Movement by Perfection

Drive Technology

for elevators
Edition 2012

The Royal League in ventilation, control and drive technology

ZIEHL-ABEGG

ZIEHL-ABEGG Brand Products for Elevator Technology

ZETATOP - The Flexible One

The gearless elevator machine from the ZETATOP series, built as an internal rotor, is the BEST solution for elevators both with and without machine rooms. The complete series for elevators from 160 kg to 6500 kg payloads - and everything from one single source!

ZETASYN - The Slim One

The gearless elevator machine from the ZETASYN series, built as an external rotor, impresses as an extremely flat machine for elevators both with and without machine rooms. The complete series for elevators from 320 kg to 2500 kg payloads - and everything from one single source!

ZAS - The Gear Ratio Multiplier

The ZAS series comprises a high-quality, German elevator gear and a special elevator asynchronous motor from ZIEHL-ABEGG. The flexible gear is perfectly suited for modernisation. Complete series for elevators from 630 kg to 10000 kg payload - and everything from one single source!

ZETALIFT - The Perfect Choice

With the ZETALIFT calculation program, you can accurately calculate your system and you will immediately obtain important information for the installation, operation and final inspection of your elevator.

ZETADYN - For Proper Control

With the frequency inverter from the ZETADYN series, you comfortably and reliably control the speed of your elevator machines. The compact design and the simple, intelligent control make it an indispensable companion.

EVAC - The Bodyguard

The evacuation units from the EVAC series make expensive, delayed rescue of trapped people by external personnel superfluous.

ZETAPAD - The Optimal Control

If you want external activation, the ZETAPAD operating terminal is the perfect add-on for ZETADYN frequency inverters and EVAC evacuation units.

ZETAMON - The Optimiser

If transparency and intelligent control are required, ZETAMON is the software at your side. ZETAMON provides all options needed to selectively control the ZETADYN frequency inverters, to save the data and manage it and to diagnose weak points - the optimiser for your elevator system.

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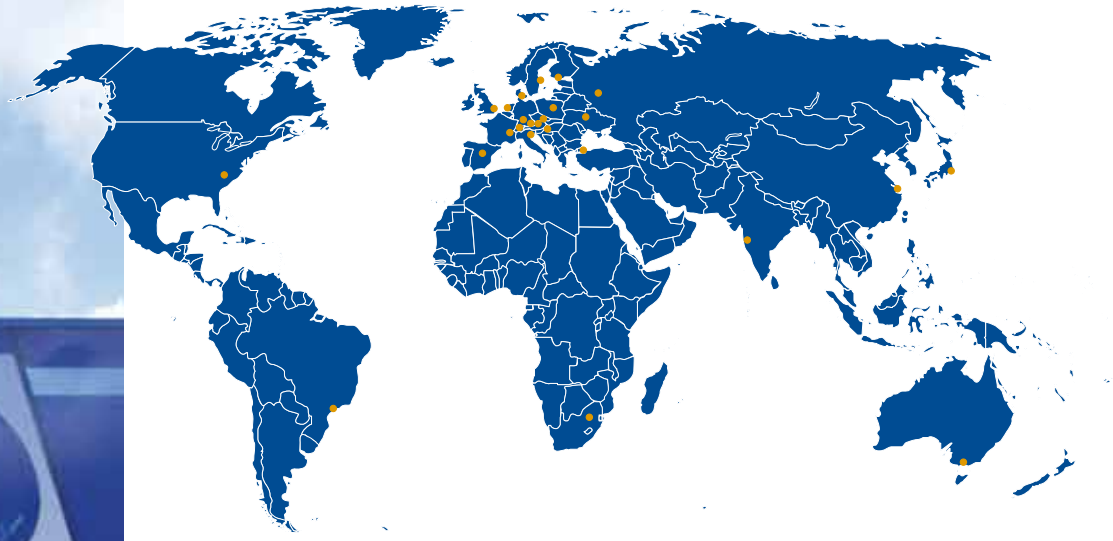
ZIEHL-ABEGG

No one can get past the Royal League



ZIEHL-ABEGG has stood for movement by perfection in the ventilation technology, control technology and drive technology sectors for more than 100 years. What started with the invention of the first external rotor motor by Emil Ziehl is now being carried on at the company's sites around the world. We are the pioneers, masterminds and developers of technologies for the future who more than satisfy all demands to preserve an environment worth living in and to meet all our customers' requirements and wishes.

Think in the future - discover ZIEHL-ABEGG

We look forward to seeing you in ventilation, control and drive technology. There, where ideas are the daily challenge and where the latest, outstanding technologies are developed.

Welcome to the best.

Welcome to the Royal League

Elevator technology from machines to perfectly matched control technology, for the greatest travel comfort

Our unique selling proposition - your benefit

The main point for us is the correct integration of our elevator technology for your precise needs. Regardless of how deep or how high you want to go, of how much or little space is available, our drive systems are available to you as reliable solutions wher ever they are required, any place and at the right time. We manufacture our high-tech products, at the headquarters Künzelsau site in Germany with unbeatable competence on the basis and a head start of more than 100 years of motor development especially for elevators and the matching control technology. More than 100 engineers and technicians work in one of the most modern technology centres of this kind. Here, we turn vi sionary motor technologies into reality and develop the future of elevator technology with the related components. Our products have been awarded the Premium Quality and Premium Efficiency seals - and that is why our products and services are in the Royal League.

The ultramodern elevator technology
for every design

Picture right:
ZETATOP SM250
gearless elevator machine

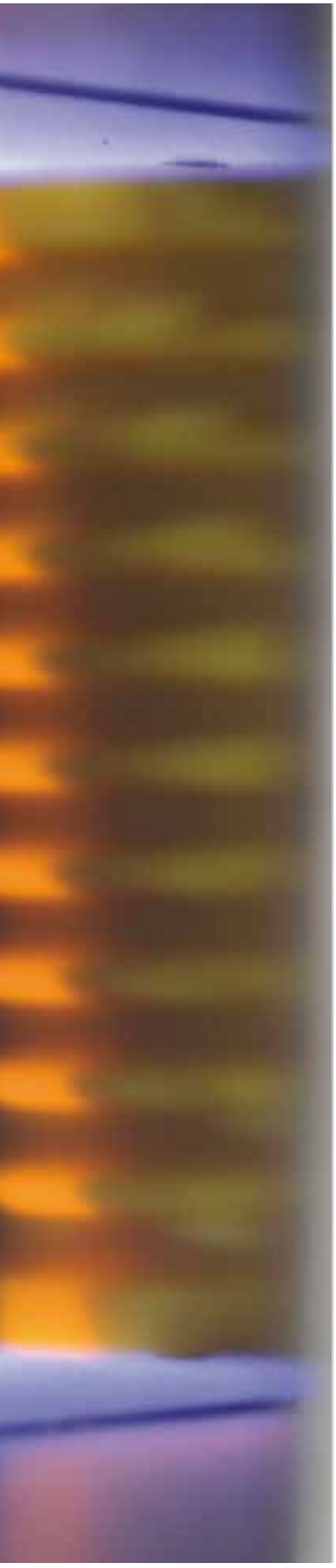
The Royal League of elevator machines

So modern, so compact, so successfully powerful

Those are our premium products in elevator and drive technology. The unification of the latest, high-efficiency motor technology with perfectly matched control technology for perfect motive power at just the right moment is what defines our system concept for complex solutions in this field. Based on a foundation of the greatest-possible expertise, our elevator motors with their associated components count among the best and most reliable in the world. Our comprehensive product range provides the world's most powerful and most compact elevator machines, including the smallest machine in its class for the tiniest shaft volumes. With incomparable quietness, our motors impress with the highest efficiencies for the lowest energy requirements. We build with and without gears, synchronous and asynchronous motors, and everything with perfectly matched control technology such as the highly-intelligent frequency inverters and the most modern evacuation units. ZIEHL-ABEGG systems are equipped with selective diagnosis and user-friendly software and are the right solution for any use and for any requirement.

Intelligent motor technology

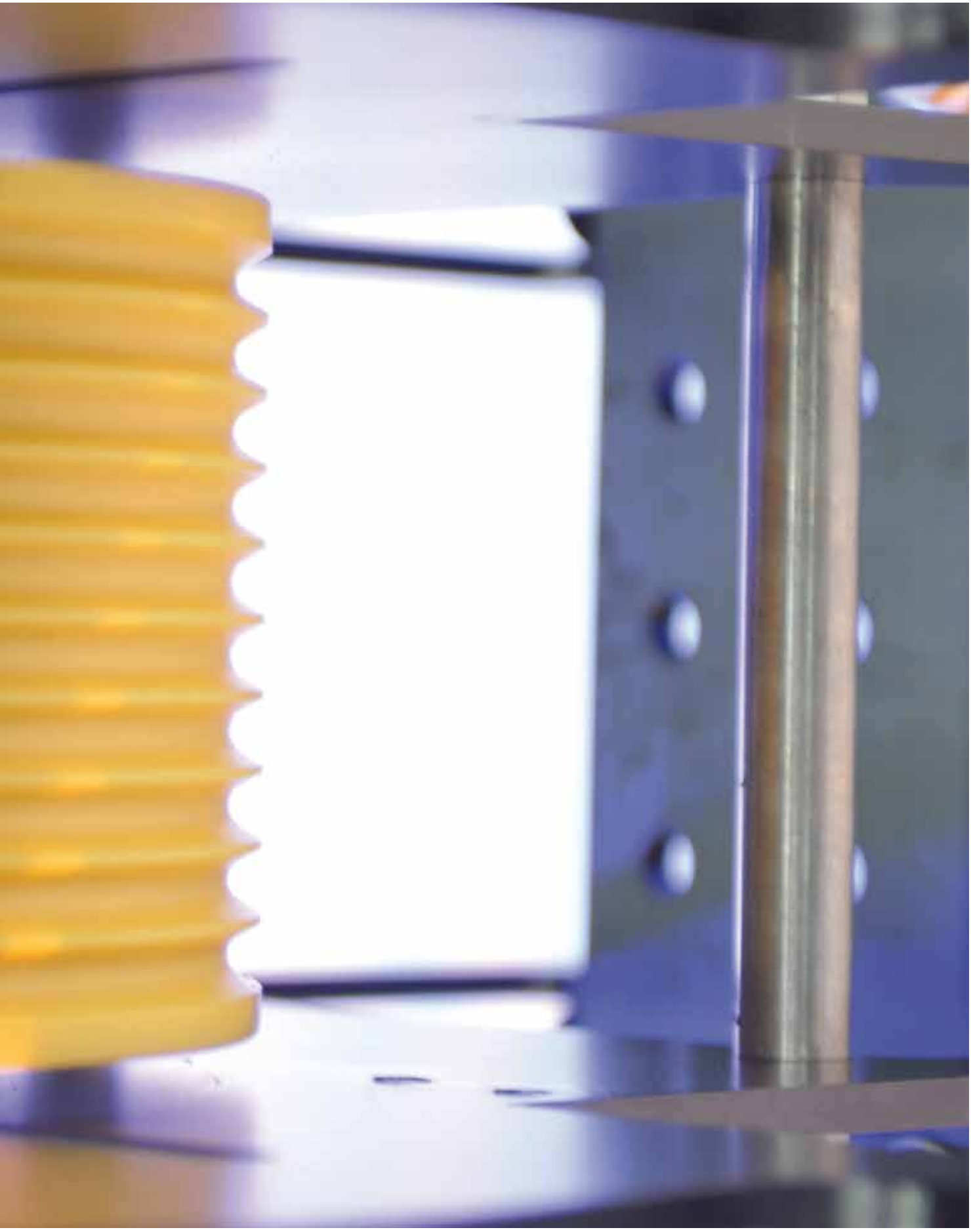
The Royal League of modernisation

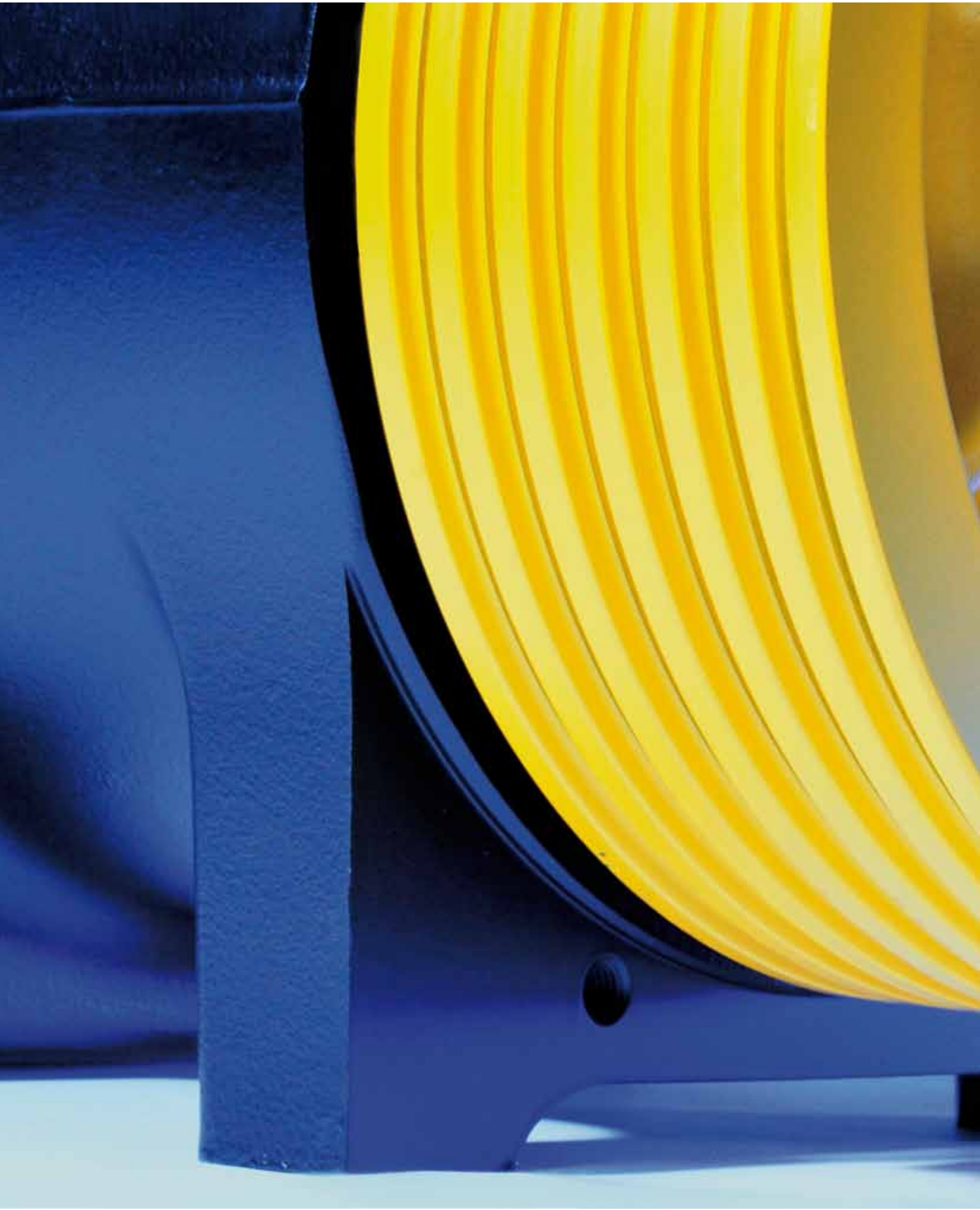


So reliable, so simple, so liftpower

Those are the benefits provided by our competent modernisation and alteration concepts for every ageing elevator drive technology. Our Liftpower service plans professionally, quickly and uncomplicated to turn old elevator technology into a modern, low-noise, energy-saving and demand-oriented top system. And while doing so, we place great value on retaining what ever is still good. Often just little intelligent technical supplements or retrofits are needed from our exhaustive range of the latest high-tech components. For the initial diagnosis of the existing system, all our Liftpower team needs is a photograph of the existing motor and some basic technical information. In the shortest time, our experienced technicians plan the best Liftpower for ageing elevator technology. Supported by the use of our Premium Quality products like motors with the highest standards and in every size, perfect, frequency controlled controllers, suitable machine frames and much more, result in intelligent, far-sighted proposals - for every requirement and for any kind of machine room.

Versatile modernisation components





Gearless internal rotor motors ZETATOP

Product overview

ZETATOP Gearless elevator machine

General information

Gearless permanent-magnet energized elevator machine as internal rotor.
The BEST solution for elevators with and without machine rooms.

Complete series for elevators from 160 kg to 6500 kg payload - everything from one single source!

Great flexibility and variability:
- Many sizes (as slim and short as possible) for ideal shaft and shaft head dimensions
- Optimised for competitive installation in shaft heads
- Travelling speeds from 0.5 m/s to 4.0 m/s
- Traction sheave diameters from 160 mm to 600 mm
- For rope diameters from 4 mm to 14 mm
- Various encoder systems for adaptation to all frequency inverters
- Brake systems with various operating voltages
- Optimum package solutions with the ZIEHL-ABEGG ZETADYN frequency inverter
- Reliable selection with the ZETALIFT design program

A glimpse inside

Your safety

All ZETATOP series machines have type-approved brakes with certificates against uncontrolled and unintended car movement (EN81, Appendix A3).

СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Industrie Service

Type-examination certificate

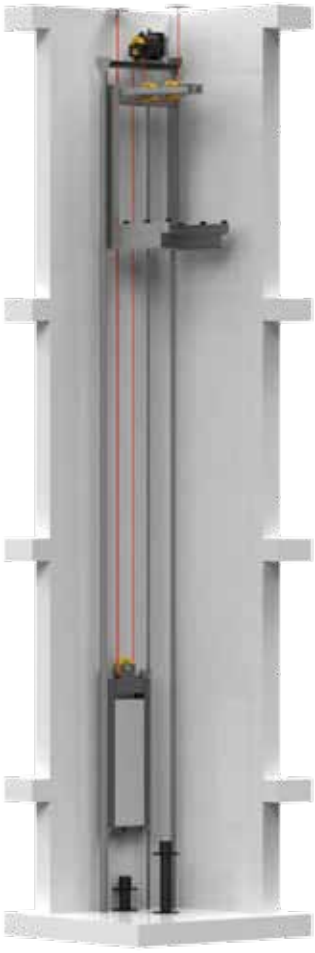
Certificate no.:	ESV 845
Certification office:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München - Germany
Applicant/ certificate holder:	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
Date of application:	2011-03-01
Manufacturer of the test sample:	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
Product:	Braking element acting on the shaft of the traction sheave, as a part of the protection device against unintended car movement
Type:	RTW Größe 150, 200, 250, 350 Type 8012.___.___

СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

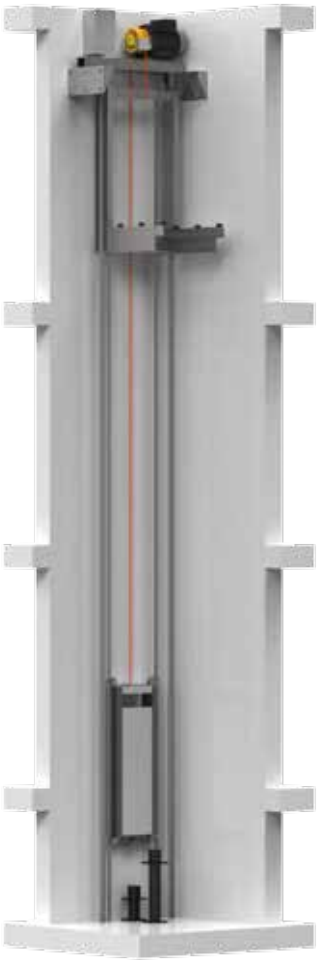
EC type-examination certificate

Certificate no.:	ABV 845
Notified body:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München – Germany
Applicant/ Certificate holder:	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten – Germany
Date of application:	2009-11-25
Manufacturer of the test sample:	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten – Germany
Product:	Braking device, acting on the shaft of the traction sheave, as part of the protection device against overspeed for the car moving in upwards direction
Type:	RTW Größe 150, 200, 250, 350 Type 8012.___.___

The machines are optimised for use in elevators without machine rooms as well as for 1:1, 2:1 or 4:1 suspensions or centrally guided cantilever elevators.



Central guided elevator in suspension 2:1



Cantilevered elevator in suspension 1:1

ZETATOP Gearless elevator machine

SM160

- Motor cables Page 57
- Machine frame Page 51
- Rope pulleys Page 48
- ZETALIFT Page 60

Description

- Installation width < 250 mm
- Traction sheaves starting from ∅ 160 mm for use of steel ropes from 4 mm or plastic coated ropes
- For especially compact elevators with the smallest shaft dimensions and minimal shaft head

Features

- Machine with traction sheave
- Rope guard acc EN81
- Absolute encoder type Heidenhain ECN1313 EnDat
- Type approved double-circuit brake
- Motor cable already connected

Options

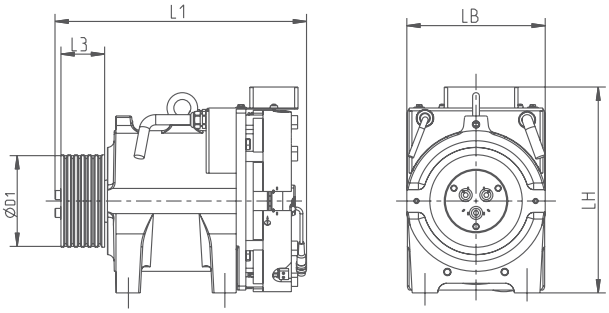
- Absolute encoder type Heidenhain ECN1313-SSI or ERN1387
- Fast acting rectifier for brakes with overexcitation
- Traction sheaves ∅ 160 mm, 200 mm, 210 mm or 240 mm
- Mechanical hand release system for SM160.40A
- Motor cable lengths 5 m, 10 m or 15 m
- Adapter plate on existing frame

Technical data

Motor type	Nominal torque [Nm]	Max. axle load [kg]	Nominal speed [min^{-1}]	Rated output power [kW]
SM160.20	130	1300	240...384	3.3...5.2
SM160.30	195	1300	192...384	3.9...7.8
SM160.40A	260	1900	192...384	5.2...10.5

Dimensions in mm

SM160



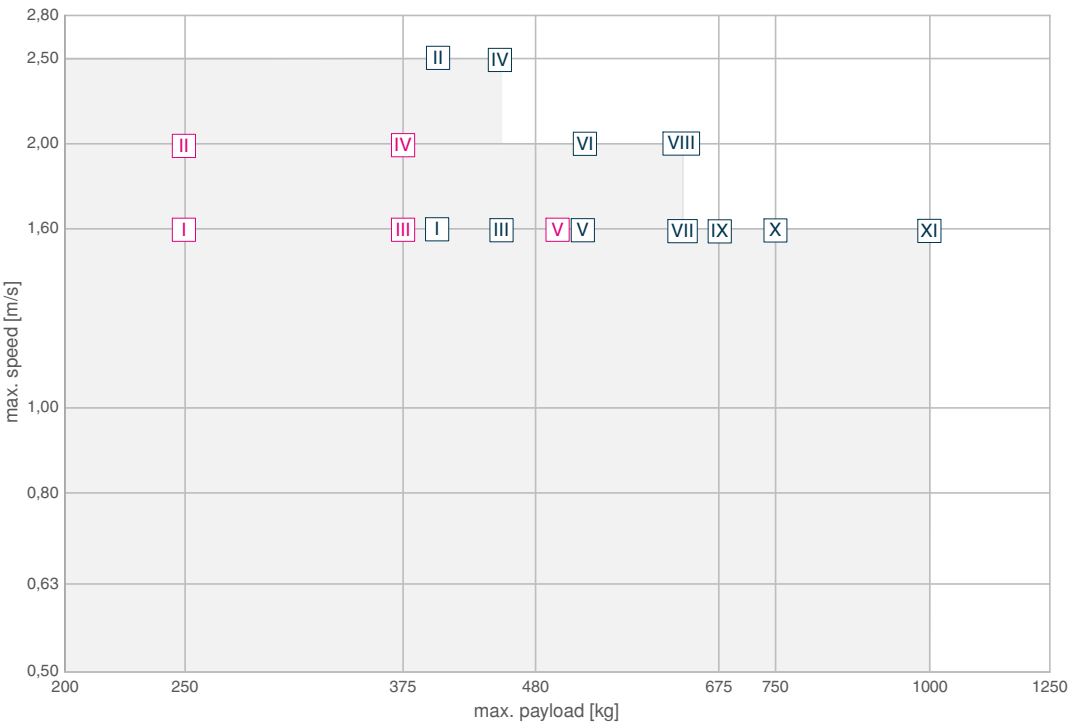
Motor type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope	Weight [kg]
SM160.20	445	363	244	160	77	9 x 4	130
				210	57	6 x 5 / 5 x 6,..	135
SM160.30	520	363	244	160	101	12 x 4	145
				200	76	7 x 6,..	148
	508			210	76	7 x 6,..	150
				240	76	7 x 6,..	155
SM160.40A	600	353	247	160	140	17 x 4	157
	581			210	106	10 x 6,..	165
				240	88	8 x 6,..	170

Range of possible elevator configurations for SM160

The chart below illustrates the range of typical elevator configurations that can be implemented with the ZETATOP SM160 internal rotor motors. Important technical information for the portrayed example configurations are listed in the following table.

Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!

Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project..



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Motor type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Brake resistor	Motor power [kW]	Rated current [A]
1:1	I	250	1.6	SM160.20	160	9 x 4	11	BR11	3.3	9.0
	I	250	1.6	SM160.30	210	4 x 6-7	11	BR11	3.9	10.5
	II	250	2.0	SM160.40A	210	6 x 6-7	11	BR17	5.2	10.1
	III	375	1.6	SM160.40A	210	8 x 6-7	17	BR17	5.2	14.0
	IV	375	2.0	SM160.40A	210	8 x 6-7	13	BR17	5.2	13.5
	V	500	1.6	SM160.40A	160	16 x 4	17	BR17	5.2	14.0
2:1	I	400	1.6	SM160.20	210	5 x 6-7	17	BR17	5.2	13.0
	II	400	2.5	SM160.40A	240	4 x 6-7	17	BR17	10.5	25.0
	III	450	1.6	SM160.30	240	5 x 6-7	17	BR17	6.1	16.0
	IV	450	2.5	SM160.40A	240	4 x 6-7	17	BR17	10.5	17.5
	V	525	1.6	SM160.20	160	9 x 4	13	BR17	5.2	13.0
	V	525	1.6	SM160.30	210	6 x 6-7	17	BR17	6.1	16.0
	VI	525	2.0	SM160.40A	210	6 x 6-7	17	BR17	10.5	17.0
	VII	630	1.6	SM160.40A	240	7 x 6-7	23	BR25	8.2	20.0
	VIII	630	2.0	SM160.40A	210	7 x 6-7	23	BR25	10.5	20.1
	IX	675	1.6	SM160.30	160	12 x 4	17	BR17	7.8	19.5
	X	750	1.6	SM160.40A	210	8 x 6-7	23	BR25	8.2	20.0
	XI	1000	1.6	SM160.40A	160	16 x 4	23	BR25	10.5	25.0

Travel distance: 25 m at 1 m/s. 35-40 m at 1.6 m/s

ZETATOP Gearless elevator machine

SM200C

Description

- Installation width ≤ 320 mm
- Traction sheaves between ∅ 160 mm and 500 mm for steel ropes with a diameter of 4 mm to 12 mm or plastic coated ropes

Features

- Machine with traction sheave
- Rope guard acc EN81
- Absolute encoder type Heidenhain ECN1313 EnDat
- Type approved double-circuit brake
- Motor cable already connected up to SM200.30C
- Motor cable is connected in the terminal box with SM200.40C

Options

- Absolute encoder type Heidenhain ECN1313-SSI or ERN1387
- Fast-acting rectifier for brakes with overexcitation
- Traction sheaves ∅ 160 mm, 210 mm, 240 mm, 320 mm, 400 mm, 450 mm or 500 mm
- Mechanical hand release system
- Motor cable lengths 5 m, 10 m or 15 m
- Adapter plate on existing frame

Technical data

Motor type	Nominal torque [Nm]	Max. axle load [kg]	Nominal speed [min^{-1}]	Rated output power [kW]
SM200.15C	250	1850	96...300	2.5...7.9
SM200.20C	330	2800		3.3...10.4
SM200.30C	475	2800		4.8...14.1
SM200.40C	600	3300		6.0...18.8

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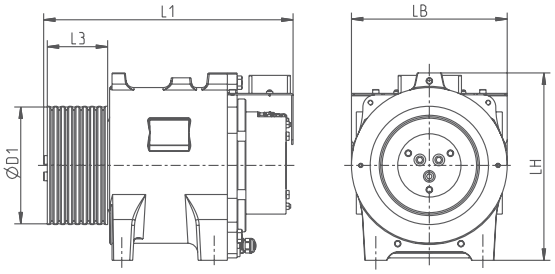
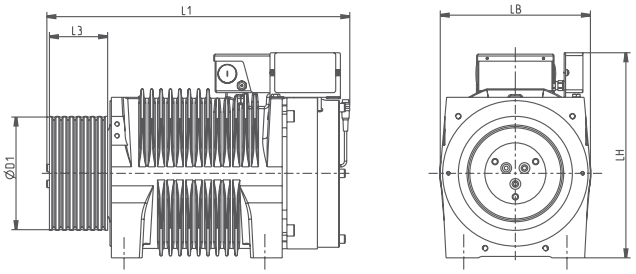
Dimensions in mm

SM200.15C, SM200.20C, SM200.30C



SM200.40C



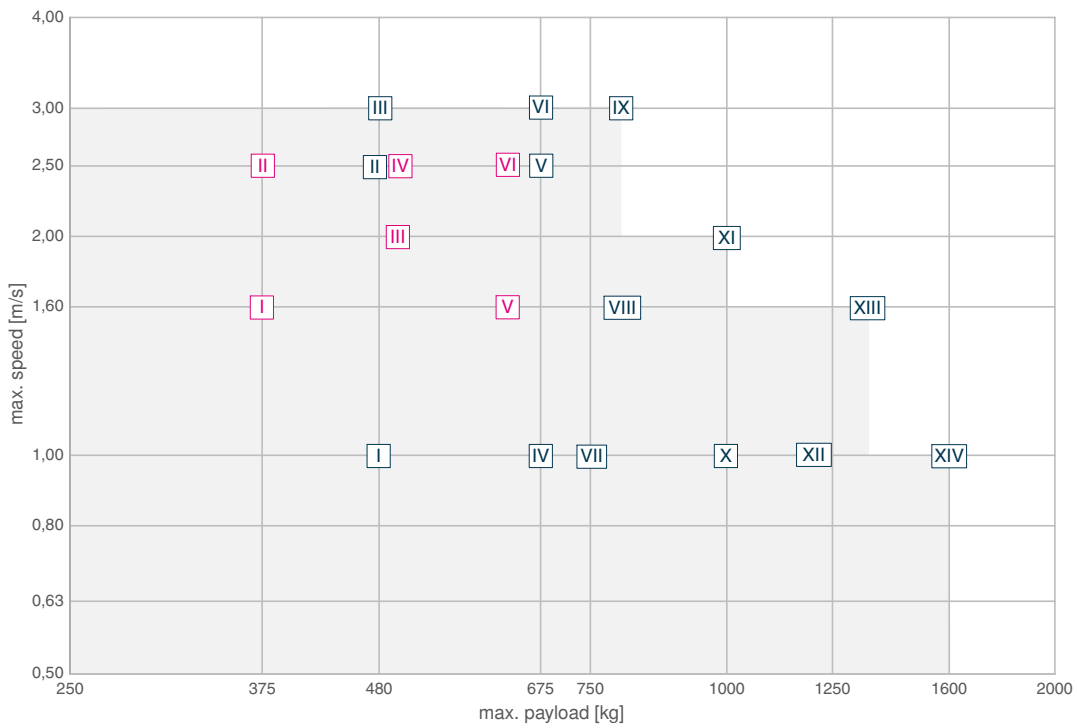
Motor type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope	Weight [kg]
SM200.15C	487	385	320	210	76	6 x 6-7	175
				240	88	7 x 6-7	180
				320	74	4 x 8	185
SM200.20C	517	385	320	160	106	12 x 4	187
				210	106	10 x 6,..	195
				240	124	10 x 6,..	205
				320	110	6 x 8	210
				400	92	5 x 10	230
				450	92	5 x 10	235
SM200.30C	562	398	320	210	106	10 x 6,..	225
				240	124	10 x 6,..	235
				320	110	6 x 8	240
				400	92	4 x 10	260
				450	92	5 x 10	265
SM200.40C	696	437	320	240	173	14 x 6-7	315
	646	437	320	240	124	10 x 6-7	310
				320	112	6 x 8	315
				400	95	5 x 10	320
				500	90	5 x 10	330

Range of possible elevator configurations for SM200C

The chart below illustrates the range of typical elevator configurations that can be implemented with the ZETATOP SM200C internal rotor motors. Important technical information for the portrayed example configurations are listed in the following table.

Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!

Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Motor type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Brake resistor	Motor power [kW]	Rated current [A]
1:1	I	375	1.6	SM200.30C	320	4 x 8	13	BR17	4.8	14.0
	I	375	1.6	SM200.40C	400	3 x 10	17	BR17	6.0	17.5
	II	375	2.5	SM200.30C	320	4 x 8	23	BR25	8.4	18.1
	II	375	2.5	SM200.40C	400	3 x 10	17	BR17	7.5	16.7
	III	500	2.0	SM200.30C	210	10 x 6-7	23	BR25	9.6	20.1
	III	500	2.0	SM200.40C	320	6 x 8	23	BR25	7.5	19.4
	IV	500	2.5	SM200.40C	320	6 x 8	23	BR25	10.6	23.3
	V	630	1.6	SM200.40C	240	10 x 6-7	23	BR25	10.6	24.1
	VI	630	2.5	SM200.40C	240	11 x 6.5	32	BR25	12.1	25.5
2:1	I	480	1.0	SM200.15C	320	3 x 8	17	BR17	4.4	13.0
	II	480	2.5	SM200.20C	400	3 x 8	32	BR25	8.9	24.0
	III	480	3.0	SM200.40C	400	3 x 10	32	BR25	18.8	23.5
	IV	675	1.0	SM200.15C	240	7 x 6-7	17	BR17	4.4	13.0
	IV	675	1.0	SM200.20C	320	4 x 8	17	BR17	4.1	12.5
	IV	675	1.0	SM200.30C	400	3 x 10	17	BR17	4.8	14.0
	V	675	2.5	SM200.40C	500	3 x 10	32	BR25	12.1	32.0
	VI	675	3.0	SM200.40C	400	3 x 10	40	BR50	18.8	32
	VII	750	1.0	SM200.15C	210	7 x 6-7	17	BR17	5.0	14.5
	VIII	800	1.6	SM200.20C	240	8 x 6-7	32	BR25	8.9	24.0
	VIII	800	1.6	SM200.30C	320	5 x 8	23	BR25	9.6	24.5
	VIII	800	1.6	SM200.40C	400	4 x 10	32	BR25	10.6	27.0
	IX	800	3.0	SM200.40C	400	4 x 10	40	BR50	18.8	37.5
	X	1000	1.0	SM200.20C	210	10 x 6-7	23	BR25	6.6	18.0
	X	1000	1.0	SM200.40C	320	6 x 8	23	BR25	7.5	20.0
	XI	1000	2.0	SM200.40C	400	4 x 10	32	BR25	12.1	33.0
	XII	1200	1.0	SM200.30C	240	10 x 6-7	23	BR25	8.4	21.5
	XIII	1350	1.6	SM200.30C	240	13 x 6-7	40	BR50	16.2	39.0
	XIV	1600	1.0	SM200.40C	240	15 x 6-7	32	BR25	10.6	27.0

Travel distance: 25 m at 1 m/s, 35-40 m at 1.6 m/s

ZETATOP Gearless elevator machine

SM225

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- Machine frame Page 54
- Rope pulleys Page 48
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Description

- Installation width ≤ 400 mm
- Perfectly suited for elevator kits that are central guided or in cantilever design in suspension 1:1 or 2:1

Features

- Machine with traction sheave
- Rope guard acc EN81
- Absolute encoder type Heidenhain ECN1313 EnDat
- Type approved double-circuit brake
- Motor cable connection in the terminal box

Options

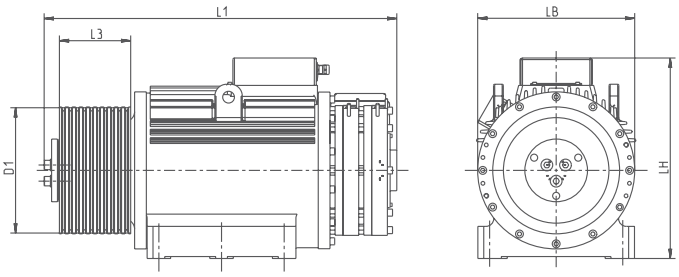
- Absolute encoder type Heidenhain ECN1313-SSI or ERN1387
- Traction sheaves ∅ 320 mm, 400 mm, 500 mm or 600 mm
- Mechanical hand release system
- Motor cables
- Adapter plate on existing frame

Technical data

Motor type	Nominal torque [Nm]	Max. axle load [kg]	Nominal speed [min^{-1}]	Rated output power [kW]
SM225.40	710	3300	60...192	4.5...13
SM225.60B	1120	5300	60...336	7...31.5

Dimensions in mm

SM225



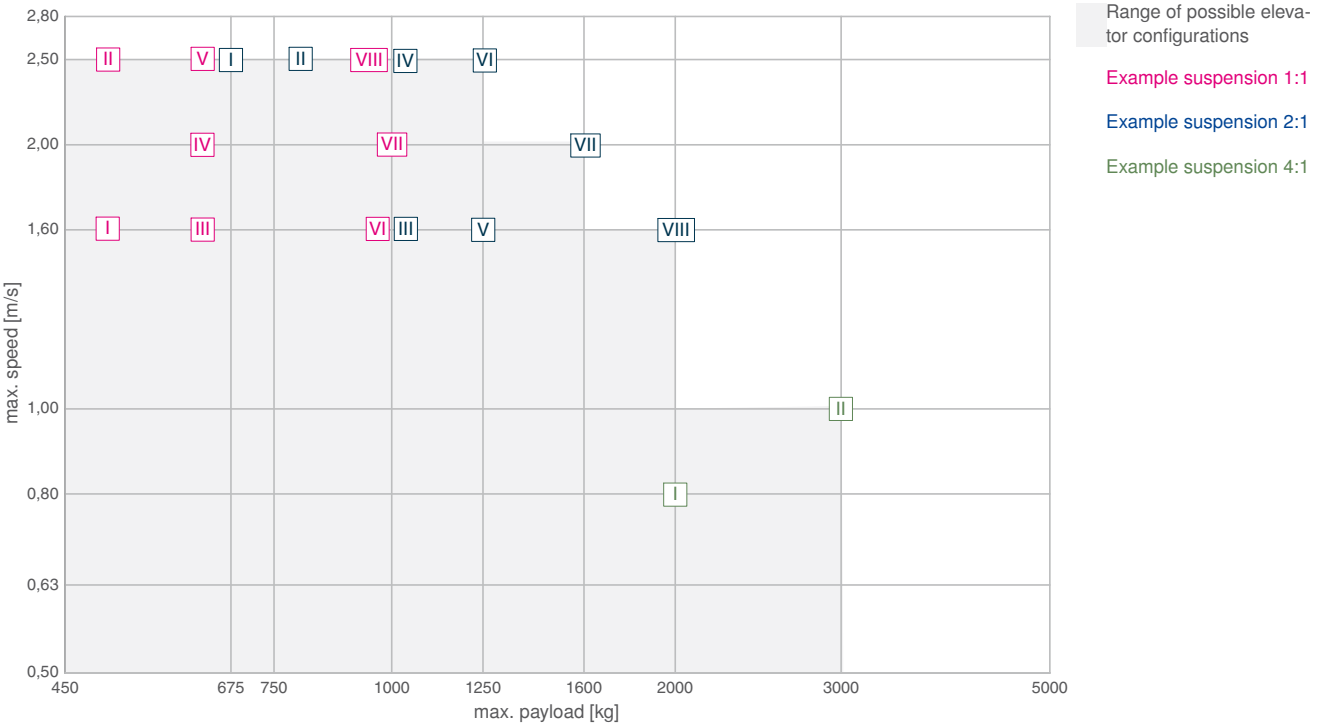
Motor type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope	Weight [kg]
SM225.40	773	446	380	320	112	6 x 8	460
				400	95	5 x 10	470
				500	90		515
				600			545
SM225.60B	900	510	400	320	182	10 x 8	590
				400	150	8 x 10	600
				500			
				600			650

Range of possible elevator configurations for SM225

The chart below illustrates the range of typical elevator configurations that can be implemented with the ZETATOP SM225 internal rotor motors. Important technical information for the portrayed example configurations are listed in the following table.

Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!

Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Motor type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Brake resistor	Motor power [kW]	Rated current [A]
1:1	I	500	1.6	SM225.40	400	4 x 10	23	BR25	7.0	22.5
	II	500	2.5	SM225.40	400	4 x 10	23	BR25	9.0	22.8
	III	630	1.6	SM225.40	320	6 x 8	23	BR25	7.0	22.5
	IV	630	2.0	SM225.40	320	7 x 8	32	BR25	9.0	25.4
	IV	630	2.0	SM225.60B	400	5 x 10	32	BR25	11.0	28.8
	V	630	2.5	SM225.60B	400	5 x 10	32	BR25	14.0	29.9
	VI	1000	1.6	SM225.60B	320	10 x 8	32	BR25	11.0	35.0
	VII	1000	2.0	SM225.60B	320	10 x 8	50	BR50	14.0	42.1
	VIII	1000	2.5	SM225.60B	320	12 x 8	50	BR50	18.0	46.7
2:1	I	675	2.5	SM225.40	600	3 x 10	32	BR25	11.5	33.5
	II	800	2.5	SM225.40	500	4 x 10	32	BR25	13.0	33.0
	III	1000	1.6	SM225.40	400	4 x 10	32	BR25	11.5	33.5
	IV	1000	2.5	SM225.60B	600	5 x 10	50	BR50	18.0	53.5
	V	1250	1.6	SM225.40	320	6 x 8	32	BR50	13.0	33.0
	VI	1250	2.5	SM225.60B	500	6 x 10	62	BR50	20.0	53.5
	VII	1600	2.0	SM225.60B	400	8 x 10	62	BR50	20.0	53.5
	VIII	2000	1.6	SM225.60B	320	10 x 8	62	BR50	20.0	53.5
4:1	I	2000	0.8	SM225.40	400	4 x 10	32	BR25	11.5	33.5
	II	3000	1.0	SM225.60B	400	6 x 10	62	BR50	20.0	53.5

Travel distance: 25 m at 1 m/s. 35-40 m at 1.6 m/s

ZETATOP Gearless elevator machine

SM250B and SM250D

SM250.60B

SM250.80D

- Motor cables Page 57
- Machine frame Page 54
- Rope pulleys Page 48
- ZETALIFT Page 60

Description

- Designed for 2500 kg or 3200 kg payload in suspension 2:1, and travelling speed up to 4.0 m/s

Features

- Machine with traction sheaves
- Rope guard acc EN81
- Absolute encoder type Heidenhain ECN1313 EnDat
- Type approved double-circuit brake
- Motor cable connection in the terminal box

Options

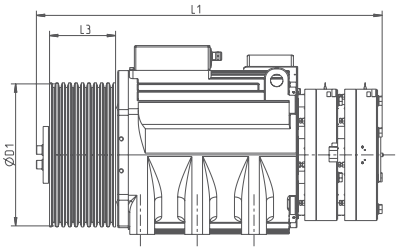
- Absolute encoder type Heidenhain ECN1313-SSI or ERN1387
- Traction sheave ∅ 400 mm, 440 mm, 500 mm, 520 mm or 600 mm
- Mechanical hand release system
- Motor cables
- Adapter plate on existing frames

Technical data

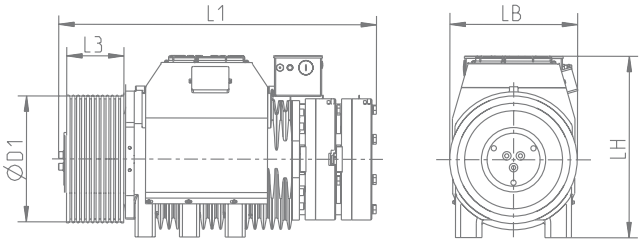
Motor type	Nominal torque [Nm]	Max. axle load [kg]	Nominal speed [min^{-1}]	Rated output power [kW]
SM250.60B	1600	6000	60...240	4.5...13
SM250.80D	2000	8000	84...240	18...53
SM250.80D-FB	2500			22...63

Dimensions in mm

SM250.60B



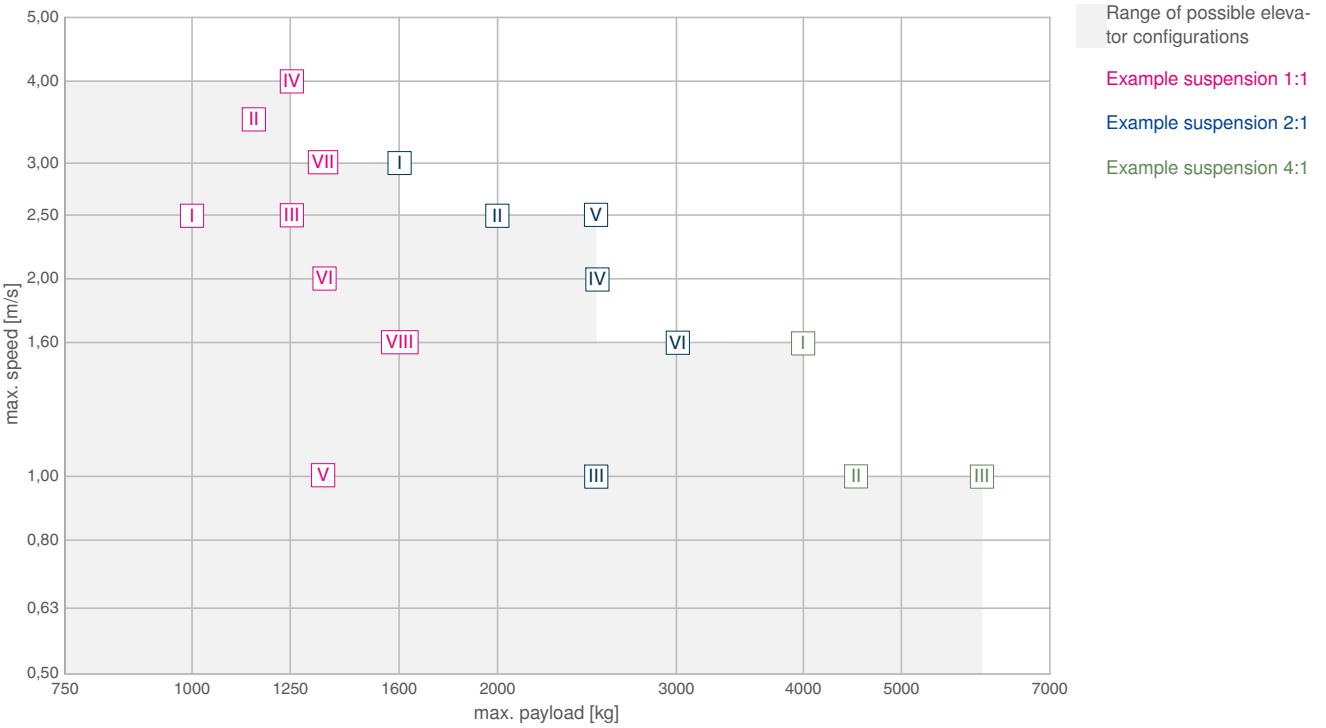
SM250.80D



Motor type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope	Weight [kg]
SM250.60B	975	535	410	320	182	10 x 10	605
				400	186	10 x 10	675
				500	150	8 x 10	695
				600			720
SM250.80D	1110	634	472	440	200	11 x 11	925
			552	520		9 x 13	940

