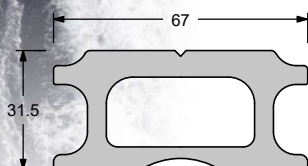
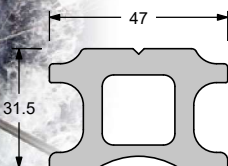
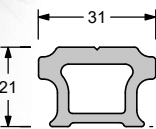
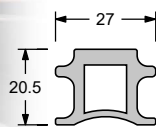
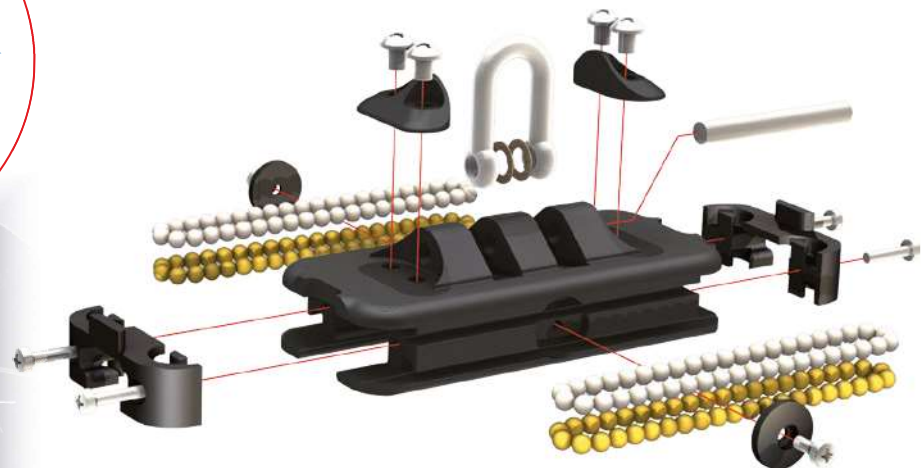
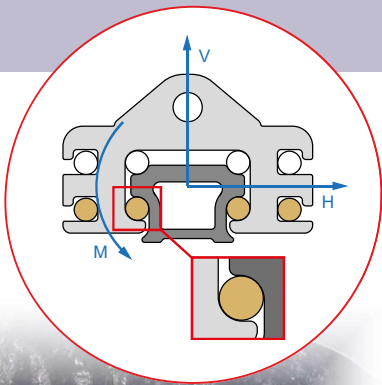


ball bearing cars



4RACE 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).
- Travellers 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 traveller, 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
100 mm	33 ft	121
110 mm	36 ft	124
150 mm	42 ft	
190 mm	48 ft	
230 mm	60 ft	138
330 mm	70 ft	
430 mm	80 ft	
330 mm	70 ft	142
430 mm	80 ft	

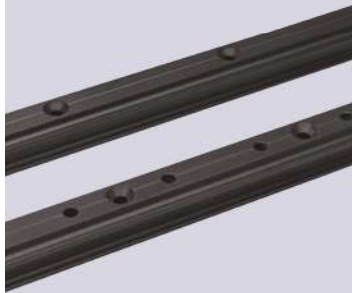
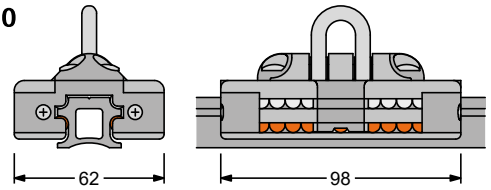
Open 40' - Vaquita



Mod. 4102/SH TRAVELLER SIZE 100

Weight = 0.23 kg SWL = 820 kg

This car is fitted with 54 Delrin + 54 Torlon balls

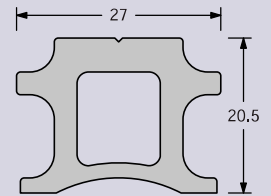


Mod. 601.121 STANDARD TRACK

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

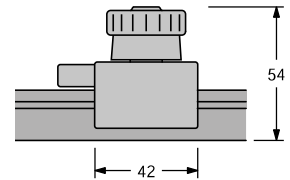
Mod. 601.221 STOP PIN TRACK

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



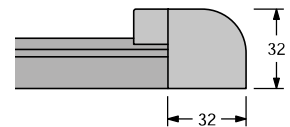
Mod. 691.421 STOP PIN

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



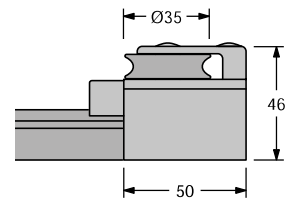
Mod. 4261 SIMPLE END FITTING

Plastic made, mounted with a 6 mm screw.



