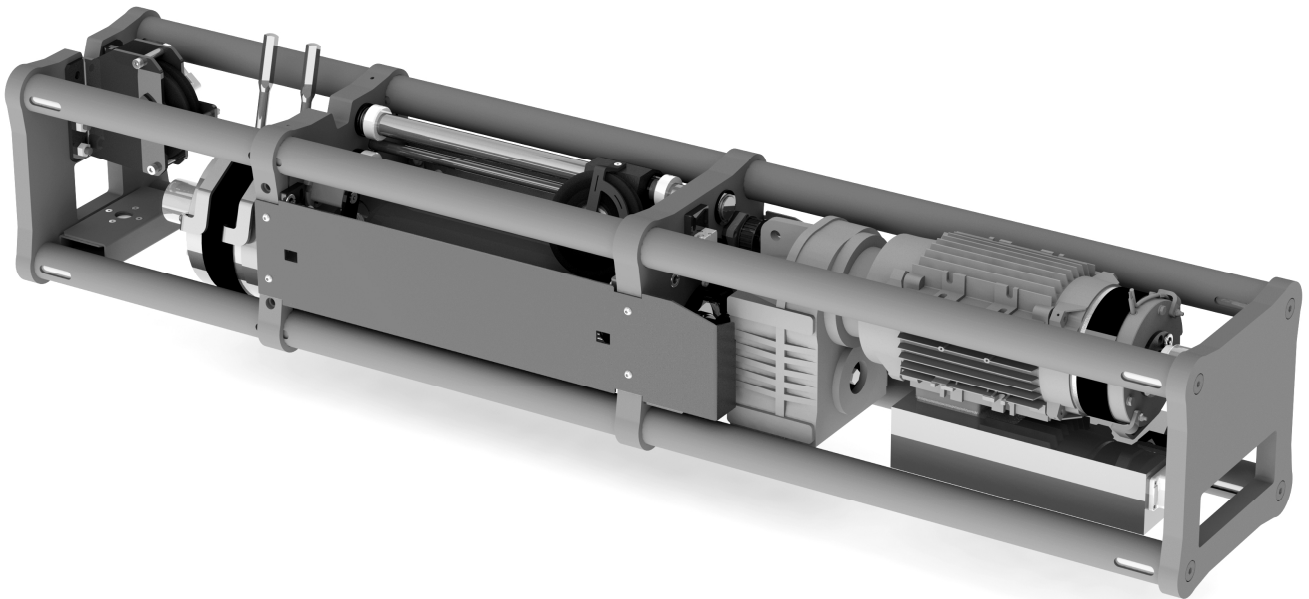


PRODUCTION RIGGING TECHNOLOGIES

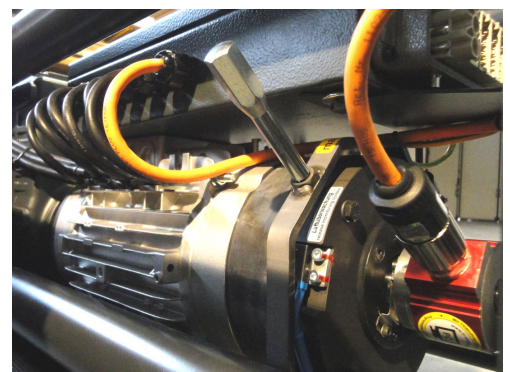
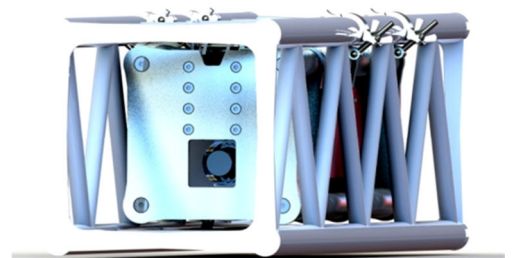
PRORIGTECH



S30 AERIAL WINCH

POWERED AERIAL FLYING WINCHES

Stylish and compact design
Touring versatility



Versatile Captive Winch system that can be mounted in any position and orientation with the same ease