Range of possible elevator configurations for SM250B / D

The chart below illustrates the range of typical elevator configurations that can be implemented with the ZETATOP SM250B / D internal rotor motors.
The main technical information for the portrayed example configurations are listed in the following table.
Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!
Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Motor type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Brake resistor	Motor power [kW]	Rated current [A]
1:1	I	1000	2.5	SM250.60B	400	8 x 10	50	BR50	20.0	40.1
	II	1150	3.5	SM250.60B	400	10 x 10	74	BR100	32.0	69.8
	III	1250	2.5	SM250.60B	400	10 x10	50	BR50	20.0	52.5
	IV	1250	4.0	SM250.60B	400	10 x 10	110	BR100	32.0	75.6
	V	1350	1.0	SM250.80D	440	8 x 11	62	BR50	17.5	55.0
	VI	1350	2.0	SM250.80D	440	8 x 11	62	BR50	17.5	55.0
	VII	1350	3.0	SM250.60B	400	10 x 10	74	BR100	26.0	69.2
	VIII	1600	1.6	SM250.80D-FB	440	10 x 11	74	BR50	19.0	71.0
2:1	I	1600	3.0	SM250.60B	600	7 x 10	110	BR100	32.0	80.0
	II	2000	2.5	SM250.60B	500	8 x 10	110	BR100	32.0	80.0
	III	2500	1.0	SM250.80D	440	8 x 11	62	BR50	17.5	55.0
	IV	2500	2.0	SM250.60B	400	10 x 10	110	BR100	32.0	80.0
	IV	2500	2.0	SM250.80D	440	8 x 11	110	BR100	35.0	98.0
	V	2500	2.5	SM250.80D-FB	520	8 x 12	180	BR100	53.0	160.0
	VI	3000	1.6	SM250.80D-FB	440	10 x 11	180	BR100	41.0	128.0
4:1	I	4000	1.6	SM250.80D	440	8 x 11	180	BR100	62.0	164.0
	II	4500	1.0	SM250.60B	400	10 x 10	110	BR100	32.0	80.0
	III	6000	1.0	SM250.80D-FB	440	10 x 11	180	BR100	53.0	160.0

Travel distance: 25 m at 1 m/s, 35-40 m at 1.6 m/s

ZETATOP Gearless elevator machine

SM250C

Description
- Payloads up to 1600 kg in suspension 1:1 and travel speeds up to 4.0 m/s
- For fast elevators also with double rope wrap

Features
- Machine with traction sheave
- Rope guard acc EN81
- Absolute encoder type Heidenhain ECN1313 EnDat
- Type approved double-circuit brake
- Motor cable connection in the terminal box

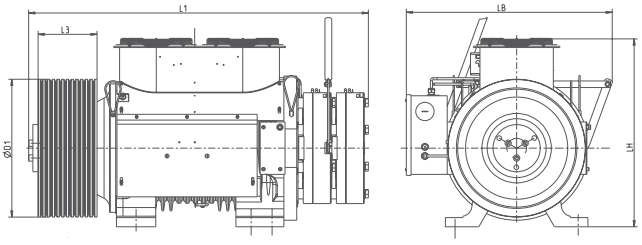
Options
- Absolute encoder type Heidenhain ECN1313-SSI or ERN1387
- Traction sheaves Ø 450 mm, 500 mm or 520 mm
- Mechanical hand release system
- Motor cables
- Adapter plate on existing frame

- Motor cables Page 57
- Machine frame Page 54
- Rope pulleys Page 48
- ZETALIFT Page 60

Technical data

Motor type	Nominal torque [Nm]	Max. axle load [kg]	Nominal speed [min^{-1}]	Rated output power [kW]
SM250.80C	1600...2100	13000	84...312	19...54
SM250.100C	2100...2650	13000	78...312	22...69

Dimensions in mm



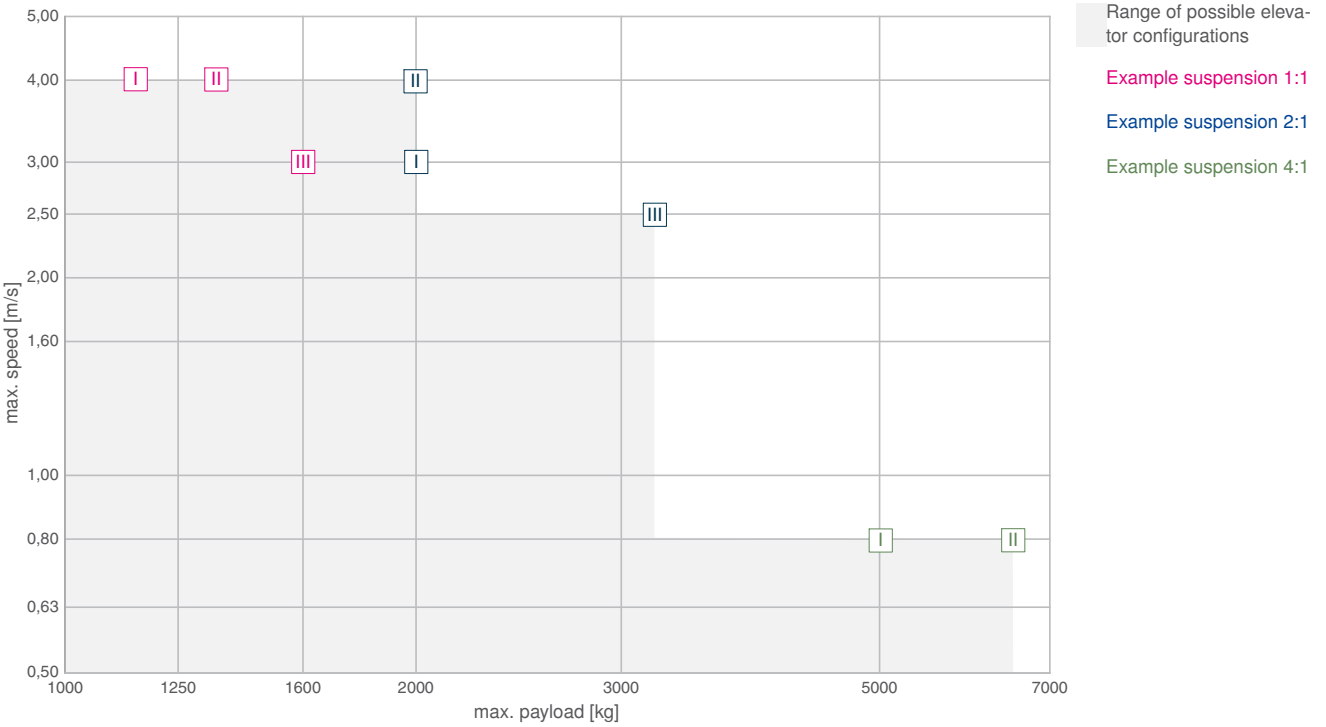
Motor type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope	Weight [kg]
SM250.80C	1296	730	786	450	282	9 x 11	1150
				500	220	7 x 11	
				520		6 x 13	
SM250.100C	1296	730	786	450	282	9 x 11	1250
				500	220	7 x 11	
				520		6 x 13	

Range of possible elevator configurations for SM250C

The chart below illustrates the range of typical elevator configurations that can be implemented with the ZETATOP SM250C internal rotor motors. Important technical information for the portrayed example configurations are listed in the following table.

Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!

Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Motor type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Brake resistor	Motor power [kW]	Rated current [A]
1:1	I	1150	4.0	SM250.80C	450	8 x 11	110	BR100	33.0	82.0
	II	1350	4.0	SM250.100C	520	6 x 13	110	BR100	33.0	77.0
	III	1600	3.0	SM250.100C	450	9 x 11	110	BR100	37.0	98.0
2:1	I	2000	3.0	SM250.80C	520	6 x 13	110	BR100	42.0	103.0
	II	2000	4.0	SM250.100C	500	6 x 12	180	BR100	69.0	166.0
	III	3200	2.5	SM250.100C	450	9 x 11	180	BR100	58.0	139.0
4:1	I	5000	0.8	SM250.80C	450	9 x 11	110	BR100	30.0	80.0
	II	6500	0.8	SM250.100C	450	9 x 11	110	BR100	37.0	98.0

Travel distance: 25 m at 1 m/s, 35-40 m at 1.6 m/s


ZIEHL-ABEGG

Gearless external rotor motors ZETASYN

Product overview

ZETASYN Elevator machine

General information

Gearless permanent-magnet energized elevator machines as external rotors.
The flat machine for elevators with and without machine rooms.

Complete series for elevators from 320 kg to 2500 kg payload - everything from one single source!

Great flexibility and variability:
- Very flat design for ideal shaft dimensions
- Optimised for simplest installation in the lower section of the shaft head
- Travelling speed from 0.5 m/s to 2.5 m/s
- Traction sheave diameters from 400 mm to 680 mm
- For rope diameters from 8 mm to 16 mm
- Various encoder systems for adaptation to all frequency inverters
- Brake systems with various operating voltages
- Ideal package solutions with the ZIEHL-ABEGG ZETADYN frequency inverter
- Reliable selection with the ZETALIFT design program

A glimpse inside

Your safety

All ZETASYN series machines have type-approved brakes with certificates against uncontrolled and unintended car movement (EN81, Appendix A3).

CERTIFICAT ◆ CERTIFICADO ◆ СЕРТИФИКАТ

TÜV SÜD Industrie Service

Type-examination certificate

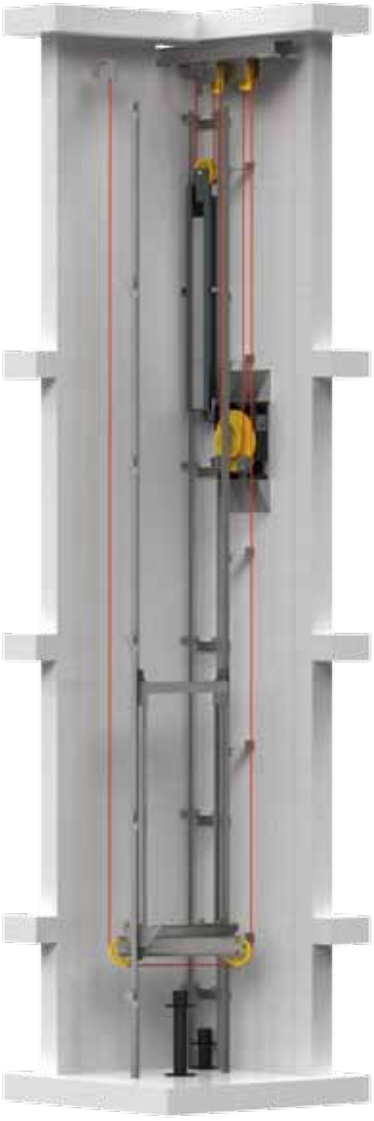
Certificate no.:	ESV 550
Certification office:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München - Germany
Applicant/ certificate holder:	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
Date of application:	2011-03-01
Manufacturer of the test sample:	Chr. Mayr GmbH & Co. KG Eichenstr. 1 87665 Mauerstetten - Germany
Product:	Braking element acting on the shaft of the traction sheave, as a part of the protection device against unintended car movement
Type:	894.001.1 SO, Größe 8

CERTIFICAT ◆ CERTIFICADO ◆ СЕРТИФИКАТ

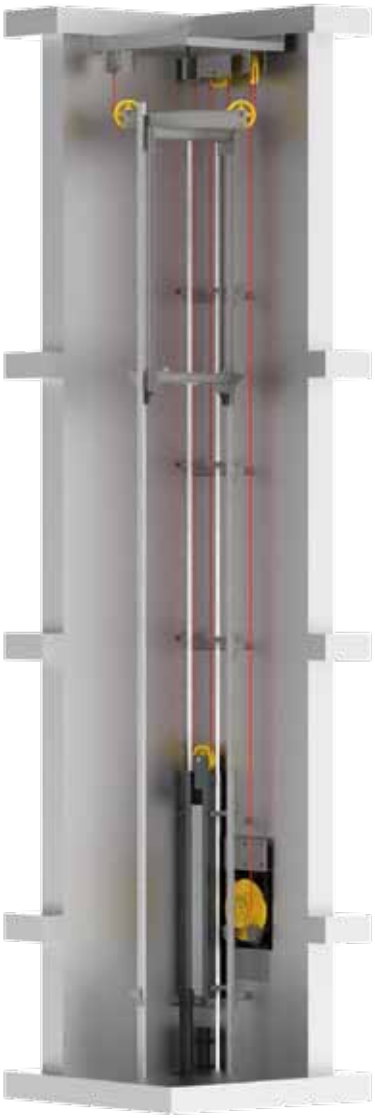
TÜV SÜD Industrie Service

EC - type-examination certificate

Certificate no.:	ABV 550/2
Notified body:	TÜV Industrie Service GmbH TÜV SÜD Gruppe (bis 31.03.2004 TÜV Süddeutschland Bau und Betrieb GmbH) Zertifizierungsstelle für Aufzüge und Sicherheitsbauteile Westendstraße 199, 80686 München - Germany
Applicant/ Certificate holder:	Chr. Mayr GmbH & Co. KG Eichenstraße 1 87665 Mauerstetten - Germany
Date of submission:	2004-12-14
Manufacturer:	Chr. Mayr GmbH & Co. KG Eichenstraße 1 87665 Mauerstetten - Germany
Product, type:	Braking device acting on the traction sheave or the shaft of the traction sheave, as part of the protection device against overspeed for the car moving in upwards direction, type 894.001.1 SO, Größe 8



2:1 Machine in the middle of the elevator shaft



2:1 Machine below in the elevator shaft

ZETASYN Elevator machine

SM700.09-16A

Description
- Installation width < 370 mm

Features
- Machine with traction sheave
- Rope guard acc EN81
- Absolute encoder type Heidenhain ECN1313 EnDat
- Type approved shoe brake for rated torque > 1000 Nm
- Lateral terminal box for connecting the motor cable

Options
- Absolute encoder type Heidenhain ECN1313-SSI or ERN1387
- Traction sheaves ∅ 400 mm
- Mechanical hand release system with Bowden cables
- Motor cables
- Rope protection with cover when rope pull to top
- Panel for wall attachment

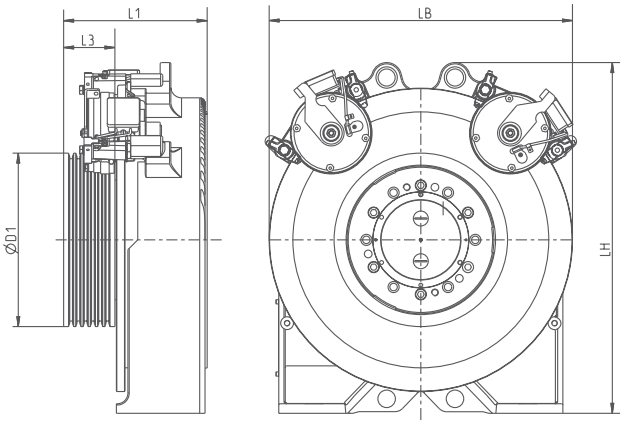
Motor cables Page 57
Rope pulleys Page 48
ZETALIFT Page 60

Technical data

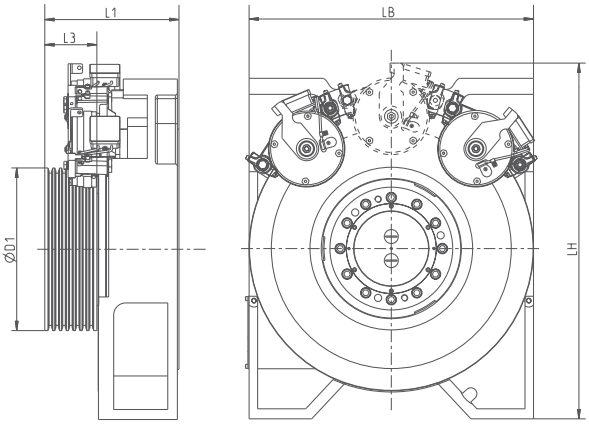
Motor type	Nominal torque	Max. axle load	Nominal speed	Rated output power
	[Nm]	[kg]	[min^{-1}]	[kW]
SM700.09AL	500	3000	60...96	3...5
SM700.12AL	750		60...168	4.5...13
SM700.14AL	850		60...240	5.5...17.5
SM700.16AL	1000	3600	60...240	6.5...20
SM700.16AL3	1050		60...168	7.2...20

Dimensions in mm

SM700.09-14



SM700.16AL(3)

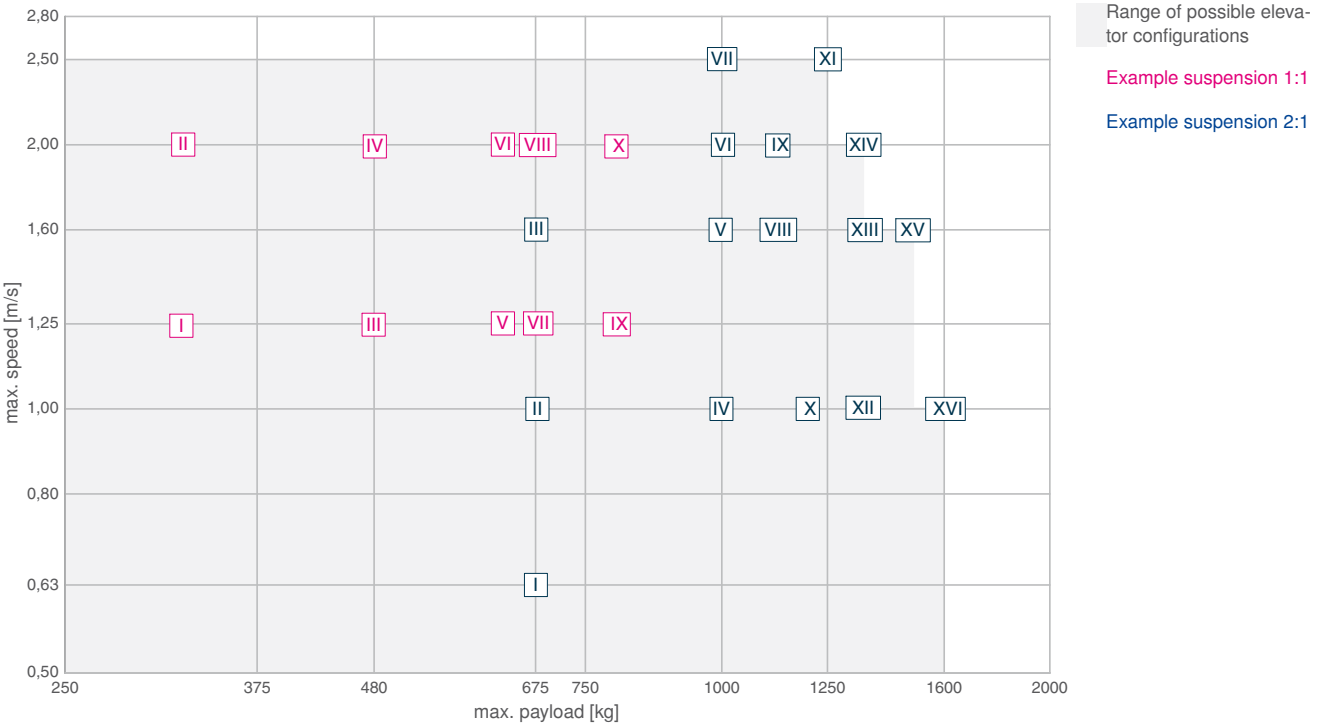


Motor type	L1	LH	LB	D1	L3	Rope	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]		[kg]
SM700.09AL	276	821	710	400	60	3 x 10	530
SM700.12AL	306	821	710	400	90	5 x 10	535
SM700.14AL	336	821	710	400	120	6 x 10	540
SM700.16AL	325	850	710	400	120	7 x 10	570
	335				130		575
SM700.16AL3	325	888	710	400	120	7 x 10	595
	335				130		605

Range of possible elevator configurations for SM700.09-16A

The chart below illustrates the range of typical elevator configurations that can be implemented with the ZETASYN SM700.09-16A external rotor motors. The main technical information for the portrayed example configurations are listed in the following table.

Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!
Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Motor type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Brake resistor	Motor power [kW]	Rated current [A]
1:1	I	320	1.25	SM700.09	400	3 x 10	11	BR11	3	7.6
	II	320	2.0	SM700.09	400	3 x 10	11	BR17	5	11.5
	III	480	1.25	SM700.12	400	5 x 10	11	BR17	4.5	11.5
	IV	480	2.0	SM700.12	400	5 x 10	17	BR17	7.5	18
	V	630	1.25	SM700.14	400	5 x 10	17	BR17	5.5	13
	VI	630	2.0	SM700.14	400	5 x 10	23	BR25	8.5	20.5
	VII	675	1.25	SM700.16A	400	6 x 10	17	BR17	6.5	16.5
	VIII	675	2.0	SM700.16A	400	6 x 10	32	BR25	10	25
	IX	800	1.25	SM700.16A-3	400	7 x 10	23	BR25	7	19
	X	800	2.0	SM700.16A-3	400	7 x 10	32	BR25	11.6	29
2:1	I	675	0.63	SM700.09	400	3 x 10	11	BR17	3	7.6
	II	675	1.0	SM700.09	400	3 x 10	11	BR17	5	11.5
	III	675	1.6	SM700.12	400	3 x 10	23	BR25	12	29
	IV	1000	1.0	SM700.12	400	5 x 10	23	BR25	7.5	18
	V	1000	1.6	SM700.12	400	5 x 10	32	BR25	12	29
	VI	1000	2.0	SM700.14	400	5 x 10	32	BR50	17	40.5
	VII	1000	2.5	SM700.14A	400	5 x 10	50	BR50	17.5	43
	VIII	1125	1.6	SM700.14	400	6 x 10	40	BR50	14	33.5
	IX	1125	2.0	SM700.14	400	6 x 10	40	BR50	17	40.5
	X	1200	1.0	SM700.14	400	6 x 10	23	BR25	8.5	20.5
	XI	1250	2.5	SM700.16A	400	6 x 10	62	BR50	20	50
	XII	1350	1.0	SM700.16A	400	6 x 10	32	BR25	10	25
	XII	1350	1.6	SM700.16A	400	6 x 10	50	BR50	16	41.5
	XIV	1350	2.0	SM700.16A	400	6 x 10	62	BR50	18	50
	XV	1500	1.6	SM700.16A-3	400	7 x 10	62	BR50	18.8	45
	XVI	1600	1.0	SM700.16A-3	400	7 x 10	32	BR25	11.6	29

Travel distance: 25 m at 1 m/s, 35-40 m at 1.6 m/s

ZETASYN Elevator machine

SM860.28

Description
- Installation depth < 585 mm
- Payloads up to 2500 kg
- Travel speed up to 3 m/s

Features
- Machine with traction sheave
- Rope guard acc EN81
- Absolute encoder type Heidenhain ECN1313 EnDat
- Three type approved shoe brakes
- Terminal box above for connecting the motor cable

Options
- Absolute encoder type Heidenhain ECN1313-SSI or ERN1387
- Traction sheaves ∅ 480 mm, 520 mm, 600 mm or 680 mm
- Mechanical hand release system with Bowden cables
- Motor cables

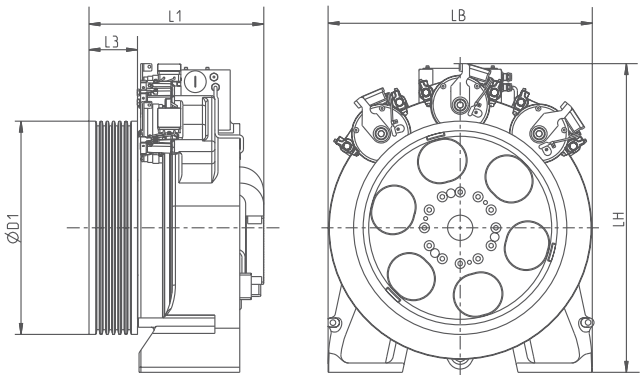
Motor cables Page 57
Rope pulleys Page 48
ZETALIFT Page 60

Technical data

Motor type	Nominal torque	Max. axle load	Nominal speed	Rated output power
	[Nm]	[kg]	[min^{-1}]	[kW]
SM860.28AL	2200	8000	40...196	9.2...39

Dimensions in mm

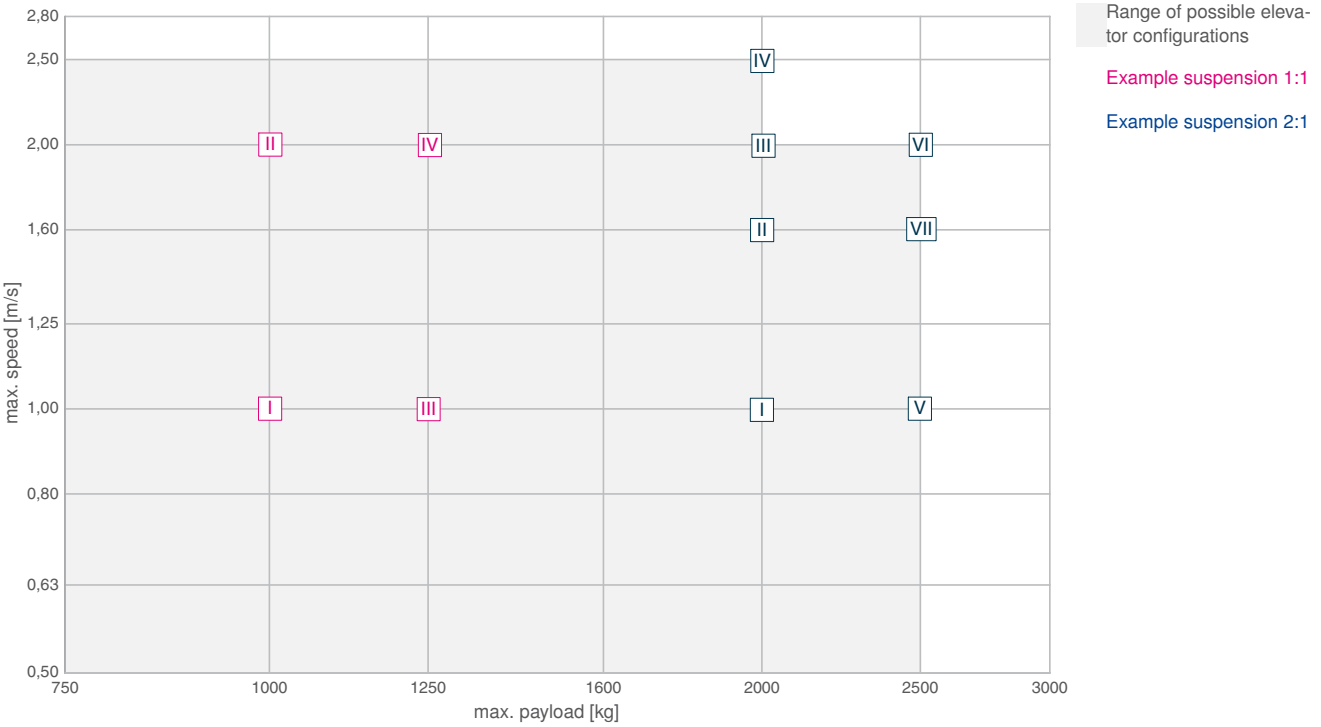
SM860.28



Motor type	L1	LH	LB	D1	L3	Rope	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]		[kg]
SM860.28	406	993	850	520	150	7 x 12	1025
				600		7 x 11	1040
				680		7 x 10	1060

Range of possible elevator configurations for SM860.28

The chart below illustrates the range of typical elevator configurations that can be implemented with the ZETASYN SM860.28 external rotor motors.
The main technical information for the portrayed example configurations are listed in the following table.
Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!
Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Motor type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Brake resistor	Motor power [kW]	Rated current [A]
1:1	I	1000	1.0	SM860.28	480	6 x 11	23	BR25	9.2	25.5
	II	1000	2.0	SM860.28	520	6 x 11	40	BR50	17	43
	III	1250	1.0	SM860.28	480	7 x 12	32	BR25	9.2	25.5
	IV	1250	2.0	SM860.28	480	7 x 12	50	BR50	22	53.5
2:1	I	2000	1.0	SM860.28	520	6 x 11	40	BR50	17	43
	II	2000	1.6	SM860.28	480	7 x 11	62	BR50	30	68.5
	III	2000	2.0	SM860.28	600	6 x 11	62	BR100	30	68.5
	IV	2000	2.5	SM860.28	600	6 x 11	74	BR100	37	80.5
	V	2500	1.0	SM860.28	480	7 x 12	62	BR50	22	53.5
	VI	2500	2.0	SM860.28	480	7 x 12	74	BR100	37	80.5
	VII	2500	1.6	SM860.28	480	7 x 12	62	BR50	30	68.5

Travel distance: 25 m at 1 m/s, 35-40 m at 1.6 m/s

Elevator machines with gear ZAS

Product overview

ZAS Elevator machine with gear

General information

The ZAS includes a high-quality German gear and a special elevator asynchronous motor from ZIEHL-ABEGG.
The flexible elevator machine with gear for modernisation and new construction.

