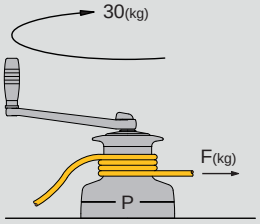
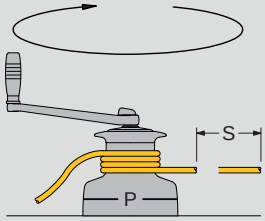
Winches

Technical infos



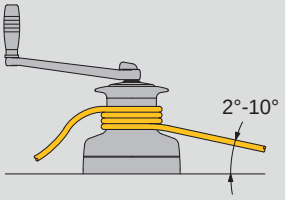
WINCH POWER AND MAXIMUM FORCE

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×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 = 20×50 = 1000 Kg.



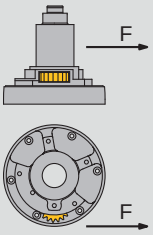
RECOVERY SPEED

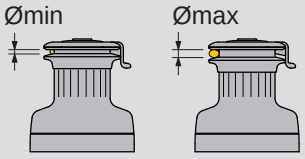
The recovery speed (S) is the length of line recovered with one turn of the handle. It is the converse of the winch power (P), and can be calculated using the formula: S = 1600/P (mm) For example, a model with winch power 50 would have a recovery speed of S = 1600/50 = 32 mm for each 360° turn of the 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. We recommend to put three or four wraps of line on the drum, otherwise excessive load on the Self-tailing disks 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 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

Antal uses HYDROLUB (MOD. **HDR**) for winch and gear lubrication.
This grease can be supplied (in 150 gr tubes) on request.

SPARE PARTS

Antal can supply you with a universal repair kit (MOD. **XTKIT**) suitable for all winch types, including 4 pawls and 4 pawl springs.

Winch selection guide

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	62	66	66 / 70	70 / 76	70 / 76	80
MAIN SHEET	-	-	-	-	16	30	30 / 40	40	44	52	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	62	66
MAIN HALYARD	7 / 8	8	16	30	40	44	44	44 / 48	48	52	62	66
SPIN HALYARD	7 / 8	8	16	16	30	40	44	44	48	52	62	66
TOPPING LIFT	-	-	8	8	16	30	30 / 40	40	44	48	52	62
FOREGUY	-	-	8	8	16	30	30 / 40	40	44	48	52	62
REEFING	-	8	8	16	30	40	40 / 44	40 / 44	48	52	62	66
VANG	-	-	-	8	8	16	30	30	40	44	52	62
RUNNERS	-	-	-	-	8	16	16	30 / 40	40	44	52	62

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	76
MAIN SHEET	-	-	-	-	16	30	40	44	48	52	66	66
SPIN SHEET	7 / 8	8	16	30	40	40	44	44/48	48	62	66	66
GENOA HALYARD	7	8	16	16	30	40	44	44	48	52	62	66
MAIN HALYARD	7 / 8	8	16	30	30/40	40/44	44	48	48	52	62	66
SPIN HALYARD	7 / 8	8	16	16	30	40	40	44	48	48	62	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	62	66
VANG	-	-	-	8	16	30	30	40	44	44	52	62
RUNNERS	-	16	30	40	40/44	44	48	52	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 6-7m. Two speed winches, direct and reduced: medium size models for boats up to 9-10m. Two reduced speed winches, medium-large size models for boats up to 12-13m.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SNUBBING WINCH → W5

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


MOD. **W5**

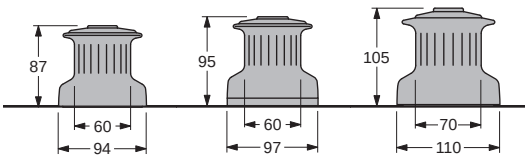
MODEL	W5
BASE mm	80
HEIGHT mm	66
WEIGHT g	193
SCREWS N x **Ø** mm	4 × Ø 6

ONE DIRECT SPEED WINCHES → W6, W7, W8

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

- MOD. **W6** is the smallest and lightest in the range, with a glass-fibre resin base and drum and an aluminium central rod.
- MOD. **W7** is similar but with a hard black anodized aluminium drum.
- MOD. **W8** has an AISI 316 stainless steel central rod, an aluminium base and a black anodized aluminium (**AL**) or chrome-plated (**CH**) drum mounted on roller bearings.


MOD. **W8AL** + MOD. **W8CH**



ONE SPEED WINCHES ↓

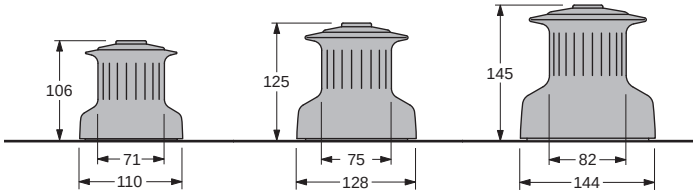
MODEL	W6	W7	W8
POWER P1	6.7	6.7	7.3
RECOVERY S1 mm	188	188	220
WEIGHT AL kg	0.43*	0.70	1.60
WEIGHT CH kg	-	-	2.10
SCREWS N x Ø mm	5 × Ø6	5 × Ø6	5 × Ø6

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

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.

MOD. **W42AL** + MOD. **W42CH**



Yak2, M. Gallo LaCinquanta 2020

TWO SPEED WINCHES ↓

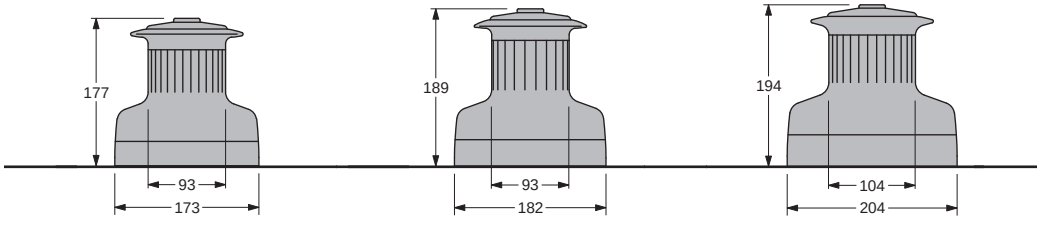
MODEL	W16	W30	W42
POWER P1-P2	7.3 / **14.5**	7.0 / **28.0**	6.4 / **42.5**
RECOVERY S1-S2 mm	220 / 110	235 / 60	250 / 37
WEIGHT AL kg	2.00	2.80	4.10
WEIGHT CH kg	2.90	3.80	6.00
SCREWS N x Ø mm	5 × Ø6	5 × Ø6	5 × Ø8

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.

TWO REDUCED SPEED WINCH → W44, W48, W52

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.

MOD. **W52AL** + MOD. **W52CH**



TWO SPEED WINCHES ↓

MODEL	W44	W48	W52
POWER P1-P2	20.0 / **43.0**	19.0 / **47.4**	14.9 / **51.1**
RECOVERY S1-S2 mm	81 / 38	84 / 34	107 / 31
WEIGHT AL kg	5.50	6.30	7.80
WEIGHT CH kg	8.50	9.50	11.50
SCREWS N x Ø mm	6 × Ø8	6 × Ø8	6 × Ø8