Each single component is chosen and designed to be maintenance-free. It is fully equipped with all safety devices, including drum side brakes. It is so compact it perfectly matches the dimensions of a regular square truss size 12" X 12"

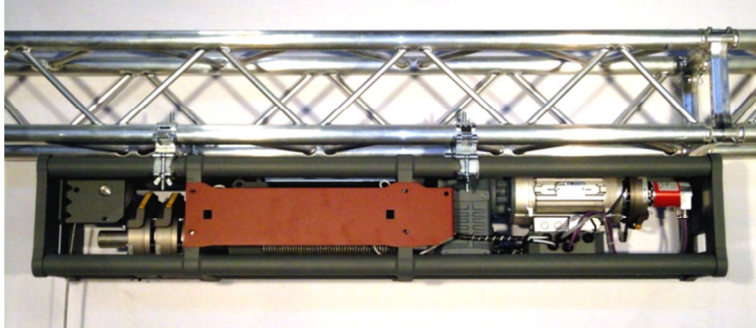
It is the Captive Winch, designed for heavy-duty touring

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S30 AERIAL WINCH

S30 Aerial Winch is a point hoist specially designed for touring applications. Built within a sturdy aluminum frame matching a standard square truss size 12" X 12", it consists of a winding unit and of an internal sheave which slides as the drum rotates and diverting the rope to an **incorporated header sheave** in a **zero fleet angle configuration**.



FLEXIBLE INSTALLATION

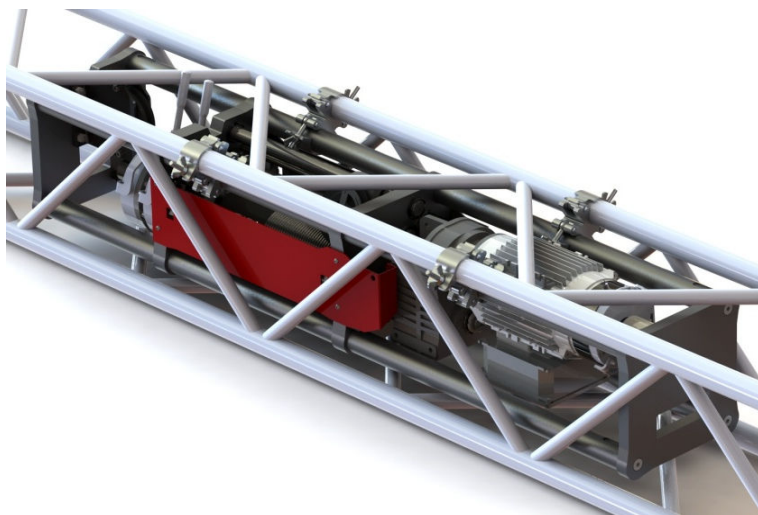
The extremely compact design and the available accessories, make possible to install the S30 Aerial Winch in many different configurations.

In any orientation Thanks to the incorporated zero fleet angle technology, S30 Aerial Winch can be mounted in any orientation.

Externally to a truss By using common aluminum clamps, it can be installed directly to a standard truss. With simple adapting plates, it can be anchored to any other truss or structure.

Within a truss Its dimensions are so small that it can even fit within a standard square truss size 40.

With alternative rope diversion S30 Aerial Winch comes with a standard header sheave diverting the rope by 90°. Should there be the need to divert the rope to any other angle, a set of additional diverting blocks can be provided, including fixed and pivoting solutions.



HIGH SAFETY AND RELIABILITY

S30 Aerial Winch is developed and manufactured according to the European standards and the international guidelines for stage engineering and (DIN 56950, FEM 9.756, CWA15902, etc...).

High safety factors Faults are excluded by applying a minimum dynamic safety factor against yield of 6 for all components and 4 for the frame. Wire ropes have a dynamic safety factor greater than 10.