Complete series for elevators from 630 kg to 10000 kg payload - everything from one single source!

High flexibility and variability:
- Optimised for simple installation in the machine room
- Great elevator travelling comfort through quiet and low-vibration run
- Travelling speeds of 0.5 m/s to 2.5 m/s
- Traction sheave diameter from 320 mm to 700 mm
- For rope diameters from 8 mm to 16 mm
- Various encoder systems for adaptation to all frequency inverters
- Optimum package solution with the ZIEHL-ABEGG ZETADYN frequency inverter
- Reliable selection with the ZETALIFT design program

Your safety

An ideal, type-approved safety brake is available for every series ZAS machine.
That means the elevator machines meet the requirements for use as a safeguard against uncontrolled and unintended car movement.

◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Industrie Service

EC type-examination certificate

Certificate no.:	ABV 592/2
Notified body:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München - Germany
Applicant/ Certificate holder:	WARNER Electric Europe 7, rue de Champfleur BP 20095 49124 St. Barthelemy D'Anjou - France
Date of application:	2010-11-05
Manufacturer of the test sample:	WARNER Electric Europe 7, rue de Champfleur BP 20095 49124 St. Barthelemy D'Anjou - France
Product:	Braking device acting on the shaft of traction sheave, as part of the protection device against overspeed for the car moving in upwards direction
Type:	ERS VAR10 SZ2500/_ _ _

Complete program for the ZAS elevator machine:

In addition to the machines and frequency inverters, ZIEHL-ABEGG also provides an entire program for modernisation in the machine room:

- Flat frames
- Elevated frames with columns and roller brackets with anti-friction pulley block
- Insulation elements

Gearbox on elevated frame

Gearbox on flat frame

ZAS Elevator machine with gear

ZAS0

Description
- Quiet running worm gear
- Versatile use in new buildings and modernisation

Features
- Machine with worm gear, frequency controlled asynchronous motor, hand wheel, brake and traction sheave
- Rope guard acc EN81
- Sine encoder ET2S-1024
- Double-circuit brake with overexcitation (operation at 207/104 V)
- Brake vent lever for evacuation and independent single circuit test

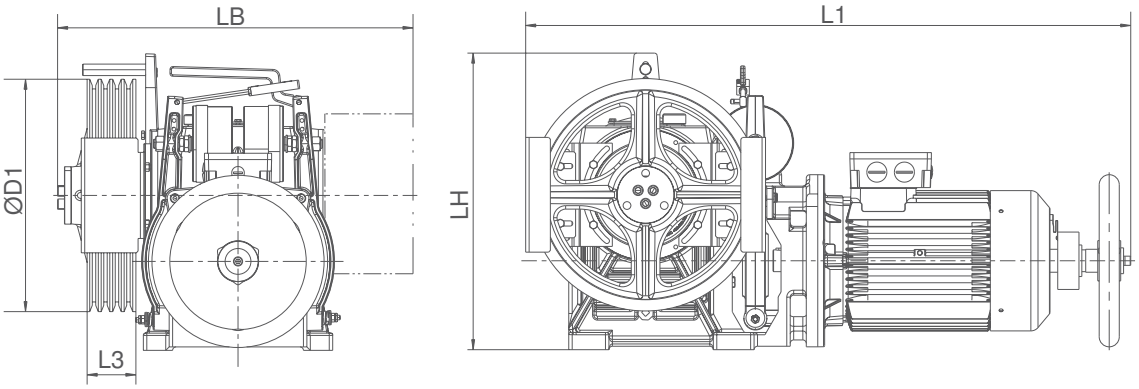
Options
- Incremental and sine encoder in various resolutions
- Safety brakes against uncontrolled car movements
- Fast acting rectifier for brakes with overexcitation
- Traction sheaves ∅ 320 mm. 400 mm or 520 mm
- Motor cables

- Motor cables Page 57
- Machine frame Page 49
- Rope pulleys Page 48
- ZETALIFT Page 60

Technical data

Gearbox type	Max. axle load [kg]	Gear ratio
SWG0	3000	39:1
SWG0		49:2

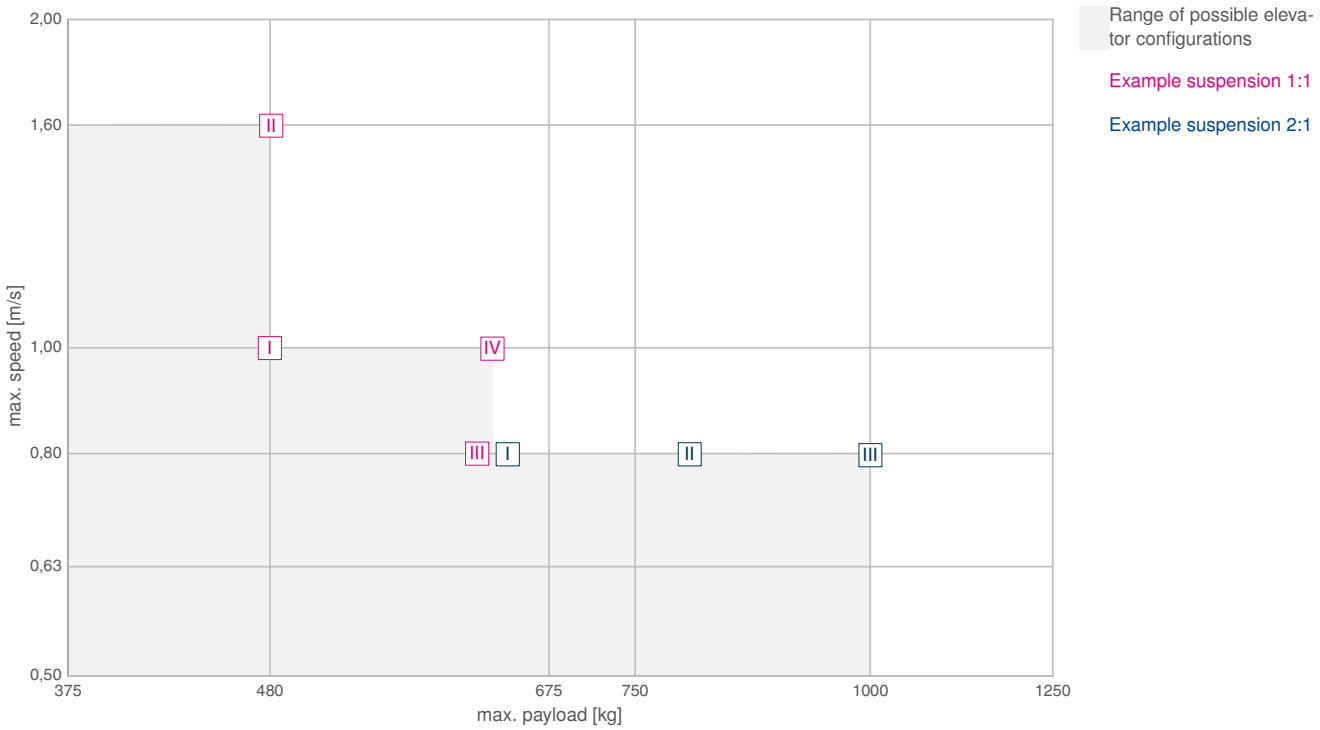
Dimensions in mm



Elevator machine type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope max.
ZAS0-SB	1123	477	782	320	90	6 x 8
	1163	517		400		5 x 10
	1223	577		520		
ZAS0	1123	477	597	320	90	6 x 8
	1163	517		400		5 x 10
	1223	577		520		

Range of possible elevator configurations for ZAS0

The chart below illustrates the range of typical elevator configurations that can be implemented with the machines with the ZAS0 gear.
The main technical information for the portrayed example configurations are listed in the following table.
Additional elevator configurations. also outside the typical range. are possible. Flexibility is our business!
Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload	Speed	Elevator machine type	Traction sheave	Rope	Nominal current frequency inverter	Motor power
		[kg]	[m/s]		[mm]		[A]	[kW]
1:1	I	480	1.0	ZAS0	520	4 x 10	13	5.5
	II	480	1.6	ZAS0	520	4 x 10	17	7.5
	III	630	0.8	ZAS0	400	4 x 10	13	5.5
	IV	630	1.0	ZAS0	520	4 x 11	17	7.5
2:1	I	630	0.8	ZAS0	520	3 x 10	17	5.5
	II	800	0.8	ZAS0	520	3 x 10	17	5.5
	III	1000	0.8	ZAS0	520	3 x 10	17	5.5

ZAS Elevator machine with gear

ZAS1

- Motor cables Page 57
- Machine frame Page 49
- Rope pulleys Page 48
- ZETALIFT Page 60

Description
- Quiet running worm gear
- Versatile use in new buildings and modernisation

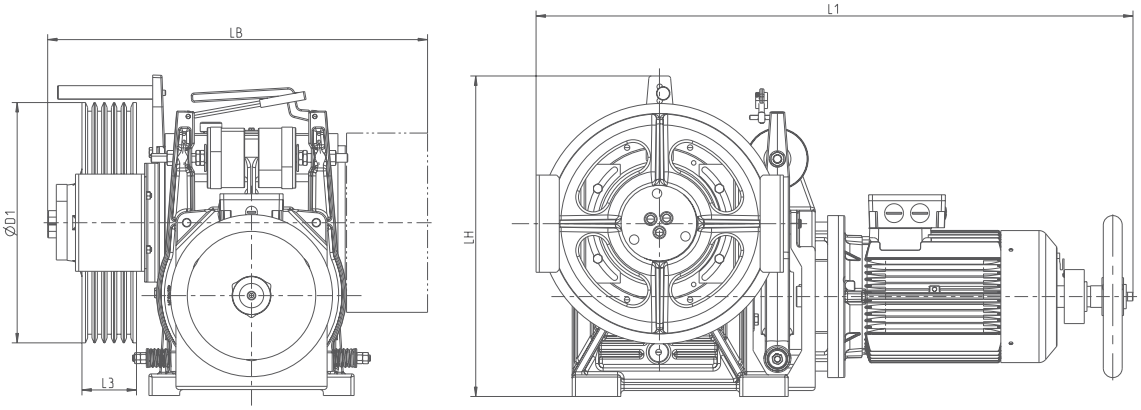
Features
- Machine with worm gear, frequency controlled asynchronous motor, hand wheel, brake and traction sheave
- Rope guard acc EN81
- Sine encoder ET2S-1024
- Double-circuit brake with overexcitation (operation at 207/104 V)
- Brake vent lever for evacuation and independent single circuit test

Options
- Incremental and sine encoder in various resolutions
- Safety brakes against uncontrolled car movements
- Fast acting rectifier for brakes with overexcitation
- Traction sheaves ∅ 400 mm. 520 mm or 600 mm
- Motor cables

Technical data

Gearbox type	Max. axle load [kg]	Gear ratio
SWG1	5000	40:1
SWG1		50:2
SWG1		39:2
SWG1		27:2

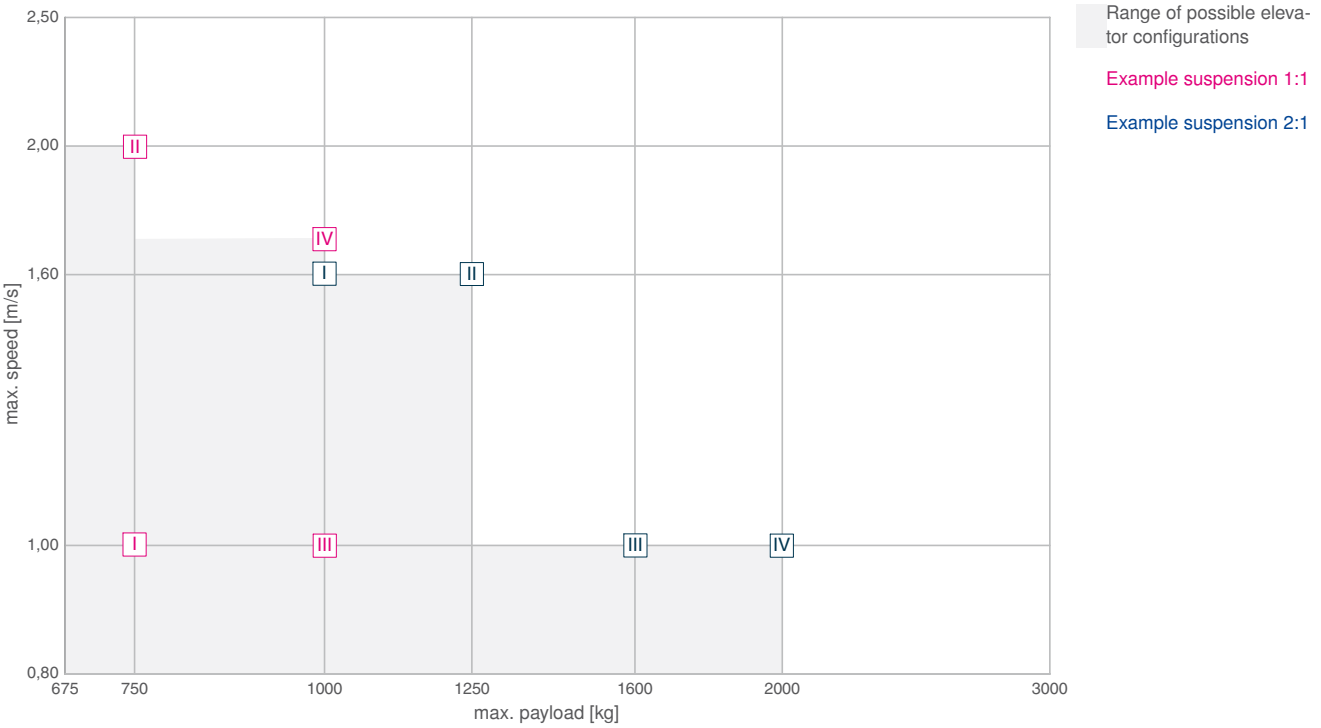
Dimensions in mm



Elevator machine type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope max.
ZAS1-SB	1169	574	704	400	101	5 x 10
					128	7 x 10
	1229	634		520	101	4 x 13
					128	6 x 13
	1269	654		600		
ZAS1	1169	574	554	400	101	5 x 10
					128	7 x 10
	1229	634		520	101	4 x 13
					128	6 x 13
	1269	654		600		

Range of possible elevator configurations for ZAS1

The chart below illustrates the range of typical elevator configurations that can be implemented with the machines with the ZAS1 gear.
The main technical information for the portrayed example configurations are listed in the following table.
Additional elevator configurations. also outside the typical range. are possible. Flexibility is our business!
Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Elevator machine type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Motor power [kW]
1:1	I	750	1.0	ZAS1	520	6 x 10	23	7.5
	II	750	2.0	ZAS1	520	6 x 10	32	15
	III	1000	1.0	ZAS1	520	6 x 12	23	9.2
	IV	1000	1.7	ZAS1	560	6 x 12	40	15
2:1	I	1000	1.6	ZAS1	520	4 x 10	32	15
	II	1250	1.6	ZAS1	560	4 x 12	40	15
	III	1600	1.0	ZAS1	520	5 x 12	32	15
	IV	2000	1.0	ZAS1	600	6 x 12	40	15

ZAS Elevator machine with gear

ZAS2

- Motor cables Page 57
- Machine frame Page 49
- Rope pulleys Page 48
- ZETALIFT Page 60

Description
- Quiet running worm gear
- Versatile use in new buildings and modernisation

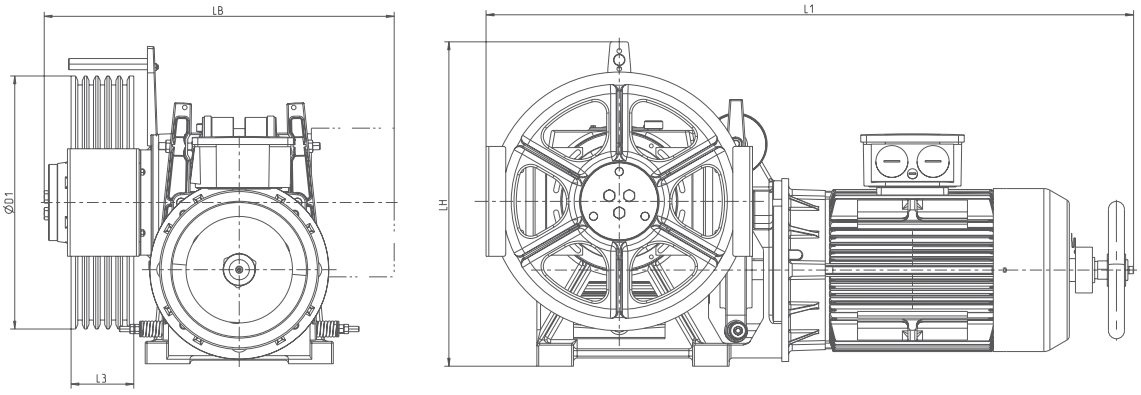
Features
- Machine with worm gear, frequency controlled asynchronous motor, hand wheel, brake and traction sheave
- Rope guard acc EN81
- Sine encoder ET2S-1024
- Double-circuit brake with overexcitation (operation at 207/104 V)
- Brake vent lever for evacuation and independent single circuit test

Options
- Incremental and sine encoder in various resolutions
- Safety brakes against uncontrolled car movements
- Fast acting rectifier for brakes with overexcitation
- Traction sheaves ∅ 520 mm, 560 mm, 590 mm, 600 mm, 640 mm or 700 mm
- Motor cables

Technical data

Gearbox type	Max. axle load [kg]	Gear ratio
SWG2	7500	46:1
SWG2		28:1
SWG2		45:2
SWG2		27:2

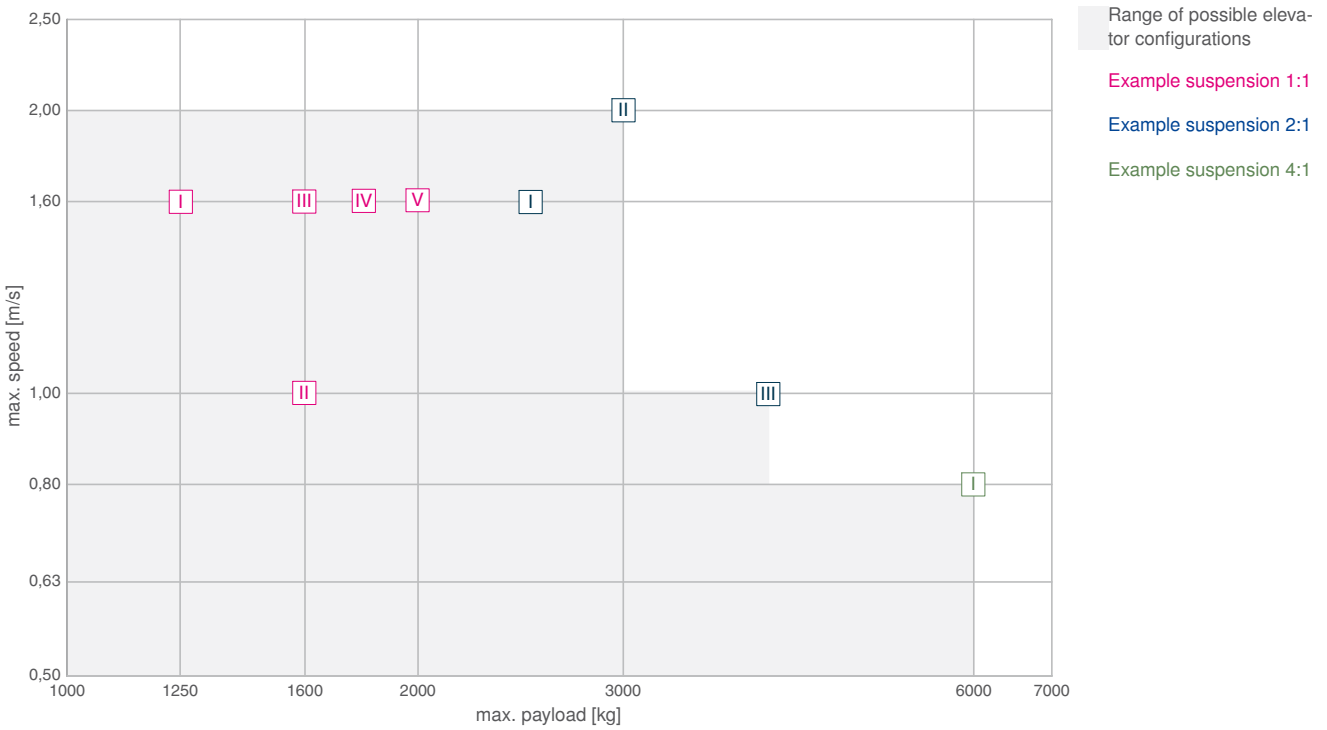
Dimensions in mm



Elevator machine type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope max.
ZAS2-SB	1459	689	782	520	140	7 x 11
	1479	709		560		
	1494	724		590	170	8 x 13
	1499	729		600	140	7 x 11
	1519	749		640	180	8 x 13
	1549	779		700	148	7 x 13
ZAS2	1459	689	597	520	140	7 x 11
	1479	709		560		
	1494	724		590	170	8 x 13
	1499	729		600	140	7 x 11
	1519	749		640	180	8 x 13
	1549	779		700	148	7 x 13

