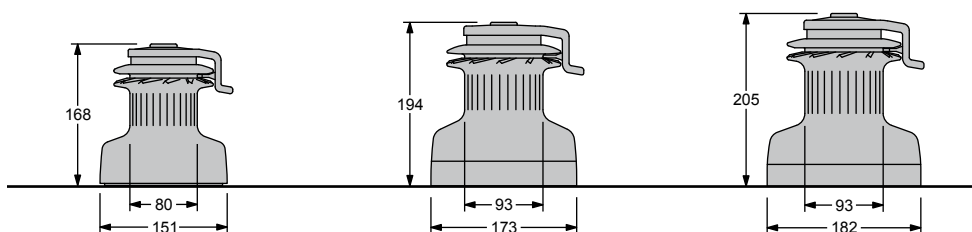
Mod. W52ST CH

Mod. W52ST AL

TWO REDUCED SPEED WINCHES W40 ST - W44 ST - W48 ST W52 ST - W60 ST

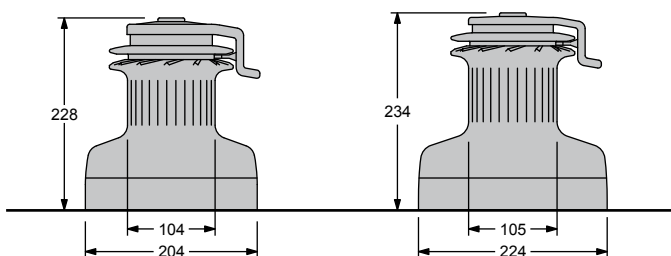
Quick and powerful operation is obtainable with the first reduced speed, then with increasing load, simply wind in the opposite direction the second gear and maximum power is automatically selected.

All these models are available with electric motors (page 18-19) or hydraulic motors (page 22).



TWO SPEED WINCHES

MODEL	W40ST	W44ST	W48ST
POWER P1-P2	12.8 / 40.0	20.0 / 43.0	19.0 / 47.4
RECOVERY S1-S2 (mm)	125 / 40	80 / 38	84 / 34
Ø LINE (mm)	8 / 14	8 / 16	8 / 16
WEIGHT AL (kg)	4.70	6.30	7.00
WEIGHT CH (kg)	6.20	8.75	10.50
SCREWS N x Ø (mm)	5 x Ø8	6 x Ø8	6 x Ø8



TWO SPEED WINCHES

MODEL	W52ST	W60ST
POWER P1-P2	14.9 / 51.1	18.7 / 61.2
RECOVERY S1-S2 (mm)	107 / 31	85 / 26
Ø LINE (mm)	10 / 18	10 / 18
WEIGHT AL (kg)	9.10	11.00
WEIGHT CH (kg)	12.40	14.40
SCREWS N x Ø (mm)	6 x Ø8	6 x Ø10

Mod. TFL400



LUBRICATION

For winch and gear lubrication, use Type 400 grease with Teflon. Antal can supply this grease in 100 gr tubes.

P1,P2 : power with the first (fast) and second (slow) gear.

S1,S2 : recovery speed, the length of line recovered with one turn of the handle in first gear and in second gear.

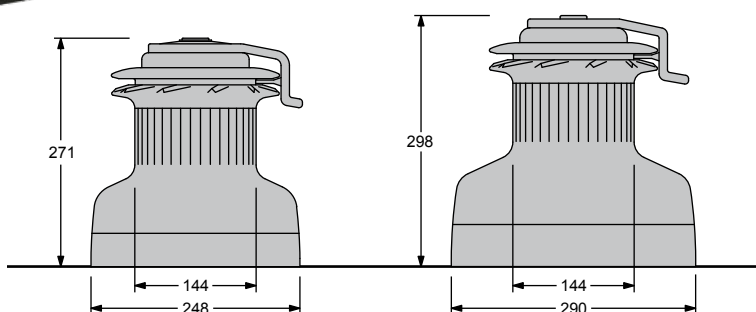
self-tailing winches

TWO REDUCED SPEED WINCHES W66 ST - W70 ST

Large drum winches for 15-18 m boats. All the gears are fitted with roller bearings and the drum works on a very wide diameter roller-ball bearings.

All these models are available with electric motors (page 19) or hydraulic motors (page 22).

Mod. W70 ST CH



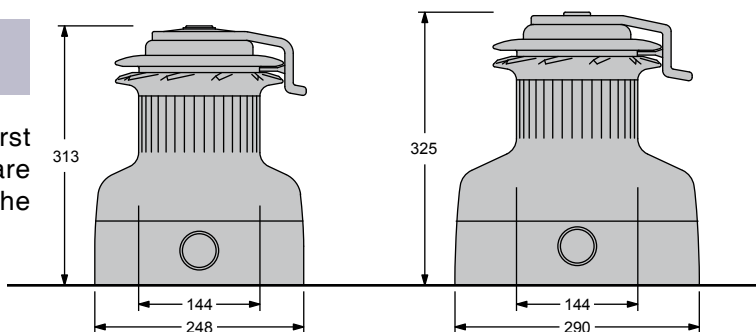
Mod. W70 ST AL

TWO SPEED WINCHES

MODEL	W66ST	W70ST
POWER P1-P2	18.0 / 65.6	27.1 / 69.8
RECOVERY S1-S2 (mm)	89 / 24	59 / 23
Ø LINE (mm)	12 / 22	12 / 22
WEIGHT AL (kg)	16.50	20.4
WEIGHT CH (kg)	19.0	31
SCREWS N x Ø (mm)	6 x Ø10	6 x Ø10

THREE REDUCED SPEED WINCHES W66.3 ST - W70.3 ST

The push-button on the base starts the first gear (the faster); second and third gear are automatically selected simply reversing the rotation of the handle.



THREE SPEED WINCHES

MODEL	W66.3ST	W70.3ST
POWER P1-P2-P3	10.7 / 20.8 / 65.3	10.7 / 27.1 / 69.8
RECOVERY S1-S2-S3 (mm)	151 / 77 / 24	151 / 59 / 23
Ø LINE (mm)	12 / 22	12 / 22
WEIGHT AL (kg)	20.0	24.0
WEIGHT CH (kg)	26.0	34.0
SCREWS N x Ø (mm)	6 x Ø10	6 x Ø10

THREE REDUCED SPEED MAXI WINCHES W80.3 ST - W90.3 ST

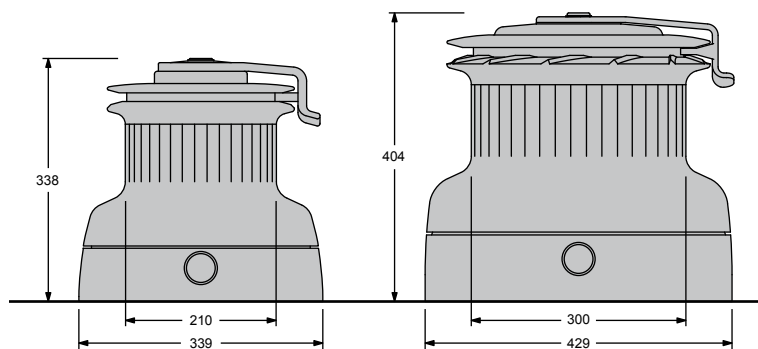
Maxi winches for boats more than 20 m long. These models are almost always powered with electric motors (page 21) or hydraulic motors (page 23) and available only with a chromed drum (CH).

All the gears are fitted with roller bearings and the drum works on a very wide diameter roller-ball bearings.

The push-button on the base starts the first gear (the faster); second and third gear are automatically selected simply reversing the rotation of the handle.



Mod. W80.3 ST



THREE SPEED WINCHES

MODEL	W80.3ST	W90.3ST
POWER P1-P2-P3	11.0 / 30.0 / 81.4	13.7 / 35.8 / 90.2
RECOVERY S1-S2-S3 (mm)	147 / 53 / 20	116 / 45 / 18
Ø LINE (mm)	12 / 22	16 / 30
WEIGHT CH (kg)	52.0	102.0
SCREWS N x Ø (mm)	8 x Ø10	8 x Ø12



Marisa - Perini Navi - Photo Rabinowitz

classic winches

THE CHROMED WINCH SERIES

Winches in the chromed series (CH) are fitted with chromed self tailer and chromed arm. The chrome-plating is carried out with great care to guarantee maximum durability. First the unit are highly polished, then thickly nickel-plated and finally finished in chrome.

Small sizes, from W8 to W42, are always completely in bronze; models 44 and up come supplied with a black anodized aluminium base (chromed base available only on request).



W52ST/CH



W42/CH



W44ST/CH
with chromed
base



Anitra 12 MSI - Martin Yacht - Germany

POLISHED BRONZE

On request ANTAL winches will be supplied with the drum and self tailing disks made completely from cast bronze and carefully polished (BN).



W52ST/BN

W42/BN



Natural bronze winch handle with wooden grip.

BRONZE BASE

Small sizes, from W8 to W42, are always completely in bronze; now on request, larger models are also available with the lower base in bronze instead of black aluminium.



W52ST/BN
with bronze base

W42/BN
with bronze upper disk

electric winches

ELECTRIC WINCHES

All Antal winches, from model W40ST to model W70ST and the maxi W90.3ST, may be fitted with an electric motor.

Only the models with a chromed drum are fitted with motors, as they are more suitable for heavy-duty applications; on request the aluminium drum may also be "reinforced", applying a special toothed crown gear of high resistance alloy.

HORIZONTAL AND VERTICAL MOTORS

All the winches may be equipped with a horizontal motor and speed reducer with a worm screw.

The largest models may be supplied with a vertical motor which uses a high-efficiency hypocycloid speed reducer.

Both solutions have been studied to ensure particularly compact dimensions and maximum silent operation.

MANUAL USE

Simply insert the handle to disconnect the speed reducer-motor unit.

Greater safety: accidental starting of the motor does not affect the winch, avoiding dangerous turning of the handle.

Greater efficiency: the speed reducer-motor unit does not turn in manual use, avoiding needless friction.



SPEED

Electric winches maintain two speeds both in manual use (inverting the direction of rotation of the handle) and in electric use (pressing one of the two control buttons).

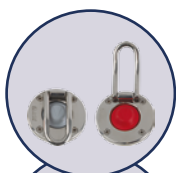
It is of fundamental importance to be able to choose the most suitable speed for the manoeuvre that you want to perform; this allows fast recovery of the first part of the manoeuvre and more careful regulation in the final stage.

In electric winches the speeds are higher than in manual use.

The recovery speed, indicated in the tables, is measured without a load; in the presence of the maximum load, a speed reduction of up to 30% must be considered.

All our electric winches are self tailing and come supplied with a chrome-plated drum.

For more information on these winches see pages 11-13.



SWITCHES

Two switches with watertight protection must be installed for each winch. To identify the first and the second speed 2 colors are used: gray and red.

Mod. 251.035 Switches with s.steel cover

Mod. 251.035/Q Switches with plastic cover



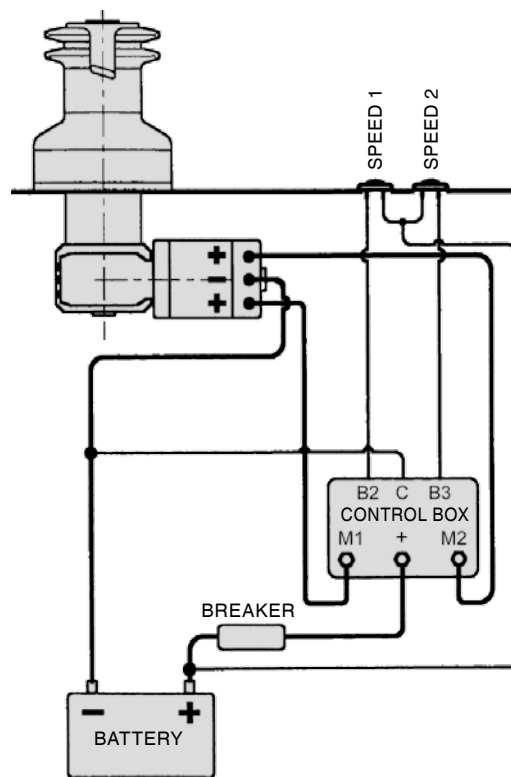
CONTROL BOX

Solenoids are contained in a water tight "control box"; they are available both for 12 and 24 Volt.



BREAKER

A breaker should be mounted to protect the motor against overload.



WINCH MODEL	MOTOR		BREAKER		CONTROL BOX MODEL
	WATT	VOLT	MODEL	AMP	
W40 - W44 - W48	700	12	A071	70	T6315/12
		24	A041	40	T6315/24
W52 - W60	1000	12	A081	80	T6315/12
		24	A041	40	T6315/24
W66 - W70	1500	12	A121	120	T6315/12
		24	A071	70	T6315/24
W80.3	2000	24	A081	80	T6315/24
W90.3	3000	24	A121	120	T6415/24

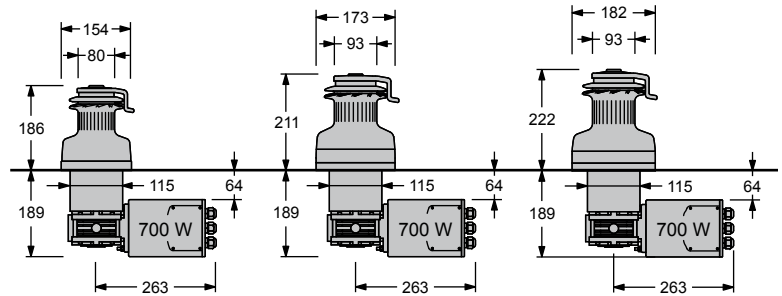
electric winches 700 / 1000 W



W40ELH
700 W 12-24 V

HORIZONTAL DRIVE - MOTOR 700 W 12/24 V W40ELH - W44ELH - W48ELH

Three models 40, 44 and 48 ST are powered with a 700 Watt motor, available in 12 and 24 volt versions. Two switches, one control box and one breaker complete the system.



TWO SPEED WINCHES

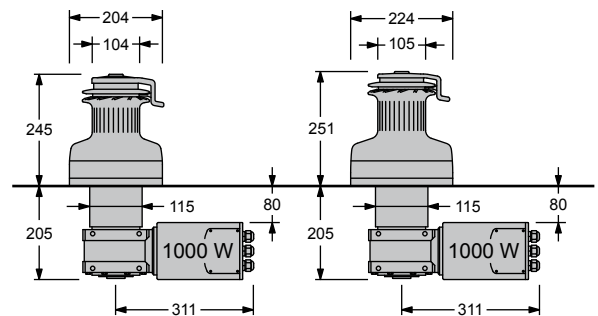
MODEL	W40ELH	W44ELH	W48ELH
LINE SPEED 1 (m/min)	18.0	12.0	12.5
LINE SPEED 2 (m/min)	6.0	5.5	5.0
WORKING LOAD (kg)	800	900	1000
GLOBAL WEIGHT (kg)	17.9	20.6	22.4



W52ELH
1000 W 12-24 V

HORIZONTAL DRIVE - MOTOR 1000 W 12/24 V W52 ELH - W60 ELH

Models 52 and 60 ST are powered with a 1000 Watt, 12 or 24 Volt motor. Two switches, one control box and one breaker complete the system.



TWO SPEED WINCHES

MODEL	W52ELH	W60ELH
LINE SPEED 1 (m/min)	16.0	13.0
LINE SPEED (m/min)	4.6	4.0
WORKING LOAD (kg)	1200	1400
GLOBAL WEIGHT (kg)	29.3	31.1

LINE SPEED: the recovery speed is calculated with the winch not under load; at maximum load the figure should be reduced by 30%.

MANUAL USE: the gearbox-motor unit is disengaged simply by inserting the handle.

CIRCUIT DIAGRAM: for the circuit diagram and accessories, such as switches, control boxes and breakers, see page 17.

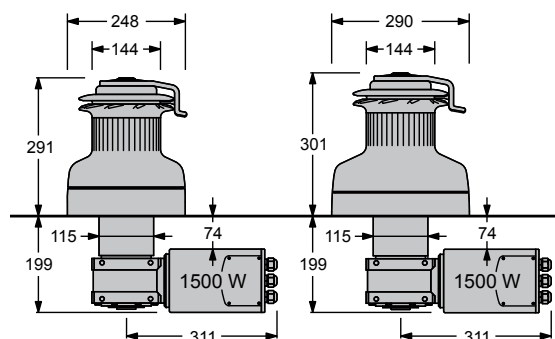
All our electric winches are self-tailing and come supplied with a chrome-plated bronze drum. For more information on these winches see pages 11-13.

After the model specify the required voltage (12 or 24 V).

electric winches 1500 W

HORIZONTAL DRIVE - MOTOR 1500 W 12/24 V W66ELH - W70ELH

Models 65, 66 and 70 ST are powered with a 1500 Watt, 12 or 24 Volt motor. Two switches, one control box and one breaker complete the system.

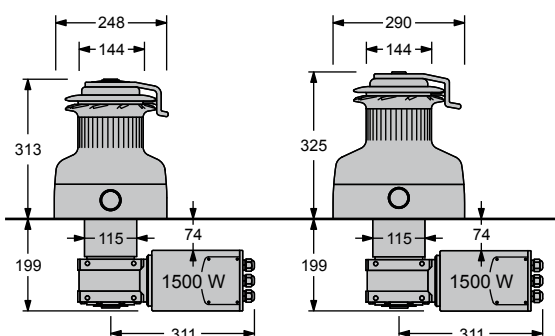


TWO SPEED WINCHES

MODEL	W66ELH	W70ELH
LINE SPEED 1 (m/min)	13.0	9.0
LINE SPEED 2 (m/min)	3.6	3.5
WORKING LOAD (kg)	2600	2900
GLOBAL WEIGHT (kg)	43.0	48.6

HORIZONTAL DRIVE - MOTOR 1500 W 12/24 V W66.3ELH - W70.3ELH

These models maintain three speeds both in manual and in electric use; the push-button on the base starts the first gear, second and third gear are automatically selected by simply reversing the rotation of the handle or pressing one of the two switches, one for the first and the third speed and one for the second.



THREE SPEED WINCHES

MODEL	W66.3ELH	W70.3ELH
LINE SPEED 1 (m/min)	23.0	23.0
LINE SPEED 2 (m/min)	12.0	9.0
LINE SPEED 3 (m/min)	3.6	3.5
WORKING LOAD (kg)	2600	2900
GLOBAL WEIGHT (kg)	46.0	51.6



W70.3ELH
1500 W 12-24 V



Hylas 56'

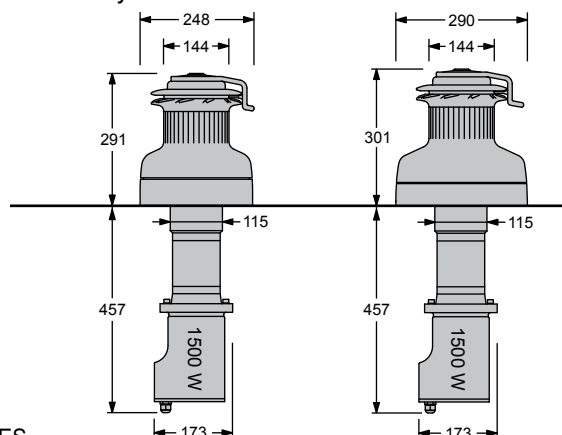
electric winch 1500 W



W70ELV
1500 W 12-24 V

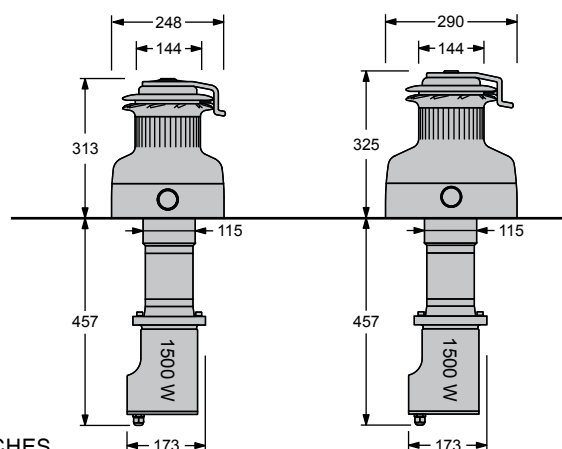
VERTICAL DRIVE - MOTOR 1500 W 12/24 V W66ELV - W70ELV

This motor-gearbox system is suitable for the largest Antal winches: mod. W66 and W70. A special hypocycloidal gearbox gives max efficiency.



TWO SPEED WINCHES

MODEL	W66ELV	W70ELV
LINE SPEED 1 (m/min)	13.0	9.0
LINE SPEED 2 (m/min)	3.6	3.5
WORKING LOAD (kg)	2600	2900
GLOBAL WEIGHT (kg)	45.4	50.6



THREE SPEED WINCHES

MODEL	W66.3ELV	W70.3ELV
LINE SPEED 1 (m/min)	23.0	23.0
LINE SPEED 2 (m/min)	12.0	9.0
LINE SPEED 3 (m/min)	3.6	3.5
WORKING LOAD (kg)	2600	2900
GLOBAL WEIGHT (kg)	48.4	53.6

VERTICAL DRIVE - MOTOR 1500 W 12/24 V W66.3ELV - W70.3ELV

These models maintain three speeds both in manual and in electric use; the push-button on the base starts the first gear, second and third gear are automatically selected simply reversing the rotation of the handle or pressing one of the two switches, one for the first and the third speed and one for the second.

LINE SPEED: the recovery speed is calculated with the winch not under load; at maximum load the figure should be reduced by 30%.

MANUAL USE: the gearbox-motor unit is disengaged simply by inserting the handle.

CIRCUIT DIAGRAM: for the circuit diagram and accessories, such as switches, control boxes and breakers, see page 17.

All our electric winches are self-tailing and come supplied with a chrome-plated bronze drum. For more information on these winches see pages 11-13.

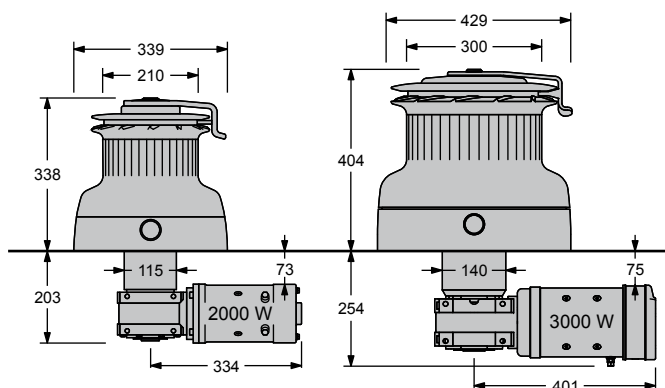
After the model specify the required voltage (12 or 24 V).

electric winch 2000 / 3000 W

HORIZONTAL DRIVE - 2000 or 3000 W - 24 V W80.3ELH - W90.3ELH

These models maintain three speeds both in manual and in electric use; the push-button on the base starts the first gear, second and third gear are automatically selected by simply reversing the rotation of the handle or pressing one of the two switches, one for the first and the third speed and one for the second.

Model W80.3 is fitted with 2000 W (24 V) motor, model W90.3 with 3000 W (24 V) motor.

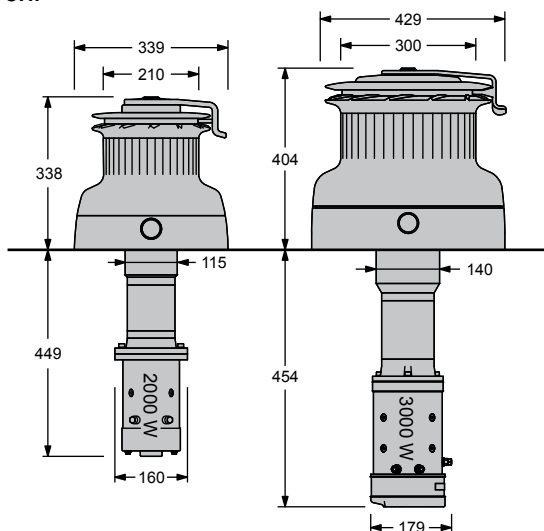


THREE SPEED WINCHES

MODEL	W80.3ELH	W90.3ELH
LINE SPEED 1 (m/min)	22.0	18.0
LINE SPEED 2 (m/min)	8.0	7.0
LINE SPEED 3 (m/min)	3.0	2.5
WORKING LOAD (kg)	4000	8000
GLOBAL WEIGHT (kg)	75.0	145.0
MOTOR (W)	2000	3000

VERTICAL DRIVE - 2000 or 3000 W - 24 V W80.3ELV - W90.3ELV

Vertical drive version is also available for models W80.3 and W90.3 (2000 W on the 80.3, 3000 W on the 90.3, both at 24 V) with a hypocycloidal gearbox.



W80.3ELV

THREE SPEED WINCHES

MODEL	W80.3ELV	W90.3ELV
LINE SPEED 1 (m/min)	22.0	18.0
LINE SPEED 2 (m/min)	8.0	7.0
LINE SPEED 3 (m/min)	3.0	2.5
WORKING LOAD (kg)	4000	8000
GLOBAL WEIGHT (kg)	75.0	145.0
MOTOR (W)	2000	3000

hydraulic winch



HYDRAULIC SYSTEM

The hydraulic system can be applied to all ANTAL winches from model W44 to W70 and also maxi W80.3 and W90.3.

The pressure of the system varies from 100 to 120 bars for the larger winches. Connections are to be carried out with 3/8" pipes.

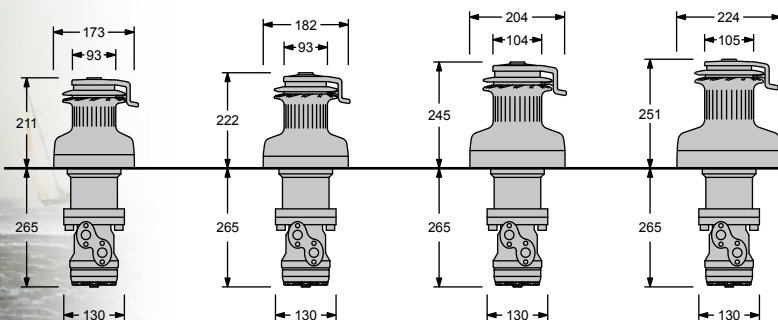
All our hydraulic winches come supplied with a chromed drum.

For more informations see pages 11-13.

For manual use the gearbox is released simply by inserting the handle.

LINE SPEED

Line speeds are calculated in absence of load conditions and considering the flow of the lower table. The effective speed will be evaluated according to the actual size of the hydraulic unit.



Silvia 46'

MODEL	W44HD	W48HD	W52HD	W60HD	
LINE SPEED 1 (m/min)	12.0	12.5	16.0	13.0	
LINE SPEED 2 (m/min)	5.5	5.0	4.6	4.0	
LINE SPEED 3 (m/min)	-	-	-	-	
WORKING LOAD (kg)	900	1000	1200	1400	
GLOBAL WEIGHT (kg)	19.7	21.5	23.4	25.4	

HYDRAULIC MOTOR

SIZE (cc)	50	50	50	50	
PRESSURE (bar)	100	100	120	120	
FLOW (l/min)	7.5	7.5	7.5	7.5	

HYDRAULIC UNIT

These units are dimensioned to the different requirements of each boat.

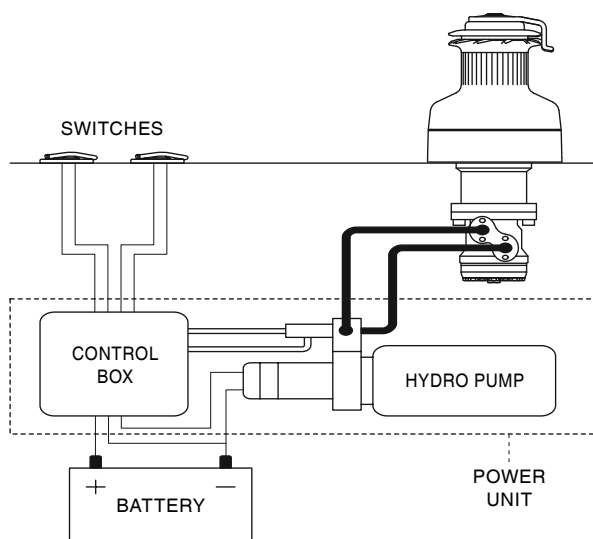
The winch speed is proportional to the flow from the hydraulic unit, the load of the winch is proportional to the pressure.

The hydraulic unit that must work a number of winches at the same time, must guarantee a flow equal to the sum of the flows required from each one.

The flow and pressure levels given in the table for each winch must not be exceeded.



All these models are fitted with Danfoss hydraulic motors series OMR or equivalent.



SWITCHES

Two switches with watertight protection must be installed for each winch. To identify the first and the second speed 2 colors are used: gray and red.

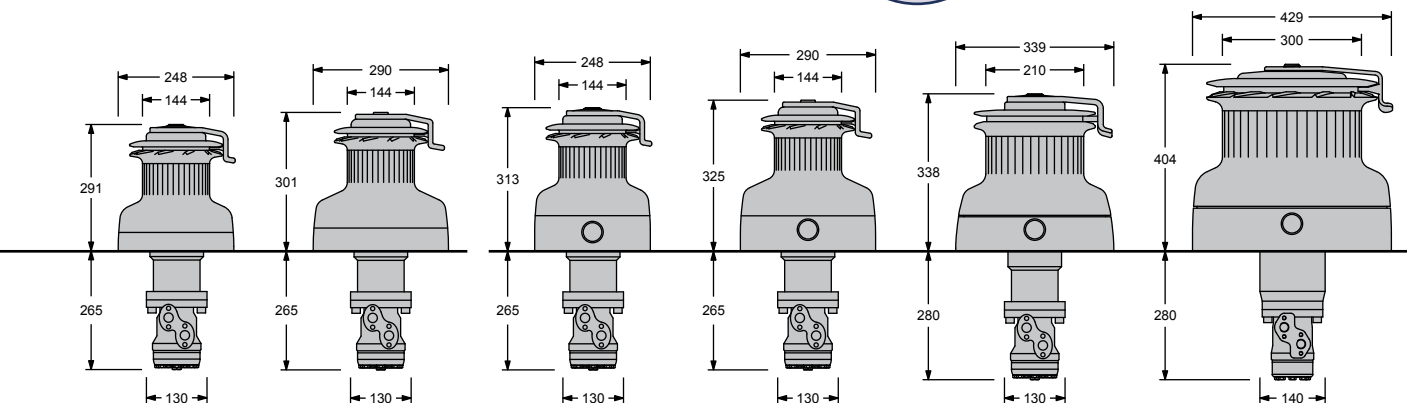


Mod. 251.035

Switches with s.steel cover

Mod. 251.035/Q

Switches with plastic cover



	W66HD	W70HD	W66.3HD	W70.3HD	W80.3HD	W90.3HD
	13.0	9.0	23.0	23.0	22.0	18.0
	3.6	3.5	12.0	9.0	8.0	7.0
	-	-	3.6	3.5	3.0	2.5
	2600	2900	2600	2900	4000	8000
	33.5	37.4	37.0	45.5	63.4	118

	80	100	80	100	160	200
	120	120	120	120	120	120
	12	15	12	15	24	30

new XT winches



14 new self-tailing winches available in three version :

HARD BLACK ALUMINIUM (AL): the aluminium drum is hard black anodized and teflon coated, scratch-proof and very hard-wearing. (page 26-27)

CHROME (CH): the chrome-plated drum is highly polished, thickly nickel-plated and finally finished in chrome. (page 26-27)

RACE (R): racing series obtained by lightening the previous series AL (page 28)

Moreover an electric and hydraulic powered series are also available. (page 29)

Antal winches have a three-year warranty.

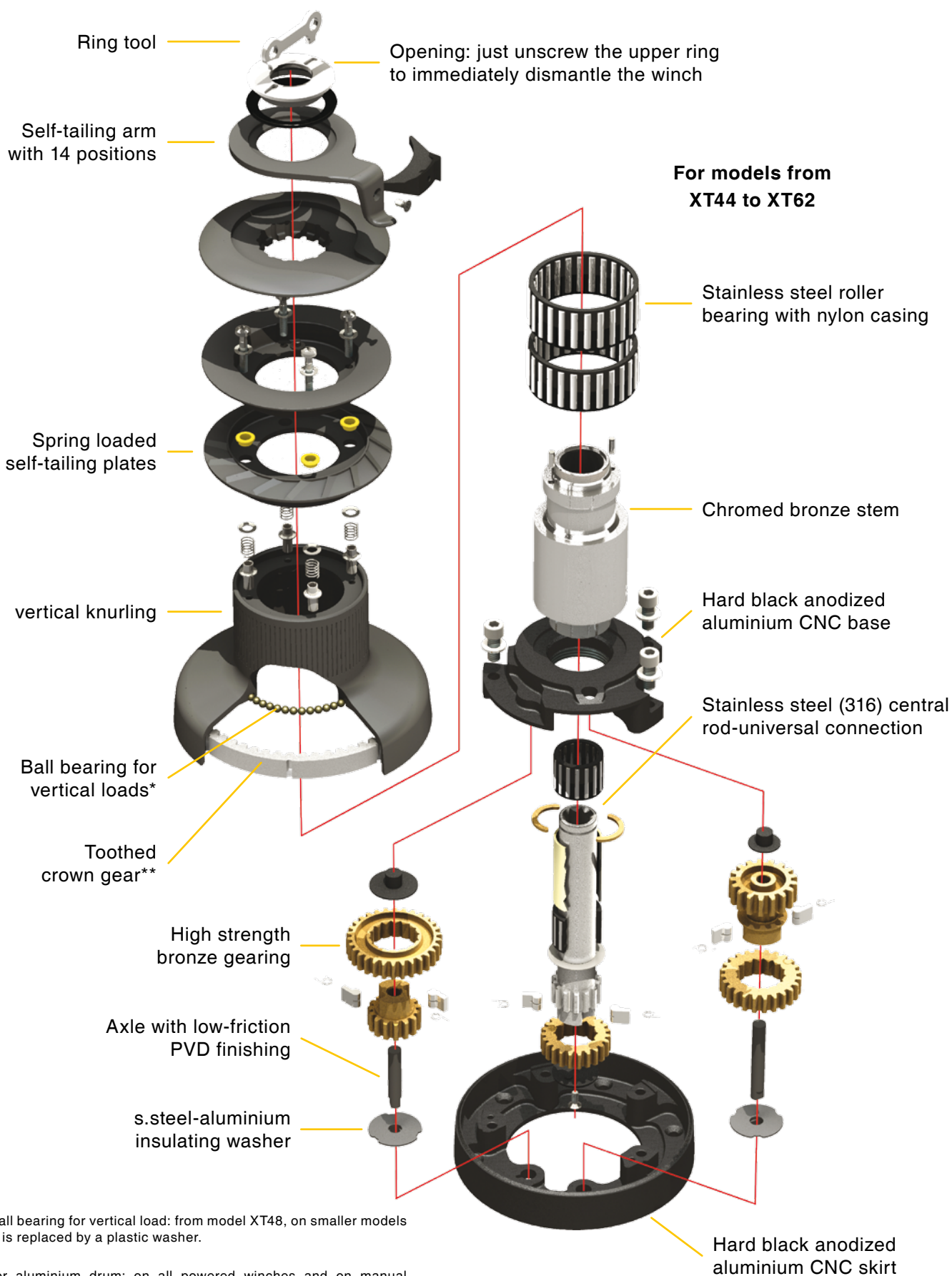
SIMPLE OPENING: just unscrew the upper ring to immediately dismantle the winch for an easy of cleaning and maintenance.

NEW SELF-TAILING XT SYSTEM: fixed upper disk with built in ST arm and self-regulating lower disk on springs. The new self-tailing adapts automatically to a wide range of rope diameters and, if overloading occurs, releases the line to avoid excess force on the ST arm.

KNURLING: the drum vertical knurling offers maximum horizontal friction allowing the rope “slide” upwards.

Differentiated grip (aluminium drums only): minimum friction on the lower part where loads are higher and maximum at the top where loads are minimal: the result is an even grip along the entire drum.

CNC BASE: machined by CNC (computer numeric control machines) is lighter and stronger than normal castings; aluminium made, hard black anodized and teflon coated. Easy removal from the winch makes maintenance a simple affair.



* ball bearing for vertical load: from model XT48, on smaller models it is replaced by a plastic washer.

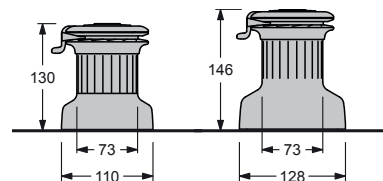
** for aluminium drum: on all powered winches and on manual winches size 62, 66 and 70 there is a harder and highly-resistant alloy toothed crown gear. On the other models it is available only on request.

self-tailing XT winches



ONE REDUCED SPEED WINCH XT16 - XT30

The two smallest models (XT16 and XT30) have a single reduced speed, giving a slow but powerful gear. The handle turns freely the other way. Both available in chrome (CH) or hard black alloy (AL).



ONE SPEED WINCHES

MODEL	XT16	XT30
POWER P1	14	28
RECOVERY S1 (mm)	115	58
Ø LINE (mm)	6 / 10	6 / 10
WEIGHT AL (kg)	2.4	2.8
WEIGHT CH (kg)	3.3	4.0
SCREWS N x Ø (mm)	5 x Ø6	5 x Ø6

TWO SPEED WINCHES: DIRECT, REDUCED XT16.2 - XT30.2

The addition of a direct speed to the above described models gives a faster recovery gear, which, combined with reduced weight and an automatic self-tailing for very thin lines, makes these models the best choice for racing.

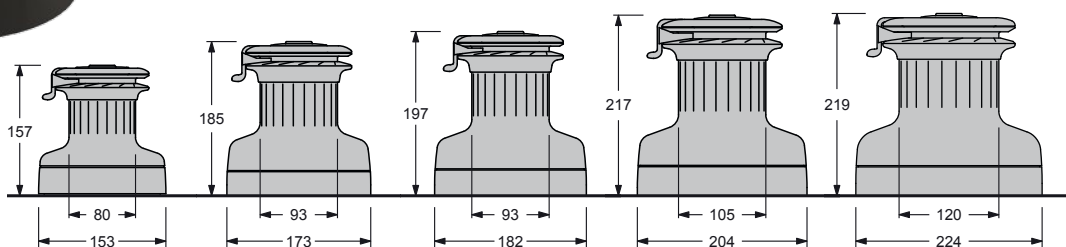
TWO SPEED WINCHES

MODEL	XT16.2	XT30.2
POWER P1-P2	7.0 / 14	7.0 / 28
RECOVERY S1-S2 (mm)	229 / 115	229 / 58
Ø LINE (mm)	6 / 10	6 / 10
WEIGHT AL (kg)	2.5	2.9
WEIGHT CH (kg)	3.3	4.0
SCREWS N x Ø (mm)	5 x Ø6	5 x Ø6



TWO REDUCED SPEED WINCHES XT40 - XT44 - XT48 - XT52 - XT62

Quick and powerful operation is obtainable with the first reduced speed, then with increasing load, simply wind in the opposite direction the second gear and maximum power is automatically selected.



TWO SPEED WINCHES

MODEL	XT40	XT44	XT48	XT52	XT62
POWER P1-P2	12.8 / 40.0	20.0 / 43.0	19.0 / 47.4	15.9 / 52.8	18.0 / 62.1
RECOVERY S1-S2 (mm)	125 / 40	80 / 38	84 / 34	100 / 30	89 / 26
Ø LINE (mm)	6 / 12	6 / 14	6 / 14	6 / 14	6 / 16
WEIGHT AL (kg)	4.3	5.8	6.5	8.4	10.2
WEIGHT CH (kg)	5.8	7.6	8.7	11.1	13.0
SCREWS N x Ø (mm)	5 x Ø8	6 x Ø8	6 x Ø8	6 x Ø8	6 x Ø10

All these models (from size 40) can be powered with electric or hydraulic motors (page 29)

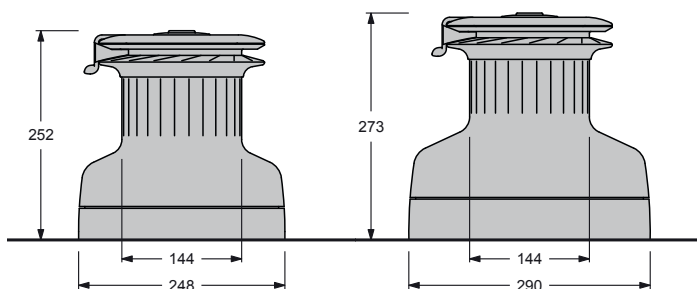


Mod. XT66 AL

Mod. XT66 CH

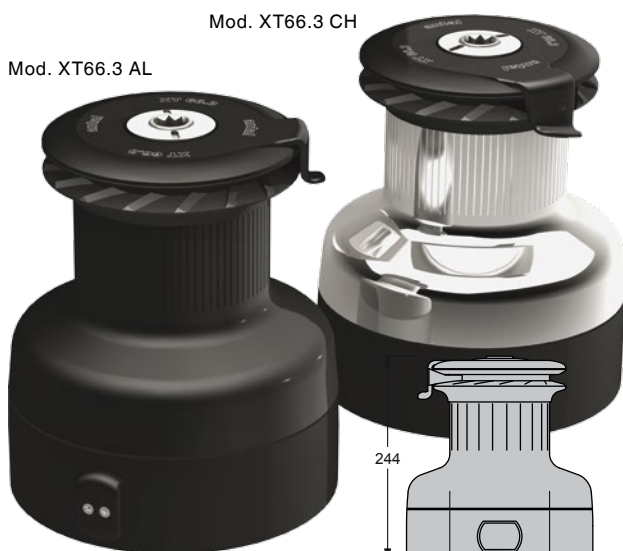
TWO REDUCED SPEED WINCHES XT66 - XT70

Large drum winches for 15-18 m boats. All the gears are fitted with roller bearings and the drum works on a very wide diameter roller-ball bearings.



TWO SPEED WINCHES

MODEL	XT66	XT70
POWER P1-P2	18.0 / 65.6	27.1 / 69.8
RECOVERY S1-S2 (mm)	89 / 24	59 / 23
Ø LINE (mm)	8 / 18	8 / 18
WEIGHT AL (kg)	15.5	19.5
WEIGHT CH (kg)	18.9	28.5
SCREWS N x Ø (mm)	6 x Ø10	6 x Ø10

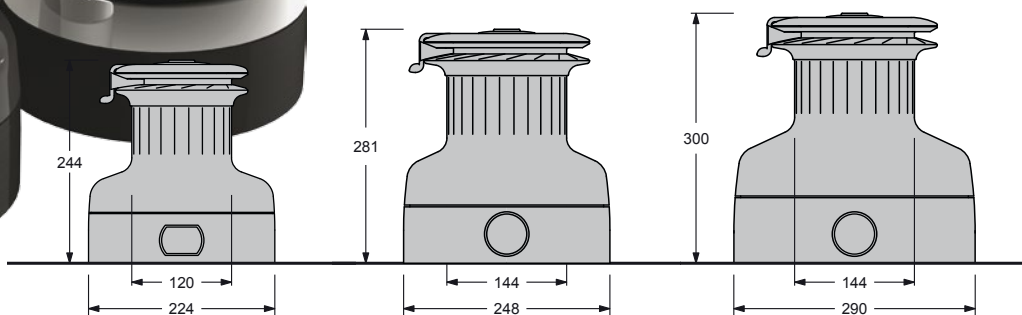


Mod. XT66.3 CH

Mod. XT66.3 AL

THREE REDUCED SPEED WINCHES XT66.3 - XT70.3

The push-button on the base starts the first gear (the faster); second and third gear are automatically selected simply reversing the rotation of the handle.



THREE SPEED WINCHES

MODEL	XT62.3	XT66.3	XT70.3
POWER P1-P2-P3	5.8 / 17.8 / 62.1	10.7 / 20.8 / 65.3	10.7 / 27.1 / 69.8
RECOVERY S1-S2-S3 (mm)	275 / 89 / 26	151 / 77 / 24	151 / 59 / 23
Ø LINE (mm)	6 / 16	8 / 18	8 / 18
WEIGHT AL (kg)	12.2	18.0	22.5
WEIGHT CH (kg)	16.0	21.4	31.5
SCREWS N x Ø (mm)	6 x Ø10	6 x Ø10	6 x Ø10

P1, P2, P3 : power with the first (fast), second (medium) and third (slow) gear.

S1, S2, S3 : recovery speed, the length of line recovered with one turn of the handle in first, second and third gear.

race XT winches

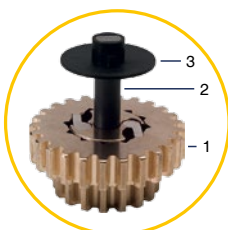
SELF-TAILING WINCHES: XT RACE SERIES

XT R is a new range of racing winches obtained from the XT series that is described on the previous pages with:

- new self-tailing XT system
- differentiated grip of the drum knurling
- CNC base and skirt
- fast opening screwed ring
- axle with low friction PVD finishing and in addition to reduce the weight:
- aluminium stem
- peek roller bearings for the drum and the main shaft
- lightened gears and main shaft



To reduce weight, XT series winches are mounted on bearings with peek resin roller on an aluminium stem.



antal alloy gears (1) mounted on low-friction and hard wearing PVD treated axles (2); corrosion-proof insulating gaskets (3).



The base, machined by the CNC process (produced with computer numeric control machines with no cast components), is lighter and stronger than normal castings.



XT52 R

MODEL	XT16 R	XT30 R
WEIGHT (kg)	2.1	2.5

For all others characteristics see tables on previous page 26-27

MODEL	XT16.2 R	XT30.2 R	XT40 R	XT44 R	XT48 R	XT52 R	XT62 R	XT66 R	XT70 R
WEIGHT (kg)	2.4	2.7	3.5	4.8	5.3	7.1	8.5	12.2	16.1

MODEL	XT62.3 R	XT66.3 R	XT70.3 R
WEIGHT (kg)	10.4	15.0	18.9

powered XT winches



XT-ELH ELECTRIC MOTOR HORIZONTAL DRIVE

All XT winches (from XT 40) are available with 700, 1000 and 1500 W motors, 12 or 24 V, in the horizontal drive version with a “worm screw” gearbox.

