

Movement by Perfection

Modernization solutions – Gear to Gearless

Gearbox modernization: Which challenges you are facing?



Gearbox modernization: Challenges on the installation side



Size and weight of the modernisation components matters!

Gearbox modernization: What are you expecting from us?

To be offered a **complete package**, which contains:



Standardized & matching packages



Simple handling in transport



Simple & intuitive installation



Time saving installation



Energy efficient operation



Quiet operation and high running performance



Attractive price solution



Standardised packages means fast customers offers & fast realization time

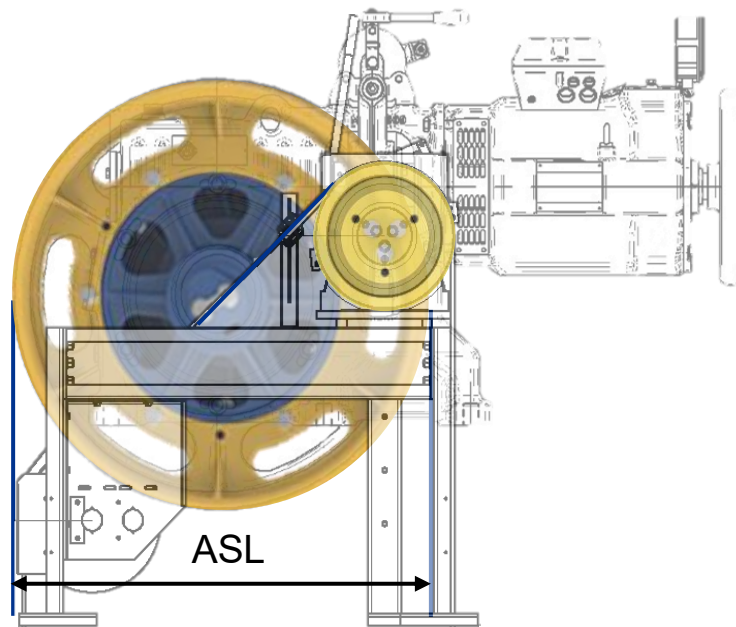
A 3D technical rendering of a ZIEHL-ABEGG modernization package. The image shows a complex mechanical assembly with a large, curved, blue-painted metal frame. Inside the frame, there are two large, yellow, cylindrical components, likely fans or motors, mounted on a black metal base. The assembly is supported by a series of black metal brackets and bolts. The background is a light blue gradient with some faint, glowing lines.

**Modernization
packages up to 630 kg
payload / 1:1**

Modernization package with ZAframe MK2850B for 1:1



Before



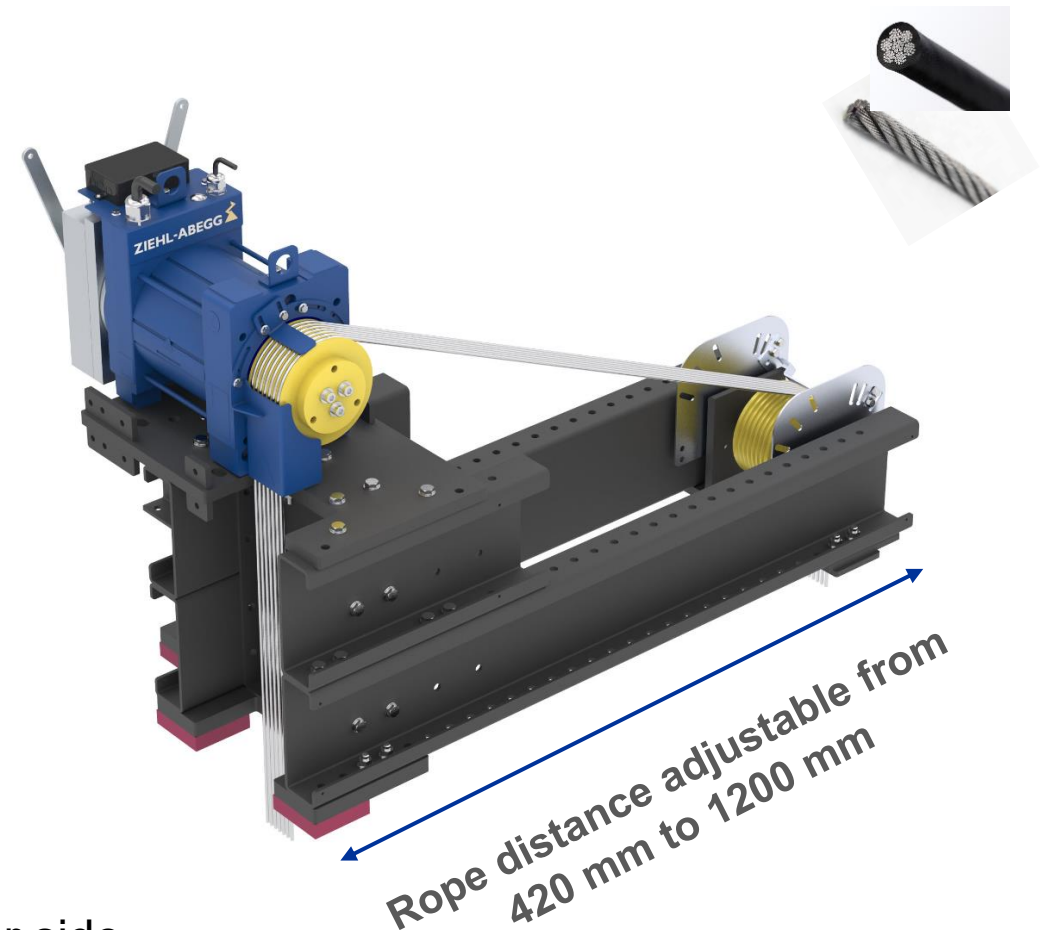
Upgrading an old geared solution to a modern, gearless elevator machine. Changing the suspension means from steel ropes to **PU-coated ropes**.



After

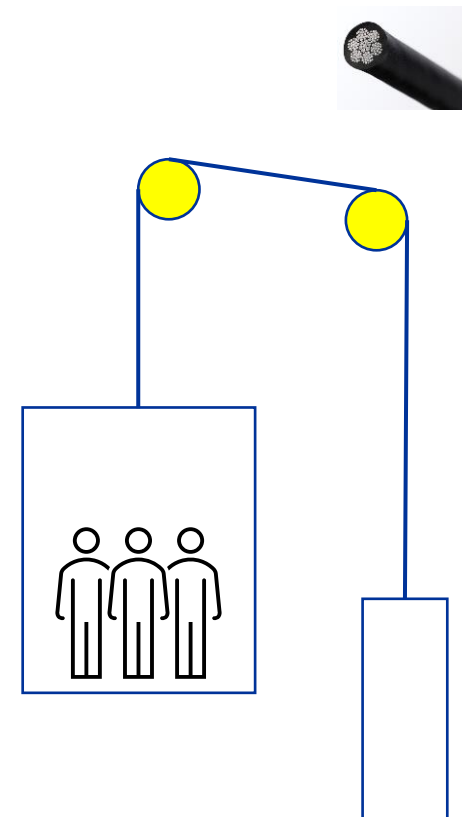
Modernization package with ZAframe MK2850B for 1:1

- Simple and time saving installation, e.g. due to:
 - Bolted sheet metal construction
 - Lowest machine weight
 - Adjustable rope distance in 40 mm steps
- Suitable for modern elevator ropes
- Frame with one deflection pulley
- Flat design for low height machine rooms
- Static load up to 2850 kg
- Additional coverage available
- Some hundreds packages in operation on end customer side



Modernization package with ZAframe MK2850B for 1:1

	320 kg	450 kg	630 kg	630 kg
Car speed	0,5 – 1,0 m/s	0,5 – 1,0 m/s	0,5 – 0,8 m/s	1,0 m/s
Car weight	300 – 800 kg	450 – 850 kg	450 – 940 kg	450 – 940 kg
Counterweight	40 – 50 %	40 – 50 %	40 – 50 %	40 – 50 %
Rope type	CTP 8,1	CTP 8,1	CTP 8,1	CTP 8,1
Ropes	4	5	6	6
Motor	SM132.21	SM132.35	SM200.23	SM200.23
Traction sheave	120 mm	120 mm	160 mm	160 mm
Frequency inverter	4CS011	4CS011	4CS011	4CS013



Movement by Perfection

Modernization package with ZAframe MK2850B for 1:1

Have a look at our flyers!