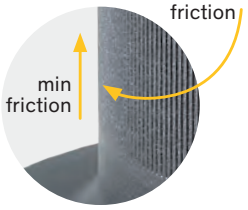
XT winches

Chrome plated **CH**

Hard black anodized aluminium **AL**

Simple opening

New XT system

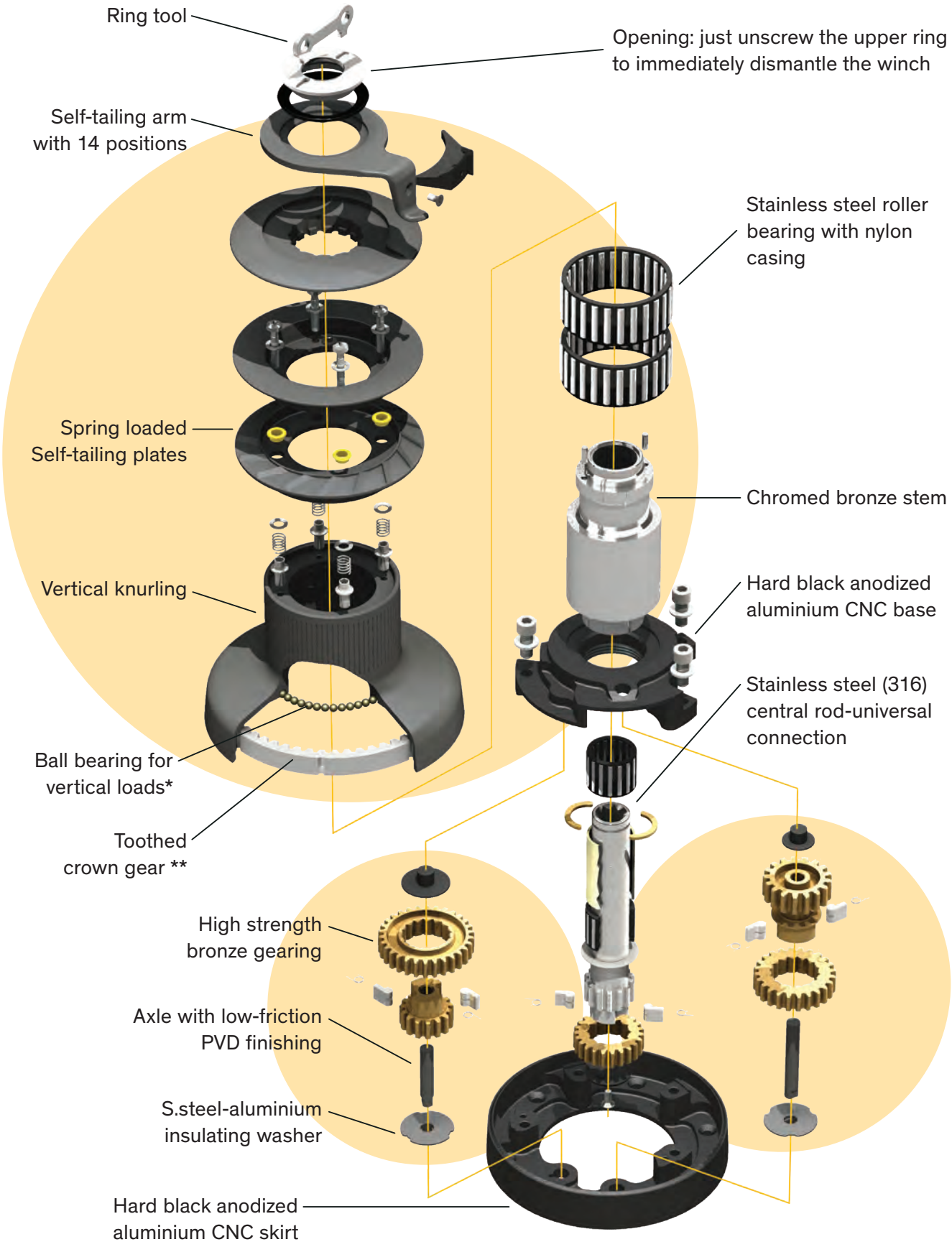


Vertical knurling

CNC base

15 new Self-tailing winches available in the following versions:
HARD BLACK ALUMINIUM (AL): the aluminium drum is hard black anodized and teflon coated, scratch-proof and very hard-wearing (page 12-13).
CHROME (CH): the drum, ST disks and ST arm are entirely chrome-plated. All chromed parts are highly polished, thickly nickel-plated and finally finished in chrome (pages 12-13).
RACE (R): racing series obtained by lightening the previous series AL (page 26).
CLASSIC (CHC and **BNC)**: fully chromed or with natural bronze finish (page 30).
Moreover an electric and hydraulic powered series are also available. (page 16-23)
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.



DRAWING REFERS TO WINCH MODELS FROM XT44 to XT62

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

** The aluminium drum fitted with a high strength alloy crown gear is provided on the following XT models: sizes 62, 66, 70 and 76, all racing winches from size 40 to size 76, all electrical and hydraulic versions up to size 62. The electric and hydraulic versions of models XT66, XT70, XT76 and XT80 are fitted with AISI 316 s.steel crown gear.

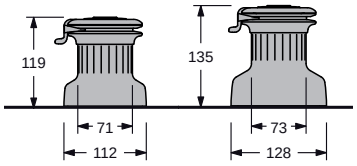
Self-tailing XT winches

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**).

MOD. **XT30AL**

MOD. **XT30CH**



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	2.7
WEIGHT CH kg	3.1	3.8
SCREWS N x Ø mm	5 × Ø6	5 × 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 ↓

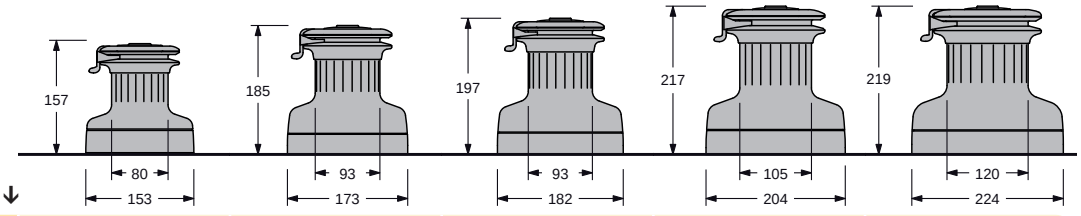
MODEL	XT16.2	XT30.2
POWER P1-P2	7.0 / **14**	7.0 / **28**
RECOVERY S1-S2 mm	229 / 115	229 / 58
Ø LINE mm	6 / 10	6 / 10
WEIGHT AL kg	2.6	2.9
WEIGHT CH kg	3.0	3.7
SCREWS N x Ø mm	5 × Ø6	5 × Ø6

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.

MOD. **XT52AL**

MOD. **XT52CH**



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**	17.8 / **62.1**
RECOVERY S1-S2 mm	125 / 40	80 / 38	84 / 34	100 / 30	89 / 26
Ø LINE mm	6 / 12	8 / 14	8 / 14	8 / 14	8 / 16
WEIGHT AL kg	4.4	6.2	6.9	9.2	10.9
WEIGHT CH kg	5.9	8.7	9.9	13.0	15.7
SCREWS N x Ø mm	5 × Ø8	6 × Ø8	6 × Ø8	6 × Ø8	6 × Ø8

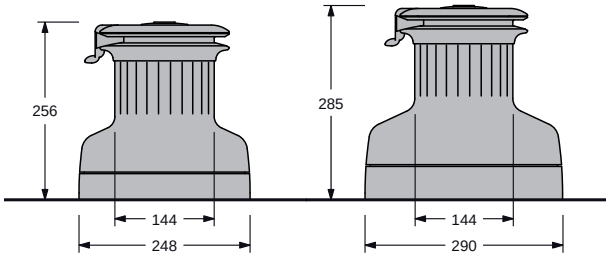
All these models (from size 40) can be powered with electric or hydraulic motors (page 16-23).

TWO REDUCED SPEED WINCHES → XT66, XT70

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

MOD. **XT70CH**

MOD. **XT70AL**



TWO SPEED WINCHES ↓

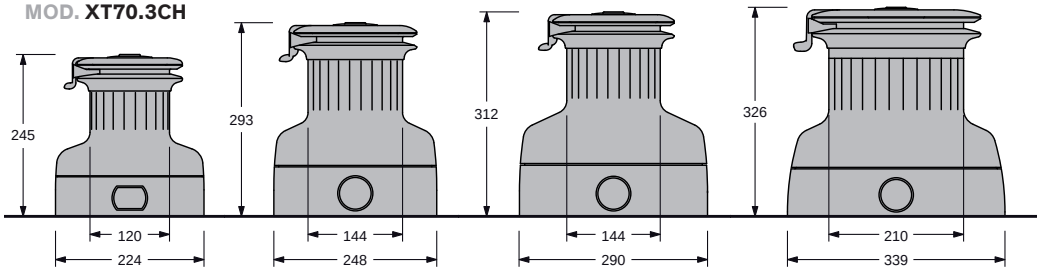
MODEL	XT66	XT70
POWER P1-P2	18.0 / **65.6**	27.1 / **69.8**
RECOVERY S1-S2 mm	89 / 24	59 / 23
Ø LINE mm	10 / 18	10 / 18
WEIGHT AL kg	14.8	18.5
WEIGHT CH kg	24.6	30.0
SCREWS N x Ø mm	6 × Ø10	6 × Ø10

THREE REDUCED SPEED WINCHES → XT62.3, XT66.3, XT70.3, XT80.3

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

MOD. **XT70.3CH**

MOD. **XT70.3AL**



THREE SPEED WINCHES ↓

MODEL	XT62.3	XT66.3	XT70.3	XT80.3
POWER P1-P2-P3	6.7 / 17.6 / **61.1**	10.7 / 20.8 / **65.3**	10.7 / 27.1 / **69.8**	11.0 / 30.0 / **81.4**
RECOVERY S1-S2-S3 mm	239 / 91 / 26	151 / 77 / 24	151 / 59 / 23	147 / 53 / 20
Ø LINE mm	8 / 16	10 / 18	10 / 18	12 / 20
WEIGHT AL kg	12.8	18.6	22.8	41.6
WEIGHT CH kg	17.6	28.4	34.4	56.3
SCREWS N x Ø mm	6 × Ø8	6 × Ø10	6 × Ø10	8 × 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.

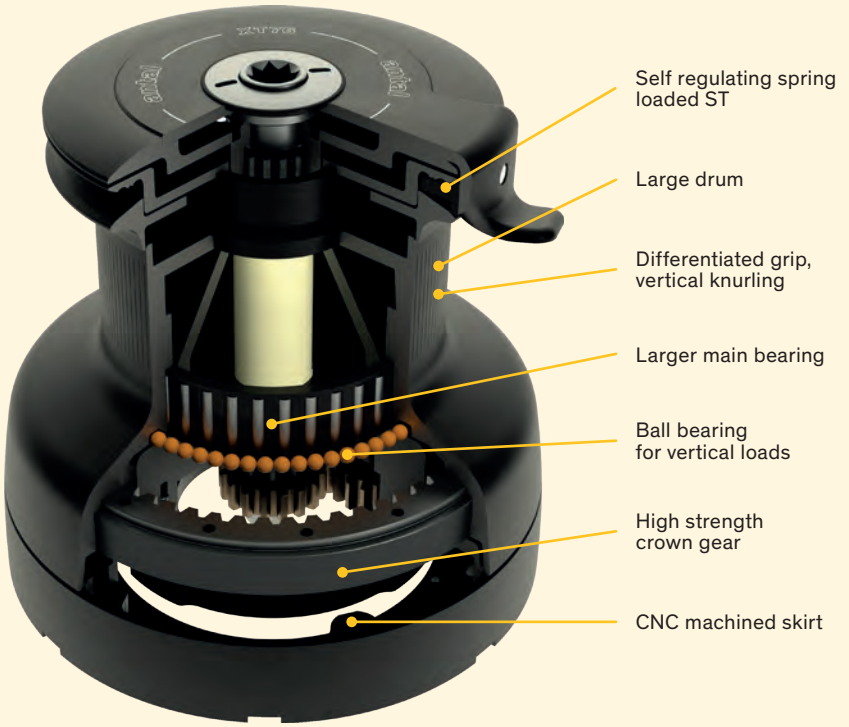
XT76

NEW

XT76 LARGE DRUM

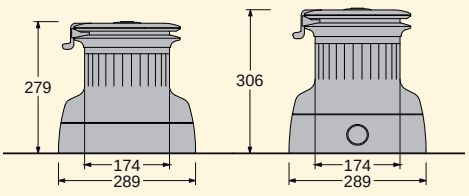
The new XT76 large drum winch fits perfectly between the XT66 and XT80 models. The large drum on larger bearings means power and efficiency with extremely high loads.