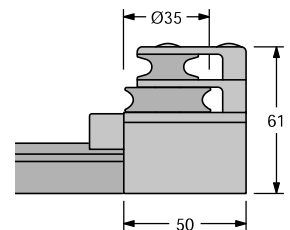
Mod. 4262 END FITTING WITH ONE SHEAVE

High strength resin made with one $\varnothing=35$ mm sheave. Completed with a shock proof rubber. Weight = 0.08 kg Screws = 3 x $\varnothing5$ mm



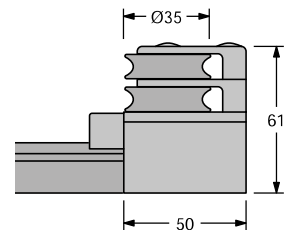
Mod. 4263 END FITTING WITH ONE SHEAVE AND BECKET

High strength resin made with one $\varnothing=35$ mm sheave. Completed with a shock proof rubber. Weight = 0.10 kg Screws = 3 x $\varnothing5$ mm



Mod. 4264 END FITTING WITH 2 SHEAVE

High strength resin made with two $\varnothing35$ mm sheaves. Completed with a shock proof rubber. Weight = 0.10 kg Screws = 3 x $\varnothing5$ 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 travellers size 100



MAIN BALL BEARING TRAVELLER SIZE 100

This traveller is 98 mm long and 62 mm wide. The weight is 0.23 kg and the **working load = 820 kg**. 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 60) is not included.

The blocks in the OPF series to be mounted on the 4Race cars must have a special long swivel head as described on page 57; add *IJ* to the block model code.

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



Mod. 4100



Mod. 4100/SH

For boats up to 33 ft

COMPLETE SYSTEM

Mod. 4901

Mod. 4261

Mod. 00601/J

Mod. 691.421



COMPLETE SYSTEM

Mod. 4902

Mod. 4262

Mod. 4100

Mod. 00601/J



CAR CONTROL 1:1

COMPLETE SYSTEM

Mod. 4903

Mod. 4263

Mod. 4101

Mod. 00601/J

Mod. 4266



CAR CONTROL 2:1

COMPLETE SYSTEM

Mod. 4904

Mod. 4264

Mod. 4102

Mod. 00601/J

Mod. 4266



CAR CONTROL 3:1

Mod. 4103

Mod. 4266



genoa cars size 100 / 130

BALL BEARING GENOA TRAVELLER SIZE 100

This traveller is 98 mm long and 62 mm wide. The weight is 0.40 kg and the **working load = 820 kg**. Can be fitted with a front sheave with becket for a 3:1 control. Main sheave (diameter 45 mm) with 2 side ball bearings and a wide section suitable for 2 sheet. The sheaves for the car control are D=35 mm.

For boats up to 33 ft



BALL BEARING GENOA TRAVELLER SIZE 130

This traveller is 130 mm long and 62 mm wide. The weight is 0.50 kg and the **working load = 1100 kg**. Can be fitted with a front sheave with becket for a 3:1 control. Main sheave (diameter 48 mm) with 2 side ball bearings and a wide section suitable for 2 sheet. The sheaves for the car control are D=35 mm.

For boats up to 38 ft



sizes 110/150/190



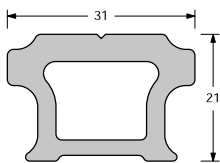
Mod. 4510

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:

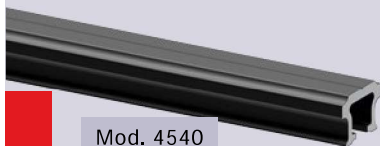
- fastening from the top
- 8 mm screws
- 100 mm hole spacing
- stop pin holes 50 mm spacing
- weight 0.75 kg/m



Mod. 4530

Race track 31x21: with lightening holes

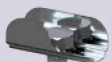
- fastening screws from the bottom
- 8 mm screws, 100 mm hole spacing
- weight 0.64 kg/m



