

Modernization Solutions

CONTENTS



Electronics	03
Traction	27
Car / Counterweight Frame	35
Hydraulic	41
Doors	51
Interior Materials	63
Installation - Personal Protection	75
Mod Kits	87





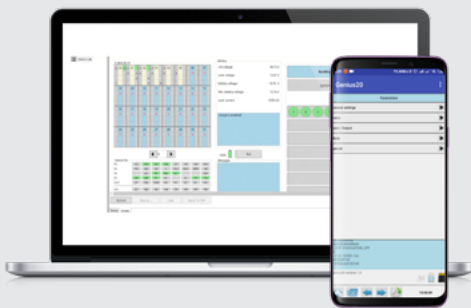
ELECTRONICS

KLEEMANN GENIUS20 SPECIFICATONS

Number Of Stops	2-48
Speed (m/s)	Up to 3.0
Traction Manufacturer Compatibility	with most motors on the market
Type Of Valves Block	with most valves on the market
Call's Automation	All Options
Lift Automation	All Options
Standard	All Options
Safety Standards	All Options
Number Of COP (s)	Up to 2
Entrances Served	Up to 3
Car Door Compatibility	Automatic, Folding Bus
Short Flooring	300
Common DC	+ Positive
Voltage Of Button Panels (V)	24
Double Selective	Yes
Power Of Controller	Up To 55kw
Lift's Automation	All Options
Start-Up	All Options
Emergency Evacuation	All Options
Relevelling	All Options
Button Panels Direction Arrows	All Options
Fireman Service	All Options
Inverter Type	Fuji Frenic LM2A & Zetadyn

CONTROLLERS

Genius20



KLEEMANN GENIUS20

Your 100% KLEEMANN controller!
An upgraded product,
with 100% customisable software
and a hardware designed
to save up to 8 installation hours!

- Easier and faster installation
- Ability to apply new functions to suit specific customer need
- 8 hours of installation less
- Full training for all before the 1st installation
- Windows based software for Remote or Local monitoring of the controller
- Effortless controller manipulation wirelessly through smartphone App
- Destination Control System



CONTROLLERS

MRL DOORFRAME CONTROLLER CABINET (NARROW BOX)

This is a standard KLEEMANN product for MRL lifts where the controller cabinet is located in the door frame. For its use we have a prerequisite of a door frame width of at least 120mm. Inside the controller cabinet are placed only controller and inverter monitoring and programming tools, speed governor and brake release controls, intercom, power supply protection and light control. The main controller and the inverter are located in the shaft headroom in 2 separate boxes. In order to use this solution there has to be enough space inside the shaft headroom in order to fit those boxes.

Controller Cabinet		
W (mm)	H (mm)	D (mm)
120	2210 *	220

Cabinet placed in door frame inverter, resistance brake, additional controller material in headroom

- For clear door height 2000mm



1.



2.

MRL SCAN CONTROLLER CABINET (NARROW BOX)

This is a standard KLEEMANN product for MRL lifts where the controller cabinet is located in distance from the door frame. This controller box has a width of 150mm. Inside the controller cabinet are placed only controller and Inverter monitoring and programming tools, speed governor and brake release controls, intercom, power supply protection and light control. The main controller and the inverter are located in the shaft headroom in 2 separate boxes. In order to use this solution there has to be enough space inside the shaft headroom in order to fit those box.

Controller Cabinet		
W (mm)	H (mm)	D (mm)
150	2210*	220

Cabinet placed next to door inverter, resistance brake, additional controller material in headroom

- For clear door height 2000mm



3.



ALL IN ONE (MRL)

This is a standard KLEEMANN product where the controller is located remotely from the door frame and all electronics including the inverter are inside. Controller cabinet dimensions are 460x300mm. Ideally, it fits to retrofit areas where top floor entrances cannot be amended, or where the customer prefers a wide working access.

Controller Cabinet		
W (mm)	H (mm)	D (mm)
460	2210*	300

1.

- Cabinet placed next to door frame
- MRL Ucontrol up to 11kw
- For clear door height 2000mm



STANDARD MRL - 2 BOX CONTROLLER

This is a standard MRL product where the controller cabinet is located next to the door frame. The dimensions of the controller cabinet is 460x220mm.
- One additional Box in order to fit inside the inverter has to be placed in the Shaft Headroom.

Controller Cabinet		
W (mm)	H (mm)	D (mm)
460	2210 *	220

2.



3.

Cabinet placed next to door frame

- Typical MRL set up
- For clear door height 2000mm

SPECIAL DIMENSIONS CONTROLLER CABINET ALL IN ONE (MR OPTION)

In case the MR entrance does not allow our standard controller boxes to pass through then we have a special solution.

A MR with trapdoor entrance 500x400mm is no longer a problem. Also when the MR height is restricted a controller box can be fitted inside in most of the cases. If the controller has an inverter then it is placed in the same controller box. This solution is available just for the very small capacity inverter Fuji up to 11KW . For bigger capacity available in double box.

Controller Cabinet		
W (mm)	H (mm)	D (mm)
460	1900	300

MR with trap door entrance size 500x400mm

- Hydraulic
- Traction AC2, VVVF Fuji up to 11KW

STANDARD CONTROLLER CABINET ALL IN ONE (MR OPTION)



4.

Used for almost all situations where the controller is situated in the machine room, whether hydraulic or traction application.

W (mm)	H (mm)	D (mm)
900	950	220
1100**	1500+100 BASE	400

- Traction Lifts AC1 / C2 / VVVF up to 22kw
- Hydraulic Lifts up to 77 KW
- VVVF Hydraulic up to 30 kW

** Higher capacities would require a larger, customised cabinet to KLEEMANN engineering advise

DOUBLE BOX CONTROLLER CABINET (MR OPTION)

Constructed as two separate controller boxes:

- One small to fit in the controller including all electronics, power supply modules and protection switches, safetys, programming tools , outputs to connect shaft and cabin cables.
- One additional to fit in the inverter.

Used mostly in high capacity MR Lifts. Both boxes should be placed inside the machinroom.

Controller Cabinet		
W1 (mm)	H1 (mm)	D1 (mm)
750	1000	300
750	1200	300

- VVVF Hydraulic over Yaskawa 18,5KW-30KW
- Traction VVVF Fuji 29KW-45KW
- Traction 4CS inverter

1. Controller Cabinet All in one (MRL)

2. Controller Cabinet Standard (MRL)

3. Inverter Box in the headroom

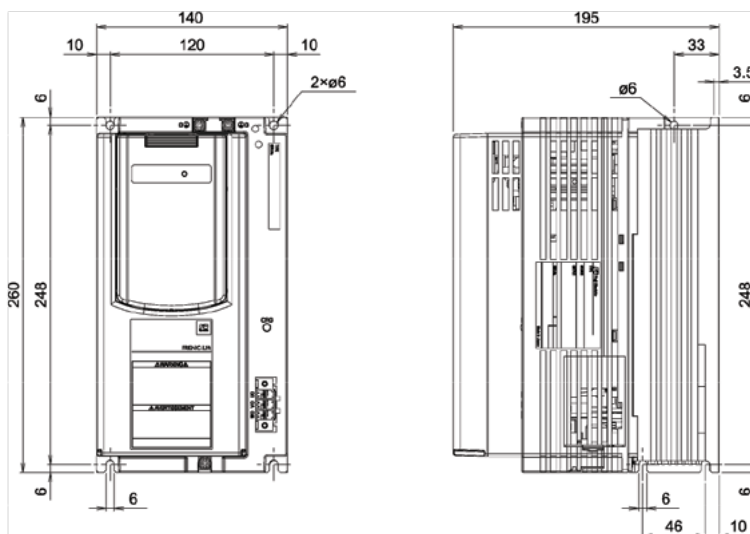
The boxsize depends on the inverter capacity

4. Controller Cabinet All in one (MR)

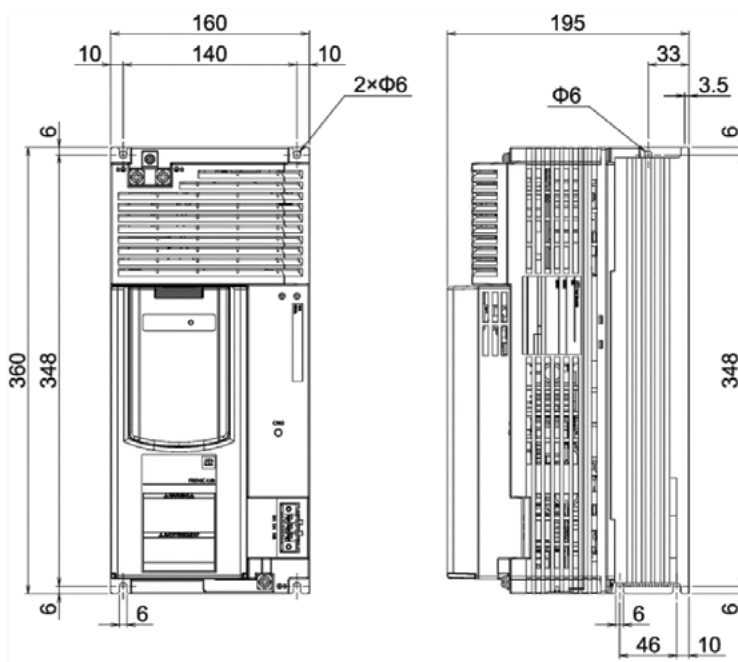
INVERTER

Fuji Frenic LM2A

- MRL's & MR Traction lift with gearless PM motors
- MRL's & MR Traction lift with geared VVVF induction motors
- MRL's & MR Traction lift with geared Open Loop induction motors
- Specially used for modernization
- Best Performance / Price ratio



- STO function available -SIL 3 Certificate
- No motor contactors - Silent operation
- Built in EMC filter
- Power range 5,5kw - 45kw
- Compact aluminum braking resistors





Three phase 400V series

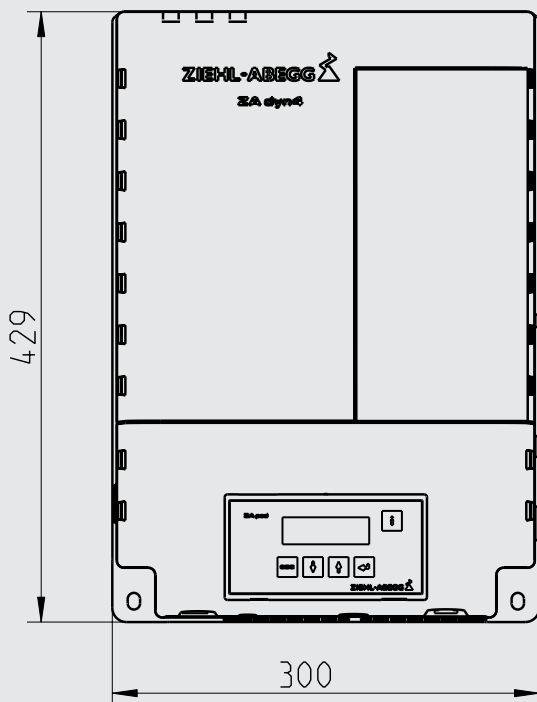
Item					Specifications						
Type FRN___LM2A-4					0006	0010	0015	0019	0025	0032	
Nominal applied motor [kw]					2.2	4.0	5.5	7.5	11	15	
Output ratings	Rated capacity *1 [kVA]				4.6	7.6	11	14	18	24	
	Rated capacity *2 [V]				Three phase 380V-480V, 50/60Hz						
	Rated current *3 [A]				6.1	10.0	15.0	18.5	24.5	32.0	
	Overload capacity [A] (Permissible overload time)				11.0 (3s)	18.0 (3s)	27.0 (3s)	37.0 (3s)	49.0 (3s)	64.0 (3s)	
	Rated frequency [Hz]				50, 60 Hz						
Input ratings	Main power supply	Normal Operation	Phases, Voltage, Frequency		Three phase, 380 to 480 V, 50/60Hz						
				Variations	Voltage: +10 to -15% (Voltage unbalance: 2% or less *4) Frequency: +5 to -5%						
			Rated current *5 [A]	with CDR		4.5	7.5	10.6	14.4	21.1	28.8
				without CDR		8.2	13	17.3	23.2	33.0	43.8
						3.2	5.2	7.4	10	15	20
		UPS Operation		Phases, Voltage, Frequency	Single phase, 220 to 480V, 50/60Hz						
				Variations	Voltage: +10 to -15%, Frequency: +5 to -5%						
				Operation time [s]	180						
		Battery Operation	Power supply voltage for driving		DC 48V or more in the direct current voltage conversion						
			Operation time [s]		180						
		Auxiliary control power supply Voltage			DC 24V (22V to 32V), Maximum 40W						
Braking	Braking Time *7 [s]				60						
	Braking duty cycle (%ED) *7 [%]				50						
	Rated regenerative power *7 [kW]				1.8	3.2	4.4	6.0	8.8	12	
	Minimum resistance which can be connected [Ω] *6				160	96	47	47	24	24	
EMC filter					Built in (According to EN12015, EN12016)						
Enclosure (IEC60529)					IP20						
					Heat sink		IP54				
Cooling method					Fan Cooling						
Average sound pressure level at trip. [dBA] *8					44.5		48		49.5		
Average power losses [W]					in standstill *12		23		26		
					in standby *13		16				
Weight [kg]					4.4	4.4	4.7	4.7	6.1	6.3	

INVERTER

Zetadyn 4CS

Used with traction lift controllers (Genius 20)

- MRL's & MR Traction lift with gearless PM motors
- Dedicated product for 1:1 suspension
- Best ride quality, Direct approach (DCP4)
- Absolute best performance
- Zetadyn 4CA available for geared motors after special request



ZETADYN ZADYN4C 011-032

- Wall installation in machine room or elevator shaft
- Mounting in the switch cabinet
- Line reactor & radio interference filter integrated
- Space-saving installation due to compact design
- Operation of synchronous motors (ZAdyn4CS) and asynchronous motors (ZAdyn4CA)
- Open-Loop-Operation of asynchronous motors
- Standby-function
- 4-line display with plain text display
- Minimal noise generation and low energy consumption through controlled ventilation
- Automatic travel curve pre-assignment
- Switching frequency: 4...16 kHz (automatic adaptation)
- Protection class: IP20



Gearless machine



INVERTER

ZETADYN ZADYN4C 040-074

INTERFACES

Controller

- Programmable inputs and outputs
 - 5 x relay outputs (potential-free)
 - 12 x digital inputs (24 VDC)
 - DCP
 - CANopen-Lift
- All interfaces galvanic isolated

Encoder

- Incremental encoder
 - HTL / TTL / Sinus
 - Absolute encoder
- EnDat / SSI / ERN 1387 / Codeface / Hyperface
- Encoder simulation for controller

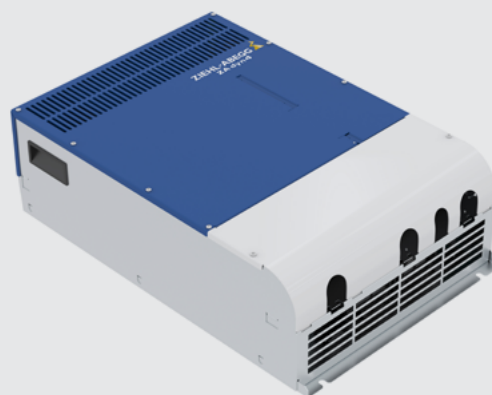
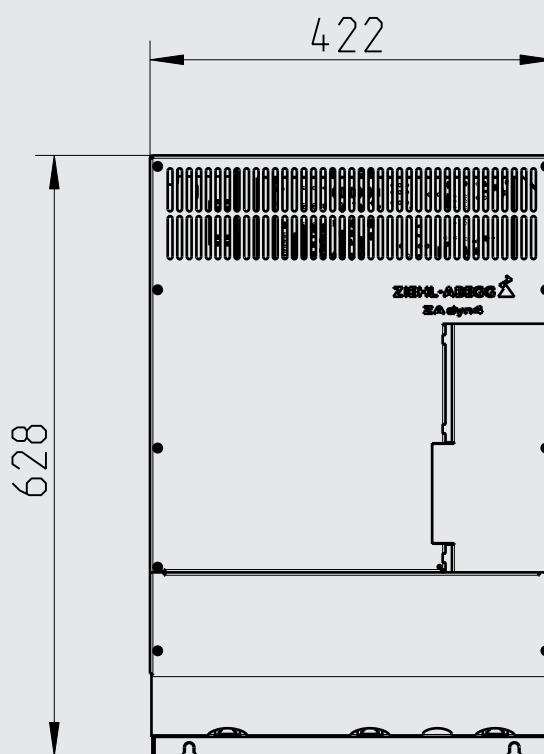
Monitoring

- Temperature monitor brake resistor
- Temperature monitor motor (insulated input with electrically protective separation according to EN 61800-5-2)
- Motor contactor monitor (with optional use of motor contactors)
 - Brake release monitoring

The ZAdyn4C comes factory equipped with all interfaces



Gearless machine



EMERGENCY EVACUATION SYSTEM

RED – E

Automatic Evacuation Device only for geared motors.

Used with traction lift controllers (Genius 20)

During the evacuation process the main controller is replaced by the Emergency Evacuation system.

It is an independent controller dedicated to operate in case of a power failure. It makes use of all safeties and operates the motor and door using its own power supply.

• Motor Voltage range (variable voltages 290 - 400 VAC)

Brake voltage range (can be adjusted according to motor need 48- 220VDC)

Doors (VVVF doors & all kind of 3 phase door operators 125 - 380VAC)

Specialized for modernizations.



BATTERY CHARGER

RED-R PWM is equipped with N° 1 double battery-charger 24+24VDC.

- Supply voltage : 1~230VAC 50Hz +8/-15%.
- Output voltage: 54.0VDC with load 0%
- RED-R PWM size 80 : N° 4 batteries 12V 12Ah
- RED-R PWB size 200 : N° 2 batteries 12V 18Ah

SMS recommends the use of dry fit, no maintenance batteries.

PWM MAIN INVERTER

Main inverter:

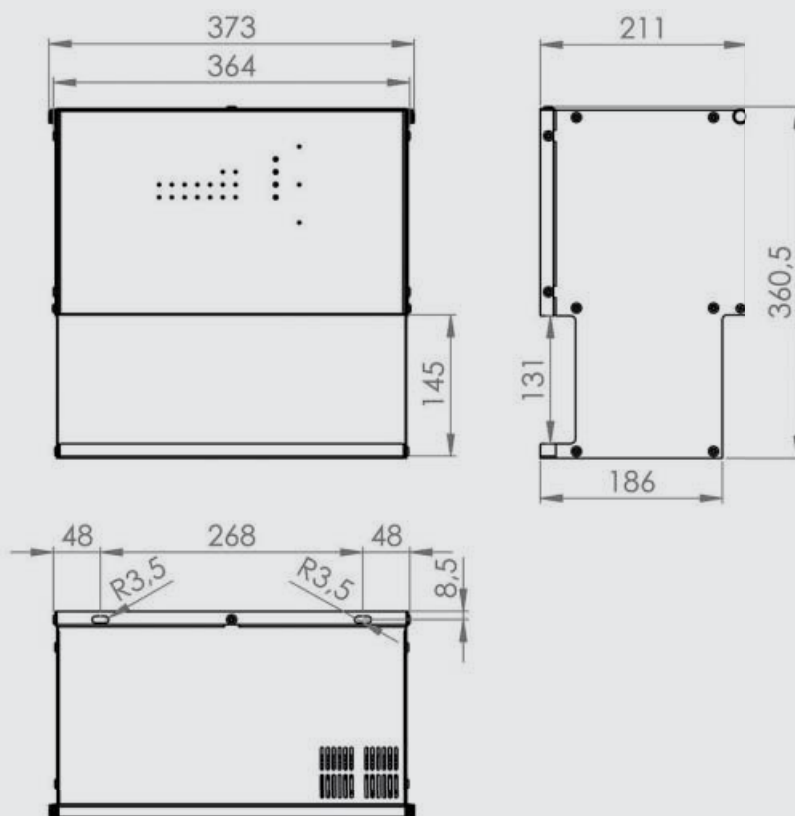
- Battery Voltage: 48VDV.
- 3-phase Output Voltage: 15 ÷ 36VAC
- Output Frequency: 2 ÷ 10 Hz.
- Maximum Output Current (Peak):
115 for RED-R PWM size 80, 370 for RED-R PWM size 200



Geared machines

Device / Code	Width (mm)	Height (mm)	Depth (mm)	Weight (kg) without batteries
RER0805.44.00	386	570	250	23
902.06.RR200	570	900	250	38

Device	SMS Code	Motor Power at 380/415VAC (both VVVF and 1 or 2 speed)	Advised Batteries
RED-R PWB Size 200	902.06.RR200	From 10kW to 100kW Nominal current from 20A to 200A	N.4 12V 18Ah
RED-R PWM Size 80	RER0805.44.00	From 17kW to 35 kW Nominal current from 15A to 50A	N.4 12V 12Ah



Device	Code	Motor	Width (mm)	Depth (mm)	Weight (kg)
RED E 18	REE018S.44.00	18A	366	210	18
RED E 35	REE035S.44.00	35A			

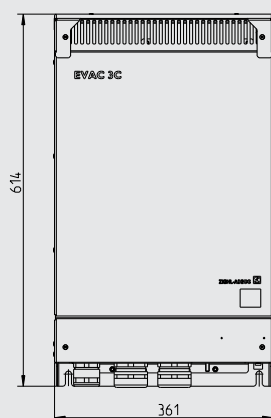
RED-E is equipped with a single board, which includes the following functions:

- Battery-charger, which can supply a 200mA current, with a 54VDC voltage, useful to charge n° 4 batteries 12V in series, up to 7Ah.
- The supply voltage for the battery-charger must be 230VAC 50/60Hz +/-10%• 3-Phase auxiliary inverter 3x36VAC 15A, which can supply the 2 transformers 200VA.
- The maximum output power is 600VA• 3-Phase power inverter PWM, with adjustable voltage from 18 to 36VAC.
- RED-E is protected against overload, polarity inversion of the batteries and output short-circuit, both for the auxiliary sections and the power section.
- RED-E is not protected against over voltage due to wrong connections on the motor output, or over supply (battery voltage higher than 60VDC).

EMERGENCY EVACUATION SYSTEM

Evac 3C

Automatic Evacuation Device only for gearless motors.
Used with traction lift controllers (Genius 20)
and inverter Zetadyn 4CS



Technical data EVAC 3C

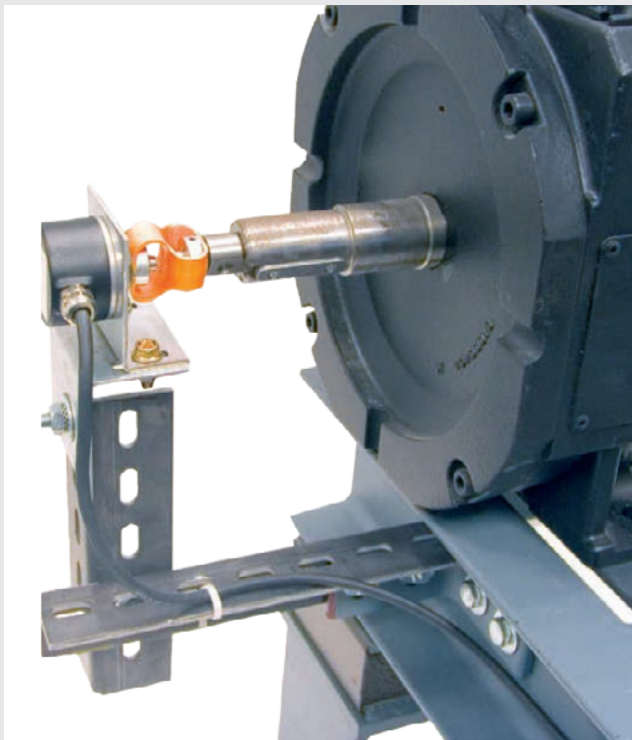
Electrical data	EVAC 3C032	EVAC 3C050	EVAC 3C074
Mains connection voltage [VAC]	3~360... 440 absolut		
Mains frequency (HZ)	50 / 60 (± 1,5 Hz)		
Battery voltage (VDC)	120 ... 180		
Battery type	Lead-acid rechargeable batter		
Heat dissipation [W]	< 20		
Power consumption / Charging mode [W]	max. 300		
Evacuation mode time limit (min)	20		
Ambient conditions			
Protection class	IP20		
Ambient conditions operation	55 from 40°C power reduction of 1.66% / 1K temperature increase		
Relative humidity (%)	90 / condensation prohibited		
Installation height (m above the sea)	Up to 2000		
Storage and shipping temperature	-20... +60		
Physical data			
Weight (kg)			
Dimensions w x h x d (mm)	361 x 614 x 197		
Max. protection fuse of the feeder inert (A)	35	50	80
Technical data power inverter			
Nominal power [W]	500		
Short	700		



INCREMENTAL ENCODER

Retrofit Kit for shaft encoder

Available only as spare part for modernization cases for geared motors.
Its a product that transforms an old AC1 or AC2 motors and allow the effective operation by a VVVF traction lift controller.
In addition it includes fixing materials. This solution offers the possibility to have the encoder remote form the motor shaft.