ZAmo Gear

Packages with plastic-coated ropes for the modernization of geared elevators

Up above 1:1 suspension	320 kg	450 kg	630 kg	630 kg
Nominal speed	0,5 - 1,0 m/s	0,5 - 1,0 m/s	0,5 - 0,8 m/s	1,0 m/s
Car weight	300 - 800 kg	450 - 850 kg	450 - 940 kg	450 - 940 kg
Counterweight	40 - 50 %			
Rope distance	420 - 1100 mm			
Number of ropes	4	5	6	6
Traction sheave diameter	120 mm	120 mm	160 mm	160 mm
Motor	ZAlop SM132.21/BS	ZAlop SM132.35/BS	ZAlop SM200.23D	
Frame	ZAframe MK2850B			
Frequency inverter	ZAdyn 4CS011			ZAdyn 4CS013

Scope of delivery

Motor incl. mechanical brake with a hand release system
With proximity switch

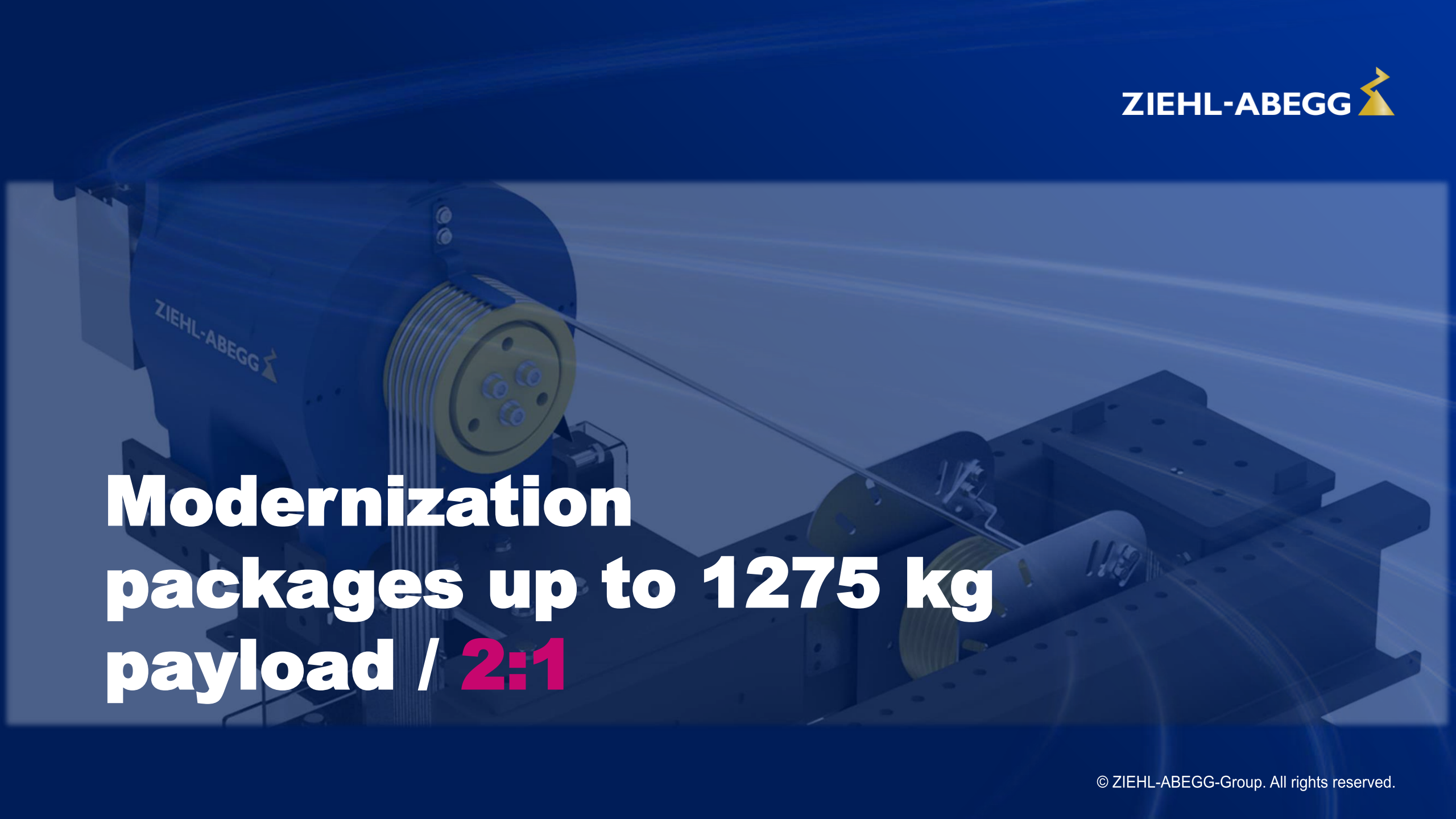
Frequency inverter
ZAdyn frequency inverter, pre-parameterized and ZAmo STICK

Frame
Including deflection roller and insulation elements
Rope distance adjustable

Cables
Motor, encoder and control cables

Ropes and accessories
Plastic-coated ropes 8.1 mm, rope sockets, rope clips

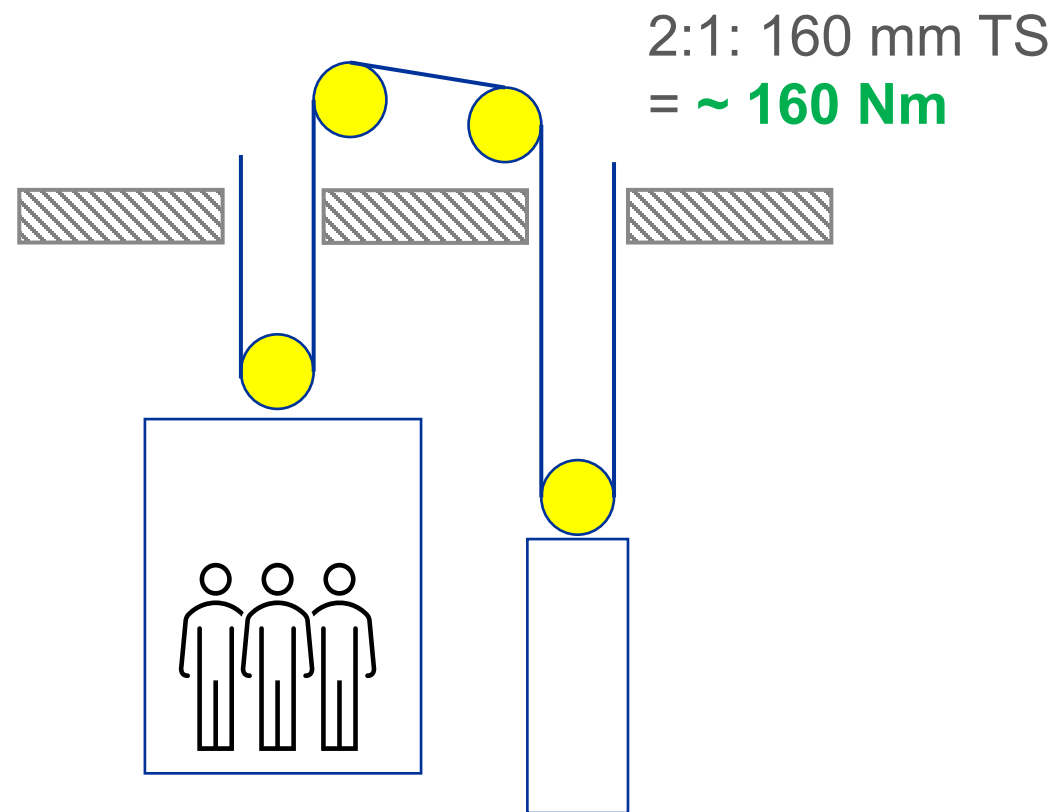
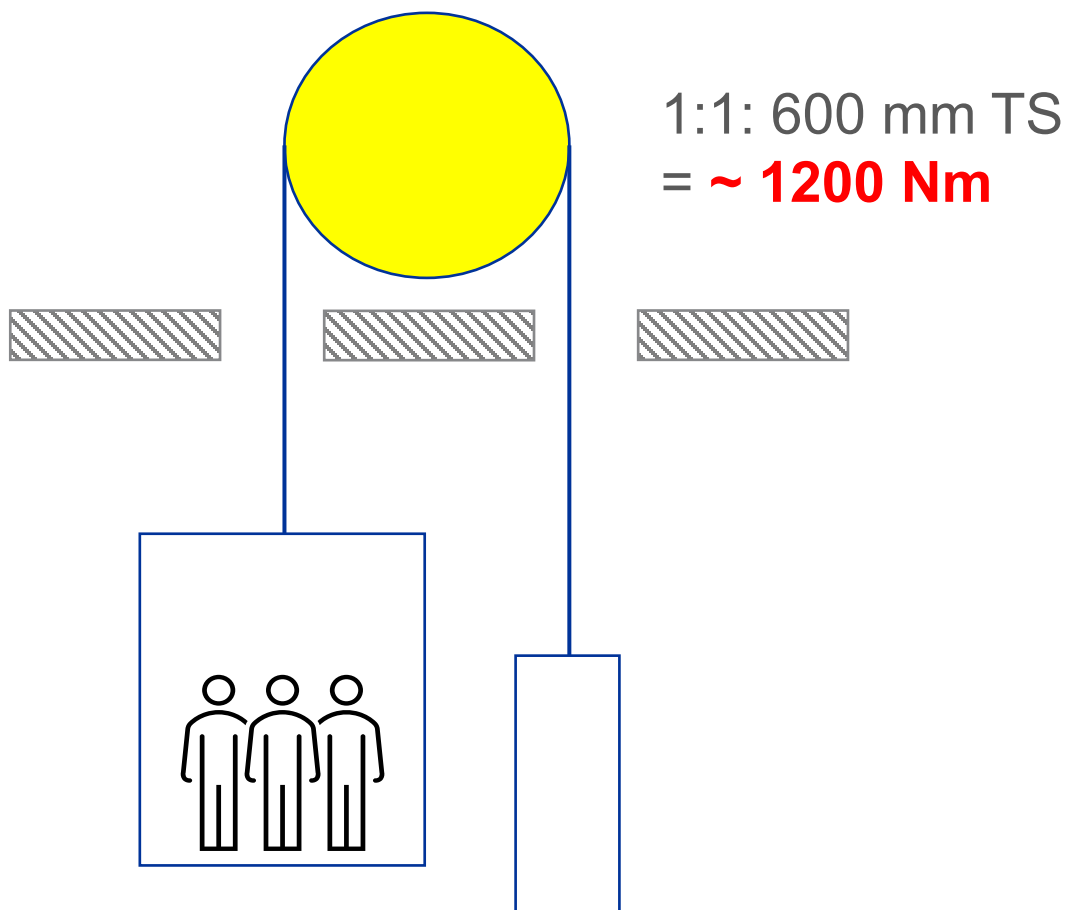