Motor-gearbox sizes and characteristics are the same of the standard series described on page 18.



XT-ELV ELECTRIC MOTOR VERTICAL DRIVE

XT winches mod. 66 and 70 are also available with 1500 W motor, 12 or 24 V, in the vertical drive version with a high-efficiency hypocycloid gearbox.

Motor-gearbox sizes and characteristics are the same of the standard series described on page 20.



XT-HD HYDRAULIC MOTOR

All XT winches (from XT 40) are available with hydraulic motor from 50 to 100 cc and pressures from 100 t o120 bar.

Motor-gearbox sizes and characteristics are the same of the standard series described on page 22.



Peter Benziger on Perigrina - Round the world

winch handles

WINCH HANDLES

In addition to the extremely light black aluminium handles in two sizes: 200 mm (8 inches) and 250 mm (10 inches), there is also the classic chromed or natural polished bronze solution, always 250 mm long.

Three different grips are available: the single, the double and the new "ball-grip".

The handle arm made of forged aluminium with lightening holes is extremely light and resists the heaviest torsion.

The grip is covered with rubber to give a firm hold and runs on two ball bearings to increase its efficiency (single-grip and ball-grip only).

All the models are available with or without **the lock system** which automatically locks the handle on the winch. To refer to the "no lock" version add /NL to the code.



/NL

ALUMINIUM L = 200 mm

MODEL	HAND GRIP	WEIGHT (kg)
2011	single	0.38
2012	ball-grip	0.48



ALUMINIUM L = 250 mm

MODEL	HAND GRIP	WEIGHT (kg)
2021	single	0.43
2022	ball-grip	0.53
2023	double	0.62



CHROMED BRONZE L = 250 mm

MODEL	HAND GRIP	WEIGHT (kg)
2031	single	0.87
2032	ball-grip	0.97
2033	double	1.07



CUSTOM SOLUTIONS



Custom solutions are available on request: wooden grips (model /W), different colors, natural bronze (model /BN), special engravings...

THE SPEEDY WAY TO LOCK-UNLOCK THE WINCH HANDLE

Speedylock is the new Antal winch handle, available with the 250 mm lever with single, ball and double grip.

Hard black anodized forged aluminium lever, rubber grip on two ball bearings (on single-grip and ball-grip version).

ALUMINIUM L = 250 mm

MODEL	HAND GRIP	WEIGHT (kg)
2121	single	0.43
2122	ball-grip	0.53
2123	double	0.62



2123

2122

2121



Black Magic - Nautic 311 Ultra

pedestals for winch

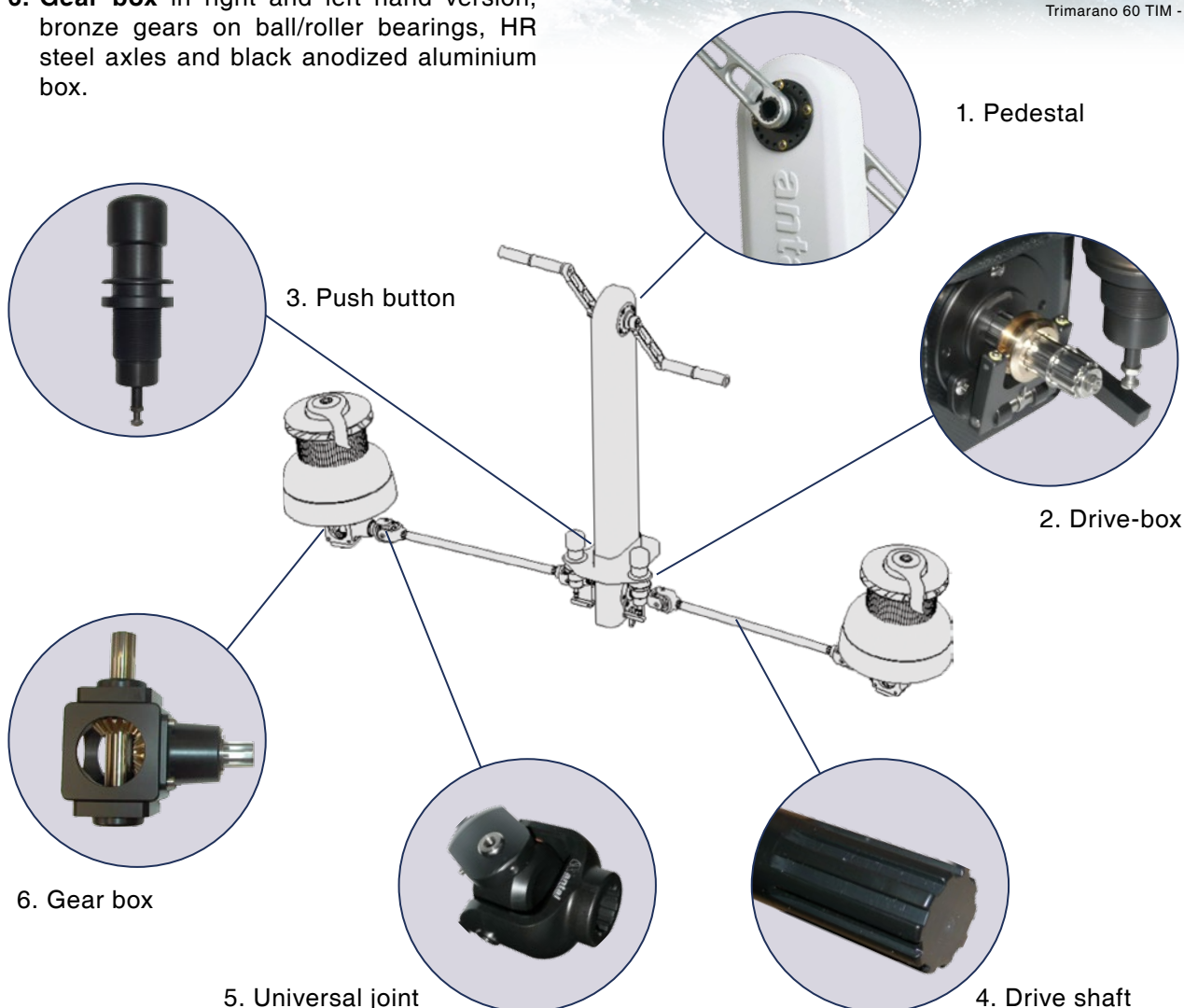
MECHANICAL DRIVE

The system is formed by a belt drive in the pedestal plus a mechanical drive (axles and gear box) from the pedestal to one, two or more winches, comprising:

1. **Carbon fibre pedestal**, with belt drive on toothed sheaves that are mounted on steel roller bearings.
2. **Drive-box**, which transmits the drive from the pedestal to the axle of the single winch.
3. **Push-button**, which turns the drive-box on and off, and permits to choose which winch to work on.
4. **Aluminium drive shaft** with black anodized ribbed end.
5. **Aluminium universal joint** with HR steel axles, mounted on both ends of the drive shaft, which enables to incline the shaft by large degrees.
6. **Gear box** in right and left hand version, bronze gears on ball/roller bearings, HR steel axles and black anodized aluminium box.



Trimarano 60 TIM - G. Soldini



ROPE-RING DRIVE

A traditional mechanical drive with gears and shafts is expensive, complicated and heavy so only simple and straight runs are accepted.

A belt drive is restricted to short distances because it is necessary to avoid belt extensions and only short belts can be used. Moreover the belt does not work very well out of its plane and also in this case only simple runs are accepted.

A **rope-ring drive** is not only a light and cheap solution but it is also very adaptable, long and twisted runs with deviations for any direction are not a problem.

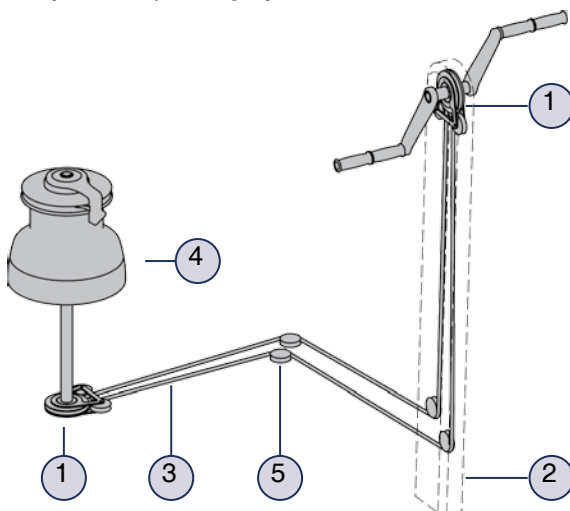
The rope-ring drive is a patent Antal.

N° Description

- 1 Toothed sheave (for rope)
- 2 Carbon fibre pedestal
- 3 Rope-ring
- 4 Winch
- 5 Sheaves
- 6 Selector left / right
- 7 Toothed sheave (for belt)
- 8 Toothed belt

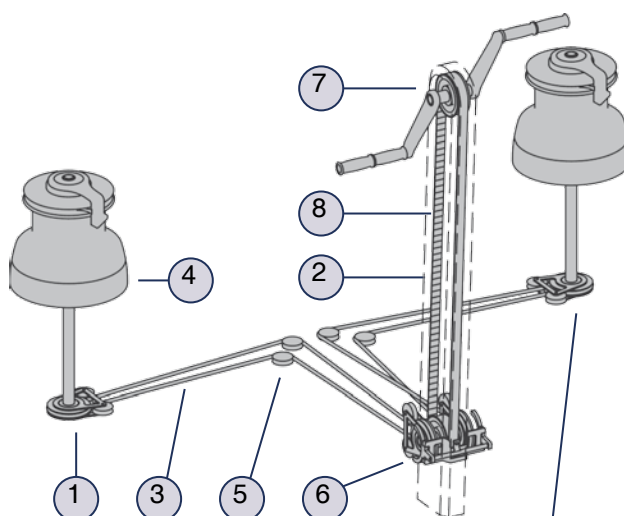
PEDESTAL FOR 1 WINCH

Only one rope-ring system.



PEDESTAL FOR 2 WINCHES

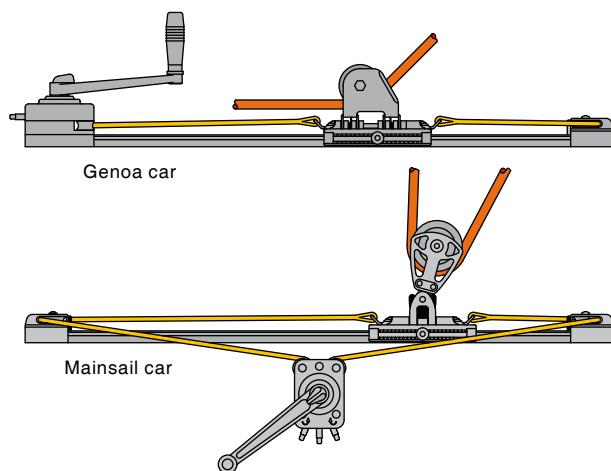
The system is made with a belt drive pedestal and two rope-rings drive, from the pedestal to two winches.



1. Toothed sheave



line driver



Spy-Pole slider range
on page 103

TRAVELER CONTROL SYSTEM

The control system is connected to a traveler on a closed circuit and ensures efficient control and a clean layout.

The system uses a self tailing pulley which operates in both direction with a textile “gripping” system that is efficient even if the circuit is not under strain and causes no wear in the rope.

A clutch pin sets the direction in which the traveler moves, or allows for it to be locked in the required position.

The power ratio obtainable with a normal (250 mm) handle is 8 to 1, which is much better than a tackle can offer; moreover, this system has a very limited size and weight.

MATERIALS: it is made of hard black anodized aluminium, central rod and ball bearing of AISI 316 stainless steel.

A 10 mm line is strongly recommended.

MODEL	240.010
LENGTH (mm)	128
WIDTH (mm)	90
HEIGHT (mm)	58
POWER	8 : 1
WEIGHT (kg)	1.40
SCREWS N x Ø (mm)	3 x Ø8



Franchini 635

powered line driver

POWERED LINE DRIVER

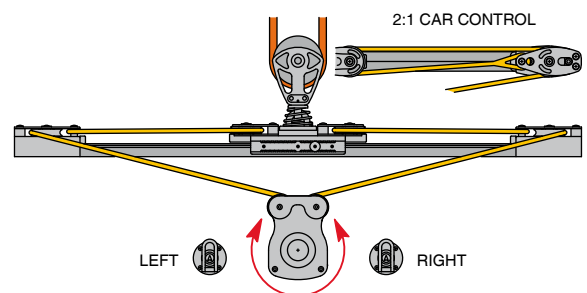
This is a solution done for the control of the main car with a simple “self-tailing” sheave on the deck, a motor and gearbox under the deck.

Two switches, for the left and the right car movement, a control-box and a safe circuit breaker to complete the electrical system (on page 17).

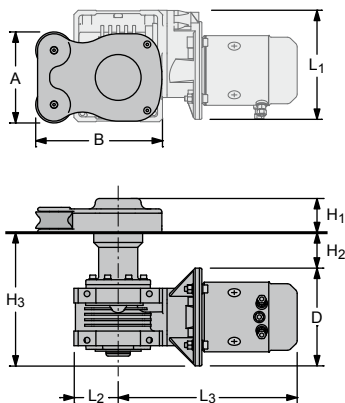
Three sizes available with 700, 1000 and 1500 W motors in 12 or 24 Volt version.

The SWL and the CAR SPEED are calculated with 2:1 car control.

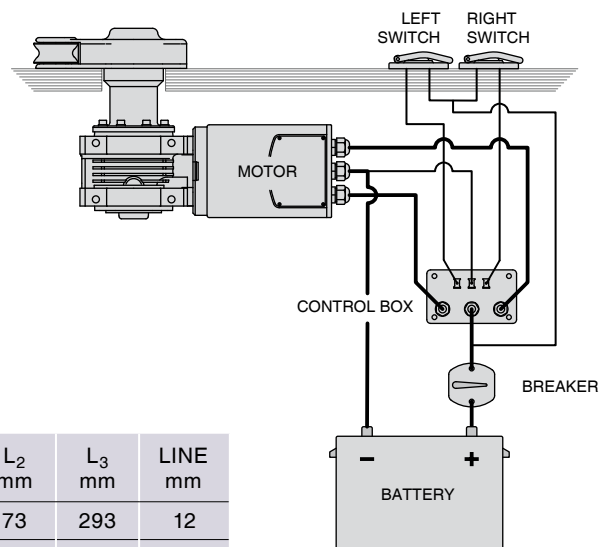
The SPEED is calculated with the car not under load; at maximum load the figure should be reduced by 30%.



MODEL	MOTOR		WEIGHT Kg	FOR MAIN CAR		CAR CONTROL SWL (Kg)	CAR SPEED m/sec
	Watt	Volt		SIZE mm	MODEL		
LD700/12	700	12	15	47 x 230	614.211	800	0.10
LD700/24		24					
LD1000/12	1000	12	20	47 x 330	614.221	1260	0.12
LD1000/24		24					
LD1500/12	1500	12	22	47 x 430	614.231	1600	0.12
LD1500/24		24					



MOTOR Watt	A mm	B mm	D mm	H ₁ mm	H ₂ mm	H ₃ mm	L ₁ mm	L ₂ mm	L ₃ mm	LINE mm
700	149	207	160	56	58	218	183	73	293	12
1000	163	217	160	58	64	224	221	87	330	14
1500	197	274	160	61	64	224	221	87	330	14





clutches



Mod. V-Grip Plus

CAM 611..... 39



V-CAM 814..... 40



V-grip..... 41



V-grip plus 42



V-grip maxi 43



VJ v-grip jammer 44



swivelling cam-cleat..... 46



stopper deck blocks..... 47



clutch selection guide

A complete range with 7 different models is supplied in single, double and triple versions.

Line retrieval can be achieved with the lever closed, the line stops automatically in the new position with no slippage.

The line can be **released** under load without the use of a winch because the Antal mechanism guarantees easy **opening** even under heavy conditions.

Max loads of the lower table for each model and for different line diameters have been obtained from extensive tests.

Load values higher than the max load may damage the line cover, not the clutch.

All Antal clutches, except the small CAM611, are fitted with the ingenious “**V-Grip**” system: a “V” shaped cam that improves the holding strength, increases the bearing surface on the line and consequently gives higher working loads without cover damages.



Tests reveal best results on Dyneema with composite Kevlar/Polyester covers, while traditional pure-Polyester covers over a Dyneema core prove to have poor resistance. Also “all-Polyester” core/cover versions give excellent results.



LINE DIAMETER	CAM 611	CAM 611/V*	V-CAM 814* V-CAM 814/S*			GRIP *			GRIP - Plus *			GRIP - Maxi *				
			10	12	14	10	12	14	12	14	16	14	16	18	20	22
Ø = 6 mm	250	400							CLUTCH MAX LOAD (kg)							
Ø = 8 mm	380	600	600			500										
Ø = 10 mm	500		850	850		700	700		1050							
Ø = 12 mm				1200	1200	1000	1000	1000	1400	1400		1400				
Ø = 14 mm					1500		1300	1300		1700	1700	1700	1700			
Ø = 16 mm								1600			2100		2100	2100		
Ø = 18 mm														2600	2600	
Ø = 20 mm															3000	3000
Ø = 22 mm																3400

* These models are fitted with the V-Grip system that is internationally patented.



clutches *CAM 611*

CAM 611 FOR 6-10 mm LINES

Cam 611 for line 6 to 10 mm is available in single, double and triple, as well as horizontal. CAM 611 has a box structure in UV-resistant resin with steel reinforcements, an extruded aluminium base, wear-resistant bronze cam mechanism, and stainless steel aligning bushing.

The clutch can be completely dismantled for simple maintenance.

Line retrieval can be achieved with the lever closed, and the cam mechanism guarantees easy opening even under heavy load.



CAM611



Triple

Double

Single

Horizontal

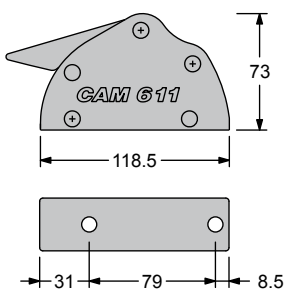
NEW CAM 611/V FOR 6-8 mm LINES

Cam 611/V is a new model with a V-CAM, for lines from 6 to 8 mm. This new version supports much higher loads: 400 kg on the 6 mm line and 600 kg on the 8 mm.

All the features are the same of CAM 611, as shown in the following table.



CAM611/V



CAM 611/V		CAM 611
6 mm line	8 mm line	6-10 mm line
MODEL	MODEL	MODEL
500.110	501.110	513.110
500.120	501.120	513.120
500.130	501.130	513.130
500.210	501.210	513.210

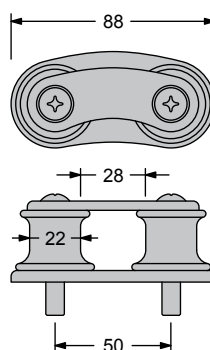
TYPE	WIDTH mm	WEIGHT kg	SCREWS N° x Ø mm
SINGLE	33	0.37	2 x Ø6
DOUBLE	62	0.74	4 x Ø6
TRIPLE	91	1.10	6 x Ø6
HORIZONTAL	33	0.51	2 x Ø6 + 1 x Ø5

The maximum loads of the clutches for different diameters of the halyards are shown in the table on page 38

DOUBLE SHEAVE ORGANIZER

Mod. 522.031

This solution has been designed for the new double and triple CAM 611: mounted at the back of the clutch battery guiding the line towards the winch.



Screws: 2 x Ø8 mm.
Weight: 0.16 kg

A set of 54 stickers is provided for an easy indication of manoeuvres; colors: red, green and black.

MODEL	VERSION
513 / E	ENGLISH
513 / F	FRENCH
513 / I	ITALIAN

V-CAM 814 clutches

CLUTCHES V-CAM814

Three models for 8-10 mm., 10-12 mm. and 12-14 mm. lines; available in single, double, triple and quadruple.

V-CAM814 has a box-structure in UV-resistant resin with s.steel reinforcements, aluminium base, V-Cam and aligning bushing in Aisi 316.

It can be completely dismantled for simple maintenance and repairing.

Line retrieval can be achieved with the lever closed.

This model is fitted with a large "V" shaped cam that offers higher holding strength than model V-Grip (pag 41) and a new mechanism that guarantees easy opening even under heavy load.



V-CAM814

NEW V-CAM 814/S

V-CAM 814 clutches are now available in "silver series" : V-CAM 814/S with a new ergonomic, polished and silver anodized aluminium lever.

All the characteristics remain the same as shown in the following table.



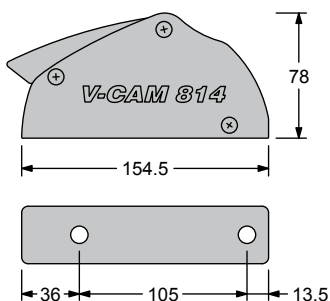
V-CAM814/S



Double

Triple

Quadruple



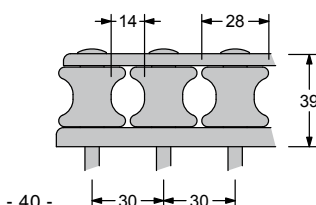
V-CAM 814/S	V-CAM 814					
MODEL	MODEL	Ø LINE mm	TYPE	WIDTH mm	WEIGHT kg	SCREWS N° x Ø mm
549.111	509.111	8 - 10	SINGLE	36	0.60	2 x Ø6
549.121	509.121		DOUBLE	65	1.10	4 x Ø6
549.131	509.131		TRIPLE	94	1.60	6 x Ø6
549.141	509.141		QUADRUPLE	123	2.10	8 x Ø6
549.112	509.112	10 - 12	SINGLE	36	0.60	2 x Ø8
549.122	509.122		DOUBLE	65	1.10	4 x Ø8
549.132	509.132		TRIPLE	94	1.60	6 x Ø8
549.142	509.142		QUADRUPLE	123	2.10	8 x Ø8
549.113	509.113	12 - 14	SINGLE	36	0.60	2 x Ø8
549.123	509.123		DOUBLE	65	1.10	4 x Ø8
549.133	509.133		TRIPLE	94	1.60	6 x Ø8
549.143	509.143		QUADRUPLE	123	2.10	8 x Ø8

The maximum loads of the clutches for different diameters of the halyards are shown in the table on page 38

V-CAM 814 CLUTCH ORGANIZER

This solution allows manoeuvres to be guided from the clutches to the winch.

Resin sheave with double ball bearing and black aluminium cover, screws are included.



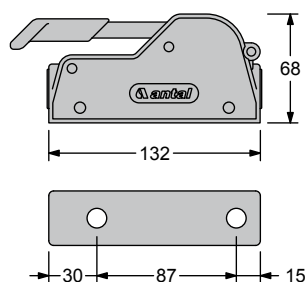
MODEL	N° SHEAVES	LENGTH mm	WEIGHT kg	SCREWS N° x Ø mm
513.032	3	90	0.18	3 x Ø6
514.032	4	120	0.22	4 x Ø6
515.032	5	150	0.27	5 x Ø6
516.032	6	180	0.32	6 x Ø6

CLUTCHES V-GRIP

Aisi 316 s.steel mechanism and lever, bronze "V" shaped cam and black anodized aluminium structure.

3 models are available for 8-12, 10-14, and 12-16 mm. lines in single, double and triple version.

This is the best solution when minimum sizes are required: it is only 6.8 cm high.



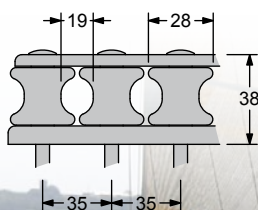
MODEL	Ø LINE mm	TYPE	WIDTH mm	WEIGHT kg	SCREWS N° x Ø mm
507.111	8 - 10 - 12	SINGLE	34	0.55	2 x Ø6
507.121		DOUBLE	67	1.10	4 x Ø6
507.131		TRIPLE	101	1.45	6 x Ø6
507.112	10 - 12 - 14	SINGLE	34	0.55	2 x Ø8
507.122		DOUBLE	67	1.10	4 x Ø8
507.132		TRIPLE	101	1.45	6 x Ø8
507.113	12 - 14 - 16	SINGLE	34	0.55	2 x Ø8

The maximum loads of the clutches for different diameters of the halyards are shown in the table on page 38

V-GRIP CLUTCH ORGANIZER

This solution allows manoeuvres to be guided from the clutches to the winch.

Resin sheave with double ball bearing and black aluminium cover, screws are included.



MODEL	N° SHEAVES	LENGTH mm	WEIGHT kg	SCREWS N° x Ø mm
533.032	3	100	0.19	3 x Ø6
534.032	4	135	0.24	4 x Ø6
535.032	5	170	0.30	5 x Ø6
536.032	6	205	0.35	6 x Ø6



Spinning Wheel - Class 40' R. Westermann

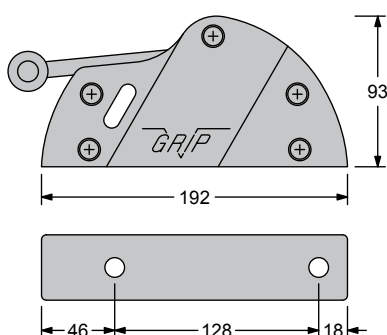
CLUTCHES V-GRIP PLUS

3 models for lines from 10 to 16 mm. available in single, double and triple.

Hard black anodized aluminium structure and AISI 316 s.steel mechanism, "V" shaped cam and lever.

Easy opening under load for line releasing without the use of winch.

Line retrieval can be achieved with the lever closed, the line stops automatically in the new position with no slippage.



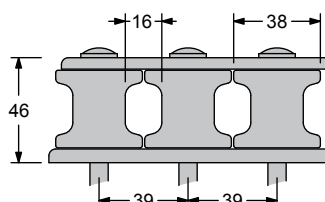
MODEL	Ø LINE mm	TYPE	WIDTH mm	WEIGHT kg	SCREWS N° x Ø mm
508.121	10 - 12	SINGLE	41	1.10	2 x Ø10
508.122/P		DOUBLE	80	2.20	4 x Ø10
508.123		TRIPLE	119	3.30	6 x Ø10
508.141	12 - 14	SINGLE	41	1.10	2 x Ø10
508.142		DOUBLE	80	2.20	4 x Ø10
508.143		TRIPLE	119	3.30	6 x Ø10
508.161	14 - 16	SINGLE	41	1.10	2 x Ø10
508.162		DOUBLE	80	2.20	4 x Ø10
508.163		TRIPLE	119	3.30	6 x Ø10

The maximum loads of the clutches for different diameters of the halyards are shown in the table on page 38

V-GRIP PLUS CLUTCH ORGANIZER

This solution allows manoeuvres to be guided from the clutches to the winch.

Aluminium sheave with Composite Fibre bearing and double ball bearing, black aluminium cover, screws are included.



MODEL	N° SHEAVES	LENGTH mm	WEIGHT kg	SCREWS N° x Ø mm
523.042	3	125	0.43	3 x Ø8
524.042	4	165	0.57	4 x Ø8
525.042	5	205	0.71	5 x Ø8

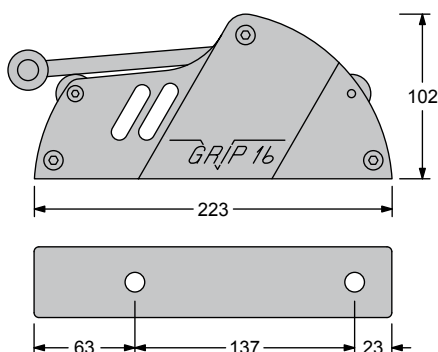
CLUTCHES V-GRIP MAXI

5 models for lines up to 22 mm, **only single version is available !**

Hard black anodized aluminium structure and AISI 316 s.steel mechanism, "V" shaped cam and lever.

Easy opening under load for line releasing without the use of winch.

Line retrieval can be achieved with the lever closed, the line stops automatically in the new position with no slippage.



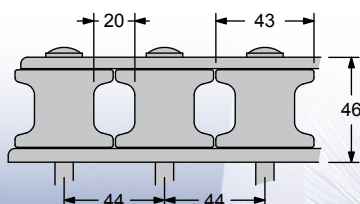
MODEL	Ø LINE mm	WIDTH mm	WEIGHT kg	SCREWS N° x Ø mm
508.114	12 - 14	44	1.40	2 x Ø10
508.116	14 - 16			
508.118	16 - 18			
508.120	18 - 20			
508.122	20 - 22			

The maximum loads of the clutches for different diameters of the halyards are shown in the table on page 38

V-GRIP MAXI CLUTCH ORGANIZER

This solution allows manoeuvres to be guided from the clutches to the winch.

Aluminium sheave with Composite Fibre bearing and double ball bearing, black aluminium cover, screws are included.



MODEL	N° SHEAVES	LENGTH mm	WEIGHT kg	SCREWS N° x Ø mm
523.052	3	133	0.50	3 x Ø8
524.052	4	177	0.65	4 x Ø8
525.052	5	221	0.83	5 x Ø8



Adriatica 21.34 m - Turisti per caso

VJ v-grip jammer

a new jammer for dyneema subject to extreme loads



The V-cam is an Antal patent



Mod. VJ1412

Mod. VJ1210



Mod. VJ1210/D

All models are available in double version, just add /D to the model code. Values of T for the double version are: 74, 86 and 97 mm for the small, medium and large models.

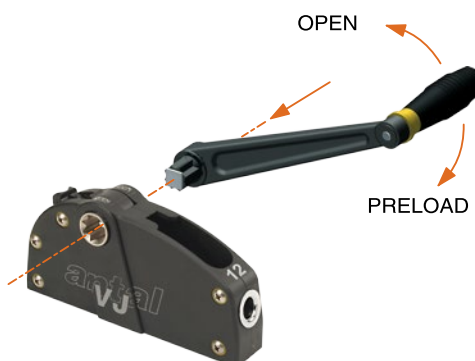
VJ: V-GRIP JAMMER

For this Maxi Jammer, we have again chosen to employ our locking V-cam.

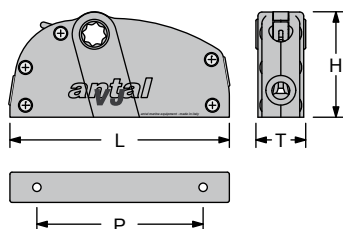
This offers high grip, reducing compression on the line, allowing it to keep its shape without crushing it, thus reducing cover damage and increasing work loads as a result.

Tests reveal best results on Dyneema with composite Kevlar/Polyester covers, while traditional pure-Polyester covers over a Dyneema core prove to have poor resistance. Also "all-Polyester" core/cover versions give excellent results.

Three models for lines ranging from 8 to 18 mm and loads over 5000 kg.



- The cam is preloaded using a winch handle, reducing tension loss.
- A stop holds the jammer open to keep the line free.
- Line can be tailed with the jammer closed, and it will be secured in the new position automatically.



	MODEL	Ø LINE mm	SCREWS n° x Ø mm	L mm	H mm	T mm	P mm	WEIGHT kg
SMALL	VJ1208	8	2 x Ø10	183	89	40	128	1.0
	VJ1210	10						
	VJ1212	12						
MEDIUM	VJ1412	12	2 x Ø10	221	106	46	157	1.5
	VJ1414	14	2 x Ø12					
	VJ1416	16						
LARGE	VJ1616	16	2 x Ø14	280	127	52	181	2.4
	VJ1618	18	3 x Ø14					

The maximum loads of the jammer for the different diameters of the halyards are shown in the graph on next page.

handle version *VH*

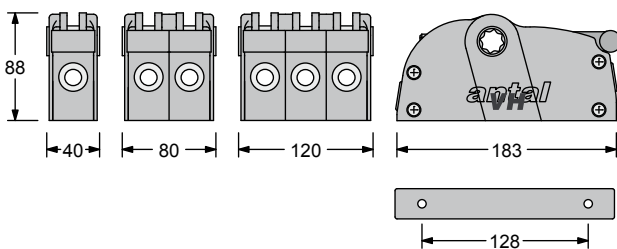
VH: V-GRIP JAMMER HANDLE VERSION

VH1208, VH1210, VH1212 are the new “handle versions” of the VJ1208, VJ1210 and VJ1212 for 8, 10 and 12 mm lines.

These new “handle versions” V jammers are available as single, double (add **/D** to the code) and triple (add **/T** to the code). This model VH, with respect to the previous VJ, allows the mounting of 3 or more jammers in battery.

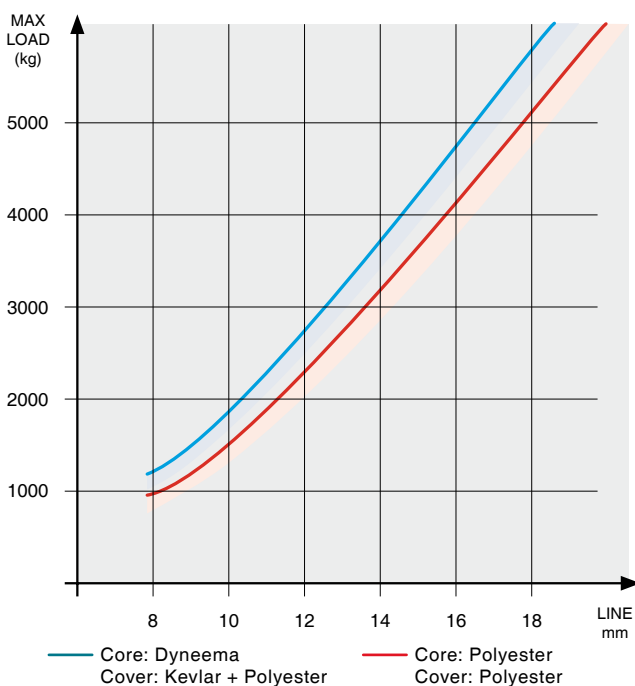


Mod. VH1212

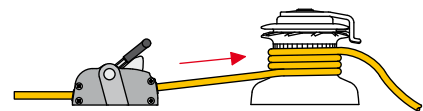


MODEL	Ø LINE mm	SCREWS n° x Ø mm	WEIGHT kg
VH1208	8	2 x Ø10	1.0
VH1210	10		
VH1212	12		

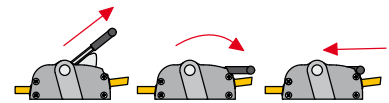
The graph shows average experimental results: Values exceeding the maximum load may damage the cover, but never the jammer.



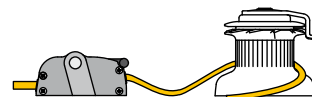
LOCKING



- Tighten the line with the winch

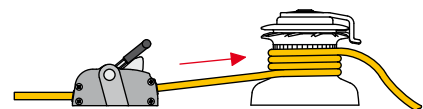


- Pull the lever out
- Pre-load the V-CAM
- Put the lever back

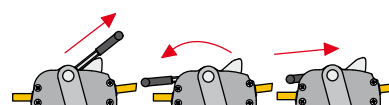


- Remove the line from the winch; the load is fully on the jammer

OPENING



- Rewind the line on the winch and pull to release the V-Cam.



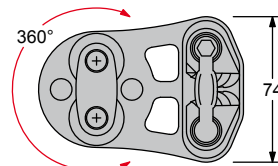
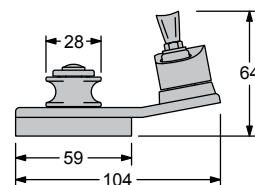
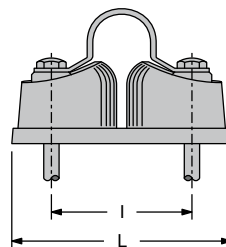
- Pull the lever out
- Completely open the V-CAM
- Replace the lever locking the V-Cam in free position

swivelling cleat

SERVO CLEAT

The particular stainless and plastic cam teeth conformation is designed to make line inserting between cams easy. Made of plastic with s. steel "ribs". Screws are included.

MODEL	Ø LINE mm.	I mm	L mm	SCREWS N° x Ø mm.
502.022	6 - 12	40	70	2 x Ø5
502.033	10 - 14	52	86	2 x Ø6



Mod. 522.022 SWIVELLING CLEAT

The aluminium base swivels through 360° on single races of Torlon ball bearings. The system is fitted with 2 x 28 mm. sheaves for lines up to 10 mm..

Fixing: 3 x 5 mm. screws

Weight: 0.23 kg

SWL on the cam cleat: 150 kg

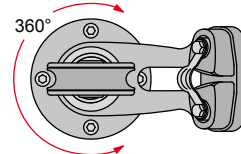
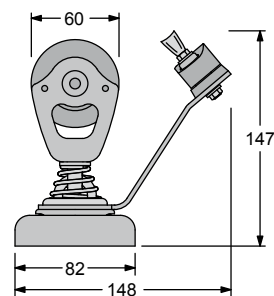
Mod. 522.140 BLOCK AND SERVO CLEAT

The aluminium base swivels through 360° on double races of Torlon ball bearings. The system is completed with a 60 mm. block for lines up to 12 mm..

Fixing: 3 x Ø6 mm. screws

Weight: 0.82 kg

SWL on the cam cleat: 200 kg



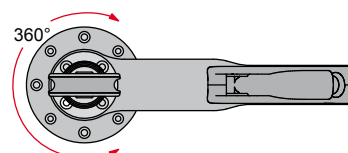
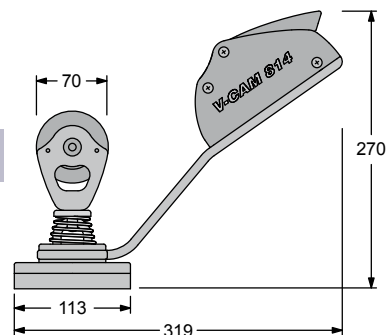
Mod. 522.160 BLOCKS AND V-CAM814

The aluminium base swivels through 360° on double races of Torlon ball bearings. The system is completed with a 70 mm. block for lines up to 12 mm. and a V-CAM814 clutch.

Fixing: 4 x Ø8 mm. screws (not included)

Weight: 2.10 kg

SWL on the clutch: 400 kg



stopper deck block

The sheaves are made of high strength resin, fitted with composite fibre bush and side ball-bearings. No maintenance or lubrication is required.

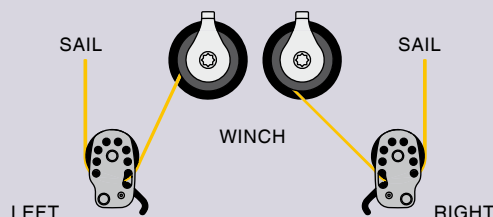
The machined side plates are made of high strength alloy, hard black anodized for wear and corrosion proofing and with all the edges smoothed off.

The aluminium locking cam is fitted on an automatic opening spring: relaxing the sheet is sufficient to open the jammer.

Compact design with the lever fully concealed within the side plates and with recessed fasteners.

The cam cannot be locked under high loads. It's intended to hold the line temporarily and not under heavy loads.

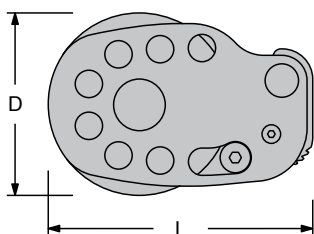
Left and right versions are available.



FM27 OD 'Saphire' - C. Maletto

DIAMETER 65, 80, 100, 125 mm

MODEL	Ø LINE mm	D mm	L mm	SWL kg	WEIGHT kg	SCREWS N° x Ø mm
SINGLE						
851.065 *	6 - 12	65	116	800	0.23	2 x Ø8
851.080	6 - 14	80	131	1000	0.33	2 x Ø8
851.100	8 - 16	100	152	2000	0.65	2 x Ø10
851.125	10 - 18	125	174	3500	1.10	1 x Ø12 + 2 x Ø10
DOUBLE						
852.065 *	6 - 12	65	116	800	0.38	2 x Ø8
852.080	6 - 14	80	131	1000	0.56	2 x Ø8
852.100	8 - 16	100	152	2000	1.50	2 x Ø10
852.125	10 - 18	125	174	3500	1.85	1 x Ø12 + 2 x Ø10



* In the smallest model (D=65) there is no spring for the cam opening.





mini block 34x6..... 50



OPF series..... 52



maxi blocks..... 66



looper..... 70



A316 s.steel series 72



halyard blocks..... 79



hollow pin deck blocks..... 79



opf hollow pin blocks 80



organizers..... 81



Tulip series 82



mast blocks..... 84



special blocks 85



mainsail blocks 86



web blocks..... 87



snatch blocks..... 88



mini blocks 34x6 series

MINI BLOCKS 34x6 SERIES

This series offers extremely high working loads (SWL = 400 Kg) while still compact and lightweight.

The sheave is made of resin with a double lateral ball-bearing. Cheekplates are made of perfectly polished AISI 316 stainless steel.

The high quality materials guarantee a maintenance-free product.



Mod. 00301

SHEAVE

Mod. 03411/M

Resin sheave with double self-captive ball bearings.
Diameter = 34 mm for 6 mm lines.
Safe Working Load = 400 kg



CAM CLEAT

All models can be supplied with cam cleat. Just add /C to the model code when ordering.



Mod. 003XX/C

CAM-CLEAT

Weight = + 42 gr
Max load = 80 kg

SWIVEL HEAD

All models are available with swivel head, just add /SW to the model code when ordering.



Mod. 003XX/SW

SWIVEL HEAD

Weight = + 15 gr
Max load = 400 kg



Mod. 00323

UPRIGHT BLOCK

Weight = 55 gr
SWL = 400 kg
34 mm sheave for 8 mm lines
2 x Ø5 mm screws (included)



Mod. 00324

"OVER THE TOP" BLOCK

Weight = 65 gr
SWL = 400 kg
34 mm sheave for 8 mm lines
2 x Ø5 mm screws (included)



More vertical blocks can be joined to form a set.

Mod. 00323/2, 00323/3, 00323/4 ...

Mod. 00324/2, 00324/3, 00324/4 ...

34 mm sheave for 6 mm line Safe working load = 400 kg



Mod. 00301

SHACKLE BLOCK
Weight = 44 gr
SWL = 400 kg



Mod. 00320

SINGLE U-HEAD
Weight = 40 gr
SWL = 400 kg



Mod. 00309

WEBBING BLOCK
Weight = 35 gr
SWL = 400 kg



Mod. 00302

SINGLE BECKET
Weight = 52 gr
SWL = 400 kg



Mod. 00321

U-HEAD BECKET
Weight = 43 gr
SWL = 400 kg



Mod. 00310

WEBBING BECKET
Weight = 43 gr
SWL = 400 kg



Mod. 00330

FIDDLE BLOCK
Weight = 65 gr
SWL = 400 kg



Mod. 00303

DOUBLE BLOCK
Weight = 82 gr
SWL = 600 kg



Mod. 00304

DOUBLE BECKET
Weight = 90 gr
SWL = 600 kg



Mod. 00331

FIDDLE BECKET
Weight = 76 gr
SWL = 400 kg



Mod. 00305

TRIPLE BLOCK
Weight = 94 gr
SWL = 600 kg



Mod. 00306

TRIPLE BECKET
Weight = 102 gr
SWL = 600 kg



Mod. 00322

SADDLE BLOCK
Weight = 46 gr
SWL = 400 kg
2 x Ø5 mm screws
(included)



Mod. 00316

STAND-UP
Weight = 46 gr
SWL = 400 kg
1 x Ø6 mm screw
(included)



Mod. 00311

FOOT BLOCK
Weight = 36 gr
SWL = 400 kg
2 x Ø6 mm screws
(included)

OPF SERIES

New by Antal the “One Piece Frame” block, the block without pins or screws, it is a light and strong solution: simply a hard black anodized and teflon coated aluminium frame in one piece.

A complete range from 50 to 140 mm sheaves in single, double, triple, fiddle, and deck versions, for webbing or shackle connection.

Sizes are based on the range of HR shackles available and on their safe working load (SWL).

THE HR SWIVEL HEAD

Made in high resistance s.steel, with three positions: swiveling head, longitudinal lock and transversal lock.

HR shackles included.



THE ONE PIECE FRAME

The one-piece aluminium extruded body is the strongest and lightest solution, no assembling pin rivets or screws and nuts.

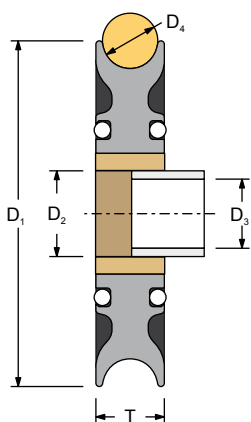
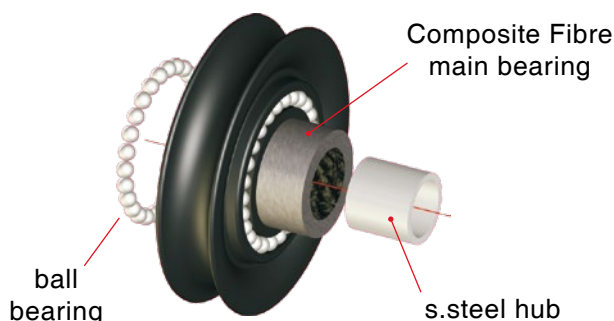
CNC machined - polished - hard black anodized and teflon coated.

THE COMPOSITE FIBRE SHEAVE

The resin (aluminium on larger mod) sheave runs on the main Composite Fibre bearing and on a ground s.steel hub: low friction highloads - no lubricant required.

The self-captive side ball bearing reduces the friction and makes disassembling, cleaning and maintenance very easy.

Sheaves are supplied with the s.steel hub, they are available separately.



SHEAVE MODEL	D ₁ mm	T mm	MATERIAL	D ₂ mm	D ₃ mm	D ₄ mm	SWL kg	WEIGHT gr
04819/F	48	19	RESIN	20	16	14	2200	40
05114/M*	50	14	RESIN	12	8	10	600	30
06016/F	60	16	RESIN	15	12	12	800	46
06421/F	64	21	RESIN	25	20	16	3500	78
07016/F	70	16	RESIN	15	12	12	1300	66
08019/F	80	19	RESIN	20	16	14	2200	98
10021/F	100	21	RESIN	25	20	16	3500	164
12025/A	120	25	ALUMINIUM	30	24	18	5000	420
14025/A	140	25	ALUMINIUM	40	32	20	7000	580

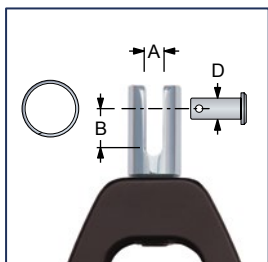
* without composite Fibre main bearing

SPECIAL HEADS

On request Antal blocks are supplied with special head: fork head or Wichard HR “snap shackle”. These solutions are available for single and fiddle blocks.