High reliability Each single component of the S30 Aerial Winch is chosen and designed to perform a working life of 1600 hours at full load and full speed, without need to be replaced.

Double-braking S30 Aerial Winch is equipped with two independent braking units, each able to safely stop the load.

Load side brake One of the two braking units is installed in the drum side, opposite to the gearbox. This configuration gives the maximum level of safety.

Double limit switches Movement of the load is limited by means of two travel switches. Two over-travel switches, with separate and redundant circuits, stop the winch in the event of a failure of the first switches.

Encoders Speed and position are measured by incremental and absolute encoders.

Load sensor The applied load is continuously monitored by a precise load cell, ensuring immediate overload and underload detection and reducing the probability of accidents.

Keeper roller The rope is kept in its intended groove in the drum by means of a spring-loaded keeper roller.

Cross-groove detection Two microswitches, activated by the keeper roller, inhibits upward motion should the wire rope come out of its groove.

Slack rope detector Slack condition of the wire rope is detected by a slack rope detector, usually installed remote from the winch.

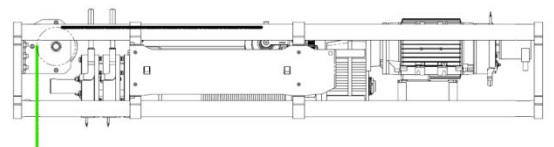
Low maintenance Almost all components are lubricated for life or are self-lubricating, with the only exception of the ball screw which require minimal oiling. The high reliability of the components ensures low-maintenance and no need for replacements.

Cover S30 Aerial Winch can be provided with cover elements specially designed to fit the specific installation.

CONTROL OPTIONS

S30 Aerial Winch can be used with any control system suitable for high speed hoists.

SIL3 / PLe ready All devices provided with the winch are suited for use in safety-related applications up to SIL3 according to EN 61508 or PLe to EN ISO 13849.



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S30 AERIAL WINCH

MODEL: 594.TM01

S/N: 594.TM01-956

Main winch dimensions, LxHxW = 2100 x 309 x 309 mm

Nominal winch dead weight: 250 kg (550 lbs)

Power, P = 3.0 kW

Mechanism classification = 2m (FEM 9.511); M5 (UNI ISO 4301/1)

Duty cycle: S3 60% (total cycle time 10 min)

Working life: 1600 hours at full load and full speed

Rated load lifted by the winch: 225 kg (495 lbs)

Nominal speed: 1.1 m/s (motor at 1500 rpm – 50 Hz)

Maximum acceleration/deceleration at full load operable by the winch: 2 m/s²

Nominal travel: /

Total travel: 30 m (including overtravel and undertravel)

Drum pitch diameter: 145 mm

Suspension lines: no. 1, Ø6 mm (1/4")

Conformity: Machinery Directive 2006/42/EC

Intended use: suspension of loads on stage and other production facilities in the entertainment industry