ZA RETROFIT KIT

- Retrofit kit for fast and simple mounting of an incremental encoder with solid shaft
- Mounting with and without hand wheel possible
- Prefabricated encoder cable

SCOPE OF DELIVERY

- Incremental encoder
- Incl. cable with plug D-SUB 15-pin for ZAdyn4C and ZETADYN 3
- Flex coupling
- Thermoplastic compensation element for connection between incremental encoder and motor shaft
- Adaptor for mounting the flex coupling on the motor shaft
- Motor add-on kit
- Solid angles and struts for rigid connection to the machine frame or floor

INCREMENTAL ENCODER

Ziehl Abegg

- For motor types VFD and other asynchronous motors
- Signal shape: sine or square
- Speed: Max 3500 rpm
- Phase shift: 90°
- With prefabricated connection cable
- Protection class: IP54

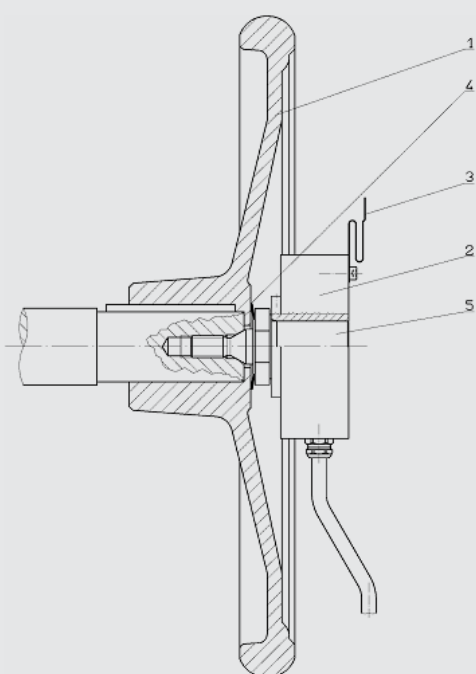


- Adaptor for quick and simple assembly of an incremental encoder with hollow shaft
- Assembly with or without handwheel

Type	Threaded nipple	Operating voltage incremental encoder VDC	Signal shape	Cable length m
Retrofit kit Incremental encoder	M8	4.75 30	RS422 Inkremental	10.0
	M10			
	M12			
	M14			
	M16			
	M20			



Centring thread Motor shaft	Shaft diameter Adaptor mm	Order no.	Pos. 1	Handwheel 1x	Order no.	Adaptor to 28mm external diameter	2x Plate spring Ø (external / internal)
M10	28	70024258	Pos. 2	Encoder 1X	70024258	M10	39.6mm / 25.5mm
M12		70024259	Pos. 3	Torque support 1x	70024259	M12	46.5mm / 30.5mm
M16		70024260	Pos. 4	Plate spring 2x	70024260	M16	51.5mm / 35.5mm
M20		70025581	Pos. 5	Adapter 1x	70025581	M20	51.5mm / 35.5mm



- Remove flywheel (if fitted)
- Locate the handwheel (pos.1) on the shaft up to the stop gauge
- Fit the plate springs (pos.4) with the smaller diameter on the adaptor (pos.5)
- Screw the adaptor (pos.5) into the center of the shaft.
Pay attention: Cone must fit in shaft centering. Maximum concentricity difference of the adaptor: $\pm 0,2\text{mm}$.
The plate springs (pos. 4) have to fit exactly on the stop gauge of the adaptor (pos.5)
- Locate the encoder (pos.2) on the adaptor (pos.5). Fix it with the two pin screws that are located on the encoder (see our installation instructions of an ET - encoder)
- It is necessary to provide a support on site for the torque support (pos.3)
- If the adaptor (pos.5) is installed without a handwheel, the plate springs (pos.4) and the handwheel (pos.1) are not required
- Attention: Depending on the mounting of the encoder, the tracks A and B or two phases of the motor have to be changed

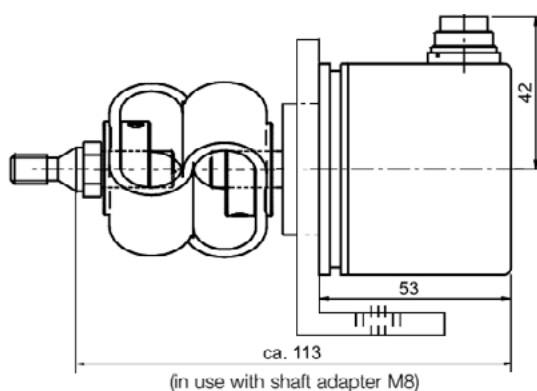
INCREMENTAL ENCODER

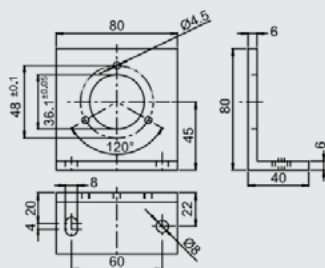
Wachendorf WDGAS58B

Available only as spare part for modernization cases for geared motors.
Its a product that transforms an old AC1 or AC2 motors and allows the effective operation by a VVVF traction lift controller.
It does not include additional fixing materials.

INSTALLATION KIT FOR FREQUENCY-CONTROL LIFTS WDGAS58B WITH SHAFT ENCODER

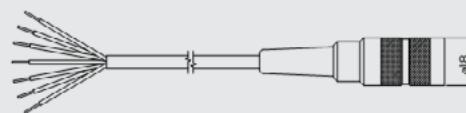
The following installation kits are available for fitting the encoder to a frequency controlled lift. Every installation kit consists:
1x Encoder, 1x Mounting angle, 1x Shielded cable 15m length, 1x Double loop coupling, 1x Shaft adaptor





MOUNTING BRACKET

The mounting bracket makes for easy installation of the encoder in the lift system. However, care should be taken that the admissible load of the coupling is adhered to.



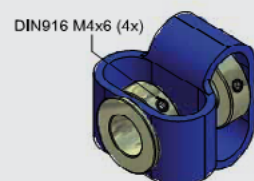
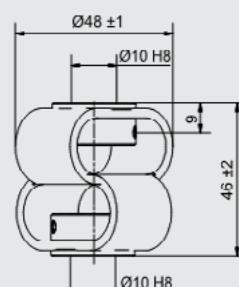
CABLE

The cable is 15m in length and is shielded, however the shield is not connected to the connector housing. With a mated connector, the encoder meets protection class IP40.

DOUBLE LOOP COUPLING

The double loop coupling serves to compensate for any mis-alignment between the drive and the encoder. The coupling has extremely high compensation capabilities.

Features	Excellent compensation capabilities	
Max offset of shafts	Arial: Max $\pm 4\text{mm}$ Radial: Max $\pm 3\text{mm}$ Angular: $\pm 12^\circ$	
Max operating speed	3000 rpm	
Starting torque	Max 200 Ncm	
Material	Hub	Zinc-plated
	Compensating element	Polyurethan
Weight	85 g	
Fixing	DIN 916 M4x6 (4x)	
Operating temperature	-30°C up to $+80^\circ\text{C}$	



SHAFT ADAPTORS

The shaft adaptors are screwed into an appropriate thread on the lift and allow a simple connection via the double loop coupling.



Shaft adaptor 10/M8: 08
 Shaft adaptor 10/M10: 10
 Shaft adaptor 10/M12: 12
 Shaft adaptor 10/M16: 16
 Shaft adaptor 10/M20: 20

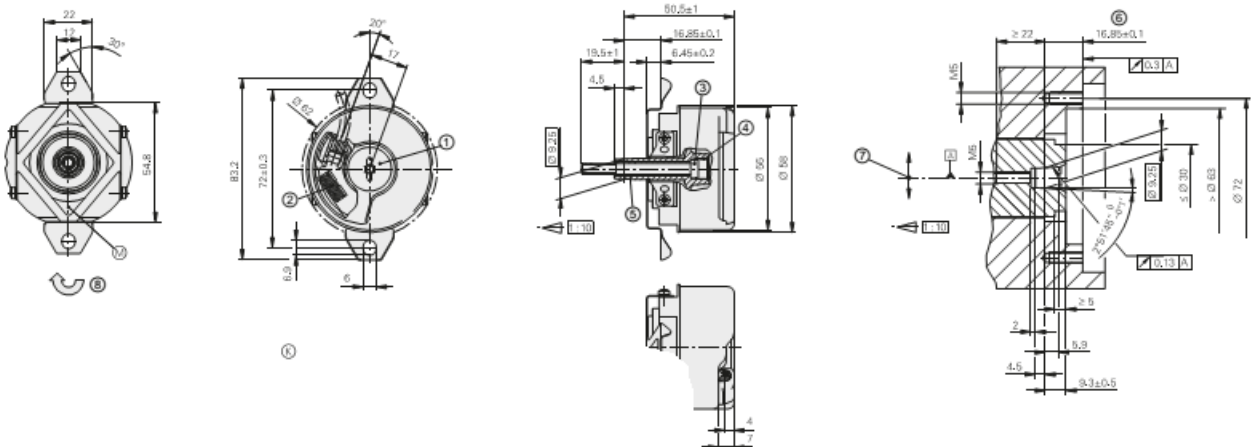
Heidenhain (Model ECN 1313)

For modernization purpose there is an option to supply it also with cables as a replacement for other defective or less advanced types of encoders, that need to be replaced and have the same mounting type. All Heidenhain encoders ECN/ERN 13xx can be replaced.



- Simple installation
- Rigid shaft coupling
- Plane- surface coupling for large mounting tolerances
- Uniform dimensions for various electrical interfaces

- Bearing of mating shaft
- Bearing of encoder
- Required mating dimensions
- Measuring point for operating temperature
- Screw plug, width A/F 3 and 4. Tightening torque: $5+0.5 \text{ Nm}$
- PCB connector
- Self-tightening screw M5 x 50 DIN 6912 width A/F 4, tightening torque $5+0.5 \text{ Nm}$
- M10 back-off thread
- M6 back-off thread
- Max. permissible tolerance during motor shaft rotation $\pm 1.5 \text{ mm}$
- Max. permissible static radial offset of motor shaft in indicated direction $\pm 0.13 \text{ mm}$
- Direction of shaft rotation for output signals as per the interface description





	ECN 1313
Part number	768295-xx
Interface	EnDat 2.2
Ordering designation	EnDat01
Position values/revolution	8192 (13 bits)
Electrically permissible speed/error	$\leq 1500 \text{ rpm}/\pm 1 \text{ LSB}$ $\leq 12\,000 \text{ rpm}/\pm 50 \text{ LSB}$
Calculation time t_{cal}	$\leq 9 \mu\text{s}$
Clock frequency	$\leq 2 \text{ Mhz}$
Incremental signals	$\sim 1 \text{ VPP}$
Line count/system accuracy	$2048/\pm 20''$
Reference mark	-
Cutoff frequency -3 dB	$\geq 400 \text{ kHz}$
Electrical connection	12-pin
Via PCB connector	
Voltage supply	DC 3.6 V to 14 V
Power consumption (maximum)	3.6 V: $\leq 600 \text{ mW}$ 14 V: $\leq 700 \text{ mW}$
Current consumption	5 V: 85 mA (typical, without load)
Stator coupling	Plane-surface coupling
Shaft	Taper shaft $\varnothing 9.25 \text{ mm}$; taper 1:10
Mech. permiss. speed n	$\leq 2000 \text{ rpm}$
Starting torque	$\leq 0.01 \text{ Nm}$ (at 20°C)
Moment of inertia of rotor	$2.6 \cdot 10^{-6} \text{ kgm}^2$
Permissible axial motion of measured shaft	$\pm 1.5 \text{ mm}$
Radial runout of the measured shaft	0.13 mm
Vibration 55 Hz to 2000 Hz	$\leq 300 \text{ m/s}^{26}$ (EN 60 068-2-6)
Shock 6 ms	$\leq 2000 \text{ m/s}^2$ (EN 60 068-2-27)
Operating temperature	-40°C to $+115^\circ\text{C}$
Protection EN 60 529	IP40 when mounted
Mass	$= 0.25 \text{ kg}$

INCREMENTAL ENCODER

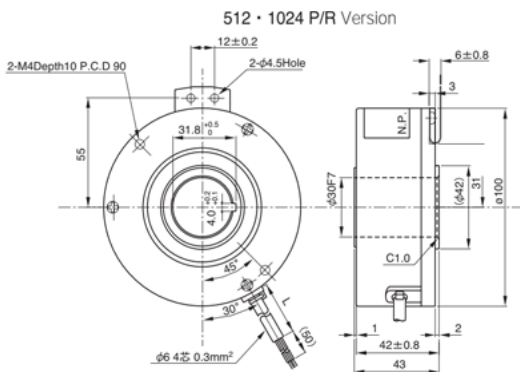


Geared machines

- Mostly sold as a part of a new geared motor.
- Available also as spare part.

1. NEMICON (MODEL SBH 1024 - 2T-30-050-00)

External Dimension

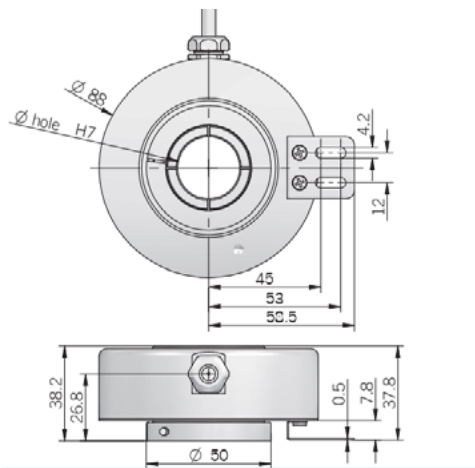


Electrical Specifications

Type	2T	2MT
Supply Voltage	DC 10.8 ~ 13.2 V	
Requirement	60 mA Max	
Output Voltage	"H"	Within -2.5 Power Supply Volt (VDC)
	"L" *1	3 V Max
Maximum Output Current	40 mA Max	
Rise & Fall Time	0.5 μ s Max	
Maximum Frequency Response	150 kHz	

*1) at Maximum Output Current

2. ELTRA (MODEL EH88 PE)



Electrical Specifications

Resolution	From 500 to 2500 ppr
Power supply	5 = 4.5 ... 5.5 V DC
	5/28 = 4.75 ... 29.4 V DC
	8/24 = 7.6 ... 25.2 V DC
	(reverse polarity protection)
Power draw without load	800 mW
Max load current	20 mA / channel
Output type*	Push-pull/ line driver
Max output frequency	105 kHz
Counting direction	A leads B clockwise (shaft view)
Electromagnetic compatibility	IEC 61000-6-2
	IEC 61000-6-3

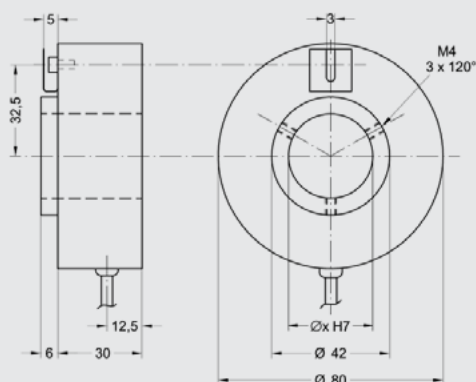
*Output levels according to power supply for further details please see under Technical basics section

- Cost effective encoder for asynchronous motors, suitable for elevators and stage machinery.
- 3 channel encoder (A/ B/ Z) up to 2500 ppr
- Power supply up to +28 VDC with several electronic interfaces available

- Up to 105 kHz output frequency
- Cable output, connector available on cable end
- Sturdy construction
- Up to 40 mm bore diameter
- Shaft fixing by collar clamping



3. LICA (MODEL : C80)



Available only as spare part for modernization cases for geared motors.

Its a product that transforms an old AC1 or AC2 motor and allows efficient operation by a VVVF traction controller. This kit adds an encoder to an existing AC1 or AC2 motor, replacing the existing heavy, metallic flywheel with a new low weight alternative.

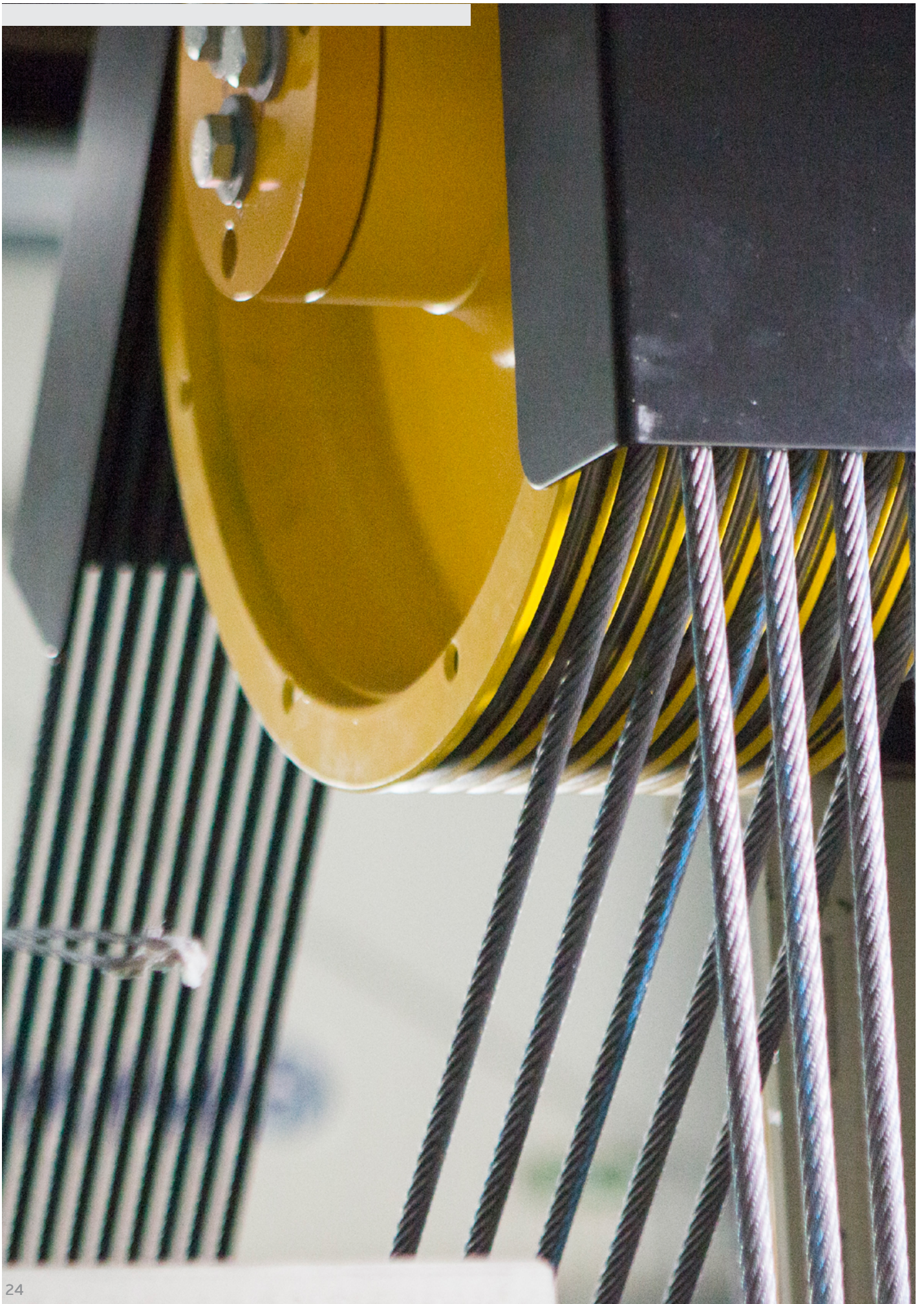
Electrical Specifications

STD pulse rate: (other PPR upon request)	12- 100- 200- 360- 400- 500- 1000- 1024- 2000- 2048 (2000 and 2048 without index pulse)
Power supply	+5V $\pm$ 5%, +10V +30V, +5V +30V
Output circuits	Push- Pull, Line Driver, PP/LD
Output current (per channel)	40 mA Max
Output frequency	100 kHz Max
Input current	70mA Max
Protection	Against inversion of polarity (except +5V version) Outputs are protected against short- circuit (except Line Driver version)
Optoelectronic life	100.000 hrs Min

4. WACHENDORF (MODEL WDG 115)

- Digital Tachogenerator with robust tacho flange
 - Up to 25000 PPR by use of high grad electronics
 - High noise immunity against frequency inverters
 - Protection to IP67, shaft sealed to IP65
 - 11mm shaft
 - Full connection protection with 10 VDC up to 30 VDC
 - With light reserve warning
 - Optional: -40°C up to +80°C
- Protection to IP67 all around







TRACTION

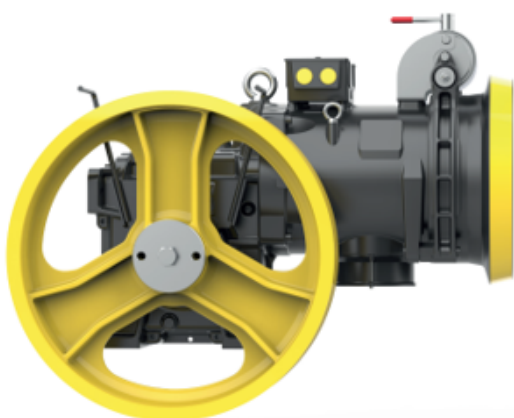
TRACTION

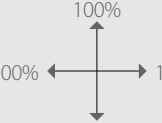
Machines

All type of motors

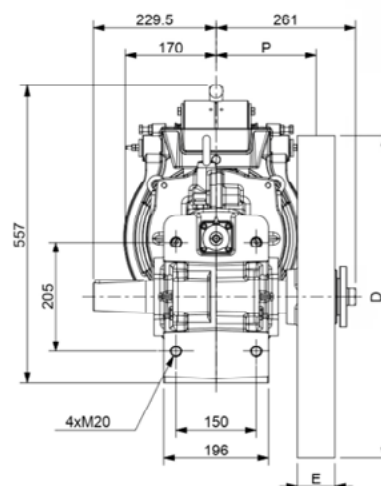
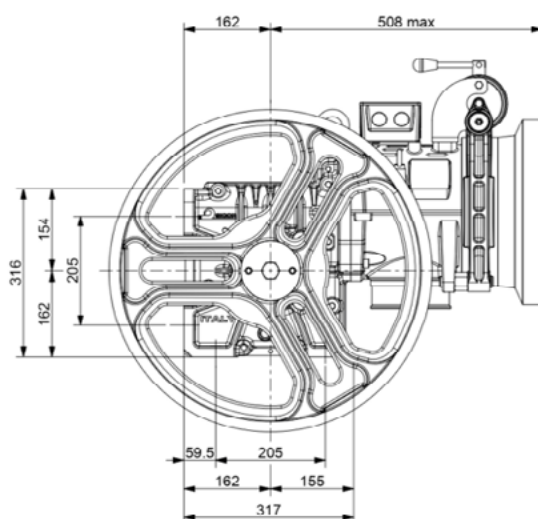
- Geared (AC1\AC2\VWVF)
- Gearless

SICOR SH110B



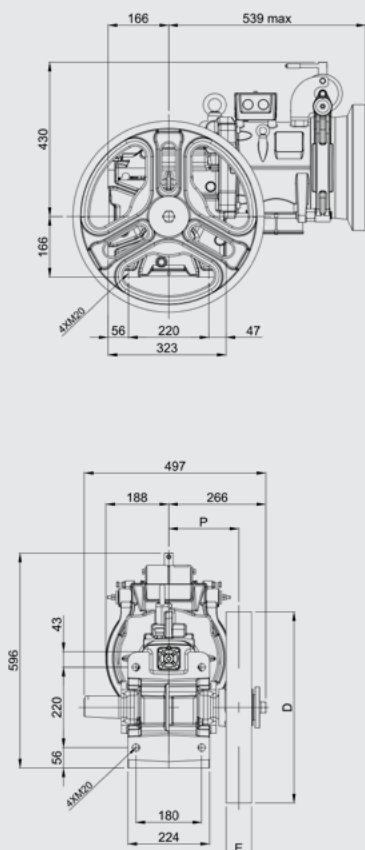
Wrappingsystem	Traction sheave		Dimension	Load*)	Static load direction
	D [mm]	E[mm]	P[mm]	F [kN-kg]	[%]
CSW	320	76	190	20,6-2100	
	360	70	187		
	400				
	450				
	480				
	520				
	550				
	600				