FORK HEAD

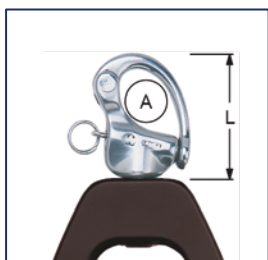
It is made in s.steel and comes complete with pin and safety ring.



MODEL	SHEAVE Ø mm	A mm	B mm	D mm
/ F061	60	8	16	6
/ F071	70	10	20	8
/ F081	80	12	24	10
/ F101	100	16	30	12
/ F121	120	18	35	14

SNAP SHACKLE

Wichard HR snap shackle.



MODEL	SHEAVE Ø mm	A mm	L mm
/ W051*	50	16	45
/ W061*	60	16	45
/ W071**	70	16	45
/ W081**	80	21	60
/ W101**	100	26	80

* AISI 316 snap shackle ** Wichard HR snap shackle

CAM-CLEAT



It is available for all the 60 and 70 mm diameter models. Adjustable in 3 positions. Specify if it is for a single, double or triple block.

MODEL	SHEAVE Ø mm	WEIGHT kg
00520	50	0.08
00620	60	0.13
00720	70	0.13



WEB SOLUTION

The web solution has been designed to achieve the minimum weight. It is available for all sizes in simple or becket version. Made for both: longitudinal and transversal line connection.

50 mm sheave for 10 mm line Safe working load = 600 kg



Mod. 00501

SWIVEL BLOCK
Weight* = 90 gr
5 mm shackle
SWL = 600 kg



Mod. 00502

BECKET BLOCK
Weight* = 104 gr
5 mm shackle
SWL = 600 kg



Mod. 00507

SINGLE FIDDLE
Weight* = 122 gr
5 mm shackle
SWL = 600 kg



Mod. 00508

BECKET FIDDLE
Weight* = 136 gr
5 mm shackle
SWL = 600 kg



In the OPF 50 series sheaves are riveted and not removable.



Mod. 00503

DOUBLE SHEAVE
Weight* = 169 gr
6 mm shackle
SWL = 800 kg



Mod. 00504

DOUBLE BECKET
Weight* = 184 gr
6 mm shackle
SWL = 800 kg



Mod. 00505

TRIPLE SHEAVE
Weight* = 225 gr
6 mm shackle
SWL = 800 kg



Mod. 00506

TRIPLE BECKET
Weight* = 240 gr
6 mm shackle
SWL = 800 kg



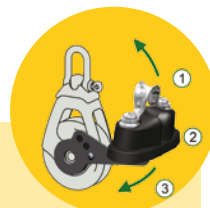
Mod. 00509

SIMPLE WEB
Weight = 64 gr
For line connection
SWL = 600 kg



Mod. 00510

WEB BECKET
Weight = 78 gr
For line connection
SWL = 600 kg



Mod. 00520

CAM CLEAT
For blocks with cleat add /C to the block model code.
With 3 different positions for single, double and triple.
SWL = 100 kg
Weight = 80 gr



Mod. 00511

Foot Block

Weight** = 62 gr
2 x Ø6 mm screws***
SWL = 600 kg



Mod. 00512

DOUBLE FOOT

Weight** = 132 gr
3 x Ø6 mm screws***
SWL = 600 kg



Mod. 00513

BLOCK U-BOLT

Weight** = 138 gr
2 x Ø5 mm screws***
SWL = 500 kg



Mod. 00516

VERTICAL FIX

Weight** = 65 gr
2 x Ø6 mm screws***
SWL = 600 kg



Mod. 00517

UP-DOWN

Weight** = 80 gr
2 x Ø6 mm screws***
SWL = 600 kg



Mod. 7105

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Royal Oak 20 - V. Malingri - Dakar Guadalupe - solo

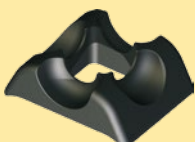
Swivel head locks and shackles are always included, but they are available separately.

Mod. 0051L



Longitudinal or transversal head lock for single blocks.

Mod. 0062L



Longitudinal or transversal head lock for double and triple blocks.



Mod. 005SS



5 mm shackle (Aisi 316)

For single blocks
SWL = 600 kg
Weight = 15 gr

Mod. 006SS



6 mm shackle (Aisi 316)

For double and triple blocks
SWL = 800 kg
Weight = 26 gr

60 mm sheave for 12 mm line

Safe working load = 800 kg



Mod. 00601

SWIVEL BLOCK
Weight* = 0.16 kg
6 mm shackle
SWL = 800 kg



Mod. 00602

BECKET BLOCK
Weight* = 0.18 kg
6 mm shackle
SWL = 800 kg



Mod. 00607

SINGLE FIDDLE
Weight* = 0.21 kg
6 mm shackle
SWL = 800 kg



Mod. 00608

BECKET FIDDLE
Weight* = 0.23 kg
6 mm shackle
SWL = 800 kg



Mod. 00603

DOUBLE SHEAVE
Weight* = 0.31 kg
8 mm shackle
SWL = 1300 kg



Mod. 00604

DOUBLE BECKET
Weight* = 0.33 kg
8 mm shackle
SWL = 1300 kg



Mod. 00605

TRIPLE SHEAVE
Weight* = 0.41 kg
8 mm shackle
SWL = 1300 kg



Mod. 00606

TRIPLE BECKET
Weight* = 0.43 kg
8 mm shackle
SWL = 1300 kg



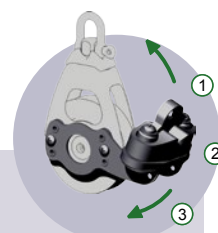
Mod. 00609

SIMPLE WEB
Weight = 0.10 kg
For line connection
SWL = 800 kg



Mod. 00610

WEB BECKET
Weight = 0.12 kg
For line connection
SWL = 800 kg



Mod. 00620

CAM CLEAT

For blocks with cleat add /C to the block model code.
With 3 different positions for single, double and triple.
SWL = 150 kg
Weight = 0.13 kg



Mod. 00613

BLOCK U-BOLT
Weight = 0.22 kg
2 x Ø6 mm screws
SWL = 800 kg



Mod. 7106
Pag 161



Mod. 00614

BLOCK PAD-EYE
Weight = 0.26 kg
2 x Ø6 mm screws
SWL = 800 kg

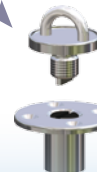


Mod. 7206
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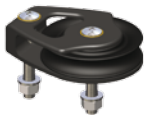


Mod. 00615

BLOCK SCREWED
Weight = 0.39 kg
2 x Ø6 mm screws
SWL = 800 kg

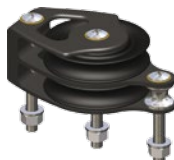


Mod. 7306
Page 161



Mod. 00611

FOOT BLOCK
Weight = 0.13 kg
2 x Ø6 mm screws
SWL = 800 kg



Mod. 00612

DOUBLE FOOT
Weight = 0.22 kg
3 x Ø6 mm screws
SWL = 800 kg



Mod. 00616

VERTICAL FIX
Weight = 0.14 kg
2 x Ø6 mm screws
SWL = 800 kg



Mod. 00617

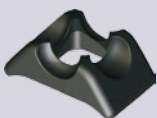
UP-DOWN
Weight = 0.15 kg
2 x Ø6 mm screws
SWL = 800 kg



Cantiere Bonin - 31' Cossutti

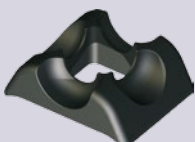
Swivel head locks and shackles are always included, but they are available separately.

Mod. 0061L



Longitudinal or transversal head lock for single blocks.

Mod. 0082L



Longitudinal or transversal head lock for double and triple blocks.



Mod. 006SS



6 mm shackle (Aisi 316)
For single blocks
SWL = 800 kg
Weight = 26 gr

Mod. 008SS



8 mm shackle (Aisi 316)
For double and triple blocks
SWL = 1300 kg
Weight = 62 gr

70 mm sheave for 12 mm line Safe working load = 1300 kg



Mod. 00701

SWIVEL BLOCK
Weight* = 0.20 kg
6 mm HR shackle
SWL = 1300 kg



Mod. 00702

BECKET BLOCK
Weight* = 0.22 kg
6 mm HR shackle
SWL = 1300 kg



Mod. 00707

SINGLE FIDDLE
Weight* = 0.26 kg
6 mm HR shackle
SWL = 1300 kg



Mod. 00708

BECKET FIDDLE
Weight* = 0.28 kg
6 mm HR shackle
SWL = 1300 kg



Mod. 00703

DOUBLE SHEAVE
Weight* = 0.38 kg
8 mm HR shackle
SWL = 2200 kg



Mod. 00704

DOUBLE BECKET
Weight* = 0.40 kg
8 mm HR shackle
SWL = 2200 kg



Mod. 00705

TRIPLE SHEAVE
Weight* = 0.50 kg
8 mm HR shackle
SWL = 2200 kg



Mod. 00706

TRIPLE BECKET
Weight* = 0.52 kg
8 mm HR shackle
SWL = 2200 kg



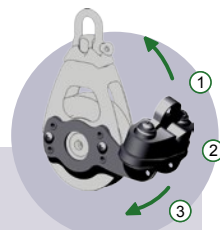
Mod. 00709

SIMPLE WEB
Weight = 0.14 kg
For line connection
SWL = 1300 kg



Mod. 00710

WEB BECKET
Weight = 0.16 kg
For line connection
SWL = 1300 kg



Mod. 00720

CAM CLEAT

For blocks with cleat add /C to the block model code.
With 3 different positions for single, double and triple.
SWL = 150 kg
Weight = 0.15 kg



Mod. 00713

BLOCK U-BOLT
Weight = 0.32 kg
2 x Ø8 mm screws
SWL = 1300 kg



Mod. 7108
Page 161



Mod. 00714

BLOCK PAD-EYE
Weight = 0.41 kg
4 x Ø6 mm screws
SWL = 1300 kg

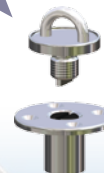


Mod. 7208
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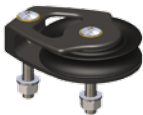


Mod. 00715

BLOCK SCREWED
Weight = 0.75 kg
4 x Ø6 mm screws
SWL = 1300 kg



Mod. 7308
Page 161



Mod. 00711

Foot Block
Weight = 0.16 kg
2 x Ø8 mm screws
SWL = 1300 kg



Mod. 00712

DOUBLE FOOT
Weight = 0.26 kg
3 x Ø8 mm screws
SWL = 1300 kg



Mod. 00716

VERTICAL FIX
Weight = 0.18 kg
2 x Ø8 mm screws
SWL = 1300 kg



Mod. 00717

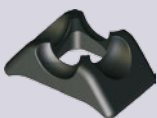
UP-DOWN
Weight = 0.20 kg
2 x Ø8 mm screws
SWL = 1300 kg



Wianno Senior Italia - 25'

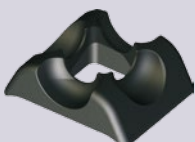
Swivel head locks and shackles are always included, but they are available separately.

Mod. 0061L



Longitudinal or transversal head lock for single blocks.

Mod. 0082L



Longitudinal or transversal head lock for double and triple blocks.



Mod. 006HR



6 mm HR shackle
For single blocks
SWL = 1300 kg
Weight = 26 gr

Mod. 008HR



8 mm HR shackle
For double and triple blocks
SWL = 2200 kg
Weight = 62 gr

80 mm sheave for 14 mm line

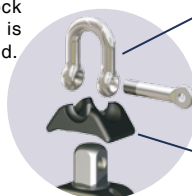
Safe working load = 2200 kg



Mod. 00801

SWIVEL BLOCK
Weight* = 0.34 kg
8 mm HR shackle
SWL = 2200 kg

Swivel head lock
and shackle is
always included.



Mod. 008HR

HR Ø8 mm shackle
SWL = 2200 kg
Weight = 62 gr

Mod. 0081L

For longitudinal
or transversal
head lock



Mod. 00802

BECKET BLOCK
Weight* = 0.38 kg
8 mm HR shackle
SWL = 2200 kg



Mod. 00807

SIMPLE FIDDLE
Weight* = 0.44 kg
8 mm HR shackle
SWL = 2200 kg



Mod. 00808

BECKET FIDDLE
Weight* = 0.48 kg
8 mm HR shackle
SWL = 2200 kg



Mod. 00803

full scale

DOUBLE BLOCK
Weight* = 0.54 kg
10 mm HR shackle
SWL = 3500 kg



Mod. 00809

SIMPLE WEB
Weight = 0.22 kg
For line connection
SWL = 2200 kg



Mod. 00810

WEB BECKET
Weight = 0.26 kg
For line connection
SWL = 2200 kg



Mod. 00813

BLOCK U-BOLT
Weight = 0.54 kg
2 x Ø10 mm screws
SWL = 2200 kg



Mod. 00814

BLOCK PAD-EYE
Weight = 0.61 kg
4 x Ø8 mm screws
SWL = 2200 kg



Mod. 00815

BLOCK SCREWED
Weight = 0.93 kg
4 x Ø8 mm screws
SWL = 2200 kg



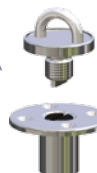
Mod. 7110

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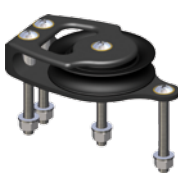
Mod. 7210

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Mod. 7310

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Mod. 00811

FOOT BLOCK
Weight = 0.29 kg
4 x Ø8 mm screws
SWL = 2200 kg



Mod. 00812

DOUBLE FOOT
Weight = 0.57 kg
4 x Ø8 mm screws
SWL = 2200 kg



Mod. 00816

VERTICAL FIX
Weight = 0.27 kg
2 x Ø10 mm screws
SWL = 2200 kg

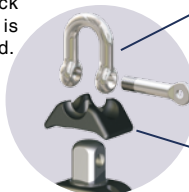
100 mm sheave for 16 mm line Safe working load = 3500 kg



Mod. 01001

SWIVEL BLOCK
Weight* = 0.63 kg
10 mm HR shackle
SWL = 3500 kg

Swivel head lock
and shackle is
always included.



Mod. 010HR

HR Ø10 mm shackle
SWL = 3500 kg
Weight = 114 gr

Mod. 0101L

For longitudinal
or transversal
head lock



Mod. 01002

BECKET BLOCK
Weight* = 0.70 kg
10 mm HR shackle
SWL = 3500 kg



Mod. 01007

SIMPLE FIDDLE
Weight* = 0.90 kg
10 mm HR shackle
SWL = 3500 kg



Mod. 01008

BECKET FIDDLE
Weight* = 0.90 kg
10 mm HR shackle
SWL = 3500 kg



Mod. 01003

DOUBLE BLOCK
Weight* = 1.02 kg
12 mm HR shackle
SWL = 5000 kg



Mod. 01009

SIMPLE WEB
Weight = 0.41 kg
For line connection
SWL = 3500 kg



Mod. 01010

WEB BECKET
Weight = 0.48 kg
For line connection
SWL = 3500 kg



Mod. 01014

BLOCK PAD-EYE
Weight = 1.01 kg
4 x Ø8 mm screws
SWL = 3500 kg



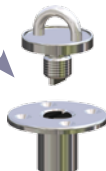
Mod. 01015

BLOCK SCREWED
Weight = 1.35 kg
4 x Ø10 mm screws
SWL = 3500 kg



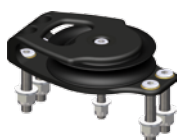
Mod. 7212

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Mod. 7312

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Mod. 01011

FOOT BLOCK
Weight = 0.46 kg
Screws = 4xØ10 mm +
1xØ8 mm
SWL = 3500 kg



Mod. 01012

DOUBLE FOOT
Weight = 1.04kg
Screws = 4xØ10 mm +
1xØ8 mm
SWL = 3500 kg



Mod. 01016

VERTICAL FIX
Weight = 0.50 kg
2 x Ø12 mm screws
SWL = 3500 kg



* With shackle

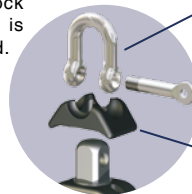
120 mm sheave for 18 mm line Safe working load = 5000 kg



Mod. 01201

SWIVEL BLOCK
Weight* = 1.08 kg
12 mm HR shackle
SWL = 5000 kg

Swivel head lock
and shackle is
always included.



Mod. 012HR

HR Ø12 mm shackle
SWL = 5000 kg
Weight = 186 gr

Mod. 0121L

For longitudinal
or transversal
head lock



Mod. 01209

SIMPLE WEB
Weight = 0.74 kg
For line connection
SWL = 5000 kg



Mod. 01202

BECKET BLOCK
Weight* = 1.22 kg
12 mm HR shackle
SWL = 5000 kg



Mod. 01210

WEB BECKET
Weight = 0.88 kg
For line connection
SWL = 5000 kg



Mod. 01214

BLOCK PAD-EYE
Weight = 1.70 kg
4 x Ø10 mm screws
SWL = 5000 kg



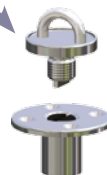
Mod. 01215

BLOCK SCREWED
Weight = 2.00 kg
4 x Ø10 mm screws
SWL = 5000 kg



Mod. 7214

Page 160



Mod. 7314

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Mod. 01211

FOOT BLOCK
Weight = 0.80 kg
5 x Ø10 mm screws
SWL = 5000 kg



Mod. 01212

DOUBLE FOOT
Weight = 1.68 kg
5 x Ø10 mm screws
SWL = 5000 kg



Mod. 01216

VERTICAL FIX
Weight = 0.90 kg
2 x Ø14 mm screws
SWL = 5000 kg



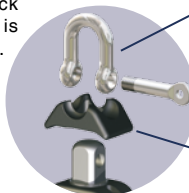
140 mm sheave for 20 mm line Safe working load = 7000 kg



Mod. 01401

SWIVEL BLOCK
Weight* = 1.50 kg
14 mm HR shackle
SWL = 7000 kg

Swivel head lock
and shackle is
always included.



Mod. 014HR

HR Ø14 mm shackle
SWL = 7000 kg
Weight = 298 gr

Mod. 0141L

For longitudinal
or transversal
head lock



Mod. 01402

BECKET BLOCK
Weight* = 1.70 kg
14 mm HR shackle
SWL = 7000 kg



Mod. 01409

SIMPLE WEB
Weight = 1.08 kg
For line connection
SWL = 7000 kg



Mod. 01410

WEB BECKET
Weight = 1.28 kg
For line connection
SWL = 7000 kg



Mod. 01414

BLOCK PAD-EYE
Weight = 2.60 kg
6 x Ø10 mm screws
SWL = 7000 kg



Mod. 01415

BLOCK SCREWED
Weight = 3.70 kg
6 x Ø10 mm screws
SWL = 7000 kg



Mod. 7216

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Mod. 7316

Page 161



Mod. 01411

FOOT BLOCK
Weight = 1.25 kg
5 x Ø12 mm screws
SWL = 7000 kg



Mod. 01412

DOUBLE FOOT
Weight = 2.60 kg
5 x Ø12 mm screws
SWL = 7000 kg

mainsheet systems

MAINSHEET SYSTEM

These systems are particularly suitable for the mainsheet control.

All sheaves are made of HRM resin with 2 races of ball bearings, for lines up to 12 mm.

They are all fitted with:

- 2 OPF blocks (sheaves $\varnothing = 60/70$ mm) to connect to the boom;
- 1 main block (sheave $\varnothing = 75$ mm) with “cam-cleat” and swivel coupling to the main car;
- finally, a double or triple swivelling OPF block, with 60/70 mm diameter sheave is connected to the main block.

For boats up to 40 ft



System **E6**
Power = **6 : 1**
SWL = **1000 kg**



System **E7**
Power = **7 : 1**
SWL = **1000 kg**



System **E8**
Power = **8 : 1**
SWL = **1500 kg**

TWO SPEED MAINSHEET TACKLE : 4/8 AND 16/8

The particular configuration adopted permits the use of large diameter sheaves which improve performance of the system; it also ensures maximum block orientation capabilities and therefore the possibility to operate on both sides of the boat. Furthermore, this reduces the necessary sheet length.

The two speeds are controlled by means of two independent lines.

Main sheaves ($\varnothing = 65$ mm) are made of HRM resin and fitted with a double ball bearing.
For rope $\varnothing = 12$ mm

For boats up to 36 ft

For boats up to 40 ft



8:1

4:1

F4 2 speed system

1st ratio = 4:1 (rapid recovery)
2nd ratio = 8:1 (fine adjustment)
SWL = 1000 kg



18:1

6:1

F6 2 speed system

1st ratio = 6:1 (rapid recovery)
2nd ratio = 18:1 (fine adjustment)
SWL = 1500 kg

Emeraude - Photo Taylor

COMPOSITE FIBRE SERIES

The whole “composite fibre” range uses sheaves on composite fibre bearings and double self-captive Delrin ball thrust bearings.

The sheaves are easy to dismantle for cleaning and need no lubrication.

The sides are made of 3571 TA16 light alloy and are thickly anodized to ensure absolute wear-and corrosion proofing, with all the edges smoothed off for better handling.

The nuts and bolts have been replaced with recessed screws and pins, considerably reducing weight and eliminating any projecting parts.

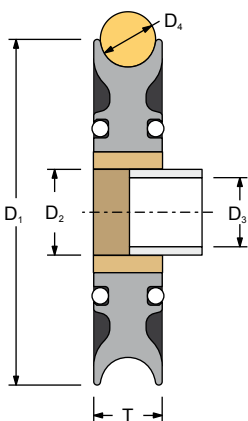
The steel coupling revolves on a fibre washer and can easily be locked in one of two main positions.



HIGH-STRENGTH ALUMINIUM SHEAVES

Sizes 150, 180, 220 and 250 mm use thickly anodized aluminium sheaves. The main bearing is made of high-strength composite fibre impregnated with self-lubricating substances. A double lateral Delrin ball bearing makes the sheaves slide perfectly smoothly.

Sheaves are supplied with the s.steel central hub, they are available separately.



SHEAVE MODEL	D ₁ mm	MATERIAL	T mm	D ₂ mm	D ₃ mm	D ₄ mm	WEIGHT kg	SWL kg
15029/A	150	ALUMINIUM	29	40	34	20	0.90	6500
18035/A	180	ALUMINIUM	35	50	40	24	1.40	9000
21843/A	220	ALUMINIUM	40	50	40	33	3.20	13000
24856/A	250	ALUMINIUM	56	65	48	40	4.70	20000



Glorious 36 m - Esenyacht - photo Cihat Ozdol

150 mm sheave for 20 mm line Safe working load = 6500 kg



Mod. 911.154

SINGLE BLOCK
Weight = 1.80 kg
Swivel head for
14 mm HR shackle
SWL = 6500 kg



Mod. 941.154

BLOCK WITH BECKET
Weight = 2.00 kg
Swivel head for
14 mm HR shackle
SWL = 6500 kg



Mod. 981.154

FIDDLE WITH BECKET
Weight = 2.80 kg
Swivel head for
14 mm HR shackle
SWL = 6500 kg



Mod. 910.155/Z

WEB BLOCK
"Strengthened"
Weight = 1.90 kg
For line connection
SWL = 8000 kg



Mod. 940.155/Z

WEB WITH BECKET
"Strengthened"
Weight = 2.02 kg
For line connection
SWL = 8000 kg



Mod. 812.154

BLOCK ON PAD-EYE
Weight = 3.10 kg
6 x Ø10 mm screws
SWL = 6500 kg



Mod. 813.154

**BLOCK ON SCREWED
PAD-EYE**
Weight = 4.10 kg
6xØ10 mm screws
SWL = 6500 kg

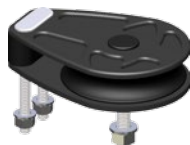
Mod. 7216

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Mod. 7316

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Mod. 831.154

DECK BLOCK
Weight = 1.40 kg
Screws = 2xØ12 +
1xØ14 mm
SWL = 6500 kg



Mod. 832.154

**DOUBLE
DECK BLOCK**
Weight = 2.30 kg
Screws = 2 x Ø12 +
1 x Ø14 mm
SWL = 6500 kg



Mod. 815.150

HALYARD BLOCK
Weight = 3.30 kg
4 x Ø12 mm screws
SWL = 6500 kg

full scale



blocks 180



180 mm sheave for 24 mm line Safe working load = 9000 kg



Mod. 911.184

SINGLE BLOCK
Weight = 2.85 kg
Swivel head for
16 mm HR shackle
SWL = 9000 kg



Mod. 941.184

BLOCK WITH BECKET
Weight = 3.20 kg
Swivel head for
16 mm HR shackle
SWL = 9000 kg



Mod. 910.185

WEB BLOCK
Weight = 2.60 kg
For line connection
SWL = 9000 kg



Mod. 940.185

WEB WITH BECKET
Weight = 2.70 kg
For line connection
SWL = 9000 kg



Mod. 812.184

BLOCK ON PAD-EYE
Weight = 5.25 kg
6 x Ø10 mm screws
SWL = 9000 kg

Mod. 7220

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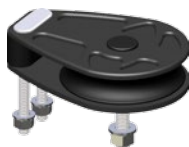
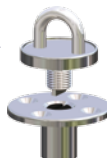


Mod. 813.184

BLOCK ON SCREWED PAD-EYE
Weight = 6.60 kg
6 x Ø10 mm screws
SWL = 9000 kg

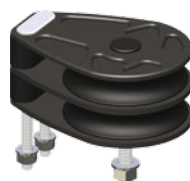
Mod. 7320

Page 161



Mod. 831.184

DECK BLOCK
Weight = 2.30 kg
Screws = 2xØ14 +
1xØ16 mm
SWL = 9000 kg



Mod. 832.184

DOUBLE DECK BLOCK
Weight = 3.65 kg
Screws = 2 x Ø14 +
1 x Ø16 mm
SWL = 9000 kg

full scale

antal
MADE IN

blocks 220 / 250

220 mm sheave for 30 mm line Safe working load = 13000 kg



Mod. 911.224

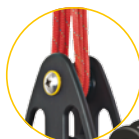
SINGLE BLOCK
Weight = 9.60 kg
Swivel head for
20 mm HR shackle
SWL = 13000 kg



Mod. 941.224

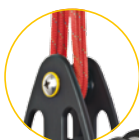
BLOCK WITH BECKET
Weight = 10.20 kg
Swivel head for
20 mm HR shackle
SWL = 13000 kg

full scale
220 mm



Mod. 910.225

WEB BLOCK
Weight = 7.65 kg
For line connection
SWL = 13000 kg



Mod. 940.225

WEB WITH BECKET
Weight = 8.25 kg
For line connection
SWL = 13000 kg



Custom

Deck Block
available
on request

250 mm sheave for 40 mm line Safe working load = 20000 kg



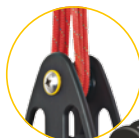
Mod. 911.254

SINGLE BLOCK
Weight = 14.35 kg
Swivel head for
24 mm HR shackle
SWL = 20000 kg



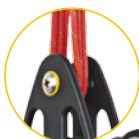
Mod. 941.254

BLOCK WITH BECKET
Weight = 15.05 kg
Swivel head for
24 mm HR shackle
SWL = 20000 kg



Mod. 910.255

WEB BLOCK
Weight = 10.35 kg
For line connection
SWL = 20000 kg



Mod. 940.255

WEB WITH BECKET
Weight = 11.05 kg
For line connection
SWL = 20000 kg



looper

LOOPER is an ultralight one-piece-frame block provided with a dyneema Snap-Loop for fast, easy and safe connections.

Characteristics:

- hard black anodized one-piece-aluminium frame;
- resin sheave on composite fibre bushing and double side ball bearings;
- Dyneema Snap-Loop.



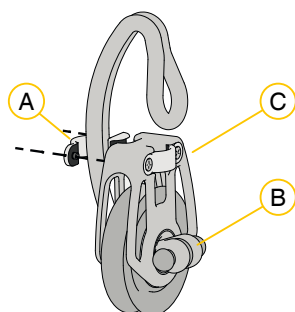
① Looper is open



② Fit the Loop under the bridge



③ Fix the Loop on the knob



The Loop is fix in bridge A: this keeps the knob B close to the block. Under bridge C the Loop runs freely.

DYNEEMA PAD-EYE

Special eye-strap designed for Dyneema Loop, aluminium made, hard black anodizing. For more information, see pag. 160



MODEL	D mm	WEIGHT* kg	SWL kg	SCREWS** n° x Ø mm
7506	59	55	1300	3 x 6
7508	78	90	2200	3 x 8

* Weight without screws

** Screws, nuts and washers are included



For a “tied looper” the block without Snap-Loop is also available, the line is not included.

For this version without snap-loop replace **LS** with **LL** in the model number.

For Example:

LS1080 is the 80 mm Looper with Snap-Loop, LL1080 is the same without Snap-Loop.

SIZE 60

sheave diameter = 60 mm
line diameter = 10 mm
SWL = 1000 kg



Mod. LS2060

4 MM DYNEEMA LOOP
Weight = 10 gr



Mod. LS1060

SIMPLE
Weight = 100 gr*



Mod. LS1062

DOUBLE
Weight = 170 gr*



Mod. LS1061

SIMPLE BECKET
Weight = 110 gr*



Mod. LS1063

DOUBLE BECKET
Weight = 180 gr*

SIZE 70

sheave diameter = 70 mm
line diameter = 12 mm
SWL = 1600 kg



Mod. LS2070

5 MM DYNEEMA LOOP
Weight = 23 gr



Mod. LS1070

SIMPLE
Weight = 156 gr*



Mod. LS1072

DOUBLE
Weight = 270 gr*



Mod. LS1071

SIMPLE BECKET
Weight = 173 gr*

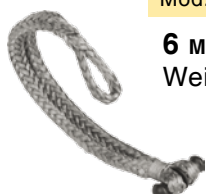


Mod. LS1073

DOUBLE BECKET
Weight = 287 gr*

SIZE 80

sheave diameter = 80 mm
line diameter = 14 mm
SWL = 2200 kg



Mod. LS2080

6 MM DYNEEMA LOOP
Weight = 45 gr



Mod. LS1080

SIMPLE
Weight = 259 gr*



Mod. LS1081

SIMPLE BECKET
Weight = 290 gr*

SIZE 100

sheave diameter = 100 mm
line diameter = 14 mm
SWL = 3500 kg

Mod. LL1100

SIMPLE
Weight = 390 gr

Mod. LL1101

SIMPLE BECKET
Weight = 460 gr

Size 100 is available only without snap-loop, for lashing.

* Dyneema Loop included

antal

A316 s.steel series

CLASSIC LINE

This stainless steel series, with a traditional design, is conceived especially for classic boats.

The line includes 6 different sizes with diameters from 65 to 180 mm and Safe Working Load up to 9000 kg.

Perfectly polished AISI 316 stainless steel cheekplates and accessories, fully rounded corners for greater manageability, nuts and bolts replaced by pins and recessed screws to eliminate any protruding parts.

Each size is available in numerous versions as described in the following pages.



CAM CLEAT

All models can be supplied with cam cleat. Just add **/C** to the model code when ordering.



SHEAVES

Resin or aluminium sheaves in larger models are easy to dismantle and work on a main composite fibre bearing and two side ball bearings (self-captive).



Sphinx 12MSI - Robbe & Berking - Germany

s.steel block 65

65 mm sheave for 12 mm line

Safe working load = 800 kg



Mod. S0601

SINGLE BLOCK
Weight = 0.29 kg
Swivel head for
6 mm shackle*
SWL = 800 kg



Mod. S0602

SINGLE WITH BECKET
Weight = 0.32 kg
Swivel head for
6 mm shackle*
SWL = 800 kg

real size



* shackle not included

All models are available
with cam-cleat, add /C
to the model code.



Mod. S0620

CAM-CLEAT
Weight = + 0.18 kg
Max load = 160 kg



Mod. S0615

**BLOCK ON SCREWED
PAD-EYE**
Weight = 0.45 kg
2 x Ø6 mm screws
SWL = 800 kg



Mod. 7306

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Mod. S0603

DOUBLE BLOCK
Weight = 0.51 kg
Fixed head for
8 mm shackle*
SWL = 1200 kg



Mod. S0604

DOUBLE WITH BECKET
Weight = 0.54 kg
Fixed head for
8 mm shackle*
SWL = 1200 kg



Mod. S0605

TRIPLE BLOCK
Weight = 0.70 kg
Fixed head for
8 mm shackle*
SWL = 1200 kg



Mod. S0606

TRIPLE WITH BECKET
Weight = 0.73 kg
Fixed head for
8 mm shackle*
SWL = 1200 kg



Mod. S0609

WEBBING BLOCK
Weight = 0.25 kg
For line connection
SWL = 800 kg



Mod. S0616

STAND-UP BLOCK
Weight = 0.37 kg
1 x Ø12 mm screw
SWL = 800 kg



Mod. S0611

DECK BLOCK
Weight = 0.30 kg
2 x Ø8 mm screws
SWL = 800 kg



Mod. S0612

DOUBLE DECK BLOCK
Weight = 0.46 kg
2 x Ø8 mm screws
SWL = 800 kg



Mod. S0613

BLOCK ON U-BOLT
Weight = 0.36 kg
2 x Ø6 mm screws
SWL = 800 kg



Mod. 7106

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Mod. S0614

BLOCK ON PAD-EYE
Weight = 0.38 kg
2 x Ø6 mm screws
SWL = 800 kg



Mod. 7206

Page 160

s.steel block 75

75 mm sheave for 14 mm line

Safe working load = 1500 kg



Mod. S0701

SINGLE BLOCK
Weight = 0.39 kg
Swivel head for
8 mm shackle*
SWL = 1500 kg



Mod. S0702

SINGLE WITH BECKET
Weight = 0.46 kg
Swivel head for
8 mm shackle*
SWL = 1500 kg



Mod. S0703

DOUBLE BLOCK
Weight = 0.68 kg
Fixed head for
10 mm shackle*
SWL = 2300 kg



Mod. S0704

DOUBLE WITH BECKET
Weight = 0.75 kg
Fixed head for
10 mm shackle*
SWL = 2300 kg



Mod. S0705

TRIPLE BLOCK
Weight = 0.91 kg
Fixed head for
10 mm shackle*
SWL = 2300 kg



Mod. S0706

TRIPLE WITH BECKET
Weight = 0.98 kg
Fixed head for
10 mm shackle*
SWL = 2300 kg



Mod. S0711

DECK BLOCK
Weight = 0.35 kg
Screws = 2 x Ø6 +
1 x Ø8 mm
SWL = 1500 kg



Mod. S0712

DOUBLE DECK BLOCK
Weight = 0.62 kg
Screws = 2 x Ø6 +
1 x Ø8 mm
SWL = 1500 kg



Mod. S0731

CLASSIC DECK BLOCK
Weight = 0.86 kg
4 x Ø8 mm screws
SWL = 1500 kg



Mod. S0732

CLASSIC DOUBLE DECK BLOCK
Weight = 1.32 kg
4 x Ø8 mm screws
SWL = 1500 kg



Mod. S0713

BLOCK ON U-BOLT
Weight = 0.55 kg
2 x Ø8 mm screws
SWL = 1500 kg



Mod. S0714

BLOCK ON PAD-EYE
Weight = 0.65 kg
4 x Ø6 mm screws
SWL = 1500 kg



Mod. 7108

Page 161



Mod. 7208

Page 160



real size

* shackle not included

Deck blocks are available with runner's eyebolt, add /V to the model code.



All models are available with cam-cleat, add /C to the model code.

Mod. S0720

CAM-CLEAT
Weight = + 0.36 kg
Max load = 160 kg



Mod. S0715

BLOCK ON SCREWED PAD-EYE
Weight = 0.95 kg
4 x Ø6 mm screws
SWL = 1500 kg



Mod. 7308

Page 161

s.steel block 90

90 mm sheave for 16 mm line Safe working load = 2500 kg



Mod. S0901

SINGLE BLOCK
Weight = 0.73 kg
Swivel head for
10 mm shackle*
SWL = 2500 kg



Mod. S0902

SINGLE WITH BECKET
Weight = 0.85 kg
Swivel head for
10 mm shackle*
SWL = 2500 kg



Mod. S0903

DOUBLE BLOCK
Weight = 1.13 kg
Fixed head for
12 mm shackle*
SWL = 3300 kg



Mod. S0904

DOUBLE WITH BECKET
Weight = 1.25 kg
Fixed head for
12 mm shackle*
SWL = 3300 kg



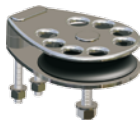
Mod. S0905

TRIPLE BLOCK
Weight = 1.70 kg
Fixed head for
12 mm shackle*
SWL = 3300 kg



Mod. S0906

TRIPLE WITH BECKET
Weight = 1.83 kg
Fixed head for
12 mm shackle*
SWL = 3300 kg



Mod. S0911

DECK BLOCK
Weight = 0.70 kg
Screws = 2 x Ø8 +
1 x Ø10 mm
SWL = 2500 kg



Mod. S0912

DOUBLE DECK BLOCK
Weight = 1.18 kg
Screws = 2 x Ø8 +
1 x Ø10 mm
SWL = 2500 kg



Mod. S0931

CLASSIC DECK BLOCK
Weight = 1.40 kg
4 x Ø8 mm screws
SWL = 2500 kg



Mod. S0932

CLASSIC DOUBLE DECK BLOCK
Weight = 2.18 kg
4 x Ø8 mm screws
SWL = 2500 kg



Mod. S0914

BLOCK ON PAD-EYE
Weight = 1.05 kg
4 x Ø8 mm screws
SWL = 2500 kg



Mod. S0915

BLOCK ON SCREWED PAD-EYE
Weight = 1.33 kg
4 x Ø8 mm screws
SWL = 2500 kg



Mod. 7210

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Mod. 7310

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real size

* shackle not included



Deck blocks are available with runner's eyebolt, add /V to the model code.

s.steel block 120

120 mm sheave for 18 mm line Safe working load = 4500 kg



Mod. S1201

SINGLE BLOCK
Weight = 1.28 kg
Swivel head for
12 mm HR shackle*
SWL = 4500 kg



Mod. S1202

SINGLE WITH BECKET
Weight = 1.46 kg
Swivel head for
12 mm HR shackle*
SWL = 4500 kg

real size



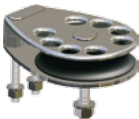
Mod. S1203

DOUBLE BLOCK
Weight = 1.95 kg
Fixed head for
14 mm HR shackle*
SWL = 6000 kg



Mod. S1204

DOUBLE WITH BECKET
Weight = 2.13 kg
Fixed head for
14 mm HR shackle*
SWL = 6000 kg



Mod. S1211

DECK BLOCK
Weight = 1.13 kg
Screws = 2 x Ø10 +
1 x Ø12 mm
SWL = 4500 kg



Mod. S1212

DOUBLE DECK BLOCK
Weight = 1.74 kg
Screws = 2 x Ø10 +
1 x Ø12 mm
SWL = 4500 kg

Deck blocks are available with runner's eyebolt, add /V to the model code.



Mod. S1231

CLASSIC DECK BLOCK
Weight = 2.15 kg
4 x Ø10 mm screws
SWL = 4500 kg



Mod. S1232

CLASSIC DOUBLE DECK BLOCK
Weight = 3.70 kg
4 x Ø10 mm screws
SWL = 4500 kg



Mod. S1214

BLOCK ON PAD-EYE
Weight = 2.28 kg
4 x Ø10 mm screws
SWL = 4500 kg



Mod. S1215

BLOCK ON SCREWED PAD-EYE
Weight = 2.58 kg
4 x Ø10 mm screws
SWL = 4500 kg



Mod. 7214
Page 160



Mod. 7314
Page 161

* shackle not included



s.steel block 150

150 mm sheave for 20 mm line Safe working load = 6500 kg

real size



Mod. S1501

SINGLE BLOCK
Weight = 2.74 kg
Swivel head for
14 mm HR shackle*
SWL = 6500 kg



Mod. S1502

SINGLE WITH BECKET
Weight = 3.04 kg
Swivel head for
14 mm HR shackle*
SWL = 6500 kg



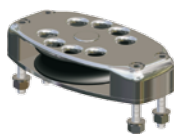
Mod. S1511

DECK BLOCK
Weight = 2.13 kg
Screws = 2 x Ø12 +
1 x Ø14 mm
SWL = 6500 kg



Mod. S1512

DOUBLE DECK BLOCK
Weight = 3.50 kg
Screws = 2 x Ø12 +
1 x Ø14 mm
SWL = 6500 kg



Mod. S1531

CLASSIC DECK BLOCK
Weight = 4.57 kg
4 x Ø12 mm screws
SWL = 6500 kg



Mod. S1532

CLASSIC DOUBLE DECK BLOCK
Weight = 7.91 kg
4 x Ø12 mm screws
SWL = 6500 kg



Deck blocks are available with runner's eyebolt, add /V to the model code.



Mod. S1514

BLOCK ON PAD-EYE
Weight = 4.71 kg
6 x Ø10 mm screws
SWL = 6500 kg



Mod. 7216

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Mod. S1515

BLOCK ON SCREWED PAD-EYE
Weight = 6.24 kg
6 x Ø10 mm screws
SWL = 6500 kg



Mod. 7316

Page 161

* shackle not included

s.steel block 180

180 mm sheave for 24 mm line Safe working load = 9000 kg



Mod. S1801

SINGLE BLOCK

Weight = 4.11 kg

Swivel head for
16 mm HR shackle*

SWL = 9000 kg



Mod. S1802

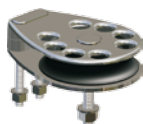
SINGLE WITH BECKET

Weight = 4.61 kg

Swivel head for
16 mm HR shackle*

SWL = 9000 kg

real size



Mod. S1811

DECK BLOCK

Weight = 3.31 kg

Screws = 2 x Ø14 +
1 x Ø16 mm

SWL = 9000 kg



Mod. S1812

DOUBLE DECK BLOCK

Weight = 5.26 kg

Screws = 2 x Ø14 +
1 x Ø16 mm

SWL = 9000 kg



Mod. S1831

CLASSIC

DECK BLOCK

Weight = 6.86 kg

4 x Ø14 mm screws

SWL = 9000 kg



Mod. S1832

CLASSIC DOUBLE

DECK BLOCK

Weight = 11.8 kg

4 x Ø14 mm screws

SWL = 9000 kg



Deck blocks are available with
runner's eyebolt, add **/V** to the
model code.



Mod. S1814

BLOCK ON PAD-EYE

Weight = 7.57 kg

6 x Ø10 mm screws

SWL = 9000 kg



Mod. 7220

Page 160



Mod. S1815

BLOCK ON

SCREWED PAD-EYE

Weight = 9.51 kg

6 x Ø10 mm screws

SWL = 9000 kg



Mod. 7320

Page 161

* shackle not included

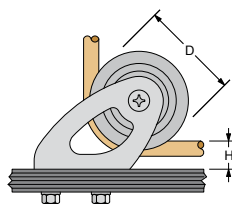
halyard blocks

HALYARD BLOCKS

This solution, designed for halyards at the base of the mast, keeps the line as close to the deck as possible. A-316 s.steel base. All these models are fitted with double side ball bearings.



Mod. 815.652



MODEL	Ø LINE mm	D mm	H mm	SWL kg	WEIGHT kg	BOLTS N° x Ø mm
815.452	10	45	14	450	0.08	2 x Ø5
815.552	12	55	16	600	0.12	2 x Ø6
815.652	12	65	18	800	0.17	2 x Ø8
815.075	14	75	22	1500	0.26	2 x Ø8
815.090	16	90	24	2500	0.39	2 x Ø10
815.120	18	120	32	4500	1.20	4 x Ø10
815.150	20	150	41	6500	3.30	4 x Ø12
815.180	24	180	51	9000	4.70	4 x Ø16

hollow pin deck blocks

HOLLOW PIN DECK BLOCK 75, 90, 120 mm

The sheave rotates on a hollow pin with the line passing through the pin's center.

This type of arrangement reduces the height of the line off the deck, and the side loads on the block.

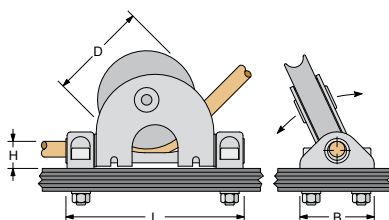
The line position and its direction to the winch does not change, even when the sheave is articulated off-center.

Body completely made in polished s.steel. Sheave on Composite Fibre bearing and two side ball bearing.



Mod. 816.075

Mod. 816.090

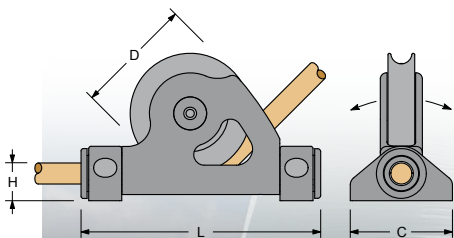
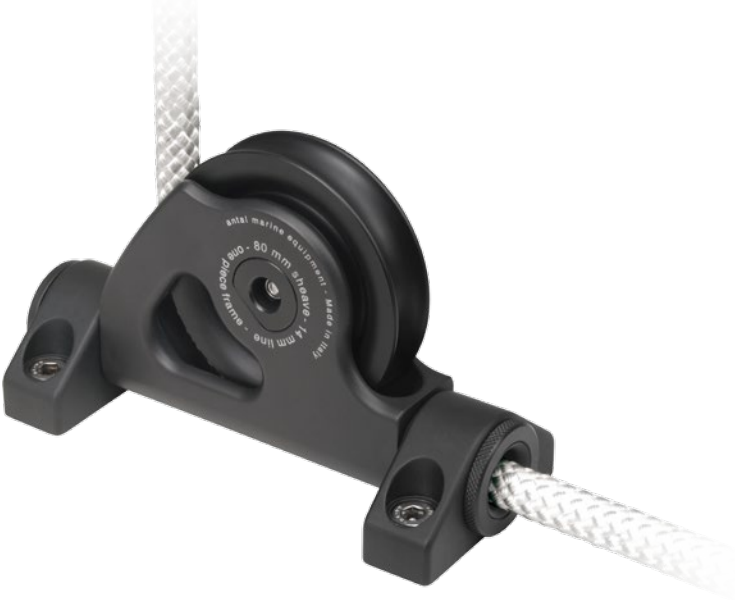


MODEL	Ø LINE mm	D mm	H mm	L mm	B mm	SWL kg	WEIGHT kg	BOLTS N° x Ø mm
816.075	12	75	20	132	60	1500	0.62	4 x Ø8
816.090	14	90	24	157	66	2500	1.15	4 x Ø10
816.120	18	120	32	190	80	4500	1.95	4 x Ø12
816.150	20	150	40	314	100	6500	5.70	8 x Ø12

opf hollow pin blocks

HOLLOW PIN DECK BLOCK

The sheave rotates on a hollow pin with the line passing through the pin's center.
This type of arrangement reduces the height of the line off the deck, and the side loads on the block.
The line position and its direction to the winch does not change, even when the sheave is articulated off-center.
Body completely made in hard black anodized aluminium.
Sheave on Composite Fibre bearing and two side ball bearing.
Insulating washer under the fixing screws.