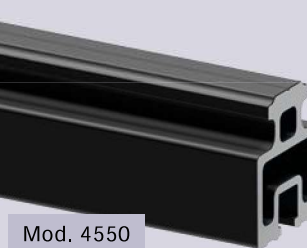
Mod. 4540

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



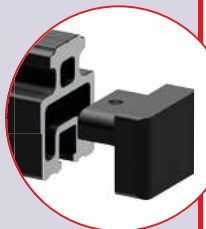
Mod. 4541



Mod. 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. 4551

Special end fitting for 48x60 track

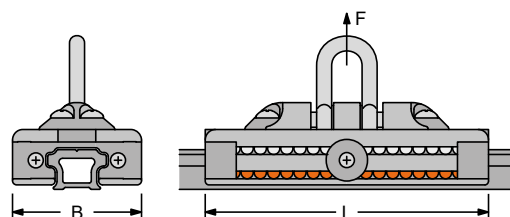
TRAVELLER SIZE AND LOAD TABLE

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

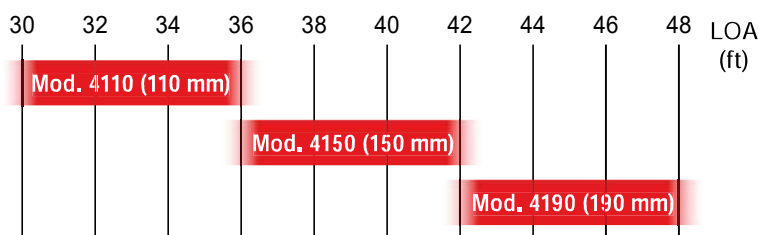
These cars are fitted with standard shackle (*ISH*), but also special "stand-up" joint for 70, 80 and 100 mm blocks is available.

Longer cars are available: L=230 mm (**SWL= 2400 kg**) and L=260 mm (**SWL= 2800 kg**) described in the following page 129.

TRAVELLER SIZE AND LOAD TABLE					
MODEL	L mm	B mm	SWL kg	WEIGHT kg	N° of Balls
4110/SH	110	70	1000	0.50	62 Delrin + 62 Torlon
4150/SH	150		1400	0.70	86 Delrin + 86 Torlon
4190/SH	190		1900	0.90	112 Delrin + 112 Torlon



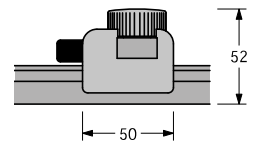
TRAVELLER SELECTION GUIDE FOR: MAINSHEET (END BOOM) & GENOA SHEET





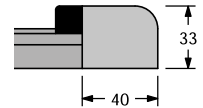
Mod. 4291 STOP PIN

Aluminium slider on nylon inserts and AISI 316 s.steel pin. The stop pin needs to be fitted on the mod. 4520 track. Knob with 2 positions: free and lock.



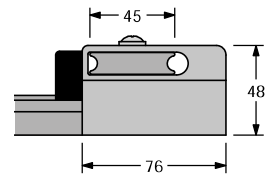
Mod. 4271 SIMPLE END FITTING

Plastic made, mounted with a 8 mm screw.



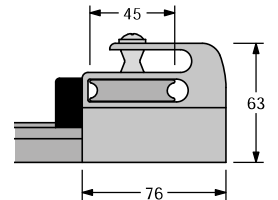
Mod. 4272 END FITTING WITH 1 SHEAVE

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 $\varnothing6$ mm



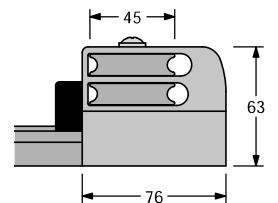
Mod. 4273 END FITTING WITH 1 SHEAVE AND BECKET

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 $\varnothing6$ mm



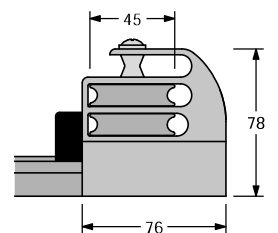
Mod. 4274 END FITTING WITH 2 SHEAVES

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 $\varnothing6$ mm



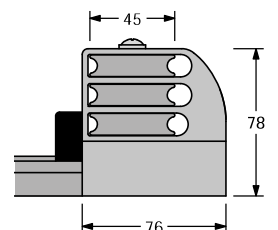
Mod. 4275 END FITTING WITH 2 SHEAVES AND BECKET

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 $\varnothing6$ 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 $\varnothing6$ mm



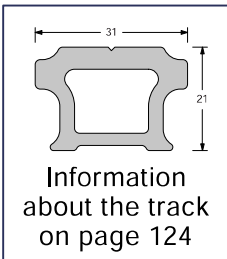
Mod. 4410 END FITTING CAM-CLEAT

Mod. 4420 110 mm TRAVELLER CAM-CLEAT

Mod. 4430 150/190 mm TRAVELLER CAM-CLEAT

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

main cars - size 110



SIZE 110

For boats up to 36 ft

This traveller, 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 traveller 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 62) is not included.

The blocks in the OPF series to be mounted on the 4Race cars must have a special long swivel head as described on page 57; add /J to the block model code.