Antal offers a manual, vertical or horizontal drive electric version and an hydraulic version. A particularly light race model is also available, all these models can be supplied with 2 and even 3 speeds.



Manual

The values of weights and speeds are provisionals and will be confirmed in the technical data sheets of each model.

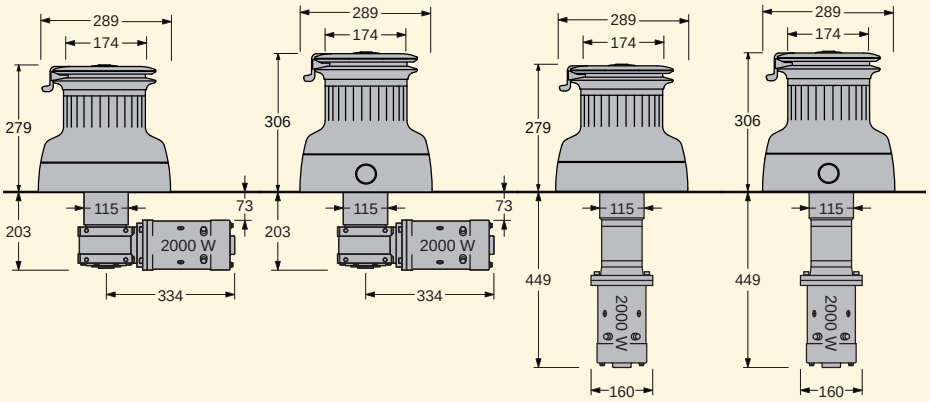


MODEL	XT76	XT76.3
	TWO SPEED ↓	THREE SPEED ↓
POWER P1-P2-P3	28 / **75**	10 / 28 / **75**
RECOVERY S1-S2-S3 mm	56 / 21	152 / 56 / 21
Ø LINE mm	10 / 18	10 / 18
GLOBAL WEIGHT AL kg	19.5	24
GLOBAL WEIGHT CH kg	31.5	36.1
GLOBAL WEIGHT RACE kg	17.0	21.0
SCREWS N x Ø mm	6 × Ø10	6 × Ø10

Powered

ELECTRIC WINCH
→ HORIZONTAL DRIVE
MOTOR – 2000W / 24V

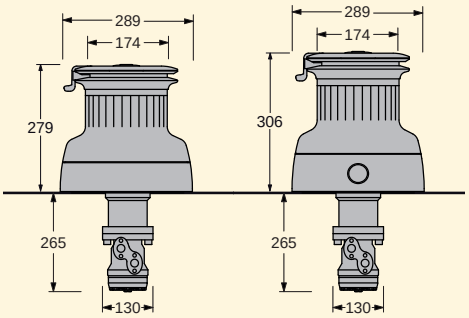
ELECTRIC WINCH
→ VERTICAL DRIVE
MOTOR – 2000W / 24V



	TWO SPEED ↓	THREE SPEED ↓	TWO SPEED ↓	THREE SPEED ↓
MODEL	**XT76EH**	**XT76.3EH**	**XT76EV**	**XT76.3EV**
LINE SPEED 1 m/min	9.0	24	9.0	24
LINE SPEED 2 m/min	3.5	9.0	3.5	9.0
LINE SPEED 3 m/min	-	3.5	-	3.5
WORKING LOAD kg	3400	3400	3400	3400
GLOBAL WEIGHT AL kg	41	45	42	46
GLOBAL WEIGHT CH kg	52	57	53	58

HYDRAULIC WINCH
→ **SIZE** – 100 cc
PRESSURE – 120 bar
FLOW – 20 L/min

For line speeds consider the same values of above table ↑



	TWO SPEED ↓	THREE SPEED ↓
MODEL	**XT76HD**	**XT76.3HD**
GLOBAL WEIGHT AL kg	29.5	34
GLOBAL WEIGHT CH kg	41.5	46
WORKING LOAD kg	3400	3400
HYDRAULIC MOTOR ↓		
SIZE cc	125	125
PRESSURE bar	120	120
FLOW l/min	20	20

Note: for recovery speeds consider values of the electric version as an indication. The real values will depend on the sizing of the hydraulic unit.

LINE SPEED – the recovery speed is calculated with the winch not under load; at maximum load the figure should be reduced by 30%. For real values require Antal force-speed-absorption diagrams.

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 21.

All our electric winches are Self-tailing and are available in both versions: with chrome-plated drum or with a reinforced black aluminium drum.

For more information on these winches see pages 12-13.

Fountaine Pajot, Samana 59 – Ph. G. Martin-Raget

Electric winches

ELECTRIC WINCHES
All Antal winch models, from **XT40** to **XT80.3**, maxi **W80.3ST** and **W90.3ST** can be fitted with an electric motor.
All electric winches are available with a chromed drum, now also black aluminium drums with a reinforced crown gear (high resistance alloy or A316 s.steel) are available.

HORIZONTAL AND VERTICAL MOTORS: all the winches may be equipped with a horizontal motor and gearbox 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.

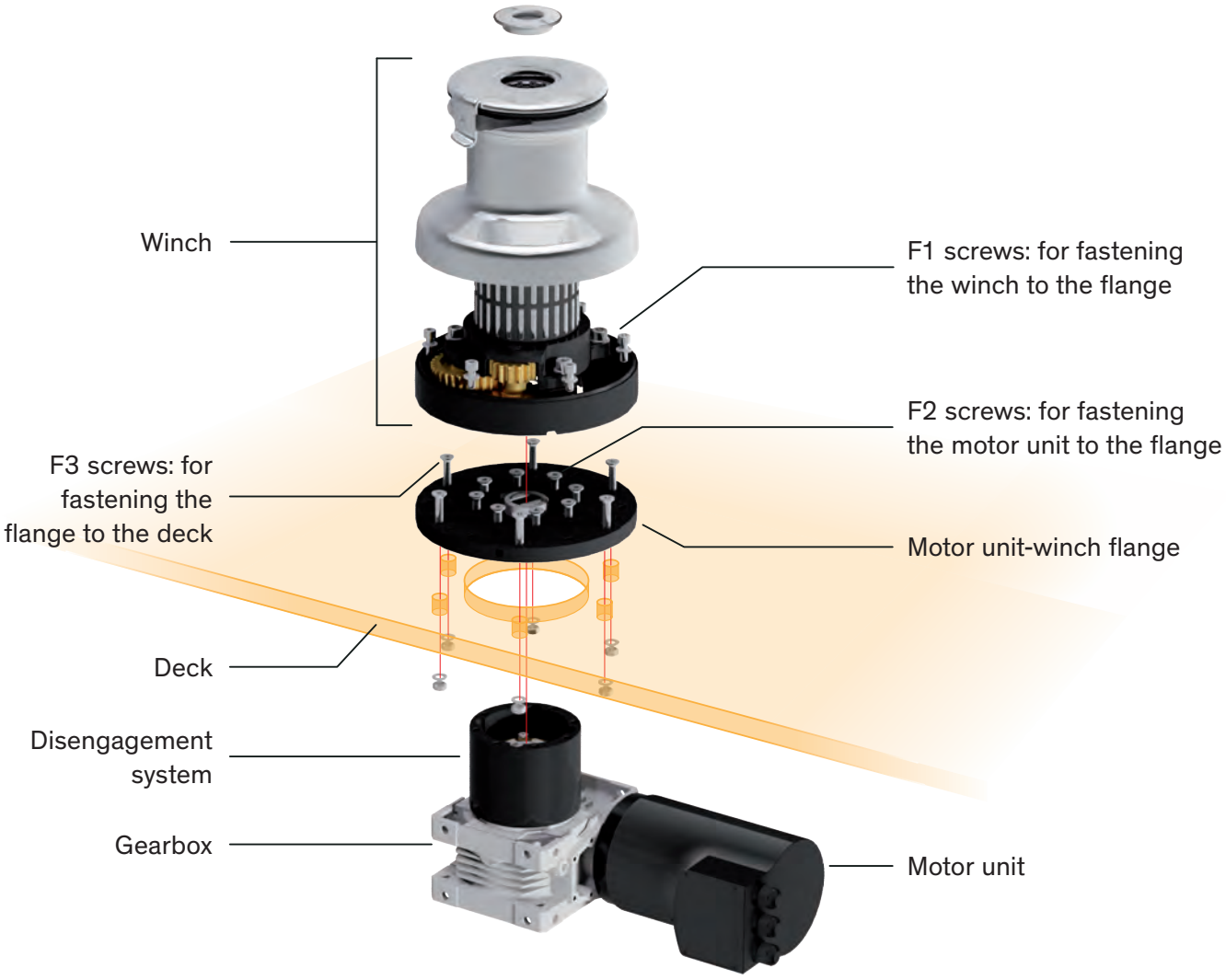
MANUAL USE: simply insert the handle to disconnect the gearbox-motor unit.

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

GREATER EFFICIENCY: the gearbox-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.

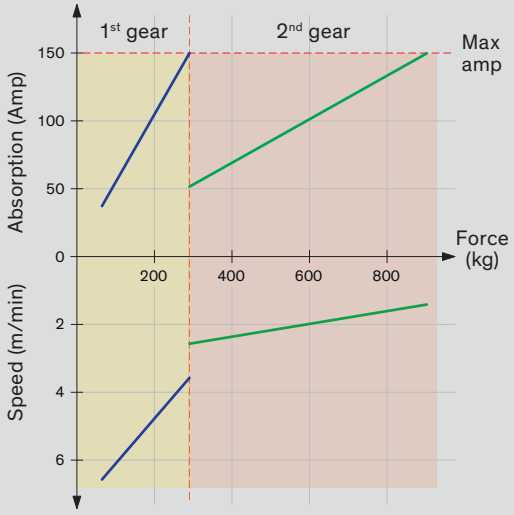
All our electric winches are self tailing. For more information on these winches see pages 12-13.