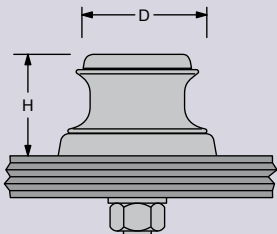
MODEL	Ø LINE mm	D mm	H mm	L mm	C mm	SWL kg	WEIGHT kg	BOLTS N° x Ø mm
00621	12	60	19	121	57	1300	0.28	4 x Ø6
00821	14	80	25	160	68	2200	0.49	4 x Ø8
01021	16	100	29	196	79	3500	0.84	4 x Ø10



Feeling 55' - Alliaura Marine

TURNING SHEAVES

Mounted aft of a set of rope clutches, the turning sheave redirects each line to the most suitable winch.



MODEL	D mm	H mm	SWL kg	WEIGHT kg	BOLTS N° x Ø mm
821.052	50	33	800	0.10	1 x Ø10
821.062	60	38	1200	0.12	1 x Ø12
821.074	70	44	1800	0.45	4 x Ø8

ORGANIZERS D=40, 50 AND 60 mm

Groups of 2 to 6 sheaves in 3 diameters of 40, 50 and 60 mm.

The 40 and 50 mm sheaves are manufactured in high-strength resin with a double side ball bearing.

The 60 mm sheave is manufactured in aluminium, hard black anodized, with a main composite fibre bearing and 2 side ball bearings.

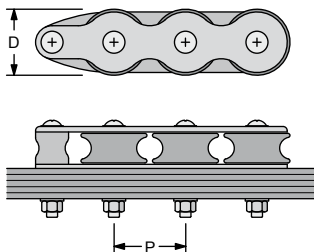
Mounting screws, nuts and washers are included.

These new organizers do not disassemble after tacking off the screws.

Double version also available, just add /D to the model number.



Mod. D530



D mm.	LINE mm	N° SHEAVES	MODEL	LENGTH mm	P mm.	WEIGHT kg	SWL kg	BOLTS N° x Ø mm
40	Ø 14	2	D420	111	44	0.18	600	3 x Ø6
		3	D430	155		0.27		4 x Ø6
		4	D440	199		0.33		5 x Ø6
		5	D450	243		0.41		6 x Ø6
		6	D460	287		0.48		7 x Ø6
50	Ø 16	2	D520	133	52	0.26	800	3 x Ø8
		3	D530	185		0.38		4 x Ø8
		4	D540	237		0.50		5 x Ø8
		5	D550	289		0.62		6 x Ø8
		6	D560	341		0.74		7 x Ø8
60	Ø 18	2	D620	160	65	0.44	2200	3 x Ø10
		3	D630	225		0.60		4 x Ø10
		4	D640	290		0.76		5 x Ø10
		5	D650	355		0.93		6 x Ø10
		6	D660	420		1.10		7 x Ø10



Cantiere Vismara - W60' Classic

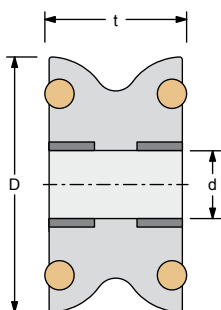
tulip series

TULIP SERIES SHEAVES

The TULIP sheaves are fixed sheaves that do not turn in the direction of manoeuvres since they accept quite different lead angles.

The choice of a Tulip sheave instead of a revolving block comes from the need to reduce bulk and weight.

The sheave, with an axial bearing in composite fibre and large round bearings (self-captive) in Torlon for side loads, is in anodized and Teflon coated aluminium and can handle very high loads.



MODEL	D mm	Ø LINE mm	d mm	t mm	SWL kg	WEIGHT kg
801.045*	45	12	12	31	1000	0.04
801.060	60	14	15	38	2200	0.16
801.070	70	14	15	38	3000	0.19
801.090	90	14	20	50	5000	0.45
801.110	110	16	30	60	9000	0.83

* The D=45 mm sheave is resin made with Delrin side ball bearings.

VERTICAL TULIP BLOCKS

These vertical blocks are fitted with Tulip sheaves that accept very different lead angles. This is a small and light solution that replaces traditional adjustable blocks.

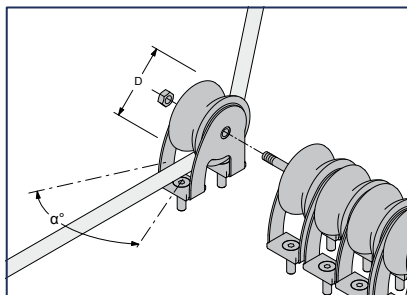
Mounting screws, nuts and washers included.



Mod. 817.050
VERTICAL

Mod. 818.050
OVER THE TOP

More vertical blocks can be joined to form a set.

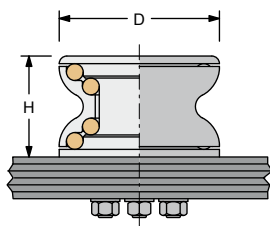


MODEL	D mm	Ø LINE mm	α°	SWL kg	WEIGHT kg	SCREWS N° x Ø mm
VERTICAL						
817.050	45*	12	40°	1000	0.16	2 x Ø6
817.060	60	14	40°	2200	0.39	2 x Ø8
OVER THE TOP						
818.050	45*	12	40°	1000	0.16	2 x Ø6
818.060	60	14	40°	2200	0.39	2 x Ø8

* The D=45 mm sheave is resin made with Delrin side ball bearings.

TURNING TULIP SHEAVE

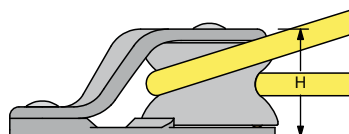
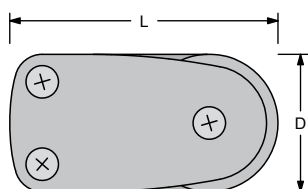
This sheave is fitted with 4 wide Torlon ball bearings, this is the best solution when it is necessary to redirect the line to any angle.



MODEL	D mm	Ø LINE mm	H mm	SWL kg	WEIGHT kg	SCREWS N° x Ø mm
821.070	70	12	52	1400	0.30	1 x Ø12
821.100	100	14	64	3000	0.73	4 x Ø8

TULIP FOOTBLOCK

The sheave, with an axial bearing in composite fibre and large Torlon ball bearings (self-captive), is aluminium made, hard black anodized and teflon coated. Base and cover in hard black aluminium, screws nuts and washers included.



MODEL	D mm	Ø LINE mm	L mm	H mm	SWL kg	WEIGHT kg	SCREWS N° x Ø mm
819.060	60	14	116	47	2200	0.36	3 x Ø8
819.090	90	14	160	60	3500	0.90	3 x Ø10



HORIZONTAL TULIP ORGANIZERS 50/60

With the "Tulip" it is possible to make also organizers with 2, 3, 4, 5 or 6 horizontal sheaves.

SIZE 50 -- SWL = 1000 kg

SIZE 60 -- SWL = 2200 kg

mast blocks

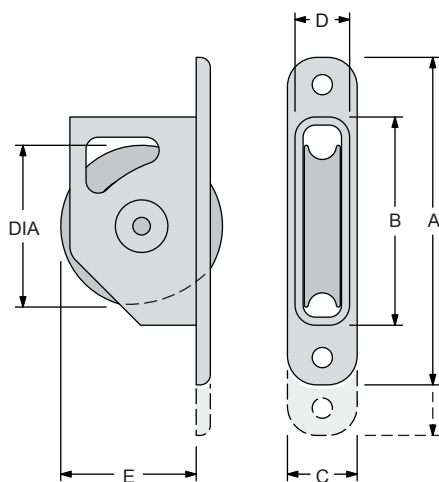
MAST BLOCKS

11 different sizes with diameters from 40 to 120 mm for working loads (SWL) up to 7000 kg.

Hard black anodized aluminium frame with insulating washers for corrosion protection.

Resin sheaves (aluminium sheaves for 100 and 120 mm only) with composite fibre main bearing (not on size 40) and double side self-captive ball bearing.

On request custom models for higher loads are also available.



MODEL	DIA mm	Ø LINE mm	A mm	B mm	C mm	D mm	E mm	SWL kg	WEIGHT kg	BOLTS N° x Ø mm
00418	40	8	99	58	24.2	18.2	31.5	400	0.07	2 x Ø6
00518	50	12	118	69.5	29.5	22.5	37	800	0.12	2 x Ø6
00618	60	12	130	81.5	29.5	22.5	49	800	0.15	2 x Ø6
00718	70	12	140	91.5	29.5	22.5	53.5	1300	0.16	2 x Ø6
00718/Z			158					2000	0.23	3 x Ø6
00818	80	14	162	103	34.5	27	62.5	2200	0.24	2 x Ø8
00818/Z			187					3000	0.34	3 x Ø8
01018	100	16	198	126	39	31	81.5	3500	0.44	2 x Ø10
01018/Z			226					4500	0.62	3 x Ø10
01218	120	18	251	151	47	37	103	5000	0.97	3 x Ø10
01218/Z			263					7000	1.08	3 x Ø12



special blocks

2:1

THB
TWIN HALYARD BLOCKS



TWIN HALYARD BLOCKS

The "Twin-halyard block" is specially made for a 2 to 1 main halyard.

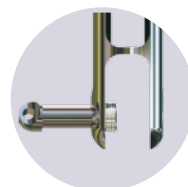
The very small sheave is aluminium made with a Composite Fibre bushing.

The body is completely made in "High-resistance" stainless steel **Nitronic 50**.

4 sizes for **breaking loads from 2600 to 10000 kg**, for boats up to 70 ft.

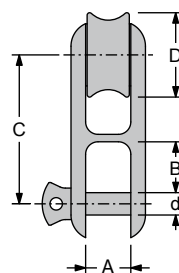


Self-locking pin



Captive pin

MODEL	Ø LINE mm	D mm	d mm	A mm	B mm	C mm	SWL kg	WEIGHT kg
H020	8 - 10	26	8	16	15.5	53.5	1300	0.08
H030	10 - 12	32	10	18	20.5	65.0	2200	0.15
H040	12 - 14	39	12	21	24.5	80.0	3500	0.28
H050	14 - 16	50	14	21	34.0	89.0	5000	0.54



HLB
HIGH LOAD BLOCKS



HIGH LOAD BLOCKS

These small and light blocks are the best solution for very high loads when sliding is not important.

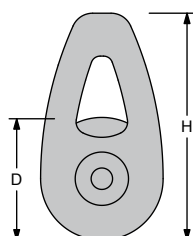
The very small sheave is fitted with a Composite Fibre bushing.

The one piece frame is made for line connection.

The 3 blocks (D=30, 40 and 55 mm) give an 8 to 1 system.

This system is specially designed for the backstay or the boom-vang.

8:1



Set of blocks:
8:1 system

MODEL	Ø LINE mm	D mm	H mm.	SWL kg	WEIGHT kg
H130	6 - 8	30	59	600	0.05
H140	8 - 10	40	74	1200	0.08
H150	10 - 12	55	91	2400	0.18
H160	12 - 16	70	116	3500	0.33

mainsail blocks

CLEW BLOCKS

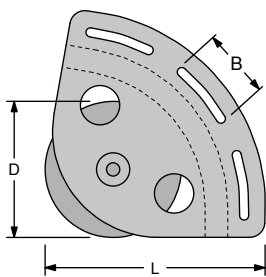
Solution designed to solve the connection of a sheave to the furling mainsail clew efficiently. The block is contained within the size of the sail, thus allowing a larger surface of the mainsail to be used.

The choice of materials guarantees the least weight as well as a very good mechanical resistance to the environment. Particular care has been taken over the ease of connection which is obtained by normal "webbing". This ensures moreover a very good distribution of the load on the sail.

MATERIALS: Cheek plates are made of anodized aluminium. Also polished s. steel solutions are available on request.



Mod. 991.073



MODEL	Ø LINE mm	D mm	L mm	B mm	SWL kg	WEIGHT kg
991.073	14	70	112	3 x 36	1000	0.23
991.093	16	90	145	3 x 46	2000	0.45
991.124	18	120	190	4 x 46	3000	1.04
991.154	20	150	225	4 x 52	4000	2.05
991.184	24	180	265	5 x 52	8000	2.65

REEF BLOCKS

The blocks are connected to the leech of the mainsail with webbing, and reduce point loading on the mainsail when reefing. The small diameter sheaves are suitable to very high loads.

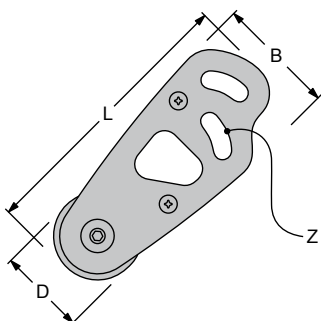
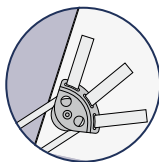
The center hole can be used as a safety connection to the boom when reefed.

The small version (D=50 mm) is for boats to 50 ft, larger (D=120 mm) for boats to 100 ft.

Mod. 994.075



If a larger sheave is required and if higher weight and larger sizes are acceptable, then the clew blocks described above can be considered.



MODEL	Ø LINE mm	D mm	L mm	B mm	Z mm	SWL kg	WEIGHT kg
994.055	14	50	143	65	20	1500	0.22
994.065	16	60	178	79	20	3000	0.37
994.075	18	70	204	88	25	4500	0.70
994.085	20	80	238	112	35	5500	0.90
994.095	24	100	292	140	45	8000	1.30
994.125	28	120	357	170	60	10000	2.90

web blocks

WEB SERIES BLOCKS

This range is designed to achieve minimum weight while retaining strength and durability.

The 17-4-PH high-strength stainless steel coupling means the block can be tied with webbing or thin Spectra or Kevlar lines giving the lightest connection possible.

New "strengthened" (Z) models suitable for also higher loads.

Larger models D=180, 220 and 250 mm with SWL up to 20000 kg on page 67-69



Mod. 910.090/Z



Mod. 940.090/Z

SIMPLE WEB

MODEL	Ø LINE mm	D mm	SWL kg	WEIGHT kg
910.075/Z	14	75	2000	0.23
910.095/Z	16	90	3100	0.33
910.125/Z	18	120	5600	0.72
910.155/Z	20	150	8000	1.90
910.185	24	180	9000	2.60
910.225	30	220	13000	7.65
910.255	40	250	20000	10.35

WEB BECKET

MODEL	Ø LINE mm	D mm	SWL kg	WEIGHT kg
940.075/Z	14	75	2000	0.27
940.095/Z	16	90	3100	0.39
940.125/Z	18	120	5600	0.80
940.155/Z	20	150	8000	2.02
940.185	24	180	9000	2.70
940.225	30	220	13000	8.25
940.255	40	250	20000	11.05

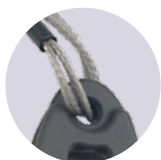
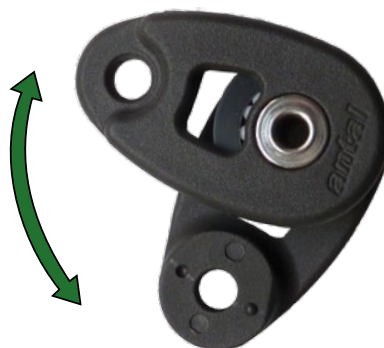


Vento di Sardegna - Open 50

snatch blocks

MINI SNATCH BLOCK D=32 mm

It is a very light solution suitable for many riggings, completely made in U-V resistant high strength resin. It can be fastened both with a line or with a shackle.



Mod. 9030 For line connection

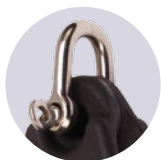
MINI SNATCH BLOCK

Sheave = Ø32 mm

Weight = 39 gr

Max line = Ø8 mm

SWL = 250 kg



Mod. 9031 For 5 mm shackle



black
Mod. 9030



yellow
Mod. 9030/Y

Mod. 9001

SNAP LOOP

It is a simple and original line loop with a snap that offers an easy fastening and avoids accidental opening.



G. Mura - Class 40

dynablock

DYNABLOCK

The new Antal block with revolving resin cheekplates and with a Dyneema snap loop protected by a polyester cover.

A light and reliable solution that offers an easy, fast and safe connection.

Dynablock is also suitable for a lashing with a thin Dyneema line.

The resin sheave is on composite fibre bushing with two side ball bearings.

Spare snap-loops (DBS04 for size 44 and DBS05 for size 56) available.



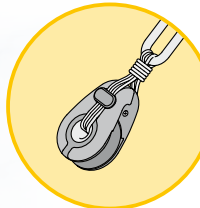
MODEL	SHEAVE Ø mm	Ø LINE mm	SWL kg	WEIGHT gr
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with Dyneema
snap loop



DBS44	44	10	600	90
DBS56	56	12	1000	176

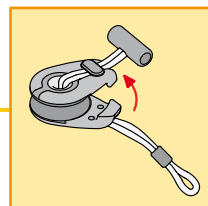
for lashing
(line not included)



DBL44	44	10	600	80
DBL56	56	12	1000	140

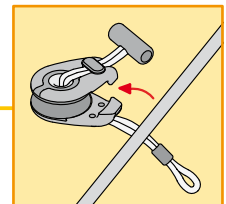
Open the block

1



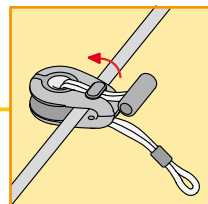
Put the line in

2



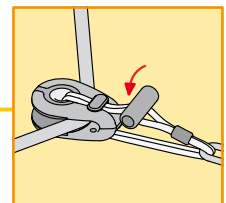
Close the block

3



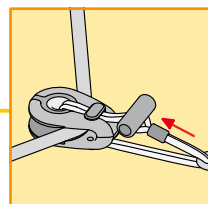
Close the loop

4



Lock the knob

5



antal

snatch blocks

SNATCH BLOCKS D=40 and 60 mm

The cheekplate revolves around the sheave axle allowing the block to open; a safety ball stops the block from opening with an adjustable screw to set the ball on locked position.

There is a becket for the "hanging line".

MATERIAL: sheave with composite fibre main bearing and double side ball bearing. Hard anodized and teflon coated aluminium cheekplates with side rubber protections (yellow rubber on the revolving cheekplate).



MODEL	D mm	Ø LINE mm	SWL kg	WEIGHT kg
9040	40	12	700	0.11
9060	60	14	1300	0.26

Standard model can be attached with highly resistant spectra line.



Model /SH is supplied with a shackle.



Model /SN is supplied with a snap-shackle (HR).



SNAP LOOPS

It is a simple and original line loop with a snap that offers an easy fastening and avoids accidental opening.

Mod. SL4S -- Loop for 9040 block (pg. 167)

Mod. SL5S -- Loop for 9060 block (pg. 167)



SNATCH BLOCKS D=90 and 120 mm

The cheekplate revolves around the sheave axle allowing the block to open; a safety pin, which engages automatically on closing, stops the block from opening accidentally. Materials: high-strength resin sheaves, hard anodized alloy cheekplates, high-strength stainless steel (17-4-PH) structural pins.



Mod. 908.095



Mod. 908.125

MODEL	D mm	Ø LINE mm	SWL kg	WEIGHT kg
908.095	90	16	2500	0.41
908.125	120	20	4500	1.12



The block can be attached with webbing or better still with a fine highly resistant line made of material such as Kevlar or Spectra.

Model /SN is supplied with a HR Wichard snap shackle.



Model /SH is supplied with a shackle.



SNATCH BLOCK ON PAD-EYE D = 90, 120 AND 150 mm

Three snatch blocks 90, 120 and 150 mm diameter, on pad-eye and stand-up spring are available.

The cheekplate revolves to open the block, a safety pin stops the block from opening.

Above blocks are available also on screwed pad-eye.



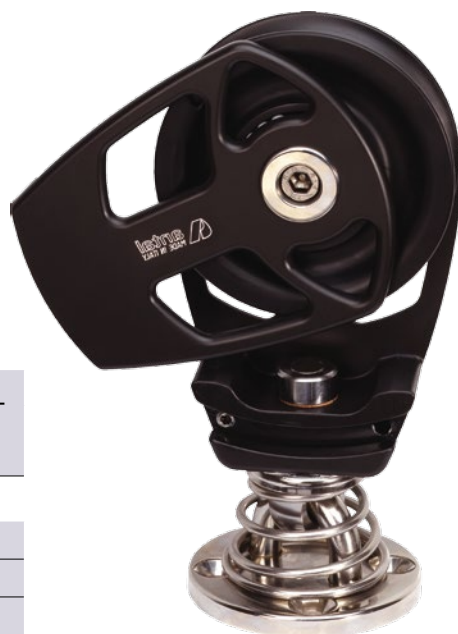
MODEL	SHEAVE		Ø LINE mm	SWL kg	WEIGHT kg	EYEBOLT mod.
	D mm	WIDTH mm				

"4 SCREWS" PAD-EYES

918.095	90	26	18	2500	0.82	7210
918.125	120	36	20	4500	2.05	7214
918.155	150	46	28	6500	4.20	7216

SCREWED PAD-EYES

928.095	90	26	18	2500	1.14	7310
928.125	120	36	20	4500	2.70	7314
928.155	150	46	28	6500	5.30	7316



Block on
"4 screws" pad-eye



“T” track sliders

genoa cars..... 94



track adjustable cleats... 101



halyard sliders 102



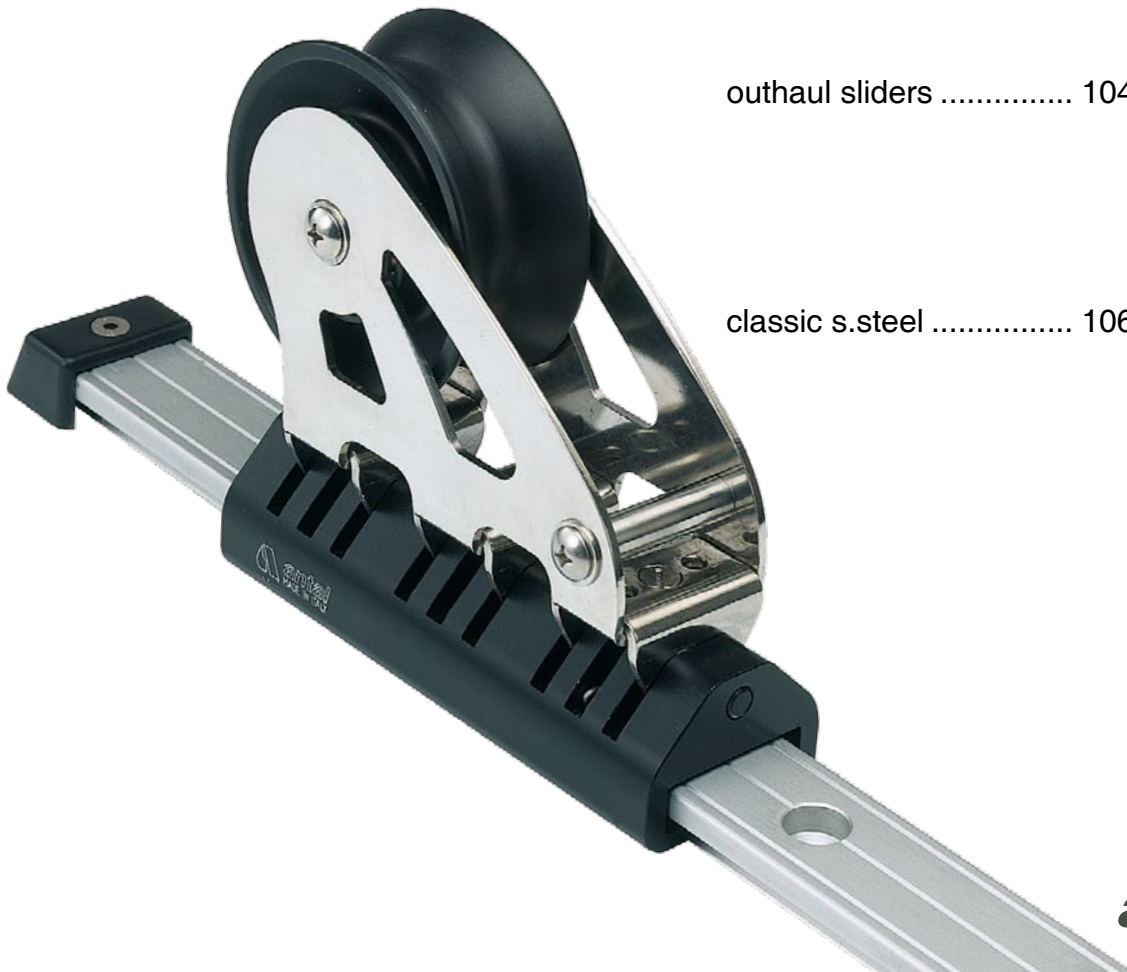
spi-pole sliders..... 103



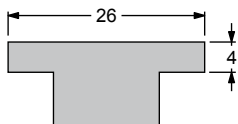
outhaul sliders 104



classic s.steel 106



26x4 genoa cars



Mod. 602.211 "T" TRACK 26x4

High resistance silver anodized light alloy extrusion.
Max length = 3 m Weight = 0.5 kg/m
Fasteners = 5 mm screws Hole spacing = 50 mm

Mod. 691.141 SIMPLE END FITTING

Plastic made, fastened with one 5 mm screw.

Mod. 690.151 END FITTING WITH ONE SHEAVE

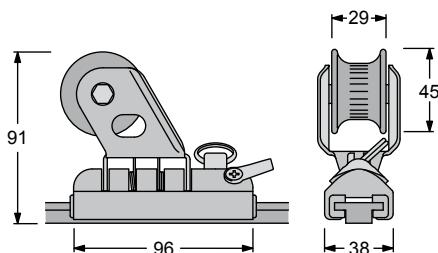
Mod. 690.152 END FITTING WITH TWO SHEAVES

A forward end fitting with one or two sheaves for the slider control is available.
Hard black anodized aluminium base and resin sheave with side ball bearings.
Fasteners = 2 x Ø6 mm screws



Mod. 621.492

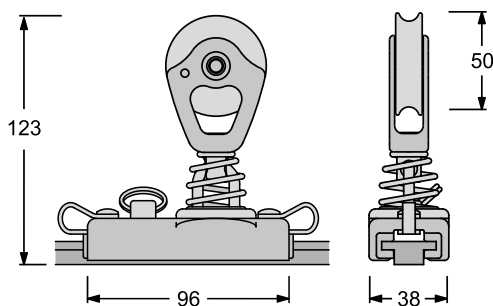
For boats up to 33 ft



Mod. 621.492 GENOA CAR 26x4

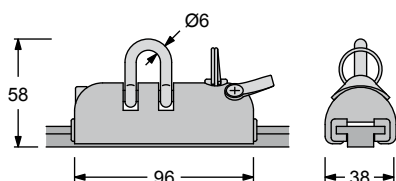
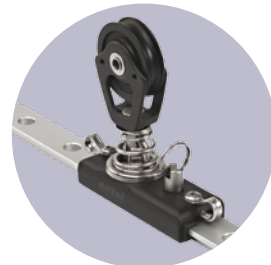
Hard black anodized with A316 stop pin and nylon sliding inserts.
The sheave structure, made in AISI 316 s. steel, turns left and right ($\pm 50^\circ$).
Resin sheave with 2 side ball bearings, wide section for two sheets.
Weight = 0.35 kg **SWL = 800 kg**

For boats up to 30 ft



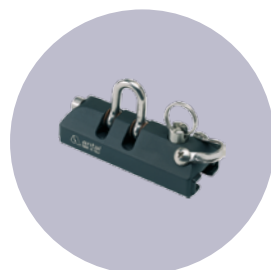
Mod. 621.452 GENOA CAR 26x4

A 50 mm block with spring is fitted on the aluminium slider. Also this model is supplied with the stop pin.
Weight = 0.25 kg **SWL = 500 kg**



Mod. 621.462 SIMPLE SLIDER

A 6 mm shackle is fitted on the hard black anodized slider. AISI 316 s. steel stop pin and nylon sliding inserts.
Weight = 0.21 kg **SWL = 800 kg**

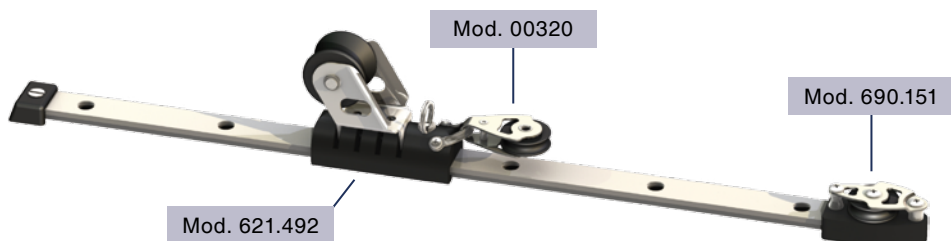


CAR CONTROL

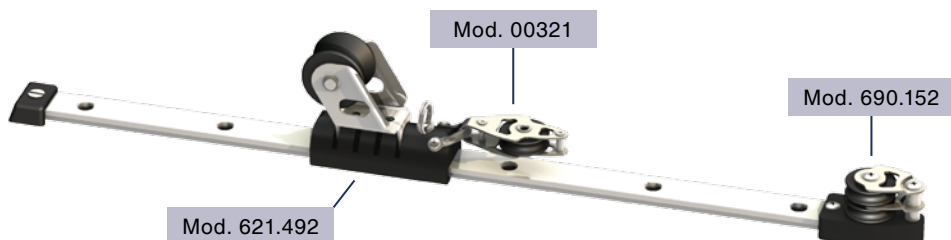
To regulate the car position, tackles with 2:1 and 3:1 purchase can be produced. A special end fitting with 1 or 2 sheaves can be mounted on the track with one block connected to the car.

For the car control mini blocks have been used (see p. 50). Mini Blocks have a 34 mm sheave and are suitable for a 6 mm line.

CAR CONTROL 2:1



CAR CONTROL 3:1



RACE GENOA CAR

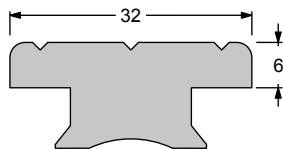
On an aluminium car a sheet block (Dynablock, see p. 89) is tied with a Dyneema line, weight 0.26 kg, **SWL=600 kg**.

There is a block with becket on the car and an end-fitting with a double block for a 3:1 car control. No stop-pin for this solution.

CAR CONTROL 3:1



32x6 genoa cars



Mod. 602.112 **"T" TRACK 32x6** with 100 mm holes-spacing

Mod. 602.212 **"T" TRACK 32x6** with 50 mm holes-spacing

High resistance silver anodized light alloy extrusion. Rounded upper edges, larger base with a seat for the silicone. Hard black anodization is also available on request (add /B to the model number).

Hole spacing: 100 mm or, for a more accurate positioning, 50 mm. Fasteners: 6 mm screws Weight: 0.8 kg/m
Max length: 6 m



Mod. 691.241 **END FITTING**, made in plastic, or:

mod. 691.241/AL - silver anodized alu

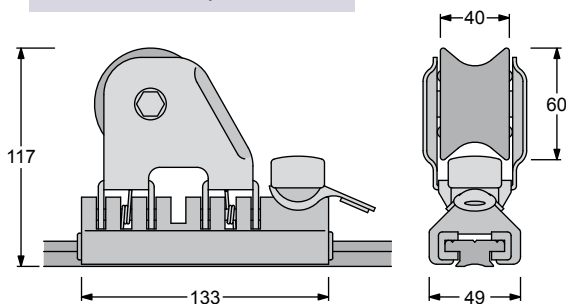
mod. 691.241/B - black anodized alu

mod. 691.241/S - AISI 316 s. steel



Bellatrix - Nova 40.00 CNNT

For boats up to 44 ft

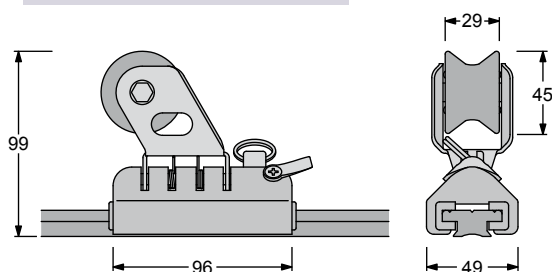


Mod. 622.492 **GENOA CAR 32x6**

Hard black anodized aluminium slider with low-friction nylon sliding inserts. The revolving upper structure ($\pm 50^\circ$) is made of AISI 316 s. steel. The resin sheave is fitted with 2 side ball bearing, wide section for double sheet. AISI 316 s. steel pin with a lock-up position. Becket for remote control line.

Weight = 0.86 kg **SWL = 2800 kg**

For boats up to 38 ft



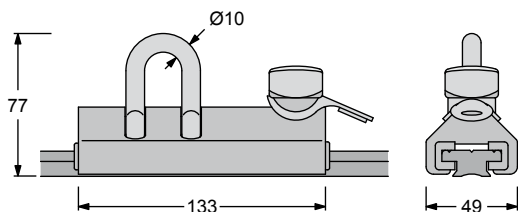
Mod. 620.492 **GENOA CAR 32x6**

For 32x6 "T" track, as the above model, but with smaller sizes.

Weight = 0.40 kg

SWL = 800 kg





Mod. 622.462 **SIMPLE SLIDER**

A 10 mm shackle is fitted on the aluminium slider. Also this model is supplied with the stop pin.

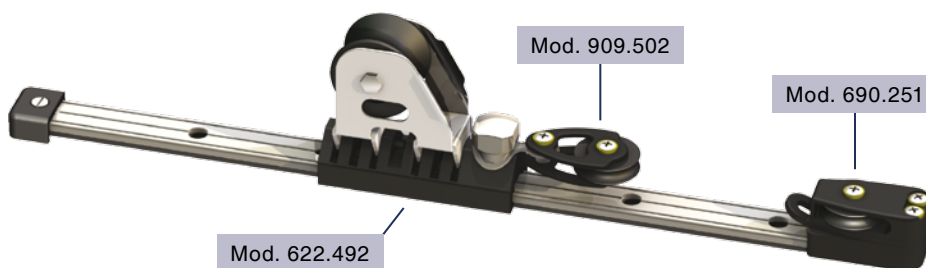
Weight = 0.45 kg **SWL = 2200 kg**



CAR CONTROL

To regulate the car position, tackles with 2:1 and 3:1 purchase can be produced. A special end fitting with 1 or 2 sheaves can be mounted on the track and one block connected to the car.

CAR CONTROL 2:1



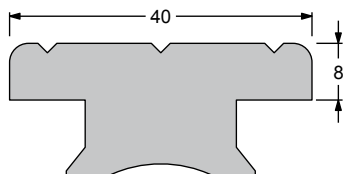
CAR CONTROL 3:1



- Mod. 909.502 50 mm block connected to the car.
- Mod. 949.502 50 mm block with becket connected to the car.
- Mod. 690.251 Black aluminium end fitting with one 45 mm sheave.
- Mod. 690.252 Black aluminium end fitting with two 45 mm sheave.



40x8 genoa cars



Mod. 602.113 **“T” TRACK 40x8** with 100 mm holes-spacing

Mod. 602.213 **“T” TRACK 40x8** with 50 mm holes-spacing

High resistance silver anodized light alloy extrusion. Rounded upper edges, larger base with a seat for the silicone. Hard black anodization is also available on request (add /B to the mod. number).

Hole spacing: 100 mm or, for a more accurate positioning, 50 mm.

Fasteners: 8 mm screws Weight: 1.3 kg/m

Max length: 6 m



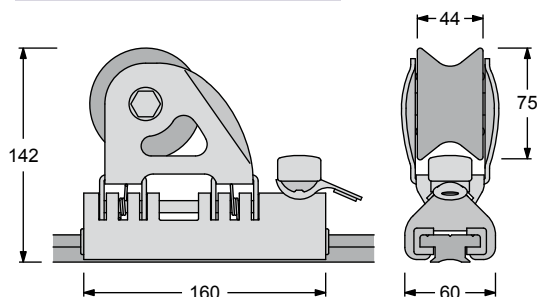
Mod. 691.341 **END FITTING**, made in plastic, or:

mod. 691.341/AL - silver anodized alu

mod. 691.341/B - black anodized alu

mod. 691.341/S - AISI 316 s. steel

For boats up to 52 ft

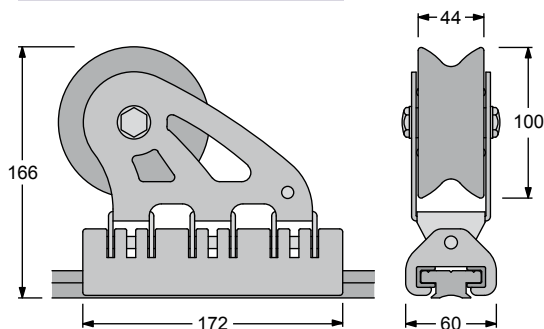


Mod. 623.492 **GENOA CAR 40x8**

Hard black anodized aluminium slider with low-friction nylon sliding inserts. The revolving upper structure ($\pm 50^\circ$) is made of AISI 316 s.steel. The aluminium sheave is fitted with one main Composite Fibre bearing and 2 side ball bearing, wide section for double sheet. AISI 316 s.steel pin with a lock-up position. Becket for remote control line.

Weight = 1.50 kg **SWL = 3800 kg**

For boats up to 60 ft



Mod. 624.492 **GENOA CAR 40x8 MAXI**

The maxi slider, for boats up to 60 ft, runs on HS fibre sliding inserts on 40x8 “T” track (mod. 602.213).

Weight = 1.94 kg

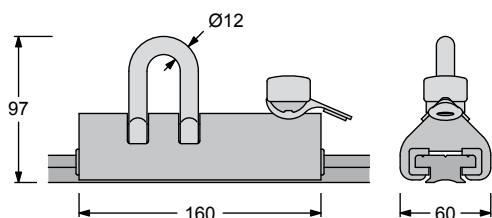
SWL = 4800 kg

Mod. 691.712/AL **SINGLE STOP PIN**

Mod. 691.722/AL **DOUBLE STOP PIN**



For the double stop pin with alu slider the 50 mm hole spacing track (mod. 602.213) is necessary.



Mod. 623.462

SIMPLE SLIDER

A 12 mm shackle is fitted on the aluminium slider. Also this model is supplied with the stop pin.

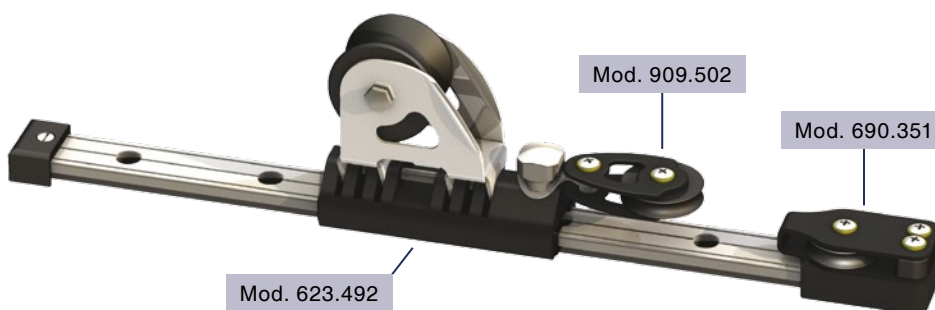
Weight = 0.79 kg SWL = 3300 kg



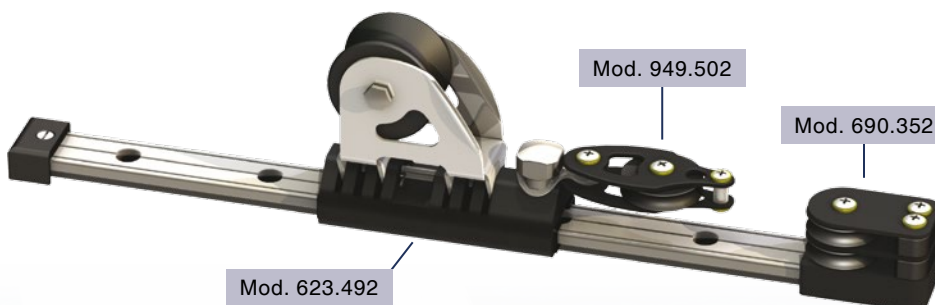
CAR CONTROL

To regulate the car position, tackles with 2:1 and 3:1 purchase can be produced. A special end fitting with 1 or 2 sheaves can be mounted on the track and one block connected to the car.

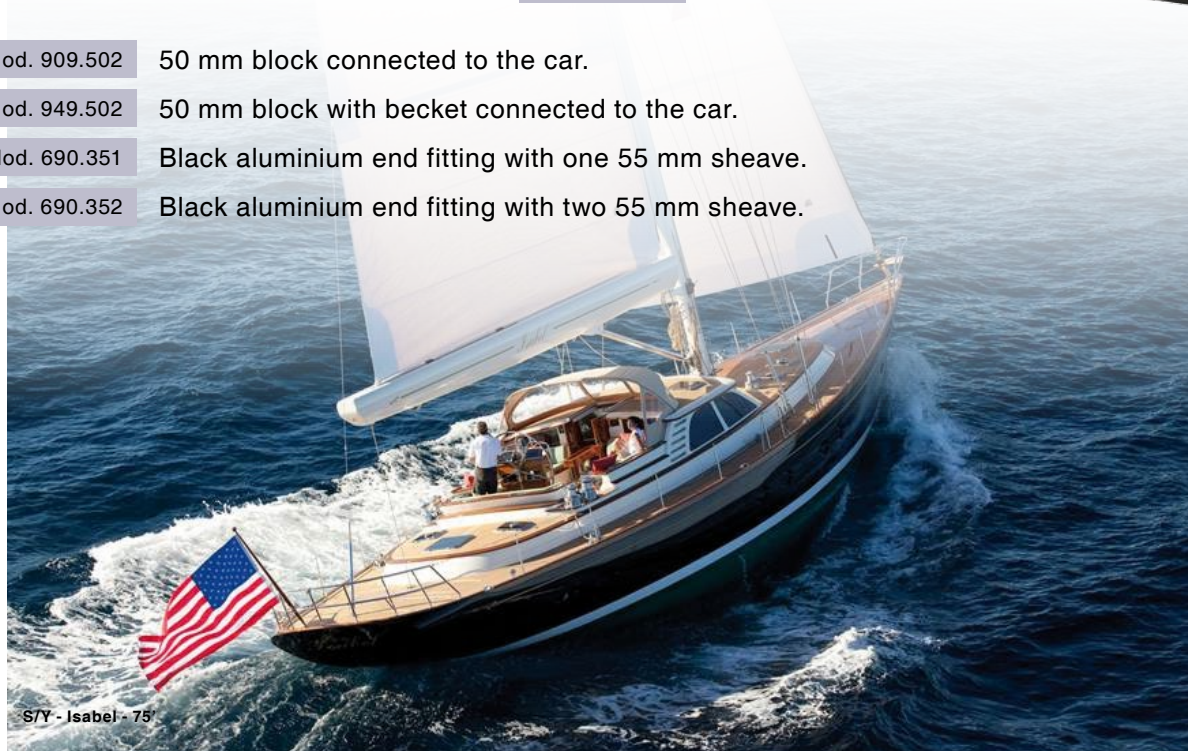
CAR CONTROL 2:1



CAR CONTROL 3:1



- Mod. 909.502 50 mm block connected to the car.
- Mod. 949.502 50 mm block with becket connected to the car.
- Mod. 690.351 Black aluminium end fitting with one 55 mm sheave.
- Mod. 690.352 Black aluminium end fitting with two 55 mm sheave.



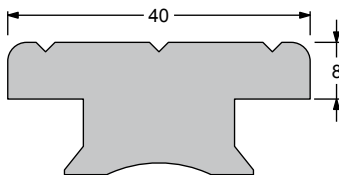
double 40x8 genoa cars

DOUBLE 40x8 GENOA CARS SHEAVES 120, 150, 180 mm

The double 40x8 genoa cars are made for maxi yachts (larger than 60 ft), they run on 40x8 T-track (see page 98).

Two hard black anodized aluminium sliders (add /AL after the model number) or two polished s.steel sliders (add /S after the model number) running on nylon guides are connected with a revolving ($\pm 50^\circ$) link structure.

The sheave, with a wide sections for a double sheet, is fitted with a main Composite Fibre bearing and two side self-captive ball bearings.

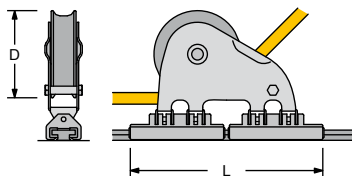


Zingara 76 - Matrix Yacht
photo Wehrley

Mod. 623.180/AL

Mod. 623.150/AL

Mod. 623.120/AL



MODEL	D mm	L mm	SWL kg	WEIGHT kg
623.120/AL	120	330	5000	3.10
623.150/AL	150	330	6500	4.25
623.180/AL	180	375	9000	6.20

All the above double cars are available with stainless steel sliders.

The double stop pin and the T-track are also available in s.steel.