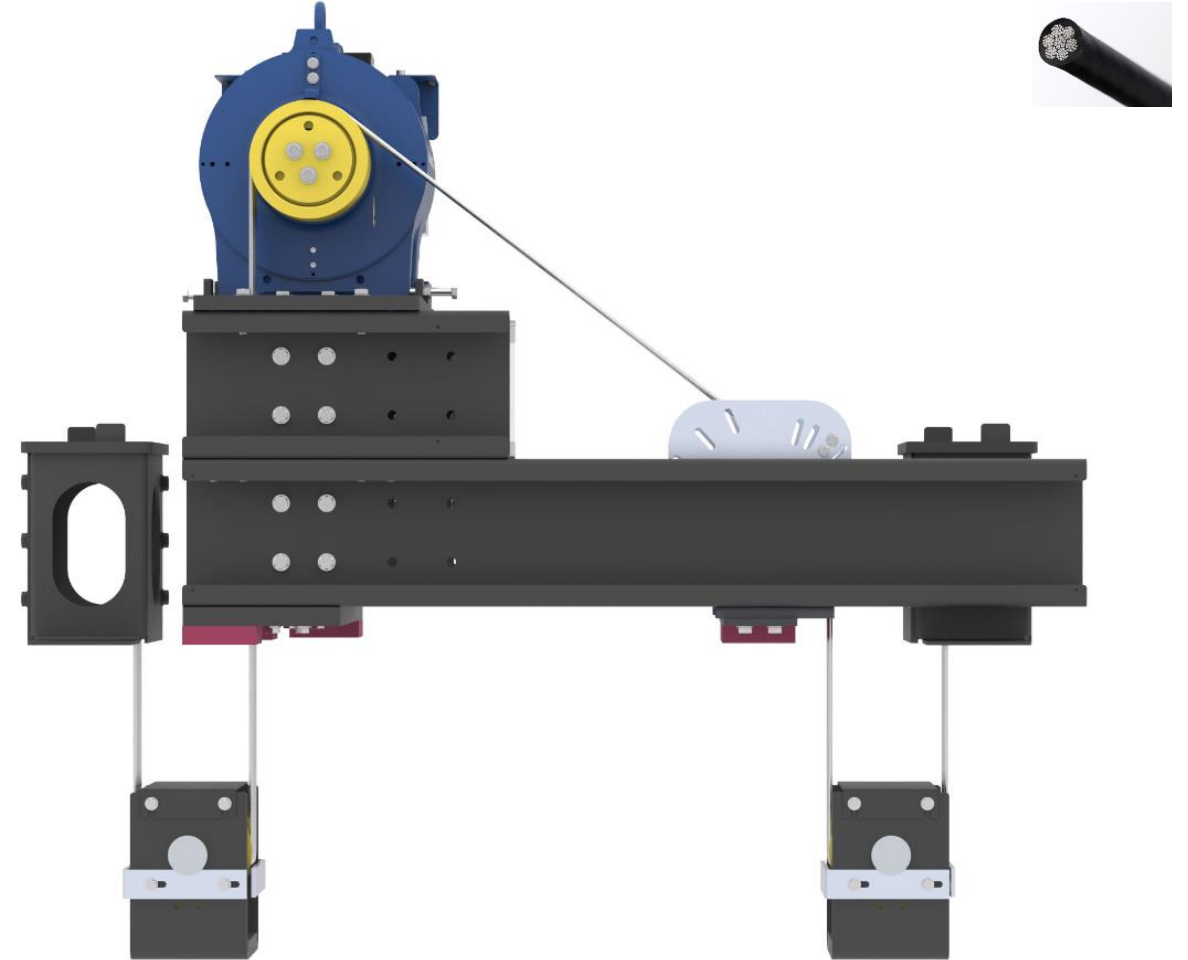
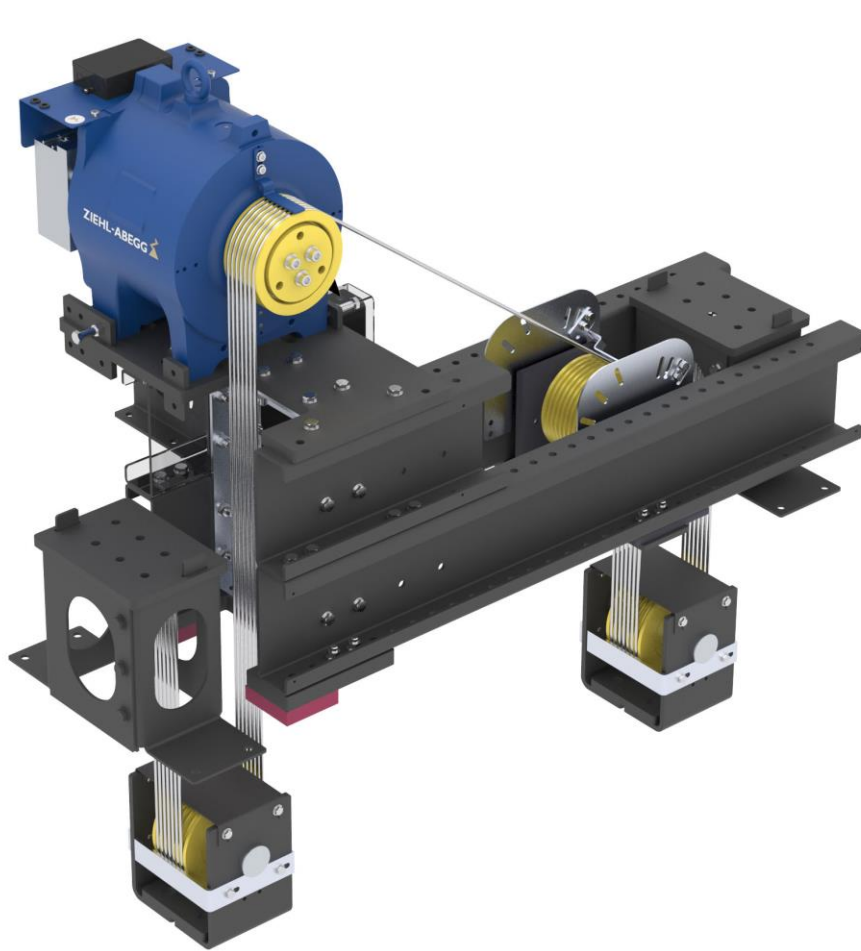
**Modernization
packages up to 1275 kg
payload / 2:1**

Conversion from 1:1 to 2:1 by existing ceiling openings

Torque comparison for 630 kg:

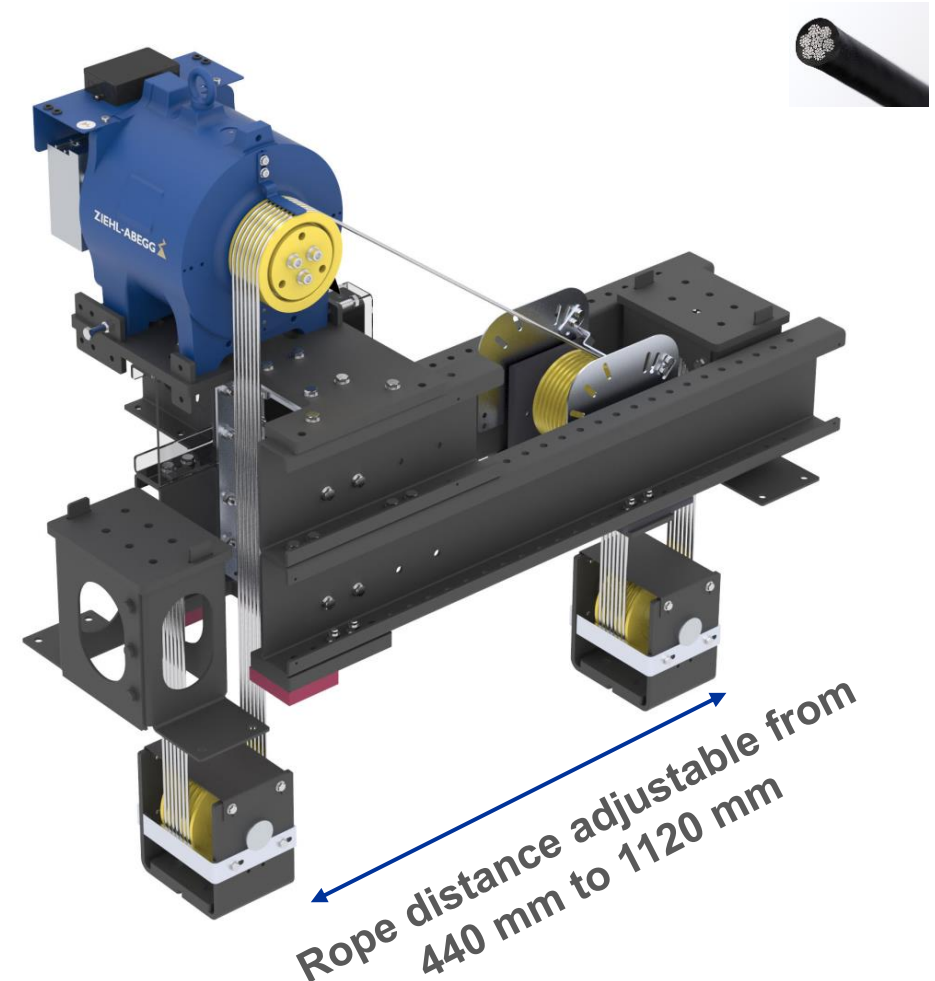


Modernization package with ZAframe MK2850B for 2:1



Modernization package with ZAframe MK2850B for 2:1

- Simple and time saving installation, e.g. due to:
 - Bolted sheet metal construction
 - Lowest machine weight
 - Adjustable rope distance in 40 mm steps
- Suitable for modern elevator ropes
- Frame with one deflection pulley
- Flat design for low height machine rooms
- Static load up to 2850 kg
- Additional coverage available



Modernization package with ZAframe MK2850B for 2:1

	480 kg	630 kg	675 kg	1000 kg	1275 kg
Car speed	1 m/s	1 m/s	1 m/s	1 m/s	1 m/s
Car weight	200 – 1200 kg	300 – 1050 kg	345 – 1010 kg	500 – 1245 kg	670 – 1530 kg
Counterweight	40 – 50 %	50 %	50 %	50 %	50 %
Rope type	CTP 8,1	CTP 8,1	CTP 8,1	CTP 8,1	CTP 8,1
Ropes	3	3	3	4	5
Motor	SM132.21	SM132.21	SM132.21	SM132.35	SM200.23
Traction sheave	120 mm	120 mm	120 mm	120 mm	160 mm
Frequency inverter	ZAdyn 4CS011	ZAdyn 4CS013	ZAdyn 4CS013	ZAdyn 4CS017	ZAdyn 4CS023

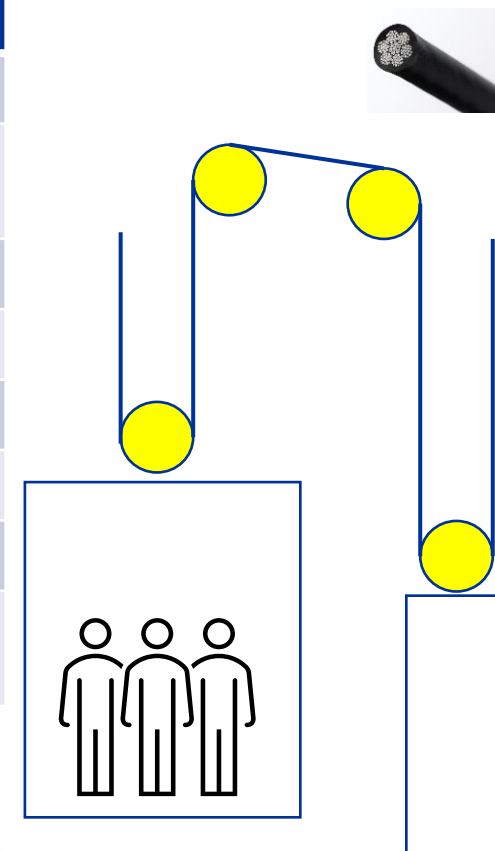


ZAtop SM132.21
(machine weight 107 kg)

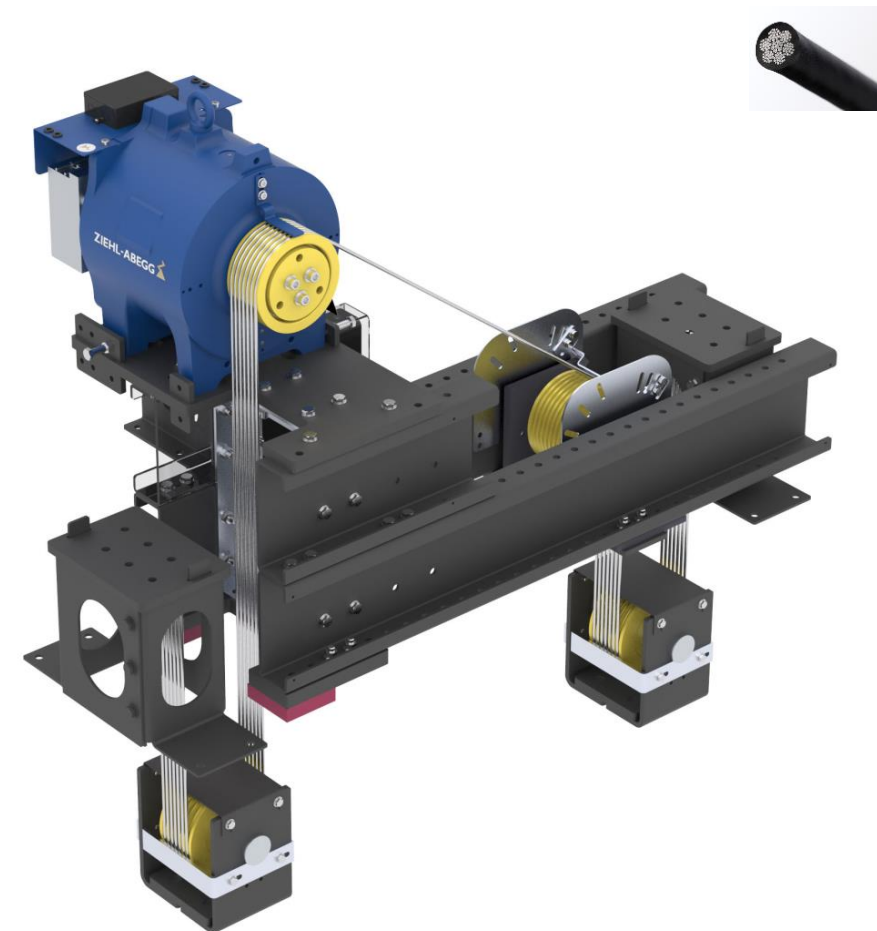
ZAtop SM132.35
(machine weight 131 kg)