Range of possible elevator configurations for ZAS2

The chart below illustrates the range of typical elevator configurations that can be implemented with the machines with the ZAS2 gear.
The main technical information for the portrayed example configurations are listed in the following table.
Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!
Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload [kg]	Speed [m/s]	Elevator machine type	Traction sheave [mm]	Rope	Nominal current frequency inverter [A]	Motor power [kW]
1:1	I	1250	1.6	ZAS2	590	6 x 12	40	16.5
	II	1600	1.0	ZAS2	600	7 x 12	40	15
	III	1600	1.6	ZAS2	590	7 x 12	40	22
	IV	1800	1.6	ZAS2	590	7 x 13	62	22
	V	2000	1.6	ZAS2	590	8 x 13	62	30
2:1	I	2500	1.6	ZAS2	700	7 x 12	74	30
	II	3000	2.0	ZAS2	700	6 x 13	110	45
	III	4000	1.0	ZAS2	590	8 x 13	74	30
4:1	I	6000	0.8	ZAS2	590	7 x 13	110	45

ZAS Elevator machine with gear

ZAS3

- Motor cables Page 57
- Machine frame Page 49
- Rope pulleys Page 48
- ZETALIFT Page 60

Description
- Quiet running worm gear
- Versatile use in new buildings and modernisation

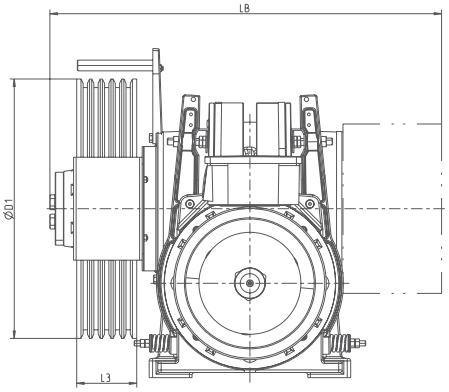
Features
- Machine with worm gear, frequency controlled asynchronous motor, hand wheel, brake and traction sheave
- Rope guard acc EN81
- Sine encoder ET2S-1024
- Double-circuit brake with overexcitation (operation at 207/104 V)
- Brake vent lever for evacuation and independent single circuit test

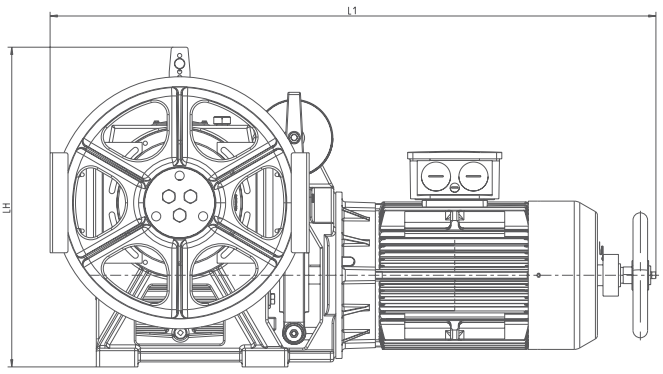
Options
- Incremental and sine encoder in various resolutions
- Safety brakes against uncontrolled car movements
- Fast acting rectifier for brakes with overexcitation
- Traction sheaves ∅ 520 mm, 560 mm, 590 mm, 600 mm, 640 mm or 700 mm
- Motor cables

Technical data

Gearbox type	Max. axle load [kg]	Gear ratio
SWG3	11000	46:1
SWG3		27:1
SWG3		43:2

Dimensions in mm

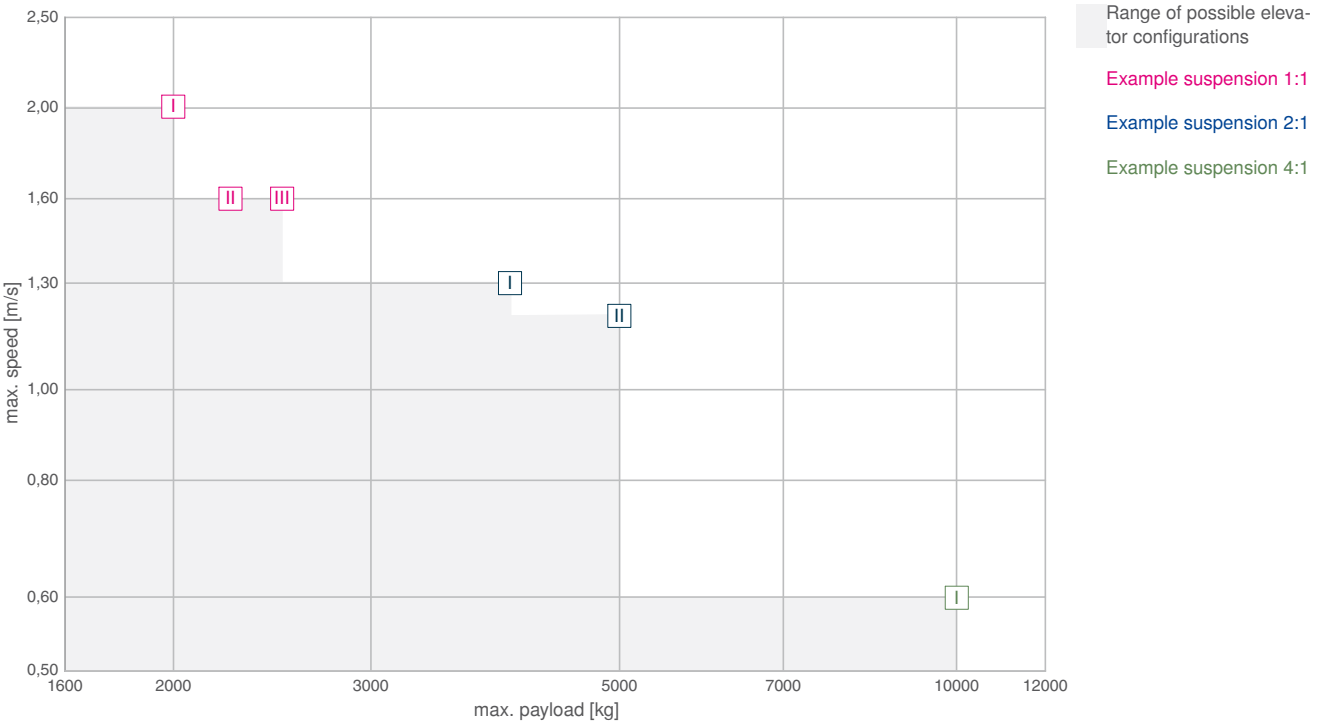




Elevator machine type	L1 [mm]	LH [mm]	LB [mm]	D1 [mm]	L3 [mm]	Rope max.
ZAS3-SB	1459	728	914	520	140	7 x 11
	1479	148		560		
	1499	768		600		
				600	184	8 x 13
	1519	788		640	180	
	1549	818		700	184	
ZAS3	1459	728	684	520	140	7 x 11
	1479	148		560		
	1499	768		600		
				600	184	8 x 13
	1519	788		640	180	
	1549	818		700	184	

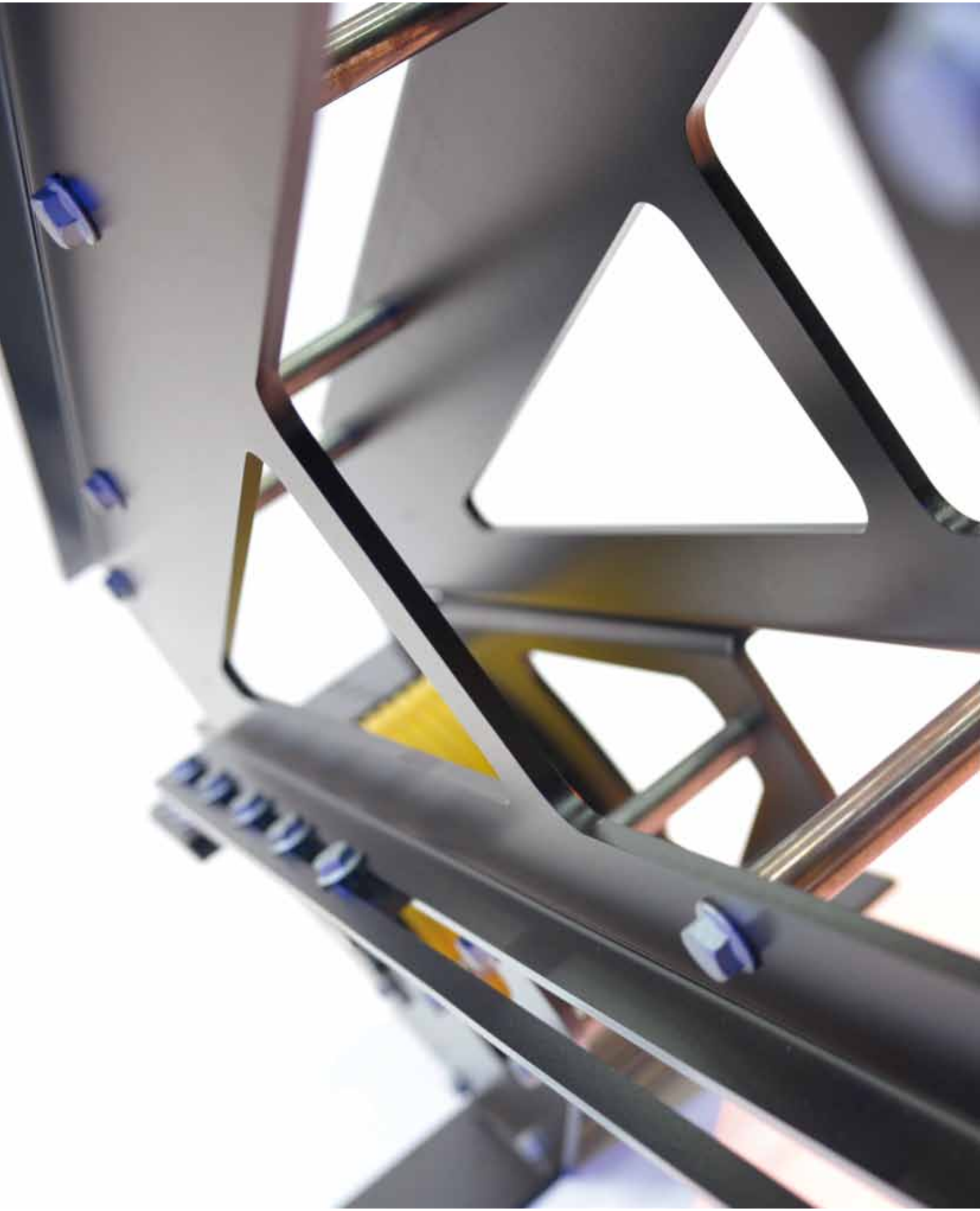
Range of possible elevator configurations for ZAS3

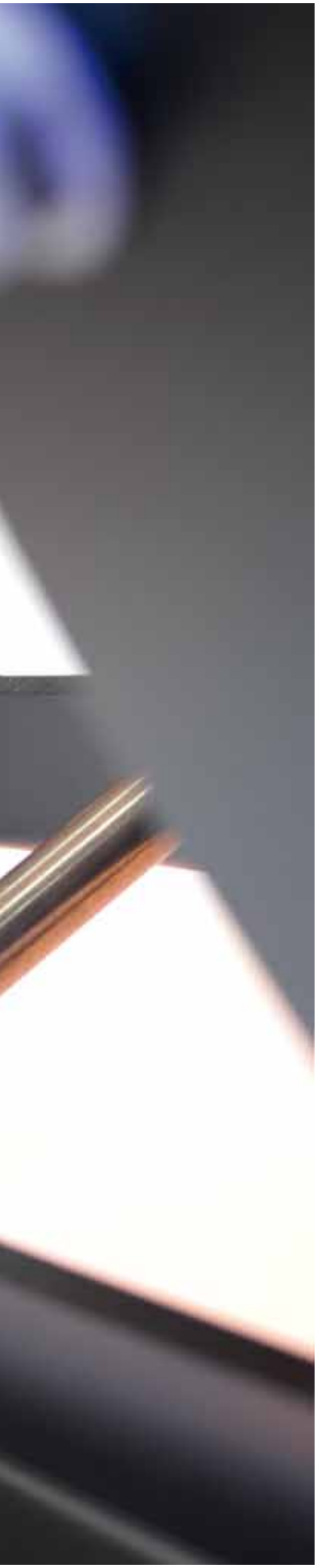
The chart below illustrates the range of typical elevator configurations that can be implemented with the machines with the ZAS3 gear.
The main technical information for the portrayed example configurations are listed in the following table.
Additional elevator configurations, also outside the typical range, are possible. Flexibility is our business!
Our free ZETALIFT calculation software is available for comfortable and rapid calculation of your elevator project.



Typical applications

Suspension	No	Max. payload	Speed	Elevator machine type	Traction sheave	Rope	Nominal current frequency inverter	Motor power
		[kg]	[m/s]		[mm]		[A]	[kW]
1:1	I	2000	2.0	ZAS3	700	7 x 16	74	37
	II	2250	1.6	ZAS3	640	7 x 16	74	34
	III	2500	1.6	ZAS3	640	8 x 14	74	34
2:1	I	4000	1.3	ZAS3	700	6 x 14	110	37
	II	5000	1.2	ZAS3	640	6 x 16	110	45
4:1	I	10000	0.6	ZAS3	640	7 x 14	110	45





System components motors

Product overview

Rope pulleys

Scope of delivery

- Rope pulley (plastic) with deep-groove ball bearings including axle
- Two axle fixing plates
- Mounting screws
- Washers
- Spacer sleeves

Options

- Two angle brackets

Rope pulleys with axle and axle fixing plates

Rope pulley diameter [mm]	Rope diameter [mm]	Number of grooves	Groove spacing [mm]	Rim width [mm]	Axle diameter [mm]	Axle length [mm]	Bearing type	Weight without axle [kg]	Max. axle load [kg]	Article no.
160	4	7	10	80	55	170	6211-2RS	4.5	1000	**02011795**
		12	10	126	55	190	6211-2RS	5.5	1650	**02011793**
210	6.0-6.7	7	10	82	55	170	6211-2RS	5.6	2000	**02012909**
		10	10	112	55	190	6211-2RS	7.2	2500	**02012908**
240	6.0-6.7	7	10	82	55	170	6211-2RS	5.6	2000	**02012910**
		10	10	112	55	190	6211-2RS	7.2	2500	**02012911**
320	8	6	17	116	60	170	6212-2RS	8.4	3000	**02007636**
		7	14	116	60	170	6212-2RS	8.4	3000	**02011725**
		10	17	182	60	250	6312-2ZR.L272	17.8	5000	**02008315**
		12	14	182	60	250	6312-2ZR.L272	17.8	5000	**02010922**
400	8	6	17	116	60	170	6212-2RS	9.8	3000	**02007637**
		10	17	182	60	250	6312-2ZR.L272	18.4	5000	**02007638**
		12	14	182	60	250	6312-2ZR.L272	18.4	5000	**02007509**
400	10	5	17	116	60	170	6212-2RS	9.8	3000	**02006714**
		7	17	138	60	210	6312-2ZR.L272	14.2	5000	**02006715**
		10	17	182	60	250	6312-2ZR.L272	18.4	5000	**02007604**
520	12	6	20	145	60	210	6312-2ZR.L272	23.2	5000	**02006717**

Machine frame

ZAS elevated frame

Description

- Variable use frames with diverter pulleys for 1:1 suspension
- Bolted construction, easy transport in the machine room
- Continuous rope distance setting

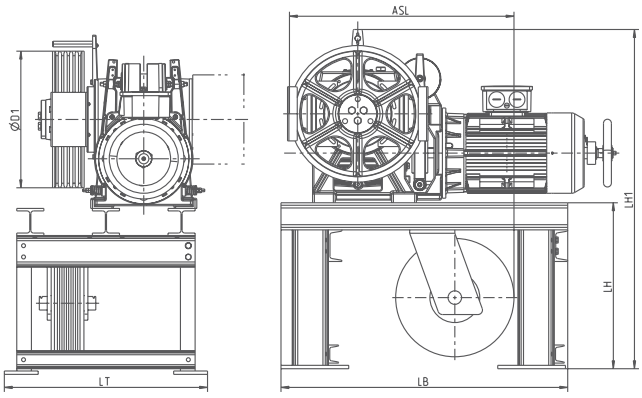
Scope of delivery

- Complete frame with mounting material
- Rope pulley complete with axles, axle fixing plate, spacer sleeves and mounting material
- Insulation elements

ZAS0 - ZAS3 elevated frame

Motor type	Article no.	Traction sheave D1 [mm]	Rope distance max. [mm]	Rope pulley [mm]	∅ Rope max. [mm]	Max. axle load [kg]
ZAS0	**02014252-M**	320	800	400	8	3000
		400		400	10	
		520		520	13	
ZAS1	**02014253-M**	400	1000	520	10	5000
		520		400	13	
		600		520	15	
ZAS2	**02014254-M**	520	1100	600	13	7500
		560		520	13	
		590		520	13	
		600		600	15	
		640		640	16	
		700		640	16	
ZAS3	**02014255-M**	520	1200	520	13	11000
		560		560	14	
		600		600	15	
		640		640	16	
		700		640	16	

Dimensions in mm



Motor type	LB [mm]	LH [mm]	LH1 [mm]	LT [mm]
ZAS0	1015	715	425	680
ZAS1	1210	715	1210	724
ZAS2	1210	715	1265	724
ZAS3	1320	735	1405	900

Machine frame

ZAS flat frame

Description

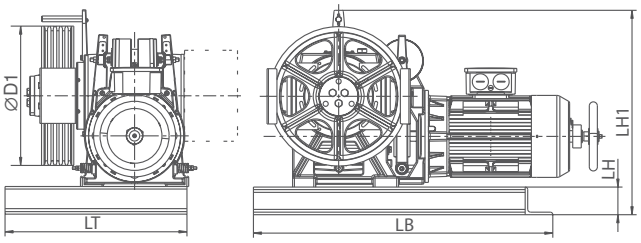
- Frame suitable for 2:1 suspension with 180° wrapping
- Welded construction

Scope of delivery

- Frame complete with mounting material
- Insulation elements

ZAS0 - ZAS3 flat frame				
Motor type	**Article no.**	Traction sheave D1 [mm]	⌀ Rope max.	Max. axle load [kg]
ZAS0	**02018150-M**	320	8	3000
		400	10	
		520	13	
ZAS1	**02018151-M**	400	10	5000
		520	13	
		600	15	
ZAS2	**02018152-M**	520	13	7500
		560	14	
		590	14	
		600	15	
		640	16	
		700	17	
ZAS3	**02018153-M**	520	13	11000
		560	14	
		600	15	
		640	16	
		700	17	

Dimensions in mm



Motor type	LB [mm]	LH [mm]	LH1 [mm]	LT [mm]
ZAS0	1090	100	617	550
ZAS1	1160	90	585	624
ZAS2	1230	100	650	710
ZAS3	1300	120	790	790

Machine frame

Flat frame for SM160 - SM200.30C

Description
- Frame suitable for 2:1 suspension
- Bolted construction, simple transport in the machine room

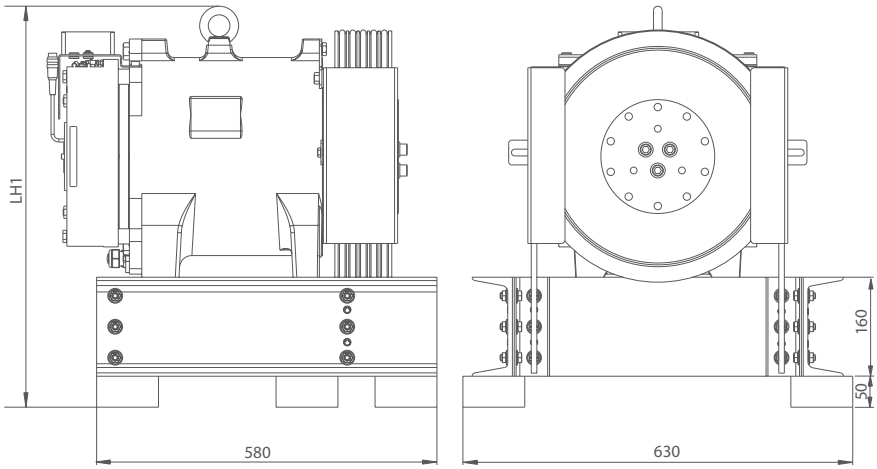
Scope of delivery
- Frame complete with mounting material

Optional accessory
- Insulation elements

Flat frame for SM160 - SM200.30C

Motor type	Traction sheave [mm]	∅ Rope max. [mm]	Max. axle load [kg]	Height LH1 [mm]		Article no.
SM160.20	160	4	1300	573		70027196
	210	4 / 6-6.7				
	240	6-6.7				
SM160.30	160	4				
	210	4 / 6-6.7				
	240	6-6.7				
SM160.40A	160	4	1900	563	without hand release	
	210	4 / 6-6.7		693	with hand release	
	240	6-6.7				
SM200.15C	210	6-6.7	1850	648	without hand release	
	240	6-6.7		653	with hand release	
	320	8				
SM200.20C	210	6-6.7	2800			
	240	6-6.7				
	320	8				
SM200.30C	210	6-6.7		802	with hand release	
	240	6-6.7				
	320	8				

Dimensions in mm



Machine frame

Flat frame for SM225.60B and SM250.60B

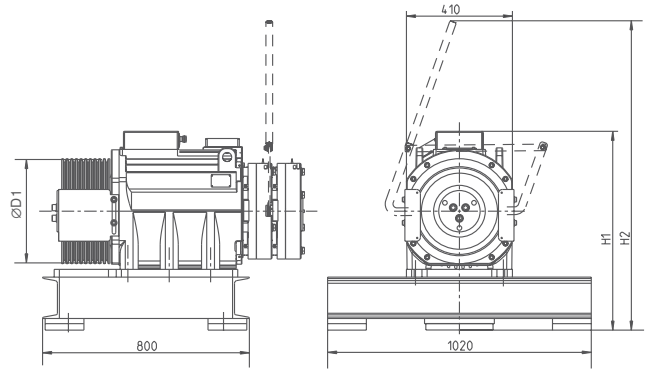
Description
- Frame suitable for 2:1 suspension with 180° wrapping
- Stable welded construction

Scope of delivery
- Frame complete with mounting material

Optional accessory
- Insulation elements

Flat frame for SM225.60B and SM250.60B				
Motor type	Traction sheave [mm]	∅ Rope max. [mm]	Max. axle load [kg]	**Article no.**
SM225.60B	400	10	5300	**02010208**
SM250.60B		10	5000	
SM225.60B	500	10	5300	
SM250.60B		10	6000	
SM225.60B	600	10	5300	
SM250.60B		10	6000	

Dimensions in mm



Motor type	D1 [mm]	H1 [mm]	H2 [mm]
SM225.60B	400	744	1062
	500	794	1112
	600	844	1162
SM250.60B	400	769	1197
	500	819	1247
	600	869	1297

Machine frame

S-wrap

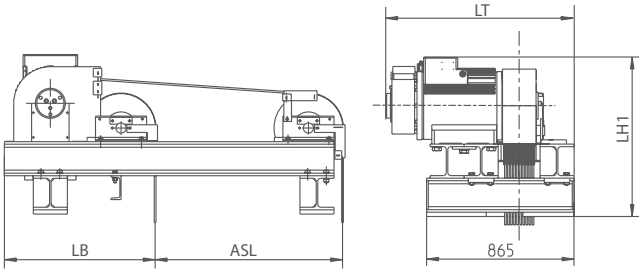
Description
- Variable use frame with diverter pulley suitable for 1:1 suspension
- Welded and bolted construction
- Order-specific rope distance (ASL) setting in 50 mm steps

Scope of delivery
- Frame complete with mounting material
- Rope pulleys complete with axles, axle fixing plate, spacer sleeves and mounting material

Optional accessories
- Insulation elements

Machine frame S-wrap				
Motor type	Traction sheave [mm]	Rope pulley [mm]	∅ Rope max. [mm]	Max. axle load [kg]
SM225.40	320	400	10	3300
	400			
SM225.60B	320			5300
	400			
SM250.60B	320			6000
	400			