ELECTRIC WINCHES:
FORCE, ABSORPTION and SPEED

The force of the winch (pulling load), the current absorption (Amp) of the motor and the line recovery speed are related as shown in the diagrams obtained experimentally with load and recovery tests.
These diagrams are available for each model and clearly show the values of the maximum force with the fast and slow gears, the corresponding speed, and maximum electric absorption.

The documentation, including the force-absorption-speed diagrams, is available on request.

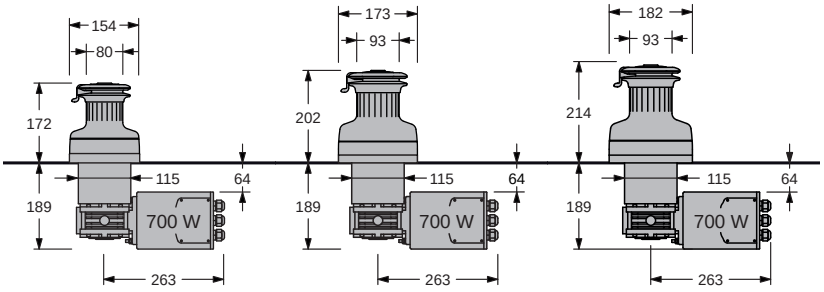


MOD. **XT40EH12AL**

MOD. **XT40EH12CH**

HORIZONTAL DRIVE - MOTOR 700W, 12/24V → XT40EH, XT44EH, XT48EH

The three MOD. **XT40**, **XT44** and **XT48** 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 ↓

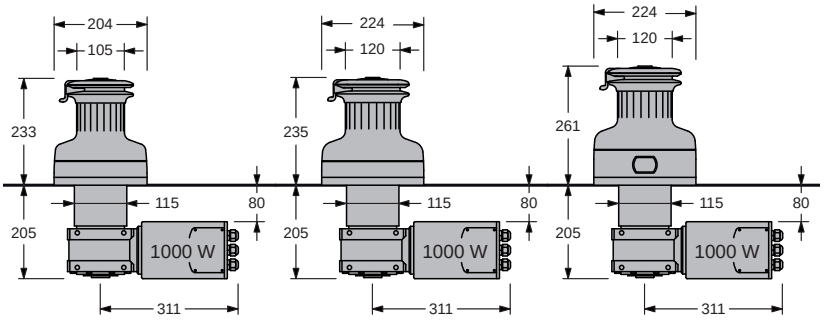
MODEL	XT40EH	XT44EH	XT48EH
LINE SPEED 1 m/min	12.0	11.0	11.0
LINE SPEED 2 m/min	4.5	4.0	4.0
WORKING LOAD kg	800	900	1000
GLOBAL WEIGHT AL kg	16.2	-	19.1
GLOBAL WEIGHT CH kg	17.7	20.7	22.1

MOD. **XT52EH12AL**

MOD. **XT52EH12CH**

HORIZONTAL DRIVE - MOTOR 1000W, 12/24V → XT40EH, XT44EH, XT48EH

MOD. **XT52**, **XT62** and **XT62.3** are powered with a 1000 Watt, 12 or 24 Volt motor.
Two switches, one control box and one breaker complete the system.



TWO OR THREE SPEED WINCHES ↓

MODEL	XT52EH	XT62EH	XT62.3EH
LINE SPEED 1 m/min	15.0	14.0	36.0
LINE SPEED 2 m/min	4.0	4.0	14.0
LINE SPEED 3 m/min	-	-	4.0
WORKING LOAD kg	1200	1500	1500
GLOBAL WEIGHT AL kg	26.3	28.3	30.2
GLOBAL WEIGHT CH kg	30.1	33.1	35.0

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 21.

All our electric winches are Self-tailing and are available in both versions: with chromed drum or with a reinforced black aluminium drum.

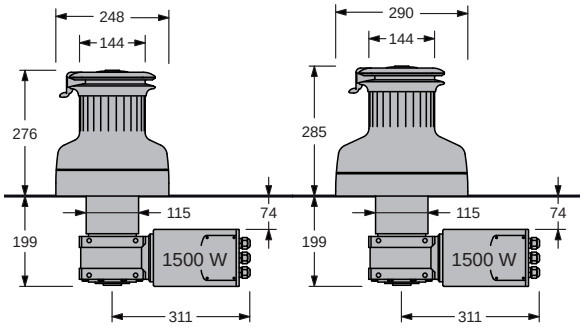
For more information on these winches see pages 12-13.

MOD. **XT70EH12AL**

MOD. **XT70EH12CH**

HORIZONTAL DRIVE - MOTOR 1500W, 12/24V → XT66EH, XT70EH

MOD. **XT66** and **XT70** are powered with a 1500 Watt, 12 or 24 Volt motor. Two switches, one control box and one breaker complete the system.



For the correct identification of the winch, add after the winch model in the tables the following:
- **12** or **24** for 12 or 24 Volt versions;
- **AL** for black aluminium drum or **CH** for chromed drum.

E.g.: XT66EH12AL is an electric winch size 66 with horizontal drive 12V motor and with black aluminium drum.

TWO SPEED WINCHES ↓

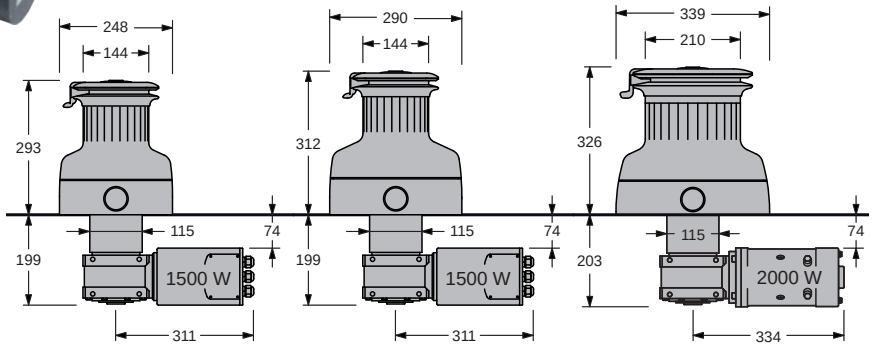
MODEL	XT66EH	XT70EH
LINE SPEED 1 m/min	12.0	9.0
LINE SPEED 2 m/min	3.5	3.0
WORKING LOAD kg	2500	3000
GLOBAL WEIGHT AL kg	31.9	35.9
GLOBAL WEIGHT CH kg	41.7	47.4

MOD. **XT70.3EH12AL**

MOD. **XT70.3EH12CH**

HORIZONTAL DRIVE - MOTOR 1500/2000 W, 12/24 V → XT66.3EH, XT70.3EH, XT80.3EH

These models maintain three speeds both in manual and in electric use; the push-button on the base starts the first gear (the fastest), second and third gear are automatically selected simply by 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 ↓

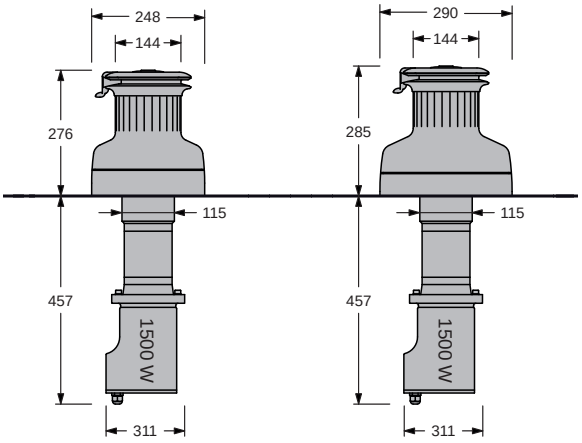
MODEL	XT66.3EH	XT70.3EH	XT80.3EH
LINE SPEED 1 m/min	22.0	21.0	24.0
LINE SPEED 2 m/min	12.0	9.0	9.0
LINE SPEED 3 m/min	3.5	3.0	3.0
WORKING LOAD kg	2500	3000	4000
GLOBAL WEIGHT AL kg	35.7	40.3	62.8
GLOBAL WEIGHT CH kg	45.5	51.8	77.5

MOD. **XT70EV12CH**

MOD. **XT70EV12AL**

VERTICAL DRIVE - MOTOR 1500W, 12/24V → XT66EV, XT70EV

This motor-gearbox system is suitable for the largest Antal winches: MOD. **XT66** and **XT70**. A special hypocycloidal gearbox gives max efficiency.



For the correct identification of the winch, add after the winch model in the tables the following:
- **12** or **24** for 12 or 24 Volt versions;
- **AL** for black aluminium drum or **CH** for chromed drum.

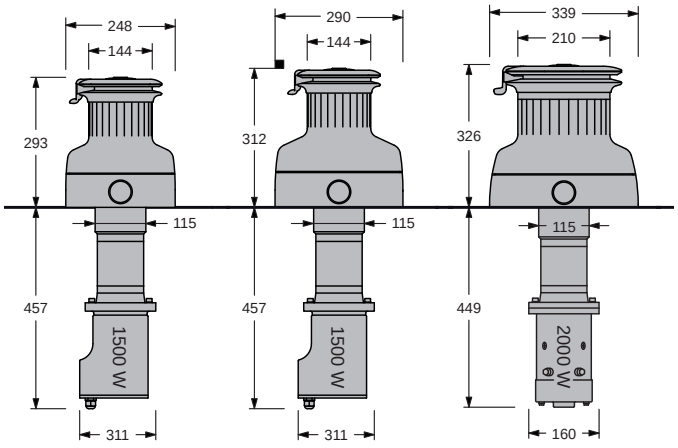
E.g.: XT66EV12AL is an electric winch size 66 with vertical drive 12V motor and with black aluminium drum.