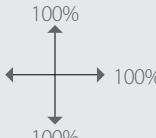
*) Max. static load on the slow shaft:
CSW: Conventional single wrap





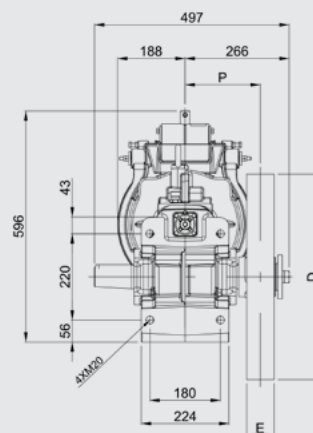
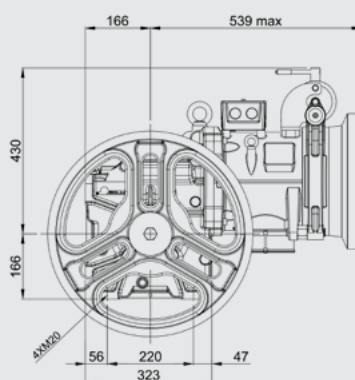
SICOR SH130B



Wrapping system	Traction sheave		Dimension	Load*)	Static load direction
	D [mm]	E[mm]	P[mm]	F [kN-kg]	[%]
CSW	320	76	195	25,5-2600	
	360	70	192	25,5-2600	
	400				
	450				
	480	70/90	192/197	25,5-2600/23,5-2400	
	520	70/90	192/197	25,5-2600/23,5-2400	
	550	70/90	192/197	25,5-2600/23,5-2400	
	600	70	192	25,5-2600	
	650				
	700				

*) Max. static load on the slow shaft:
CSW: Conventional single wrap

SICOR SH130BG



Winding system	Traction sheave		Dimension	Load*)	Static load direction
	D [mm]	E[mm]	P[mm]	F [kN-kg]	[%]
CSW	480	90	197	28,4	
	520				
	550				

*) Max. static load on the slow shaft:
CSW: Conventional single wrap



SICOR

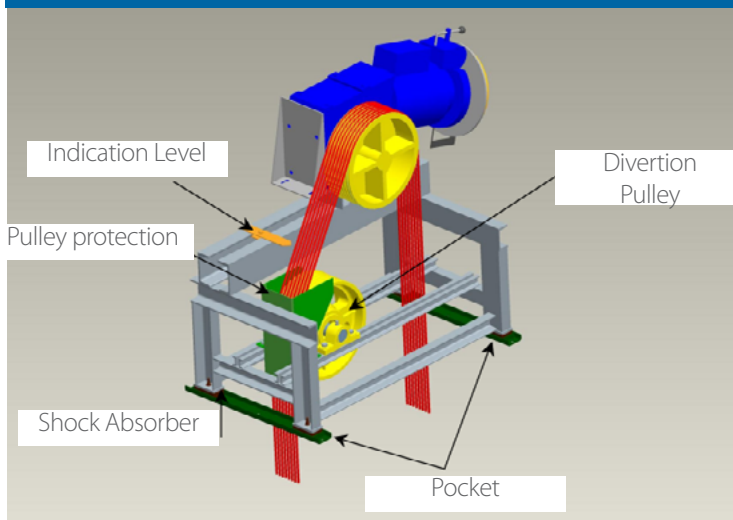


ZIEHL- ABEGG

TRACTION

Machine base

Tailor made
Variety of standard options
Epoxy painted
Split (optional)



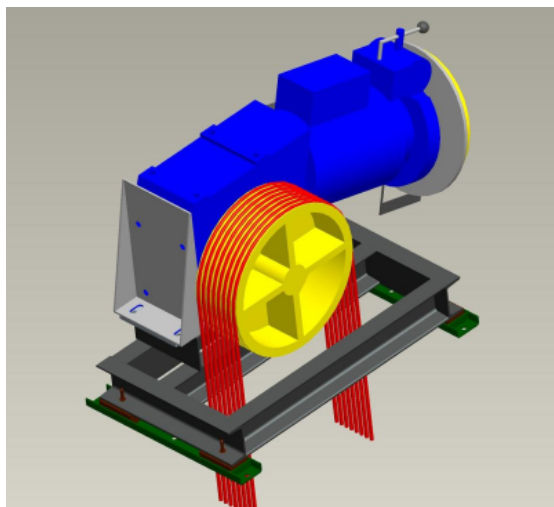
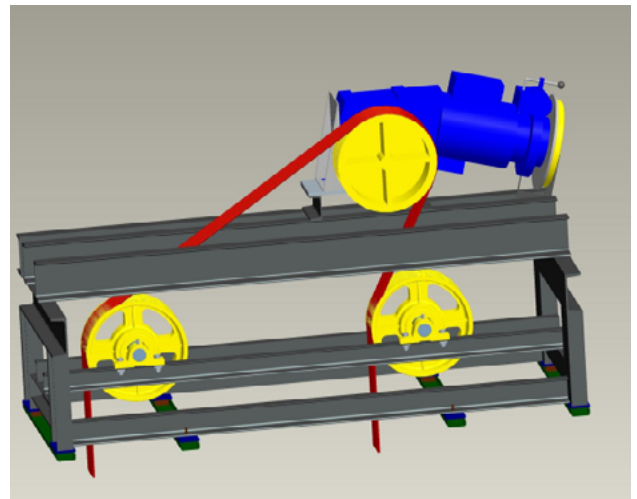
STANDARD OPTION

1:1

- Diverting pulley
- Shock absorber
- Floor indicator
- Pocket
- Pulley bumper / protection
- Complete new base
- DBR up to 1000mm

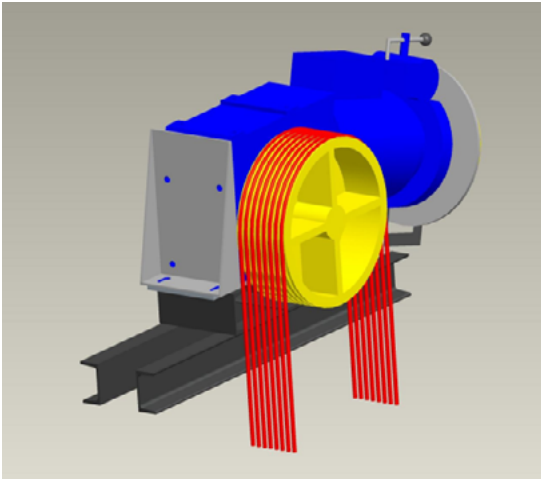
2ND DIVERTING PULLEY

- Suitable for low headroom in machine room
- DBR above 1000mm



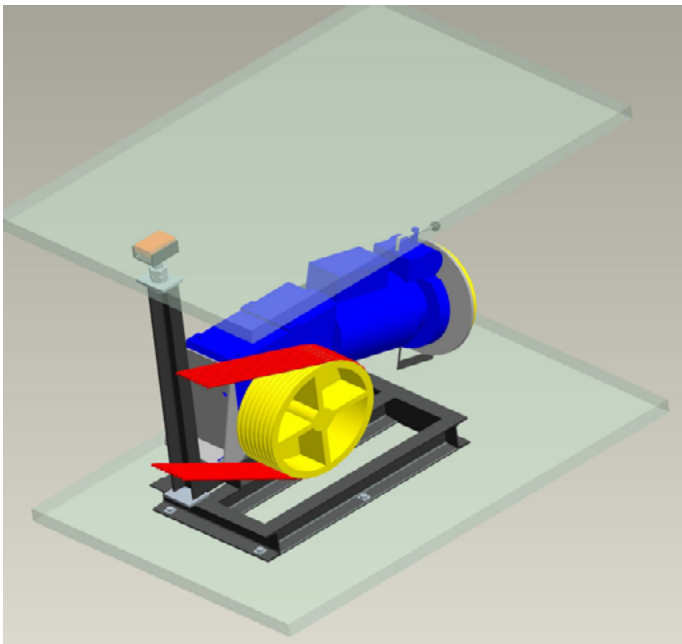
MODERNIZATION TYPICAL BASE (CONCRETE)

- Machine room up
- Suitable for existing concrete base
- Acting 1:1, 2:1



MODERNIZATION TYPICAL BASE (METAL)

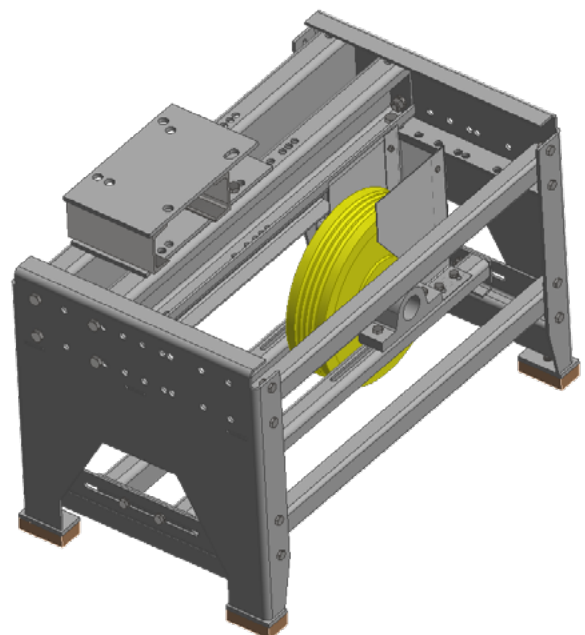
- Machine room up
- Suitable for existing metal base
- Acting 1:1



MACHINEROOM DOWN

ASSEMBLY MACHINE BASE (SMF)

- Ready to deliver
- DBR 570mm – 870mm



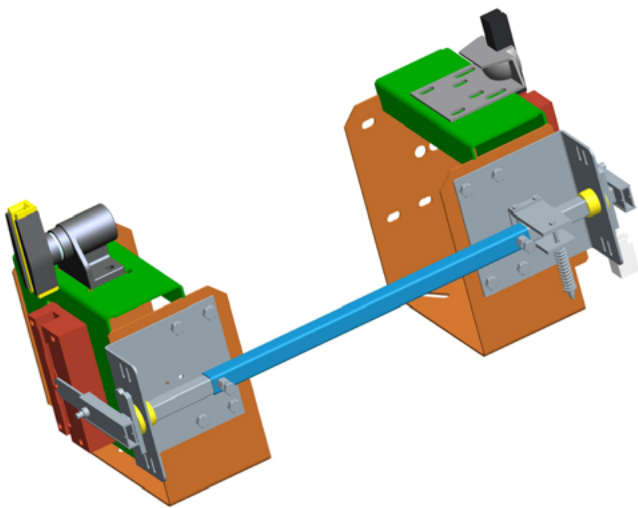
TRACTION

Hyper Frame

An additional assembly to be added to the car frame enabling the provision of bidirectional safety gear.

Thus, we can:

- Avoid uncontrolled overspeeding in up direction and
- Keep the existing car frame



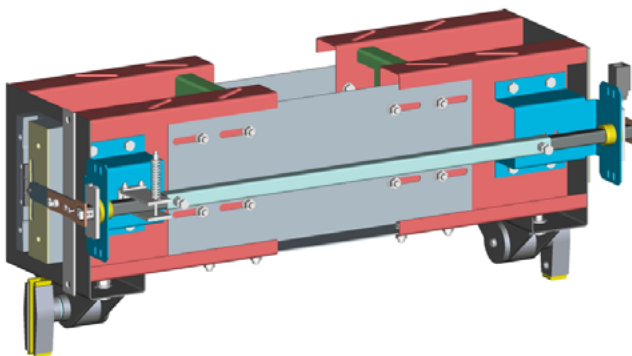
SBFR1

Fitted on top of the car sling

Max P+Q = 1300kg

Dynatech PR2000UD / PR2500UD

Max nominal speed 1.0 m/sec



SBFR2

Fitted below the car sling

Max P + Q = 3500kg

Dynatech PR2500UD / PR4000D

Max nominal Speed 1 m/sec

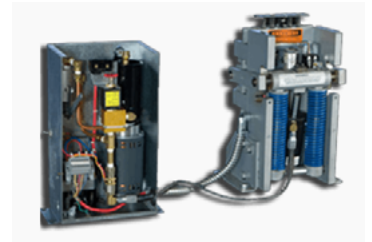
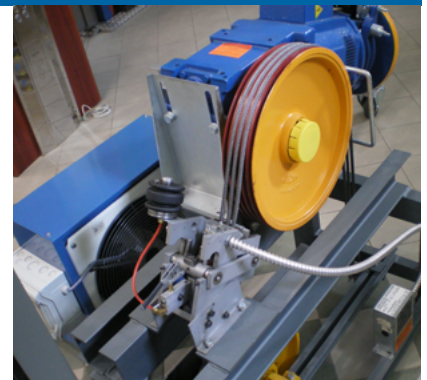
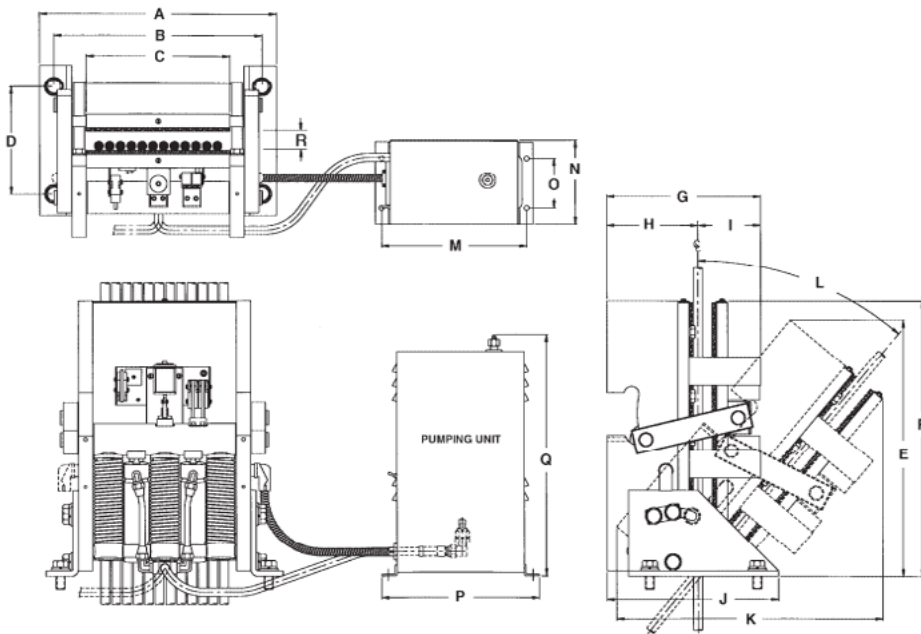


TRACTION

Rope Gripper

The Rope Gripper™ has many unique features, such as a gently applied but powerful 'grip' which doesn't damage the rope or cause any undue stress to the machine or traction sheave.

The Rope Gripper™ is mechanically activated and hydraulically reset, designed to provide safety breaking for uncontrolled movement when it is not possible to change the car safety gear.



Dimensions

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
618	7 (178)	6 1/8 (156)	3 1/4 (83)	3 1/4 (83)	9 13/16 (249)	9 13/16 (249)	8 5/8 (219)	5 7/16 (138)	3 3/16 (81)	8 11/16 (221)	12 (305)	40°						1 1/4 (32)
620	10 1/8 (257)	8 5/8 (219)	4 7/8 (124)	5 1/2 (140)	11 11/16 (297)	12 (305)	9 1/4 (235)	5 3/4 (146)	3 1/2 (89)	9 1/2 (241)	13 1/2 (343)	45°	10 1/4 (260)	5 7/8 (149)	3 1/2 (89)	11 1/8 (283)	16 15/16 (430)	1 1/4 (32)
622	11 1/2 (292)	10 (254)	6 (152)	5 1/2 (140)	11 11/16 (373)	16 1/4 (413)	9 (229)	5 3/4 (146)	3 1/4 (83)	9 1/2 (241)	18 1/2 (419)	45°	10 1/4 (260)	5 7/8 (149)	3 1/2 (89)	11 1/8 (283)	16 15/16 (430)	1 1/4 (32)
624	16 1/2 (419)	14 1/2 (368)	10 (254)	7 1/2 (190)	17 7/8 (454)	19 (483)	10 3/4 (273)	6 3/8 (162)	4 3/8 (111)	12 (305)	18 9/16 (471)	40°	10 1/4 (260)	5 7/8 (149)	3 1/2 (89)	11 1/8 (283)	16 15/16 (430)	1 15/16 (49)
625	18 (457)	16 (406)	11 1/2 (292)	7 1/2 (190)	17 7/8 (454)	19 (483)	10 3/4 (273)	6 3/8 (162)	4 3/8 (111)	12 (305)	18 9/16 (471)	40°	10 1/4 (260)	5 7/8 (149)	3 1/2 (89)	11 1/8 (283)	16 15/16 (430)	1 15/16 (49)
626	16 1/2 (419)	14 1/2 (368)	10 (254)	7 1/2 (190)	17 7/8 (454)	19 1/4 (489)	10 3/4 (273)	6 3/8 (162)	4 3/8 (111)	12 (305)	18 9/16 (471)	40°	10 1/4 (260)	5 7/8 (149)	3 1/2 (89)	11 1/8 (283)	16 15/16 (430)	1 15/16 (49)

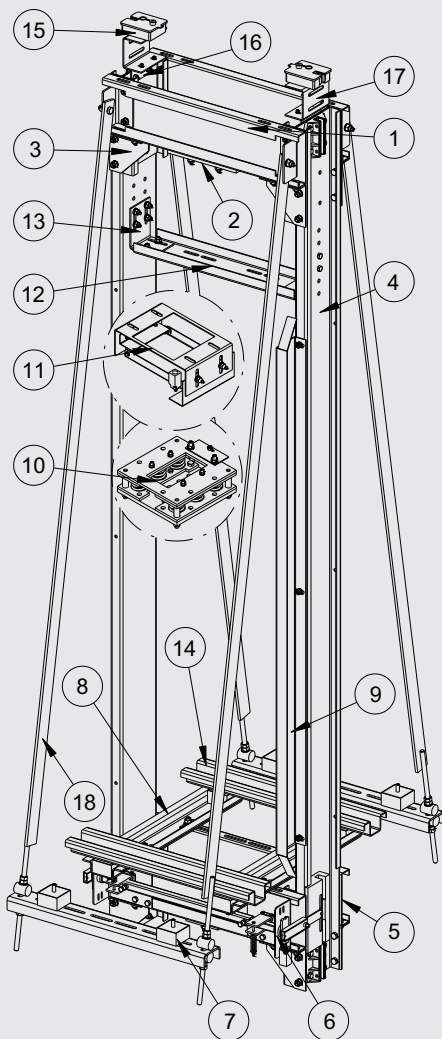




CABIN / COUNTERWEIGHT FRAME

CABIN / COUNTERWEIGHT FRAME

Traction Cabin Frame

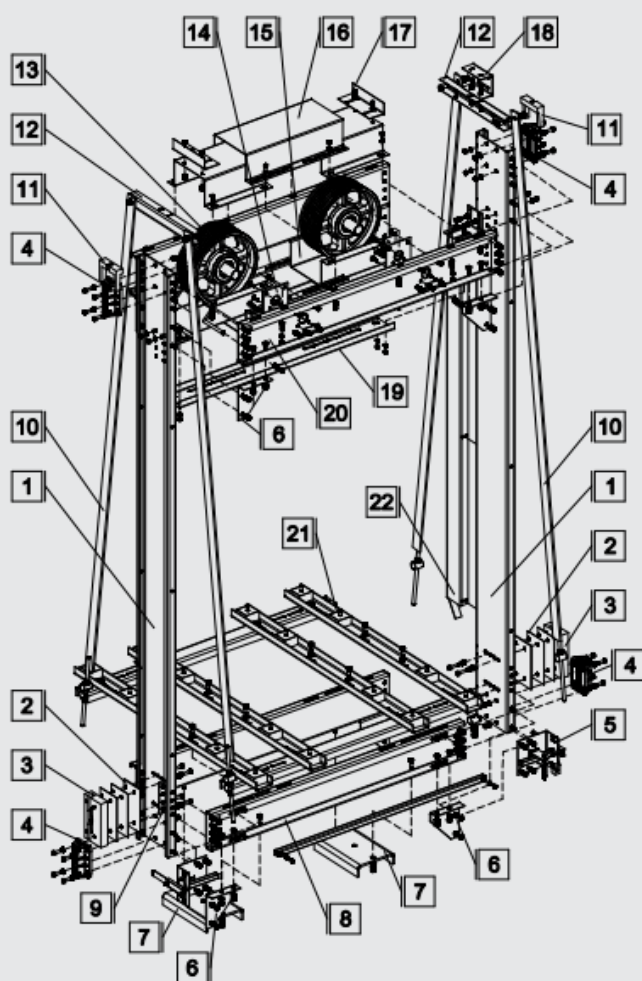


TLCF 13-21

- 1. Upper beam
- 2. Rope suspension plate
- 3. Tie bar
- 4. Side frame beam
- 5. Lower beam
- 6. Safety gear
- 7. Elastic cabin base
- 8. Cabin support
- 9. Cam
- 10. Mechanical overload
- 11. Slack rope device
- 12. Upper cabin support beam
- 13. Cabin supports
- 14. Omega cabin support
- 15. Oiler
- 16. Base for oiler
- 17. Magnetic switch base
- 18. Cabin the bar



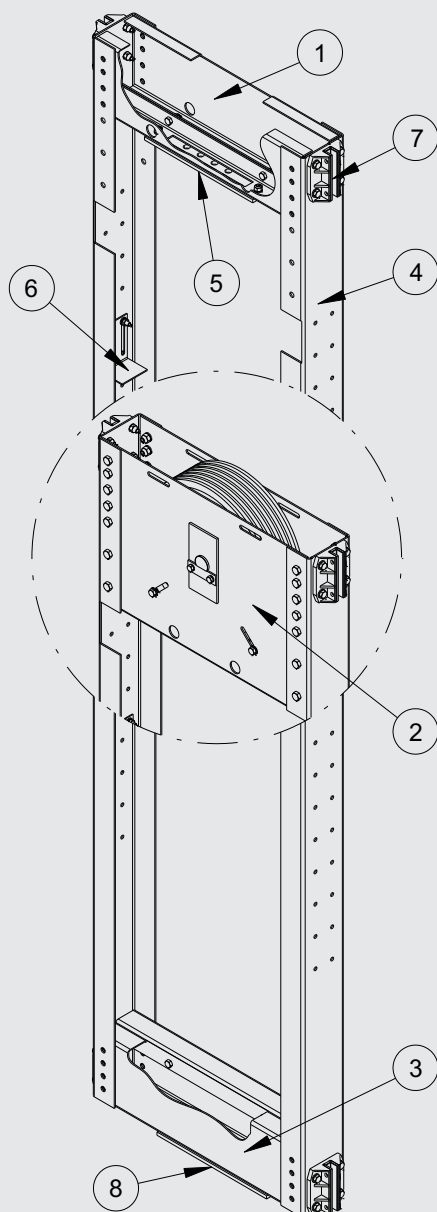
TLCF 43 - 56



1. Side beam
2. Safety gear filler
3. Safety gear
4. Sliding shoe
5. Safety gear set
6. Strout
7. Buffer plate
8. Lower beam
9. Lower beam nut
10. Car strout
11. Oiler
12. Strut bracket
13. Pulley
14. Reinforced plate
15. Lower screen
16. Upper screen
17. Screen bracket
18. Sensor support
19. Cabin fixing bracket
20. Crosshead beam
21. Cabin platform
22. Switch cam
23. Safety gear's Supporting base