COMPLETE SYSTEM

Mod. 4911



Mod. 4291

Mod. 00701/J

Mod. 4271

Mod. 4110

COMPLETE SYSTEM

Mod. 4913



Mod. 4273

Mod. 00701/J

Mod. 4410

Mod. 4112

CAR CONTROL 2:1

COMPLETE SYSTEM

Mod. 4914



Mod. 4274

Mod. 00701/J

Mod. 4410

Mod. 4113

CAR CONTROL 3:1

COMPLETE SYSTEM

Mod. 4915



Mod. 4272

Mod. 00701/J

Mod. 4113

Mod. 4420

CAR CONTROL 3:1

Cam-cleat on the car

COMPLETE SYSTEM

Mod. 4916



Mod. 4273

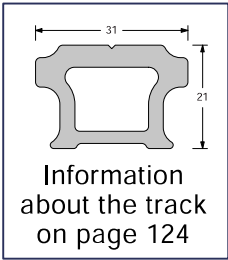
Mod. 00701/J

Mod. 4114

Mod. 4420

CAR CONTROL 4:1

Cam-cleat on the car



SIZE 150

For boats up to 42 ft

This traveller, 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 traveller 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 64) is not included.

The blocks in the OPF series to be mounted on the 4Race cars must have a special long swivel head as described on page 57; add /J1 to the block model code.



COMPLETE SYSTEM

Mod. 4951

CAR CONTROL 3:1



COMPLETE SYSTEM

Mod. 4952

CAR CONTROL 4:1



COMPLETE SYSTEM

Mod. 4953

CAR CONTROL 5:1



COMPLETE SYSTEM

Mod. 4954

CAR CONTROL 4:1

Cam-cleat on the car



COMPLETE SYSTEM

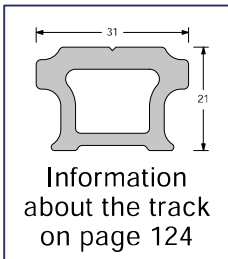
Mod. 4955

CAR CONTROL 5:1

Cam-cleat on the car



main cars - size 190



SIZE 190

For boats up to 48 ft

This traveller, 190 mm long (SWL = 1900 kg), is fitted with a special "stand-up" connection for one or two Antal sheet blocks (size 80 mm) and includes the "stand-up" rubber. The same traveller 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 blocks (OPF 80, page 64) are not included.

The blocks in the OPF series to be mounted on the 4Race cars must have a special long swivel head as described on page 57; add /J2 to the block model code.



COMPLETE SYSTEM

Mod. 4991

CAR CONTROL 4:1

Mod. 00801/J2

Mod. 4275

Mod. 4194

Mod. 00801/J2

Mod. 4410

COMPLETE SYSTEM

Mod. 4992

CAR CONTROL 5:1

Mod. 4195

Mod. 4276

Mod. 00801/J2

Mod. 4410

COMPLETE SYSTEM

Mod. 4993

CAR CONTROL 5:1 Cam-cleat on the car

Mod. 4195

Mod. 4274

Mod. 00801/J2

Mod. 4430

COMPLETE SYSTEM

Mod. 4994

CAR CONTROL 6:1 Cam-cleat on the car

Mod. 4196

Mod. 4275

Mod. 00801/J2

Mod. 4430

COMPLETE SYSTEM

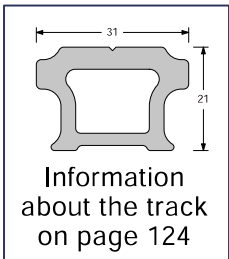
Mod. 4995

CAR CONTROL 4:1 Double block version

Mod. 4410

Mod. 4275

Mod. 4199



SIZE 260

For boats up to 52 ft

This traveller, 260 mm long (SWL = 2800 kg), is fitted with a special connection for one (size 100 mm) or two (size 80 mm) Antal sheet blocks and with 55 mm control sheaves. The complete system includes 2,5 m long track.

The sheet blocks (OPF 80 and 100, page 64-65) are not included.

The blocks in the OPF series to be mounted on the 4Race cars must have a special long swivel head as described on page 57; add *IJ2* to the block model code.