TWO SPEED WINCHES ↓

MODEL	XT66EV	XT70EV
LINE SPEED 1 m/min	12.0	9.0
LINE SPEED 2 m/min	3.5	3.0
WORKING LOAD kg	2500	3000
GLOBAL WEIGHT AL kg	35.6	39.1
GLOBAL WEIGHT CH kg	45.4	50.6

VERTICAL DRIVE - MOTOR 1500/2000W 12/24V → XT66.3EV, XT70.3EV, XT80.3EV

The MOD. **XT66.3**, **XT70.3** and **XT80.3** maintain three speeds both in manual and in electric use; the push-button on the base starts the first gear (the fastest), second and third gear are automatically selected simply by 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	XT66.3EV	XT70.3EV	XT80.3EV
LINE SPEED 1 m/min	22.0	21.0	24.0
LINE SPEED 2 m/min	12.0	9.0	9.0
LINE SPEED 3 m/min	3.5	3.0	3.0
WORKING LOAD kg	2500	3000	4000
GLOBAL WEIGHT AL kg	38.6	42.1	64
GLOBAL WEIGHT CH kg	48.4	53.6	78.6

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 21.

All our electric winches are Self-tailing and are available in both versions: with chrome-plated drum or with a reinforced black aluminium drum.

For more information on these winches see pages 12-13.

Electric system

And accessories

SWITCHES WITH S.STEEL COVER

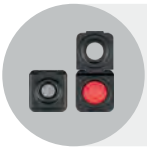
→ MOD. **251.035SG** – Grey button
→ MOD. **251.035SR** – Red button

Outer diameter – 78 mm

SWITCHES WITH PLASTIC COVER

→ MOD. **251.035QG** – Grey button
→ MOD. **251.035QR** – Red button

Outer diameter – 78 mm



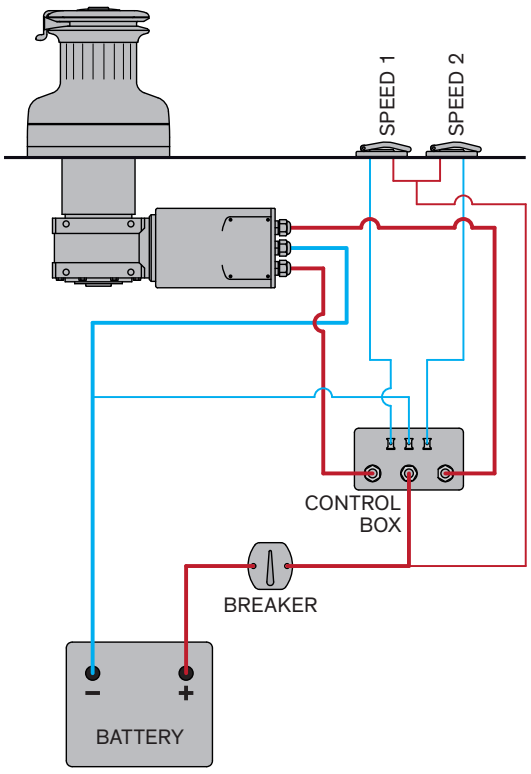
SWITCHES WITH ALUMINIUM COVER

→ MOD. **251.035AG** – Grey button
→ MOD. **251.035AR** – Red button

Size 59×66 mm only

CONTROL BOX
Solenoids are contained in a water tight "control box"; they are available for both12 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	
XT40 - XT44	700	12	A071	70	T6315/12
		24	A041	40	T6315/24
XT48	700	12	A081	80	T6315/12
		24	A041	40	T6315/24
XT52 - XT62	1000	12	A101	100	T6315/12
		24	A051	50	T6315/24
XT66 - XT70	1500	12	A121	120	T6315/12
		24	A071	70	T6315/24
XT76 - XT80.3 W80.3	2000	24	A101	100	T6315/24
W90.3	3000	24	A151	150	T6415/24

MOD. WBC — POWERED WINCHES LOAD CONTROL

To guarantee complete protection for powered winches, Antal offers the **WBC**, which keeps the winch from reaching its maximum working load. The winch is generally activated in the fastest gear. When maximum absorption is reached, this gear is deactivated by the WBC and the slow gear must be used. This reduces the winch stress until maximum absorption (max load) is reached and the WBC also deactivates this slow gear. Another safety device is the breaker that protects the motor from overheating due to too intensive use. However, it does not protect the winch from sudden excessive loads. Therefore, both are necessary for complete protection. The WBC is suitable for two-speed Antal winches, with motors up to 2000W and maximum absorption of 250 amps.

Hydraulic winches

MOD. **XT62HDCH**

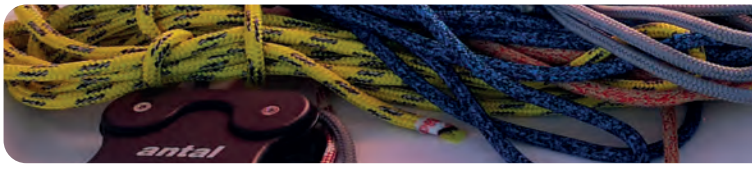
MOD. **XT62HDAL**

HYDRAULIC SYSTEM

Hydraulic motors are available for Antal winches from MOD. **XT44** to **XT80.3**, as well as to 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 hydraulic winches are available with a chromed drum, now also black aluminum drum with a reinforced crown gear (high resistance alloy or A316 s.steel) is available. For more information, see pages 12-13. For manual use, the motor unit is released simply by inserting the handle.

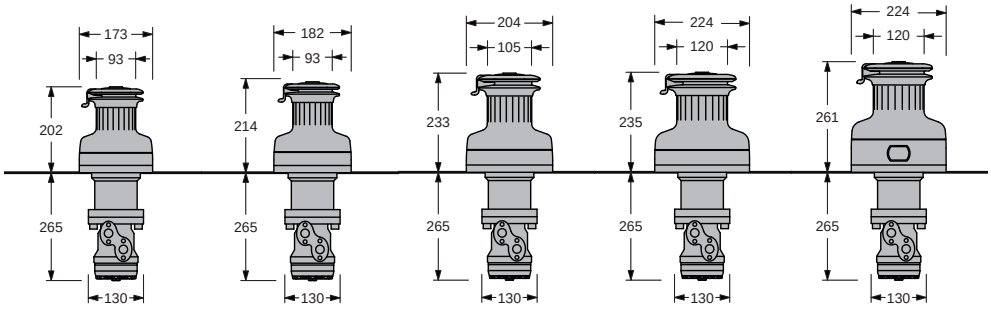
LINE SPEED

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.



For the correct identification of the winch, add after the winch model in the tables **AL** for black aluminium drum or **CH** for chromed drum.

E.g.: XT66HDAL is a hydraulic winch size 66 with black aluminium drum.



MODEL	XT44HD	XT48HD	XT52HD	XT62HD	XT62.3HD
LINE SPEED 1 m/min	12.0	12.5	16.0	13.0	36.9
LINE SPEED 2 m/min	5.5	5.0	4.6	4.0	13.0
LINE SPEED 3 m/min	-	-	-	-	4.0
WORKING LOAD kg	900	1000	1200	1400	1400
GLOBAL WEIGHT AL kg	17.2	18.2	20.4	22.2	24.1
GLOBAL WEIGHT CH kg	19.7	21.2	24.2	27.0	28.9
HYDRAULIC MOTOR ↓					
SIZE cc	50	50	50	50	50
PRESSURE bar	100	100	120	120	120
FLOW l/min	7.5	7.5	7.5	7.5	7.5

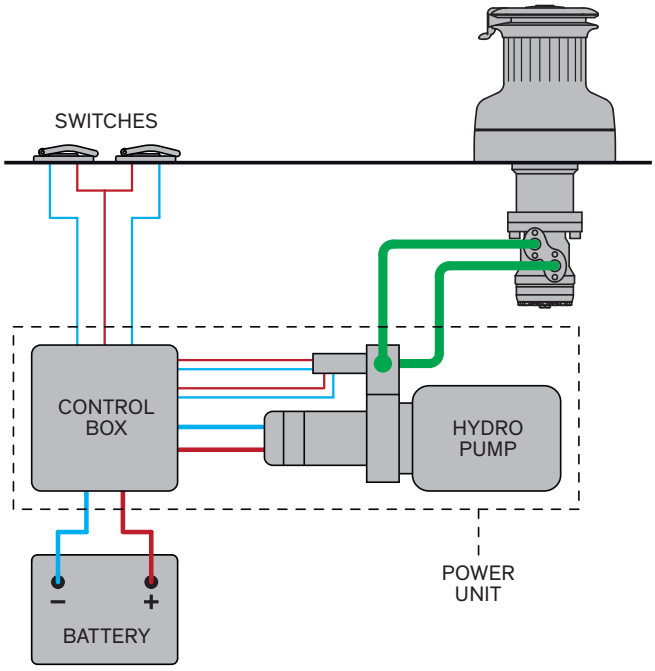
HYDRAULIC UNIT

These units are designed for 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 colours are used: gray and red, s.steel, plastic or aluminium version available.