Substitute /S for /AL in the model number.

STOP-PIN

A special double stop pin is available to lock the car in position on the track:



Mod. 691.722/AL

mod. 691.722/AL - hard black anodized alu
mod. 691.722/S - polished s.steel

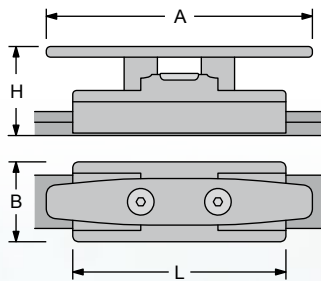
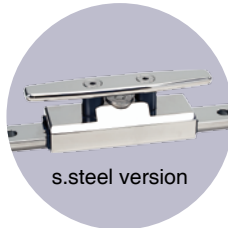
With the double stop pin the 50 mm hole spacing track (mod. 602.213) is necessary.

Mod. 623.180/S

Mod. 691.722/S



track adjustable cleats



TRACK ADJUSTABLE CLEAT

From ANTAL two new moveable cleats for either 32 mm or 40 mm T-track.

Cleats and slider are CNC machined from hard black anodized aluminum.

Low profile design.

Single screw-in stop pin keeps the cleat firmly locked in any position along the track, or locked open for ease of movement.

Nylon insert on the slider for easier movement.

MODEL	TRACK mm	PIN mm	A mm	B mm	H mm	L mm	WEIGHT kg
622.412	32x6	Ø11	170	49	55	132	0.45
623.412	40x8	Ø14	200	60	67	160	0.78



Margherita 45 - Marine Service



T-TRACKS

Usually T-tracks are silver anodized, on request also hard black anodized version is available (add /B to the model number).

AISI 316 s.steel track are also made on request (add /S to the model number).

On request track will be machined with "rounded ends" and then it will be anodized.

CLEAT

The cleat is formed by two stainless steel bases and a teak beam that is available in two sizes: Mod. 7412, L=320 mm, Mod. 7413, L=400 mm.



Mod. 7412



Mod. 7413

halyard sliders

HALYARD SLIDER WITH AUTOMATIC TRACK

The "halyard slider" has been specifically planned for wire halyards and for those halyards which are subject to such high strain as to preclude use of a stopper. This solution permits easy adjustment and secure locking of halyards.

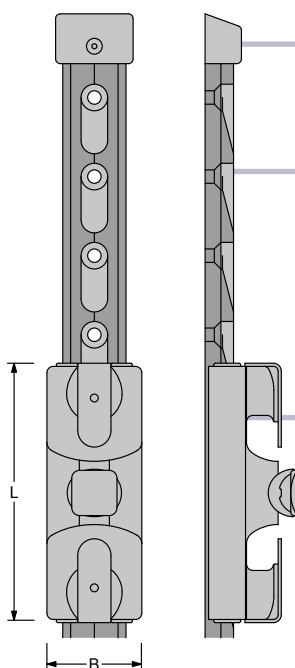
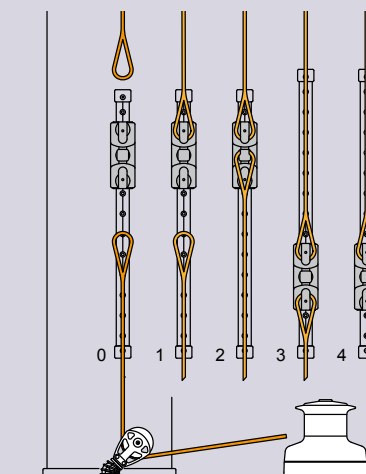
Stop pin with 2 positions: lock-up and automatic insertion.

Track: with close bore-holes (step 50 mm) for precision adjustment.

The "halyard slider" is made in three sizes for 32x6 and 40x8 T-shaped tracks.

ADJUSTING AND BLOCKING THE HALYARD

1. hook the halyard to the slider
2. connect the winch
3. put the halyard under tension and lock it in place
4. free the slider from the winch



Mod. 691.241/B

END FITTING

Hard black anodized alu

Mod. 691.341/B

END FITTING

Hard black anodized alu

Mod. 602.312

32x6 AUTOMATIC TRACK

Screws = Ø6 mm
Hole spacing = 50 mm
Weight = 0.80 kg/m

Mod. 602.313

40x8 AUTOMATIC TRACK

Screws = Ø8 mm
Hole spacing = 50 mm
Weight = 1.30 kg/m

Mod. 622.402

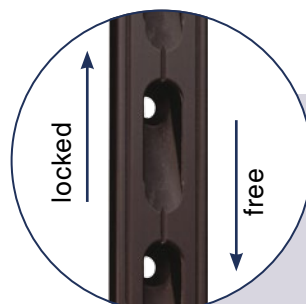
32x6 SLIDER

L = 135 mm
B = 50 mm
Weight = 0.43 kg
SWL = 2800 kg

Mod. 623.402

40x8 SLIDER

L = 160 mm
B = 60 mm
Weight = 0.67 kg
SWL = 3800 kg



AUTOMATIC TRACK

The special shape of the holes allows the car moving with the stop pin on and the automatic car lock in the new position.

Mod. 624.402

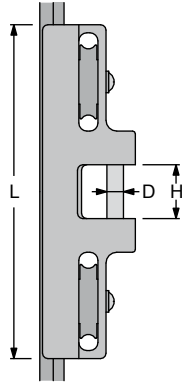
40x8 SLIDER DOUBLE PIN

L = 210 mm
B = 60 mm
Weight = 1.20 kg
SWL = 5800 kg

spi-pole sliders

SPI-POLE SLIDERS

This “long version” of Spi-Pole sliders is designed to reduce the side loads and torsion on the track. They slides on fibre inserts to reduce the friction to a minimum. Made for standard 32x6 and 40x8 T tracks, they are always fitted with one upper and one lower block with becket for the control line. Single and double sheave end fitting for 2:1 and 3:1 systems are available. Antal offer a hard black anodized and teflon coated “T” track that gives a lower friction coefficient.

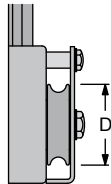
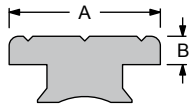


SLIDER

MODEL	L mm	H mm	D mm	WEIGHT kg	TRACK mm
671.002	214	40	12	0.75	32x6
671.003	248	40	12	1.10	40x8
671.004	310	32	16	1.60	40x8 Maxi

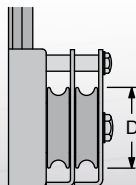
TRACK

MODEL	A x B mm	SCREWS mm	HOLE-SPACING mm	WEIGHT kg/m
602.212/B	32 x 6	Ø6	50	0.80
602.213/B	40 x 8	Ø8	50	1.30



END FITTING WITH 1 SHEAVE AND BECKET

MODEL	D mm	WEIGHT kg	TRACK mm
691.251	50	0.26	32x6
691.351	60	0.36	40x8
691.451	75	0.60	40x8 Maxi

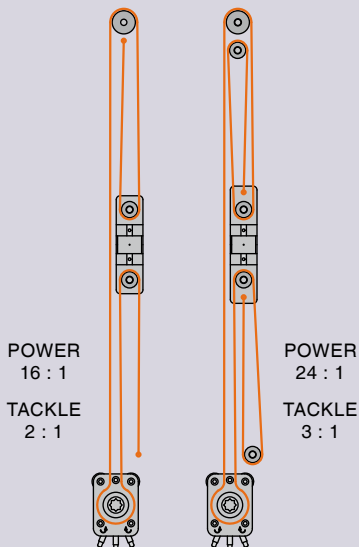


END FITTING WITH 2 SHEAVES

MODEL	D mm	WEIGHT kg	TRACK mm
691.252	50	0.38	32x6
691.352	60	0.48	40x8
691.452	75	0.75	40x8 Maxi



Line driver for Spi-Pole slider control is on page 34



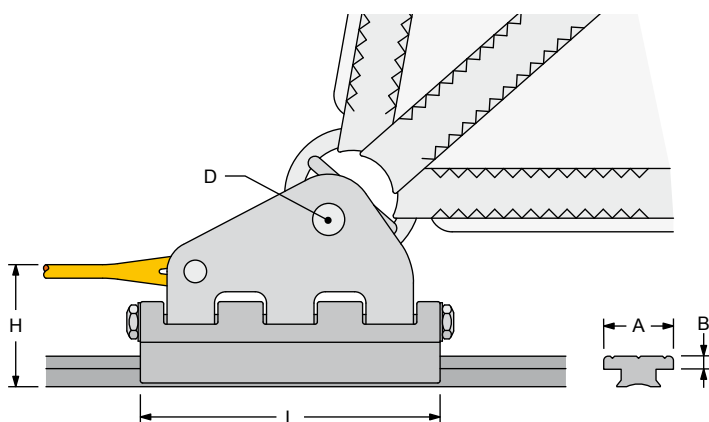
outhaul sliders

OUTHAUL SLIDER

This slider runs on self-lubricating *HS* fibre enabling it to deal with heavy work loads while remaining compact; it also provides low friction running and easy manoeuvring.

The sail connection, which is made of s.steel and revolves, reduces the height of the sail above the boom to a minimum.

Standard "T" tracks, sizes 32 x 6 and 40 x 8, are used, with black anodized finish and 50 mm hole spacing.



CAR

MODEL	L mm	H mm	D mm	WEIGHT kg	SWL kg
672.002	130	60	12	0.50	3000
672.003	160	80	16	1.23	6000
672.004	200	80	16	1.68	8000

with **32x6** T-track:

For boats up to 48 ft

with **40x8** T-track:

For boats up to 70 ft



The car runs on self-lubricating **HS fibre** and with hard black anodized track.

TRACK

MODEL	A x B mm	SCREWS Ø mm	SPACING mm	WEIGHT kg/m
602.212/B	32 x 6	6	50	0.80
602.213/B	40 x 8	8	50	1.30



Bel 60' - Gilles Martin Raget

outhaul cars - furling main

OUTHAUL CAR WITH SHEAVE

A ball bearing car is necessary for the outhaul of a furling main sail. Two sizes: 190 mm car with a 60 mm sheave and 260 mm car with a 90 mm sheave, both on Antal 4Race 21x31 tracks. A special clew-block completes the system.



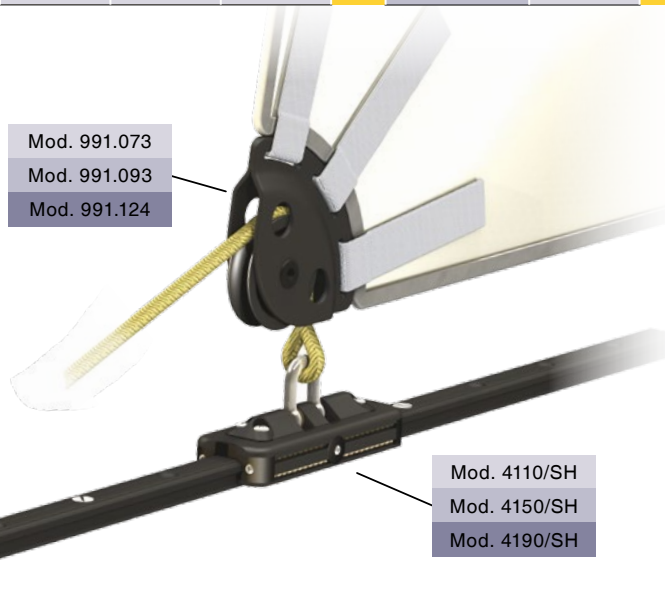
CAR

CLEW BLOCK

	MODEL	L mm	SHEAVE Ø mm	SWL kg	WEIGHT kg		MODEL	SHEAVE Ø mm	
For boats up to 48 ft	4190/H	190	60	1900	1,10		991.093	90	
For boats up to 56 ft	4260/H	260	90	2800	1,65		991.124	120	

OUTHAUL CAR - DIRECT CONNECTION

This simple solution reduces the load on the car but increases the tension of the line. Three sizes with cars 110, 150 and 190 mm long, on Antal 4Race 21x31 tracks. In this case too a special clew block completes the system.



CAR

CLEW BLOCK

	MODEL	L mm	SWL Kg	WEIGHT kg		MODEL	SHEAVE Ø mm	
For boats up to 40 ft	4110/SH	110	1000	0,50		991.073	75	
For boats up to 48 ft	4150/SH	190	1400	1,10		991.093	90	
For boats up to 56 ft	4190/SH	260	1900	1,65		991.124	120	

TRACK - ALL SOLUTIONS

All the solution described use Antal 4Race tracks 21x31

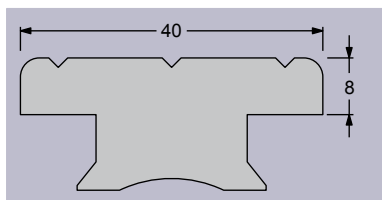
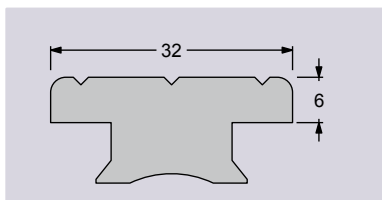
MODEL	SIZE	WEIGHT kg/m	SCREWS Ø mm	SPACING mm	ENDS MODEL
4510	21x31	0,77	8	100	4271

For further information on cars and tracks see p. 110. For further information on clew blocks see p 86.

Classic s.steel for genoa


32x6 genoa car - L = 132 mm - Sheave Ø = 60 mm - SWL = 2800 kg


40x8 genoa car - L = 160 mm - Sheave Ø = 75 mm - SWL = 3800 kg



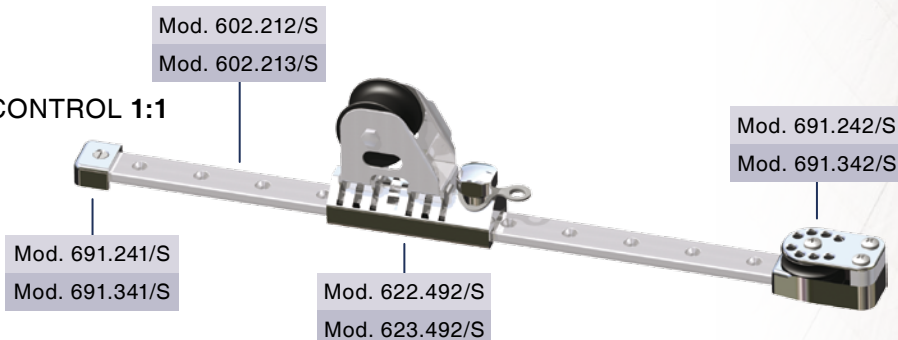
Antal offers a complete series of cars for genoa and mainsail with tracks and accessories completely made in **316 polished s.steel**. Particularly designed for classic boats.

Two sizes: with 32x6 and 40x8 s.steel T-tracks. 50 mm sheaves for all cars control.

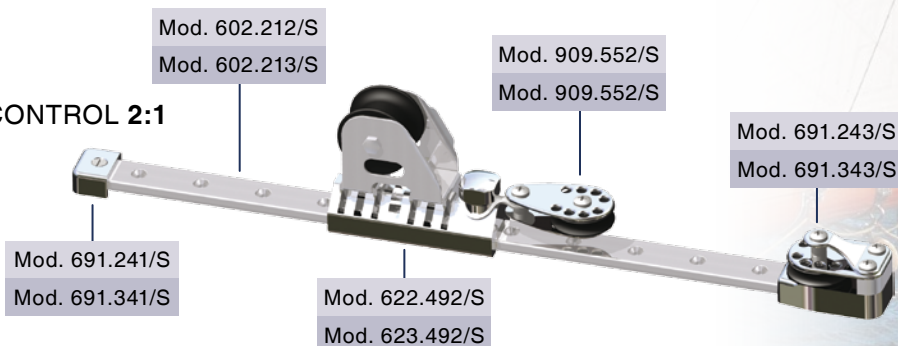
Models on  are for T-track size 32x6

Models on  are for T-track size 40x8

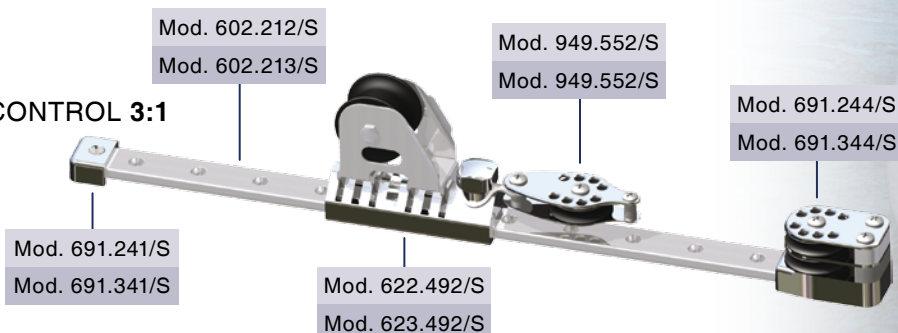
CAR CONTROL 1:1



CAR CONTROL 2:1



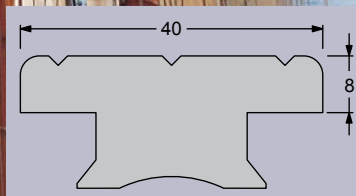
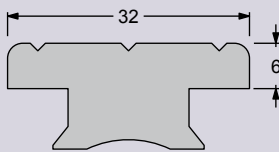
CAR CONTROL 3:1





Classic s.steel for main sail

32x6 car with one block size 75 mm - L = 132 mm - SWL = 1500 kg
32x6 car with two blocks size 75 mm - L = 180 mm - SWL = 2000 kg

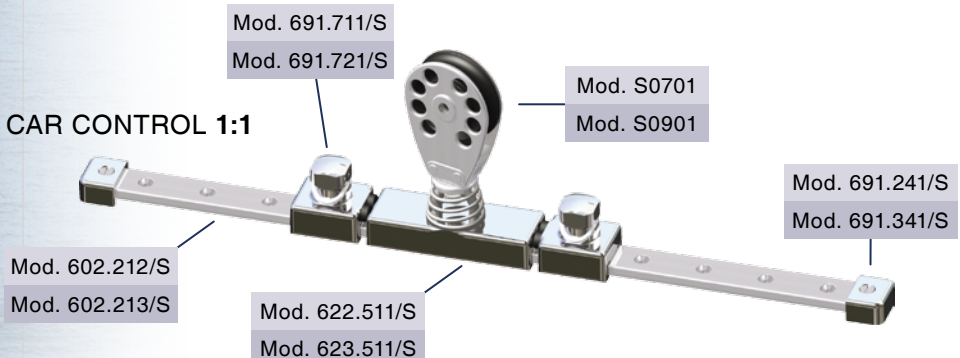
40x8 car with one block size 90 mm - L = 160 mm - SWL = 2500 kg
40x8 car with two blocks size 90 mm - L = 200 mm - SWL = 3500 kg



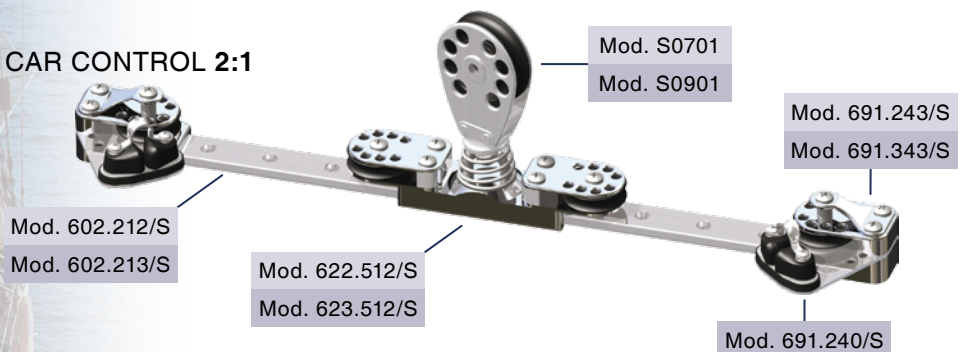
Models on  are for T-track size 32x6

Models on  are for T-track size 40x8

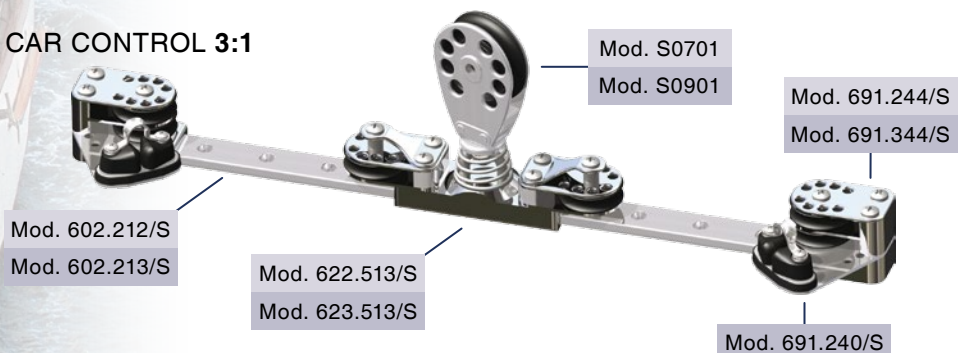
CAR CONTROL 1:1



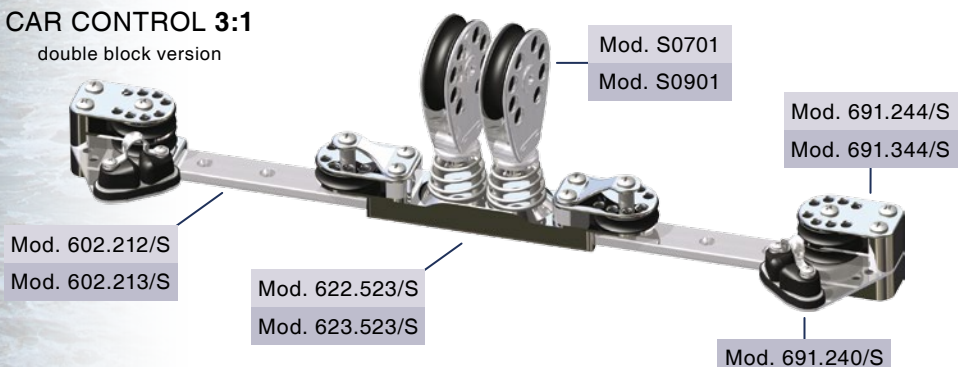
CAR CONTROL 2:1



CAR CONTROL 3:1



CAR CONTROL 3:1 double block version



for classic Blocks, see page 72.



ball bearing cars



size 100 111



size 110 - 150 - 190 114



size 230 - 330 - 430 124



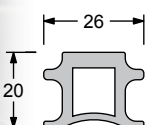
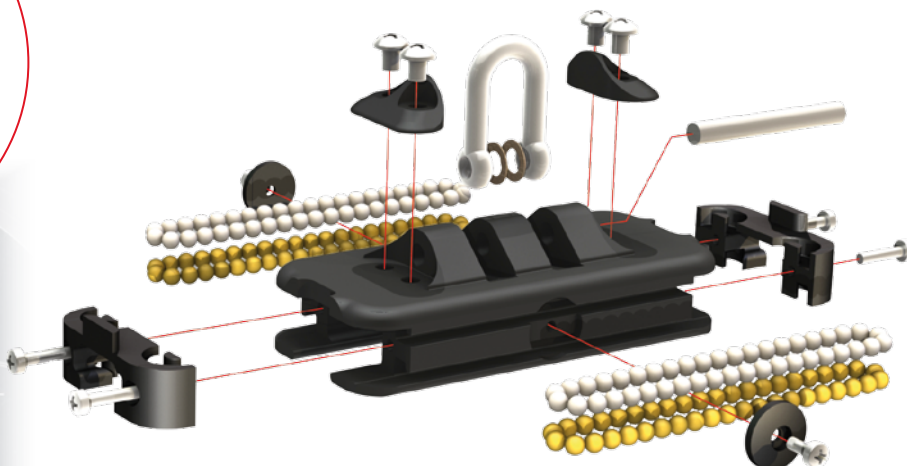
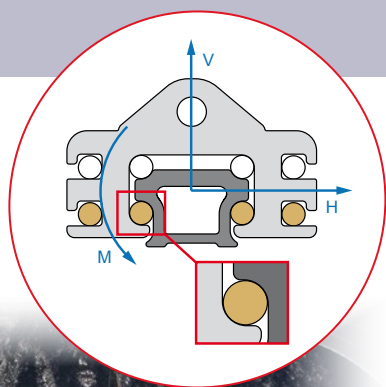
ball bearing cars



SYSTEM

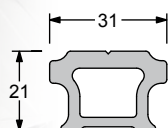
- Higher efficiency and smoother running.
- Better load resistance to vertical (V), horizontal (H) and torsional (M) loads.
- Higher safety margin as the car will remain on the track even after ball bearing failure (overload).
- Travelers are fitted with 2 Torlon ball circuits (lower) and 2 Delrin ball circuits (upper).

- Single double and triple control sheaves, with or without becket, can be fitted on the car.
- One-piece extruded body.
- The traveler, the track and all components are extruded in high strength alloy and hard black anodized. (Steel parts: AISI 316)
- Side windows for easy maintenance and ball bearing cleaning and/or replacement. Standard shackle or special "stand-up" joint.

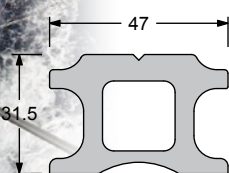


CAR SIZE	FOR BOATS UP TO	PAGE
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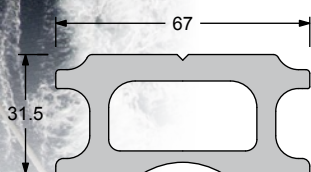
100 mm	33 ft	111
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110 mm	36 ft	114
150 mm	42 ft	
190 mm	48 ft	



230 mm	60 ft	124
330 mm	70 ft	
430 mm	80 ft	

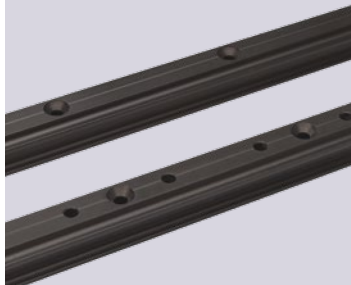
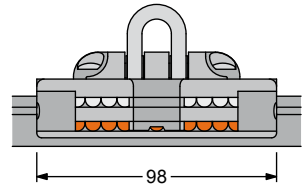
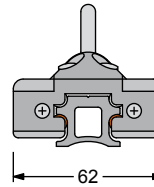


330 mm	70 ft	128
430 mm	80 ft	



Mod. 4102/SH **TRAVELER SIZE 100**

Weight = 0.23 kg SWL = 820 kg

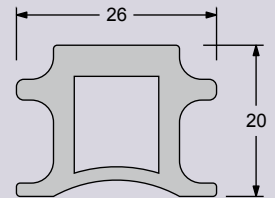


Mod. 601.121 **STANDARD TRACK**

Tubular hard black anodized aluminium extrusion.
Fasteners = 6 mm screws / 100 mm hole spacing
Weight = 0.69 kg/m Max length = 6 m

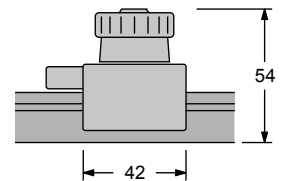
Mod. 601.221 **STOP PIN TRACK**

As the above model but with holes (50 mm spacing) for the stop pin.



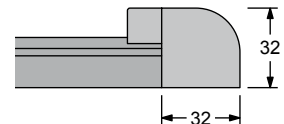
Mod. 691.421 **STOP PIN**

Aluminium slider on nylon inserts and AISI 316 s.steel pin. The stop pin needs to be fitted on the mod. 601.221 track.



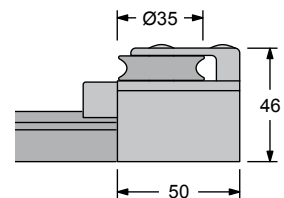
Mod. 4261 **SIMPLE END FITTING**

Plastic made, mounted with a 6 mm screw.



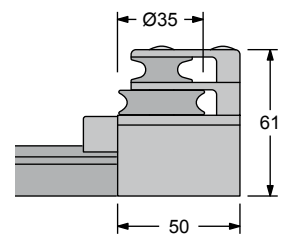
Mod. 4262 **END FITTING WITH ONE SHEAVE**

High strength resin made with one Ø=35 mm sheave fitted with two side ball bearings.
Completed with a shock proof rubber.
Weight = 0.08 kg
Screws = 3 x Ø5 mm



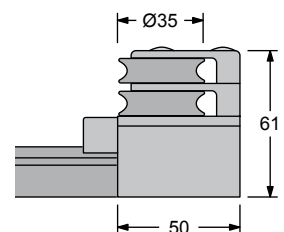
Mod. 4263 **END FITTING WITH ONE SHEAVE AND BECKET**

High strength resin made with one Ø=35 mm sheave fitted with two side ball bearings and becket.
Completed with a shock proof rubber.
Weight = 0.10 kg
Screws = 3 x Ø5 mm



Mod. 4264 **END FITTING WITH 2 SHEAVE**

High strength resin made with two Ø35 mm sheaves fitted with two side ball bearings.
Completed with a shock proof rubber.
Weight = 0.10 kg
Screws = 3 x Ø5 mm



Mod. 4266 **END FITTING CAM-CLEAT**

This cam-cleat revolving in 3 different positions can be fitted on the end fitting with one or two sheaves.

main travelers size 100



MAIN BALL BEARING TRAVELER SIZE 100

This traveler is 98 mm long and 62 mm wide. The weight is 0.23 kg and the **working load = 820 kg**.

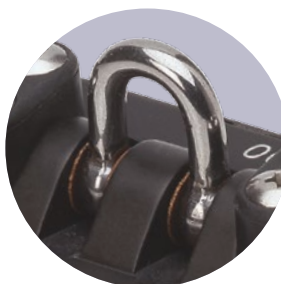
Fitted with 1/4" balls (50 Torlon balls on the lower races and 50 Delrin on the upper races). The sheaves for the car control are D=35 mm. The complete systems includes 1.5 m long track.

The sheet block (OPF 60, page 56) is not included.

The traveler is fitted with a special "standup" connection for Antal block size 60 mm and includes the "stand-up" rubber. The same traveler is also available with a 6 mm shackle (for this case add /SH to the model number).



Mod. 4100



For boats up to 33 ft

COMPLETE SYSTEM

Mod. 4901

Mod. 4261

Mod. 691.421

COMPLETE SYSTEM

Mod. 4902

Mod. 4262

Mod. 4100

CAR CONTROL 1:1

COMPLETE SYSTEM

Mod. 4903

Mod. 4263

Mod. 4101

Mod. 4266

CAR CONTROL 2:1

COMPLETE SYSTEM

Mod. 4904

Mod. 4264

Mod. 4102

Mod. 4266

CAR CONTROL 3:1

Mod. 4103

Mod. 4266

BALL BEARING GENOA TRAVELER SIZE 100

This traveler is 98 mm long and 62 mm wide. The weight is 0.40 kg and the **working load = 820 kg**.

Fitted with 1/4" balls (50 Torlon balls on the lower races and 50 Delrin on the upper races). Can be fitted with one sheave or one sheave with becket for 2:1 and 3:1 control.

The complete systems includes 1.5 m long track.

For boats up to 33 ft



Mod. 4602

COMPLETE SYSTEM

Mod. 4905

CAR CONTROL 2:1

Mod. 4261

Mod. 4602

Mod. 4263

COMPLETE SYSTEM

Mod. 4906

CAR CONTROL 3:1

Mod. 4261

Mod. 4603

Mod. 4264

COMPLETE SYSTEM

Mod. 4907

CAR CONTROL 3:1

Mod. 4261

Mod. 4601

Mod. 4603

Mod. 4264



sizes 110/150/190

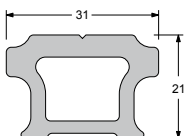
Mod. 4510

Standard track 31x21:

- fastening screws from the top
- 8 mm screws
- 100 mm hole spacing
- weight 0.77 kg/m

TRACK

Low profile track suitable for both mainsheet and genoa systems.



Mod. 4520

Standard track with stop pin holes:

- fastening from the top
- 8 mm screws
- 100 mm hole spacing
- stop pin holes 50 mm spacing
- weight 0.75 kg/m

Mod. 4530

Race track 31x21: with lightening holes

- fastening screws from the bottom
- 8 mm screws, 100 mm hole spacing
- weight 0.64 kg/m

Mod. 4540

Adjustable fastener track 31x21:

- bolts can be fixed in any position, for pre-existing holes
- 8 mm screws on sliding slugs
- weight 0.72 kg/m

Mod. 4541

Mod. 4551

Special end fitting for 48x60 track

Mod. 4550

Adjustable fastener track 48x60:

- bolts can be fixed in any position, for pre-existing holes
- 8 mm screws on sliding slugs
- weight 3.2 kg/m
- unsupported span max = 1.5 m

Mod. 4541

TRAVELER SELECTION GUIDE FOR: MAINSHEET (END BOOM) & GENOA SHEET

30	32	34	36	38	40	42	44	46	48	LOA (ft)
Mod. 4110 (110 mm)										
				Mod. 4150 (150 mm)						
							Mod. 4190 (190 mm)			

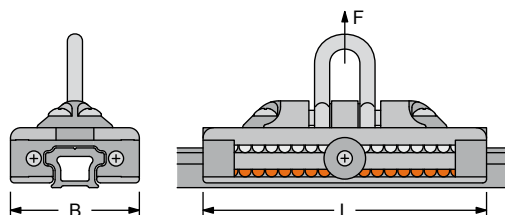
TRAVELER SIZE AND LOAD TABLE

Three models: 110, 150 and 190 mm long, for boats up to 48 ft.

These cars are fitted with standard shackle (/SH), but also special "stand-up" joint for 70, 80 and 100 mm blocks is available.

TRAVELER SIZE AND LOAD TABLE

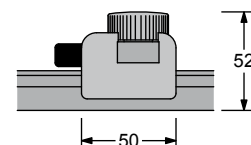
MODEL	L mm	B mm	SWL kg	WEIGHT kg
4110/SH	110	70	1000	0.50
4150/SH	150		1400	0.70
4190/SH	190		1900	0.90





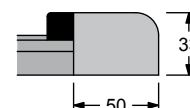
Mod. 4290 STOP PIN

Aluminium slider on nylon inserts and AISI 316 s. steel pin.
The stop pin needs to be fitted on the mod. 4520 track.



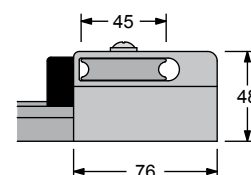
Mod. 4271 SIMPLE END FITTING

Plastic made, mounted with a 6 mm screw.



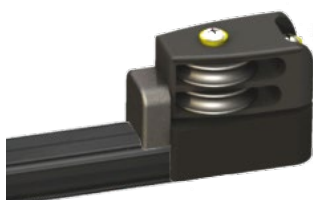
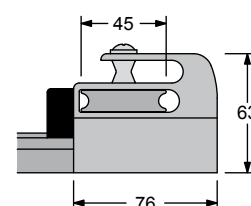
Mod. 4272 END FITTING WITH 1 SHEAVE

Aluminium made with one $\varnothing=45$ mm sheave fitted with double side ball bearings.
Completed with a shock proof rubber.
Weight = 0.21 kg Screws = 3 x $\varnothing 6$ mm



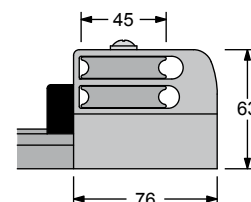
Mod. 4273 END FITTING WITH 1 SHEAVE AND BECKET

Aluminium made with one $\varnothing=45$ mm sheave fitted with double side ball bearings.
Completed with a shock proof rubber.
Weight = 0.26 kg Screws = 3 x $\varnothing 6$ mm



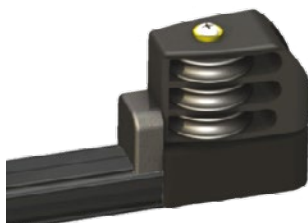
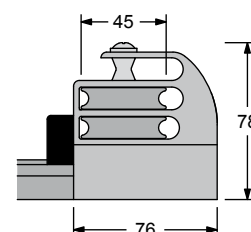
Mod. 4274 END FITTING WITH 2 SHEAVES

Aluminium made with two $\varnothing=45$ mm sheaves fitted with double side ball bearings.
Completed with a shock proof rubber.
Weight = 0.28 kg Screws = 3 x $\varnothing 6$ mm



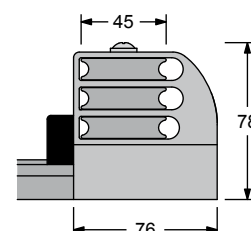
Mod. 4275 END FITTING WITH 2 SHEAVES AND BECKET

Aluminium made with two $\varnothing=45$ mm sheaves fitted with double side ball bearings.
Completed with a shock proof rubber.
Weight = 0.32 kg Screws = 3 x $\varnothing 6$ mm



Mod. 4276 END FITTING WITH 3 SHEAVES

Aluminium made with three $\varnothing=45$ mm sheaves fitted with double side ball bearings.
Completed with a shock proof rubber.
Weight = 0.35 kg Screws = 3 x $\varnothing 6$ mm



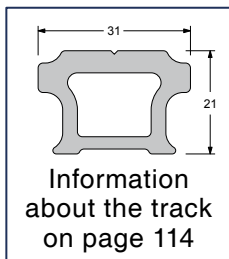
Mod. 4410 END FITTING CAM-CLEAT

Mod. 4420 110 mm TRAVELER CAM-CLEAT

Mod. 4430 150/190 mm TRAVELER CAM-CLEAT

The revolving cam-cleat (3 different positions) can be fitted on the end fitting with one, two or three sheaves.
The traveler cam-cleat is not revolving.

main cars - size 110



SIZE 110

For boats up to 36 ft

This traveler, 110 mm long (SWL = 1000 kg), is fitted with a special "stand-up" connection for Antal block size 70 mm and includes the "stand-up" rubber. The same traveler is also available with an 8 mm shackle (for this case add /SH to the model number). The complete system includes 1.5 m long track.
The sheet block (OPF 70, page 58) is not included.



COMPLETE SYSTEM

Mod. 4911



COMPLETE SYSTEM

Mod. 4913

CAR CONTROL 2:1



COMPLETE SYSTEM

Mod. 4914

CAR CONTROL 3:1



COMPLETE SYSTEM

Mod. 4915

CAR CONTROL 3:1

Cam-cleat on the car



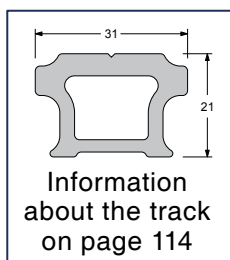
COMPLETE SYSTEM

Mod. 4916

CAR CONTROL 4:1

Cam-cleat on the car





SIZE 150

For boats up to 42 ft

This traveler, 150 mm long (SWL = 1400 kg), is fitted with a special "stand-up" connection for Antal block size 80 mm and includes the "stand-up" rubber. The same traveler is also available with an 8 mm shackle (for this case add /SH to the model number). The complete system includes 1.5 m long track.
The sheet block (OPF 80, page 60) is not included.



COMPLETE SYSTEM

Mod. 4951

CAR CONTROL 3:1



Mod. 4274

Mod. 4153

Mod. 4410

COMPLETE SYSTEM

Mod. 4952

CAR CONTROL 4:1



Mod. 4275

Mod. 4154

Mod. 4410

COMPLETE SYSTEM

Mod. 4953

CAR CONTROL 5:1



Mod. 4276

Mod. 4155

Mod. 4410

COMPLETE SYSTEM

Mod. 4954

CAR CONTROL 4:1

Cam-cleat on the car



Mod. 4273

Mod. 4154

Mod. 4430

COMPLETE SYSTEM

Mod. 4955

CAR CONTROL 5:1

Cam-cleat on the car



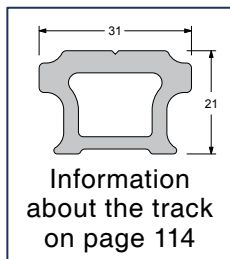
Mod. 4274

Mod. 4155

Mod. 4430



main cars - size 190



SIZE 190

For boats up to 48 ft

This traveler, 190 mm long (SWL = 1900 kg), is fitted with a special "stand-up" connection for one or two Antal block size 100 mm and includes the "stand-up" rubber. The same traveler is also available with a 10 mm shackle (for this case add /SH to the model number). The complete system includes 2 m long track.

The sheet block (OPF 100, page 61) is not included.



COMPLETE SYSTEM

Mod. 4991

CAR CONTROL 4:1



COMPLETE SYSTEM

Mod. 4992

CAR CONTROL 5:1



COMPLETE SYSTEM

Mod. 4993

CAR CONTROL 5:1

Cam-cleat on the car



COMPLETE SYSTEM

Mod. 4994

CAR CONTROL 6:1

Cam-cleat on the car



COMPLETE SYSTEM

Mod. 4995

CAR CONTROL 4:1

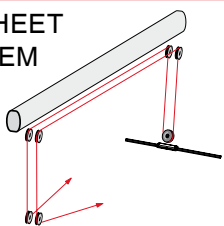
Double block version



Double cars with one, two or three sheet blocks (not included) and two or three side control sheaves.

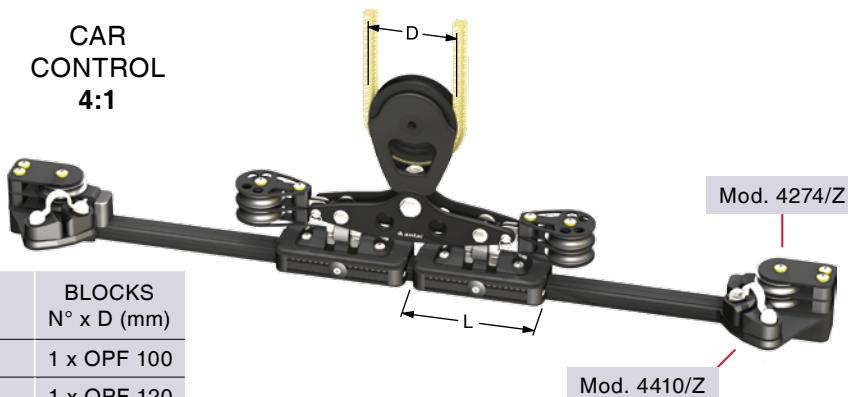
For boats from 50 to 60 ft

MAINSHEET SYSTEM
2:1

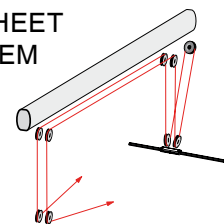


CAR model	SLIDERS N° x L (mm)	SWL kg	BLOCKS N° x D (mm)
5151	2 x 150	2800	1 x OPF 100
5191	2 x 190	3800	1 x OPF 120

CAR CONTROL
4:1

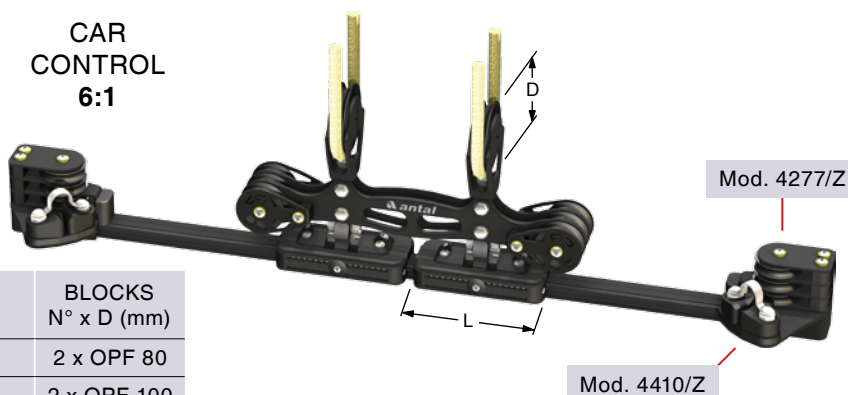


MAINSHEET SYSTEM
4:1

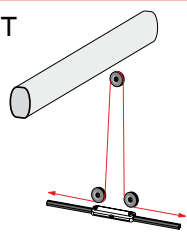


CAR model	SLIDERS N° x L (mm)	SWL kg	BLOCKS N° x D (mm)
5150/R	2 x 150	2800	2 x OPF 80
5190/R	2 x 190	3800	2 x OPF 100

CAR CONTROL
6:1

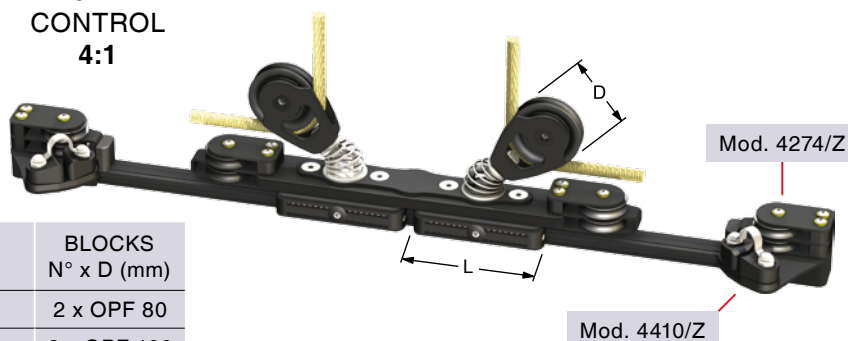


MAINSHEET SYSTEM
2:1

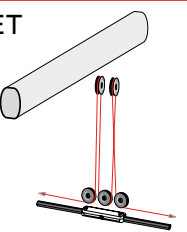


CAR model	SLIDERS N° x L (mm)	SWL kg	BLOCKS N° x D (mm)
5152	2 x 150	2800	2 x OPF 80
5192	2 x 190	3800	2 x OPF 100

CAR CONTROL
4:1

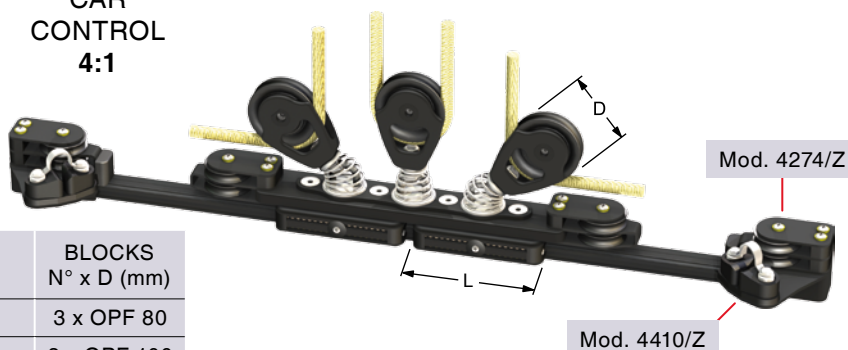


MAINSHEET SYSTEM
4:1



CAR model	SLIDERS N° x L (mm)	SWL kg	BLOCKS N° x D (mm)
5153	2 x 150	2800	3 x OPF 80
5193	2 x 190	3800	3 x OPF 100

CAR CONTROL
4:1



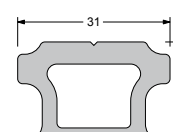
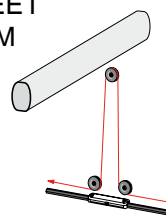
double and triple main cars



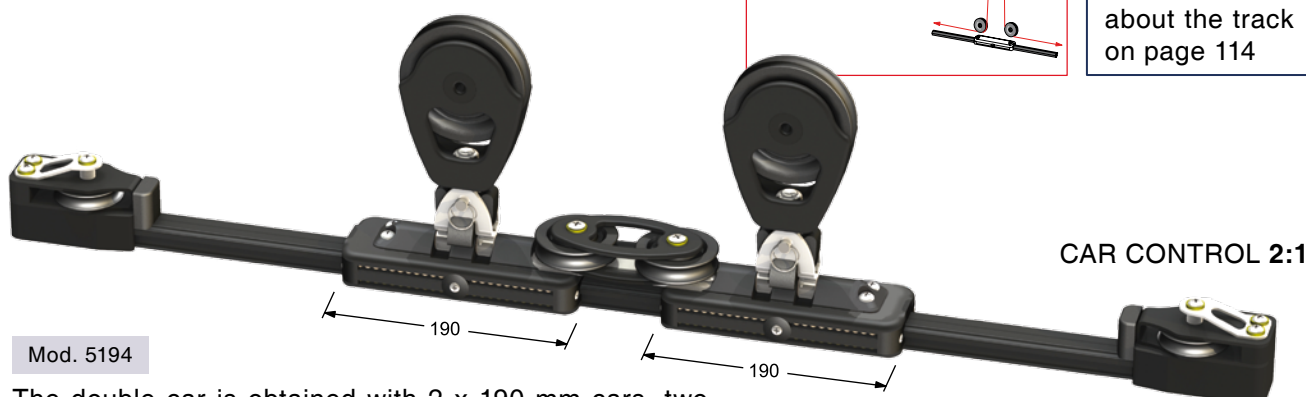
DOUBLE AND TRIPLE CARS

These double and triple cars are particularly made for the long tracks of the catamarans; it is interesting to observe the "inner" position of the control blocks.