COMPLETE SYSTEM

Mod. 4921

CAR CONTROL 3:1



COMPLETE SYSTEM

Mod. 4922

CAR CONTROL 4:1



COMPLETE SYSTEM

Mod. 4925

CAR CONTROL 3:1



double and triple main cars

CAR CONTROL 2:1

Mod. 5194

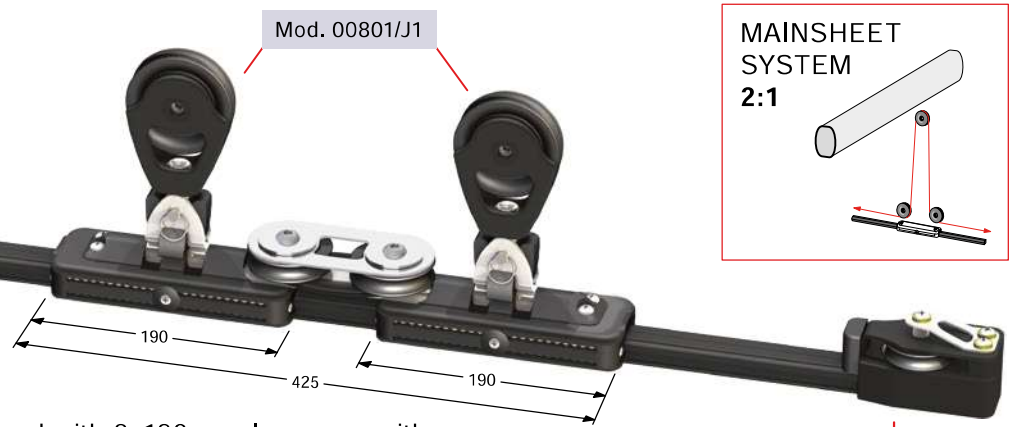
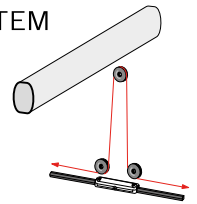
The double car is obtained with 2x190 mm long cars with two D=65 mm sheaves for a 2:1 control.

SWL = 3800 kg For catamarans up to 50 ft LOA

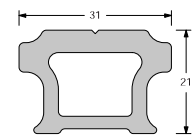
The mainsheet blocks (OPF 80, page 64) **are not included**.

The blocks in the OPF series to be mounted on the 4Race cars must have a special long swivel head as described on page 57; add *JJ* to the block model code.

MAINSHEET SYSTEM 2:1



Mod. 4273/Z



Information about the track on page 124

CAR CONTROL 2:1

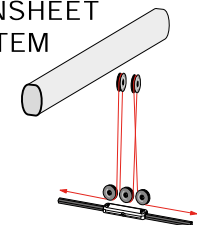
Mod. 5197

The triple car is obtained with 2x150 and 1x190 mm long cars with two D=70 mm blocks (OPF 70, page 62) for a 2:1 control.

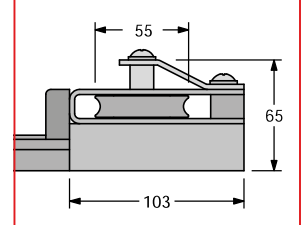
SWL = 4400 kg For catamarans up to 60 ft LOA

The mainsheet blocks (OPF 80, page 64) **are not included**.

MAINSHEET SYSTEM 4:1



Mod. 4273/Z



End fitting, 1 sheave (D=55 mm) and becket

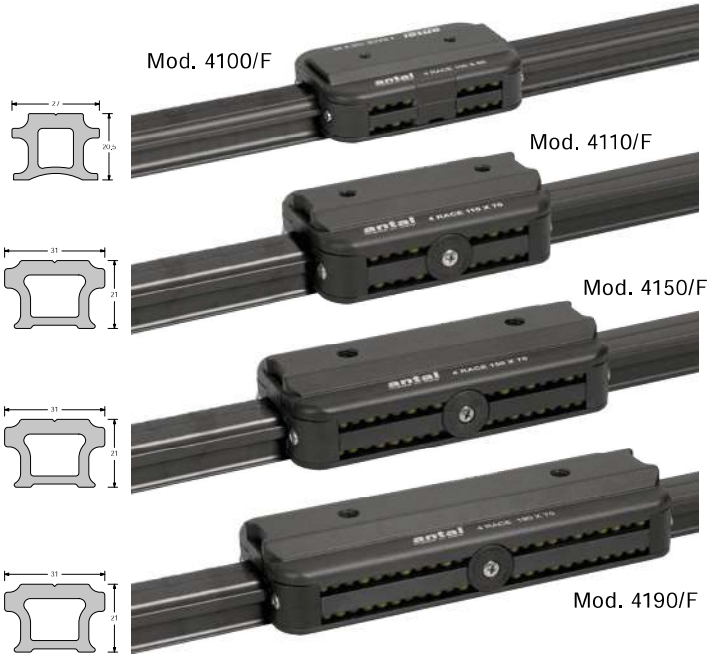
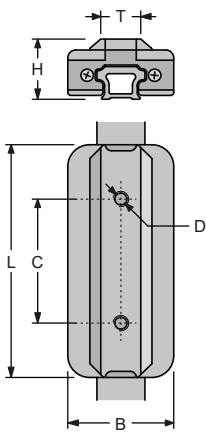


4RACE BB CARS FLAT SERIES

All the 4Race ball-bearing cars are also available in "flat" versions with 2 threaded holes for an easy connection with other systems, for example, in steering systems or for driving large sliding hatches, etc.