SWITCHES WITH S.STEEL COVER

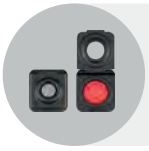
→ MOD. **251.035SG** – Grey button
→ MOD. **251.035SR** – Red button

Outer diameter – 78 mm

SWITCHES WITH PLASTIC COVER

→ MOD. **251.035QG** – Grey button
→ MOD. **251.035QR** – Red button

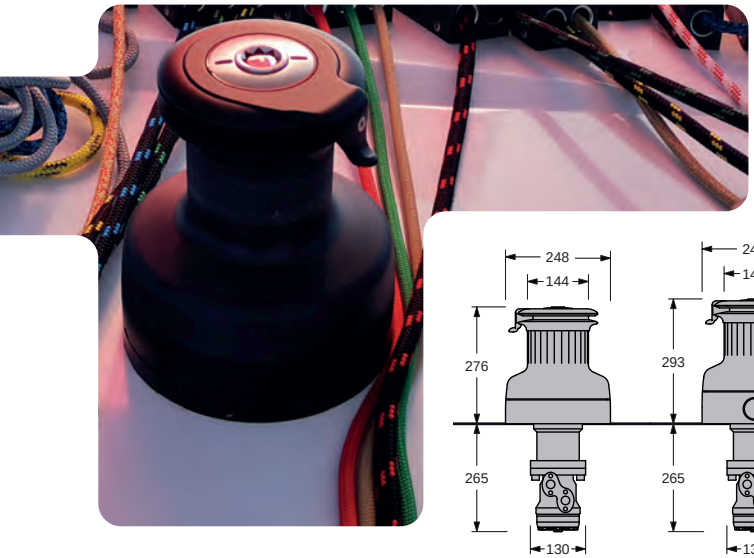
Outer diameter – 78 mm

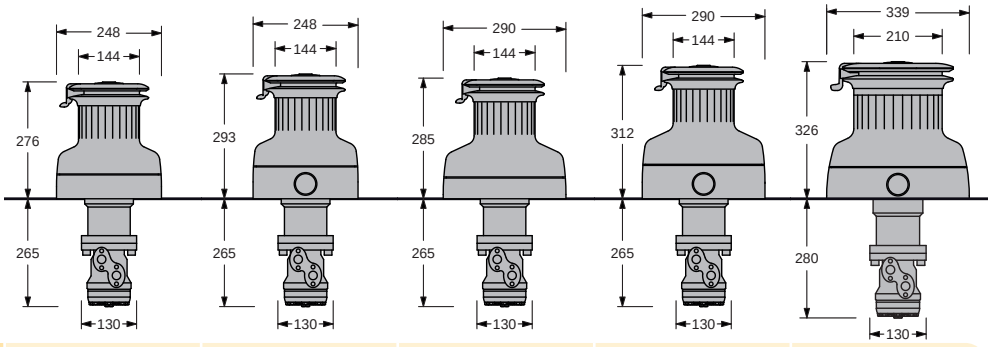


SWITCHES WITH ALUMINIUM COVER

→ MOD. **251.035AG** – Grey button
→ MOD. **251.035AR** – Red button

Size 59×66 mm only





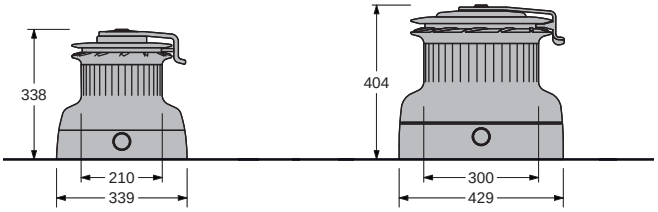
MODEL	XT66HD	XT66.3HD	XT70HD	XT70.3HD	XT80.3HD
LINE SPEED 1 m/min	13.0	23.0	9.0	23.0	22.0
LINE SPEED 2 m/min	3.6	12.0	3.5	9.0	8.0
LINE SPEED 3 m/min	-	3.6	-	3.5	3.0
WORKING LOAD kg	2600	2600	3000	3000	4000
GLOBAL WEIGHT AL kg	24.5	28.3	28.4	32.7	52.1
GLOBAL WEIGHT CH kg	34.3	38.1	39.8	44.2	66.8
HYDRAULIC MOTOR ↓					
SIZE cc	80	80	100	100	160
PRESSURE bar	120	120	120	120	120
FLOW l/min	12	12	15	15	24

Maxi winches

MOD. **W80.3ST**

THREE REDUCED SPEED MAXI WINCHES → W80.3ST, W90.3ST

Maxi winches for boats more than 20m long. These models are almost always powered with electric motors or hydraulic motors 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 fastest); second and third gear are automatically selected simply by reversing the rotation of the handle.

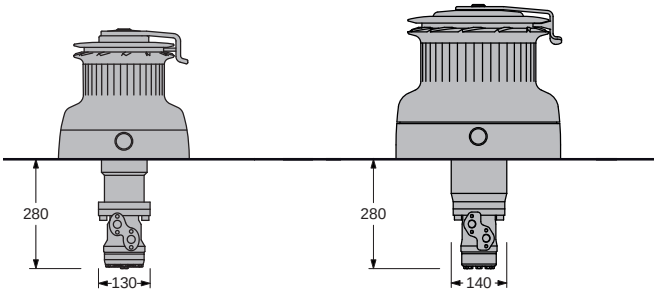


THREE SPEED WINCHES ↓

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 × Ø10	8 × Ø12

HYDRAULIC MOTORS → W80.3HD, W90.3HD

The maxi winches MOD. **W80.3** and **W90.3** can be powered by a hydraulic motor.

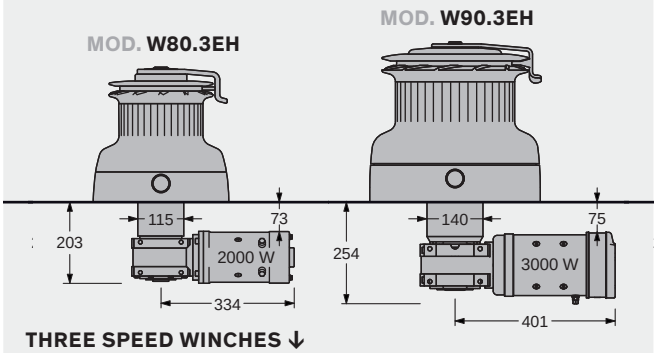


MODEL	W80.3HD	W90.3HD
LINE SPEED 1 m/min	22.0	18.0
LINE SPEED 2 m/min	8.0	7.0
LINE SPEED 3 m/min	3.0	2.5
WORKING LOAD kg	4000	8000
GLOBAL WEIGHT kg	63.4	118
HYDRAULIC MOTOR ↓		
SIZE cc	160	200
PRESSURE bar	120	120
FLOW l/min	24	30

Electric maxi winches

HORIZONTAL DRIVE - 2000/3000W, 24V → W80.3EH, W90.3EH

MOD. **W80.3** is fitted with a 2000W (24V) motor and model MOD. **W90.3** with a 3000W (24V) motor. For the circuit diagram and accessories, such as switches, control-boxes and breakers, see page 21.



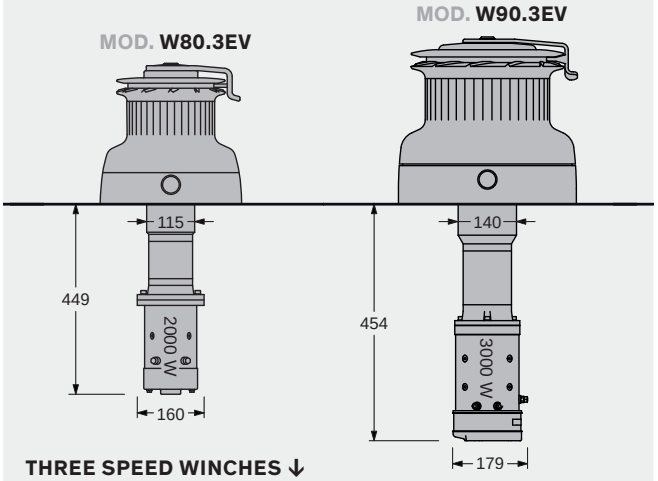
THREE SPEED WINCHES ↓

MODEL	W80.3EH	W90.3EH
LINE SPEED 1 m/min	24.0	18.0
LINE SPEED 2 m/min	9.0	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

CIRCUIT DIAGRAM – for the circuit diagram and accessories such as switches, control boxes and breakers see page 21.

VERTICAL DRIVE - 2000/3000W, 24V → W80.3EV, W90.3EV

Vertical drive version is also available for MOD. **W80.3** and **W90.3** (2000W on the 80.3, 3000W on the 90.3, both 24V) with a hypocycloidal gearbox. For the circuit diagram and accessories, such as switches, control-boxes and breakers, see page 21.



THREE SPEED WINCHES ↓

MODEL	W80.3EV	W90.3EV
LINE SPEED 1 m/min	24.0	18.0
LINE SPEED 2 m/min	9.0	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

Adriatica 21.37m

XT Race winches

Class40 Green Challenge – C. Verardo, Ph. A. Carloni

SELF-TAILING WINCHES: XT RACE SERIES

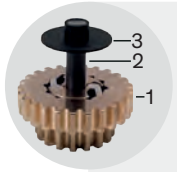
XT-R is the racing winch series obtained from the standard XT series, described above:

- 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.

MOD. **XT44R**

ONE REDUCED SPEED WINCHES ↓

MODEL	XT16R	XT30R
WEIGHT kg	1.95	2.35

TWO REDUCED SPEED WINCHES ↓

MODEL	XT16.2R	XT30.2R	XT40R	XT44R	XT48R	XT52R	XT62R	XT66R	XT70R
WEIGHT kg	2.0	2.2	3.6	4.7	5.3	7.1	8.5	15.5	16.2

For all others characteristics see tables on previous pages 12-13.

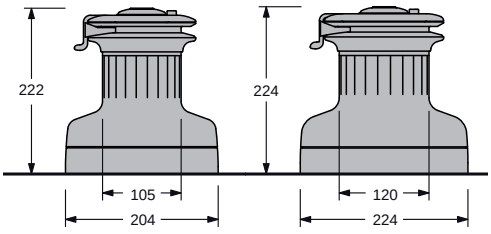
3-speed XTR winches

ONE DIRECT AND TWO REDUCED SPEED WINCHES → XT52.3RD, XT62.3RD

MOD. **XT62.3RD**

MOD. **XT52.3RD**

Two new MOD. **XT52.3RD** and **XT62.3RD** with one direct speed for a very fast recovery, plus two reduced speeds for medium and high loads are now available.
The push button on the top cover starts the first direct gear (the fastest), second and third reduced gears are automatically selected simply by reversing the rotation of the handle.