Working environment: indoor

FEATURES AND COMPONENTS

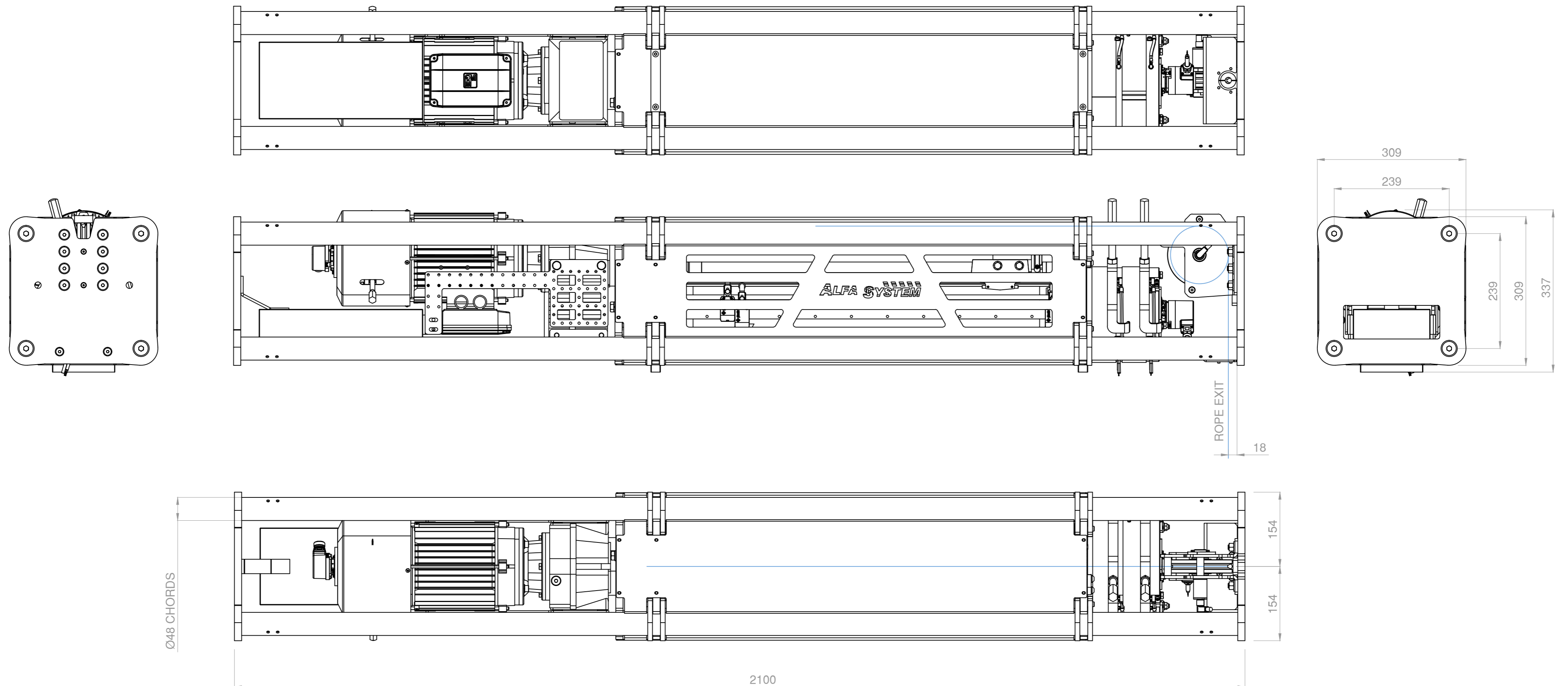
Gearbox parallel shaft type
ratio: 10.24358974
Service factor: 2.1

CONFIGURATION SHEET

Motor	asynchronous three-phase, 4 poles, 208/360 V, 50 Hz, 3.0 kW power Speed: 1415 rpm Δ wiring – 50 Hz: Voltage 208 V, current 12.5 A Y wiring – 50 Hz: Voltage 360 V, current 7.2 A Fan cooled (IC411), cCSAus approved, duty service S3 60% Class F, IP54 with PTO temperature sensor (alarm, 140 °C)
Brakes (motor side)	single spring-loaded brake, with electromagnetic release braking torque: 1x32 Nm power supply: 207 Vdc complete with manual release handles status monitoring by proximity sensor NO
Brakes (drum side)	double spring-loaded brakes, with electromagnetic release (NOTE: brakes to be controlled as one) braking torque: 2x120 Nm power supply: 207 Vdc complete with manual release handles status monitoring by proximity sensor NO
Travel limits	2 microswitches, each featuring 1 NC + 1 NO contacts, as upper and lower travel limit switches 2 microswitches, each featuring 1 NC + 1 NO contacts, as overtravel and undertravel limit switches
Cross groove detection	snap action switches 2 switches, each featuring 1 NC/NO contacts, series connection
Belt sensing	snap action switches 1 switch, featuring 1 NC + 1 NO contacts