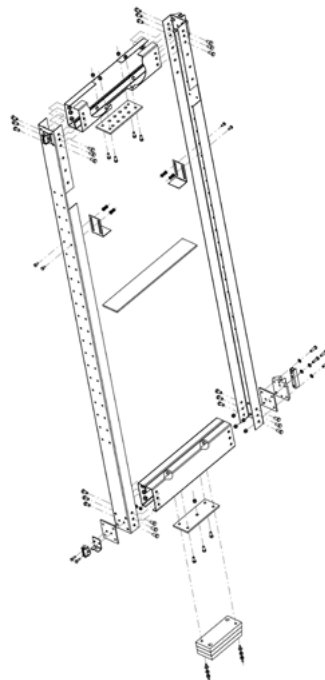
CABIN / COUNTERWEIGHT FRAME

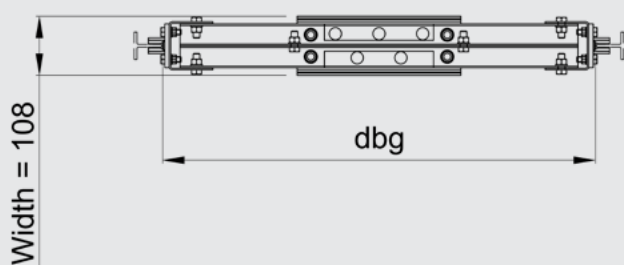
Counterweight Frame



CWF16 / CWF32

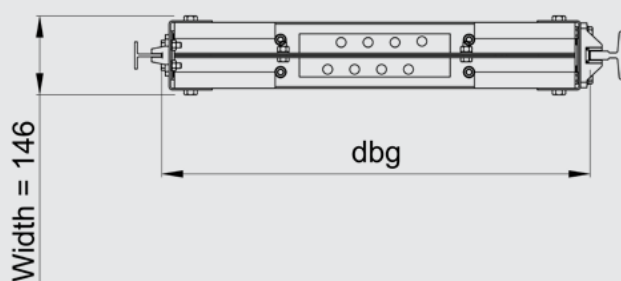
- 1. Upper beam
- 2. Upper beam 2:1
- 3. Lower beam
- 4. Side frame beam
- 5. Rope suspension plate
- 6. Counter weight safety
- 7. Slider
- 8. Buffet plate





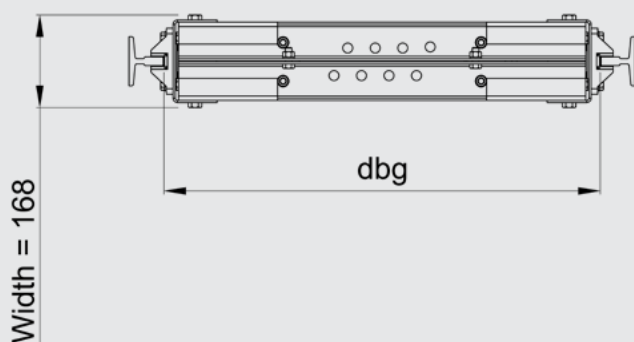
TLCWF10

$500\text{mm} \leq \text{dbg} \leq 900\text{mm}$
 $P+Q/2=900\text{Kg}$
Width : 108mm
Acting 1:1



TLCWF16

$500\text{mm} \leq \text{dbg} \leq 900\text{mm}$
 $P+Q/2=1600\text{Kg}$
Width : 146mm
Acting 1:1, 2:1



TLCWF32

$500\text{mm} \leq \text{dbg} \leq 900\text{mm}$
 $P+Q/2=3200\text{Kg}$
Width : 168mm
Acting 1:1, 2:1



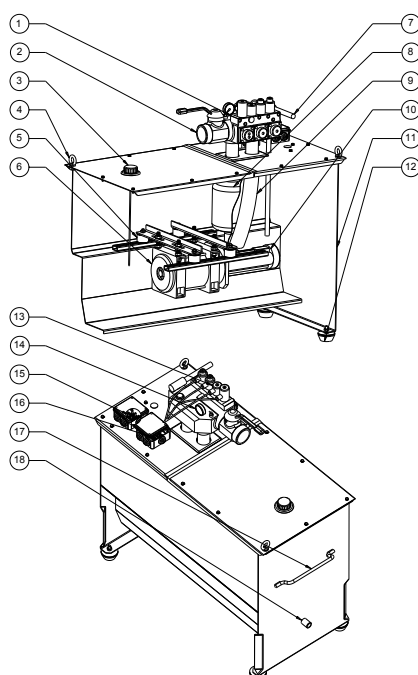
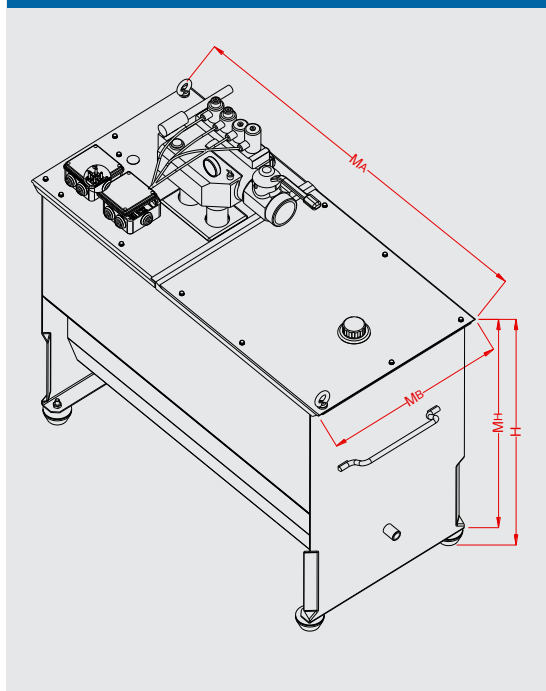


HYDRAULIC

HYDRAULIC

Power Unit

The power unit constitutes an integrated and efficient assembly, by means of which supply and flow control of the hydraulic oil to the lift unit is achieved. It consists of a metal frame, the motor-pump assembly (which is located within the metal frame), the block of valves (which is located on the top of the power unit) and the remaining hydraulic lift control systems.



POWER UNIT

1. Valve block
2. Supply ball valve
3. Tank plug- oil indicator
4. Suspension ring
5. Anti-vibration motor support
6. Motor
7. Hand pump
8. Silencer
9. Rubber hose return pipe
10. Pump
11. Metal oil tank
12. Anti-vibration tank base
13. Valve block solenoids
14. Pressure gauge
15. Power supply clamp
16. Valve block wiring clamp
17. Handle
18. Tank drainage nozzle

	(MA) (mm)	(MB) (mm)	(MH) (mm)	WEIGHT (Kg)	TOTAL VOLUME (Lit)	SERVICEABLE VOLUME (Lit)
T50	576	328	550	30	44	20
T150	821	516	705	52	127	55
T250	1072	516	790	64	206	110
T350	1072	516	990	75	305	207
T450	1323	516	990	87	385	260
T600	1323	630	1100	105	580	410
T750	1570	630	1100	128	700	500
T1200	1570	830	1245	245	1115	780
T80	610	320	686	32	80	38
T120	740	376	660	38	117	48
T250/NAR	1000	275	1000	50	216	145
T215/BL	900	430	780	67	223	142
T325/BL	900	430	1080	80	332	252
T190/PD	1400	415	605	90	185	95
T250/PD	1500	415	705	103	268	168
T350/PD	1600	415	805	118	350	243

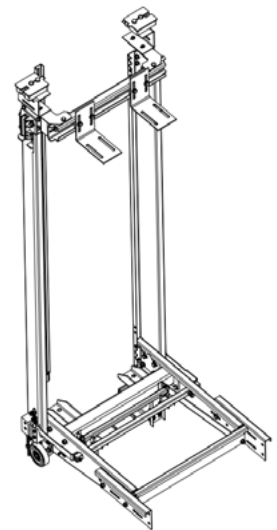
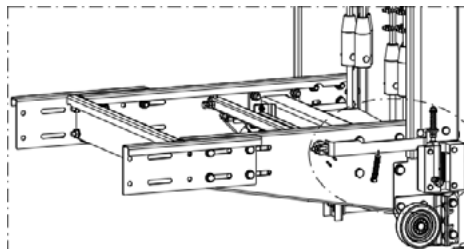
The quantity of oil contained by the metal frame is sufficient to raise the lift unit while at the same time the motor and pump remain immersed in the oil.

HYDRAULIC

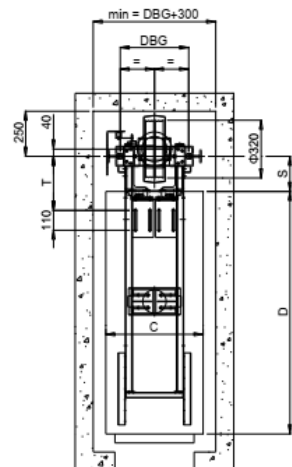
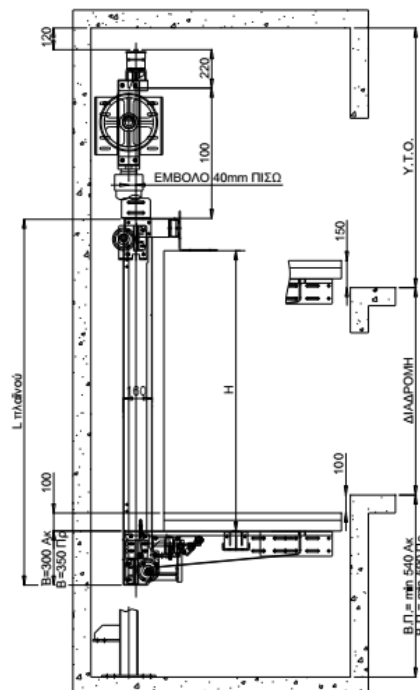
Cabin Frame

Acting 1:1, 2:1
Tailor made

- Twin anchor areas
- Rollers / sliding shoes
- Adjustable to cabin height, dimensions
- Tailor made for DBG, guide rails
- Instantaneous / progressive safety gear
- Epoxy painted
- All types of acting (1:1 or 2:1, one or two pistons)
- Heavy duty use



Special Design
for narrow shafts

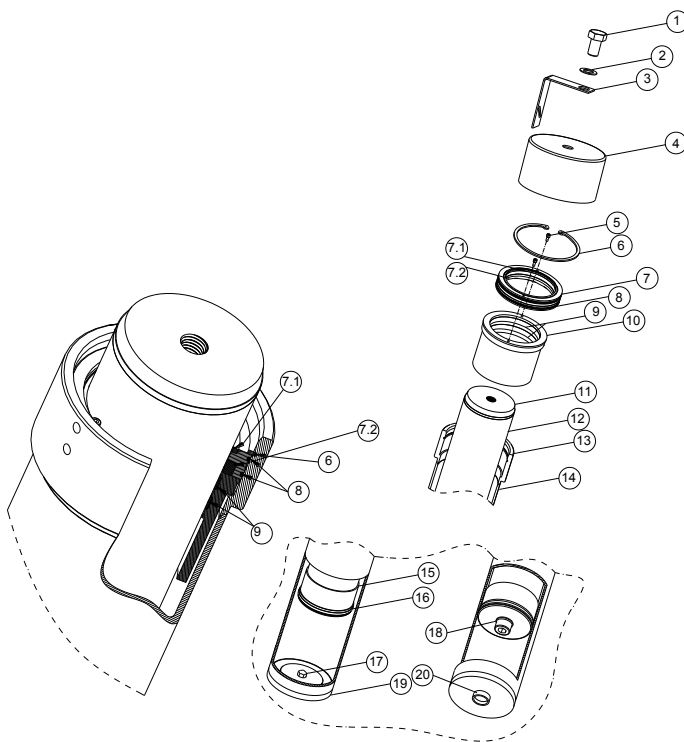


HYDRAULIC

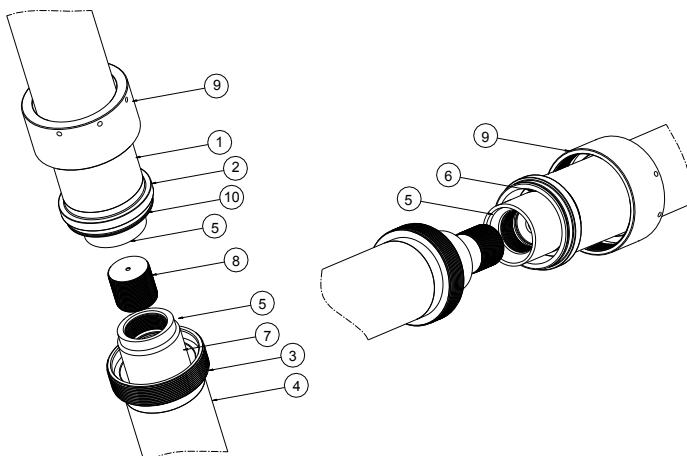
RAM

RAM Types are

- Simple (KZA, KZL, KZBC)
- Split (KZA-D, KZL-D, KZBC-D, KZT1-D)
- Double Split (KZA-DD, KZBC-DD, KZT1-DD)
- 2 – stage Telescopic
- 3 – stage Telescopic



1. Hexagonal screw
2. Washer
3. Ram - safety blade piston
4. Plastic protective ram cover
5. Allen m6x8 screw
6. Retaining ring
7. Seal base
- 7.1. Wiper
- 7.2. Seal
8. O-ring
9. Bearing
10. Bearings base
11. Ram cover
12. Ram tube
13. Cylinder coupling
14. Cylinder tube
15. Damping rod
16. Ram bottom elastic ring
17. Hexagonal base
18. Allen screw m30x100
19. Cylinder bottom
20. Cylinder centering ring



1. Upper cylinder tube
2. Split cylinder ring (upper)
3. Split cylinder ring (lower)
4. Lower cylinder tube
5. Split ram connection (upper, lower)
6. Upper ram tube
7. Lower ram tube
8. Connection screw of the ram division
9. Split screw nut
10. Split cylinder o-ring

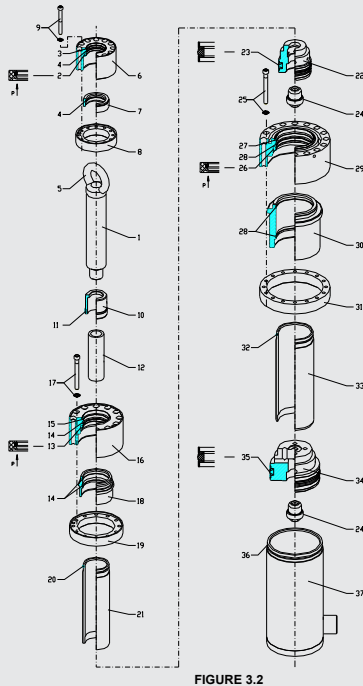
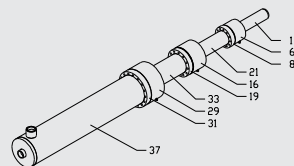


FIGURE 3.2



2 STAGE TELESCOPIC CYLINDER

1. Piston rod, 1st stage
2. Seal, 1st stage
3. Wiper, 1st stage
4. Guiding tape
5. Ring nut
6. Piston head, 1st stage
7. Guiding tape base, 1st stage
8. Fixing ring, 1st stage
9. Screw + spring washer, 1st stage
10. Damping rod, 1st stage
11. Guiding tape
12. Spacer, 1st stage
13. Seal, 2nd stage
14. Wiper, 2nd stage
15. Guiding tape
16. Piston head, 2nd stage
17. Screw + spring washer, 2nd stage
18. Guiding tape base, 2nd stage
19. Fixing ring, 2nd stage
20. O-ring
21. Piston tube, 2nd stage
22. Piston bottom, 2nd stage
23. Piston bottom seal, 2nd stage
24. Check valve
36. O-ring
37. Cylinder tube

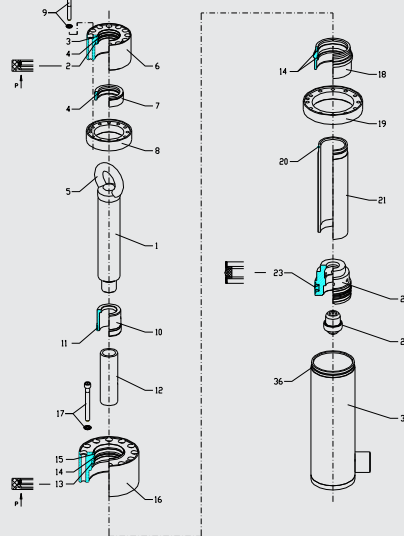
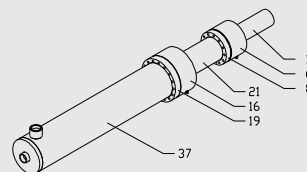


FIGURE 3.1



3 STAGE TELESCOPIC CYLINDER

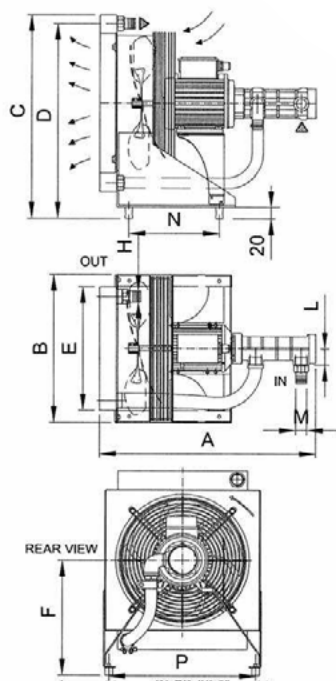
1. Piston rod, 1st stage
2. Seal, 1st stage
3. Wiper, 1st stage
4. Guiding tape
5. Ring nut
6. Piston head, 1st stage
7. Guiding tape base, 1st stage
8. Fixing ring, 1st stage
9. Screw + spring washer, 1st stage
10. Damping rod, 1st stage
11. Guiding tape
12. Spacer, 1st stage
13. Seal, 2nd stage
14. Wiper, 2nd stage
15. Guiding tape
16. Piston head, 2nd stage
17. Screw + spring washer, 2nd stage
18. Guiding tape base, 2nd stage
19. Fixing ring, 2nd stage
20. O-ring
21. Piston tube, 2nd stage
22. Piston bottom, 2nd stage
23. Piston bottom seal, 2nd stage
24. Check valve
25. Screw + spring washer, 3rd stage
26. Seal, Guiding stage
27. Wiper, 3rd stage
28. Guiding tape
29. Piston head, 3rd stage
30. Guiding tape base, 3rd stage
31. Fixing ring, 3rd stage
32. O-ring
33. Piston tube, 3rd stage
34. Piston bottom, 3rd stage
35. Piston bottom seal, 3rd stage
36. O-ring
37. Cylinder tube

HYDRAULIC

Oil cooler

Reduces faults relating to high oil temperature such as:

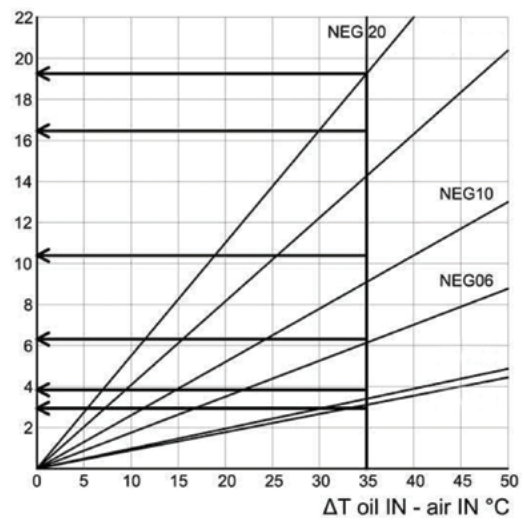
- Shorten lifespan of sealing parts and oil
- Deteriorated level stopping accuracy
- UCM fault triggering



NEG06
NEG10
NEG20

kW

Performances NEG range (kW)
INTERMITTENT DUTY



The values indicated in the diagram refer to hydraulic oil with a kinematic viscosity of 32 cSt at 40°C and an ambient temperature during testing of 20°C.



Dimensional Chart (mm)

SIZE	Kcal/h T 35°C at 20°C ambient	A	B	C	D	E	F	H	L	M
NEG#06	6000 (7)	578	410	536	513	335	303	1"GAS	44	1"GAS
NEG#10	9000 (10,5)	578	410	536	513	335	303	1"GAS	44	1"GAS
NEG#20	16500	637	536	695	675	475	340	1"GAS	44	1 1/4"GAS

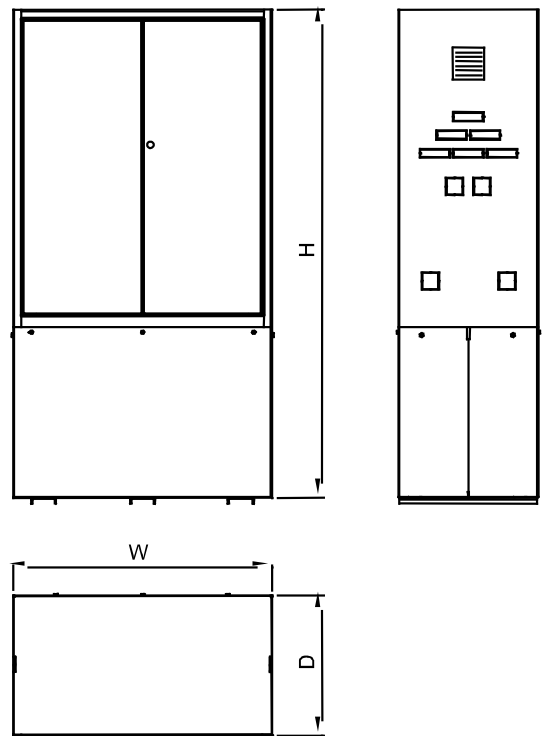
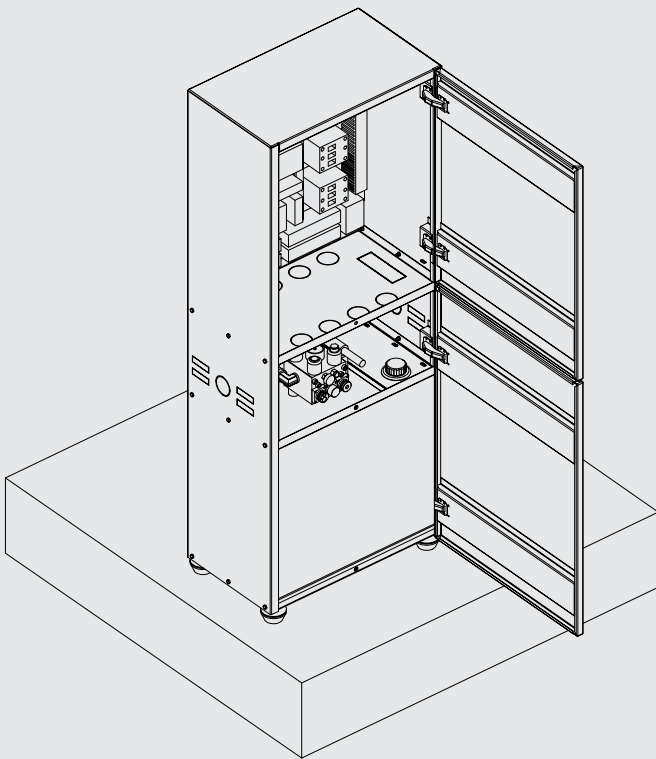
Operating features

		NEG#06		NEG#10		NEG#20	
Dispersion when dT = 35 °C(ambient temperature 20°C)	kW	6,98		10,5		19,2	
	kCal/h	6000		9000		16500	
	BTU	23810		35550		65556	
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
Pump flow rate		30	36	38	45,5	85	100
		7,9	9,5	10	12	22,5	26,5
Fan capacity	m3/h	1300		1300		2500	
	CFM	764		764		1471	
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
Running speed	giri	1450		1500		1450	
	RPM	1750		1800		1750	
Average noise level	dB(A)	68		68		71	
Weight	DaN	35		35		55	
	LBS	77		77		121	
MIN-MAX oil temp	°C	20-70		20-70		20-70	
	°F	68-150		68-150		68-150	
Max admitted pressure	bar	4		4		4	
	PSI	58		58		58	
Required NpsH	bar	-0,4		-0,4		-0,4	
	PSI	-5,8		-5,8		-5,8	

HYDRAULIC

Box Lift

Double space cabinet for both power unit and controller.
Used in Hydraulic MRL's. It has inside plenty space to fit also an Hyrdaulic VVVF controller.