These cars are fitted with 4 circuits of Torlon balls providing compression loads as high as the pulling loads and greater torsional resistance.

NEW



TRAVELLER SIZE AND LOAD TABLE

MODEL	TRACK SIZE mm	L mm	B mm	C mm	D mm	H mm	T mm	SWL kg	WEIGHT kg	BALLS n°
4100/F	27 x 20.5	100	62	43	6	36	24	820	0.20	108
4110/F	31 x 21	110	70	65	8	39	26	1000	0.44	124
4150/F		150		80	10			1400	0.64	172
4190/F		190		103	10			1900	0.79	224

More information about the 27x20 track on page 121 and about the 31x21 track on page 124



S/Y "In Love"

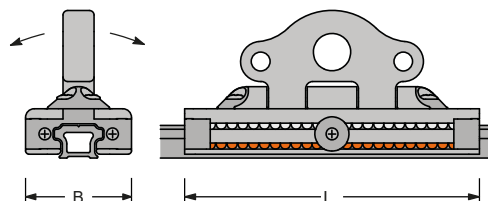
ball bearing cars for Dyneema links

CARS FOR DYNEEMA LINKS

Four ball bearing models, 110, 150, 190 and 230 mm long, for the same track 31x21 (see page 124) fitted with a special aluminium pivoting bracket suitable for Dyneema links, for both: 2 side control lines and one central connection for a sheet block or a sheet Ring.

MODEL	L mm	B mm	SWL kg	WEIGHT kg
4110/D	110	70	1000	0.45
4150/D	150		1400	0.65
4190/D	190		1900	0.85
NEW 4230/D	230		2400	1.05

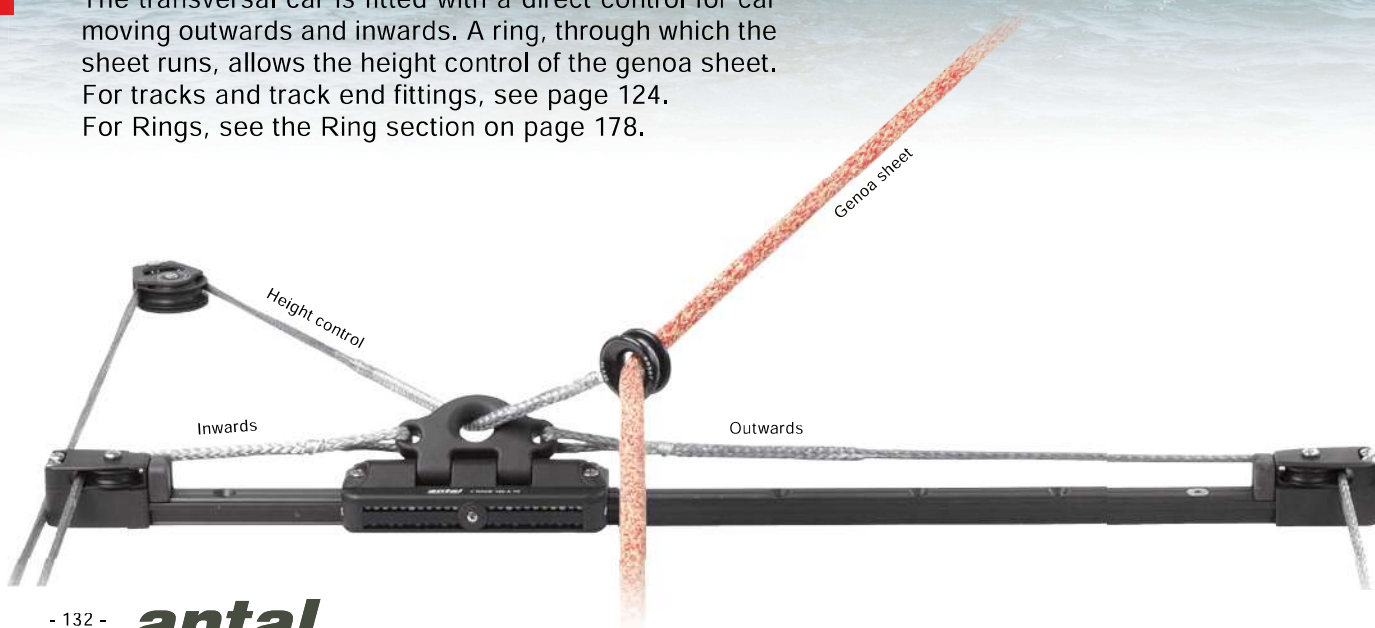
For tracks and track end fittings, see page 124.