CONFIGURATION SHEET

Encoder 1 (motor side)	incremental encoder KUBLER 8.5020.D514.2048 Output circuit / power supply: RS422 (with inverted signal) / 5 ... 30 V DC Pulse rate: 2048
Encoder 2 (drum side)	absolute encoder KUBLER 8.5883.5426.G322 Interface / power supply: SSI, BiSS / 10 ... 30 V DC Code: SSI, Gray Resolution: 13 bit ST + 12 bit MT
Load sensor	cumulative sensing, load pin installed on an internal pulley nominal load: 7 kN; accuracy: 1 % v.E power supply: 11÷30 Vdc; output signal: 4...16 mA (2-wire) – SIL Signal with activated test relay: +4 mA
Slack rope detection at the winch	<i>not included</i>
Handwheel	<i>not included</i>
Covers	screw fixed covers, not monitored
Tech-12 rope	Ø6 mm (1/4") not-rotating tech-12 synthetic rope (rope minimum breaking load MBL = 33 kN) Termination on the drum side by 3 clamps type ALFA SYSTEM 100.VR01.101.04.1, torque 10.8 Nm, 3+1 revolutions always left on the drum



S30 AERIAL WINCH

POWER, P = 3.0 kW
 RATED LOAD LIFTED BY THE WINCH (DRUM LOAD): 225 kg
 NOMINAL SPEED: 1.1 M/S (MOTOR AT 1500 RPM)
 NOMINAL TRAVEL: /
 TOTAL TRAVEL: 30 m (INCLUDING OVERTRAVEL AND UNDERTRAVEL ON BOTH DIRECTIONS)
 LIFTING MEDIA: NO. 1, Ø6 mm

MAXIMUM ACCELERATION/DECELERATION AT FULL LOAD OPERABLE BY THE WINCH: 2 m/s²

DUTY CYCLE: S3 60% (TOTAL CYCLE TIME 10 min)
 DRUM PITCH DIAMETER: 145 mm
 WORKING LIFE: 1600 h AT FULL LOAD AND FULL SPEED
 CLASSIFICATION (FEM 9.511:1986): 2m

CONFORMITY: MACHINERY DIRECTIVE 2006/42/EC

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ALUMINUM AND STEEL FRAME
 ASYNCRONOUS THREE-PHASE MOTOR IE1

TWO INDEPENDENT BRAKING UNITS, ONE IN THE MOTOR SIDE AND ONE IN THE DRUM SIDE (OPPOSITE TO THE GEARBOX), BOTH WITH HANDLE RELEASE AND STATUS MONITORING BY PROXIMITY SENSOR

DOUBLE LIMIT SWITCHES
 KEEPER ROLLER
 CROSS-GROOVE DETECTION WITH MICROSWITCHES
 INCREMENTAL ENCODER
 ABSOLUTE ENCODER
 LOAD CELL: IN A SEPARATE INTERNAL PULLEY, SIL 3 READY