	W (mm)	H (mm)	D (mm)
T215 BL*	980	1760	480
T325 BL*	980	2060	480
T120*	850	1600	460
T150*	1030	1700	
T250*	1230	1800	600
T350*	1230	2000	600
T450*	1480	2000	600
Compact T50	720	1240	400
Maison T80	700	1600	370
Maison T150	950	1600	570
BL T150 Blain	1020	1740	560
BL T150 Bucher	1020	1900	560
BL T250 Blain Nar	1200	2050	350
BL T250 Bucher Nar	1200	2300	350
BL T350 Blain	1270	2070	560
BL T350 Bucher	1270	2220	560
BL T450 Blain	1480	2070	560
BL T450 Bucher	1480	2220	560

* extra protection against oil leakage





DOORS

DOORS

Automatic doors



Central
Big Vision



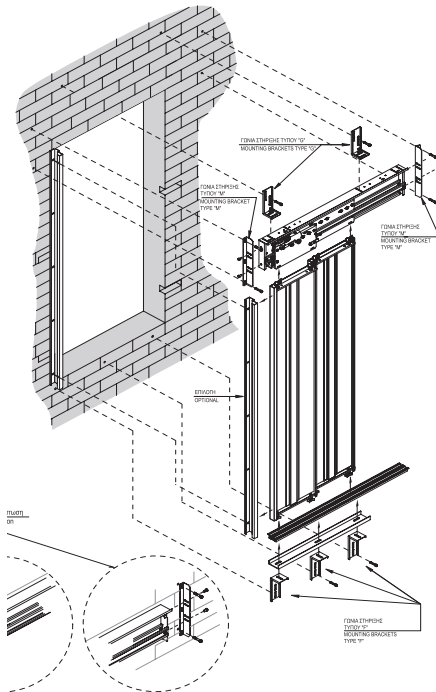
Central
Full Glass

Door Type	Model	Top view	Certificate (Depenting on the dimension and the model)	Clear opening (mm)	Clear Height (mm)
C2H	40/10		E 120 /EI60 / EI120 / EW 60	600-1400	2000-2400
C2H	50/11			600-2000	2000-3000
C4H	40/10		E 120 /EI60 / EI120 / EW 60	600-1400	2000-2400
C4H	50/11			600-3000	2000-3000
C4H	Slim		E 120	600-1100	2000-2100
C6H	50/11		E 120 /EI60 / EI120 / EW 60	1200-3000	2000-3000
C8H	50/11			1400-3000	2000-3000
T1H	40/10		E 120 /EI60 / EI120 / EW 60	600-1000	2000-2400
T1H	50/11			600-1200	2000-3000
T2H	40/10		E 120 /EI60 / EI120 / EW 60	600-1200	2000-2400
T2H	50/11			600-1600	2000-3000
T2H	Slim		E 120	600-1100	2000-2100
T2H	Premium		E 120 /EI 60	700-1400	2000-3000
T3H	40/10		E 120 /EI60 / EI120 / EW 60	600-1200	2000-2400
T3H	50/11			600-2000	2000-3000
T3H	Slim		E 120	600-1100	2000-2100
T4H	50/11		E 120 /EI60 / EI120 / EW 60	600-2000	2000-3000

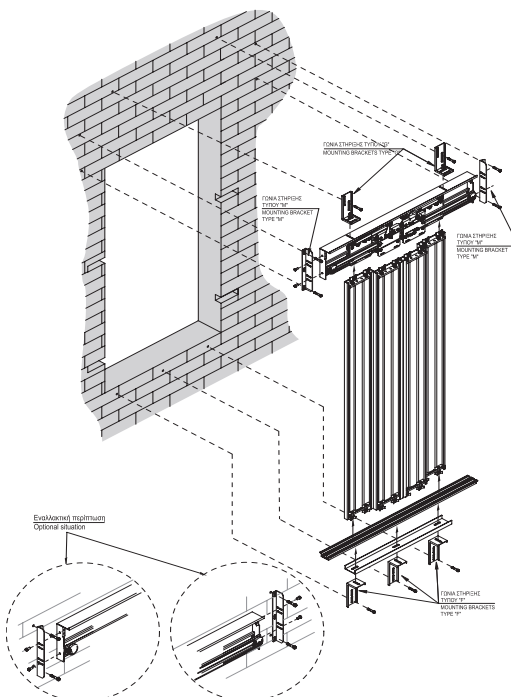
Big Vision and Full Glass panels are available for certain dimensions and models.

- Modernization landing door
- Side / Central opening
- Frameless
- Helping assembly tool (upon request)
- No fire resistance

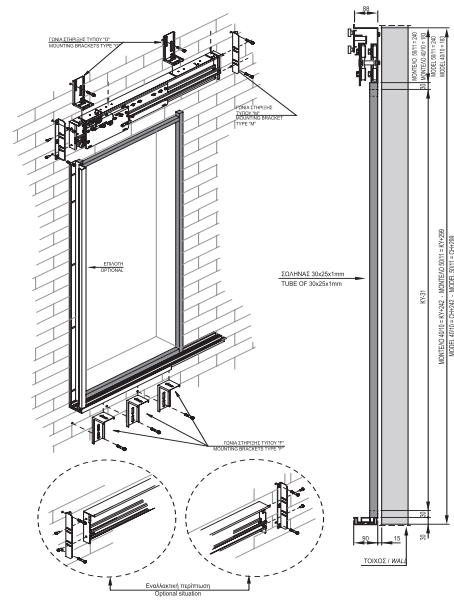
SIDE OPENING



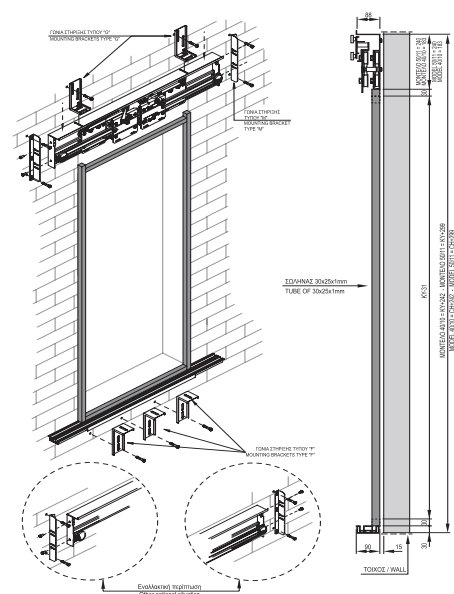
CENTRAL OPENING



ASSEMBLING TOOL



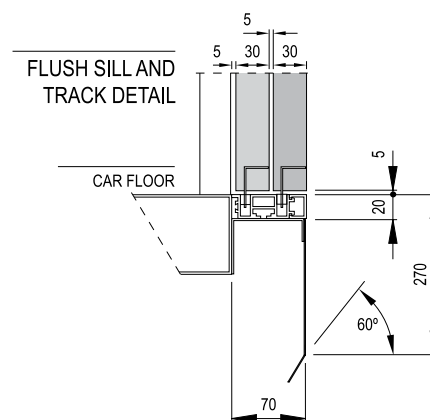
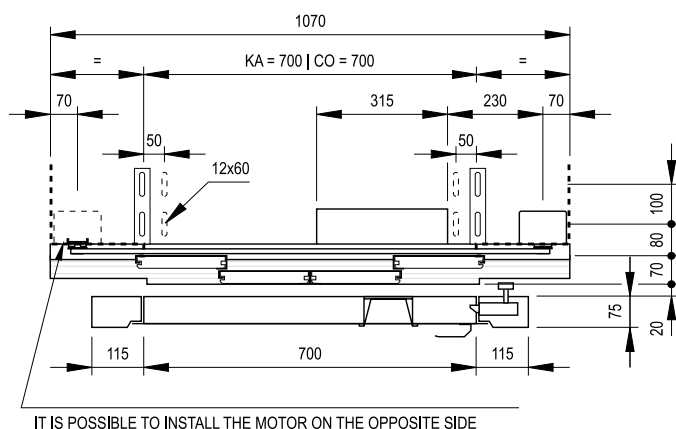
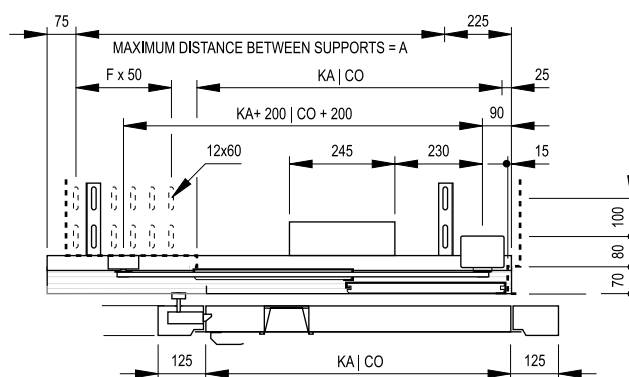
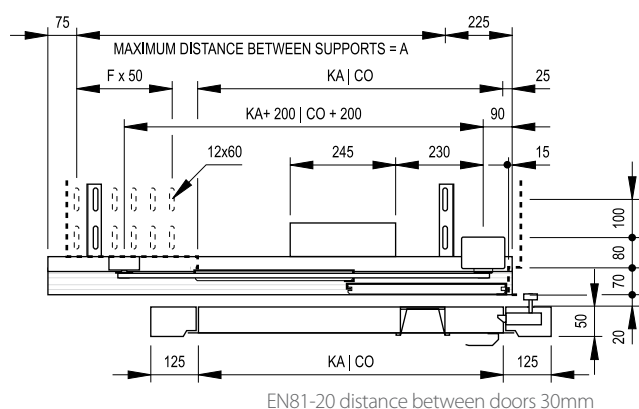
ASSEMBLING TOOL



DOORS

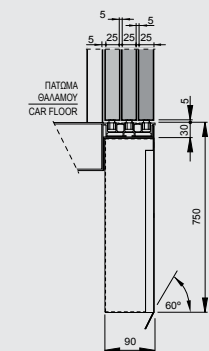
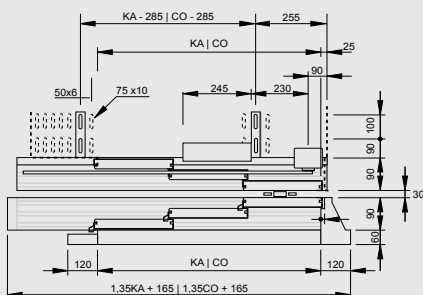
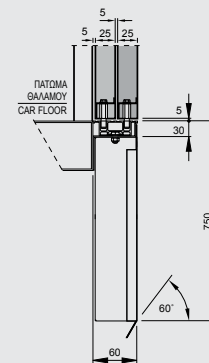
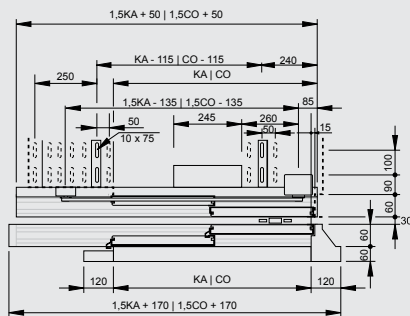
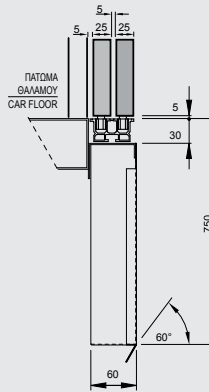
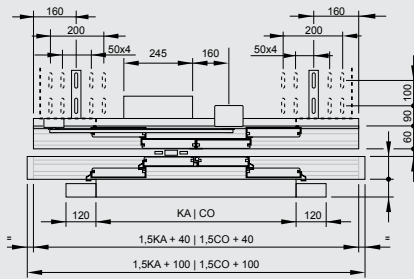
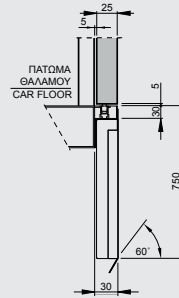
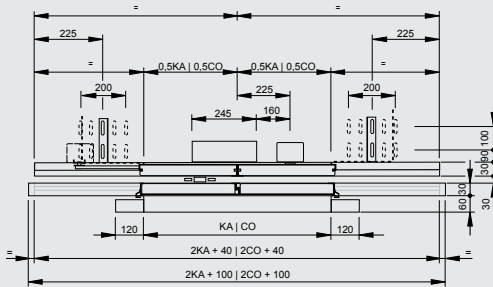
Automatic doors

COMBINATION SEMI-AUTOMATIC / AUTOMATIC (SILL 70MM)





SLIM DOORS



DOORS

Semi-automatic / Hinged doors



C310



C520



Model	Clear opening	Clear height	CO E120	CH E120
Klefer-Classic	500-1350	2000-2950*	500-1000	1700-2300
Skotia-C310-Luxury	600-1350	2000-2950*	600-1000	1700-2300
New skotia- M310-Elegance	600-1000	2000-2350*		
Big Vision with frame C520 - Luxury glass with frame	600-1350	2000-2900*		
E-29 C710	600-1000	2000		
Small Vision (andreas zapatinas design) M510	600-1000	2000		
Big Vision (andreas zapatinas design) M710	600-850	2000		
Surf (andreas zapatinas design) F710	600-900	2000		
Thunder (andreas zapatinas design) - F310	750-1000	2000		
Space (andreas zapatinas design) F510	700-900	2000		
Special choices				
Two panel classic model	800-2500	2000-*		

* clear height depending on the finishing and clear opening

Available materials: Powder paint (Epoxy) in various colors, Skinplate, Stainless Steel, Wood veneer. Some restrictions on dimensions apply

DOORS

Folding / BUS type doors



FD710
Inox
andreas zapatinas | design



FD320
Inox

Folding door (BUS type)

Model	Clear opening	Clear height
G3-Sill 100mm	550-1000	1700-2200
G3 Modernization-Sill 80mm	550-1000	1700-2200
G3 Modernization-Sill 80mm-header 63mm	550-1000	1700-2200
G3 Titan-Sill 100mm	1050-1400	2000
G3 with inverted operator-Sill 100mm	550-1000	1700-2200
G3 with inverted operator-Sill 100mm-header 63mm	550-1000	1700-2200
G3 with inverted operator-Sill 80mm	550-1000	1700-2200
G3 with under driven operator-Sill 100m	550-1000	1700-2200
G3 with under driven operator-Sill 80mm	550-1000	1700-2200
Additional panel types		
Small Vision panels	650-1000	1700-2200
Big Vision panels	650-1000	1700-2200v
Asymmetric panels	600-1000	1700-2200
Asymmetric Big Vision panels	700-950	Depends on the model
Aluminium Big Vision panels	550-1000	2000
FD710 "Hourglass" panel	600-1400	1800-2200
FD510 "Bullets" panel	600-1400	1800-2200
FD310 "2coloured" panel	550-1400	1700-2200
FD720 "Tribal" panel	650-1400	1800-2200
FD530 "Ellipsis" panel	600-1400	2000

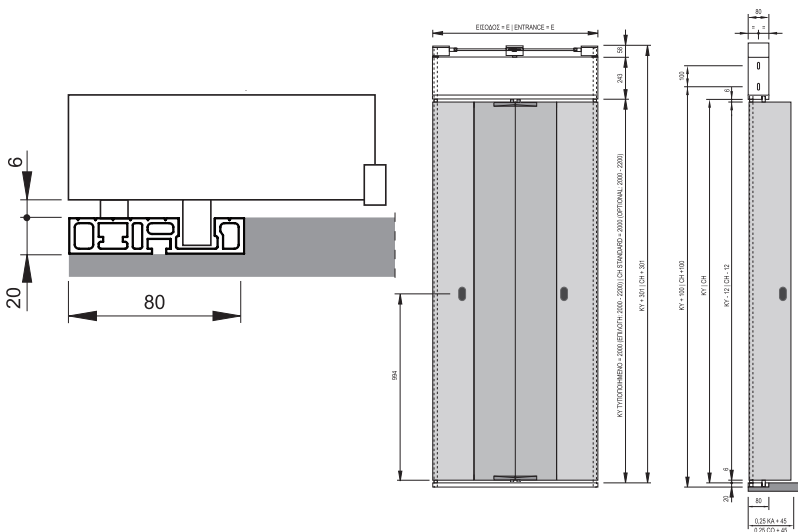


Folding door (BUS type - G5 EN 8120/50)

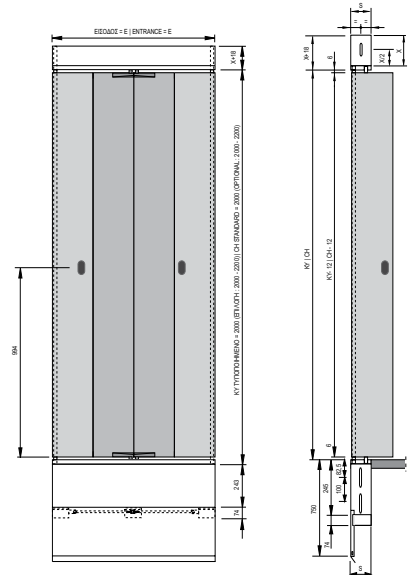
Model	Clear opening	Clear height
G5 - Sill 100mm	550-1000	2000-2100
Additional panel types		
Sheet metal	550-1000	2000-2100

Folding doors are not available in wood finishing

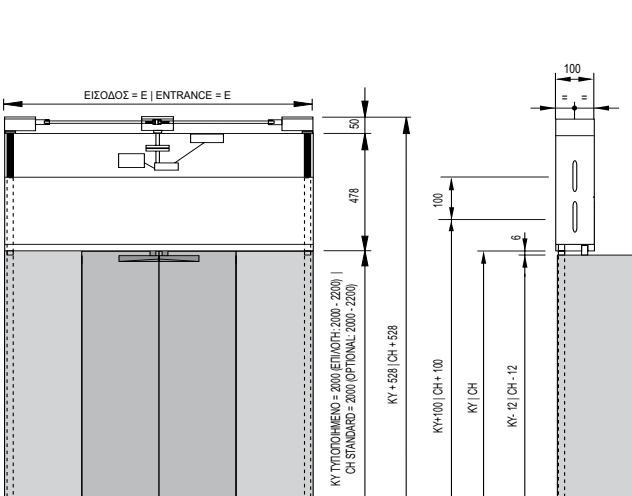
MODERNIZATION (SILL 80MM)



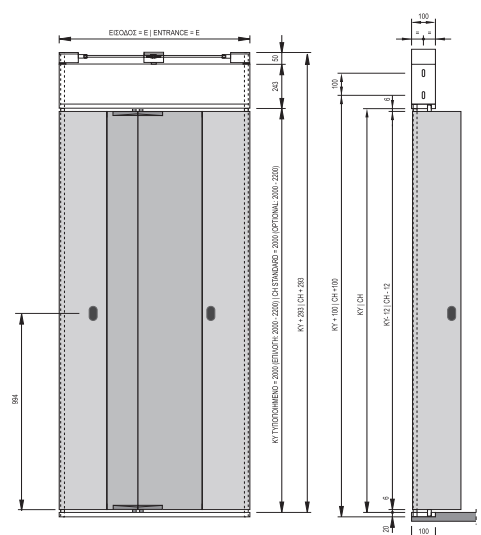
MECHANISM UNDER LOW HEADROOM



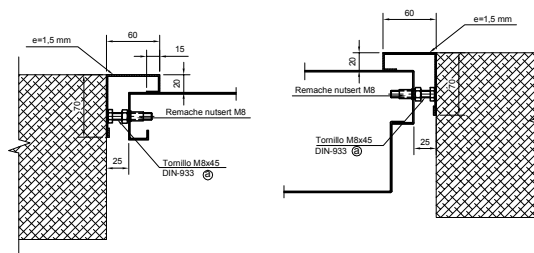
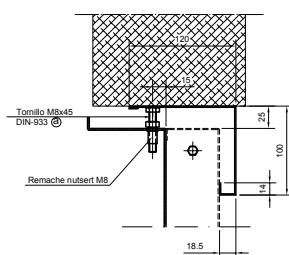
INVERTED MECHANISM



ASYMMETRIC



Special Door Solutions



Before



After

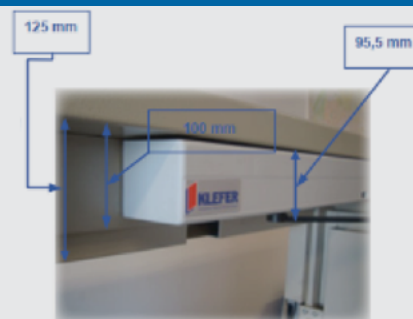




SPECIAL DOOR SOLUTIONS

Semi-automatic / automatic doors

New, fully equipped, compact, versatile and quiet.



DITEC SOLUTION

By placing the special mechanism, we can achieve automatic opening and closing of the semiautomatic lift doors, either by simple mode operation with button or remote control (not included), or in full cooperation with the elevators electronic panel, each is a similar function to that of automatic doors.



Technical Specifications / Main system & control panel

Description	Detail	Description	Detail
Model	SPRINT	Remote control	•
Control Panel	165	Braking / Slowing down	•
Main power supply	230V~/50-60Hz	Includes ON / OFF switch, located in accessible spot	•
Motor	for 1 Motor 24VDC	ODS - Obstruction detection system	•
Energy Saving	Energy saving when in use	Automatic power supply system in case of power failure (emergency supply evacuation)	•
Motor power supply	24 V = / 5 A	Open control	•
Power supply accessories	24V= / 0,15A	Force adjustment control	•
For semiautomatic doors	from 600mm to 1000mm	Close door	•
Encoder	•	Speed adjustment	•
Automatic timed close control	•	Stop safety device	•
Push opening - PUSH & GO	•	Emergency reverse	•



Enhance passenger protection with the addition of certified door safety edges from a wide range of types and reliable brands.



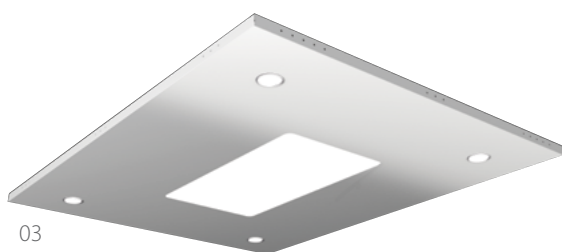


INTERIOR MATERIALS

INTERIOR MATERIALS

Ceilings

Options for ceilings are available for all cabins.
All options are in compliance with EN81.20.

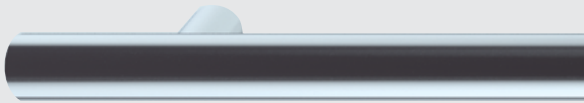




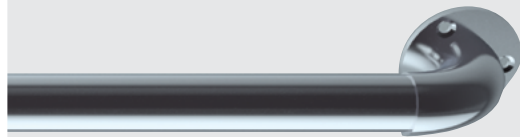
INTERIOR MATERIALS

Handrails

Options for handrails are available for all cabins exc. K1 which is available only for A510 cabin.
All options are in compliance with EN81.20.

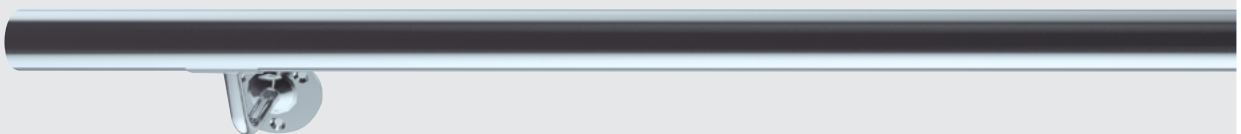


K2



K3

in compliance with EN81.70



K6

INTERIOR MATERIALS

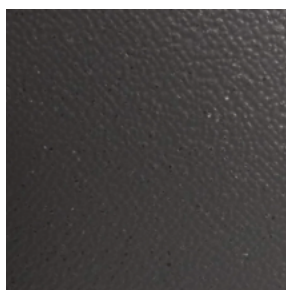
Floors

Options for floors are available for all cabins.
All options are in compliance with EN81.20.