ONE AND TWO REDUCED SPEED WINCHES ↓

MODEL	XT52.3RD	XT62.3RD
POWER P1-P2-P3	4.8 / 15.9 / **52.8**	4.2 / 17.8 / **62.1**
RECOVERY S1-S2-S3 mm	330 / 100 / 30	377 / 89 / 26
Ø LINE mm	8 / 14	8 / 16
WEIGHT kg	7.5	9.2
SCREWS N x Ø mm	6 × Ø8	6 × Ø8

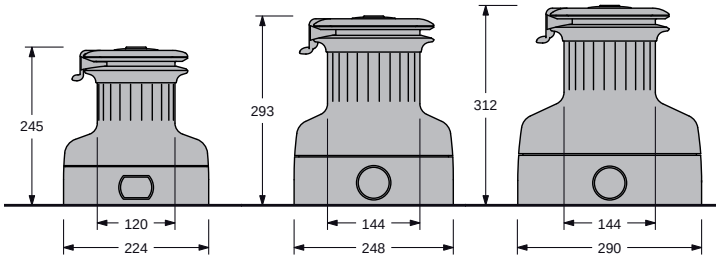
THREE REDUCED SPEED WINCHES → XT62.3R, XT66.3R, XT70.3R

MOD. **XT70.3R**

MOD. **XT62.3R**

1st speed push button on the base

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

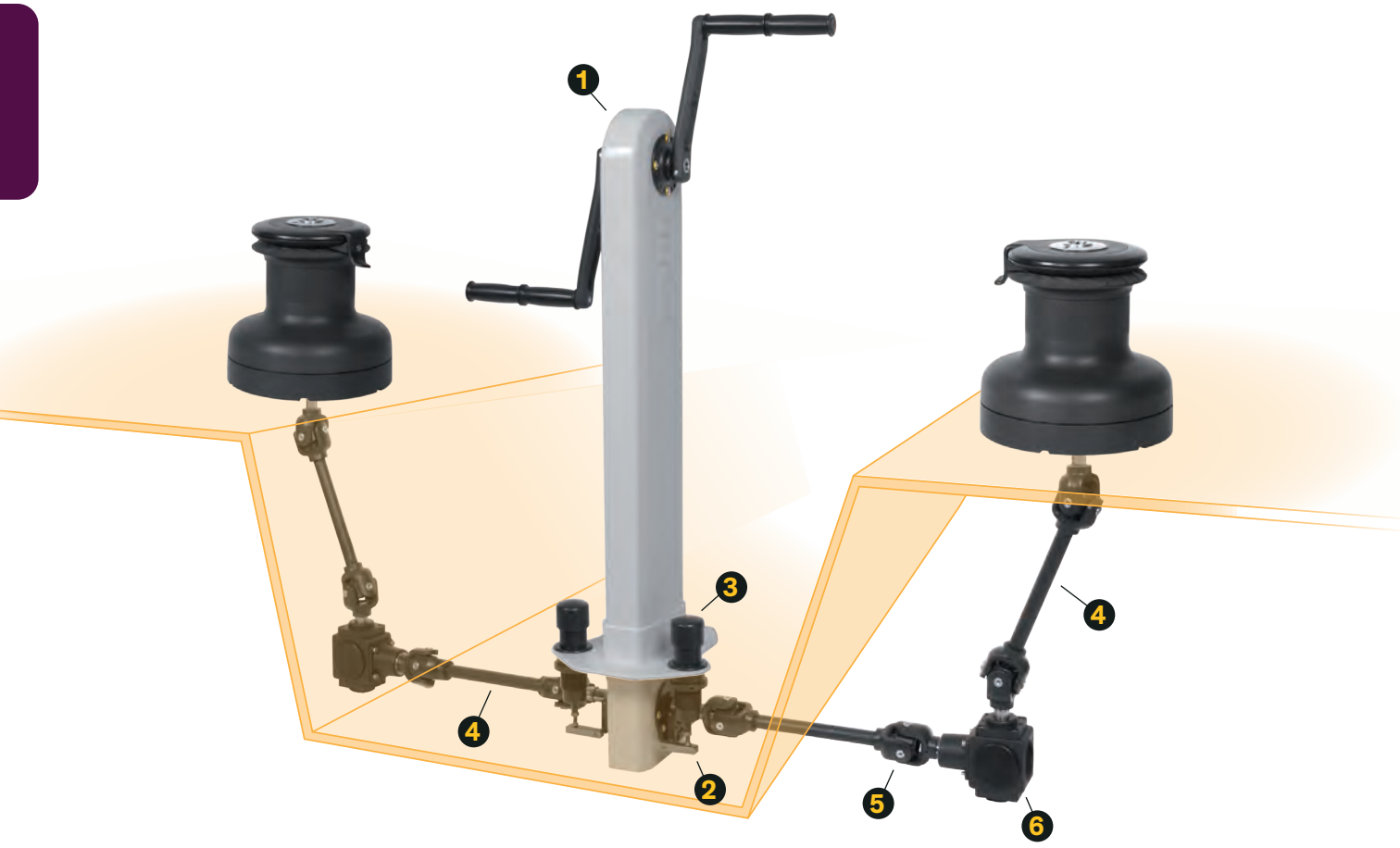


THREE REDUCED SPEED WINCHES ↓

MODEL	XT62.3R	XT66.3R	XT70.3R
POWER P1-P2-P3	6.6 / 17.8 / **62.1**	10.7 / 20.8 / **65.3**	10.7 / 27.1 / **69.8**
RECOVERY S1-S2-S3 mm	241 / 89 / 26	151 / 77 / 24	151 / 59 / 23
Ø LINE mm	8 / 16	10 / 18	10 / 18
WEIGHT AL kg	10.4	16.2	20.3
SCREWS N x Ø mm	6 × Ø8	6 × Ø10	6 × 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.

Pedestals for winches



RACE SYSTEM

The Antal pedestal in carbon fibre relies on a belt drive that guarantees a light system. Thanks to the push buttons (**3**), the person operating the handles can control one, two or more winches independently.

Note that the push button does not engage the third speed: this can be still engaged by pushing the winch knob at the base of the winch.

The system also comprises drive shafts (**4**), in customised lengths on request, and gearboxes (**6**). Moreover, the cardan joints (**5**) allow the drive shafts to be angled even to a large degree, thus enabling them to adapt to any hull design.

Farnova 45

1

MOD. C001

CARBON FIBRE PEDESTAL, with belt drive on toothed sheaves that are mounted on steel roller bearings.

2

MOD. C002

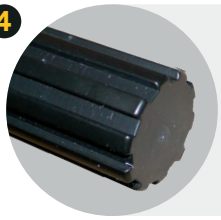
DRIVE-BOX, which transmits the drive from the pedestal to the axle of the single winch.

3

MOD. C003

PUSH-BUTTON, which turns the drive-box on and off, and permits to choose which winch to work on.

4



MOD. C004/xx

ALUMINIUM DRIVE SHAFT with black anodized ribbed end. Customised length on request.

5

MOD. C005

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

MOD. C006

GEAR BOX in right and left hand version, bronze gears on ball/roller bearings, HR steel axles and black anodized aluminium box.

Marina Militare Italiana, Stella Polare – Ph. J.R. Taylor

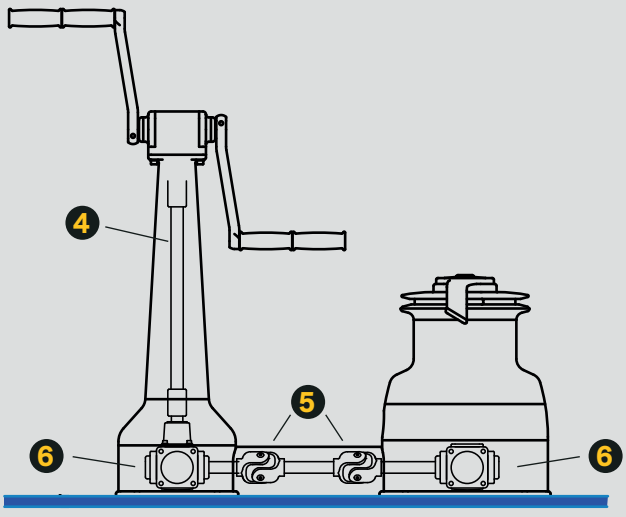
CLASSIC PEDESTAL MECHANICAL DRIVE

This system is entirely run by a **mechanical drive**: drive shafts and bevel gears.

The classic system includes the same components as the race system but with the following differences: the pedestal is hard black anodized aluminium made, with shaft and bevel transmission.

The classic solution is installed entirely above deck with no components under deck.

The shaft from the pedestal to the winch is protected by s.steel casing.



Classic winches

MOD. **W44CHC**

MOD. **XT48CHC**

MOD. **W44BNC**

MOD. **XT48BNC**

CLASSIC SERIES WINCHES

Classic series winches (**CHC**) are supplied not only with a chromed drum, ST disks and ST arm, as the chrome series models (**CH**) described on pages 12-13, but also with a chromed lower skirt, thus being completely chromed.
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 finisched in chrome.

POLISHED BRONZE

On request, Antal classic winches can be supplied (with drum, ST disks, ST arm and skirt) made of polished natural bronze finish (add **BNC** after the winch model).

Natural bronze winch handle with wooden grip.

Martin Yacht, Anitra 12m SI

Line Driver


Amel 50 – Ph. J.S. Evrard

TRAVELLER CONTROL SYSTEM

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

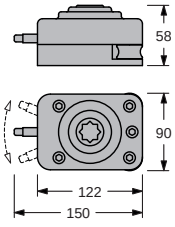
The system uses a self tailing pulley which operates in both direction with a textile “gripping” system that is efficient even if the circuit is not under strain and causes no wear in the rope.

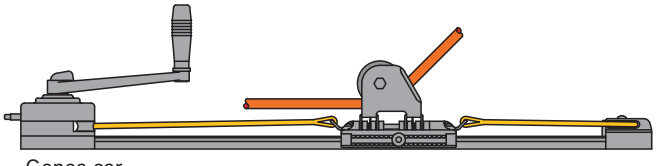
A clutch pin sets the direction in which the traveller moves, or allows for it to be locked in the required position.