MAINSHEET SYSTEM 2:1



Information about the track on page 114



CAR CONTROL 2:1

Mod. 4273/Z

Mod. 5194

The double car is obtained with 2 x 190 mm cars, two D=65 mm control blocks with 2:1 control.

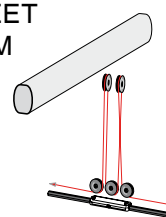
Two D=100 mm blocks for the sheet are not included.

Total length = 420 mm

SWL = 3800 kg

For catamarans up to 50 ft LOA

MAINSHEET SYSTEM 4:1



CAR CONTROL 2:1

Mod. 4273/Z

Mod. 5195

The triple car is obtained with 2x150 and 1x190 mm long cars, two D=65 mm blocks for a 2:1 control.

Two D=80 mm and one D=100 mm blocks for the sheet are not included.

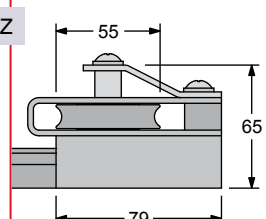
Total length = 580 mm

SWL = 4400 kg

For catamarans up to 60 ft LOA

End fitting, 1 sheave (D=55 mm) and becket

Mod. 4273/Z



SIZE 150

For boats up to 42 ft

This 150 mm long traveler (**SWL = 1400 kg**) is fitted with one 60 mm sheave, for the genoa sheet, and two 45 mm sheaves for the car control.

All these sheaves are made of high strength resin with a double side ball bearing.



Italia Yachts - 10.98

Mod. 4271

Mod. 4651

Mod. 4654

CAR CONTROL 4:1

150

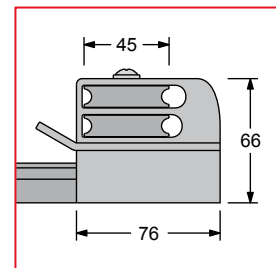
Mod. 4274/G



Mod. 4290

Systems of this page will be completed with the adjustable pin mod. 4290 (only with track mod. 4520).

End fitting, 2 sheaves (D=45 mm) and becket



Mod. 4271

Mod. 4691

Mod. 4694

CAR CONTROL 4:1

190

Mod. 4274/Z

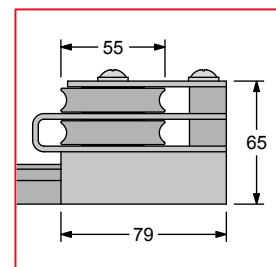
SIZE 190

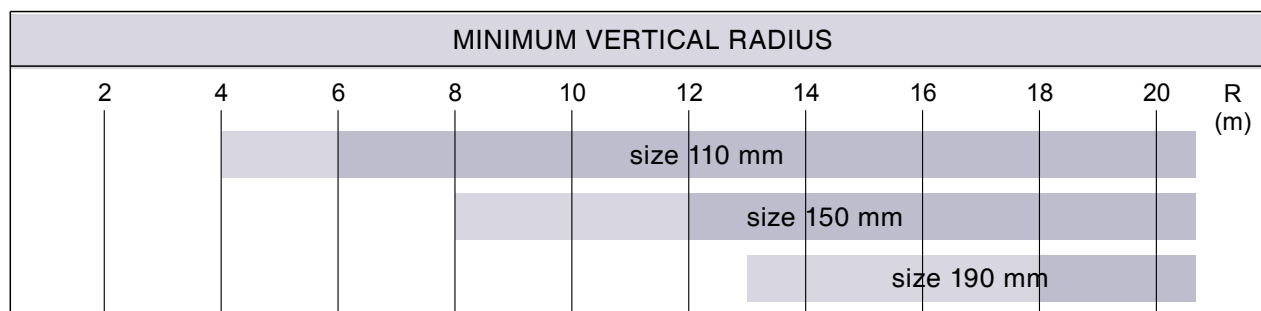
For boats up to 48 ft

This 190 mm long traveler (**SWL = 1900 kg**) is fitted with one 75 mm aluminium sheave with Composite Fibre main bearing for the genoa sheet, and two 55 mm resin sheaves for the car control.

All these sheaves are made with a double side ball bearing.

End fitting, 2 sheaves (D=55 mm) and becket



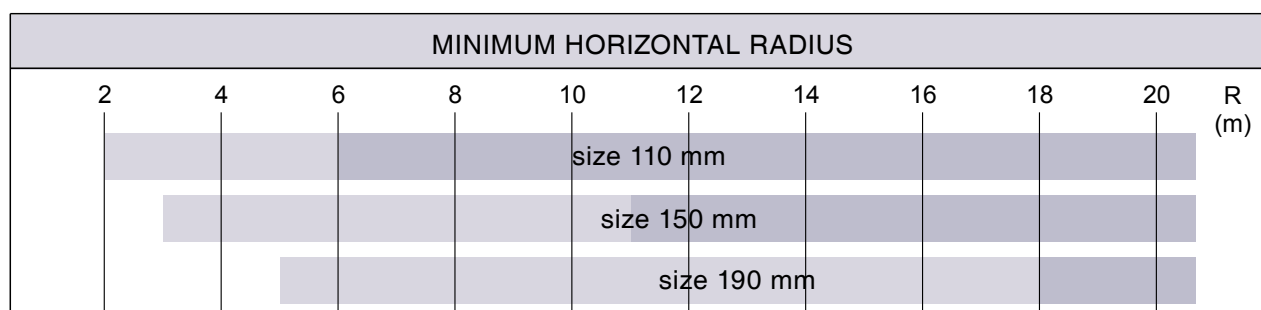


Acceptable



Acceptable but with a reduction of the working load

R = vertical bending



Acceptable



Acceptable only for a modified car

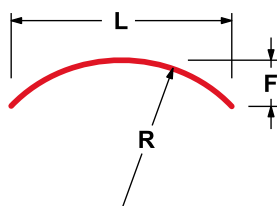
R = horizontal bending



Horizontally curved track with a size 110 car.

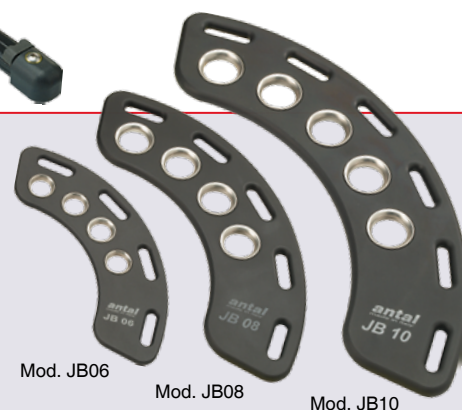
MAXIMUM BENDING (MINIMUM RADIUS) FOR ANTAL TRACKS

On request Antal will supply bent tracks whether in the vertical or in the horizontal plane. Minimum radius for different lengths of the car: 110, 150 and 190 mm are quoted on the tables.



To find the value of the curved radius start from the length L and height F of the arch using the following approximate formula (R, L and F will be measured with the same unit of length):

$$R = \frac{L^2}{8 \cdot F}$$



SELF-TACKING JIB BOARDS

5 hard black anodized aluminium models for "webbing" connection to the sail.

There are 4/5 different positions for the sheet block that will be simply fixed with an HR shackle.

SELF-TACKING SYSTEMS

Antal has two solutions for self-tacking using track and travelers of the new “4RACE” system.

The first solution (Dwg. 1) needs a “footblock” for the sheet on one side of the track; the sheet, from this footblock, goes to the cockpit. In this case the track will be curved only in the horizontal plane.

In the second solution (Dwg. 2 and 3) the sheet climbs up the mast then down and to the cockpit as a halyard. In this case the track will be curved vertically and trimmed forward. Travelers with one or two sheet blocks will be used.

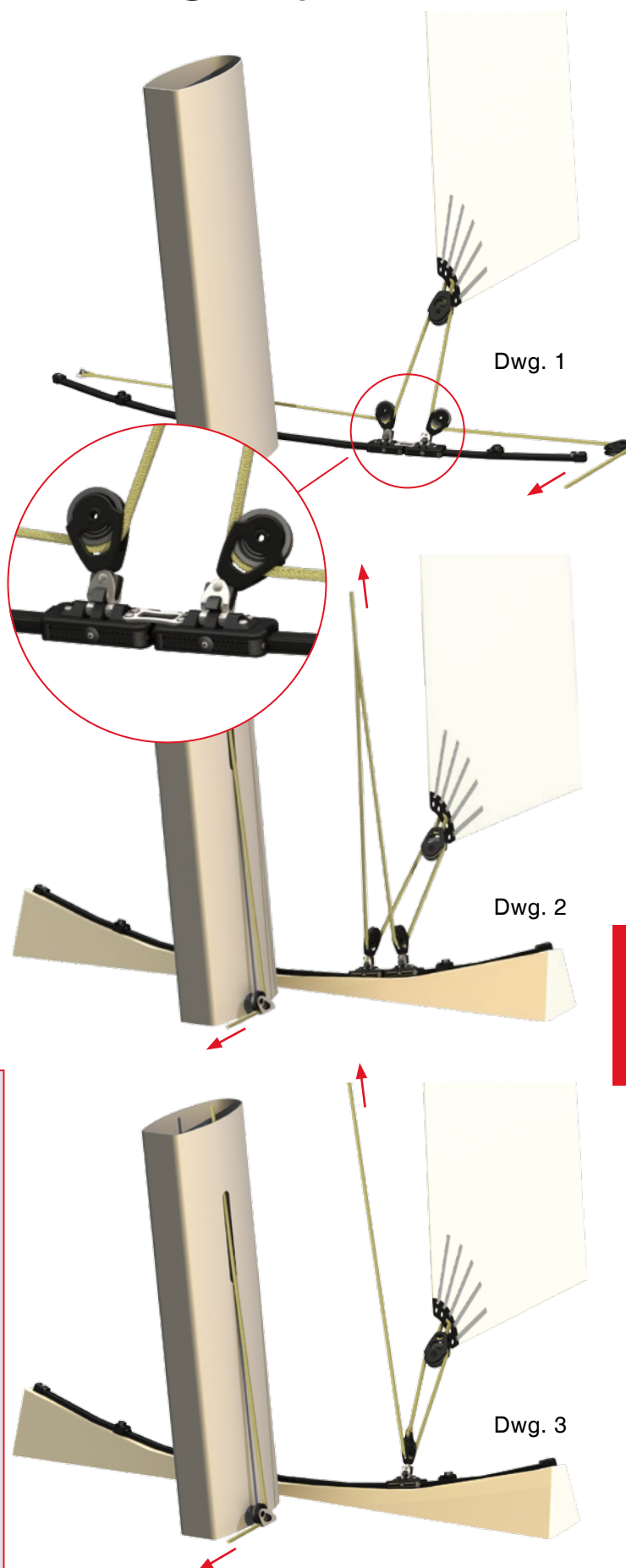
Double cars are often considered because a shorter car accepts a smaller radius.

To control the traveler moving it will be useful to consider also two side stop-pins (mod. 4290) and consequently the track for stop pin (mod. 4520).

Systems of drawings 1 and 2 are obtained with 2 x 110 mm travelers and 2 x 70 mm blocks (for boats up to 50 ft), or 2 x 150 mm travelers and 2 x 80 mm blocks (for boats over 50 ft).



MODEL	R mm	SWL kg	WEIGHT kg	A x B mm	HR SHACKLE mm
JB06	110	1000	0.10	6 x 18	6
JB08	150	1800	0.25	7 x 20	8
JB10	210	3000	0.60	7 x 24	10
JB12	270	5000	1.60	8 x 40	12
JB14	385	7000	3.85	12 x 50	14

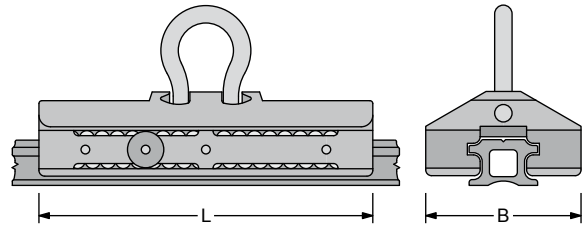


maxi 47 - sizes 230/330/430



TRAVELER LOAD AND SIZE

MODEL	L mm	B mm	SWL kg	WEIGHT kg
614.211	230	107	3800	2.10
614.221	330		5800	3.00
614.231	430		7200	3.90



Mod. 601.123

MAXI TRACK 47

Hard black anodized light alloy extrusion.

Weight = 1.8 kg/m

Fasteners = 10 mm screws / 100 mm spacing.

Mod. 601.123/R

MAXI 47 RACE VERSION

As the previous one with lightening holes.

Weight = 1.15 kg/m

Mod. 601.223

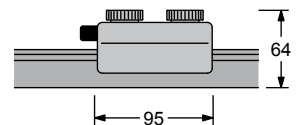
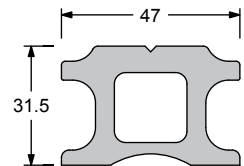
MAXI 47 WITH STOP-PIN HOLES

As the above Maxi track 47 with stop-pin holes.

Mod. 691.822

DOUBLE ADJUSTABLE STOP-PIN

Special double stop-pin with two independent "screw pins" (distance 50 mm). Only for track mod. 601.223

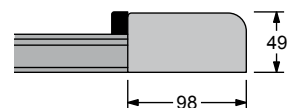


Mod. 691.560

SIMPLE END FITTING

Hard black anodized aluminium base with shock proof rubber.

Weight = 0.40 kg Fasteners = 2xØ10 mm screws

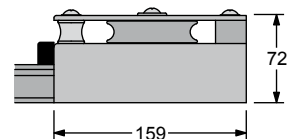


Mod. 691.561

END FITTING WITH 1 SHEAVE

Hard black anodized aluminium base, one D=75 mm sheave, one becket and shock proof rubber.

Weight = 0.90 kg Fasteners = 2xØ10 mm screws

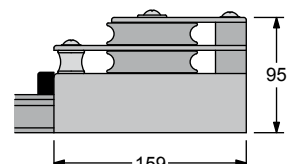


Mod. 691.563

END FITTING WITH 2 SHEAVES

Hard black anodized aluminium base, two D=75 mm sheave, one becket and shock proof rubber.

Weight = 1.05 kg Fasteners = 2xØ10 mm screws



MAINSHEET SYSTEM, MAXI 47 TRACK SIZE 230 TRAVELER

For boats up to 60 ft

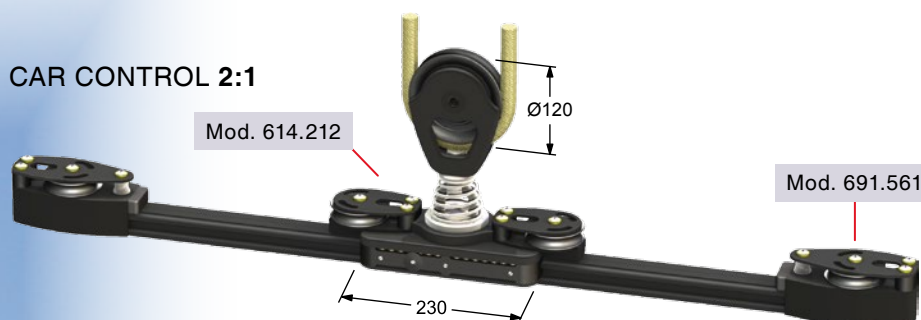
One 120 mm block, OPF series, can be fitted with a padeye and spring on the car for the mainsheet; one or two 75 mm sheaves for the car control.

Car control 2:1, 3:1 and 4:1 are shown below.

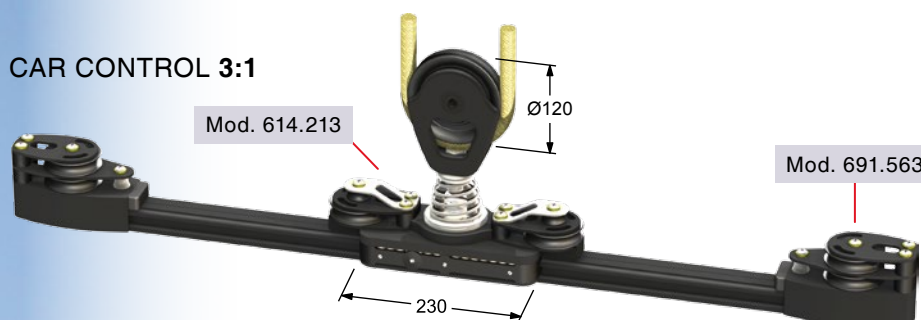
The mainsheet block is not included.

SWL = 3800 kg

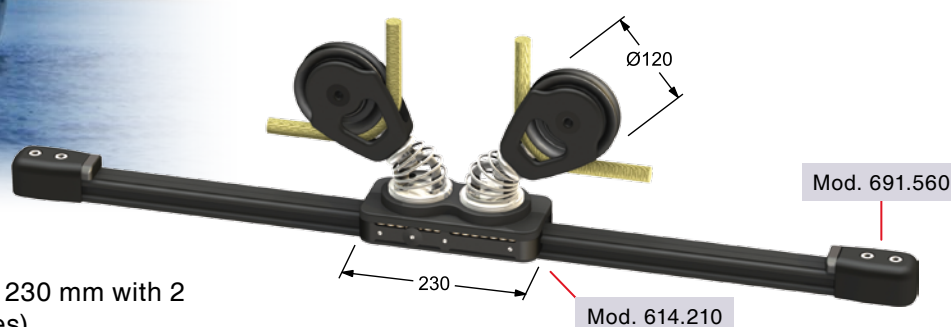
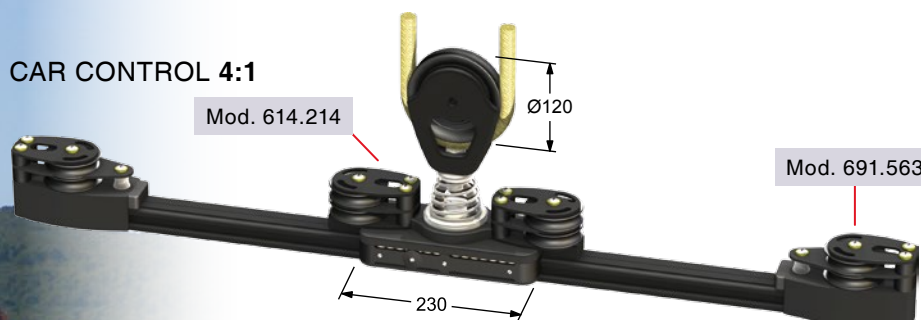
CAR CONTROL 2:1



CAR CONTROL 3:1



CAR CONTROL 4:1



SELF-TACKING SOLUTION

On the maxi 47 track there is a 230 mm with 2 blocks size 120 mm (OPF series). Sheet blocks are not included.

Bright Line Yacht - L655

maxi 47 - size 330



MAINSHEET SYSTEM, MAXI 47 TRACK SIZE 330 TRAVELER

For boats up to 70 ft

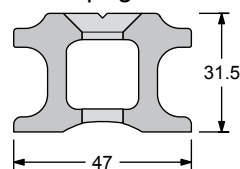
1x140 or 2x120 mm blocks (OPF series) can be fitted with a padeye and spring on the car for the mainsheet; one or two 75 mm sheaves for the car control.

Car control 2:1 and 3:1 are shown below.

The mainsheet block is not included.

SWL = 5800 kg

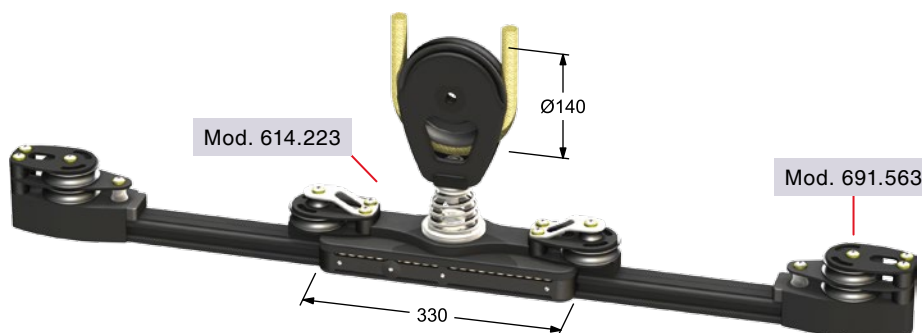
Information about the track on page 124



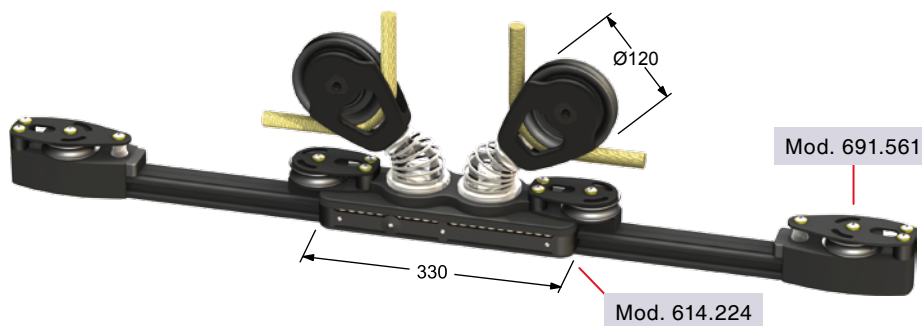
CAR CONTROL 2:1



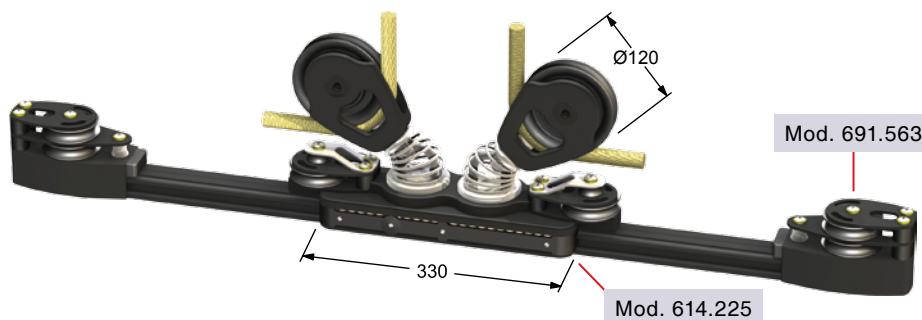
CAR CONTROL 3:1



CAR CONTROL 2:1



CAR CONTROL 3:1



MAINSHEET SYSTEM, MAXI 47 TRACK SIZE 430 TRAVELER

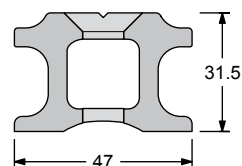
For boats up to 80 ft

2x120 or 3x120 mm blocks (OPF series) can be fitted with a padeye and spring on the car for the mainsheet; one or two 75 mm sheaves for the car control. Car control 2:1 and 3:1 are shown below.

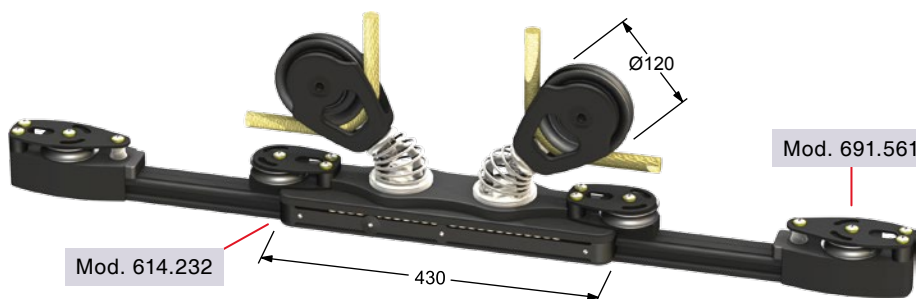
The mainsheet block is not included.

SWL = 7200 kg

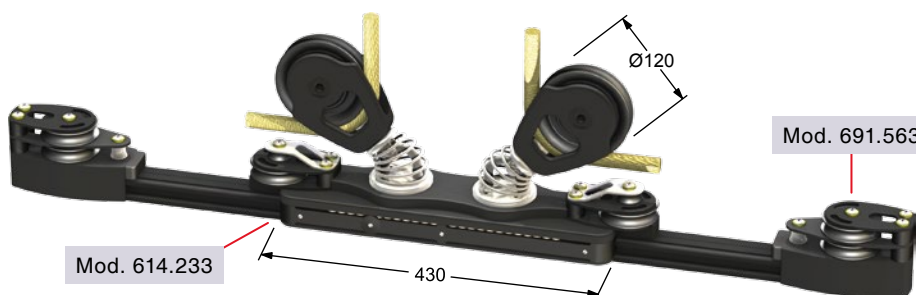
Information about the track on page 124



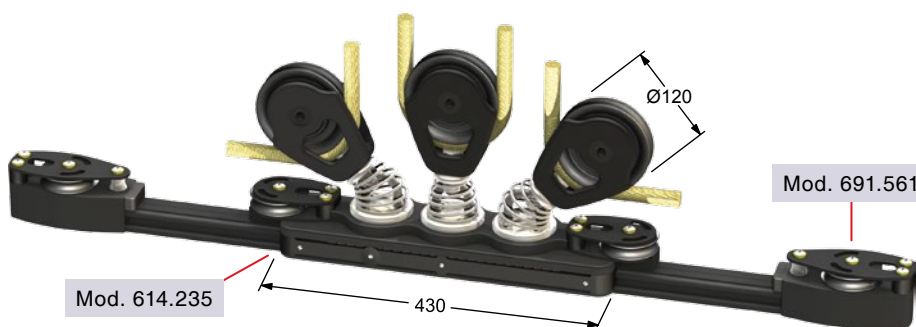
CAR CONTROL 2:1



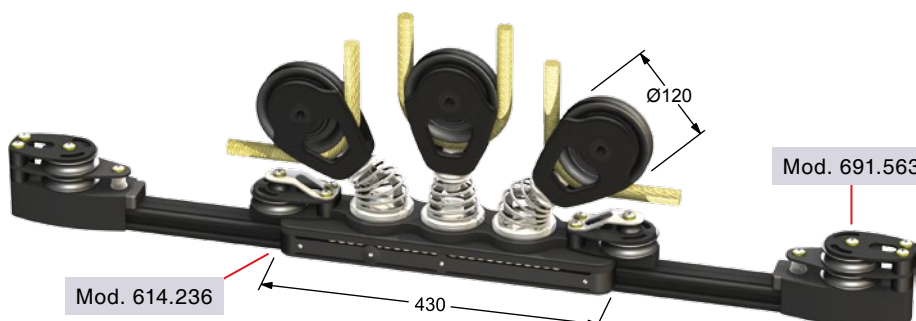
CAR CONTROL 3:1



CAR CONTROL 2:1



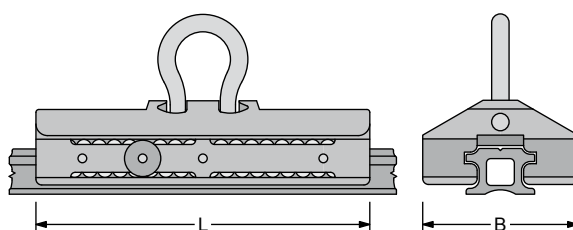
CAR CONTROL 3:1



maxi 67 - sizes 330 / 430

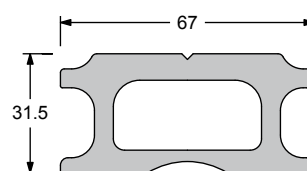


TRAVELER LOAD AND SIZE				
MODEL	L mm	B mm	SWL kg	WEIGHT kg
615.221	330	127	5800	4.30
615.231	430		7200	5.50



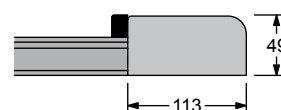
Mod. 601.124 **MAXI TRACK 67**

Hard black anodized light alloy extrusion.
Weight = 2.4 kg/m
Fasteners = 12 mm screws / 100 mm spacing.



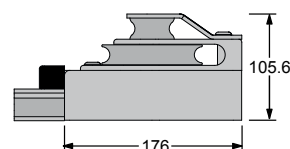
Mod. 691.660 **SIMPLE END FITTING**

Hard black anodized aluminium base with shock proof rubber.
Weight = 0.60 kg Fasteners = 2xØ12 mm screws



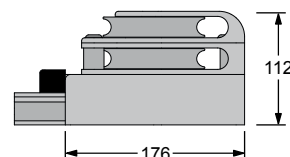
Mod. 691.661 **END FITTING WITH 1 SHEAVE**

Hard black anodized aluminium base, one D=100 mm sheave (Opf series p.61), one becket and shock proof rubber.
Weight = 1.30 kg Fasteners = 2xØ12 mm screws



Mod. 691.663 **END FITTING WITH 2 SHEAVES**

Hard black anodized aluminium base, two D=100 mm sheave (Opf series p.61), one becket and shock proof rubber.
Weight = 1.50 kg Fasteners = 2xØ12 mm screws



CUSTOM MODEL

Two cars 330 mm long
and two blocks 150 mm
diameter.

SWL = 2 x 5800 kg

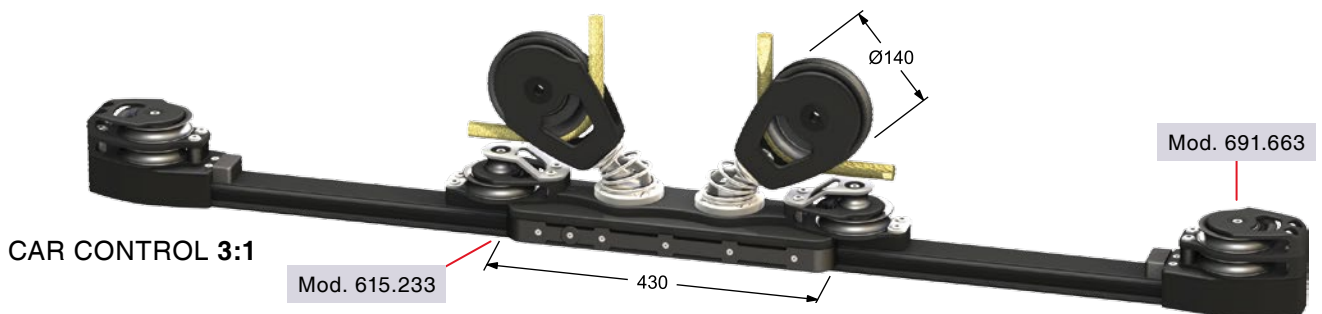
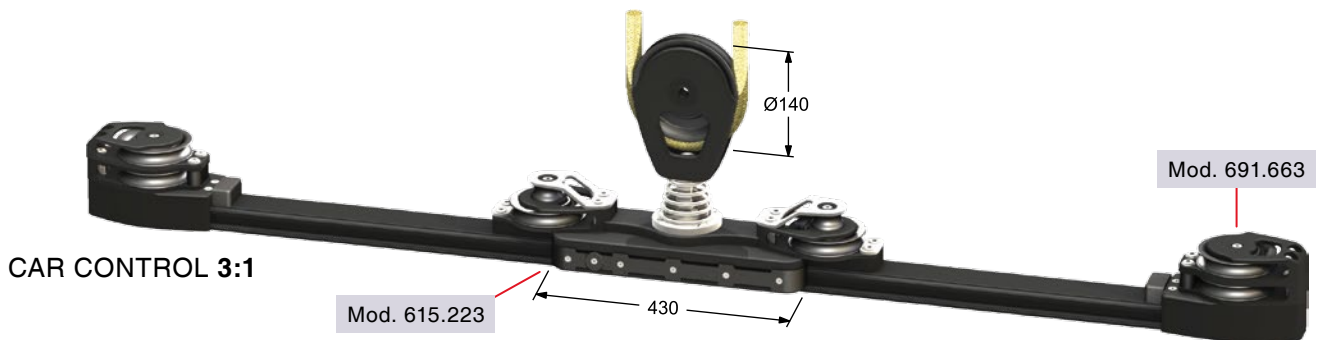
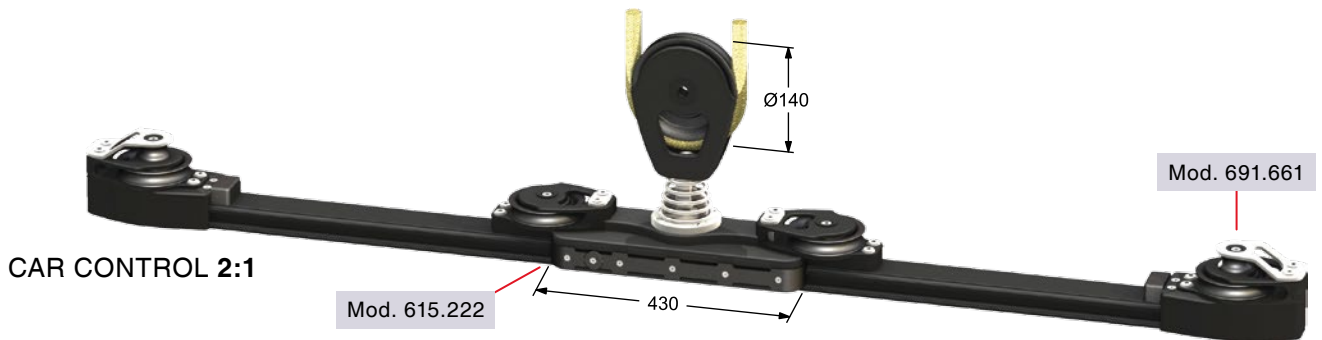
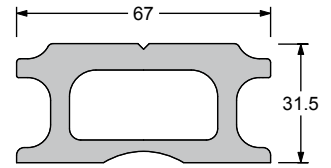
**MAINSHEET SYSTEM, MAXI 67 TRACK
SIZE 330-430 TRAVELER SWL = 5800-7200 kg**

D=140 mm or D=120 mm blocks (OPF series) can be fitted with a padeye and spring on the car for the mainsheet; two D=100 mm sheaves for the car control.

Car control 2:1 and 3:1 are shown below.

The mainsheet block is not included.

Information about the track on page 128



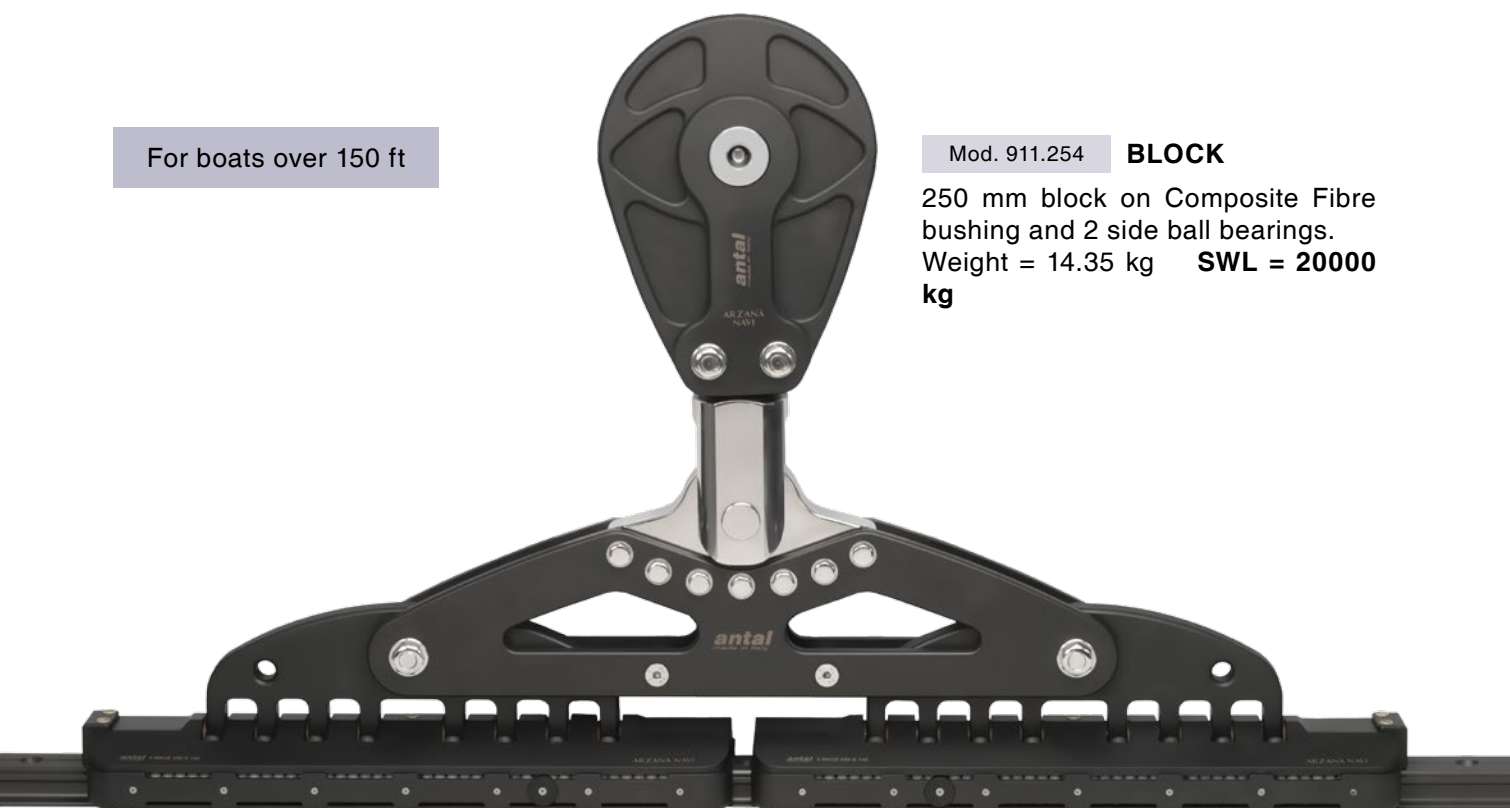
antal for maxi yachts



For boats over 150 ft

Mod. 911.254 **BLOCK**

250 mm block on Composite Fibre bushing and 2 side ball bearings.
Weight = 14.35 kg **SWL = 20000 kg**



TRAVELERS

2 x 530 mm long, hard black anodized aluminium one-piece body on Torlon ball bearings Antal 4Race system (Each traveler works on 424 balls).

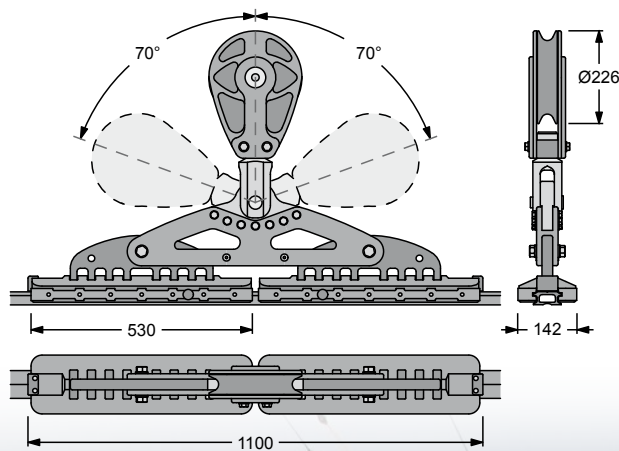
Weight = 26 kg **SWL = 18000 kg**

TRACK MAXI 67

Hard black anodized and teflon coated aluminium extrusion 4Race system.

Weight = 2.40 kg/m

Fasteners = 12 mm screws / 100 mm spacing



Nativa 50 m - Bill Tripp

safety device for outboard cleaning and maintenance



The operator (using a suitable harness) is tied to a double traveler that slides horizontally on the rail and is free to reach the working area in perfect safety.

The double traveler is fitted with two shackles and a stop pin:

- stop pin open: it allows the traveler to slide along the whole track;
- stop pin closed: it locks the traveler when it intercepts the first hole in the rail.

Other travelers (without any stop pin) can be connected to the main traveler for further security and for carrying tools or any other material (bosun's chair, etc.)

The system consists of:

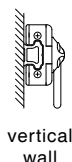
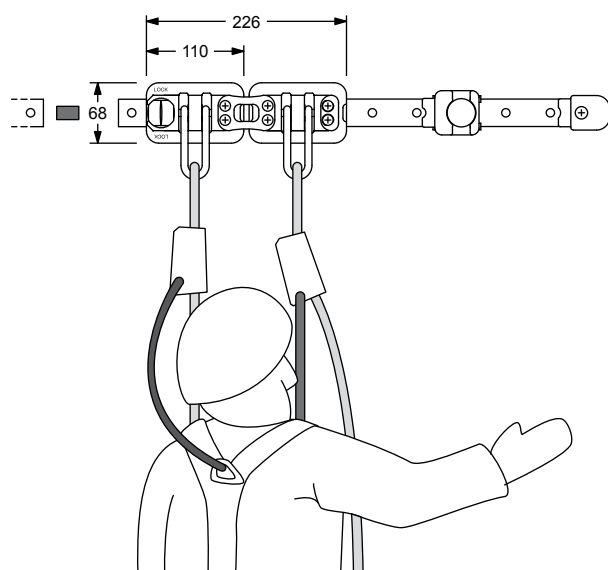
Mod. 4523 Tubular track (31x21 mm) in high resistance hard black (silver on request) anodized extruded aluminium, Ø8 mm fixing screws every 100 mm, holes to stop the traveler every 50 mm, weight 0.75 kg/m, available in 3 m lengths.

Mod. 4271 Plastic end fitting with rubber protection.

Mod. 4118 Hard black anodized aluminium double traveler (2x110 mm). The traveler slides on four circuits of Torlon balls and its hold is guaranteed even in the event of the balls failing. Two AISI 316 steel shackles with 180° rotation.

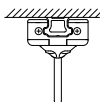
Mod. 4290 Aluminium stop pin on nylon guides.

Mod. 4283 Track joint.

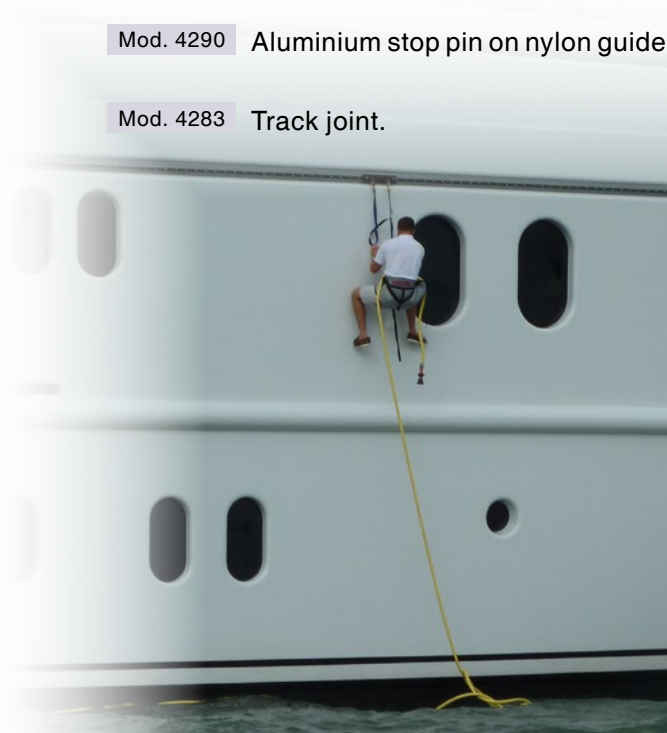


vertical wall

The track can be fixed both on a horizontal surface and on a vertical wall.



horizontal surface





full batten systems



HS guide systems..... 134



Fibreball systems..... 143



special products..... 154



batten receptacles 156



6 different tracks and 14 slider systems, a wide and complete range for full-batten mainsails, for boats from 30 to 100 ft and for multihulls.