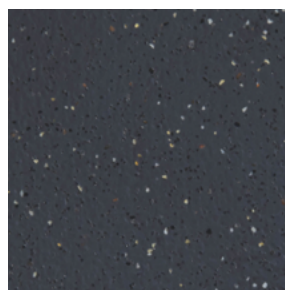
RUBBER



6801



6727

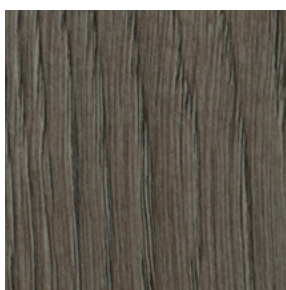


6768



MX19101

LAMINATES



8096



8630



Floor recess is also available

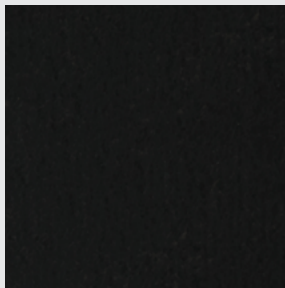
Colours may differ slightly from those shown in the manual
owing to the limitations of the printing process



CERAMIC TILES



GP10



GP5 Nero

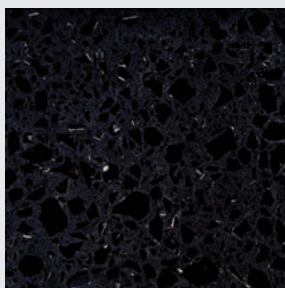


Greek Pentelikon

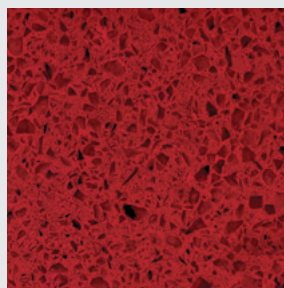
ARTIFICIAL GRANITES



Regal Beige



Regal Black



Regal Red



Regal White

Floor recess is also available

Colours may differ slightly from those shown in the manual
owing to the limitations of the printing process

OPERATING PANELS

Car Operating Panels & Indicators

FLUSH MOUNTED

AKC BES BLUE LINE XX* AKC BES XX* AKC BES L XX* AKC BES LT XX* AKC BEST XX*



Stainless Steel Mirror

Stainless Steel Satin

AKC HBT XX*



AKC HB XX*



Flush Mounted COP's	(W) Width x (H) Height		
Type	Number of Push buttons recesses	Faceplate Dimensions (W x H)	Embedded Box Aperture Dimensions
AKC HB:	4 to 8	200 x 710	660 x 170
COP's with embedded dox,	10 to 16	200 x 880	825 x 170
without telephone box	18 to 22	200 x 1050	995 x 170
AKC HBT:	4 to 8	200 x 880	825 x 170
COP's with embedded dox	10 to 16	200 x 1050	995 x 170
And telephone box			

Available with any type of push button or floor position indicator (display)

*XX: the number of push buttons recesses



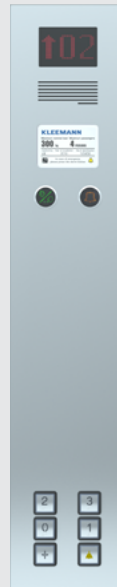
SURFACE MOUNTED

AKC-SM-BA
BLUE LINE XX*

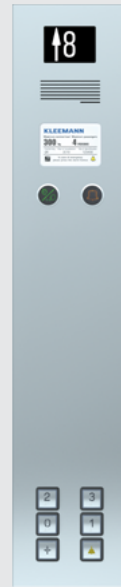


(W)225mm x (D)35mm x (H)1100mm

DKC
(DOT) Display



DKC
(KMPC Display)



(W) 200 mm x (D) 24 mm (H) 1000 mm
Available only with Genius20

HORIZONTAL

FPY-1000 BLUE LINE



(W)1050mm x (D)65mm x (H)150mm

| Satin or mirror Stainless Steel faceplates

Special Stainless Steel faceplates available upon request

OPERATING PANELS

Landing Operating Panels

FLUSH MOUNTED

AKL 005



(W) 85mm x (H) 265mm

AKL 102



AKL 103



AKL 003



AKL 101



(W) 85mm x (H) 265mm

AKL 055



(W) 150mm x (H) 285mm

AKL 057



AKL 241



(W) 210mm x (H) 250mm

AKL 242



Please contact your sales engineer for material's compatibility restrictions.

AKL 001



AKL 002



(W) 85mm x (H) 265mm



SURFACE MOUNTED

FTL102
Inox Slim



FTL101
Inox Slim



FTL001
Inox Slim



FTL002
Inox Slim



Dimensions : (W) 108 mm x (D) 10 mm x (H) 230 mm
Available only with Genius20

FLUSH MOUNTED INDICATOR

P95-902



(W) 230 mm x (D) 20 mm x (H) 92 mm

SURFACE MOUNTED INDICATOR

WPY 910 VL



With
Inclined
Faceplate

(W) 220 mm x (D) 70 mm x (H) 143 mm

FTHL Slim



(W) 230 mm x (D) 10 mm x (H) 108 mm

PUSH BUTTONS

MT42



(W) 39 mm x (H) 39 mm

RT42



ø 41 mm

B37Q



K37 keyswitch



(W) 37 mm x (H) 37 mm

B37R



ø 37 mm

BLUE LINE

KLH42R



ø 41 mm

KLH42Q



(W) 35 mm x (H) 35 Mm

EXTRA FEATURES OF OPERATING PANELS

CARD READER

Usefull accessory for COP and LOPs to grant the final users access control for car and landing calls , Blue tag cards can be programmed in order to activate dedicated group of car and landing calls. The user presents the blue tag to the sensor, the temporary available call buttons are flashing. He press the call button.



TRANSPONDER ES_MEGA COMPLETE

Card reader (Electronic keyswitch for mt-42 design)

Weight: 0,049

Dimensions: 6,9x4,4x2,6

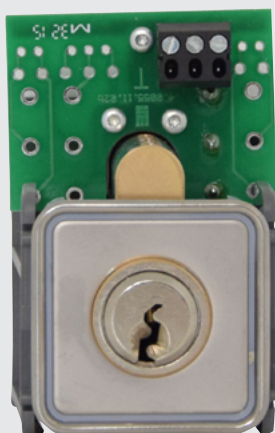


BLUE TAG CARD

Card reader card for ES_mega

Weight: 0,006

Dimensions: 6x3,3x0,8



KEYSWITCH MT42

A keyswitch is useful in order to activate specific functions. As you can see there are 3 variations.

One extract position. Can be used to activate a function so long the key is placed and turned in on position.

Most frequently it is used as an attendant key switch.

Spring return. Can replace any kind of buttons. Most frequently call buttons.

Two extraction position. It's used in cases we like to allow or deny the operation of another device for a long time period. Most frequently it is used to control a call or a group of calls.

Car call / landing call release function.

Weight: 0,145

Dimensions: 6,3X4,5X4,5



SECRET CODE

A secret call is used to replace 1 up to 4 keyswitches. Up to 4 different codes can be used in order to replace a combination of 4 different keyswitches (spring return or 2 position keyswitches)



TRANSCIVER

Remote control, it is used to give car or landing calls from distance. Very useful for VIP users, or in case of a car lift or an industrial goods lift where the lift user cannot easily reach the push buttons while inside the vehicle. Another special use is to operate it in order to bypass momentarily another access control device (a spring return contact used to give a call)

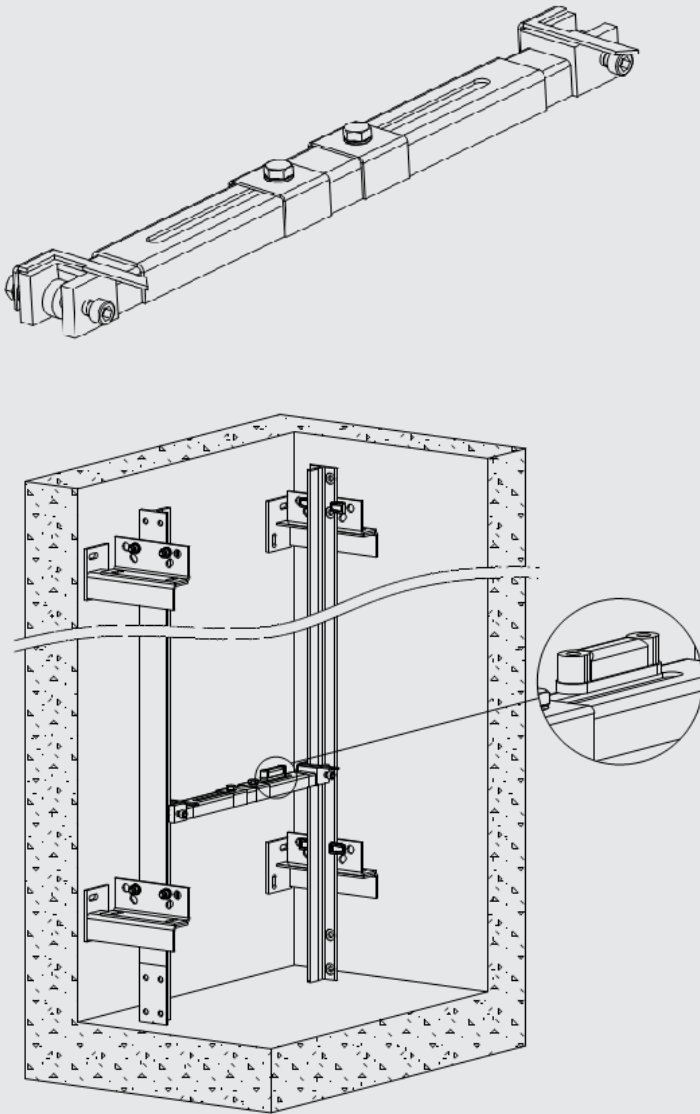




INSTALLATION PERSONAL PROTECTION

INSTALLATION

Guide rails



ALIGNMENT DEVICE

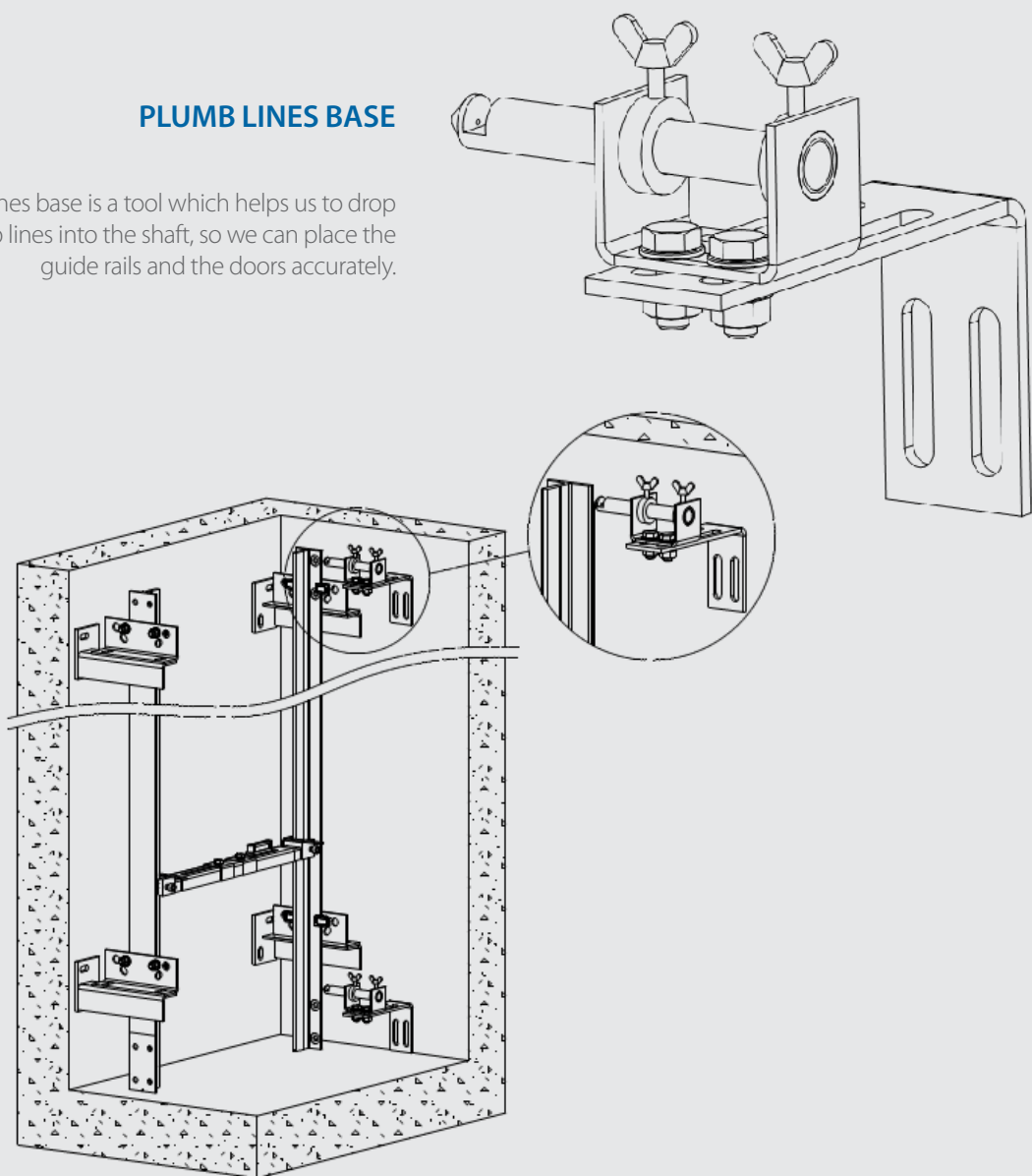
Ensures DBG during installation

1. Right extension
2. Base
3. Left extension
4. Alignment brackets
5. Reinforcement



PLUMB LINES BASE

The plumb lines base is a tool which helps us to drop the plumb lines into the shaft, so we can place the guide rails and the doors accurately.

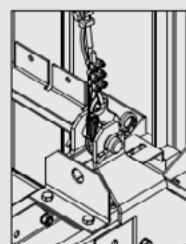
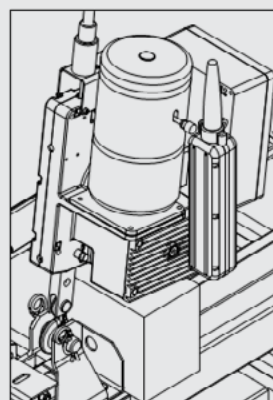
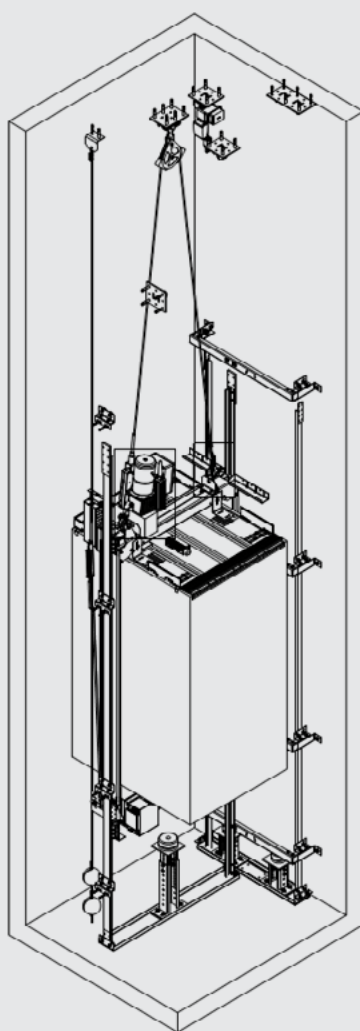


INSTALLATION

Tools for Scaffoldless Installation

SCAFFOLDLESS INSTALLATION OF ATLAS EU

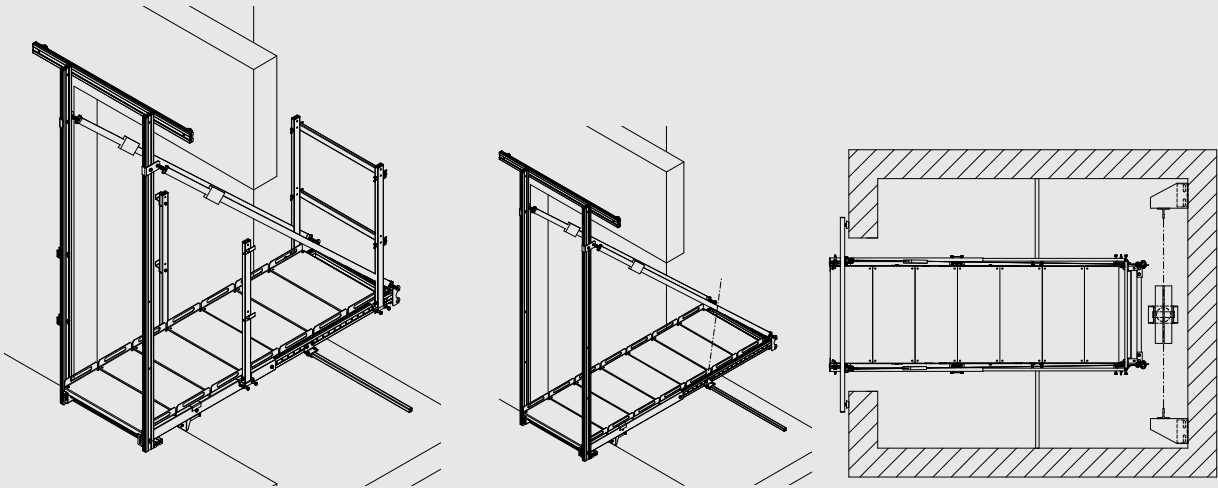
This is a part of the ATLAS EU 2:1 MRL.
Through this mechanism the installation takes place
without the use of scaffold in the shaft.
Complied to 2006/42/EC and EN 81.20. Max working load
1410 kgr.
Lifting Device available upon request.





ALUMINIUM SHAFT PLATFORM

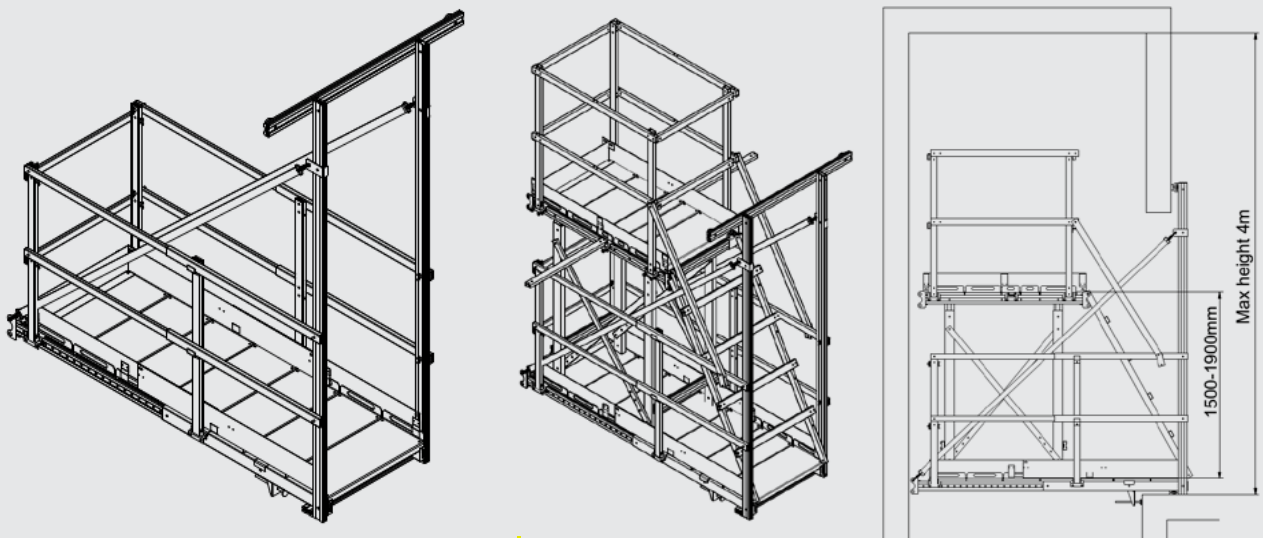
Complied to 98/37 EC



The aluminium shaft platform is designed to be used in shafts with depth from 900mm to 2500mm. It is constructed by a special aluminium alloy and can take a total load up to 300Kg. It can be installed in the shaft by a single person, and 5 minutes are required for its full installation in a typical shaft depth of 1700mm. Its main frame weights approximately 20Kg and when it is packed with all of its items takes up storage space of approximately 250cm x 135cm x 30cm.

EXTENSION PLATFORM

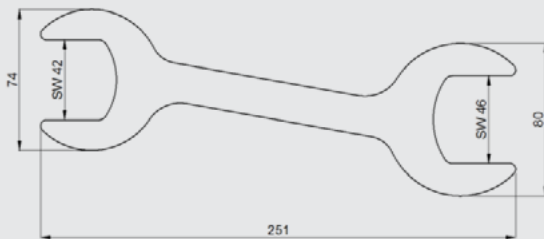
This is an extra platform placed on shaft platform at the top floor. The aim is to help the installation procedure within the headroom.



The rated load of the Aluminum platform is reduced to 250Kg while working with the extension platform

INSTALLATION

Tools

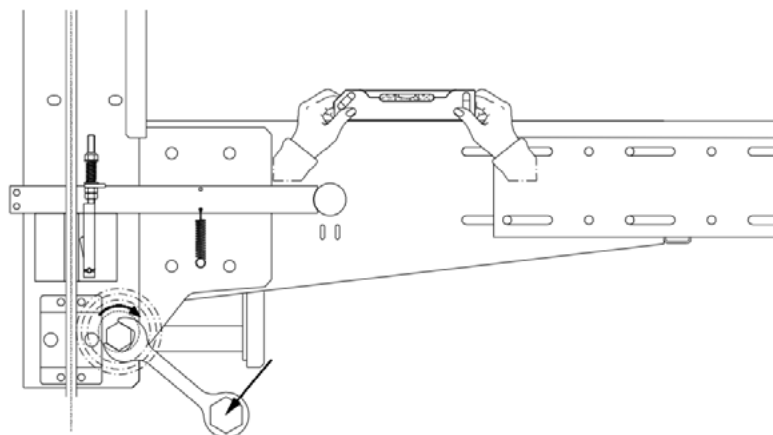
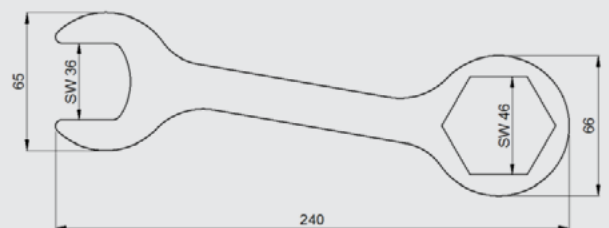


DOUBLE WRENCH SW42 – SW46

Adjustment of car frame inclination (ZU210 / ZU270 / UCF)

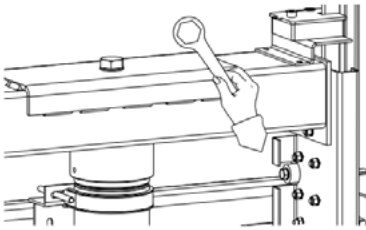
COMBINATION WRENCH SW36 – SW46

Adjustment of car frame inclination
(ZU170 / ZU180 / LSF / LEF 1000/1200)
Tightening ram bolt M30 (Φ70 - Φ130)

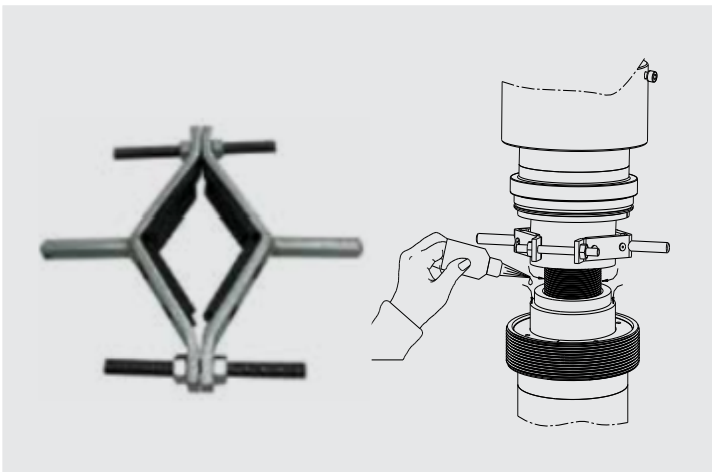
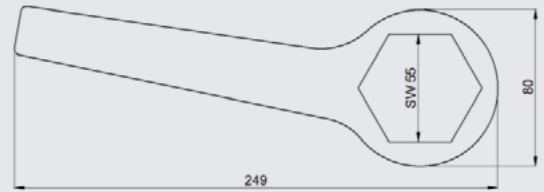




RING WRENCH SW55



Tightening ram bolt M36
($\Phi 150 - \Phi 210$)

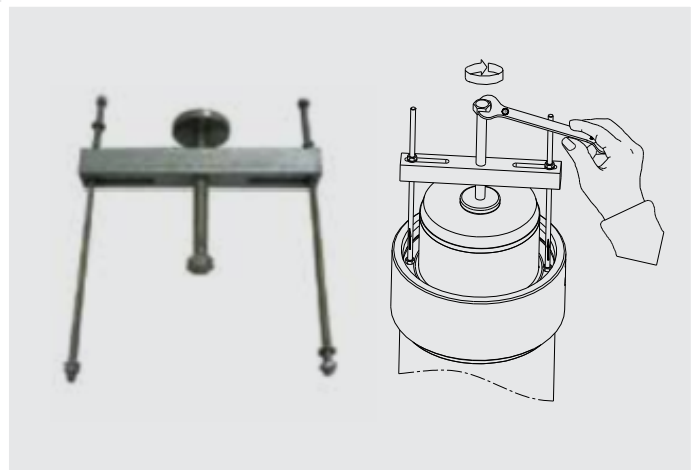
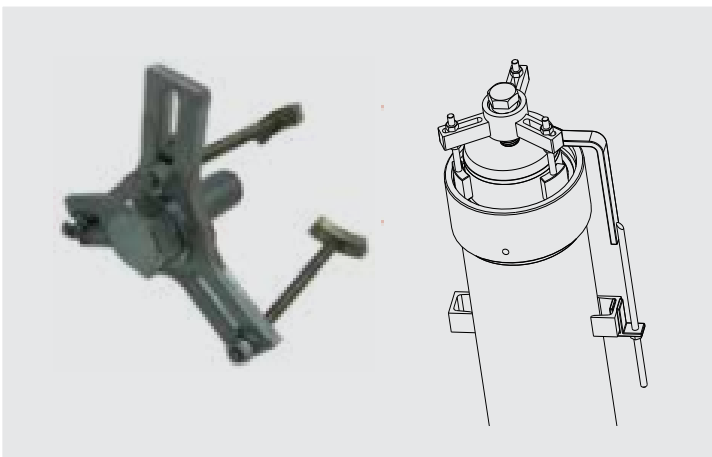


RAM CLAMP

Tighten split piston.