Dimensions in mm



Motor type	LB [mm]	ASL [mm]	LH1 [mm]	LT [mm]
SM225.40	846	500 - 1000	807	873
SM225.60B	885	500 - 1100	936	1102
SM250.60B	840		935	1195

Machine frame

Double wrap for SM250.80C and SM250.100C

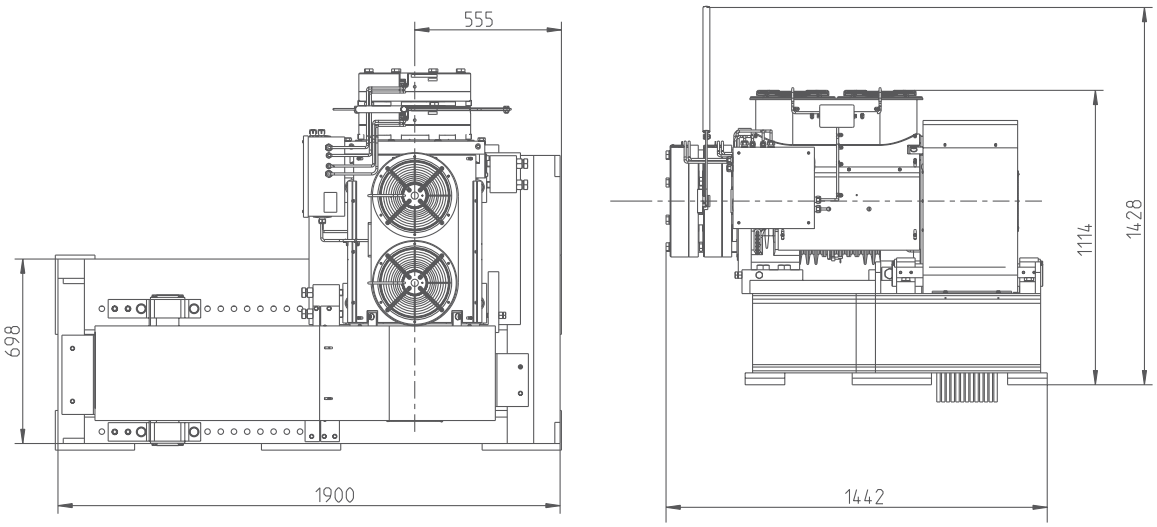
Description
- Stable welded construction

Scope of delivery
- Frame complete with rope pulley, protective cover and damping elements

Optional accessories
- Insulation element

Machine frame SM250C							
Motor type	Traction sheave	∅ Rope max.	Max. axle load	Rope pulley	Rope distance min.	Rope distance max.	Grid
	[mm]	[mm]	[kg]	[mm]	[mm]	[mm]	[mm]
SM250.80C	450	11	13000	520	1020	1420	50
SM250.100C							
SM250.80C	500	11			1045	1445	
SM250.100C							
SM250.80C	520	13			1055	1455	
SM250.100C							

Dimensions in mm



Machine frame

The complete solution for 1:1 and retrofit to 2:1 for SM160 - SM200.30C

Description

- Variable use frame, suitable for 1:1 and 2:1 suspension
- During retrofit from 1:1 to 2:1, the arrester frame and counterweight can be retained
- Bolted construction means simple transport in the machine room

Scope of delivery

- Frame complete with spacers, mounting plate for ZETATOP and mounting material
- 2 rope pulleys complete with axles, axle fixing plates, spacer sleeves and mounting material

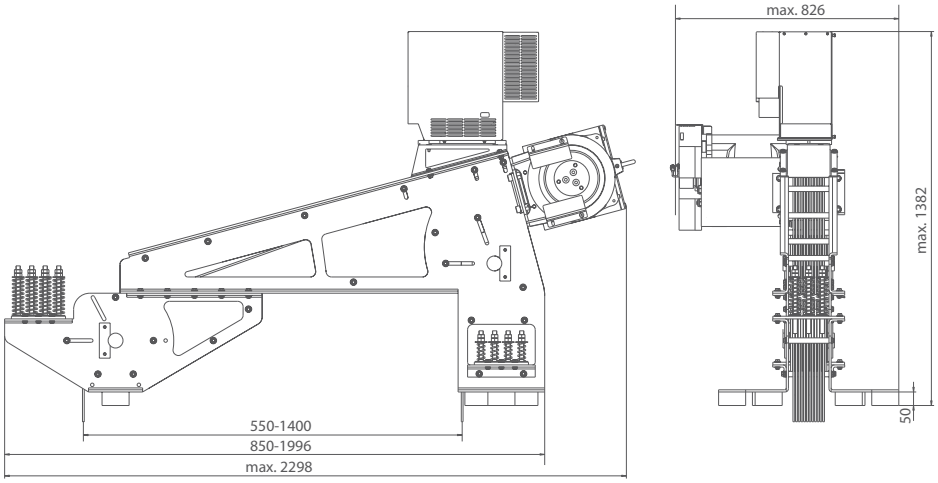
Optional accessories

- Insulation elements
- Panel for frequency inverter
- ZETADYN 3...-MRL
- ZETATOP
- Motor cable
- Rope suspension plates
- Adaptation counterweight incl. rope pulley
- Adaptation cabin incl. rope pulley
- Ropes and rope end terminations

Article no. 70027197

Modernisation frame				
Motor type	Traction sheave [mm]	∅ Rope max. [mm]	Rope pulley [mm]	Max. axle load [kg]
SM160.20	210	4 / 6-6.7	160 / 210 / 240	1300
	240	6-6.7	210 / 240	
SM160.30	210	4 / 6-6.7	160 / 210 / 240	
	240	6-6.7	210 / 240	
SM160.40A	210	4 / 6-6.7	160 / 210 / 240	1900
	240	6-6.7	210 / 240	
SM200.15C	210	6-6.7	210 / 240	1850
	240	6-6.7		
SM200.20C	210	6-6.7	210 / 240	2800
	240	6-6.7		
SM200.30C	210	6-6.7	210 / 240	
	240	6-6.7		
	320	8	320	

Dimensions in mm



Forced ventilation

Description

Centrifugal fans for setting up enclosed ventilated elevator machines

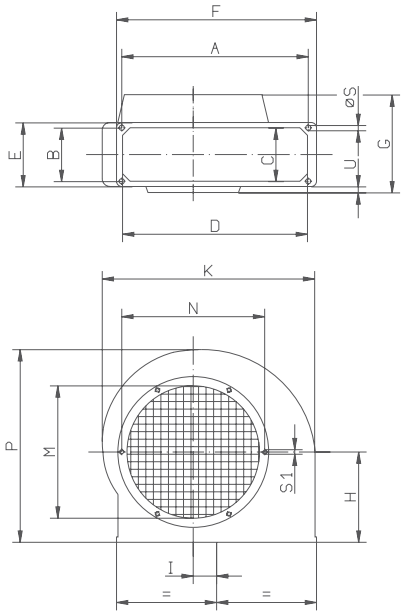
Forced ventilation				
Type	**Article no.**	Voltage [V]	Connection	Airflow free-blowing [m³]
EF141	**60002035A**	230	Single phase	240
EF161	**600020401**			500
EF163	**600020501**			700
EF224/2	**60002060B**			800
EWF232	**60002070A**			1400
DF163	**600022408**	400	Three-phase current	750
DF224/2	**60002062C**			750
DWF232	**60002075B**			1440

Accessories / spare parts

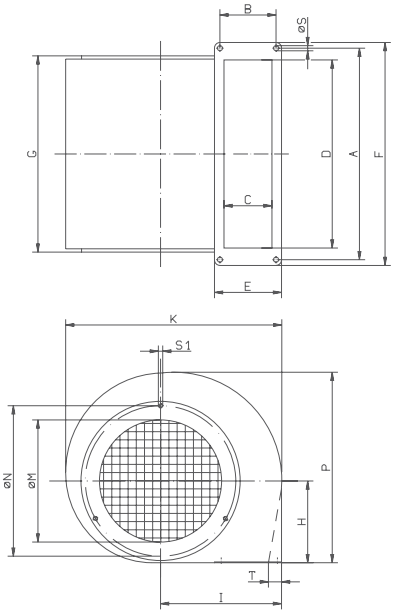
Thermal contact	**00013581**
Retaining plate for thermal contact	**00031240**

Dimensions in mm

EF, DF

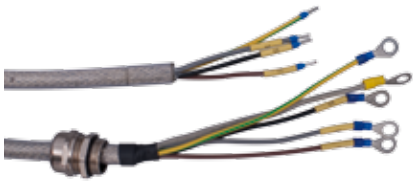


EWF, DWF



Type	A	B	C	D	E	F	G	H	I	K	M	N	P	S	S1	U
EF141	248	71	71	226	85,5	266	101	75	15	220	120	-	185	7	-	6,5
EF161				246	85	266	129	120	31	282	131	194	256		6 x M6	8
EF163							151									30
DF163							129									8
EF224/2							151									30
DF224/2							129									8
EWF232	306	71	71	289	97	320	308	120	170	303	170	220	272	7	3 x M6	24
DWF232																

Motor cables



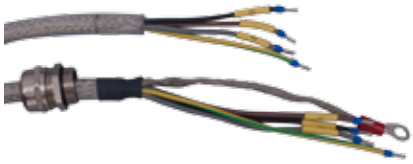
For motor types ZETATOP, ZETASYN SM860 and VFD

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Including cable gland
- Prefabricated:
  - Connection side motor: Ring cable lug
  - Connection side ZETADYN: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Ring cable lug for terminal board	Fits motor	Cable length [m]	**Type**	**Article no.**
20	4 x 2.5	M25	M6	VFD132	5.0	**L-ML-05-YY-2,5-M6**	**356035-05M**
					10.0	**L-ML-10-YY-2,5-M6**	**356035-10M**
			M8	SM200.40 SM225 VFD160	1.8	**L-ML-018-YY-2,5-M8**	**356038-01.8M**
					3.0	**L-ML-03-YY-2,5-M8**	**356038-03M**
					5.0	**L-ML-05-YY-2,5-M8**	**356038-05M**
					10.0	**L-ML-10-YY-2,5-M8**	**356038-10M**
25	4 x 4.0	M32	M6	VFD132	5.0	**L-ML-05-YY-4-M6**	**356036-05M**
					10.0	**L-ML-10-YY-4-M6**	**356036-10M**
			M8	SM200.40 SM225 SM860 VFD160	1.8	**L-ML-018-YY-4-M8**	**356039-01.8M**
					3.0	**L-ML-03-YY-4-M8**	**356039-03M**
					5.0	**L-ML-05-YY-4-M8**	**356039-05M**
					10.0	**L-ML-10-YY-4-M8**	**356039-10M**
35	4 x 6.0	M32	M6	VFD132	5.0	**L-ML-05-YY-6-M6**	**356037-05M**
					10.0	**L-ML-10-YY-6-M6**	**356037-10M**
			M8	SM200.40 SM225 SM250 SM860 VFD180	1.8	**L-ML-018-YY-6-M8**	**356040-01.8M**
					3.0	**L-ML-03-YY-6-M8**	**356040-03M**
					5.0	**L-ML-05-YY-6-M8**	**356040-05M**
					10.0	**L-ML-10-YY-6-M8**	**356040-10M**
50	4 x 10.0	M40	M8	SM200.40 SM225 SM250 SM860 VFD160-225	3.0	**L-ML-03-YY-10-M8**	**356041-03M**
					5.0	**L-ML-05-YY-10-M8**	**356041-05M**
					10.0	**L-ML-10-YY-10-M8**	**356041-10M**
63	4 x 16.0	M40	M8	SM200.40 SM225 SM250 SM860 VFD180-250	1.8	**L-ML-018-YY-16-M8**	**356042-01.8M**
					3.0	**L-ML-03-YY-16-M8**	**356042-03M**
					5.0	**L-ML-05-YY-16-M8**	**356042-05M**
					10.0	**L-ML-10-YY-16-M8**	**356042-10M**
80	4 x 25.0	M50	M8	SM225 SM250 SM860 VFD180-250	3.0	**L-ML-03-YY-25-M8**	**356043-03M**
					5.0	**L-ML-05-YY-25-M8**	**356043-05M**
					10.0	**L-ML-10-YY-25-M8**	**356043-10M**
100	4 x 35.0	M50	M8	SM225 SM250 SM860 VFD180-25	10.0	**L-ML-10-YY-35-M8**	**356044-10M**
			M10		5.0	**L-ML-05-YY-35-M10**	**356033-05M**
					10.0	**L-ML-10-YY-35-M10**	**356033-10M**

* The stated rated currents are rated according to DIN VDE 0298-4 for wiring method B2 and a max. ambient temperature of 40° C.

Motor cables



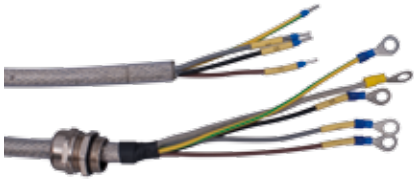
For motor types ZETASYN SM700 and externally procured motors

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Including cable gland
- Prefabricated:
  - Connection side motor: Wire-end sleeves
  - Connection side ZETADYN: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Fits motor	Cable length [m]	Type	Article no.
20.0	4 x 2.5	M25	SM700	3.0	L-ML-03-YY-2,5-AE	356016-03M
				10.0	L-ML-10-YY-2,5-AE	356016-10M
25.0	4 x 4.0	M32	SM700	3.0	L-ML-03-YY-4-AE	356017-3M
				10.0	L-ML-10-YY-4-AE	356017-10M
35.0	4 x 6.0	M32	SM700	3.0	L-ML-03-YY-6-AE	356018-03M
				10.0	L-ML-10-YY-6-AE	356018-10M
50.0	4 x 10.0	M25	SM700	3.0	L-ML-03-YY-10-AE	356019-03M
				10.0	L-ML-10-YY-10-AE	356019-10M
63.0	4 x 16.0	M40	SM700	3.0	L-ML-03-YY-16-AE	356020-03M
				10.0	L-ML-10-YY-16-AE	356020-10M
80.0	4 x 25.0	M50	SM700	10.0	L-ML-10-YY-25-AE	356021-03M
100.0	4 x 35.0	M50	SM700	10.0	L-ML-10-YY-35-AE	356022-10M

* The stated rated currents are rated according to DIN VDE 0298-4 for wiring method B2 and a max. ambient temperature of 40° C.

Halogen-free motor cables



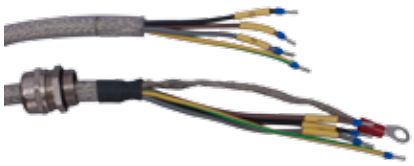
For motor types ZETATOP, ZETASYN SM860 and VFD

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Halogen-free
- Including cable gland
- Prefabricated:
  - Connection side motor: Ring cable lug
  - Connection side ZETADYN: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Ring cable lug for terminal board	Fits motor	Cable length [m]	Type	Article no.
20	4 x 2.5	M25	M8	SM200.40 SM225 VFD160	10.0	L-ML-10-HX-2,5-M8	356056-10M
25	4 x 4.0	M32	M8	SM200.40 SM225 VFD160	10.0	L-ML-10-HX-4-M8	356057-10M
35	4 x 6.0	M32	M8	SM200.40 SM225 SM250 VFD160	5.0	L-ML-05-HX-6-M8	356058-05M
					10.0	L-ML-10-HX-6-M8	356058-10M
50	4 x 10.0	M40	M8	SM200.40 SM225 SM250 SM860 VFD160-225	5.0	L-ML-05-HX-10-M8	356059-05M
					10.0	L-ML-10-HX-10-M8	356059-10M
63	4 x 16.0	M40	M8	SM200.40 SM225 SM250 VFD180-250	10.0	L-ML-10-HX-16-M8	356060-10M
80	4 x 25.0	M50	M8	SM225 SM250 VFD180-250	10.0	L-ML-10-HX-25-M8	356061-10M

* The stated rated currents are rated according to DIN VDE 0298-4 for wiring method B2 and a max. ambient temperature of 40° C.

Motor cables



For motor types ZETASYN SM700 and externally procured motors

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Halogen-free
- Including cable gland
- Prefabricated:
  - Connection side motor: Wire-end sleeves
  - Connection side ZETADYN 3: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Fits motor	Cable length [m]	**Type**	**Article no.**
20.0	4 x 2.5	M25	SM700	10.0	**L-ML-10-HX-2,5-AE**	**356026-10M**
25.0	4 x 4.0	M32	SM700	10.0	**L-ML-10-HX-4-AE**	**356027-10M**
35.0	4 x 6.0	M32	SM700	3.0	**L-ML-03-HX-6-AE**	**356028-03M**
				10.0	**L-ML-10-HX-6-AE**	**356028-10M**
50.0	4 x 10.0	M40	SM700	3.0	**L-ML-03-HX-10-AE**	**356029-03M**
				10.0	**L-ML-10-HX-10-AE**	**356029-10M**
63.0	4 x 16.0	M40	SM700	10.0	**L-ML-10-HX-16-AE**	**356030-10M**
80.0	4 x 25.0	M50	SM700	10.0	**L-ML-10-HX-25-AE**	**356031-10M**

* The stated rated currents are rated according to DIN VDE 0298-4 for wiring method B2 and a max. ambient temperature of 40° C.

ZETALIFT Calculation program

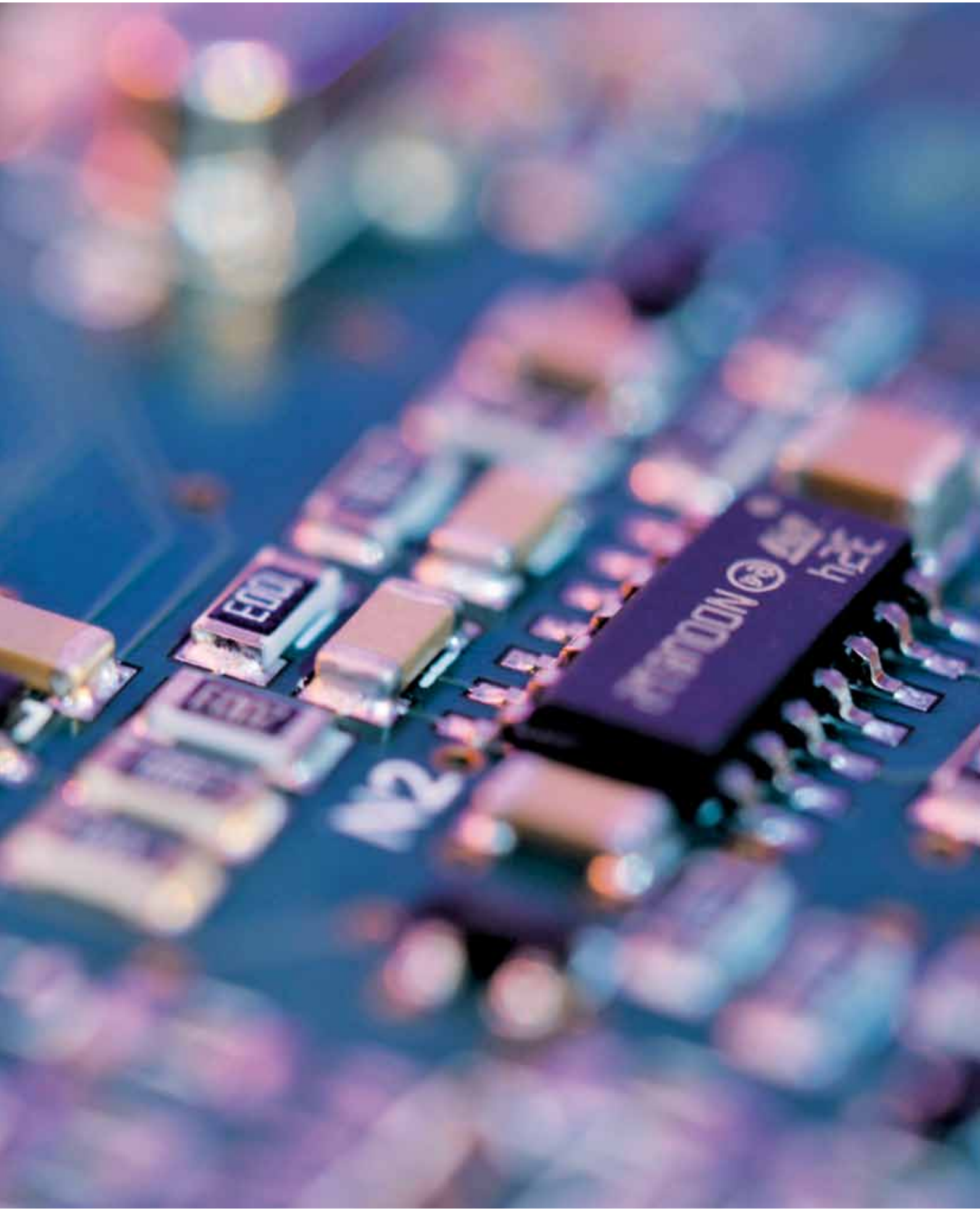
Calculation program for elevator machines from ZIEHL-ABEGG

With ZETALIFT you can reliably calculate your system and simultaneously obtain a great deal of important information for the installation, operation and the acceptance of your elevator. Handling ZETALIFT is completely straightforward. Just enter your elevator's data such as nominal load, speed or suspension. ZETALIFT then calculates the desired elevator machine with the matching frequency inverter. With this information, the elevator machine is clearly defined and you can inquire about it or order it right away.

In detail, ZETALIFT

- Provides the calculation of the gearless ZETATOP and ZETASYN drives
- Calculation of the ZAS elevator drive
- Calculation of the matching ZETADYN frequency inverter in the optimum size
- Comprehensive database of all available load supports
- Selection of available options for an elevator machine or a frequency inverter
- Support when selecting the best drive variant
- EN81-conform calculation of the driving ability
- Calculation of the rope and, if applicable, the balance rope weights
- Calculation of the power and current requirement of the elevator system
- Calculation of the matching recuperation unit for power recuperation
- Calculation of the matching evacuation facility for evacuating the passengers during a power failure
- Calculation of the energy efficiency class of the elevator according to VDI 4707
- Saves all calculation data, e.g. for the acceptance of the elevator

ZETALIFT is available as a free download on the ZIEHL-ABEGG homepage. Periodic updates of the software by our development engineers always keep you at the cutting edge.



Control technology

Product overview

Control technology

General information

Specialists for elevator technology

Units for the ZETADYN series are frequency inverters solely developed for elevator technology. The various housing designs and the continuously compact construction makes them perfectly suitable for both switch cabinet mounting as well as for wall installation in the machine room or elevator shaft.

Both in rope elevators with synchronous or asynchronous motors as well as in hydraulic elevators, type ZETADYN frequency inverter provide the greatest travelling comfort and the most precise stopping accuracy.

The software, specifically matched to elevator technology, facilitates intuitive operation and fast commissioning. The high variety of various interfaces facilitate fast connection to the elevator controller.

Made by ZIEHL-ABEGG

A high degree of vertical integration means great flexibility. And an ultramodern machine fleet is available to ensure that. From component placing in the boards up to the final test and inspection of the frequency inverter and their accessories, the entire ZETADYN series is produced in our headquarters in Künzelsau. That enables us to meet our partners' demands for flexibility and speed.

Elevator energy certificate acc VDI 4707		
Manufacturer:	*Company*	
Location:	*Street* *Place / City*	
Elevator model:	*Series / Type*	
Elevator type	*Electric-driven passenger elevator*	
Nominal load:	630 kg	
Nominal speed:	1 m/s	
Operating days per year:	365	
Stand-by demand: 40W (Energy demand class A)	Spec. travelling demand: 0.50 mWh / (kg*m) (Energy demand class A)	
Utilisation category 2 acc VDI 4707 Comparisons of energy efficiency classes are only possible with same use Date: 05.11.2008 Reference: VDI 4707		Nominal annual demand for nominal values opposite: 550 kWh

Better energy efficiency for your system? – ZIEHL-ABEGG provides support!

The VDI 4707 sets new standards on the energy efficiency of an elevator. Since most systems have very long stand-by times, energy consumption has to be already reduced to a minimum in this operating state. Only then is it possible to achieve a competitive energy efficiency class.
Through a digital input the type ZETADYN units are switched over to standby operation by the elevator controller. That reduces the power loss during standby by 50 %. A big step toward an better energy efficiency class!

Power recuperation

The use of power recuperation units feeds the energy, generated during the trip, back into the mains.
The energy efficiency of the elevator system is thus significantly improved and is then classified into a better energy efficiency class.
For further reduction of the energy consumption, the power recuperation units can be switched over to standby when the elevator system is in standstill.

Data backup and record calibration curves - simple and fast!