HS GUIDE SYSTEMS

A simple and efficient solution with minimum sizes for very high loads, designed for racing. The HS guide systems have been developed also for cruising and charter boats.

NEW FIBREBALL SYSTEMS

Designed for large boats and for mainsails with a large roach, they offer the high strength of HS Fibre Guides (for tension load) and the low friction of the Torlon ball bearing (for compression).

full batten HS guide systems



HS SYSTEM

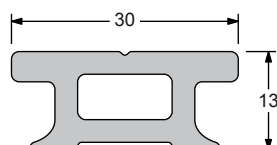
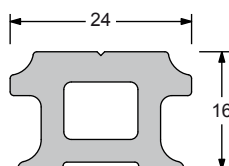
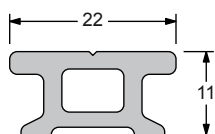
The Antal HS Guide System is designed for boats with full batten mainsails that experience high loads and compression-loading on the mainsail luff. The system's aluminium sliders contain HS composite fibre inserts that run on aluminium track mounted on the mast. HS composite fibre is a new material that is durable over long periods of use and offers extremely low friction coefficients. The material is made from special resins strengthened with fibre and is self lubricating.

The HS Guide System provides the following advantages:

- the low friction properties of the HS composite fibre allows the cars to be shorter than standard ball-bearing car systems, thereby reducing the stacking height at the mast when the sail is down;
- the lower cars can easily be removed from the track when the sail is reefed, thereby keeping the tack low to the boom;
- minimum friction under load;
- less maintenance than ball bearing car systems;
- cars can easily be removed and re-installed on the track whenever the mainsail is changed.

Each batten end fitting is attached to a slider with a triaxial joint to ensure that the batten can freely orient itself under all points of sail.

At least one simple slider should be attached to the sail with nylon webbing between two battens. A headboard is attached to the sail with webbing and is secured to the slider (double or triple) with a clevis pin which allows the headboard to pivot and to be removed.



TRACK	SYSTEM	FOR BOATS UP TO	PAGE
HS 22	40	40'	135
	50/R	50' (Racing)	136
	60/R	60' (Racing)	137
HS 24	50	50'	138
	60	60'	139
	70	70'	140
HS 30	90	80'	141
	130	100'	142

HS22.40 system

HS22 Track 40 mm sliders For boats up to 40 ft

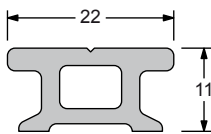
Mod. HS22.40D

HEADBOARD SLIDERS

Length = 130 mm

Weight = 0.19 kg

SWL = 700 kg (horizontal)



Track and
accessories
on page 148

Mod. HS22.40S

SIMPLE SLIDER

Length = 40 mm

Weight = 0.04 kg

SWL = 350 kg (horizontal)

16 mm webbing

Mod. HS22.40J

SLIDER WITH JOINT

Length = 40 mm

Weight = 0.07 kg

SWL = 350 kg (horizontal)

10 MA Threaded Pin

HS22.40 system sliders run on inserts made of self-lubricating resin.



Mod. HS22.44

HEADBOARD 40°

Height = 122 mm

Width = 126 mm

Weight = 0.11 kg

SWL = 1300 kg (vertical)

20 mm webbing

Mod. HS22.46

HEADBOARD 60°

Height = 122 mm

Width = 145 mm

Weight = 0.12 kg

SWL = 1300 kg (vertical)

20 mm webbing

Mod. HS22.49

HEADBOARD 90°

Height = 118 mm

Width = 100 mm

Weight = 0.09 kg

20 mm webbing

Mod. 609.320

SBR RECEPTACLE

on page 156

SYSTEM HS22.40/R

FOR RACING BOATS UP TO 40 ft

As system HS22.40, but with sliders on HS fiber guides instead of resin guides (/R)

Mod. HS22.40D/R

HEADBOARD SLIDERS

Mod. HS22.40S/R

SIMPLE SLIDER

Mod. HS22.40J/R

SLIDER WITH JOINT

HS22.50/R system

HS22 Track 50 mm sliders For 50 ft racing boats

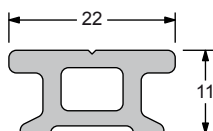
Mod. HS22.50D/R

HEADBOARD SLIDERS

Length = 150 mm

Weight = 0.33 kg

SWL = 1600 kg (horizontal)



Track and
accessories
on page 148

Mod. HS22.50S/R

Mod. HS22.70J/R

SLIDER WITH JOINT

Top batten

Length = 70 mm

Weight = 0.23 kg

SWL = 1300 kg (horizontal)

12 MA Threaded Pin

Mod. HS22.50S/R

SIMPLE SLIDER

Length = 50 mm

Weight = 0.08 kg

SWL = 800 kg (horizontal)

18 mm webbing

Mod. HS22.50J/R

SLIDER WITH JOINT

Lower battens

Length = 50 mm

Weight = 0.14 kg

SWL = 800 kg (horizontal)

10 MA Threaded Pin

Mod. HS24.54

HEADBOARD 40°

Height = 136 mm

Width = 147 mm

Weight = 0.19 kg

SWL = 2000 kg (vertical)
25 mm webbing

Mod. HS24.56

HEADBOARD 60°

Height = 136 mm

Width = 182 mm

Weight = 0.25 kg

SWL = 2000 kg (vertical)
25 mm webbing

Mod. HS24.59

HEADBOARD 90°

Height = 146 mm

Width = 120 mm

Weight = 0.18 kg

SWL = 2000 kg (vertical)
25 mm webbing

Mod. 609.321

SBR RECEPTACLE

on page 156

HS22.60/R system

HS22 Track 60 mm sliders For 60 ft racing boats

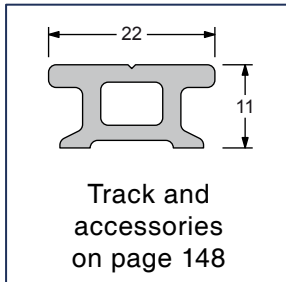
Mod. HS22.60T/R

HEADBOARD SLIDERS

Length = 201 mm

Weight = 0.65 kg

SWL = 3900 kg (horizontal)



Mod. HS22.50S/R

Mod. HS22.90J/R

SLIDER WITH JOINT

Top batten

Length = 90 mm

Weight = 0.29 kg

SWL = 1300 kg (horizontal)

12 MA Threaded Pin

Mod. HS22.50S/R

SIMPLE SLIDER

Length = 50 mm

Weight = 0.08 kg

SWL = 800 kg (horizontal)

20 mm webbing

Mod. HS22.60J/R

SLIDER WITH JOINT

Lower battens

Length = 60 mm

Weight = 0.20 kg

SWL = 1300 kg (horizontal)

12 MA Threaded Pin

Mod. HS22.110

SLIDER OUTHAUL

Length = 110 mm

Weight = 0.30 kg

SWL = 1800 kg (horizontal)

For two 25 mm webbing

Mod. HS24.64

HEADBOARD 40°

Height = 182 mm

Width = 193 mm

Weight = 0.43 kg

SWL = 3500 kg (vertical)

35 mm webbing

Mod. HS24.66

HEADBOARD 60°

Height = 182 mm

Width = 240 mm

Weight = 0.54 kg

SWL = 3500 kg (vertical)

For 35 mm webbing

Mod. HS24.69

HEADBOARD 90°

Height = 180 mm

Width = 142 mm

Weight = 0.38 kg

SWL = 3500 kg (vertical)

35 mm webbing

Mod. 609.323

SBR RECEPTACLE

on page 157

HS24.50 system

Track HS24 50 mm Sliders For 50 ft boats

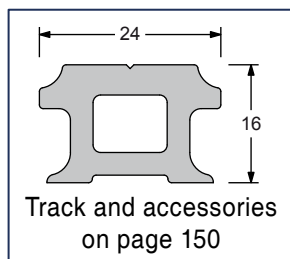
Mod. HS24.50D

HEADBOARD SLIDERS

Length = 150 mm

Weight = 0.37 kg

SWL = 1600 kg (horizontal)



Mod. HS24.50S

SIMPLE SLIDER

Length = 50 mm

Weight = 0.09 kg

SWL = 800 kg (horizontal)

18 mm webbing

Mod. HS24.50J

SLIDER WITH JOINT

Length = 50 mm

Weight = 0.14 kg

SWL = 800 kg (horizontal)

10 MA Threaded Pin

Mod. HS24.54

HEADBOARD 40°

Height = 136 mm

Width = 147 mm

Weight = 0.19 kg

SWL = 2000 kg (vertical)
25 mm webbing

Mod. HS24.56

HEADBOARD 60°

Height = 136 mm

Width = 182 mm

Weight = 0.25 kg

SWL = 2000 kg (vertical)
25 mm webbing

Mod. HS24.59

HEADBOARD 90°

Height = 146 mm

Width = 120 mm

Weight = 0.18 kg

SWL = 2000 kg (vertical)
25 mm webbing

Mod. 609.321

SBR RECEPTACLE

on page 156

HS24.60 system

Track **HS24** **60 mm** Sliders For **60 ft** boats

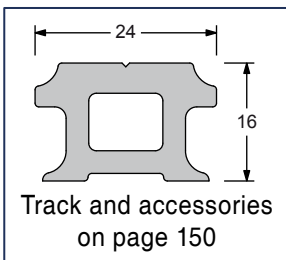
Mod. HS24.60T

HEADBOARD SLIDERS

Length = 201 mm

Weight = 0.73 kg

SWL = 3900 kg (horizontal)



Mod. HS24.50S

Mod. HS24.60J

SLIDER WITH JOINT

Top batten

Length = 60 mm

Weight = 0.21 kg

SWL = 1300 kg (horizontal)

12 MA Threaded Pin

Mod. HS24.50S

SIMPLE SLIDER

Length = 50 mm

Weight = 0.09 kg

SWL = 800 kg (horizontal)

18 mm webbing

Mod. HS24.50J

SLIDER WITH JOINT

Lower battens

Length = 50 mm

Weight = 0.14 kg

SWL = 800 kg (horizontal)

10 MA Threaded Pin

Mod. HS24.64

HEADBOARD 40°

Height = 182 mm

Width = 193 mm

Weight = 0.43 kg

SWL = 3500 kg (vertical)
35 mm webbing

Mod. HS24.66

HEADBOARD 60°

Height = 182 mm

Width = 240 mm

Weight = 0.54 kg

SWL = 3500 kg (vertical)
35 mm webbing

Mod. HS24.69

HEADBOARD 90°

Height = 180 mm

Width = 142 mm

Weight = 0.38 kg

SWL = 3500 kg (vertical)
35 mm webbing

Mod. 609.323

SBR RECEPTACLE

on page 156

system HS24.70

Track HS24

Sliders 70 mm

For boats 70 ft

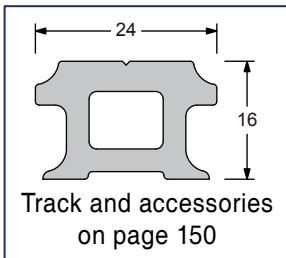
Mod. HS24.70Q

HEADBOARD SLIDERS

Length = 340 mm

Weight = 1.28 kg

SWL = 5200 kg (horizontal)



Mod. HS24.50S

SIMPLE SLIDER

Length = 50 mm

Weight = 0.09 kg

SWL = 800 kg (horizontal)

18 mm webbing

Mod. HS24.70J

SLIDER WITH JOINT

Top batten

Length = 70 mm

Weight = 0.24 kg

SWL = 1500 kg (horizontal)

14 MA Threaded Pin

Mod. HS24.50S

Mod. HS24.60J

SLIDER WITH JOINT

Lower batten

Length = 60 mm

Weight = 0.21 kg

SWL = 1300 kg (horizontal)

12 MA Threaded Pin

Mod. HS24.74

HEADBOARD 40°

Height = 281 mm

Width = 279 mm

Weight = 1.06 kg

SWL = 5000 kg (vertical)

40 mm webbing

Mod. HS24.76

HEADBOARD 60°

Height = 281 mm

Width = 359 mm

Weight = 1.18 kg

SWL = 5000 kg (vertical)

40 mm webbing

Mod. HS24.79

HEADBOARD 90°

Height = 225 mm

Width = 180 mm

Weight = 0.71 kg

SWL = 5000 kg (vertical)

40 mm webbing

Mod. 609.325

SBR RECEPTACLE

on page 157

system HS30.90

Track HS30 Sliders 90/110 mm For boats 80-90 ft

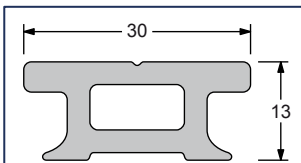
Mod. HS30.70Q

HEADBOARD SLIDERS

Length = 340 mm

Weight = 1.63 kg

SWL = 5200 kg (horizontal)



Track and accessories
on page 151

Mod. HS30.70S

Mod. HS30.110J

SLIDER WITH JOINT

Top batten

Length = 110 mm

Weight = 0.47 kg

SWL = 2200 kg (horizontal)

14 MA Threaded Pin

Mod. HS30.70S

SIMPLE SLIDER

Length = 70 mm

Weight = 0.20 kg

SWL = 1300 kg (horizontal)

25 mm webbing

Mod. HS30.90J

SLIDER WITH JOINT

Lower batten

Length = 90 mm

Weight = 0.39 kg

SWL = 1900 kg (horizontal)

14 MA Threaded Pin

Mod. HS30.116

SLIDER OUTHAUL

Length = 116 mm

Weight = 0.32 kg

SWL = 2500 kg (horizontal)

2 X 25 mm webbings

Mod. HS30.74

HEADBOARD 40°

Height = 281 mm

Width = 279 mm

Weight = 1.30 kg

SWL = 6200 kg (vertical)
40 mm webbing

Mod. HS30.76

HEADBOARD 60°

Height = 281 mm

Width = 359 mm

Weight = 1.47 kg

SWL = 6200 kg (vertical)
40 mm webbing

Mod. HS30.79

HEADBOARD 90°

Height = 225 mm

Width = 180 mm

Weight = 0.88 kg

SWL = 6200 kg (vertical)
40 mm webbing

Mod. 609.325

SBR RECEPTACLE

on page 157

HS30.130 system

HS30 Track 130 mm Sliders For 100 ft boats

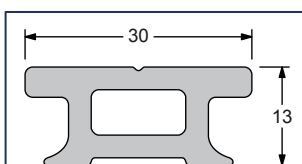
Mod. HS30.90Q

HEADBOARD SLIDERS

Length = 366 mm

Weight = 1.88 kg

SWL = 6600 kg (horizontal)



track and accessories
on page 151

Mod. HS30.70S

SIMPLE SLIDER

Length = 70 mm

Weight = 0.20 kg

SWL = 1300 kg (horizontal)

25 mm webbing

Mod. HS30.130J

SLIDER WITH JOINT

Length = 130 mm

Weight = 0.75 kg

SWL = 3000 kg (horizontal)

16 MA Threaded Pin

Mod. HS30.116

SLIDER OUTHAUL

Length = 116 mm

Weight = 0.32 kg

SWL = 2500 kg (horizontal)

2 X 25 mm webbing

Mod. HS30.74

HEADBOARD 40°

Height = 281 mm

Width = 279 mm

Weight = 1.30 kg

SWL = 6200 kg (vertical)

Webbing 40 mm

Mod. HS30.76

HEADBOARD 60°

Height = 281 mm

Width = 359 mm

Weight = 1.47 kg

SWL = 6200 kg (vertical)

Webbing 40 mm

Mod. HS30.79

HEADBOARD 90°

Height = 225 mm

Width = 180 mm

Weight = 0.88 kg

SWL = 6200 kg (vertical)

40 mm webbing

Mod. 609.326

SBR RECEPTACLE

on page 157

full batten Fibreball system



NEW FIBREBALL SYSTEMS

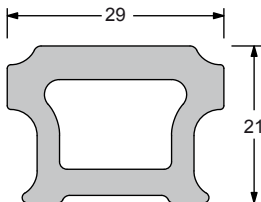
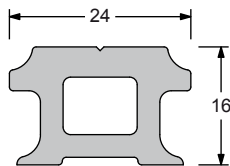
Designed for large boats and for mainsails with a large roach, they offer the high strength of HS Fibre Guides (for tension load) and the low friction of the Torlon ball bearing (for compression).

Maximum load because the HS fibre guides give excellent resistance to the main pull loads despite the compact size of the carriages.

Each batten end fitting is attached to a slider with a triaxial joint to ensure that the batten can freely orient itself under all points of sail. At least one simple slider should be attached to the sail with nylon webbing between two battens. A headboard is attached to the sail with webbing and is secured to the slider (double) with a clevis pin which allows the headboard to pivot and to be removed.



Self-captive bearings: it's impossible for the bearings in the slider to come out, so it's possible to take off the sliders from the track.



TRACK	SYSTEM	FOR BOATS UP TO	PAGE
FB 24	60	50'	144
	90	60'	145
	120	70'	146
FB 29	190	100'	147

FB24.60 system

HS24 Track

60 mm sliders

For 50 ft boats

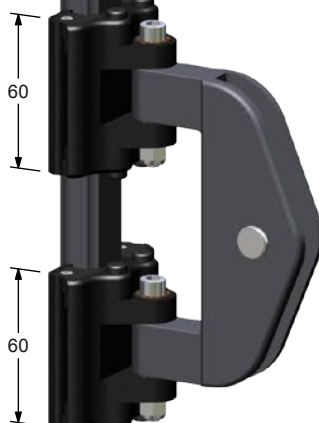
Mod. FB24.60D

HEADBOARD SLIDERS

Length = 160 mm

Weight = 0.30 kg

SWL = 1600 kg (horizontal)



Mod. HS24.54

HEADBOARD 40°

Height = 136 mm

Width = 147 mm

Weight = 0.19 kg

SWL = 2000 kg (vertical)

25 mm webbing



Mod. HS24.56

HEADBOARD 60°

Height = 136 mm

Width = 182 mm

Weight = 0.25 kg

SWL = 2000 kg (vertical)

25 mm webbing



Mod. HS24.59

HEADBOARD 90°

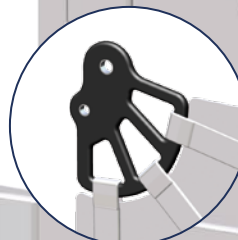
Height = 146 mm

Width = 120 mm

Weight = 0.18 kg

SWL = 2000 kg (vertical)

25 mm webbing



Mod. FB24.60S

SIMPLE SLIDER

Length = 60 mm

Weight = 0.12 kg

SWL = 800 kg (horizontal)

25 mm webbing



Mod. FB24.60J

SLIDER WITH JOINT

Length = 60 mm

Weight = 0.16 kg

SWL = 800 kg (horizontal)

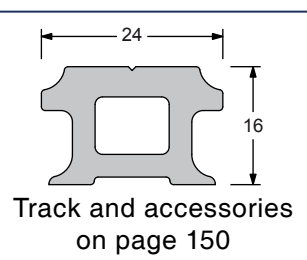
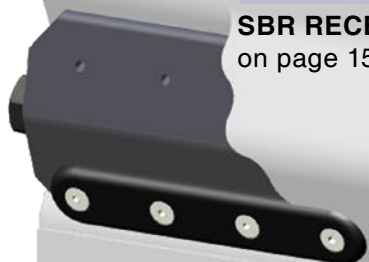
10 MA Threaded Pin



Mod. 609.321

SBR RECEPTACLE

on page 156



FB24.90 system

HS24 Track

90 mm sliders

For 60 ft boats

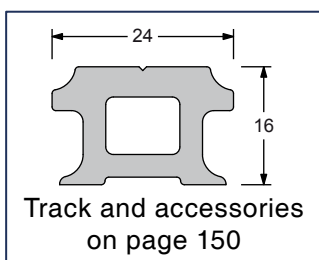
Mod. FB24.90D

HEADBOARD SLIDERS

Length = 240 mm

Weight = 0.50 kg

SWL = 2600 kg (horizontal)



Mod. FB24.60S

SIMPLE SLIDER

Length = 60 mm

Weight = 0.12 kg

SWL = 800 kg (horizontal)

18 mm webbing

Mod. FB24.90J

SLIDER WITH JOINT

Length = 90 mm

Weight = 0.24 kg

SWL = 1300 kg (horizontal)

12 MA Threaded Pin

Mod. FB24.120

SLIDER OUTHAUL

Length = 120 mm

Weight = 0.24 kg

SWL = 1600 kg (horizontal)

2 x 18 mm webbing

Mod. HS24.64

HEADBOARD 40°

Height = 182 mm

Width = 193 mm

Weight = 0.43 kg

SWL = 3500 kg (vertical)

35 mm webbing

Mod. HS24.66

HEADBOARD 60°

Height = 182 mm

Width = 240 mm

Weight = 0.54 kg

SWL = 3500 kg (vertical)

35 mm webbing

Mod. HS24.69

HEADBOARD 90°

Height = 180 mm

Width = 142 mm

Weight = 0.38 kg

SWL = 3500 kg (vertical)

35 mm webbing

Mod. 609.323

SBR RECEPTACLE

on page 156



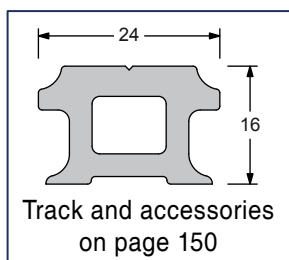
FB24.120 system

HS24 Track 120 mm sliders For 70 ft boats

Mod. FB24.120D

HEADBOARD SLIDERS

Length = 340 mm
Weight = 0.90 kg
SWL = 3200 kg (Horizontal)



Mod. FB24.60S

SIMPLE SLIDER

Length = 60 mm
Weight = 0.12 kg
SWL = 800 kg (Horizontal)
18 mm webbing

Mod. FB24.120J

SLIDER WITH JOINT

Length = 120 mm
Weight = 0.36 kg
SWL = 1600 kg (Horizontal)
14 MA Threaded Pin

Mod. FB24.120

SLIDER OUTHAUL

Length = 120 mm
Weight = 0.24 kg
SWL = 1600 kg (Horizontal)
2 x 18 mm webbing

Mod. HS24.74

HEADBOARD 40°

Height = 281 mm
Width = 279 mm
Weight = 1.06 kg
SWL = 5000 kg (Vertical)
40 mm webbing

Mod. HS24.76

HEADBOARD 60°

Height = 281 mm
Width = 359 mm
Weight = 1.18 kg
SWL = 5000 kg (Vertical)
40 mm webbing

Mod. HS24.79

HEADBOARD 90°

Height = 225 mm
Width = 180 mm
Weight = 0.71 kg
SWL = 5000 kg (Vertical)
40 mm webbing

Mod. 609.325

SBR RECEPTACLE

on page 156

FB29.190 system

FB29 Track 190 mm sliders For 100 ft boats

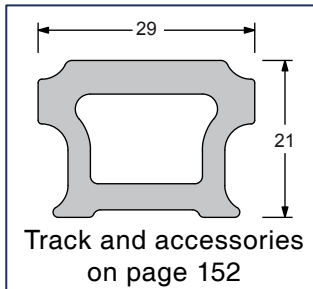
Mod. FB29.190D

HEADBOARD SLIDERS

Length = 390 mm

Weight = 2.09 kg

SWL = 6000 kg (Horizontal)



Mod. FB29.90S

Mod. FB29.190J

SLIDER WITH JOINT

Top batten

Length = 190 mm

Weight = 1.10 kg

SWL = 3000 kg (Horizontal)

16 MA Threaded Pin

Mod. FB29.90S

SIMPLE SLIDER

Length = 90 mm

Weight = 0.31 kg

SWL = 1600 kg (Horizontal)

25 mm webbing

Mod. FB29.150J

SLIDER WITH JOINT

Lower battens

Length = 150 mm

Weight = 0.88 kg

SWL = 2200 kg (Horizontal)

14 MA Threaded Pin

Mod. FB29.190

SLIDER OUTHAUL

Length = 190 mm

Weight = 0.65 kg

SWL = 3000 kg (Horizontal)

2 x 25 mm webbing

Mod. HS30.74

HEADBOARD 40°

Height = 281 mm

Width = 279 mm

Weight = 1.30 kg

SWL = 6200 kg (Vertical)

40 mm webbing

Mod. HS30.76

HEADBOARD 60°

Height = 281 mm

Width = 359 mm

Weight = 1.47 kg

SWL = 6200 kg (Vertical)

40 mm webbing

Mod. HS30.79

HEADBOARD 90°

Height = 225 mm

Width = 180 mm

Weight = 0.88 kg

SWL = 6200 kg (Vertical)

40 mm webbing

Mod. 609.326

SBR RECEPTACLE

on page 157



HS22 track

HS22 track is made for systems:
HS22.40, HS22.40/R (page 135),
HS22.50/R (page 136) and
HS22.60/R (page 137).

Mod. HS22.13 END FITTING

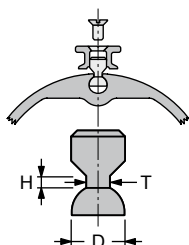
Made in plastic; should be attached to the mast with 2 X 5 mm screws.

Mod. HS22.12 JOINT

In order to ensure proper alignment the sections of the track can be jointed together with a nylon fitting; track joint is supplied with 2 screws.

SLUGS

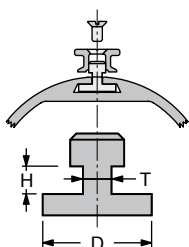
7 standard models for round or flat grooves are available; custom slugs are made on request; the slugs are provided in kits of 17 pieces (17 slugs and 17 screws); each kit includes enough parts to attach 2 m of track with 120 mm hole spacing. Screws should always be fixed using Loctite 222.



SLUGS - ROUND GROOVE

MODEL	T mm	D mm	H mm
HS22.04R	3.9	8.7	2.0
HS22.05R	4.7	9.5	2.0

5 x Ø10 mm screws



SLUGS - FLAT GROOVE

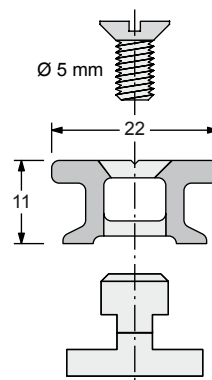
MODEL	T mm	D mm	H mm
HS22.05F	4.7	18.0	4.6
HS22.08F	7.8	20.0	4.6
HS22.10F	9.8	20.0	2.0
HS22.12F	11.8	24.0	3.0
HS22.14F	13.6	24.0	3.0

5 x Ø10 mm screws

Mod. HS22.15 INSTALLATION TOOL

It is necessary to position the slugs with the mast in vertical position (with track mod. HS22.221 and HS22.222).

For boats up to 40 ft and
racing boats from 40 to 60 ft



TRACK

The TRACK is an aluminium extrusion hard black anodized and teflon coated. Weight = 0.34 kg/m

MODEL	HOLE SPACING	LENGTH
-------	-----------------	--------

DIRECT MOUNTING

HS22.311	120 mm	3 m
HS22.312	60 mm	

SLUG MOUNTING VERTICAL MAST

HS22.221	120 mm	2 m
HS22.222	60 mm	

SLUG MOUNTING HORIZONTAL MAST

HS22.321	120 mm	3 m
HS22.322	60 mm	

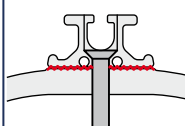
Direct mounting requires drilling and tapping holes in the mast, slug mounting does not.

120 mm hole spacing for 40-50 ft boats,
60 mm hole spacing for 50-60 ft boats.

Mod. HS22.11 LOADER

It allows the cars to be loaded and unloaded easily; the loader includes a stop pin which provides 2 positions: open and closed.

Fixing = 2 X 5 screws L = 176 mm
Weight = 0.10 kg



The HS22 is also available in the glued version, which is particularly suitable for carbon masts. Tracks and accessories on the following pages.

HS22.carbon track

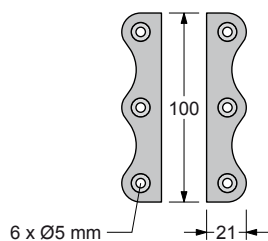
For racing boats
from 40 to 60 ft

Mod. HS22.03 **END FITTING**

Made in plastic; should be attached to the mast with 2 X 5 mm screws.

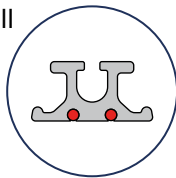
Mod. HS22.05 **SIDE PLATES**

Fixing can be improved, on most loaded zones (mast head and reefing positions), with 2 alu side plates screwed to the mast.



Mod. HS22.02 **TRACK JOINT**

Connection of different sections will be done with 2 s.steel pins.



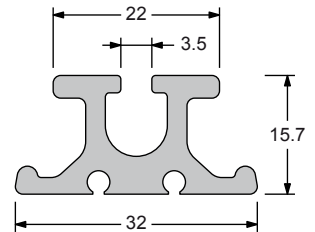
Mod. HS22.01 **LOADER**

It allows the cars to be loaded and unloaded easily; the loader includes a stop pin which provides 2 positions: open and closed.
L = 500 mm Weight = 0.30 kg

GLUED TRACKS

Wide base profiles for secure strong gluing, particularly suitable for carbon masts. Use for gluing "SP SYstem Spabond 345" or similar.

These tracks always have bolt-rope groove.



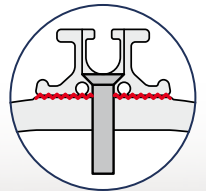
Mod. HS22.330

TRACK FOR CARBON FIBER MAST

Aluminium profile hard black anodized and teflon coated. Weight = 0.56 kg/m
It's available in 3 m sections.

FIXING

The track will be glued to the mast (SP SYSTEM - SPABOND 345). For an easier gluing each track is fixed with 3 positioning screws.



HS24/FB24 track

HS24 or FB24 track is made for HS guide systems:

HS24.50 (page 138), HS24.60 (page 139) and HS24.70 (page 140)

and for Fibreball systems :

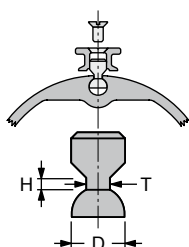
FB24.60 (page 144), FB24.90 (page 145) and FB24.120 (page 146).

Mod. HS24.13 END FITTING

Made in plastic; should be attached to the mast with 2 X 6 mm screws.

SLUGS

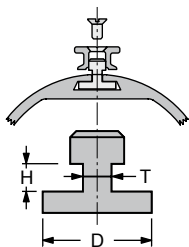
8 standard models for round or flat grooves are available; custom slugs are made on request; the slugs are provided in kits of 20 pieces (20 slugs and 20 screws); each kit includes enough parts to attach 2 m of track with 100 mm hole spacing. Screws will always be fixed using Loctite 222.



SLUGS - ROUND GROOVE

MODEL	T mm	D mm	H mm
HS24.04R	3.7	9.7	2.5
HS24.06R	5.5	11.5	2.5

Ø6 x 14 mm screws



SLUGS - FLAT GROOVE

MODEL	T mm	D mm	H mm
HS24.05F	4.8	19.0	6.7
HS24.06F	5.8	19.0	6.7
HS24.08F	7.8	19.0	6.7
HS24.10F	9.6	24.0	6.7
HS24.12F	11.8	24.0	---
HS24.14F	13.6	24.0	---

Ø6 mm screws

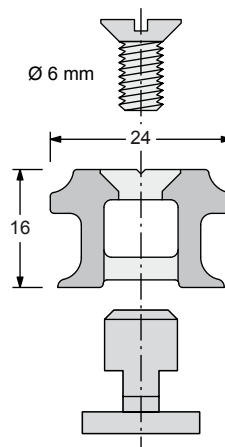
Mod. HS24.15 INSTALLATION TOOL

It is necessary to position the slugs with the mast in vertical position; with tracks mod. HS24.221 and HS24.222.

Mod. HS24.12 JOINT

In order to ensure proper alignment the sections of the track can be jointed together with a nylon fitting; track joint is supplied with 2 screws.

For 50 - 60 - 70 ft boats



TRACK

Aluminium profile hard black anodized and teflon coated. Weight = 0.55 kg/m

MODEL	HOLE SPACING	Lenght
-------	-----------------	--------

DIRECT MOUNTING

HS24.311	100 mm	3 m
HS24.312	50 mm	

SLUG MOUNTING VERTICAL MAST

HS24.221	100 mm	2 m
HS24.222	50 mm	

SLUG MOUNTING HORIZONTAL MAST

HS24.321	100 mm	3 m
HS24.322	50 mm	

Direct mounting requires drilling and tapping holes in the mast; track will be screwed to the mast; lengths of 3 m available.

100 mm hole spacing for 50-60 ft boats, 50 mm hole spacing for 60-70 ft boats.

Mod. HS24.11 LOADER

It allows the cars to be loaded and unloaded easily; the loader includes a stop pin which provides two positions: opened and closed.

Fixing = 2 x Ø6 mm screws

L = 240 mm Weight = 0.19 kg

HS30 track

For 80 - 90 - 100 ft boats

The HS30 track is made for HS guide systems:
HS30.90 (page 141) and HS30.130 (page 142)

Mod. HS30.13 **END FITTING**

Made in aluminium, should be attached to the mast with the 2 x 6 mm screws.

Mod. HS30.12 **JOINT**

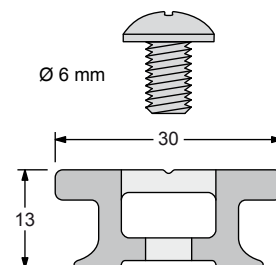
In order to ensure proper alignment the sections of the track can be joined together with an aluminium fitting; track joint is supplied with 2 screws.

Mod. HS30.11 **LOADER**

It allows the cars to be loaded and unloaded easily; the loader includes a stop pin which provides two positions: opened and closed.

Fixing: 2 screws X 6 mm.

L = 210 mm Weight = 0.20 kg



Mod. HS30.313 **TRACK**

The extremely light (500 gr/m) hard black anodized and teflon coated aluminium profile is very small (only 13x30 mm). It is fixed directly to the mast with 6 mm screws every 50 or 25 mm (without inserts) and is available in 3 m sections.

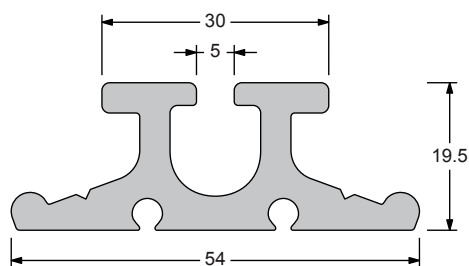
Weight = 0.50 kg/m

Mod. HS30.313/R **TRACK RACE**

As above with lightening holes.

Weight = 0.46 kg/m

HS30 BOLTROPE TRACK FOR CARBON FIBER MAST



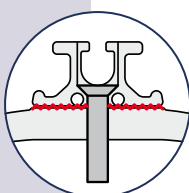
Mod. HS30.330

TRACK FOR CARBON FIBER MAST

Aluminium profile hard black anodized and teflon coated. Weight = 1.10 kg/m
It's available in 3 m sections.

FIXING

The track will be glued to the mast (SP SYSTEM - SPABOND 345). For an easier gluing each track is fixed with 3 positioning screws.

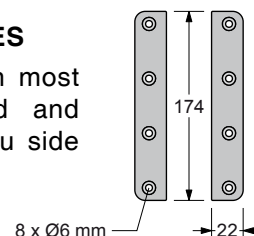


Mod. HS30.03 **END FITTING**

Made in aluminium; should be attached to the mast with 3 x 6 mm screws.

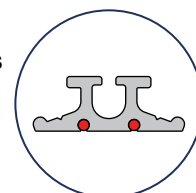
Mod. HS30.05 **SIDE PLATES**

Fixing can be improved, on most loaded zones (mast head and reefing positions), with 2 alu side plates screwed to the mast



Mod. HS30.02 **JOINT**

Connection of different sections will be done with 2 s.steel pins.



Mod. HS30.01 **LOADER**

It allows the cars to be easily loaded and unloaded.

L = 990 mm Weight = 1.20 kg

FB29 track

For boats
from 80 to 100 ft



The FB29 track is made for Fibreball system FB29.190 on page 147.

Mod. FB29.13 **END FITTING**

Made in aluminium, should be attached to the mast with the 2 X 8 mm screws.

Mod. FB29.12 **JOINT**

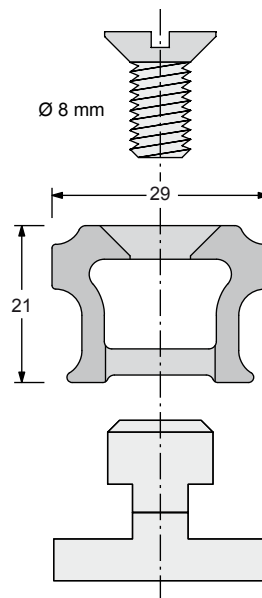
In order to ensure proper alignment the section of the track will be joined together with this nylon fitting: it is supplied with 2 screws.

SLUGS

Available on request, for 8 mm screws.

Mod. FB29.15 **INSTALLATION TOOL**

It is necessary to position the slugs with the mast in vertical position; with tracks mod. FB29.221.



TRACK

Aluminium profile hard black anodized and teflon coated. Weight = 0.72 kg/m

MODEL	HOLE SPACING	LENGTH
-------	--------------	--------

DIRECT MOUNTING

FB29.311	100 mm	3 m
----------	--------	-----

SLUG MOUNTING VERTICAL MAST

FB29.221	100 mm	2 m
----------	--------	-----

SLUG MOUNTING HORIZONTAL MAST

FB29.321	100 mm	3 m
----------	--------	-----

Direct mounting requires drilling and tapping holes in the mast, slug mounting does not.

Mod. FB29.11 **LOADER**

It allows the cars to be easily loaded and unloaded.

Fixing = 2 x Ø8 mm screws.

L = 300 mm Weight = 0.24kg



special products



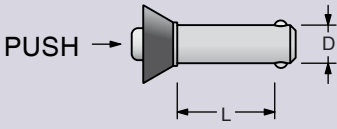
C.N. Novelli - Nova 47'

FAST-RELEASE HR PUSH-PINS

Are available for the main headboard connection to the head carriage.

Made in HR s.steel to offer the highest loads, with a security-line and an easy grip for a quick coupling and release.



	MODEL	D mm	L mm	SWL kg	CARRIAGE CODE
	P10.20	10	20	1600	HS22.50D/R - HS24.50D - FB24.60D
	P14.25	14	25	5000	HS22.60T/R - HS24.60T - FB24.90D HS24.70Q - FB24.120D
	P14.35	14	35	5000	HS30.70Q - HS30.90Q - FB29.190D



FEEDER CARRIAGE

Mounted on the bolt-rope tracks to bend the mainsail inside the bolt-rope-groove. It can be easily removed to fit the mainsail with sliders.

Mod. HS22.09 for HS22.330 track (page 149)

Mod. HS30.09 for HS30.330 track (page 151)



GATE

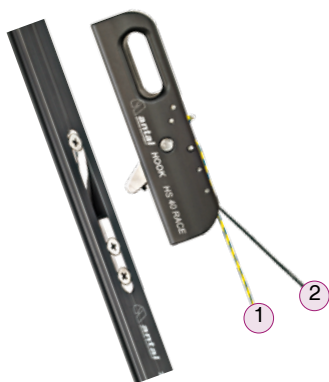
A stretch of mobile track is placed above the lowered mainsails. When the gate is removed, the head carriage and top batten slider of a square-top mainsails can be extracted to make it easier to "tie" the mainsail to the boom.

Mod. HS22.16 for HS22 track L=204 mm (page 148)

Mod. HS22.06 for HS22.330 track L=204 mm (page 149)

Mod. HS24.16 for HS24 track L=264 mm (page 150)

Mod. HS30.16 for HS30.track L=264 mm (page 151)



MINI HOOK (For boats up to 40 ft)

It's a head carriage with automatic hook (**Mod. HS22.100**), which hooks onto special stops (**Mod. HS22.17**) on the mast track to unload the halyard.

Two manoeuvres from the mini hook go down along the sail

- 1 - to disengage the hook and the carriage is free to lower
- 2 - to load the hook, which hooks onto the first stop on the track

Weight = 0.24 kg
SWL = 1400 kg

Length = 128 mm
For HS22 track (on page 148)



MAXI HOOK

A custom made product for 60 ft multihulls.

Ergal carriage with double titanium hooks, titanium hook stops placed at the sides of the track inside the mast.

Double manoeuvre to disengage or load the hooks.

- 1 - to disengage the hook and the carriage is free to lower
- 2 - to load the hook, which hooks onto the first stop on the track

Weight = 2.20 kg
SWL = 10000 kg

Length = 340 mm
For HS30 track (on page 151)



2:1 MINI HEADBOARD SLIDER FOR HS22 TRACK

This model, designed for class 40ft, is fitted with a 40 mm high load sheave for a 2:1 halyard; the mainsail head will be simply tied to the slider with a line.

Mod. HS22.185

Weight = 0.45 kg
SWL = 2000 kg

Length = 185 mm
For HS22 track (on page 148)



2:1 HEADBOARD SLIDER FOR HS30 TRACK

This model, designed for 60 ft, is fitted with a 70 mm high load sheave for a 2:1 halyard; the mainsail head will be simply tied to the slider with a line.

Mod. HS30.200

Weight = 0.90 kg
SWL = 5000 kg

Length = 200 mm
For HS30 track (on page 151)

batten receptacles

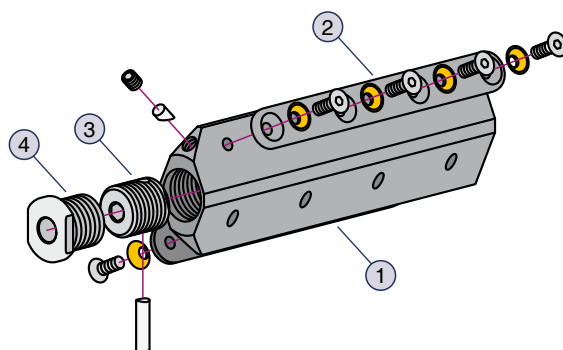
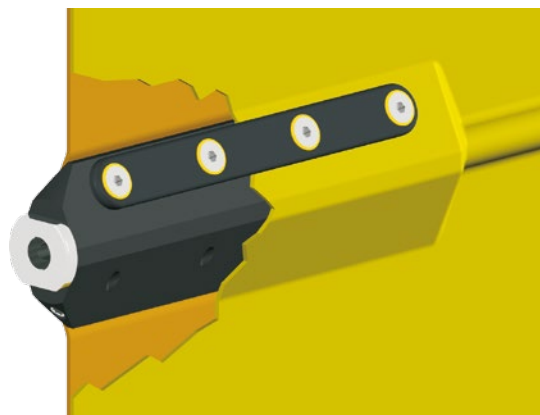
SBR SYMMETRIC BATTEN RECEPTACLE ROUND BATTENS

The SBR is different from standard batten receptacles in that it fits inside the batten pocket, making it invisible on the outside except for the small fastening plate - thereby almost completely eliminating chafe on the mast and rigging.

Moreover the batten will be not on one side, but perfectly "in the middle"

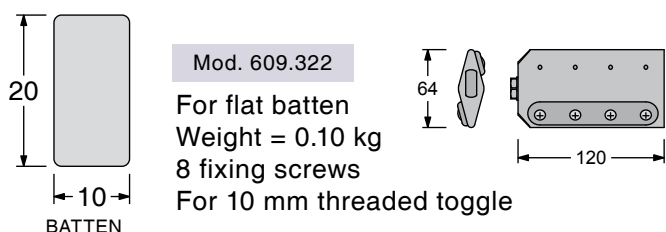
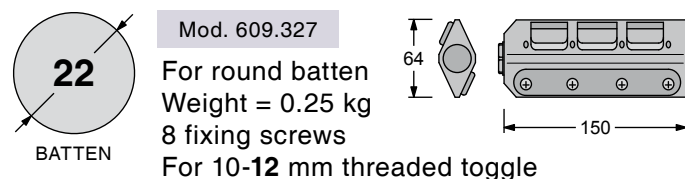
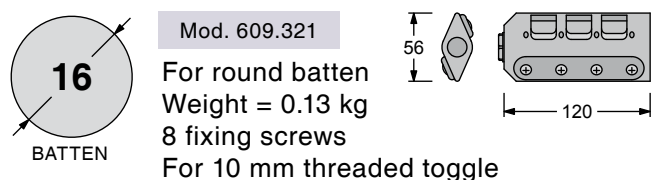
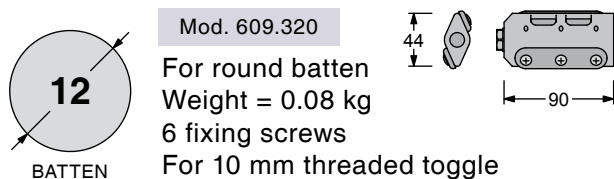
Each SBR includes:

1. the main body;
2. side plates to fix the receptacle to the sail;
3. trimming screw for batten compression;
4. the cap with a threaded hole to screw the receptacle in the toggle of the batten slider.

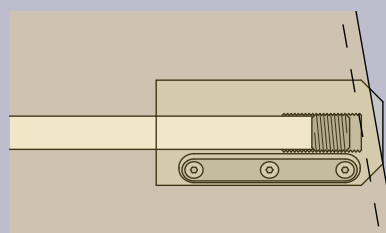


RESIN SBR FOR ROUND AND FLAT BATTENS

Completely made of high-strength, 50% glass fiber resin, max UV resistance, with self-tapping screws to offer a very fast and easy mounting. For boats up to 40 ft.

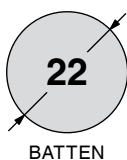


These resin made receptacles are very light, for this reason they can be used also on the leech side.



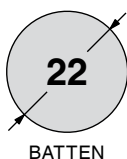
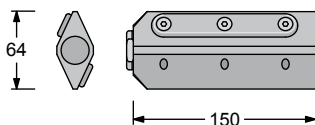
ALUMINIUM SBR FOR ROUND BATTENS

Main body and side plates are aluminium made with 6 mm A316 screws, the s.steel A316 cap for the batten car toggle connection is available with different threads. These SBR receptacles are suitable for boats up to 100 ft.