Farnova 60

TRANSVERSAL CARS FOR GENOA SHEET

The transversal car is fitted with a direct control for car moving outwards and inwards. A ring, through which the sheet runs, allows the height control of the genoa sheet. For tracks and track end fittings, see page 124. For Rings, see the Ring section on page 178.



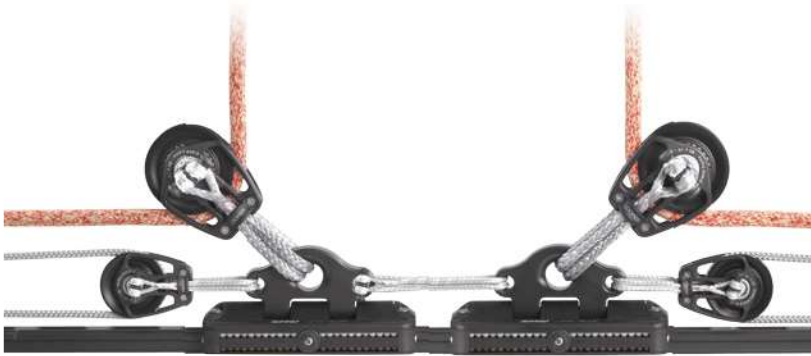
CARS FOR MAINSHEET

A Looper block, size 80 or 100, for the mainsheet in the centre and two smaller side blocks, size 60, for the car control are linked by Dyneema Snap Loops to a size 190 or 230 ball bearing car.

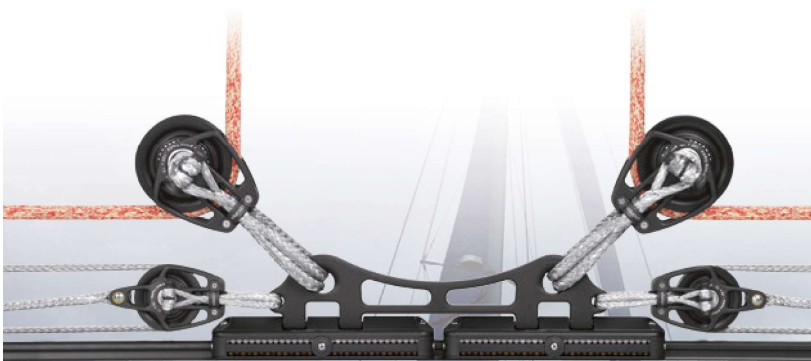
This solution, with **SWL=1900/2400 kg** is suitable for boats up to 48/50 ft.



For Looper blocks see page 74.
For Dyneema Snap Loop, see page 183.
For tracks and accesories, see page 124.



For larger boats up to 60 ft and SWL up to 3800 kg, two cars can be linked together. Two Looper blocks, size 80, for the sheet and two Looper blocks, size 60, for car control complete this double 190 mm car.



Custom solution with two extra-long cars (2 x 230 mm) and SWL 4800 kg. Two Looper blocks, size 100, for the mainsheet and two Looper blocks, size 70, for the side control, complete this solution designed for a 65 ft boat.



genoa cars 150 / 190 / 260

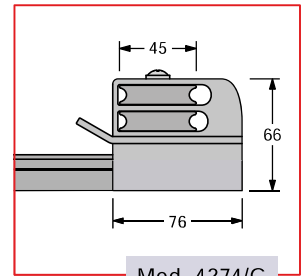


SIZE 150

For boats up to 42 ft

This 150 mm long traveller (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.

End fitting, 2 sheaves (D=45 mm) and becket



Mod. 4271



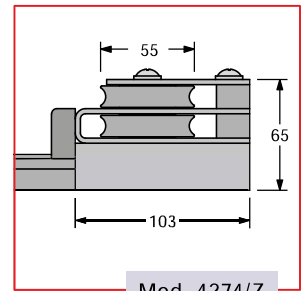
CAR CONTROL 4:1

SIZE 190

For boats up to 48 ft

This 190 mm long traveller (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