All ZETADYN series units are equipped with an interface for a standard MMC / SD card. The use of an MMC / SD card brings along versatile functions for easing your work.
Data backup:
- Data backup for professional documentation without any special software
- Copy parameters for identical elevators

Record calibration curves:
- 4 analogue and 1 digital measurement channel - freely configurable
- Backup of normal and faulty trips
- Expanded fault analysis for service through measurement saving
- Analyse of sporadic faults
- Long-term documentation of trip processes

DCP (Drive Control Position)

The DCP protocol is a serial linking of the ZETADYN through an RS485 interface to the elevator controller which ZIEHL-ABEGG helped to develop. The entire communications between both components is accomplished through a 2 or 3 wire control cable. Additional cables are not required. All units from the ZETADYN series can be controlled through the DCP protocol.

CANopen-Lift

CANopen-Lift is the only standardised, realtime capable bus system for the elevator industry. With CANopen-Lift, along with the use of uniform diagnosis tools, the use of components from different manufacturers on one mutual bus system is also feasible. The minimal wiring effort provides the simplest method for fast and flawless installation.

All ZETADYN series units are suitable for connection to this bus system.

Both communication systems provide great benefits

- Cheaper, simplified connection
- Remote control with ZETADYN through the elevator control
- Controlled direct approach
- Precise subsequent correction
- Continuous transmission of the actual braking distance to the elevator control

Open-Loop-Operation!

During modernisation of older systems, it is often impossible to attach a encoder to the existing asynchronous motor. Even in new systems with asynchronous motors, for financial reasons one occasionally omits using a rotary encoder. In both cases, ZETADYN provides ideal operation of the motor and the greatest travelling comfort with these attributes:

- Simple modernisation
- Cost-effective installation
- Speeds up to 1 m/s
- Emergency operation if an existing encoder is defective

More competence.
More experience.
More commitment.

Along with excellent and easy-to-operate products, personal customer support and fast, on-time delivery, customer-focused service also counts among our special strengths. Competent support by expert and experienced service employees are the prerequisite for time- and cost savings onsite. And added to that, with a comprehensive service package we make a valuable contribution to the fast commissioning of your elevator system.

- TÜV-safe technical design of drive systems
- Application-engineering consulting when selecting frequency inverters, elevator machines, evacuation modules and brake resistors
- Preset of all parameters of the ZETADYN before delivery when ordering drive packages (machine with frequency inverter) from ZIEHL-ABEGG
- Service hotline for commissioning and for technical questions
- Technical service and training on-site

ZETADYN Frequency inverter for elevator machines

3BF - The solution for switch cabinet mounting

- Operating terminal ZETAPAD — Page 86
- Radio interference filter FEF — Page 90
- Line reactor ND — Page 89
- Brake resistors BR — Page 87
- Control cables — Page 93
- Connection cables brake resistors — Page 95
- Encoder cables — Page 100
- Connection cables ZETAPAD — Page 94
- Evacuation unit EVAC 3B — Page 76
- Power recuperation unit REVCON — Page 82

Description

- Mounting in switch cabinet
- Compact design means space-saving installation
- Operation of synchronous and asynchronous motors
- Open-Loop-Operation of asynchronous motors
- Standby function
- Minimal noise generation and low energy consumption through controlled ventilation
- Automatic travel curve pre-assignment
- Applied standards: EN 12015 and EN 12016
- Switching frequency: 4...16 kHz (automatic adaptation)
- Protection class: IP20

Interfaces

Controller
- Programmable inputs and outputs
  - 4 x relay outputs (floating)
  - 1 x relay output (24 VDC)
  - 12 x digital inputs (24 VDC)
- DCP
- CANopen-Lift
- All interfaces galvanic isolated

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

Monitoring
- Temperature monitoring brake resistor
- Temperature monitoring of motor (acc IEC 61800-5-1_2003-02)
- Motor contactor monitoring
- Brake release monitoring

Technical data

Type	Article no.	Mains connection voltage [VAC]	Motor power [kW]	Rated current [A]	Max. operating current [A]	Duty cycle at nominal current [%]	Weight [kg]
3BF009-1	**352190**	1~ 195...253, 50/60 Hz	2.0	9.0	16	35	7.2
3BF011	**352170**	3~ 180...440, 50/60 Hz	4.6	11.0	20.0	60	7.2
3BF013	**352171**	3~ 180...440, 50/60 Hz	5.5	13.0	24.0	60	7.2
3BF017	**352172**	3~ 180...440, 50/60 Hz	7.5	17.0	31.0	60	7.2
3BF023	**352173**	3~ 180...440, 50/60 Hz	11.0	23.0	42.0	60	10.8
3BF032	**352169**	3~ 180...440, 50/60 Hz	14.0	32.0	58.0	60	10.8
3BF040	**352178**	3~ 180...440, 50/60 Hz	19.0	40.0	72.0	60	10.8
3BF050	**352179**	3~ 180...440, 50/60 Hz	24.0	50.0	90.0	60	23.8
3BF062	**352176**	3~ 180...440, 50/60 Hz	30.0	62.0	112.0	60	24.6
3BF074	**352177**	3~ 180...440, 50/60 Hz	37.0	74.0	134.0	60	24.6
3BF110	**352191**	3~ 180...440, 50/60 Hz	50.0	110.0	198.0	60	57.0
3BF180	**352192**	3~ 180...440, 50/60 Hz	90.0	180.0	324.0	60	63.0

Features

- MMC / SD card interface for data backup and exchange
- USB interface for ZETAMON software (via ZETAPAD)

Options

- External operating terminal ZETAPAD; 4-line display with plain text display
- Expansion module for encoder connection
- Expansion module for DCP and CAN
- Expansion module for motor temperature monitor
- Remote control via ZETAPAD operating terminal
- ZETAMON software

Evacuation mode

Supply during power failure through:

- EVAC 3B evacuation unit
- Uninterruptible power supply (UPS)

Electromagnetic compatibility

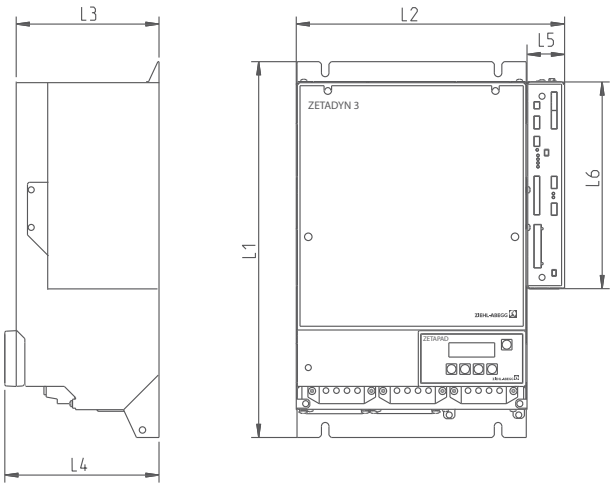
Compliance with EN 12015 by using:

- Line reactor ND
- Radio interference filter FEF

Brake resistor allocation

Rated current [A]	Frequency inverter	**Brake resistor**	**Article no.**
9	3BF009-1	**BR09-1**	**357120**
11	3BF011	**BR11-A** **BR14-A** **BR17**	**357171** **357195** **357216**
13	3BF013	**BR14A** **BR17**	**357195** **357216**
17	3BF017	**BR17**	**357216**
23	3BF023	**BR25**	**357217**
32	3BF032	**BR25** **BR50**	**357217** **357218**
40	3BF040	**BR50**	**357218**
50	3BF050	**BR50**	**357218**
62	3BF062	**BR50**	**357218**
74	3BF074	**BR50** **BR100-A**	**357218** **357214**
110	3BF110	**BR100-B**	**357215**
180	3BF180	**BR100-B**	**357215**

Dimensions in mm



Type	L1	L2	L3	L4*	L5	L6
3BF009-1 3BF011 3BF013 3BF017	340	195	185	185	50	275
3BF023 3BF032 3BF040	340	245	185	185	50	275
3BF050 3BF062 3BF074	500	357	190	205	50	275
3BF110 3BF180	1050	427	311	311	50	275

* includes ZETAPAD operating terminal

ZETADYN Frequency inverter for elevator machines

3C - The solution for wall installation

- Operating terminal ZETAPAD Page 86
- Brake resistors BR Page 87
- Integrated brake control Page 88
- Control cables Page 93
- Connection cables brake resistors Page 95
- Encoder cables Page 100
- Connection cables ZETAPAD Page 94
- Evacuation unit EVAC 3C Page 78
- Power recuperation unit REVCON Page 82

Description

- Wall installation in machine room or elevator shaft
- Installation also with restricted space through compact design
- Operation of asynchronous motors (ZETADYN 3CA) and synchronous motors (ZETADYN 3CS)
- Line reactor, radio interference filter integrated
- Motor contactors integrated
- Motor contactors noise-optimised
- 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
- Applied standards: EN 12015 and EN 12016
- Switching frequency: 4...16 kHz (automatic adaptation)
- Protection class: IP20

Interfaces

Controller
- Programmable inputs and outputs
  - 4 x relay outputs (floating)
  - 1 x relay output (24 VDC)
  - 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 monitoring brake resistor
- Temperature monitoring motor (acc IEC 61800-5-1_2003-02)
- Motor contactor monitoring
- Brake release monitoring

Technical data

Type	Article no.	Mains connection voltage [VAC]	Motor power [kW]	Rated current [A]	Max. operating current [A]	Duty cycle at nominal current [%]	Weight [kg]
3CA011 3CS011	352180-A 352180-S	3~ 180...440, 50/60 Hz	4.6	11.0	20.0	60	24.9
3CA013 3CS013	352181-A 352181-S	3~ 180...440, 50/60 Hz	5.5	13.0	24.0	60	25.1
3CA017 3CS017	352182-A 352182-S	3~ 180...440, 50/60 Hz	7.5	17.0	31.0	60	25.3
3CA023 3CS023	352183-A 352183-S	3~ 180...440, 50/60 Hz	11.0	23.0	42.0	60	29.7
3CA032 3CS032	352185-A 352185-S	3~ 180...440, 50/60 Hz	14.0	32.0	58.0	60	30.2
3CA040 3CS040	352186-A 352186-S	3~ 180...440, 50/60 Hz	19.0	40.0	72.0	60	36.3
3CA050 3CS050	352187-A 352187-S	3~ 180...440, 50/60 Hz	24.0	50.0	90.0	60	50.8
3CA062 3CS062	352188-A 352188-S	3~ 180...440, 50/60 Hz	30.0	62.0	112.0	60	51.4
3CA074 3CS074	352189-A 352189-S	3~ 180...440, 50/60 Hz	37.0	74.0	134.0	60	54.1

Features

- External ZETAPAD operating terminal; 4-line display with plain text display
- MMC / SD card interface for data backup and exchange
- USB interface for ZETAMON software (via ZETAPAD)

Options

- Expansion module for encoder connection
- Expansion module for DCP and CAN
- Expansion module for motor temperature monitoring
- Integrated brake control
- Remote control through ZETAPAD operating terminal
- ZETAMON software

Evacuation mode

Power supply during power failure through:

- EVAC 3C evacuation unit
- Uninterruptible power supply (UPS)

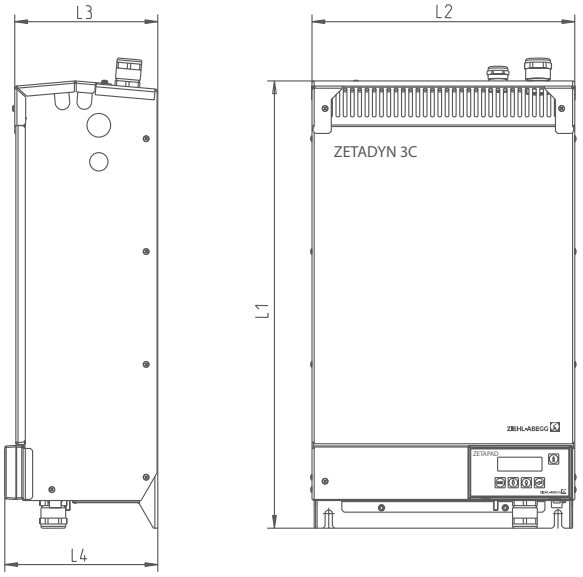
Electromagnetic compatibility

- Compliance with EN 12015 through integration of line reactor and radio interference filter in ZETADYN 3C.
- Special EMC cable glands for shielding contacting

Brake resistor allocation

Rated current [A]	Frequency inverter	**Brake resistor**	**Article no.**
11	3C.011	**BR11-A** **BR14-A** **BR17**	**357171** **357195** **357216**
13	3C.013	**BR14-A** **BR17**	**357195** **357216**
17	3C.017	**BR17**	**357216**
23	3C.023	**BR25**	**357217**
32	3C.032	**BR25** **BR50**	**357217** **357218**
40	3C.040	**BR50**	**357218**
50	3C.050	**BR50**	**357218**
62	3C.062	**BR50**	**357218**
74	3C.074	**BR50** **BR100-A**	**357218** **357214**

Dimensions in mm



Type	L1	L2	L3	L4*
3C.011	614	361	197	210
3C.013				
3C.017				
3C.023				
3C.032				
3C.040	614	483	263	276
3C.050				
3C.062				
3C.074				

* includes ZETAPAD operating terminal

ZETADYN Frequency inverter for elevator machines

3C-MRL - The solution for elevators without machine room

Description

- Installation on machine carrier
- Extremely compact design
- Operation of asynchronous motors (ZETADYN 3CA-MRL) and synchronous motors (ZETADYN 3CS-MRL)
- Line reactor integrated
- Circuit breaker integrated
- Motor contactors integrated
- Motor contactors noise optimised
- Open-Loop-Operation of asynchronous motors
- Standby function
- External ZETAPAD operating terminal; 4-line display with plain text display
- Minimal noise generation and low energy consumption through controlled ventilation
- Automatic travel curve pre-assignment
- Damping elements for decoupling vibrations
- Applied standards: EN 12015 and EN 12016
- Switching frequency: 4...16 kHz (automatic adaptation)
- Protection class: IP20

- Operating terminal ZETAPAD Page 86
- Brake resistors BR Page 87
- Integrated brake control Page 88
- Control cables Page 93
- Connection cables brake resistors Page 95
- Encoder cables Page 100
- Connection cables ZETAPAD Page 94
- Evacuation unit EVAC 3C Page 78
- Power recuperation unit REVCON Page 82

Interfaces

Controller
- Programmable inputs and outputs
  - 4 x relay outputs (floating)
  - 1 x relay output (24 VDC)
  - 12 x digital inputs (24 VDC)
- DCP
- CANopen-Lift
- All interfaces galvanic isolated

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

Monitoring
- Temperature monitoring brake resistor
- Temperature monitoring motor (acc IEC 61800-5-1_2003-02)
- Motor contactor monitoring
- Brake release monitoring

Technical data

Type	Article no.	Mains connection voltage [VAC]	Motor power [kW]	Rated current [A]	Max. operating current [A]	Duty cycle at nominal current [%]	Weight [kg]
3C.013-MRL-AI 3C.013-MRL-BI 3C.013-MRL-BE	352041 352061 352051	3~ 360...440. 50/60 Hz	5.5	13.0	24.0	60	23.3 21.3 19.9
3C.017-MRL-AI 3C.017-MRL-BI 3C.017-MRL-BE	352042 352062 352052	3~ 360...440, 50/60 Hz	7.5	17.0	31.0	60	25.2 23.2 21.8
3C.023-MRL-AI 3C.023-MRL-BI 3C.023-MRL-BE	352043 352063 352053	3~ 360...440, 50/60 Hz	11.0	23.0	42.0	60	29.7 27.7 26.3
3C.032-MRL-AI 3C.032-MRL-BI 3C.032-MRL-BE	352044 652064 352054	3~ 360...440, 50/60 Hz	14.0	32.0	58.0	60	31.7 29.7 28.3

Features

- External ZETAPAD operating terminal; 4-line display with plain text display
- MMC / SD card interface for data backup and exchange
- USB interface for ZETAMON software (via ZETAPAD)

Options

- Expansion module for encoder connection
- Expansion module for DCP and CAN
- Expansion module for motor temperature monitoring
- Integrated brake control
- Remote control through ZETAPAD operating terminal
- ZETAMON software

Evacuation mode

Power supply during power failure through:

- EVAC 3C evacuation unit
- Uninterruptible power supply (UPS)

Electromagnetic compatibility

Compliance with EN 12015 through integration of line reactor and radio interference filter in ZETADYN 3C-MRL

Brake resistor allocation

Rated current [A]	Frequency inverter	**Brake resistor**	**Article no.**
13	3C.013-MRL...	**BR14-A* BR17**	**357195 357216**
17	3C.017-MRL...	**BR17**	**357216**
23	3C.023-MRL...	**BR25**	**357217**
32	3C.032-MRL...	**BR25 BR50***	**357217 357218**

* only with ZETADYN 3C.032-MRL-BE

ZETADYN 3C....-MRL-AI

Specifically for controller type FST-2s from the company NEW LIFT
Expansion module for controller power components
Brake resistor integrated

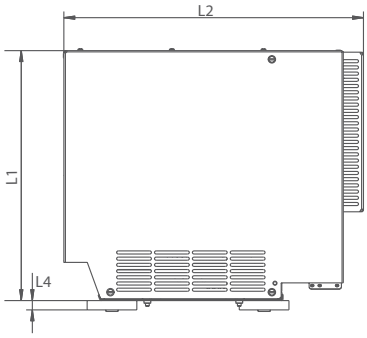
ZETADYN 3C....-MRL-BI

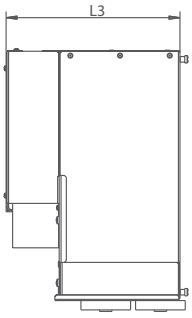
Brake resistor integrated

ZETADYN 3C....-MRL-BE

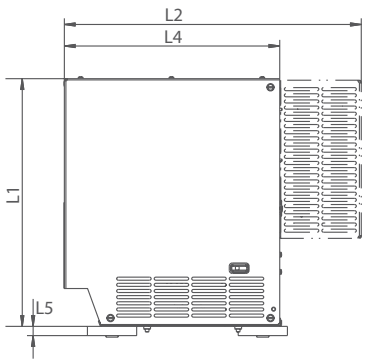
Brake resistor external

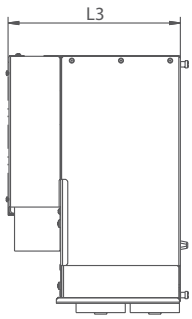
Dimensions in mm





Type	L1	L2	L3	L4
3C.013-MRL-AI	403	483	280	15
3C.017-MRL-AI				
3C.023-MRL-AI				
3C.032-MRL-AI				





Type	L1	L2	L3	L4	L5
3C.013-MRL-BI	403	483	280	-	15
3C.017-MRL-BI					
3C.023-MRL-BI					
3C.032-MRL-BI					
3C.013-MRL-BE	403	-	280	350	15
3C.017-MRL-BE					
3C.023-MRL-BE					
3C.032-MRL-BE					

ZETADYN Frequency inverter for elevator machines

3-HY - The solution for hydraulic elevators

ZETADYN 3CA...-HY

ZETADYN 3BF...-HY

- Operating terminal ZETAPAD Page 86
- Brake resistors BR Page 87
- Connection cables brake resistors Page 95
- Encoder cables Page 100
- Connection cables ZETAPAD Page 94
- EVAC 3 evacuation units Page 76

Description

- Wall installation in machine room or elevator shaft (ZETADYN 3CA...-HY)
- Mounting in switch cabinet (ZETADYN 3BF...-HY)
- Installation also with restricted space through compact design
- Operation of asynchronous motors in hydraulic units type Saturn ALPHA and Orion ALPHA from the company BUCHER HYDRAULICS
- Analog input for speed setting through elevator control
- Standby function
- External ZETAPAD operating terminal; 4-line display with plain text display
- Minimal noise generation and low energy consumption through controlled ventilation
- Line reactor, radio interference filter integrated (ZETADYN 3CA...-HY)
- Motor contactors integrated (ZETADYN 3CA...-HY)
- Motor contactors noise-optimised (ZETADYN 3CA...-HY)
- Applied standards: EN 12015 and EN 12016
- Switching frequency: 4...16 kHz (automatic adaptation)
- Protection class: IP20

Interfaces

Controller
- Programmable inputs and outputs
  - 4 x relay outputs (floating)
  - 1 x relay output (24 VDC)
  - 12 x digital inputs (24 VDC)
  - 0...10 V analogue input

Encoder
- Incremental encoder
  - HTL / TTL / Sine
- Encoder simulation for controller

Monitoring
- Temperature monitoring brake resistor
- Temperature monitoring motor (acc IEC 61800-5-1_2003-02)
- Motor contactor monitoring

Technical data

Type	Article no.	Mains connection voltage [VAC]	Motor power [kW]	Rated current [A]	Max. operating current [A]	Duty cycle at nominal current [%]	Weight [kg]
3BF018-HY 3CA018-HY	352070 352080	3~ 360...440. 50/60 Hz	7.5	18.0	23.0	60	7.2 25.3
3BF025-HY 3CA025-HY	352071 352081	3~ 360...440, 50/60 Hz	11.0	25.0	31.0	60	7.2 25.3
3BF032-HY 3CA032-HY	352072 352082	3~ 360...440, 50/60 Hz	14.0	32.0	40.0	60	7.2 25.3
3BF040-HY 3CA040-HY	352073 352083	3~ 360...440, 50/60 Hz	19.0	40.0	50.0	60	10.8 29.7
3BF050-HY 3CA050-HY	352074 352084	3~ 360...440, 50/60 Hz	22.0	50.0	63.0	60	10.8 36.3
3BF063-HY 3CA063-HY	352075 352085	3~ 360...440, 50/60 Hz	30.0	63.0	79.0	60	23.8 50.8
3BF080-HY 3CA080-HY	352076 352086	3~ 360...440, 50/60 Hz	37.0	80.0	100.0	60	24.6 51.4
3BF105-HY	352077	3~ 360...440, 50/60 Hz	50.0	105	131.0	60	24.6

Options

- Expansion module for encoder connection
- Expansion module for DCP and CAN
- Expansion module for motor temperature monitoring
- Remote control through ZETAPAD operating terminal
- ZETAMON software

Evacuation mode

Power supply during power failure through:

- Evacuation unit EVAC 3B (ZETADYN 3BF...-HY)
- Evacuation unit EVAC 3C (ZETADYN 3CA...-HY)
- Uninterruptible power supply (UPS)

Electromagnetic compatibility

ZETADYN 3CA...-HY

- Compliance with EN 12015 through integrated line reactor and integrated radio interference filter
- Special EMC cable glands for contacting the shielding

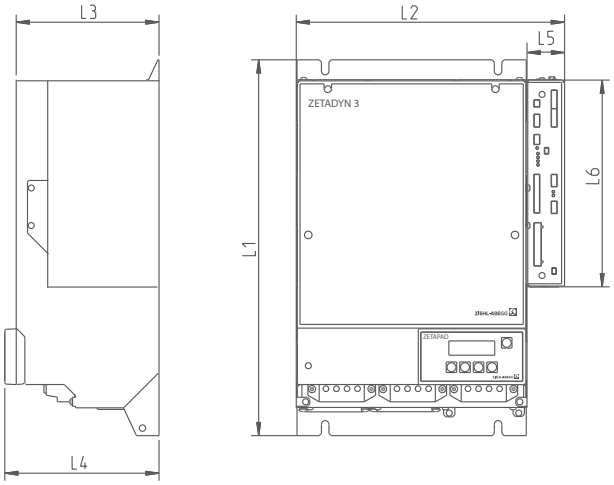
ZETADYN 3BF...-HY

- Compliance with EN 12015 through use of:
  - Line reactor ND
  - Radio interference filter FEF

Brake resistor allocation

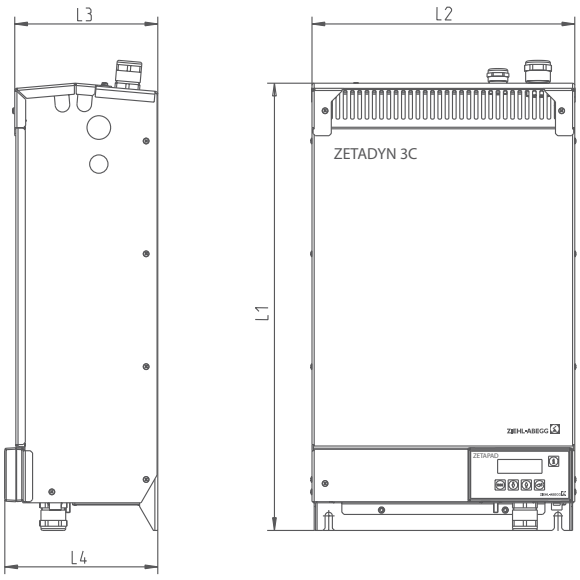
Rated current [A]	Frequency inverter	**Brake resistor**	**Article no.**
18	3..018-HY	**BR11-A** **BR14-A** **BR17**	**357171** **357195** **357216**
25	3..025-HY	**BR11-A** **BR14-A** **BR17**	**357171** **357195** **357216**
32	3..032-HY	**BR11-A** **BR14-A** **BR17**	**357171** **357195** **357216**
40	3..040-HY	**BR17**	**357216**
50	3..050-HY	**BR25**	**357217**
63	3..063-HY	**BR25**	**357217**
80	3..080-HY	**BR25**	**357217**
105	3..105-HY	**BR50**	**357218**

Dimensions in mm



Type	L1	L2	L3	L4*	L5	L6
3BF018-HY	340	195	185	185	50	275
3BF025-HY						
3BF032-HY	340	245	185	185	50	275
3BF040-HY						
3BF050-HY						
3BF063-HY	500	357	190	205	50	275
3BF080-HY						
3BF105-HY						

* includes ZETAPAD operating terminal



Type	L1	L2	L3	L4*
3CA018-HY	614	361	197	210
3CA025-HY				
3CA032-HY				
3CA040-HY				
3CA050-HY	614	483	263	276
3CA063-HY				
3CA080-HY				

* includes ZETAPAD operating terminal

ZETADYN Frequency inverter for elevator machines

4C - The solution for switch cabinet and wall installation

- Operating terminal ZETAPAD Page 86
- Brake resistors BR Page 87
- Brake control SBM Page 88
- Control cables Page 93
- Connection cables brake resistors Page 95
- Encoder cables Page 100
- Connection cables ZETAPAD Page 94
- EVAC 3 evacuation units Page 76
- Power recuperation unit REVCON Page 82

Operation without contactors:

With the STO (**S**afe **T**orque **O**ff) function integrated in the ZETADYN 4C, the travel contactors required in elevator systems according to EN81-1 for interrupting the flow of energy between the frequency inverter and motor can be omitted.
Based on the fail safety construction of the internal electronics, uncontrolled activating of the motor is impossible with deactivated STO-inputs.
The electronic short-circuit in frequency inverters for synchronous motors naturally continues to provide the safety features during manual emergency evacuation for which the predecessors were famous. And this totally noiseless!
The STO function corresponds to the safety requirements demanded by EN 81-1:2010-06!
In combination with the SBM brake control (**S**ilent **B**rake **M**odule), complete contactorless operation of the elevator motor can be implemented.