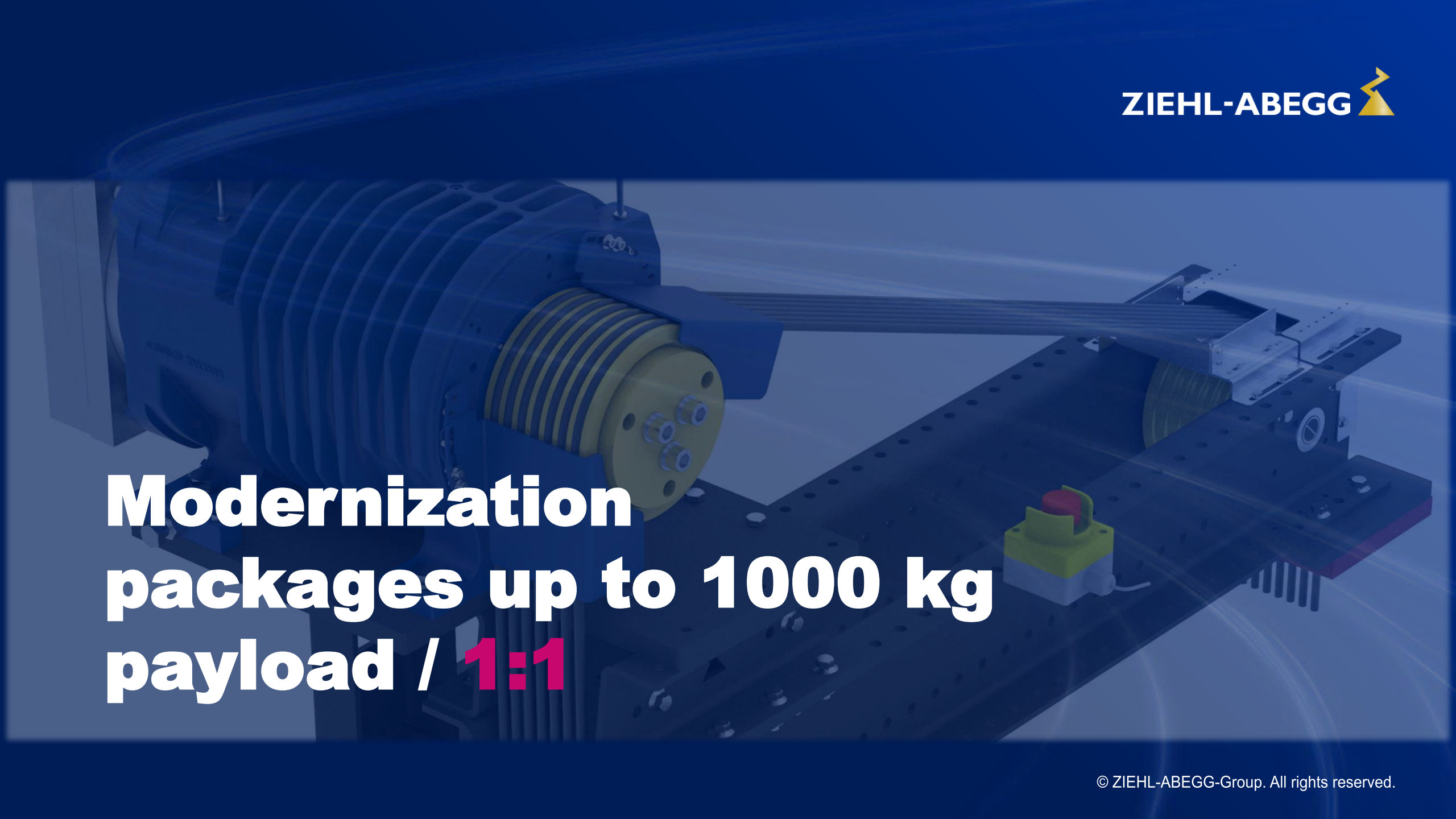


ZAtop SM200.23
(machine weight 175 kg)



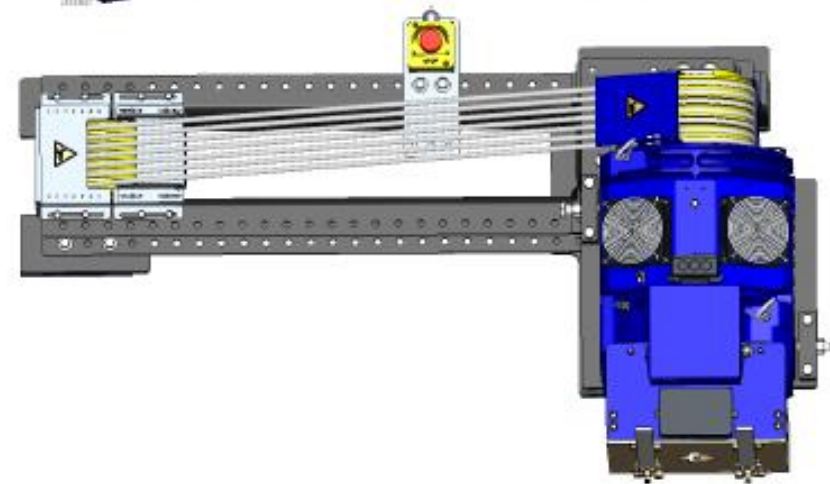
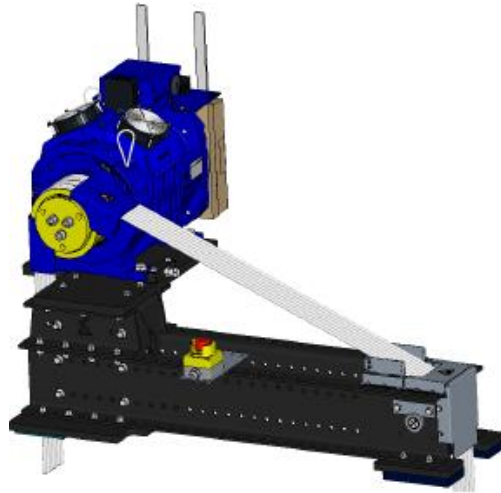
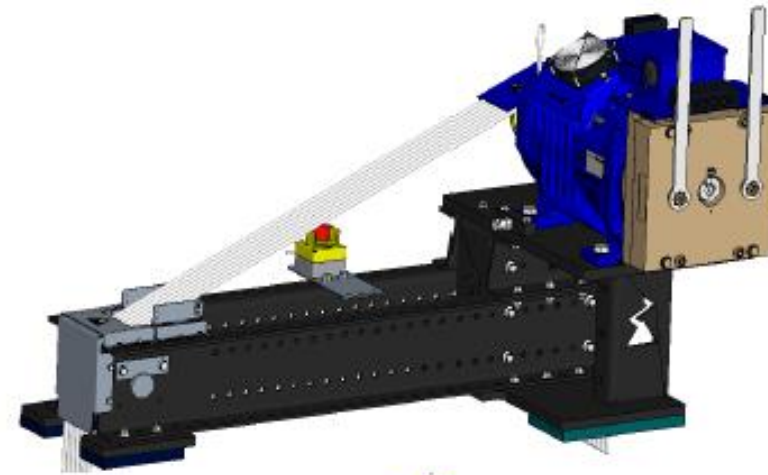
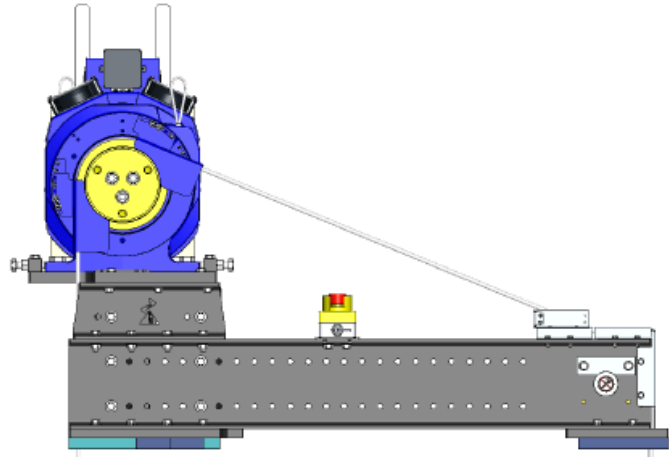
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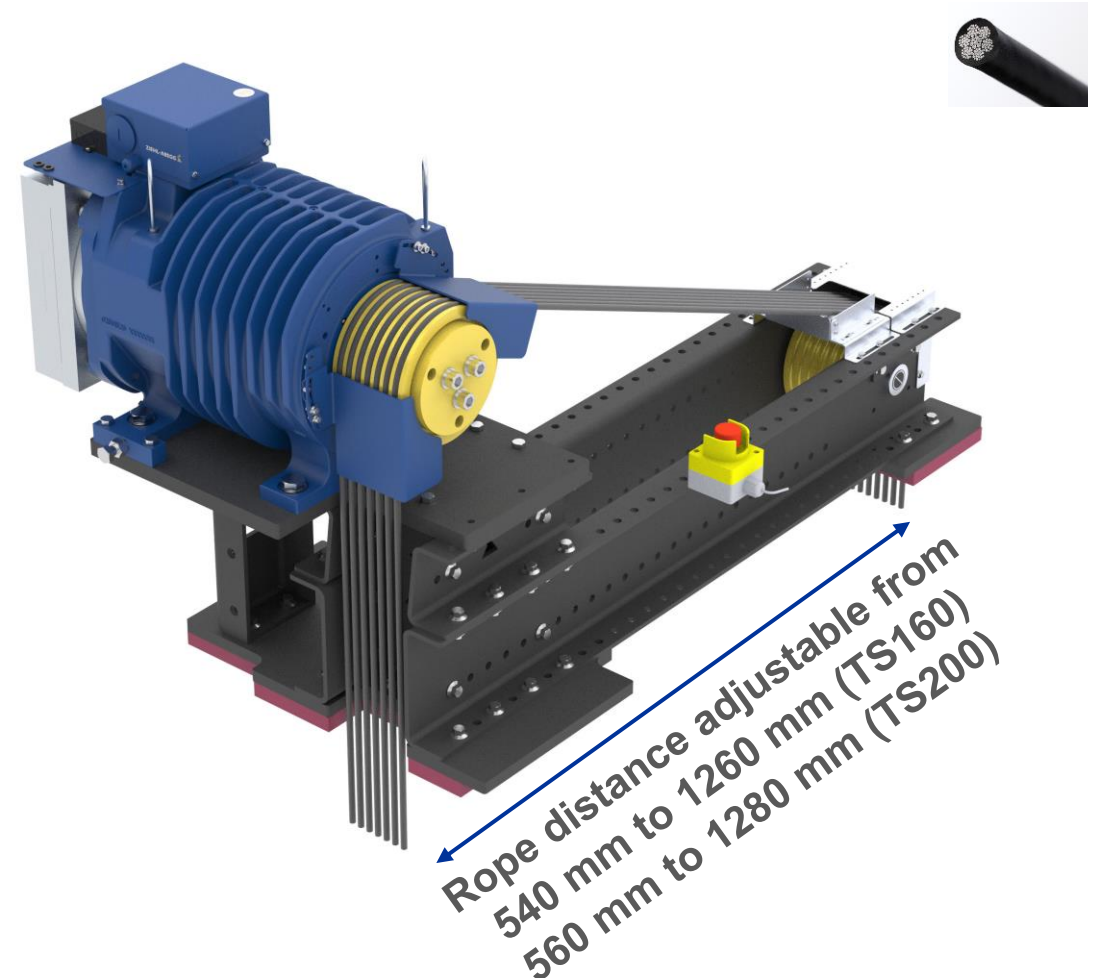
**Modernization
packages up to 1000 kg
payload / 1:1**