RAM HEAD EXTRACTOR

Extracts the ram head
(usually when we replacing seals)



RAM HEAD INSERTER

Inserts the ram head
(usually when we replacing seals)

PROTECTION

Personal Protective Equipment (PPE)

One of our values in KLEEMANN is Safety
Clothing or equipment designed to protect workers.



Shop all
and save time



Safety
above all



GLOVES FOR GENERAL USE NITRIFIT NR 10

Material : Polyamide, extra Nitrile reinforcement in palm area.
Black. Excellent comfort and fingertip feeling for manual labour.
Conform to EN388



GLOVES FOR GENERAL USE PERFECT POLY BLACK

Material : Polyamide, extra polyurethan reinforcement in palm area. Black. Excellent comfort and fingertip feeling for manual labour (ie use of mechanical tools) Slip Resistant
Conform to EN388



GLOVES FOR GENERAL USE PU WHITE

Material : Polyamide, extra polyurethan reinforcement in palm area. White. Excellent comfort and fingertip feeling for manual labour (ie assembly)
Slip Resistant
Conform to EN388



CUT PROTECTION GLOVES EURO CUT 3 P300

Material : high-tensile strength fibers (HPPE, grade 13)
polyurethan reinforcement in palm area
Elastic cuff for extra protection
Use in Dry / slightly oily surfaces
Free of silicone
Conform to EN388 (level 3)



WELDING GLOVES

Material : natural leather.
Extra internal coating
Cuff 150mm long Specs : labels 414X4X
100°C 31,4s, 250°C 10,7s
Conform to EN388, EN420, EN407



MASK CHIMILUX

Elastic adjustment straps, PVC frame
4 ventilation holes that blocks dust and particulates
Poly carbonate glare free lens
Marking : 2.1.2 1 BN,
Conform to EN170



PROTECTION GLASSES OPEN TYPE VISILUX

Easily fit with vision glasses (visitor glasses)
circumferential protection

Weight : 45 gr
Specs : Polycarbonate frame FT/ transparent lens :
2-1.2 1FTK, thickness 2,2 mm
Conform to : EN166, EN170



PROTECTION GLASSES OPEN TYPE ECOLUX

Plastic frame with soft touch
Adjustable arm length
circumferential protection
Poly carbonate transparent lens thickness 2,2 mm
Conform to EN166- EN172



GAS WELDING GLASSES

PVC frame, Ventilation holes
Lifted Lens Ø50mm , IR5
Elastic adjustment straps
Conform to EN170, EN169, EN166



WORKING WAIST PROTECTION BELT

Ergonomic design
Elastic supports suspendres
Velcro Straps fastening

PROTECTION



SAFETY SHOES

High quality leather, metal protection in toe area, removable sole.
Antistatic, internal breathing coating
Slip resistance SRC,
Polyurethane, energy absorption sole
Resistance in oil and Hydraulic carbon.
Internal reinforcement in front and back side
Conform to EN ISO 20345:2011 S1P - SRC



SAFETY SHOES

S3 TIBER NAVY/BLUE

Water resistant
Slip resistance sole due to
SRA standard
Antistatic
Toe protection with

synthetic coating (200 Joule)
Resistance in oil
Conform to BS EN ISO
20345:2004/A1 2007



HEAD FLASHLIGHT

Elastic adjustment straps
3 levels luminescence
90° rotation



WELDING MASK (VELDO) WURTH

Adjustment DIN: 9-13
Sensor speed: 1/25.000 s
View area : 98 x 43 mm
Power supply : solar cell

Twin optical sensor
High quality glass
Weight: 460 g
Conform to
CE, ANSI, CSA, AS/NZS



DUST MASK FFP1



Breath out valve
Electrostatic propylene filter
External coating
polypropylene SMS /
Internal coating polyester
Elastic adjustment straps
Protection against dust,
humidity

Aluminium nose adjustment
/ bracket
Use , max 8 hours
Weight : 8 g
Conform to EN 149:2001 +
A1:2009

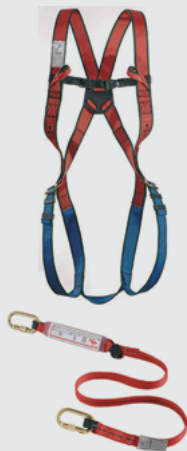
CHEMICAL MASK FFP2 SL-VO



Breathou valve
Activated carbon filter
External coating
polypropylene SMS /
Internal coating polyester
Conform to EN 149: 2001
(+welding)

FALL ARREST SYSTEM

provide an operative with the
maximum amount of freedom and
movement when working at height
One size, fully adjustable
Anchoring back and double front
points
Safe line : Optional
Conform to EN361, EN358



EARPLUGS

Made by soft foam polypropylene
Easily fitted in the ear
Without additional cord
Package 1000pcs
SNR: 36db
Conform to EN3522



HEARING PROTECTION EARLINE MAX 200

PVC pillows
Weight : 166 gr
SNR : 27 dB H:33 M:24 L:15
Conform to EN 352-1



WORK VEST

Photoluminescent Vest with
horizontal reflecting stripes.
Material : 100% polyester
Weight : 130gr/m2
Conform to EN471 class 2,2



KNEE PADS

EVA knee pads with foam
reinforcement
Velcro Straps fastening



SAFETY HELMET OPAL

UV protection
Internal coating against
sweat 20 cm thickness
adjustable in 6 set points



Weight 340 gr
Colours : white, yellow,
orange, blue, green, red
Conform to EN 397 (UV
protection)





MOD KITS

MOD KITS

Green Lifts

KLEEMANN offers modernization solutions in order to upgrade hydraulic lifts that combine both:

- Energy Saving
- Excellent Ride Quality





Advantages

- Plug & Play solution.
- No up adjustment is required.
- No interface between valve and inverter.
- Adjustable functions through the inverter.
- Oil temperature decrease up to 48%.
- Test before delivery.
- A3 upgrade.
- Leveling accuracy $\pm 3\text{mm}$.
- Reduced motor starting current.



EN81-2 A3 Certified

LIFTINSTITUUT	
TYPE-EXAMINATION CERTIFICATE FOR LIFTCOMPONENTS	
Certificate nr.	: NL11-400-1002-074-04 Revision nr.: 4
Description of the product	: Unintended Car Movement Protection (UCMP)
Trademark, type	: Kleemann, KL-UCMP Hydro
Name and address of the manufacturer	: Kleemann Group Kilns Industrial Area P.O. Box 25 P.C. 61 100 Kilns, Greece
Name and address of the certificate holder	: Kleemann Group Kilns Industrial Area P.O. Box 25 P.C. 61 100 Kilns, Greece
Certificate issued on the following requirements	: EN81-2:1998 + A3:2009
Certificate based on the following standards	: None
Test laboratory	: None
Date and number of the laboratory report	: None
Date of type-examination	: July 2011 - November 2012, December 2011 - February 2012, September-October 2012, March - December 2013, November 2014 - February 2015
Additional document with this certificate	: Report belonging to the type-examination certificate nr. NL11-400-1002-074-04REV.4
Additional remarks	: See chapter 5 of the report belonging to this type examination certificate
Conclusion	: The lift component meets the requirements referred to in this certificate taking into account any additional remarks mentioned above.
Issued in Amsterdam	: Ag. A.J. van Gennip Manager Business Unit Certification
Date of issue	: 13-03-2015
Valid until	: 31-09-2017



MOD KITS

A3 UCM

Unintended car movement can be prevented with the installation of KLEEMANN A3 kits. Kits enable the lift to detect car movement with unlocked landing door and open car door. In this case safety systems block the car immediately and keep it stopped until the problem is solved.

KIT A3.1

New bidirectional safety gears. This system can be easily fitted in the existing car sling.



Overspeed governor anticreep



New controller



KIT A3.2

New machine gearless or geared with slow shaft brake.



Overspeed governor



New controller



KIT A3.3

New bidirectional safety gears. This system can be easily fitted in the existing car sling.



Overspeed governor



Electronic interface that detects UCM. No further modification in the existing controller is required.



MOD KITS

EN 81-21

EN81-21 kit upgrades safety in existing lifts.

KIT EN81-21 TR

LOW PIT

Extra locking device
Apron



Base and maintenance
beam low pit



LOW HEADROOM

Extra locking device
Split balustrate base
and maintenance beam
low headroom

Controller



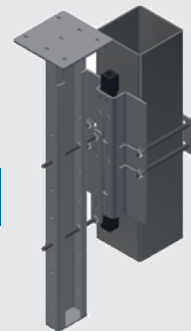
KIT EN81-21 HYDRAULIC

LOW PIT

Extra locking device
Apron



Pit prop



LOW HEADROOM

Extra locking device
Split balustrate

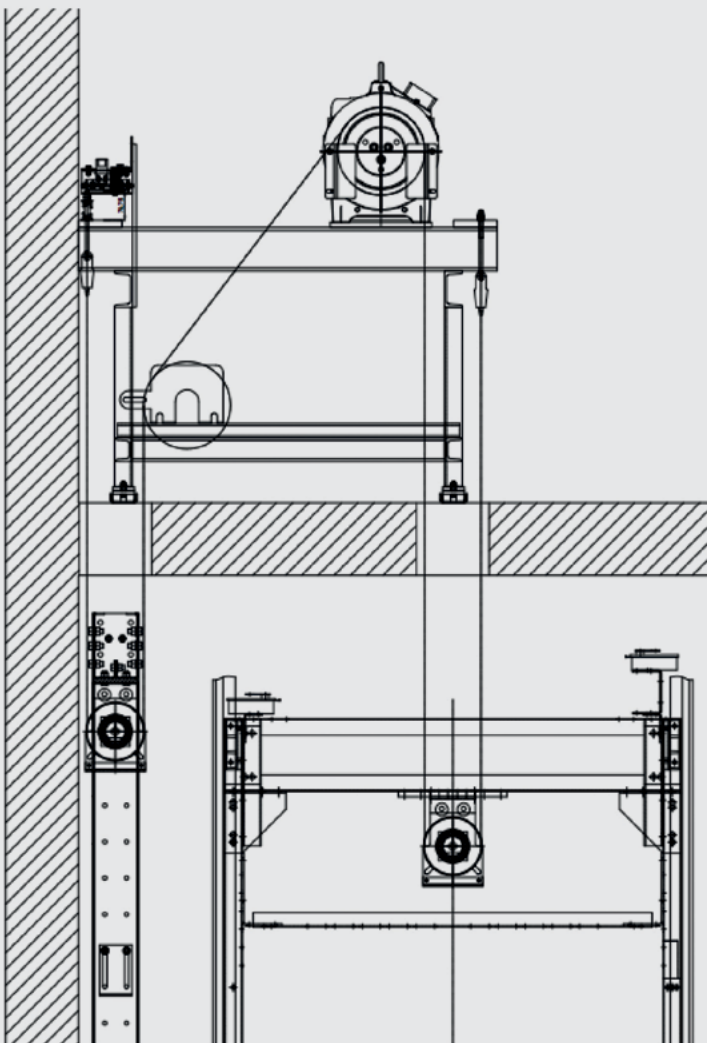
New Controller



MOD KITS

Convert acting 1:1 to 2:1

Gearless machines are designed for 2:1 acting and old elevators are mainly 1:1. The use of gearless machines in existing lifts has economical and technical limitations. The conversion kit can be easily fitted without extra holes in the shaft. Thus you can accomplish both improved ride quality and energy saving in affordable cost.

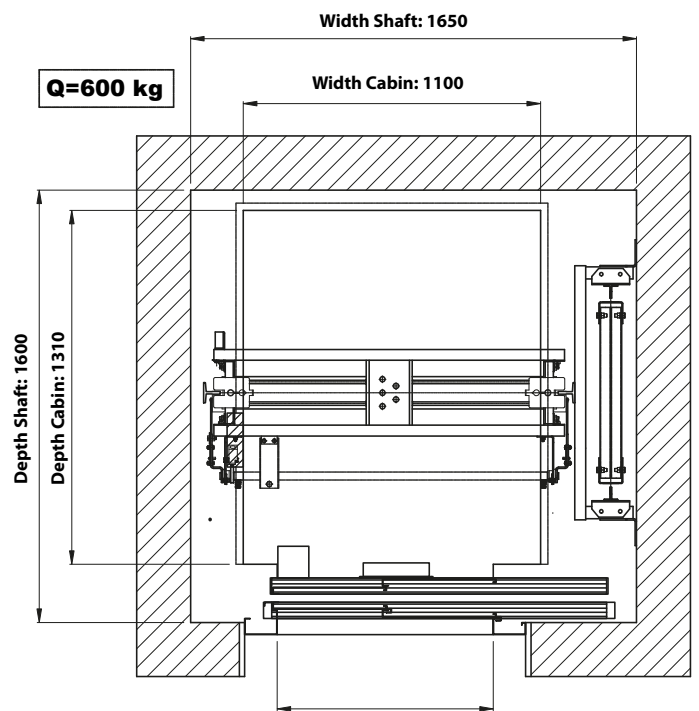
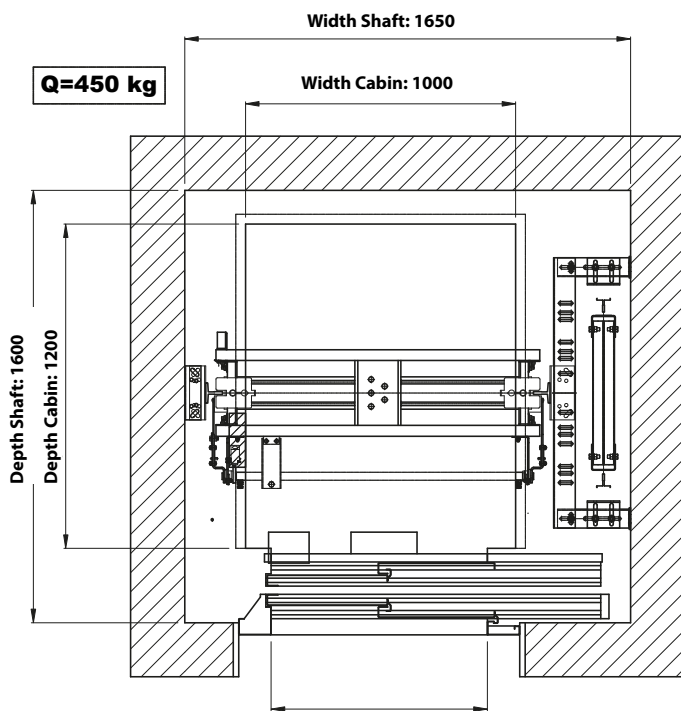


New parts
Gearless machine with base
Kit of pulleys $\Phi 160$
Rope $\Phi 6,5$ Drako 250T
Controller
Overspeed governor

MOD KITS

Cabin Maximisation

Optimum use of available shaft eliminates required space for mechanical parts and maximise internal cabin area.

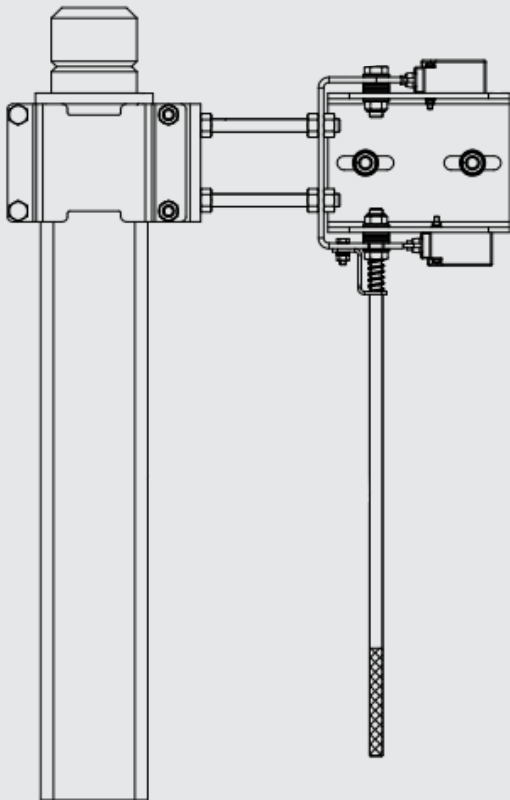


MOD KITS

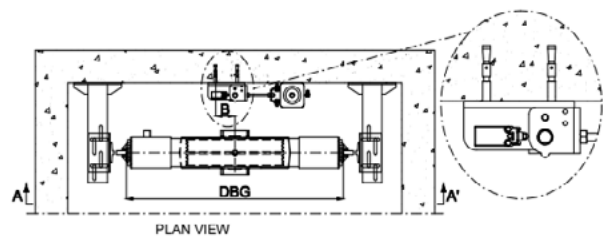
Reduced Headroom Mechanical Safety device (Hydraulic)

Mechanical travel limitation is used in case of reduced headroom and pit.

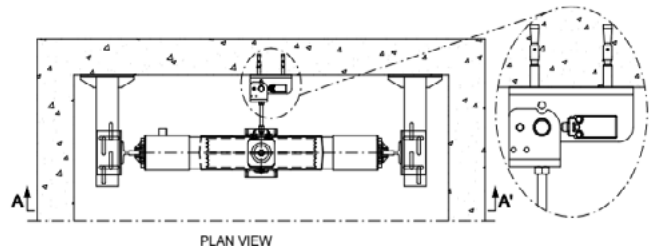
- A beam placed under the sling in order to create a protected area in the pit
- A beam placed in the headroom in order to create a protected area on top of the cabin



NORMAL MODE

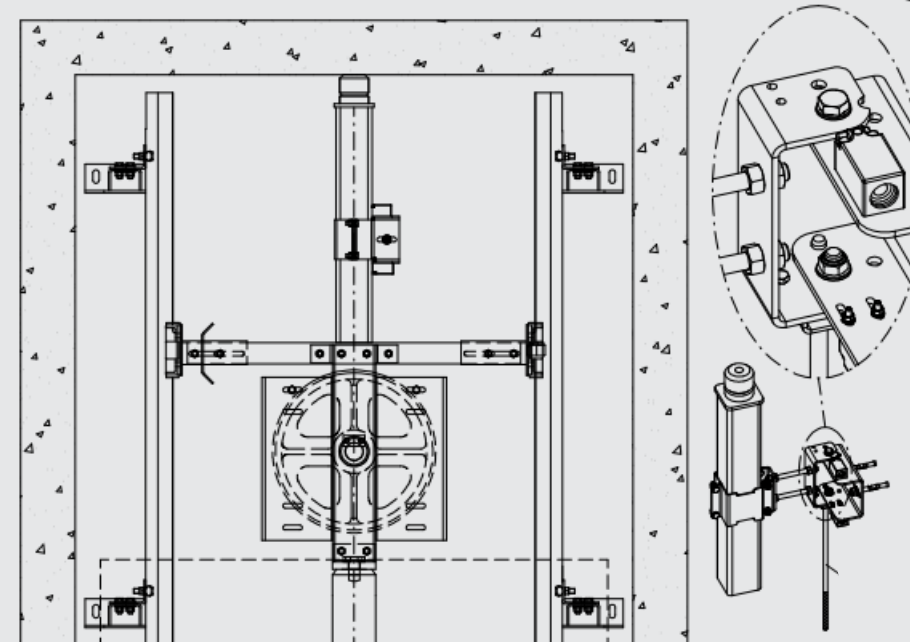
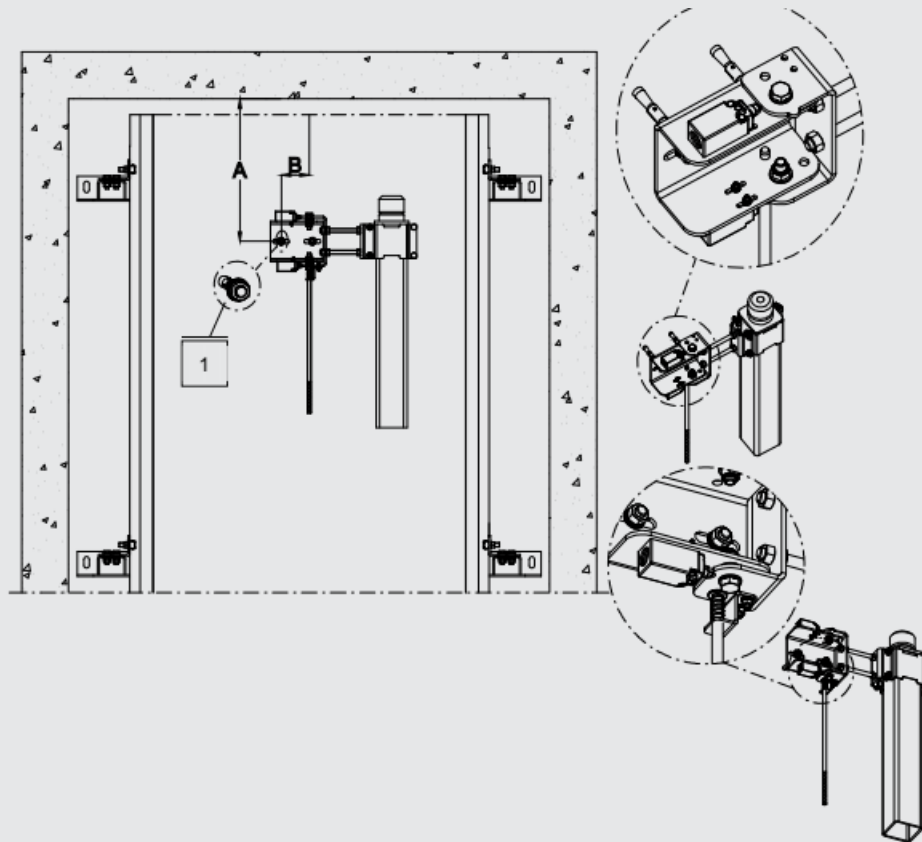


INSPECTION MODE



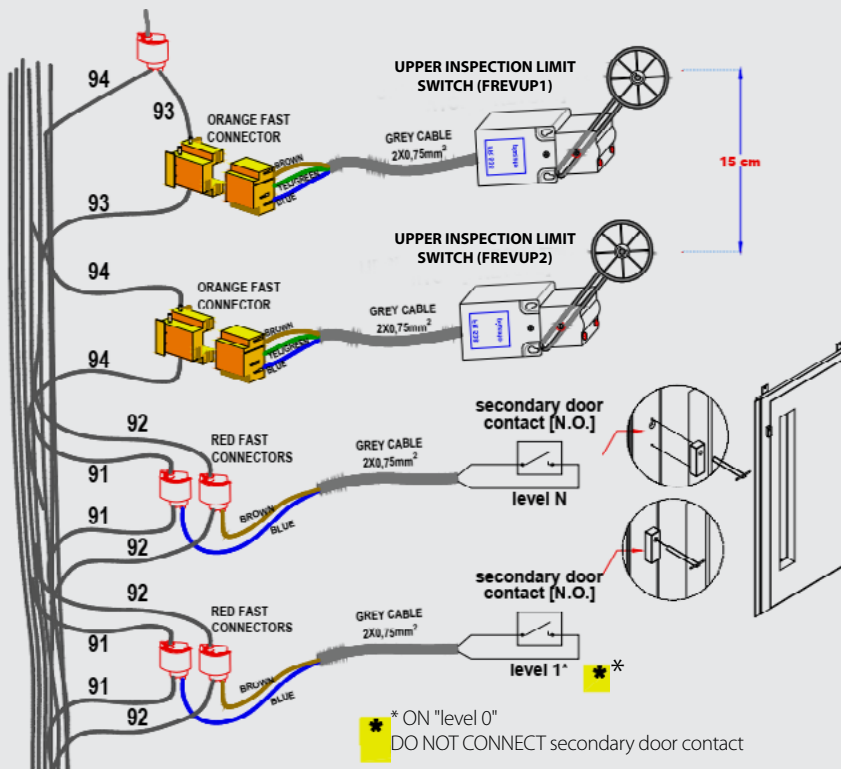


INSPECTION MODE



Traction 81-21

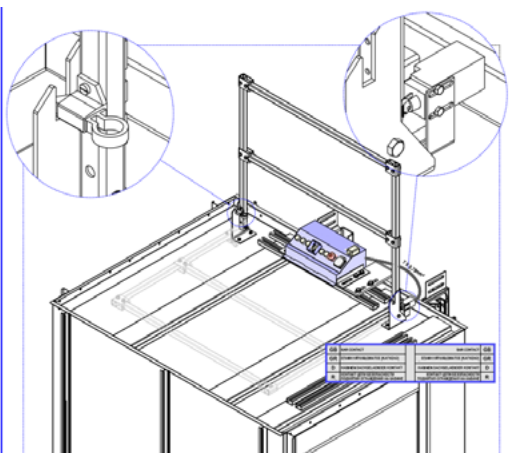
SECONDARY DOOR CONTACT



Shaft entrance monitoring contacts on landing doors.