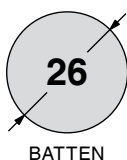
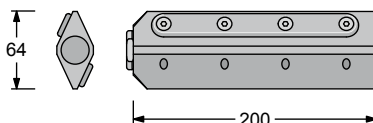
Mod. 609.323

For round batten
Weight = 0.45 kg
6 fixing screws
For 10-12 mm threaded toggle



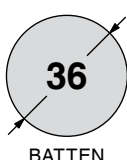
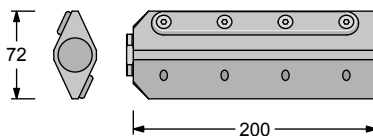
Mod. 609.324

For round batten
Weight = 0.54 kg
8 fixing screws
For 10-12 mm threaded toggle



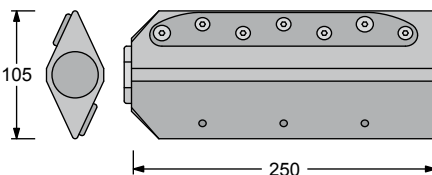
Mod. 609.325

For round batten
Weight = 0.62 kg
8 fixing screws
For 12-14 mm threaded toggle

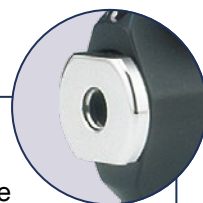


Mod. 609.326

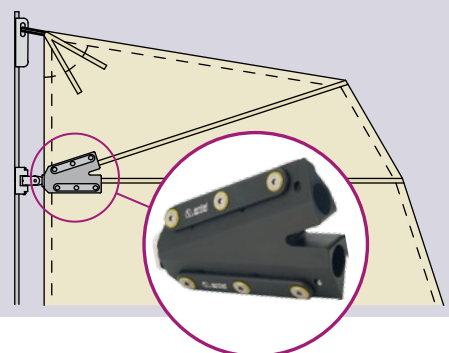
For round batten
Weight = 1.05 kg
14 fixing screws
For 14-16 mm threaded toggle



On the same receptacle a number of threads for the connection with the batten slider toggle are available. So it will be necessary to specify not only the receptacle model (from 609.323 to 609.326) but also the thread size: 10, 12, 14 or 16 mm.

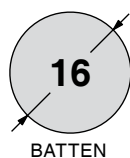


SPECIAL TWO BATTENS SBR



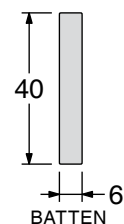
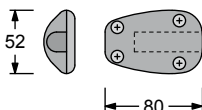
RESIN STANDARD RECEPTACLES FOR ROUND AND FLAT BATTEN

Made of high-strength resin with max UV resistance.
Fixing: 4 screws + 4 self-locking nuts.
Made for Antal system HS22.40.



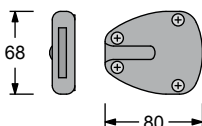
Mod. 610.341

For round batten
Weight = 0.06 kg
4 fixing screws
For 10 mm threaded toggle



Mod. 610.340

For flat batten
Weight = 0.06 kg
4 fixing screws
For 10 mm threaded toggle





07
H

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pad-eyes

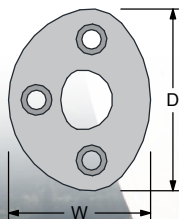
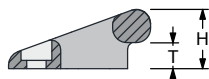
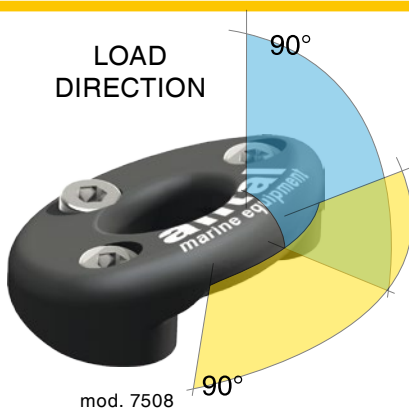
DYNEEMA PAD-EYES

Special extremely light, 'low profile' pad-eye, designed for Dyneema loop. Aluminium made, hard black anodized.

Available also in Silver version, just add /S to the model code.

Screws, washers and nuts are included.

LOAD
DIRECTION



MODEL	D mm	W mm	H mm	T mm	SWL kg	WEIGHT* gr	SCREWS N° x Ø mm
7506	58	45	20	8.5	1300	55	3 x 6
7508	78	60	25	11	2200	90	3 x 8

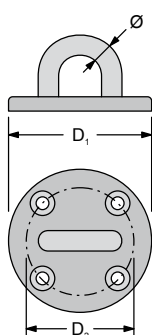
* without screws-nuts



"4 SCREWS" PAD-EYES

These models, made in AISI 316 s. steel, are fixed to the deck with 4/6 screws that guarantee the best distribution of the load, making them the right solution for heavy loads.

They can be fitted with a block and a "stand-up" spring.

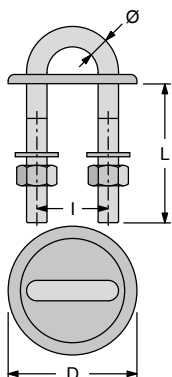


MODEL	7206	7208	7210	7212	7214	7216	7220
Ø mm	6	8	10	12	14	16	20
D ₁ mm	44	65	75	80	99	110	129
D ₂ mm	32	49	53	59	74	84	104
SCREWS N° x Ø mm	2 x Ø6	4 x Ø6	4 x Ø8	4 x Ø8	4 x Ø10	6 x Ø10	6 x Ø10
WEIGHT kg	0.10	0.16	0.26	0.38	0.68	1.10	1.80
SWL kg	800	1500	2500	3600	4600	6500	9000
BLOCK Ø mm	60	70	80	100	120	140 - 150	180

“U” BOLTS

Made of AISI 316 stainless steel.

They can be fitted with a block and a “stand-up” spring.



MODEL	7105	7106	7108	7110
Ø mm	5	6	8	10
I mm	17	22	28	35
D mm	38	44	54	63
L mm	50	55	67	67
WEIGHT kg	0.05	0.06	0.13	0.17
SWL kg	500	800	1500	2500
BLOCK Ø mm	50	60	70	80

NJY - Cybell 325



SCREWED EYEBOLTS

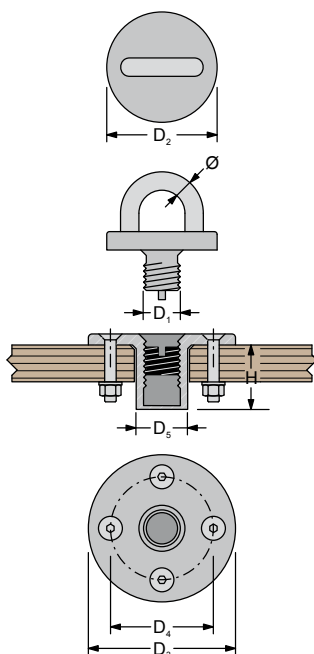
Made of AISI 316 stainless steel.

This solution allows an easy removal of the eyebolt from the deck. They can be fitted with a block and a “stand-up” spring.

Blocks with screwed eyebolts include: block with spring and (removable) eyebolt and the base (fixed to the deck).

The same base is suitable for blocks of

different sizes: same base for 70 and 80 mm blocks, same for 100 and 120 mm blocks and one for 140 mm, 150 mm and 180 mm.



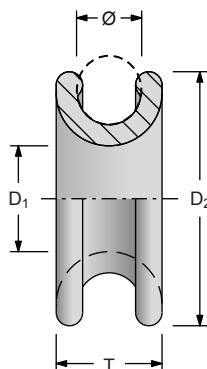
MODEL	7306	7308	7310	7312	7314	7316	7320
Ø mm	6	8	10	12	14	16	20
D ₁ mm	12	20	20	24	24	30	30
D ₂ mm	40	50	60	70	78	84	100
D ₃ mm	54	70	80	90	90	120	120
D ₄ mm	32	50	56	64	64	92	92
D ₅ mm	---	28	28	30	32	42	42
H mm	---	35	35	38	38	56	56
SCREWS N° x Ø mm	2 x Ø6	4 x Ø6	4 x Ø8	4 x Ø10	4 x Ø10	6 x Ø10	6 x Ø10
WEIGHT kg	0.23	0.56	0.58	0.72	1.09	2.20	3.60
SWL kg	800	1500	2500	3600	4600	6500	9000
BLOCK Ø mm	60	70	80	100	120	140 - 150	180



low friction rings

LOW FRICTION RINGS

Five models with holes from 7 to 28 mm, the simplest idea for maximum load and minimum weight.



MODEL	D1 mm	D2 mm	Ø mm	T mm	WEIGHT gr	SWL kg
R07.05	7	18	5	9	3	400
R10.07	10	25	7	12	5	800
R14.10	14	35	10	15	12	1600
R20.14	20	50	14	22	44	3200
R28.20	28	70	20	31	116	6400

real size



mod.
R07.05



mod.
R10.07



mod.
R14.10



mod.
R20.14



mod.
R28.20



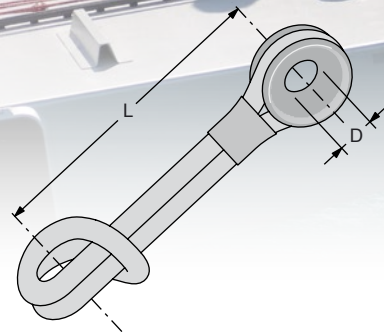
Zavagno on Elan 210

rings & loops

Cantiere Bert - Class 40' - Sam Manuard

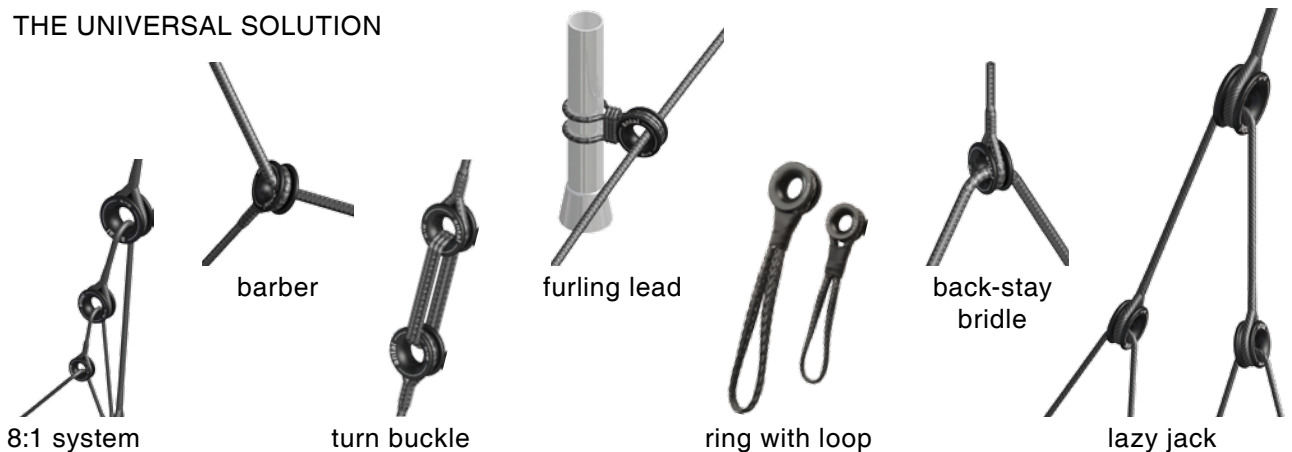
RINGS & LOOPS

The Antal low friction rings are available also with a dyneema loop for a fast and easy connection.



MODEL	D mm	L mm	SWL kg	LOOP + RING MOD.
RL3.0	7	60	240	3 mm Dyneema + R07.05
RL4.0	10	70	400	4 mm Dyneema + R10.07
RL4.5	10	80	700	4.5 mm Dyneema + R10.07
RL5.0	14	90	900	5 mm Dyneema + R14.10
RL6.0	14	110	1500	6 mm Dyneema + R14.10
RL6.1	20	130	1500	6 mm Dyneema + R20.14

THE UNIVERSAL SOLUTION



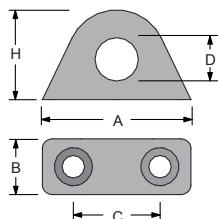
Breaking load values have been obtained through tests on new Dyneema loops, the safe working load is obtained from the breaking load with a safety factor = 3 to consider the wear and tear of the dyneema lines.

deck rings

DECK RINGS

Two sizes, highly polished and hard black anodized aluminium deck ring.

Large model is available also in s.steel AISI 316.

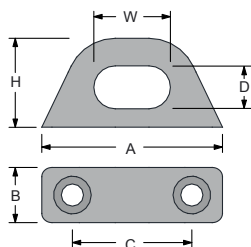


MODEL	A mm	B mm	C mm	D mm	H mm	SWL kg	WEIGHT gr	SCREWS N° x Ø mm
R14.14	48	18	28	14	29	800	25	2 x 6
R20.20	59	19	38	20	39	800	45	2 x 6
R20.20/S	59	19	38	20	39	1500	120	2 x 8

DOUBLE LINE DECK RINGS

Two sizes, highly polished and hard black anodized aluminium deck ring.

The wide hole allows the passage of two lines.



MODEL	A mm	B mm	C mm	H mm	D x W mm	SWL kg	WEIGHT gr	SCREWS N° x Ø mm
R12.25	59	18	39	27	12 x 25	800	30	2 x 6
R18.36	75	19	54	37	18 x 36	800	56	2 x 6

hook

HOOK

It can be easily "hooked" to a genoa or a spinnaker sheet: the lightest and strongest solution for a line control.

Aluminium made, highly polished and hard black anodized with a spliced Dyneema Snap Loop. A safety spring prevents the line from going out.

Spare Dyneema Loops are available.

Antal offers a special aluminium pad-eye (page 160) for Dyneema Loops.

Dyneema Loop safety factor (breaking load / safe working load) = 3.

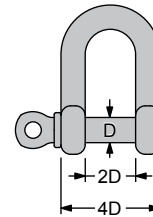


MODEL	MAX LINE DIAMETER mm	SWL kg	WEIGHT gr
HK12	12	1500	80
HK16	16	2200	130

shackles

SHACKLES AISI 316 & HR

Antal supplies standard shackles made in AISI 316 and HR high resistance s.steel. The HR version offers higher values of the Safe Working Load.



SHACKLES AISI 316

MODEL	D mm	SWL kg	ANTAL BLOCKS Ø mm
005SS	5	600	50
006SS	6	800	60
008SS	8	1300	---
010SS	10	1900	---
012SS	12	2600	---
014SS	14	3500	---
016SS	16	4400	---

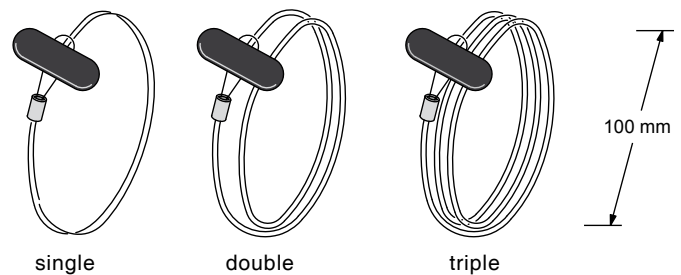
SHACKLES HR

MODEL	D mm	SWL kg	ANTAL BLOCKS Ø mm
---	---	---	---
006HR	6	1300	70
008HR	8	2200	80
010HR	10	3500	100
012HR	12	5000	120
014HR	14	7000	140 - 150
016HR	16	9000	180

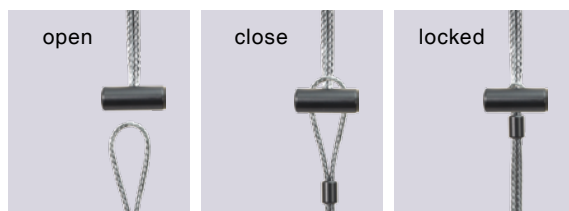
snap loop

SNAP LOOP

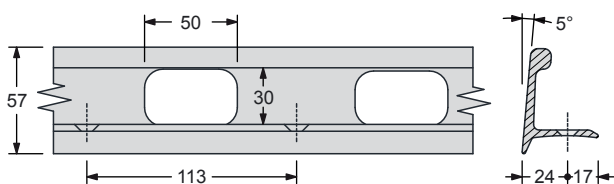
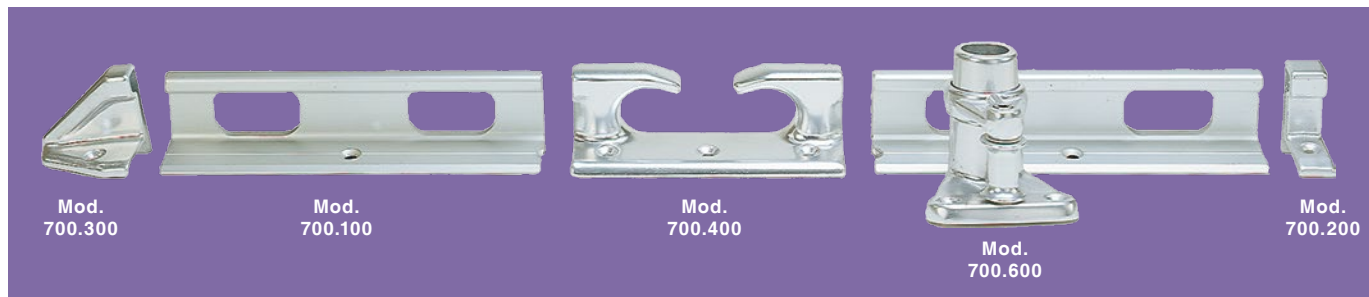
It's a Dyneema loop that can be opened, with an easy and safe lock system. Two sizes with 4 or 5 mm lines with different lengths. It will be used as a single, double or triple ring.



MODEL	Ø mm	TOTAL LENGHT cm	FOR	SWL kg
SL4S	4	30	SINGLE	600
SL4D		50	DOUBLE	1200
SL4T		70	TRIPLE	1800
SL5S	5	30	SINGLE	1000
SL5D		50	DOUBLE	2000
SL5T		70	TRIPLE	3000



toe-rail

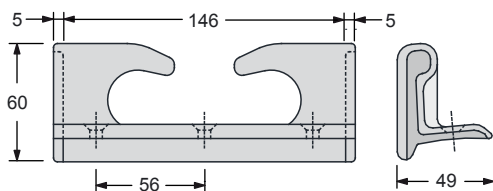


Mod. 700.100 TOE-RAIL

Made in light-weight alloy toe-rail makes it possible to cover the joint between the hull and the deck attractively. Large holes make it lighter and provide countless strongholds for manoeuvres.

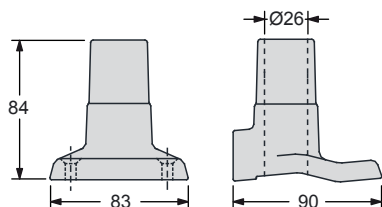
It can be used on any type of boat from 33 to 50 ft. The standard supply is in 6 m anodized rods. The design is elegant and the machining very precise.

Weight: 1 kg/m.



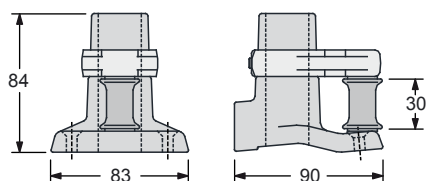
Mod. 700.400 FAIRLEAD

Shell-cast and carefully smoothed, this is used for mooring ropes or spring lines. It fits to the toe-rail by means of side joints which make it easy to assemble.



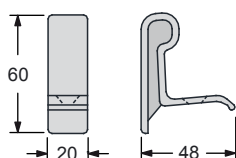
Mod. 700.500 STANCHION BASE

Shell-cast, carefully smoothed and elegant. The external part has a plug to insert in the toe-rail holes, while two countersunk holes in the base make it easy to clamp to the deck.



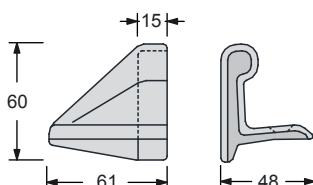
Mod. 700.600 STANCHION BASE WITH ROLLER

As above. A turning in the upper external part of the neck houses the roller for jib and mainsail furling gear lines.



Mod. 700.200 JOINT

Dovetailed on both sides for joining two toe-rails together in a very strong way and without the need for any particular modifications.



Mod. 700.300 END-FITTING

Also dovetailed, it completes and finishes off the toe-rail very smartly.

roller bearings

AISI 316 ROLLER BEARINGS

Antal developed a wide range of roller bearings: the cage, made of non-hygroscopic plastic, is suitable for marine uses; the high precision rollers are made of AISI 316 and H8 ground.

For the roller bearings calculation it is necessary to know a number of variables (rotating speed, precision and quality of the inside and outside races, scheduled life...) so SWL value of the table are only indicative.

Roller bearings, as all moving parts, need to be greased. Antal offer a Teflon grease (Mod. TFL400) in 100 gr boxes.



Mod. TFL400

OD = outside diameter
ID = inside diameter
H = total height
Ø = roller diameter
SWL = working load

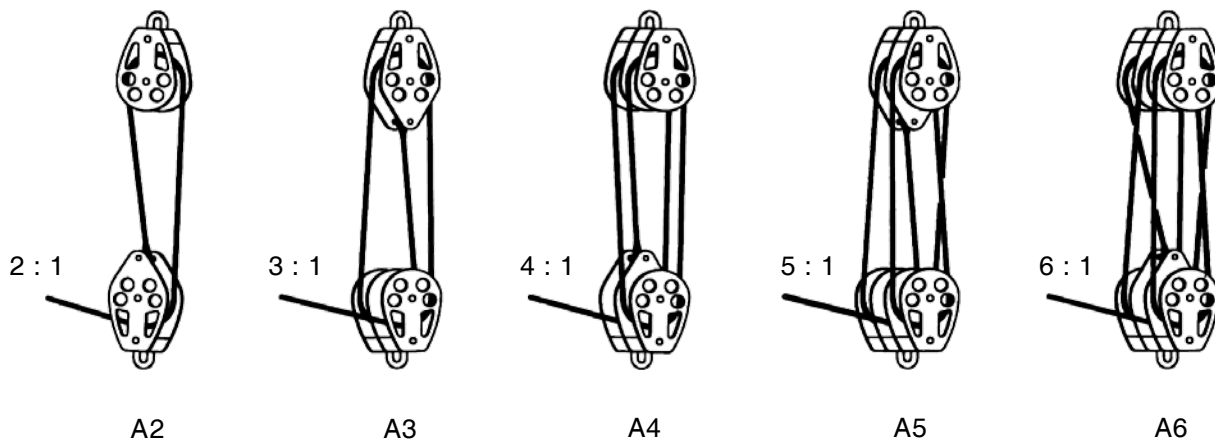


MODEL	OD mm	ID mm	H mm	Ø mm	SWL kg
B2519	25	17	19	4	260
B3324	33	25	24	4	400
B3519	35	25	19	5	340
B4219	42	32	19	5	440
B4234	42	32	34	5	870
B5019	50	40	19	5	500
B5034	50	40	34	5	1000
B6019	60	50	19	5	560
B6034	60	50	34	5	1100
B7020	70	60	20	5	680
B7035	70	60	35	5	1350
B8021	80	70	21	5	800
B8037	80	70	37	5	1600
B8937	89	76	37	6.5	2100
B12837	128	115	37	6.5	3200
B19448	194	178	48	8	6400



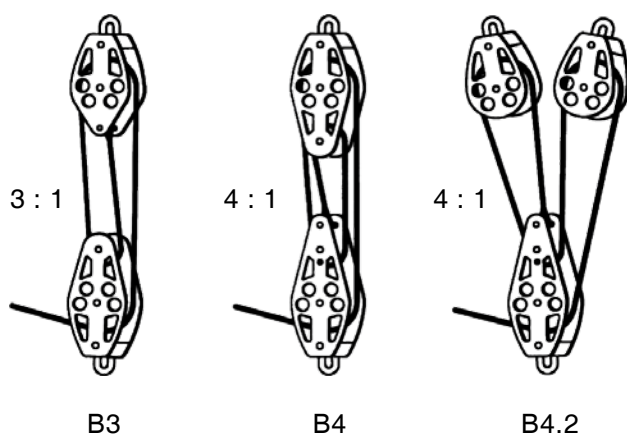
A. Di Benedetto - Around the world solo

block systems



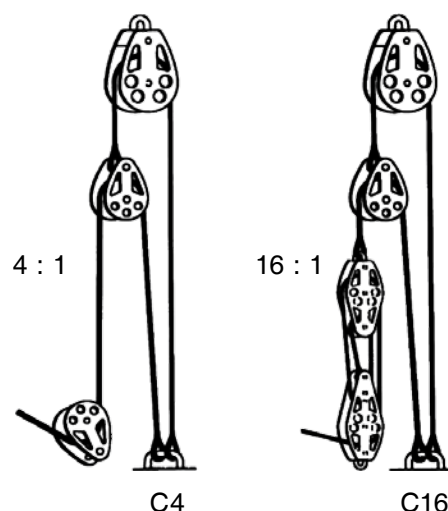
STANDARD SYSTEMS

TAB. A

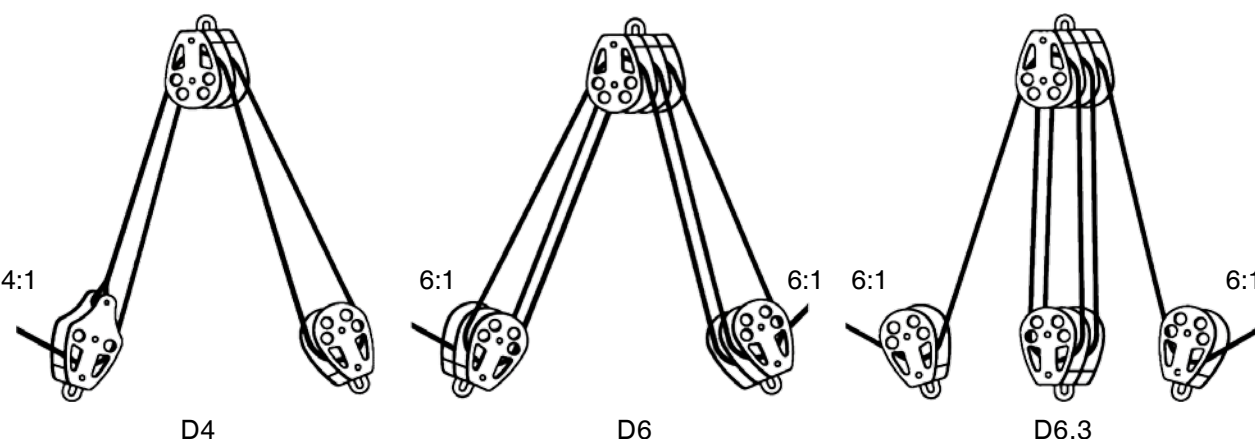


FIDDLE SYSTEMS

TAB. B

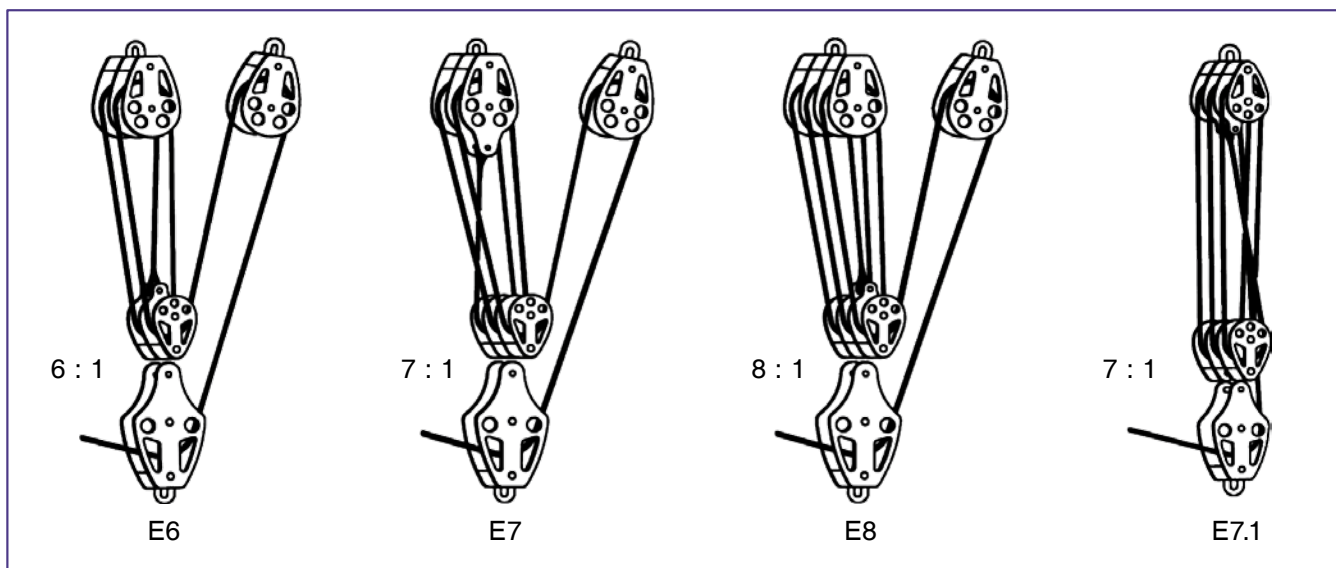


CHAIN SYSTEMS FOR VANG AND BACKSTAY



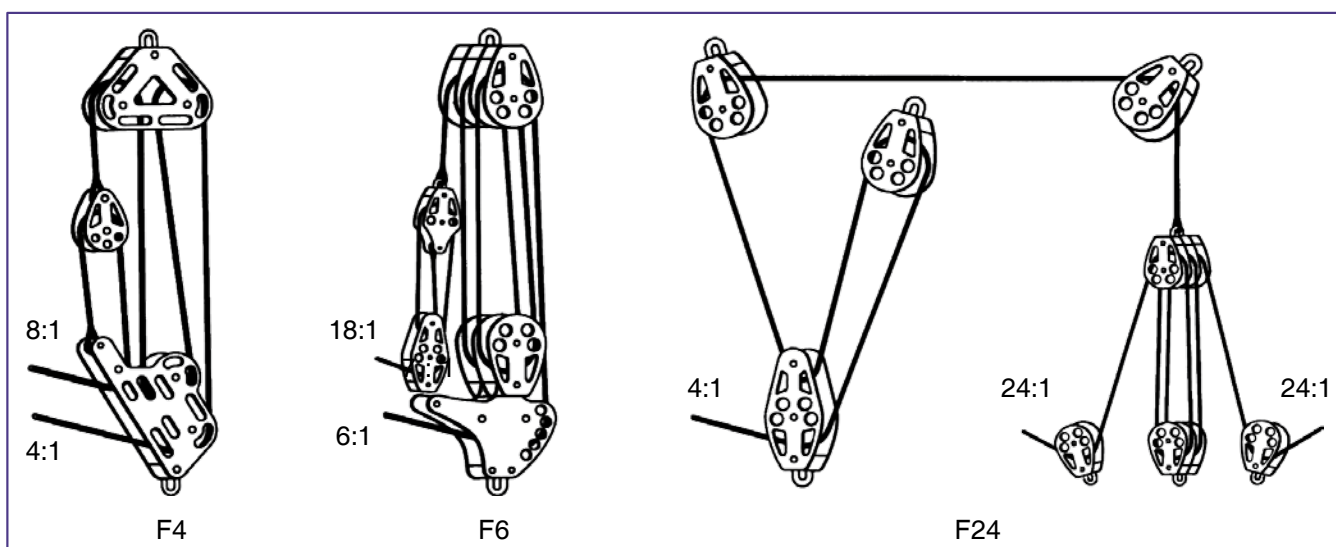
BLOCKS SYSTEM FOR VANG AND BACKSTAY

TAB. D



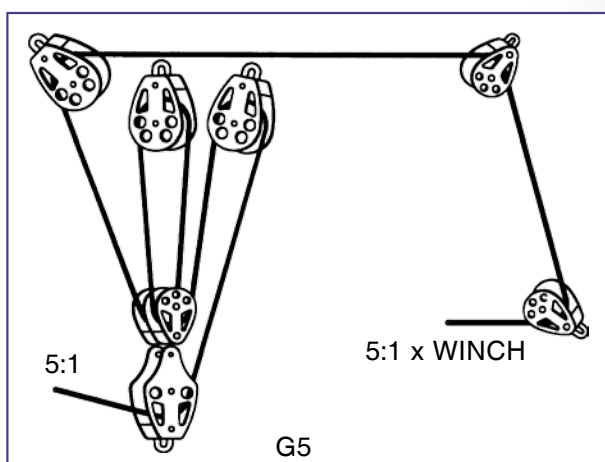
SINGLE SPEED MAIN SHEET SYSTEMS

TAB. E



DOUBLE SPEED MAIN SHEET SYSTEMS

TAB. F



DOUBLE SPEED SYSTEM

TAB. G



rigging loads

BREAKING LOADS

Reported “breaking loads” are “average values”: real values may vary greatly according to the supplier.

“Working loads” will be obtained with appropriate safety factors: 1/2 for steel wire, 1/4 for rope.

POLYESTER cover and core			
Ø mm.	BL kg	Ø inch	BL lb.
4	450	5/32	1000
5	600	3/16	1300
6	750	1/4	1650
8	1300	5/16	2850
10	2100	3/8	4600
12	2900	1/2	6400
14	3900	9/16	8600
16	5000	5/8	11000
18	6200	11/16	13600
20	7500	13/16	16500
22	9000	7/8	19800

POLYESTER (cover) DYNEEMA (core)			
Ø mm.	BL kg	Ø inch	BL lb.
4	700	5/32	1550
5	1000	3/16	2200
6	1800	1/4	3950
8	3000	5/16	6600
10	4600	3/8	10100
12	6600	1/2	14500
14	8900	9/16	19600
16	11000	5/8	24200

S. STEEL AISI 316 1 x 19			
Ø mm.	BL kg	Ø inch	BL lb.
3	800	1/8	1700
4	1400	5/32	3100
5	2100	3/16	4600
6	3100	1/4	6800
7	4100	9/32	9100
8	5200	5/16	11400
10	8000	3/8	17600
12	11000	1/2	24200
14	14500	9/16	31900
16	19000	5/8	41900
18	23500	11/16	51800

S. STEEL AISI 316 7 x 19			
Ø mm.	BL kg	Ø inch	BL lb.
3	550	1/8	1200
4	900	5/32	2000
5	1500	3/16	3300
6	2200	1/4	4800
7	2900	9/32	6400
8	3800	5/16	8400
10	6000	3/8	13200
12	8500	1/2	18700

BREAKING LOADS

Screws AISI 316 class 50

The diagram illustrates the effects of tensile and shearing stresses on a bolt. The top row shows a bolt under tensile stress (pulling apart) and a bolt under shearing stress (cutting across). The bottom row shows the corresponding stress distributions: tensile stress is uniform across the shank, and shearing stress is concentrated at the thread root.

		TENSILE STRESS	SHEARING STRESS
D mm	BL kg	BL kg	
5	1000	600	
6	1400	800	
8	2600	1500	
10	4000	2400	
12	5600	3300	
14	7600	4600	

CONVERSION FACTOR

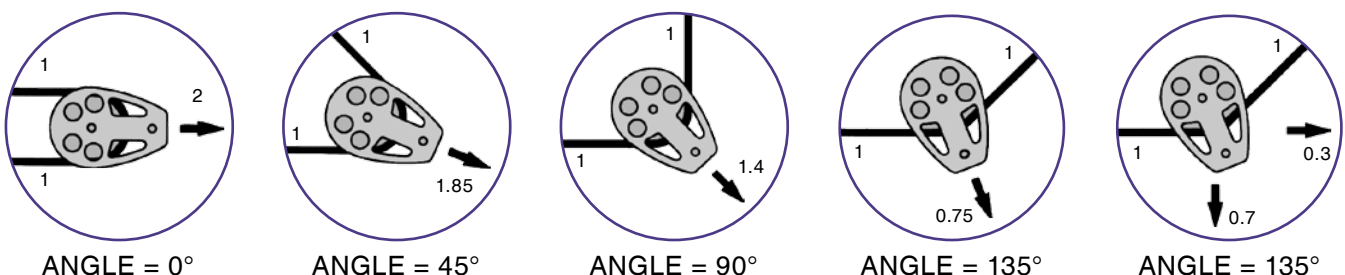
mm = inch x 25.4	inch = mm x 0.039
cm = inch x 2.54	inch = cm x 0.394
cm = ft x 30.48	ft = cm x 0.033
m = ft x 0.305	ft = m x 3.281
m² = ft² x 0.093	ft² = m² x 10.76
gr = oz. x 28.35	oz. = gr x 0.035
kg = lb x 0.454	lb = kg x 2.205

SWL is the abbreviation of **Safe Working Load**, it is half of the **Breaking Load (BL)**.

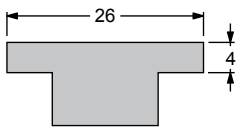
BLOCK LOADING

Block loading depends on the angle of the line.

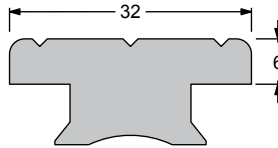
Values for typical angles are reported in the table.



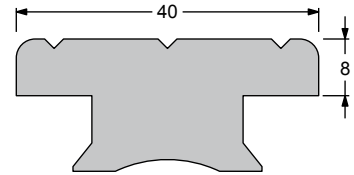
antal tracks



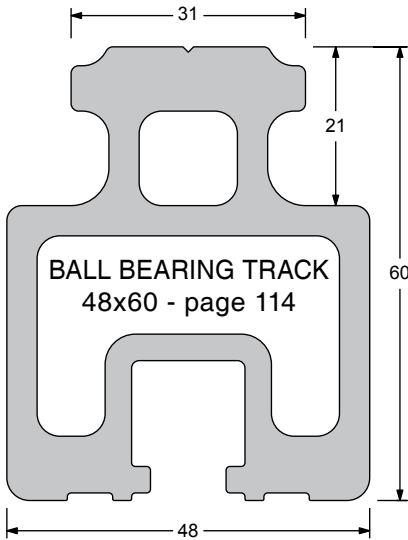
"T" TRACKS 26x4
page 94



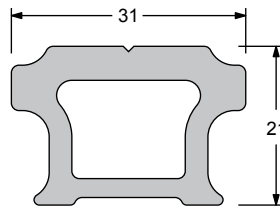
"T" TRACKS 32x6
page 96



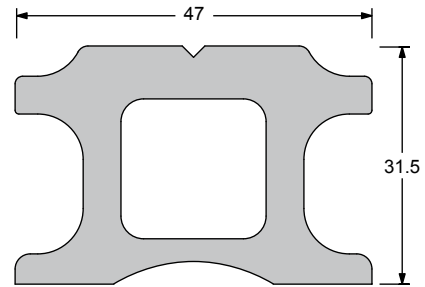
"T" TRACKS 40x8
page 98



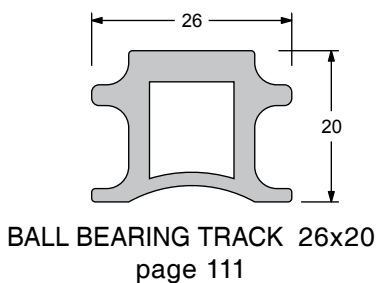
BALL BEARING TRACK
48x60 - page 114



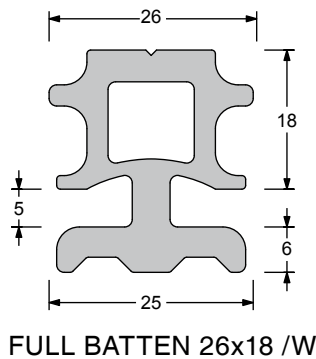
BALL BEARING
TRACK 31x21
page 114



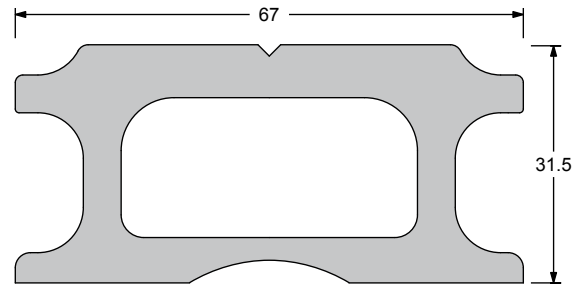
BALL BEARING TRACK MAXI 47
page 124



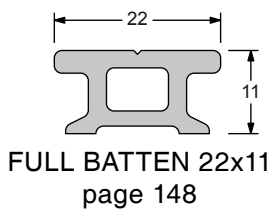
BALL BEARING TRACK 26x20
page 111



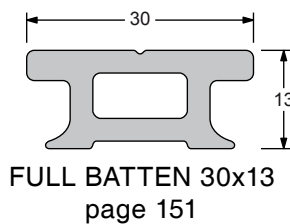
FULL BATTEN 26x18 /W



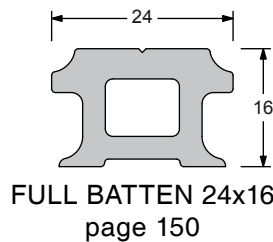
BALL BEARING TRACK MAXI 67
page 128



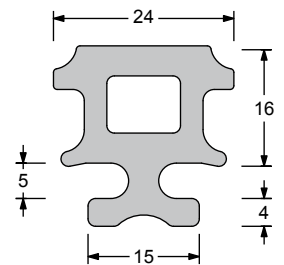
FULL BATTEN 22x11
page 148



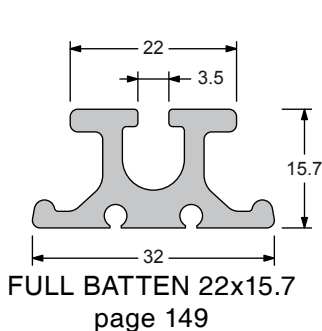
FULL BATTEN 30x13
page 151



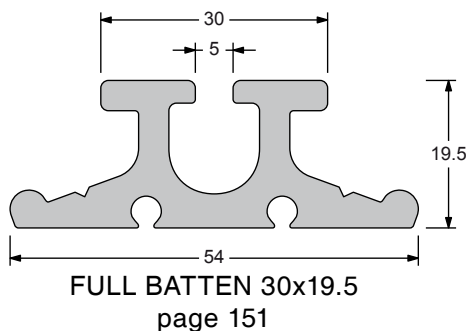
FULL BATTEN 24x16
page 150



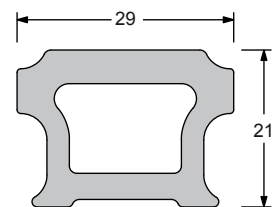
FULL BATTEN 24x16 /W



FULL BATTEN 22x15.7
page 149



FULL BATTEN 30x19.5
page 151



FULL BATTEN 29x21
page 152

promotional items

DISPLAY FOR SHOPS

5 models available, sizes : 245 x 335 mm.
Blocks, rings and winch handle are included.



Mod. G201B

ring & loop

Low friction rings
& Loop
(Page 162)



Mod. G202

snatch

Snatch blocks
(Page 90)



Mod. G203

34x6 mini blocks series

Mini blocks
34x6
(Page 50)



Mod. G204

speedylock

Winch handle
(Page 31)



Mod. G205

Dyna block

Dynablock
(Page 89)

T-SHIRT

Mod. G302



Add /S, /M, /L or /XL for
small, medium, large or extra
large sizes.

WEB SITE

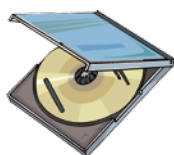


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2011 4 languages Antal catalogue and CAD library is available in CD-Rom.



USER'S GUIDE

Winches user's guide and many products exploded view are available on request.



CUSTOM

Custom products are designed, produced and tested on request.



2013/14 CATALOGUE

Photo: Studio Light
Printing: Centrooffset
Printed in September 2012

Products are continuously improved and Antal reserves the right to modify them without notice. Antal has no responsibility for possible mistakes in this catalogue.

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Stealth 93'

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Patience 68' - Camper & Nicholson - 1931



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What we are skilful in, is mechanic.

What we are keen on, is the beauty of a silent sailing-boat in the wind: that's why we make sailing equipment in the best possible way, so that you can find in our products the high level of our job.

LIMITED WARRANTY

Antal guarantees its equipment to be free of defects in material and workmanship for 3 years from the date of purchase. During this period defective parts will be repaired or replaced by Antal.

Warranty does not cover:

- products incorrectly installed;
- products used in applications for which they are not intended;
- products used under loads exceeding the product's stated loads;
- products not properly maintained.

Warranty does not cover defects due to corrosion, U-V degradation, and normal wear and tear.

Products subject to warranty claim will be returned to Antal for examination and possible repairing or replacement. Antal is not responsible for installation or shipping costs.

MAINTENANCE

Remove salt deposits with fresh water; frequently washing will avoid corrosion that is activated from salt water.

Grease (TFL 400) or Loctite or anticorrosive product will protect aluminium; it will be useful to use some grease on s. steel parts: screws, washers, pin to reduce the contact with aluminium.

Although all Antal products are made only with anti U-V plastic it will be better to reduce the exposure to sunlight.

SOLAR PLANT

The new Antal photovoltaic solar plant with a surface of 500 m² and a power of 20 kw will supply 20% of the energy necessary for the production. Our passion for sailing is also care for the environment.



SWL is the abbreviation of **Safe Working Load**, it is half of the Breaking Load.

SWL = 1/2 Breaking Load





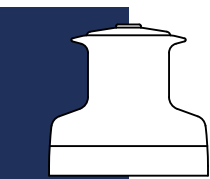
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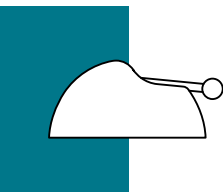
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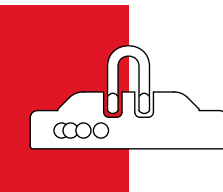
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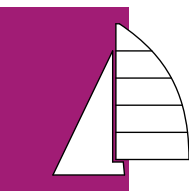
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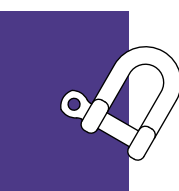
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