Modernization package with ZAframe MK4850B for 1:1



Modernization package with ZAframe MK4850B for 1:1

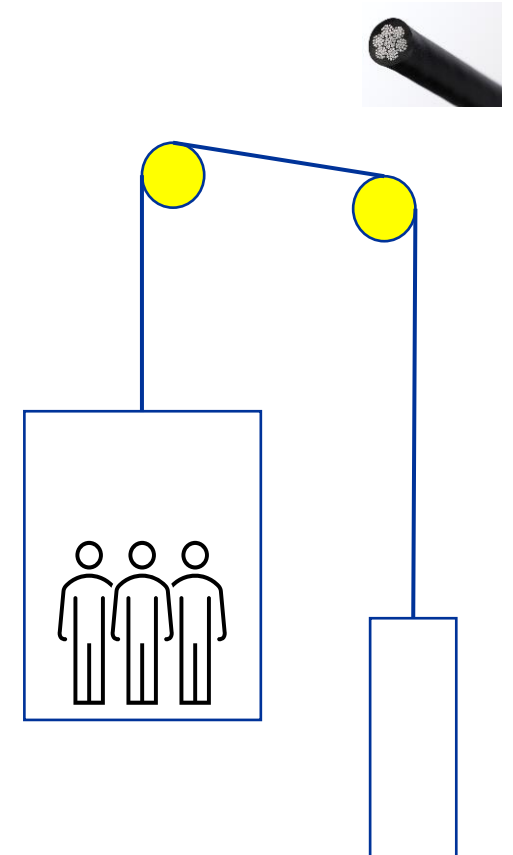
- Simple and time saving installation, e.g. due to:
 - Bolted sheet metal construction
 - Lowest machine weight
 - Adjustable rope distance in 40 mm steps
- Suitable for modern elevator ropes
- Frame with one deflection pulley
- Flat design for low height machine rooms
- Static load up to 4850 kg
- Additional coverage available



Modernization package with ZAframe MK4850B for 1:1

Payload	1000 kg			
Car speed	1,0 m/s		1,6 m/s	
Car weight	650 – 1180 kg			
Counterweight	50 %	40 - 45 %	50 %	40 - 45 %
Rope type	CTP 10			
Ropes	5			
Motor	SM205.40A	SM205.45A	SM205.40A	SM205.45A
Traction sheave	200 mm			
Frequency inverter	4CS017	4CS023	4CS032	4CS032

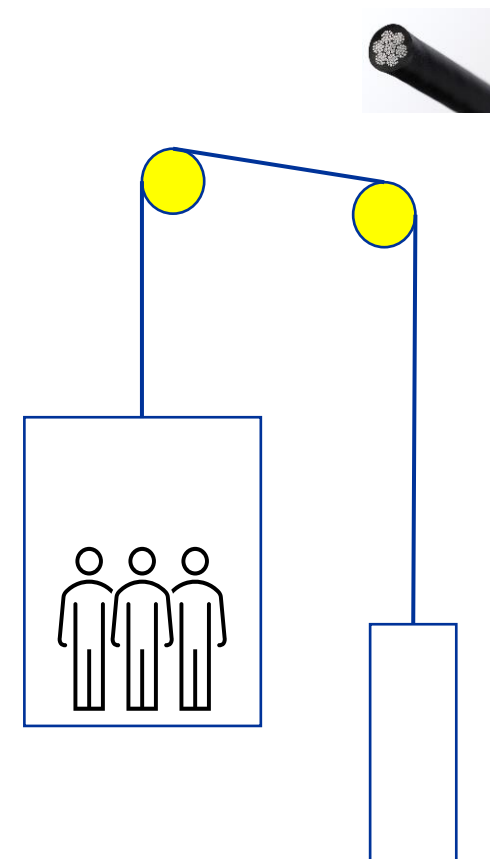
Hint: Calculated with wrapping angle: 130° + 20 m travel height



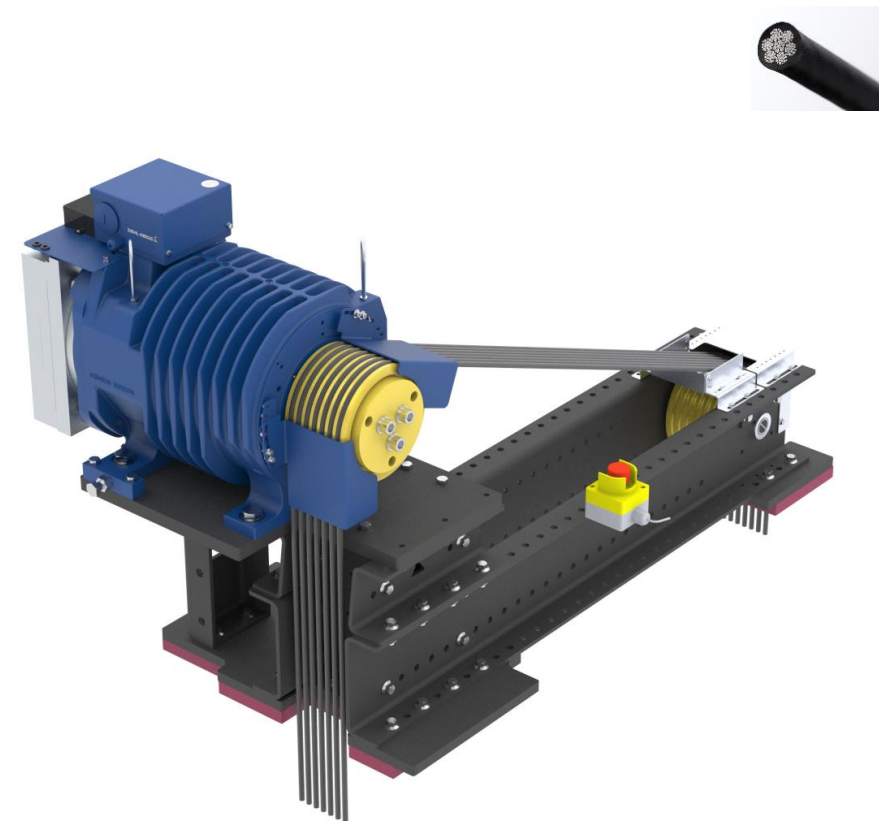
Modernization package with ZAframe MK4850B for 1:1

Payload	1000 kg			
Car speed	1,0 m/s		1,6 m/s	
Car weight	650 – 1250 kg			
Counterweight	50 %	40 - 45 %	50 %	40 - 45 %
Rope type	CTP 8.1			
Ropes	8			
Motor	SM205.40A			
Traction sheave	160 mm			
Frequency inverter	4CS017	4CS023	4CS032	4CS032

Hint: Calculated with wrapping angle: 130° + 20 m travel height



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ZAtop SM205.40A/.45A & ZAframe MK4850A

Basic information

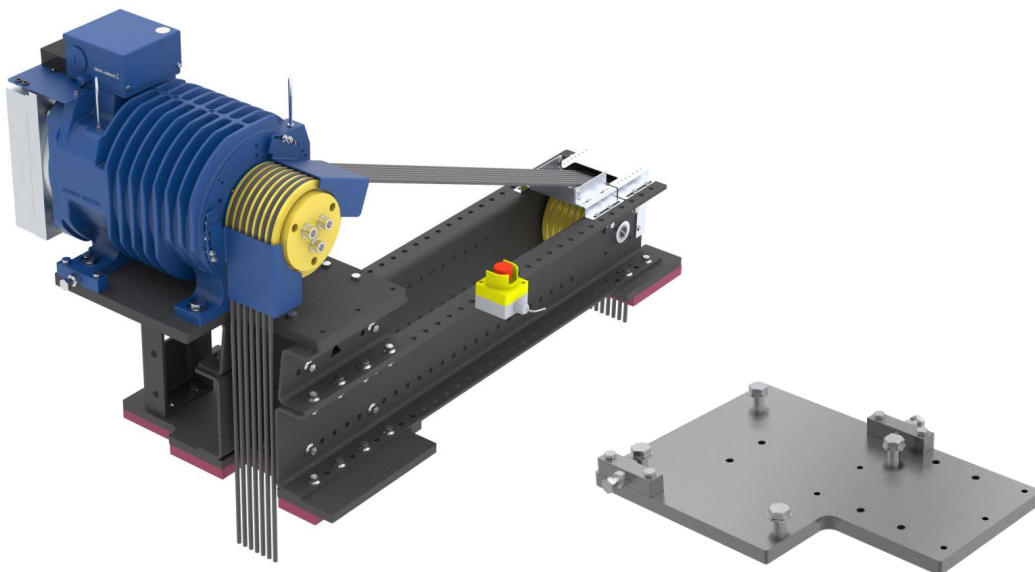
Traction sheave	• 160 mm using 8.1 mm PU-ropes • 200 mm using 10.0 mm PU-ropes
Payload (1:1)	• 1050 kg
Axle load	• 4850 kg
Nominal torque	• 600 Nm (SM205.40A) • 710 Nm (SM205.45A)