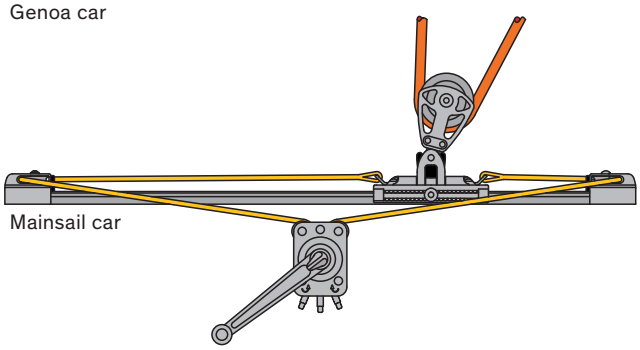
The power ratio obtainable with a normal (250 mm) handle is 8 to 1, which is much better than a tackle can offer; moreover, this system has a very limited size and weight.

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
LINE Ø mm	10
POWER	8:1
WEIGHT kg	1.40
SCREWS N x Ø mm	3 × Ø8




Genoa car


Mainsail car

This model has been designed to control the spi-pool car but can also be useful for genoa or main car control.

Spy-Pole slider
range on page 119.

Powered Line Driver

POWERED LINE DRIVER

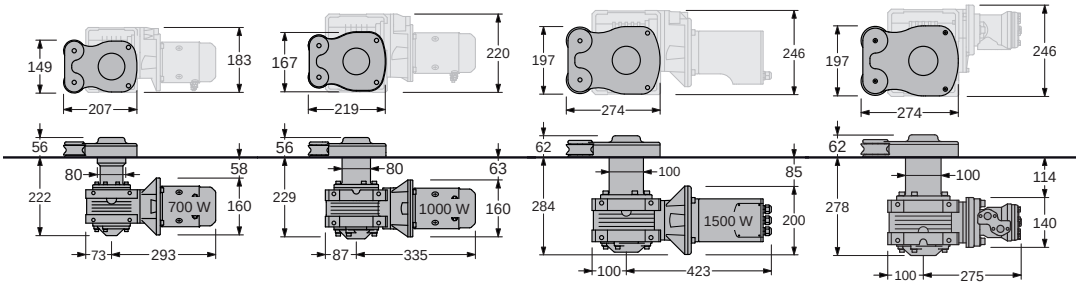
This is a solution done for the control of the main car with a simple “Self-tailing” sheave on the deck, a motor and gearbox under the deck.

Three sizes available with 700, 1000 and 1500 W motors in 12 or 24 Volt version. The largest model is also available in the hydraulic version. This model offers a maximum load on the circuit of 900 kg (100 bar pressure) with a line speed according to the flow rate of the hydraulic system.

MOD. **LD1000**

Nacira 69, A. De Beaufort & G. Verdier – Ph. Maxime Horlaville

For the correct identification of the line-driver, add after the LD model in the tables **/12** or **/24** for 12 or 24 Volt version.



MODEL	LD700	LD1000	LD1500	LD1500HD
MOTOR	Electric 700 W	Electric 1000 W	Electric 1500 W	Hydraulic 25 cc
LINE Ø mm	10 / 12	12 / 14	12 / 14	12 / 14
WEIGHT kg	15	20	22	22
SCREWS N x Ø mm	4 × Ø8	4 × Ø8	4 × Ø8	4 × Ø8
2:1 CAR CONTROL ↓				
MAIN CAR SIZE mm	47 × 230	47 × 330	47 × 430	47 × 430
MAIN CAR MODEL	**614.219**	**614.229**	**614.239**	**614.239**
WORKING LOAD kg	800	1260	1600	1800 *
CAR SPEED m/sec	0.08	0.10	0.12	0.10 **

Car speed and working load are based on a **2:1 car control** as described in the figure on the following page. For a direct 1:1 control, the speed is doubled and the load is halved. Under the maximum load, the speed is reduced by up to even 30%. For cars, see page 154.

* **Pressure** 100 Bar
** **Flow** 25 l/min

The **speed** is calculated with the car not under load; at maximum load the figure should be reduced by 30%. 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 21).

SWITCHES

CONTROL-BOX

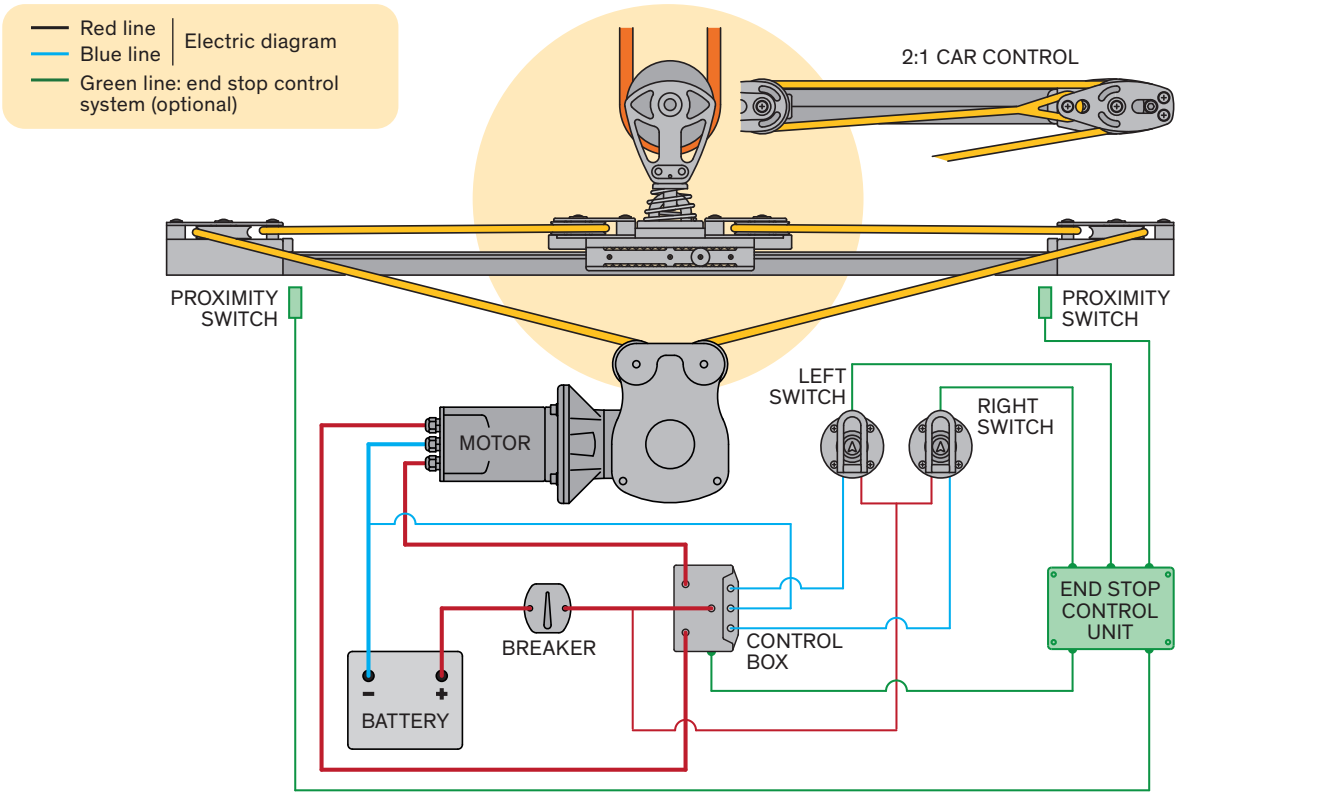
BREAKER

CAR END STOP CONTROL MOD. 6320

To avoid overloads due to wrong operations, a **car end stop control** is available on request: two proximity switches - connected to a control unit - stop the car automatically at the track end. A s.steel plate must be attached to the bottom of the car to allow activation of the proximity switches.

END STOP CONTROL UNIT

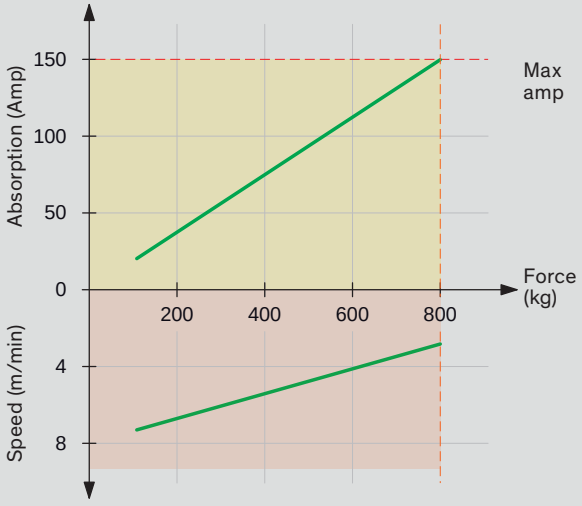
PROXIMITY SWITCHES



POWERED LINE DRIVER: FORCE, ABSORPTION and SPEED

The **force** (pulling load) of the Line Driver, the current **absorption** (Amp) of the motor and the **line speed** are related as shown in the diagrams obtained experimentally with load and recovery tests. For each model, these diagrams clearly show the values of the maximum force, the corresponding speed and the current absorption.

The documentation, including the force-absorption-speed diagrams, is available on request.



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.

↓ **ALUMINIUM** (L – 200 mm)

MODEL	**2011**	**2012**	**2014**
HAND GRIP	single	ball-grip	mini ball-grip
WEIGHT kg	0.38	0.48	0.36

↓ **ALUMINIUM** (L – 250 mm)

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

↓ **CHROMED** (L – 250 mm)

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

↓ **CUSTOM SOLUTIONS**

Custom solutions are available on request: wooden grips (MOD. **W**), natural bronze (MOD. **BN**), special engravings on request.

Speedylock

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	**2121**	**2122**	**2123**
HAND GRIP	single	ball-grip	double
WEIGHT kg	0.43	0.53	0.62


Grand Soleil Yachts, GS34 – Ph. P. Lanfrancotti & F. Taccola