Mod. 4271



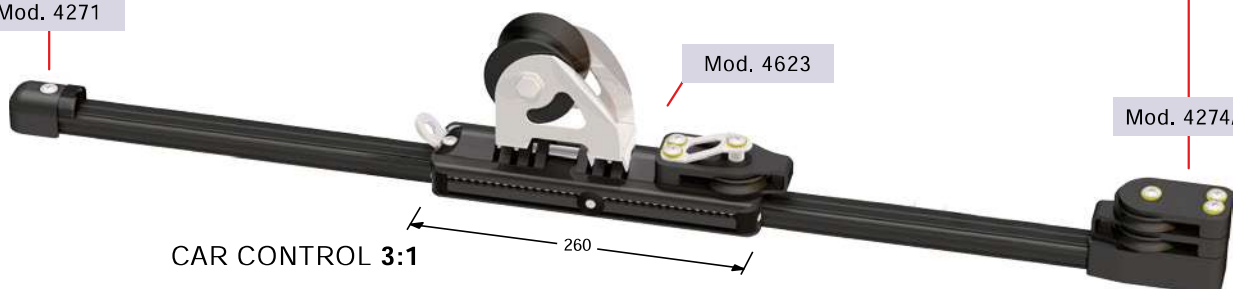
CAR CONTROL 4:1

SIZE 260

For boats up to 52 ft

This 260 mm long traveller (SWL = 2800 kg) is fitted with one 75 mm aluminium sheave with Composite Fibre main bearing for the genoa sheet, and one 55 mm resin sheave for the car control. All these sheaves are made with a double side ball bearing.

Mod. 4271



CAR CONTROL 3:1

Mod. 4291

Systems of this page may be completed with the adjustable stop pin mod. 4291 (only with track mod. 4520).

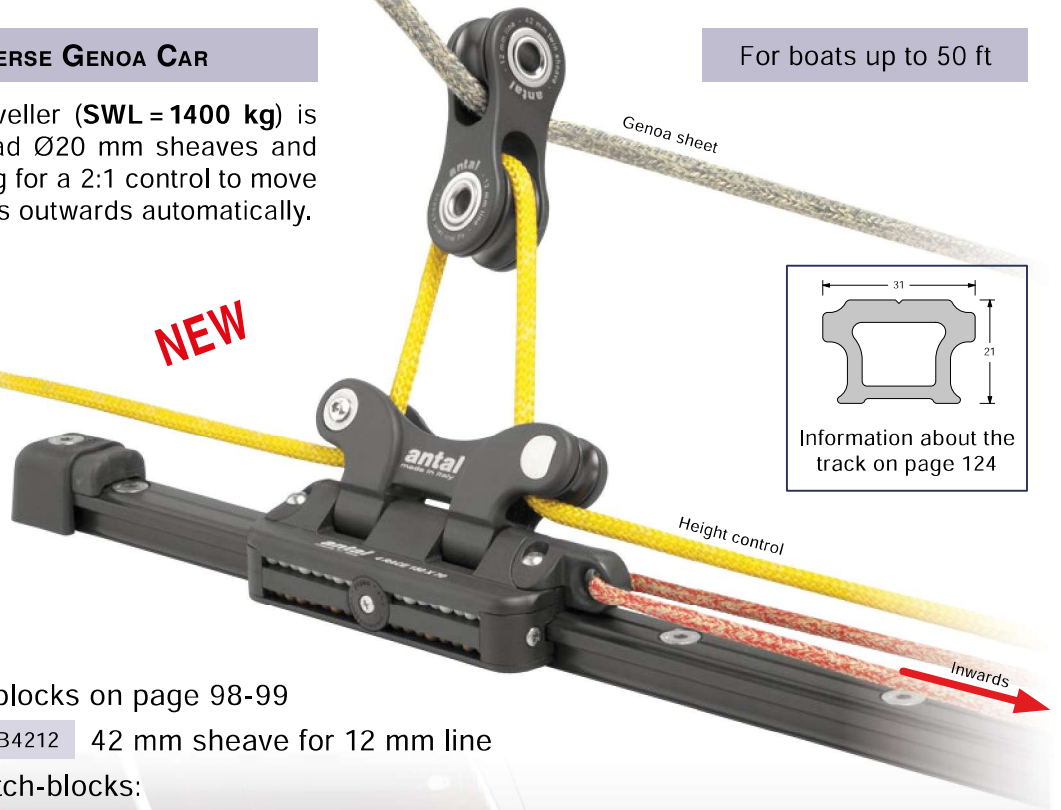
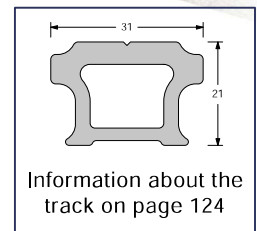


Mod. 4150/C **TRANSVERSE GENOA CAR**

For boats up to 50 ft

This 150 mm long traveller (SWL = 1400 kg) is fitted with two high-load Ø20 mm sheaves and one integrated side ring for a 2:1 control to move the car inward. It moves outwards automatically. Weight = 0.80 kg

NEW



sheet blocks on page 98-99

Mod. TB4212 42 mm sheave for 12 mm line
or snatch-blocks:



Mod. BB4012 40 mm sheave for 12 mm line
Mod. BB6014 60 mm sheave for 14 mm line



Club Swan 50 - Nautor