Available options for ZAframe MK2850B Retrofit 2:1

Machine sizes	• SM205.40A; SM205.45A
Traction sheave Deflection pulleys	• 160 mm; 200 mm • 200 mm
Speeds (2:1)	• Up to 1,6 m/s
Mechanical brake	• Option: Mechanical hand release with or without bowden cable

Noteworthy things

SM205A	• To be classified between SM200.45E & SM210.60B • For CTP ropes CTP 8.1 & 10 • Option: Fan-blower • Same brake as SM200.45E
MK4850A	• TS160 Rope distance 540 mm – 1260 mm • TS200 Rope distance 560 mm – 1280 mm • Frame can be shortened
Adapter plate	• Separate plate

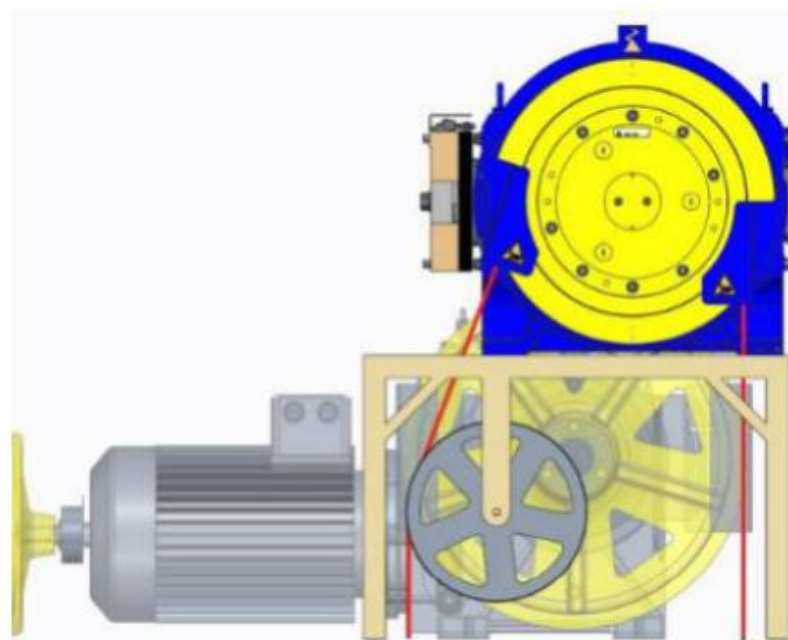


**Modernization
package up to 500kg
payload / 1:1**

Modernization package with ZAframe MH3000A for 1:1



Before



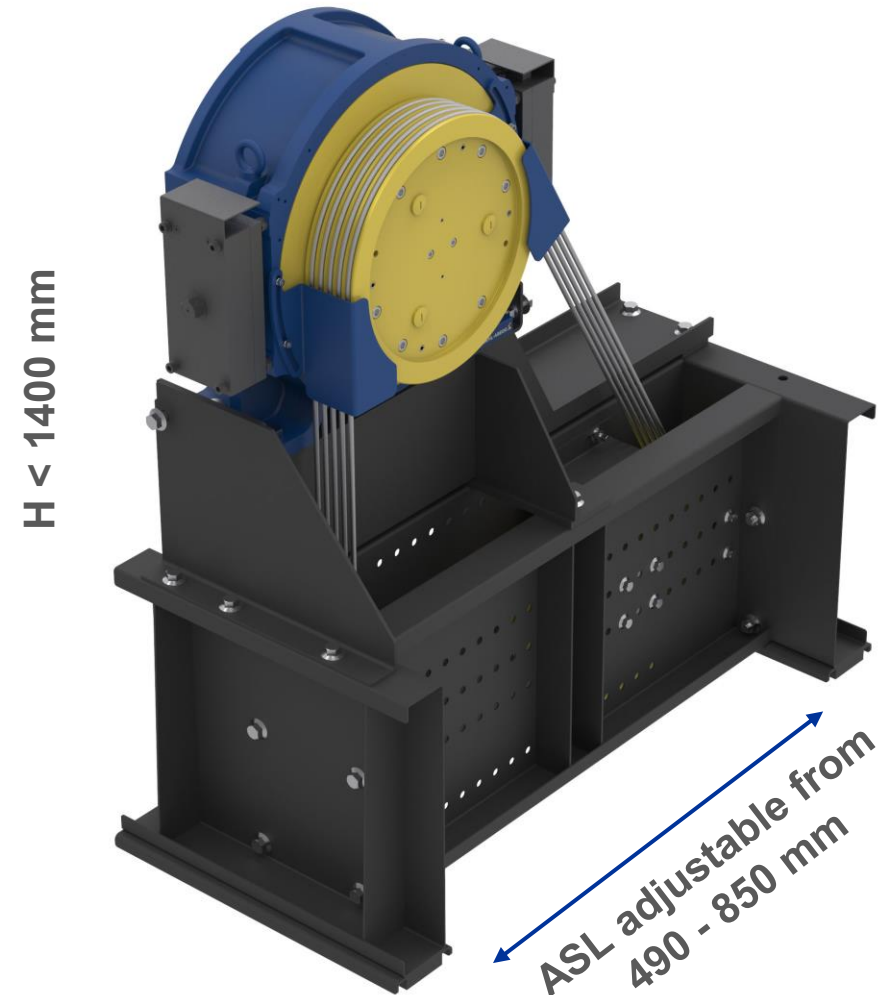
Upgrading an old geared solution to a modern, gearless elevator machine with **10 mm steel ropes**.



After

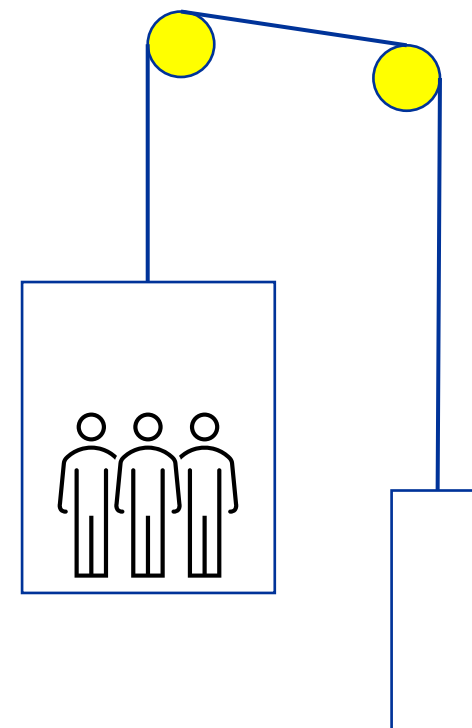
Modernization package with ZAframe MH3000A for 1:1

- Simple and time saving installation, e.g. due to:
 - Bolted sheet metal construction
 - Lowest machine weight
 - Adjustable rope distance in 40 mm steps
- Prepared for 10 mm steel ropes
- Frame with 400 mm deflection pulley
- Flat design for low height machine rooms
- Static load up to 2950 kg