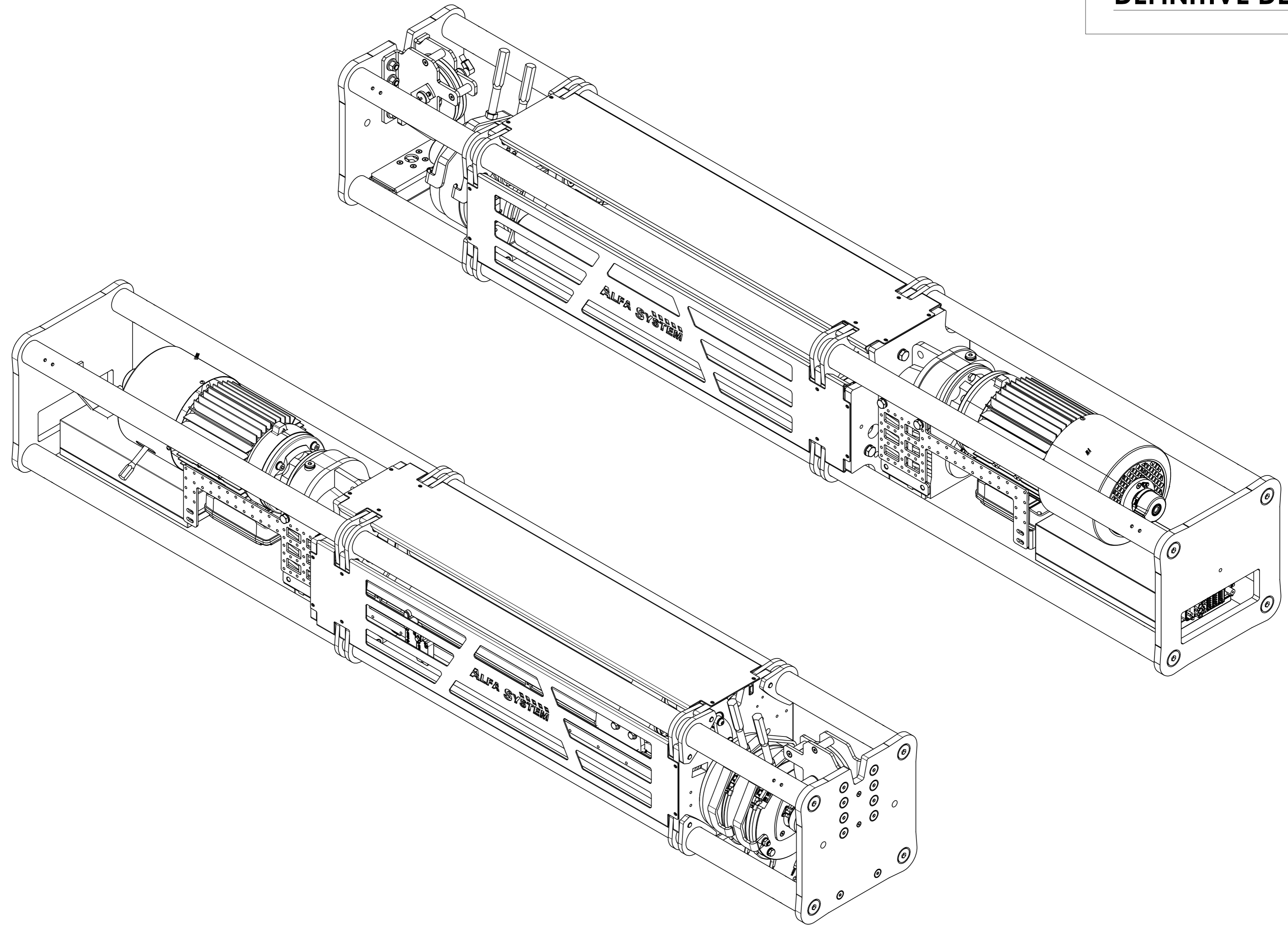
POSSIBILITY TO USE AS ROLL-ON/ROLL-OFF (NO ZERO FLEET SYSTEM, NO LOAD MEASUREMENT AVAILABLE IN THIS CASE)

CM 2018/11/08 DESIGNATO Storia	DEFINITIVE DESIGN DESCRIZIONE Description	LG 2018/11/08 VERIF./APPROV. Check/Approval
COMMITTENTE Client PRODUCTION RIGGING TECHNOLOGIES FLORIDA, USA	FORMATO Format A2	SCALA GENERALE Main scale 1 : 6
PROGETTISTA Project Manager LG	DIMENSIONI IN MILLIMETRI All dimensions are in millimeters	

PROGETTO Project 594	DISEGNO / Drawing 594.TM01.D001
TITOLO Title S30 WINCH	FOGLIO / Sheet 1
	REV / Rev .0

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		A2
PROGETTISTA Project Manager	LG	SCALA GENERALE Main scale
		NTS
		DIMENSIONI IN MILLIMETRI All dimensions are in millimeters

PROGETTO Project	594
TITOLO Title	S30 WINCH
DISEGNO / Drawing	594.TM01.D001
Foglio Sheet	2
REV Rev.	.0