We add secondary door locks - bistable contacts- that inform the controller whenever the triangle key of landing door is manually used. In this case, special circuit in the controller temporarily blocks the normal use of the lift. A manual reset is necessary to return the lift in normal operation.

FOLDABLE BALUSTRATE



A foldable balustrade protects people from falling in shaft while working on top of the cabin. It is used in low headroom .



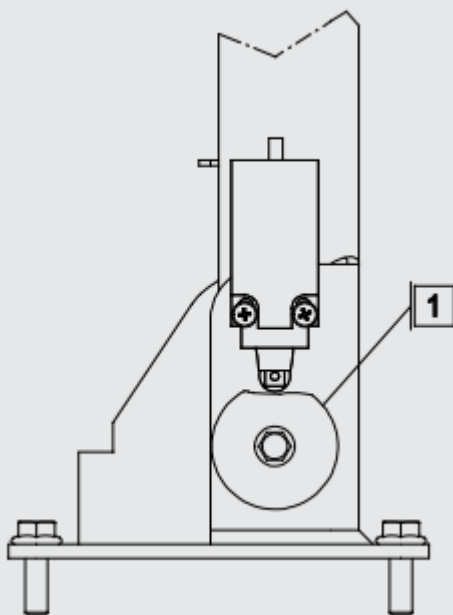
POSITIONS OF THE TELESCOPIC BAR

1. Telescopic bar extended

When the Telescopic bar is extended, the safety circuit is broken and the lift enters INSPECTION MODE. If the lift technician turns the inspection switch to the 'INS' position, the car can be moved.

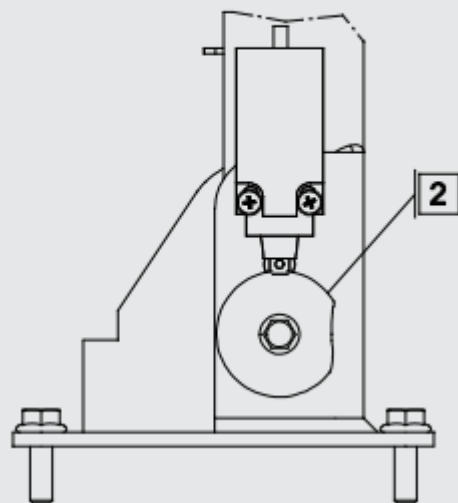
2. Telescopic bar shrink

When the Telescopic bar is shrink the lift is forbidden to enter in inspection mode [in order to protect the lift- technician].



BARI

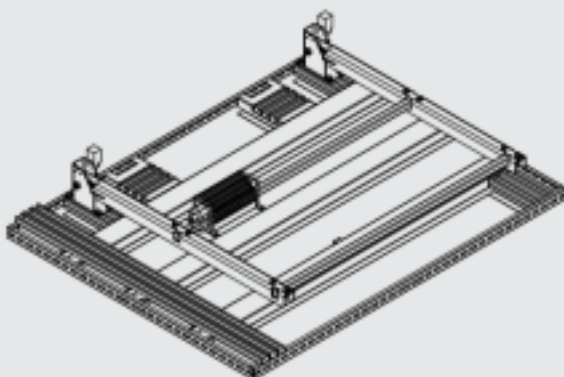
Balustrade Inspection
Position Switch



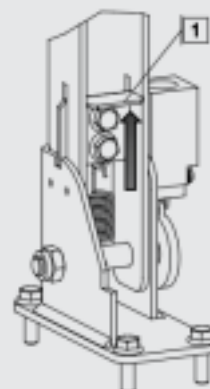
BARN

Balustrade Normal
Position Switch

a) Rise up the balustrade and set it to service operating position.



b) Put up each locker hinge (1) to unlock the balustrade and set it to the normal operating position.

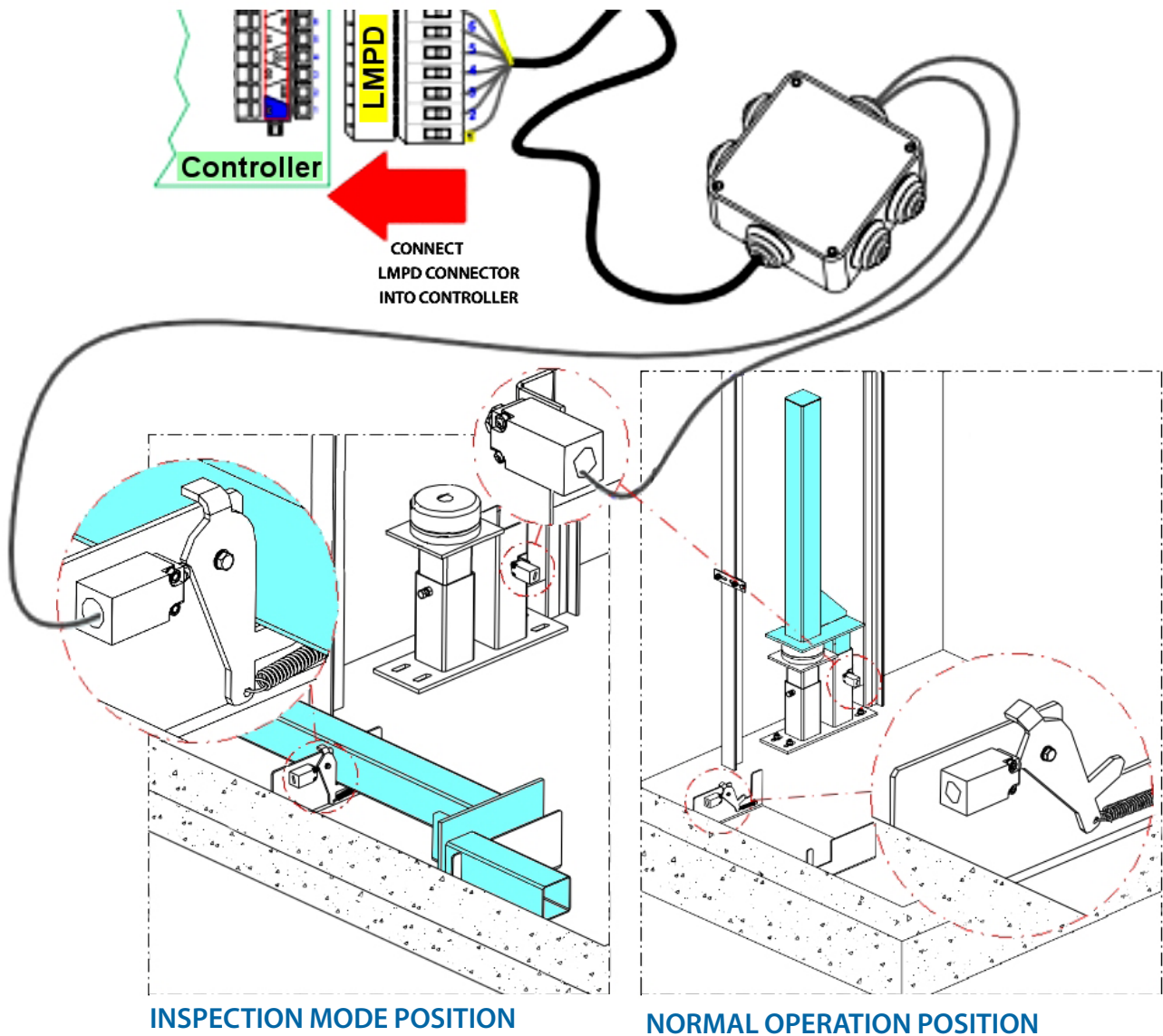


MOD KITS

Traction EN81-21

Mechanical travel limitation is used in case of reduced headroom and pit.

- A beam placed under the car sling in order to create a protected area in the pit
- A beam placed under the counterweight in order to create a protected area on top of the cabin

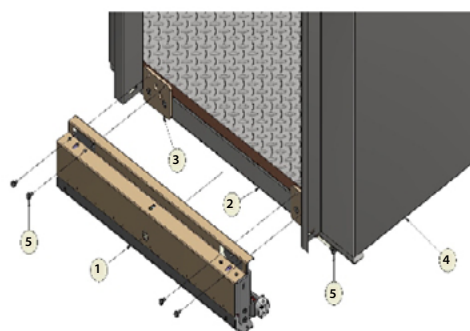
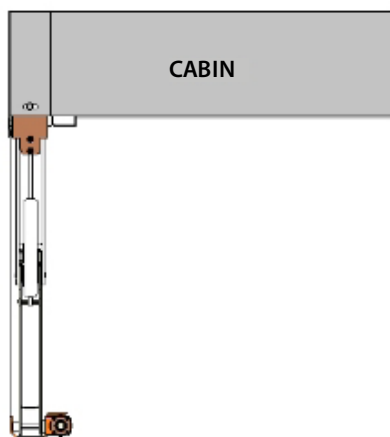




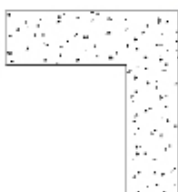
MOD KITS

Wrapped Type Car Apron WA175

Apron is important on cabin door. It prevents people from falling in the shaft when the lift stay over the floor with the doors opened (manual evacuation).



1. SILL SUPPORT & APRON
2. CAR'S PLATFORM
3. APRON'S BASE PLATE
4. CAR'S SIDE PANELS
5. SCREW M8x30 - DIN 7991

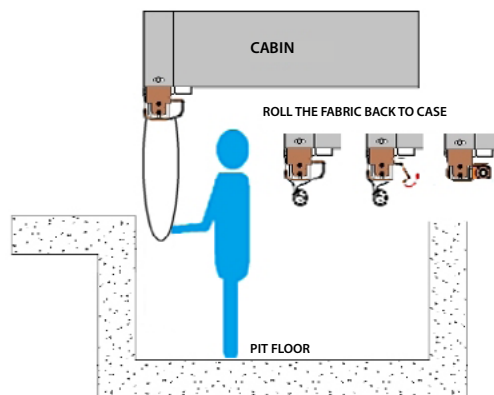
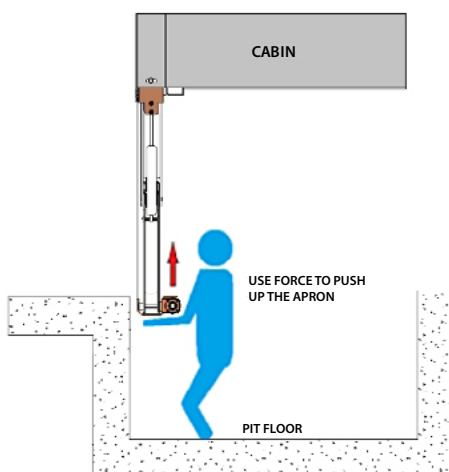
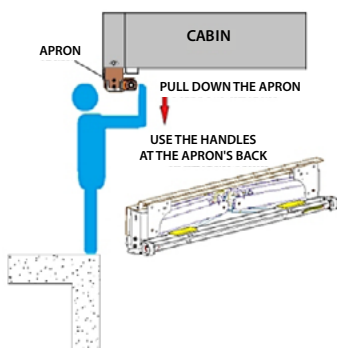


KLEEMANN
patent

WA175 is a car apron to be used in lifts with low pit where a normal fixed car apron can not be used because the pit has reduced depth. Its width is exactly as the clear door opening so as to block the complete door opening. WA175 is in closed (wrapped) position during normal operation of the lift and it is to be opened (unwrapped) when a manual rescue operation needs to be carried out.

MANUAL EXTENSION OF THE APRON

The fixed part of the apron in closed position is 175mm.



MOD KITS

Hygiene line solutions

KLEEMANN presents the Blue Line KLH-42R buttons with nano-silver coating, that can provide antibacterial and antifungal protection and effectively reduce the risk of infection.



KLEEMANN ANTIBACTERIAL BUTTONS



KLEEMANN TOUCHLESS BUTTONS



In addition to the antibacterial Blue Line KLH-42Q buttons and antibacterial rate up to 99%, KLEEMANN introduces an 100% antibacterial solution: KLEEMANN touchless buttons.

HOW DOES IT WORK?

KLEEMANN touchless buttons operate by infrared induction that detects the call's activation. The user simply reaches out without the need of a touch to the induction area at a distance of max 1 cm and the call is activated without a physical contact.





MOD KITS

Hygiene line solutions



ELEVATOR AIR PURIFIER

KLEEMANN presents an innovative series of solutions that safeguard the hygiene in the cabin and protect the passenger at all times. The Elevator Air Purifier is a two phase technology that uses molecular materials and UV light to totally disinfect the cabin for clean, uncontaminated air. The Air Purifier utilizes technology and engineering to offer a safe and protective environment in the cabin interior.

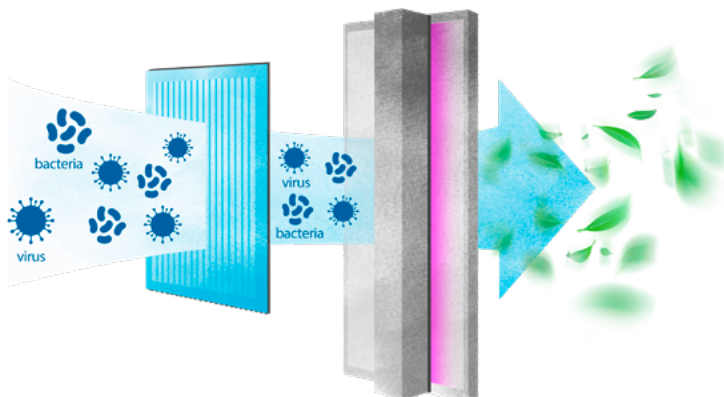


PHASE 1

The air gets disinfected through GERMAGICTM, a powerful and effective molecular material, awarded with the Inventions Geneva 2018 Gold Medal.

PHASE 2

During the second phase, the air is directed to a wholly-enclosed UV photo catalyst bacteria killing technology device that permits no UV leakage and has a killing rate of virus and bacteria that exceeds 99%. Disinfection in depth can reduce transmission of droplets without any side effects on the human body.



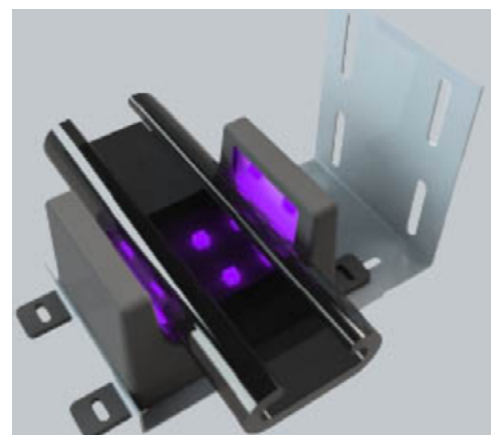
MOD KITS

Hygiene line solutions



STERILE TOUCH

Sterile Touch is mounted inside the escalator and eliminates the risk of damage or vandalism. The device surrounds the handrail and provides sterilization while moving. A led sign on the skirt of the escalator indicates the hassle-free operation and informs the users that the handrails are continuously being disinfected.

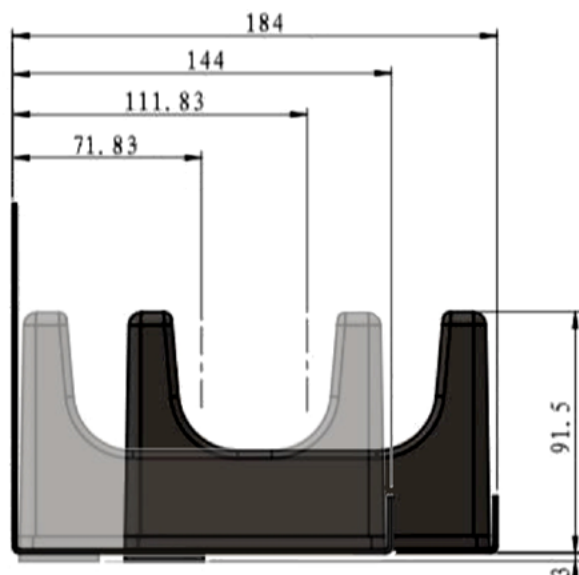
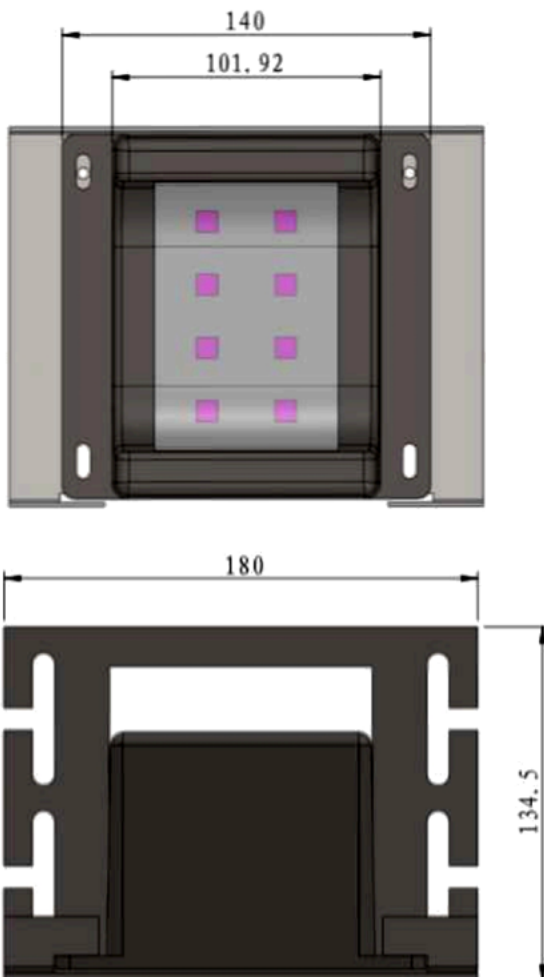




MOD KITS

Hygiene line solutions

STERILE TOUCH DIMENSIONS



Technical Parameters

Model	Sterile Touch
Input Voltage	DC24V $\pm$ 10%
Input Current	<0.3A
Totally Rated Power	6.24W
Wave Length	270-280nm
LED Size	3535
Led Quantity	12PCS
Design Lifetime	10000H
IP Protecting Level	IP55
Working Temperature	-25°C~+60°C
Operation Relative Humidity	$\leq$ 95%
Storage Environment	-30°C~+70°C
Best Disinfection Distance	$\leq$ 25mm
Irradiaion Area	195*70mm
Initial Irradiances	$\geq$ 70uw/cm2(@15mm)
Irradiance@10000Hrs	$\geq$ 60uw/cm2(@15mm)
On and Off Times	300 000 times

MODERNIZATION SOLUTIONS

Index

Index

Symbols

2 STAGE TELESCOPIC CYLINDER **43**

3 STAGE TELESCOPIC
CYLINDER **43**

KIT EN81-21 Hydraulic **89**

KIT EN81-21 TR **89**

A

A3 UCM **88**

AKC BES

BLUE LINE XX* **66**

AKC BES LT

XX* **66**

AKC BES L

XX* **66**

AKC BES T

XX* **66**

AKC BES

XX* **66**

AKC HBT XX* **66**

AKC HB XX* **66**

AKC-SM-BA

BLUE LINE XX* **67**

AKL 001 **68**

AKL 002 **68**

AKL 003 **68**

AKL 005 **68**

AKL 055 **68**

AKL 057 **68**

AKL 101 **68**

AKL 102 **68**

AKL 103 **68**

AKL 241 **68**

AKL 242 **68**

All in one (MRL - UCONTROL) **7**

Artificial Granites **65**

Automatic doors **50**

B

B37Q **69**

B37R **69**

Blue tag card **70**

Box Lift **46**

C

Cabin Frame **41**

CARD READER **70**

Car Operating Panels & Indicators **66**

Ceilings **62**

Ceramic Tiles **65**

Chemical mask

FFP2 SL-VO **83**

Combination wrench

SW36 – SW46 **78**

Counterweight Frame **36**

Cut protection Gloves

EURO CUT 3 P300 **80**

CWF16 / CWF32 **36**

D

DITEC SOLUTION **59**

DKC

(DOT) Display **67**

DKC

(KMPC Display) **67**

Double box controller cabinet

(MR OPTION) **7**

Double Wrench

SW42 – SW46 **78**

Dust mask

FFP1 **83**

E

Earplugs **83**

ECN/ERN 1300 series **20**

Eltra (Model EH88 PE) **22**

EN 81-21 **89**

Evac 3C **14**

F

Fall Arrest system **83**

Floors **64**

Folding / BUS type doors **56**

FPY-1000 BLUE LINE **67**

FTL001 slim **69**

FTL 001

Stainless Steel **69**

FTL002 slim **69**

FTL 002

Stainless Steel **69**

FTL101 slim **69**

FTL 101

Stainless Steel **69**

FTL102 slim **69**

G

Gas welding glasses **81**

Genius 20 **5**

Gloves for general use

NITRIFIT Nr 10 **80**

Gloves for general use

Perfect Poly Black **80**

Gloves for general use

PU White **80**

Green Lifts **86**

Guide rails **74**



H

Handrails **63**
Head flashlight **82**
Hearing protection
earline MAX 200 **83**
Heidenhain (Model ECN 1313) **20**
Hygiene line **98**
Hyper Frame **30**

K

K37 keyswitch **69**
KEYSWITCH MT42 **71**
KIT A3.1 **88**
KIT A3.2 **88**
KIT A3.3 **88**
KLH42Q **69**
KLH42R **69**
Knee pads **83**

L

Laminates **64**
Landing Operating Panels **68**
LICA (Model : C80) **23**

M

Machine base **28**
Machines **26**
Mask Chimilux **81**
MRL DOORFRAME CONTROLLER CABINET
(NARROW BOX) **6**
MRL SCAN CONTROLLER CABINET
(NARROW BOX) **6**
MT42 **69**

N

Nemicon (Model SBH 1024 - 2T-30-050-
00) **22**

New Cabin Door PAIRED
TO Old Landing Door **58**

O

Oil cooler **44**

P

Personal Protective Equipment (PPE) **80**
Power Unit **40**
Protection glasses
Open type ECOLUX **81**
Protection glasses
Open type VISILUX **81**

R

RAM **42**
Ram clamp **79**
Ram Head Extractor **79**
Ram Head Inserter **79**
RED – E **12**
Reduced Headroom
Mechanical Safety device (Hydraulic) **92**
Retrofit Kit for shaft encoder **15**
Ring Wrench
SW55 **79**
Rope Gripper **31**
RT42 **69**
Rubber **64**

S

Safety helmet OPAL **83**
Safety shoes **82**
Safety shoes
S3 TIBER NAVY/BLUE **82**
SBFR1 **30**
SBFR2 **30**
SECRET CODE **71**
Semiautomatic / Hinged doors **54**

Special Dimensions controller cabinet ALL
IN ONE (MR OPTION) **7**

Special Door Solutions **58**
Standard controller cabinet
ALL IN ONE (MR OPTION) **7**
Standard MRL - 2 box controller **7**

T

Tapajuntas **58**
TLCF 13-21 **34**
TLCF 43 - 56 **35**
TLCWF10 **37**
TLCWF16 **37**
TLCWF32 **37**
Tools **78**
Traction 81-21 **94**
Traction Cabin Frame **34**
Traction EN81-21 **96**
TRANSCEIVER **71**
TRANSPONDER ES_MEGA COMPLETE **70**

W

Wachendorf (Model WDG 115) **23**
WachendorfWDGAS58B **18**
Welding Gloves **81**
Welding Mask
(VELDO) WURTH **82**
working waist
protection belt **81**
Work vest **83**
WPY 910 VL **69**
Wrapped Type Car Apron WA175 **97**

Z

Zetadyn 4CS **10**
Zetadyn ZADYN4C 040-074 **11**

Contact us at
modernisation@kleemannlifts.com

kleemannlifts.com

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