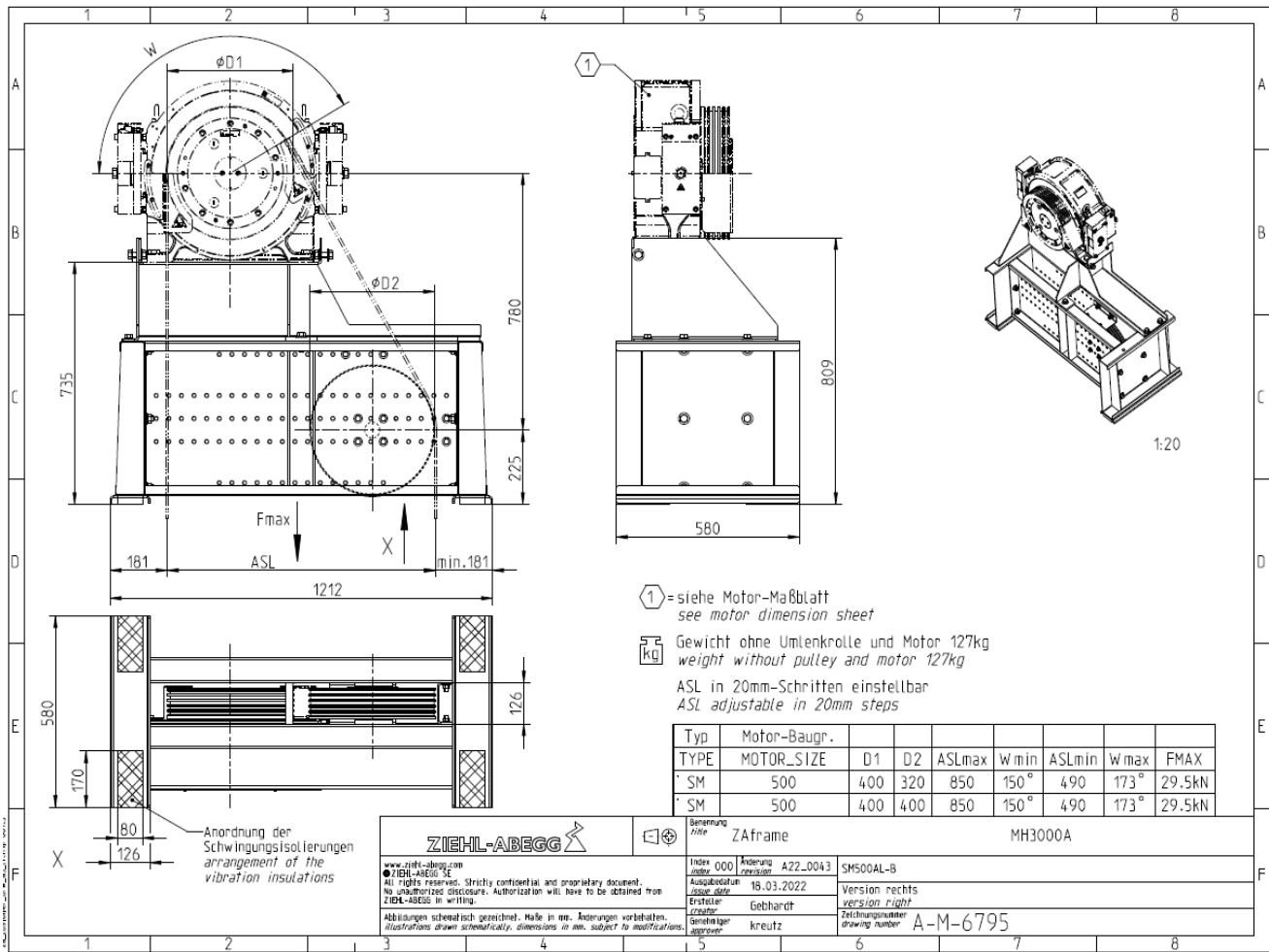


Modernization package with ZAframe MH3000A for 1:1

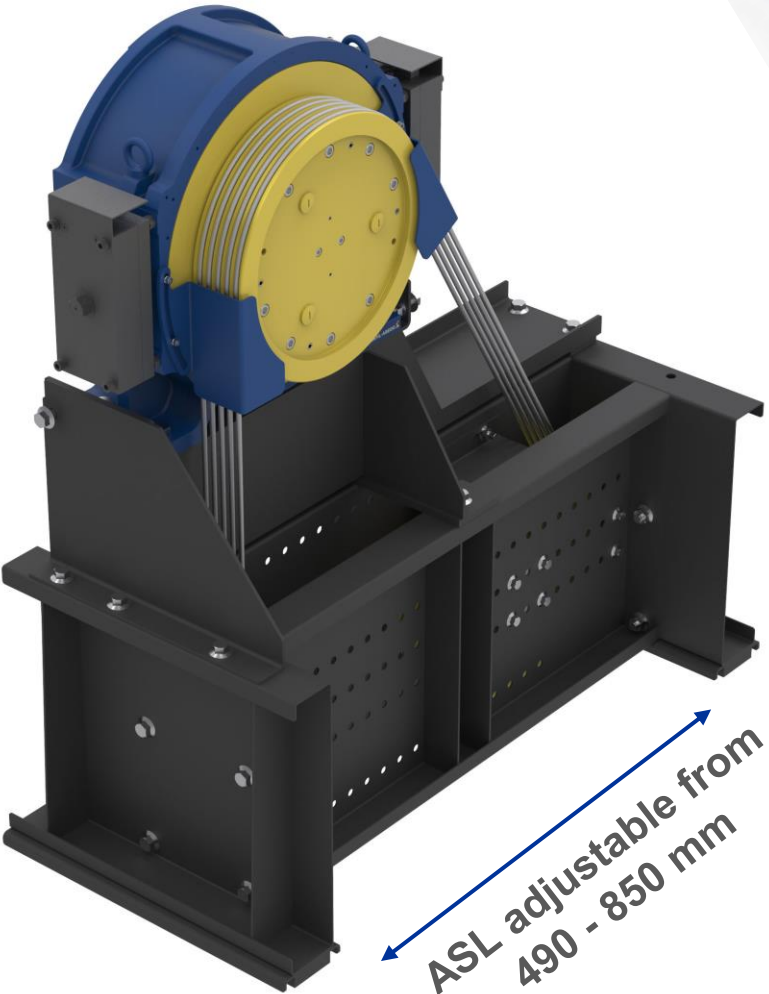
	320 Kg	480 Kg	500 kg
Cabin weight	250 – 850 kg	550 - 700 kg	375 – 600 kg
Travel height	24 m (8 floors)	24 m (8 floors)	24 m (8 floors)
Counterweight	45 - 50 %	45 - 50 %	45 - 50 %
Travel speed	0,5 - 1,0 m/s	0,5 - 1,0 m/s	0,5 - 1,0 m/s
Suspension	1:1	1:1	1:1
Ropes	3	3	4
Rope Diameter (Steel)	Ø 10.0	Ø 10.0	Ø 10.0
Motor	SM500.12B w/ hand release	SM500.16B w/ hand release	SM500.16B w/ hand release
Traction sheave diameter	Ø 400 mm	Ø 400 mm	Ø 400 mm
Machine frame	MH3000A	MH3000A	MH3000A
Deflection pulley	Ø 400 mm	Ø 400 mm	Ø 400 mm
Frequency inverter	4CS011	4CS011	4CS011



Modernization package with ZAframe MH3000A for 1:1



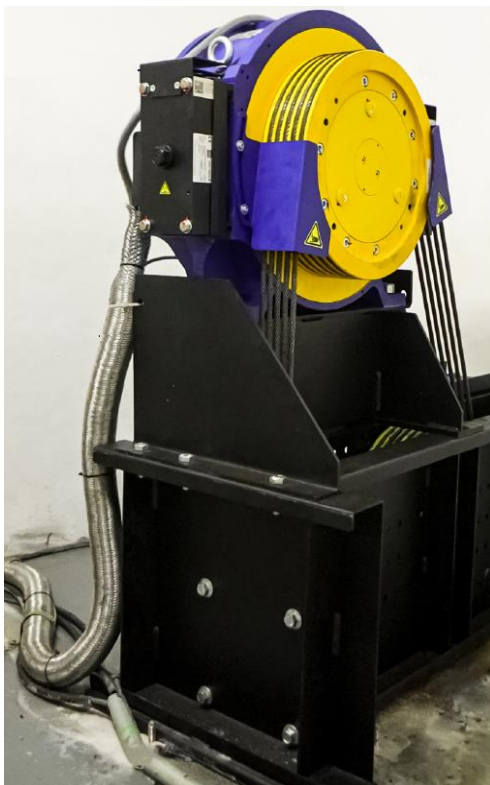
H < 1400 mm



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Modernization package with ZAframe MH3000A for 1:1

Have a look at our flyers!



ZAmo Gear

Packages with steel wire ropes for the modernization of geared elevators

Up above 1:1 suspension	320 kg	450 kg	630 kg	1000 kg
Nominal speed	1,0 m/s			
Car weight	540 - 1200 kg	630 - 1130kg	750 - 1740 kg	1180 - 2200 kg
Counterweight	40 - 50 %			
Rope distance	490 - 850 mm		600 - 1200 mm	600 - 1340 mm
Number of ropes	3	5	7	10
Traction sheave diameter.	400 mm			
Motor	ZAsyn2 SM500.12-B	ZAsyn2 SM500.16-B	ZAtop SM210.70B	ZAtop SM250.60B
Frame	ZAframe MH3000A		ZAframe MH6000B	
Frequency inverter	ZAdyn 4CS011		ZAdyn 4CS023	

Scope of delivery

Motor incl. mechanical brake with a hand release system

ZAsyn2 with microswitches
ZAtop with proximity switch

Frequency inverter

ZAdyn frequency inverter, pre-parameterized and ZAmo STICK

Frame

Including deflection roller and insulation elements
Rope distance adjustable

Cables

Motor, encoder and control cables

Ropes and accessories

Steel ropes 10 mm, rope sockets, rope clips,
eye bolt with thimble



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Summary: Which solutions we can give you on hand?

Conversion solutions from Gearbox into Gearless

	MK2850B 	MK2850B 	MK4850A 	MH3000A 
Payload up to	630 kg	1275 kg	1000 kg	500 kg
Suspension	1:1	2:1	1:1	1:1
Motor	SM132/SM200	SM132/SM200	SM205	SM500
Rope type	Coated rope Steel rope	Coated rope	Coated rope	Steel rope
Rope Diameter	8,1 mm 6,5 mm	8,1 mm	8,1 mm 10.0 mm	10 mm
Traction sheave / Deflection pulley	120 / 160 mm 240 mm	160 mm	160 mm 200 mm	400 mm
ASL Min - Max	420 – 1200 mm	440 – 1120 mm	540 – 1260 mm	490 – 850 mm
Frequency inverter	4CS011 / 013	4CS011 / 013	4CS017 - 032	4CS011

Advantages of these standardized packages

You benefit from

- Standardized installation and simple project handling
- Adjustable rope distance according to your project
- Easy transport (disassembled frame and small motor)
- The possibility to manage different counterweights
- Pre-configured frequency converter
- Brakes with mechanical hand release
- Certified mechanical brakes (UCM & ACOP)
- Quiet operation and high running performance
- No oil change and simple maintenance



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