Description

- Wall installation in machine room or elevator shaft
- Mounting in switch cabinet
- Line reactor, radio interference filter integrated
- Space saving installation through compact design
- Operation of synchronous motors (ZETADYN 4CS) and asynchronous motors (ZETADYN 4CA)
- 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
- Applied standards: EN 12015 and EN 12016
- Protection class: IP20

Interfaces

Controller
- Programmable inputs and outputs
  - 5 x relay outputs (floating)
  - 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 monitoring brake resistor
- Temperature monitoring motor (acc IEC 61800-5-1_2003-02)
- Motor contactor monitoring can be activated as needed
- Brake release monitoring

Technical data

Type	Article no.	Motor type	Mains connection voltage [VAC]	Motor power [kW]	Rated current [A]	Max. operating current [A]	Duty cycle at nominal current [%]
4CA013	352195	Asynchronous	3~ 360...440, 50/60 Hz	5.5	13.0	24.0	60
4CS013	352202	Synchronous					
4CA017	352196	Asynchronous		7.5	17.0	31.0	60
4CS017	352203	Synchronous					
4CA023	352197	Asynchronous		11.0	23.0	42.0	60
4CS023	352204	Synchronous					
4CA032	352198	Asynchronous		14.0	32.0	58.0	60
4CS032	352205	Synchronous					

Features

- MMC / SD card interface for data backup and exchange
- USB interface for ZETAMON software (via ZETAPAD)

Options

- External ZETAPAD operating terminal ; 4-line display with plain text display
- Expansion module for motor temperature monitoring
- Brake control SBM
- ZETAMON software

Evacuation mode

Power supply during power failure through:

- EVAC 3B or EVAC 3C evacuation unit
- Uninterruptible power supply (UPS)

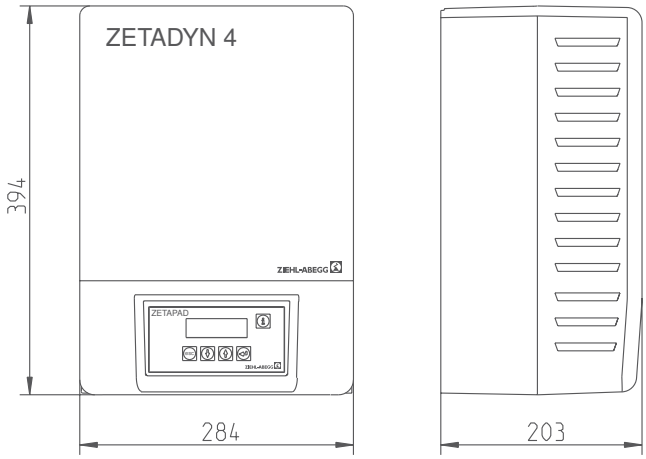
Electromagnetic compatibility

Compliance with EN 12015 and EN 12016 through integration of line reactor and radio interference filter in the frequency inverter

Brake resistor allocation

Rated current [A]	Frequency inverter	**Brake resistor**	**Article no.**
11	4C.011	**BR11-A** **BR14-A** **BR17**	**357171** **357195** **357216**
13	4C.013	**BR14-A** **BR17**	**357195** **357216**
17	4C.017	**BR17**	**357216**
23	4C.023	**BR25**	**357217**
32	4C.032	**BR25** **BR50**	**357217** **357218**

Dimensions in mm



EVAC Evacuation unit for elevators

3B -The solution for switch cabinet installation

- Operating terminal ZETAPAD Page 86
- Frequency inverter ZETADYN 3BF Page 66
- Battery set EVAC BATT Page 96

Monitoring of the voltage supply and enabling the evacuation travel

The EVAC 3B evacuation unit monitors the mains supply of the ZETADYN 3BF frequency inverter. If one or more mains phases fails, the ZETADYN 3 is disconnected from the mains supply. Simultaneously, the elevator controller is informed about the power failure. With a time delay, the battery for supplying the inverter is switched in.
The EVAC 3B evacuation unit switches the ZETADYN 3BF into emergency mode and direction-independent travel with reduced speed can be implemented.
Costly and delayed rescue of trapped people by external personnel is no longer necessary.

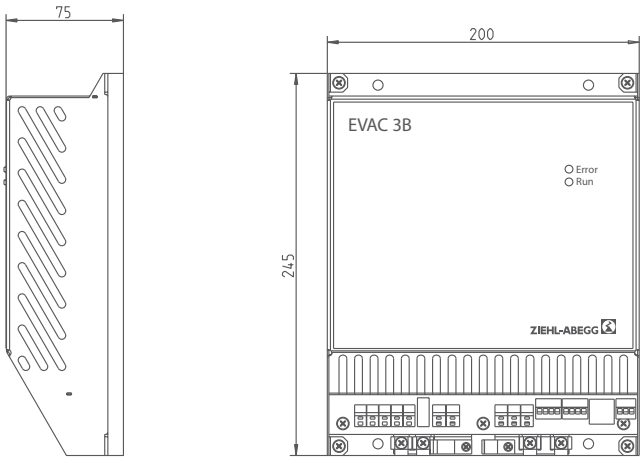
Description

- Mounting in switch cabinet
- For synchronous and asynchronous motors
- For frequency inverters ZETADYN 3 from 11 A to 74 A
- 60 min availability (with limited number of trips)
- Integrated mains monitoring
- Integrated charger for controlled lead-gel rechargeable battery charging
- Operation and configuration through ZETAPAD operating terminal
- Monitoring of battery temperature
- Function test via digital input
- LED display for operation / fault
- 4 x relay outputs
- 2 x digital inputs (24 VDC)

Technical data

Type	Article no.	Mains connection voltage	Rated current	Power dissipation	Loading power consumption	Battery voltage	Battery type	Evacuation mode time limit	Weight
		[VAC]	[A]	[W]	[W]	[V]		[min]	[kg]
EVAC 3B	357200	3~ 360...440, 50/60 Hz	32...74	<20	300	120...216	Lead-gel rechargeable battery	60	2.04

Dimensions in mm



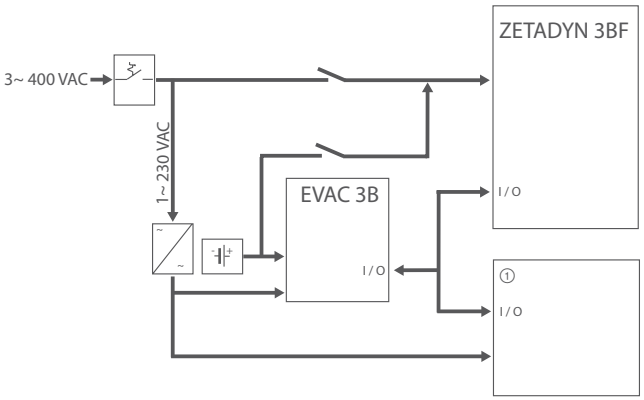
Features

- External ZETAPAD operating terminal

Additionally required components

- Battery set corresponding to required output
- Uninterruptible power supply (UPS) 230 VAC to supply:
  - Elevator control
  - Cabin light
  - EVAC 3B
  - Door drive
  - Motor brake
- Power contactors to switch over from normal to battery mode
- 4-pole main switch

Simplified diagram



① Elevator control

EVAC Evacuation unit for elevators

3C - The solution for wall installation

- Operating terminal ZETAPAD Page 86
- Frequency inverter ZETADYN 3C Page 68
- Battery set EVAC BATT Page 96
- Wiring harnesses Page 96

Monitoring of the voltage supply and enabling the evacuation travel

The EVAC 3C evacuation unit monitors the mains supply of the ZETADYN 3C frequency inverter. If one or more mains phases fails, the ZETADYN 3C is disconnected from the mains supply. Simultaneously, the elevator control is informed about the power failure. The battery supply voltage is switched in with a time delay.
The EVAC 3C evacuation unit switches the ZETADYN 3BF into emergency mode and direction-independent travel with reduced speed can be implemented.
Costly and delayed rescue of trapped people by external personnel is no longer necessary.

Description

- Wall installation in machine room or elevator shaft
- For synchronous and asynchronous motors
- For frequency inverters ZETADYN 3 from 11 A to 74 A
- 60 min availability (with restricted number of trips)
- Integrated mains monitoring
- Integrated charger for controlled charging of lead-gel rechargeable battery
- Operation and configuration via the ZETAPAD operating terminal
- Monitoring of the battery temperature
- Function test via digital input
- LED display for operation / fault
- 4 x relay outputs
- 4 x digital inputs (24 VDC)
- External main switch; that permits installation in the elevator shaft
- Prefabricated cables for fast installation
- Power contactors for switching from normal to battery mode
- Integrated inverted rectifier 230 VAC / 500 W to supply:
  - Elevator control
  - Cabin light
  - Door drive
  - Motor brake
- SD card slot for data backup

Technical data

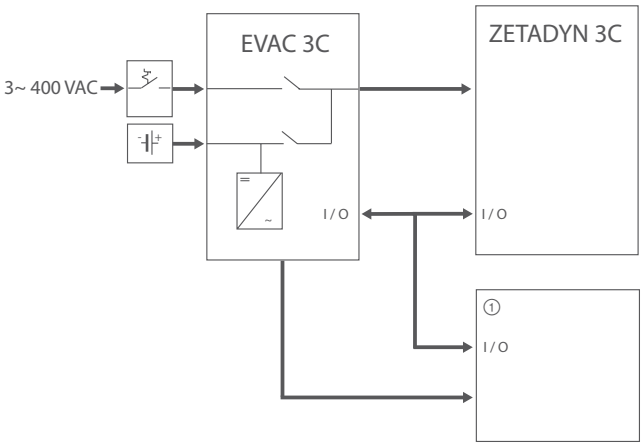
Type	Article no.	Mains connection voltage [VAC]	Rated current [A]	Power dissipation [W]	Loading power consumption [W]	230 VAC inverted rectifier [W]	Battery voltage [V]	Battery type	Evacuation mode time limit [min]	Weight [kg]
EVAC 3C032	**357231**	3~ 360...440, 50/60 Hz	32	<20	300	500	120...216	Lead-gel rechargeable battery	60	33.2
EVAC 3C050	**357232**	3~ 360...440, 50/60 Hz	50	<20	300	500	120...216	Lead-gel rechargeable battery	60	34.7
EVAC 3C074	**357233**	3~ 360...440, 50/60 Hz	74	<20	300	500	120...216	Lead-gel rechargeable battery	60	38.4

Features
- External ZETAPAD operating terminal
- MMC/SD card interface for data backup and exchange

Options
- Wiring harness LS-EV-03-HX-0../AE
- Wiring harness LS-EV-..-HX-ST/AE

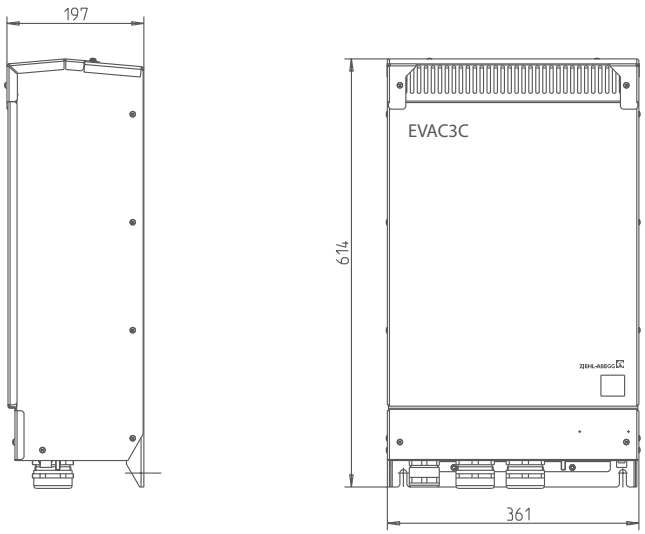
Additionally required components
- Battery set corresponding to the required output
- 4-pole main switch

Simplified diagram



① Elevator control

Dimensions in mm



EVAC Evacuation unit for elevators

EVACbase - The solution for modernisation

In most cases, older elevator systems don't have any automatic evacuation during power failures. Costly and delayed rescue of trapped passengers by external personnel is usually necessary in such systems.
With the EVACbase, existing systems can be quickly and simply modernised to automatic evacuation with uninterruptible power supply.

Description

- Phase failure detection with automatic switchover to UPS mode
- Reset to normal mode when power supply returns
- Integrated main switch
- 2 x relay outputs „Power Failure" (floating)
- Power supply elevator control
- Uninterruptible power supply 2 kW
- Prefabricated wiring harness for connecting to ZETADYN frequency inverter and elevator controller (length 3.0 m)

Technical data

Type	Mains connection voltage	Rated current	Weight	Dimensions H x W x D
	[VAC]	[A]	[kg]	[mm]
EVACbase	3~360...400, 50/60 Hz	max. 32	4.20	320 x 270 x 180

Technical data UPS

Type	Mains connection voltage	Output voltage	Rated output power	Weight	Dimensions H x W x D
	[VAC]	[VAC]	[W]	[kg]	[mm]
UPS	1~230, 50/60 Hz	230 ± 1,0 %	2100	30.0	440 x 89 x 650

Power recuperation units

REVCON SVC - The solution for improving the energy efficiency

The use of power recuperation units feeds the energy generated during travel back into the mains supply. The power recuperation units were developed for intermittent, highly dynamic power recuperation operations such as those that occur in the elevator systems. The form of recuperated current is essentially similar to the current form of the inverter input current - i.e., also suitable for non-conform industrial networks.

Description

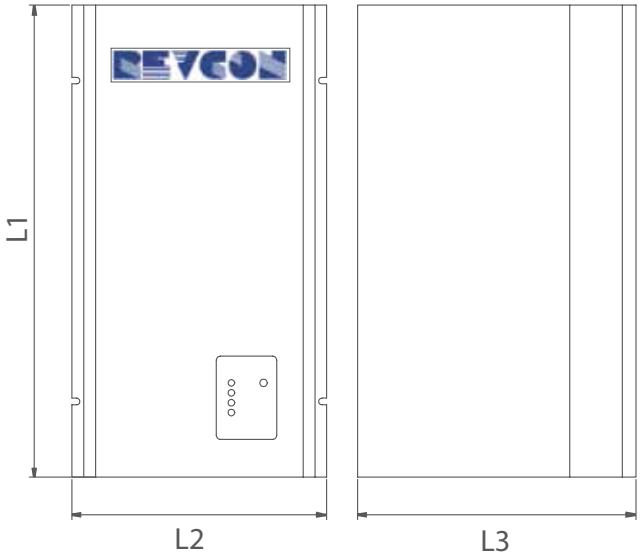
- Wall installation in the machine room or switch cabinet mounting
- LED display for Operation / Fault
- 1 x relay output „Fault“
- 1 x digital input „Standby Operation“
- Operating voltage 360...440 V
- Network frequency: 40...60 Hz
- Protection class: IP20
- Max. duty cycle (cycle time 600 s): 50%
- Efficiency: 97%

Radio interference filter FEF Page 90

Technical data

Type	Article no.	Max. current [A]	Max. recuperation power at 400 VAC [kW]	Terminal cross-section mains [mm²]	Terminal cross-section DC link [mm²]	Weight [kg]
SVC7-400	**357169**	11.0	7.0	25	25	20.0
SVC13-400	**357170**	20.0	13.0	35	35	25.0
SVC22-400	**357048**	32.0	22.0	35	35	26.0
SVC33-400	**357049**	48.0	33.0	35	35	30.0
SVC45-400	**357194**	65.0	45.0	35	35	32.0
SVC70-400	**357050**	102.0	70.0	95	95	43.0

Dimensions in mm



Type	L1	L2	L3
SVC7-400	500	270	310
SVC13-400			
SVC22-400			
SVC33-400			
SVC45-400			
SVC70-400	700	272	295

Electromagnetic compatibility

Compliance with EN 12015 with use of radio interference filter FEF

Radio interference filter allocation

Radio interference filter FEF	Rated current [A]	Protection class	Weight [kg]	**Power recuperation unit REVCON**
011KK4D	11.0	IP20	0.7	**SVC7-400**
023KK4D	23.0	IP20	1.0	**SVC13-400**
040KK4D	40.0	IP20	1.4	**SVC22-400**
050KK4D	50.0	IP20	1.5	**SVC33-400**
074KK4D	74.0	IP20	2.0	**SVC45-400**
180KK4D	180.0	IP20	6.0	**SVC70-400**


ZETAPAD
ZETADYN 3BF
→Start-UP
Statistik
Memory Card
esc

System components control technology

Product overview

ZETAPAD / Modules ZETADYN 3

Operating terminal ZETAPAD

Description

- External operating terminal for frequency inverter type ZETADYN and evacuation unit type EVAC
- Connection through standard network cable
- Card slot for MMC / SD memory card
- USB interface for use of the ZETAMON software
- Remote control up to a cable length of 50 m

Article no. 357190

Expansion module ZETADYN 3

ZETADYN 3 can be expanded with additional functions by expansion modules.
That facilitates adapting the frequency inverter perfectly to its operating conditions.

Encoder expansion module

All expansion modules have:

- 4 x digital inputs for brake release monitoring
- Encoder simulation

Type	Article no.	Encoder type	Connection
EM3-ENC-ASM-ZA	**357104**	HTL / TTL / Sinus	D-SUB 9-pin Screw terminal
EM3-ENC-SYN-ZA	**357105**	Absolute encoder with EnDat0 or SSI protocol	D-SUB 15-pin
EM3-ENC-SYN-01	**357116**	Absolute encoder type ERN 1387	D-SUB 15-pin
EM3-ENC-MRL-ZA*	**357250**	HTL / TTL / Sinus Absolute encoder with EnDat01 or SSI protocol	D-SUB 15-pin Screw terminal

* only for ZETADYN 3C..-MRL

Communication expansion module

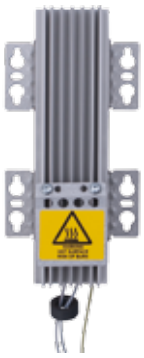
Type	Article no.	Communication protocol
EM3-CAN-DCP	**357107**	DCP CANopen-Lift DSP417

Motor temperature monitoring expansion module

Type	Article no.	Sensor types
EM3-MOT-TEMP	**357180**	PTC thermistor (PTC acc DIN 44082) Temperature sensor KTY84-130 Thermal switch

Brake resistor BR

BR17 - BR100



BR09 - BR14

For converting the energy, generated during regenerative travel, into heat.

Description

- Prepared for wall installation
- Compact design
- Integrated temperature monitoring (only BR...-3)
- Prefabricated connection cable (only BR...-A) for ZETADYN 3BF

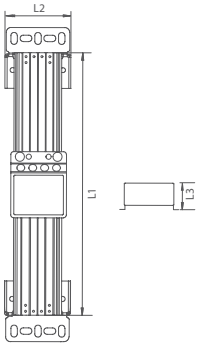
Technical data

Type	Article no.	Max. peak current [A]	Continuous braking power [kW]	Temperature monitor trigger [°C]	Connection cable length [m]	Protection class	Weight [kg]
BR09-1	**357120**	9.0	0.29	-	1.0*	IP50	0.8
BR11-A	**357171**	11.0	0.45	-	1.0*	IP50	1.8
BR14-A	**357195**	14.0	0.85	-	1.0*	IP50	2.9
BR17-3	**357216**	17.0	1.75	137 ± 4 K	5.0**	IP20	2.6
BR25-3	**357217**	25.0	1.75	137 ± 4 K	5.0**	IP20	2.6
BR50-3	**357218**	50.0	3.3	137 ± 4 K	5.0**	IP20	4.8
BR100-3A	**357214**	100.0	6.5	125 ± 4 K	5.0**	IP20	8.5
BR100-3B	**357215**	100.0	6.5	125 ± 4 K	5.0**	IP20	8.5

* with integrated connection cable
** connection cable separate

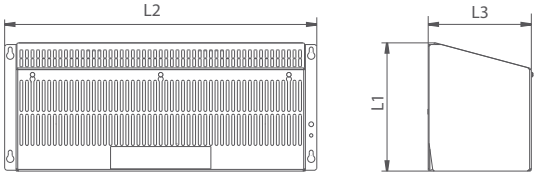
Dimensions in mm

BR09 - BR14



Type	L1	L2	L3
BR09-1	317	67	75
BR011-A	225	124	120
BR014-A	426	124	120

BR17 - BR100



BR017-3	230	300	185
BR025-3	230	300	185
BR050-3	230	560	185
BR100-3A	414	560	185
BR100-3B	414	560	185

Integrated brake control

In order to achieve comfortable travelling behaviour of the elevator during starting and stopping, it is imperative that the mechanical brake switches at just the right time.
The type ZETADYN frequency inverter provides the facility to optionally integrate the control of the motor brakes into the device.

Description

- Correctly timed mechanical brake switching
- For brakes of synchronous and asynchronous motors
- Low-noise mechanical brake switching
- Short cables for elevators without machine rooms
- Low space requirement for controller
- Time-optimised starting and stopping

ZETADYN 3C

Integrated brake control BRK

Integrated brake control ZETADYN 3C. and ZETADYN 3C.-MRL

- Contactors integrated in the frequency inverter to control the brake

Type	Rectifier type	Coil voltage [VAC]
EM3-BRK207-BG110	Bridge rectifier	110
EM3-BRK207-SSG110	Fast-acting rectifier	110
EM3-BRK207-BG230	Bridge rectifier	230
EM3-BRK207-SSG230	Fast-acting rectifier	230

ZETADYN 4C

Silent Break Module SBM

Integrated brake control ZETADYN 4C

- Contactorless control unit
- Mounting on ZETADYN 4
- Wall installation
- Can be retrofit
- With brake monitoring acc EN81-1 when brakes used against unintended car movement
- For brakes with overexcitation
- Control inputs
  - Safety-circuit monitoring
  - Brake activation

Technical data

Type	Article no.	Mains connection voltage [VAC]	Brake output voltage [VDC]	Control inputs [VAC / VDC]	Output current [A]	Number of brakes
SBM	**357254**	230 V 50/60 Hz	207 207 / 103 (with overexcitation)	24...230	3.0	2

Line reactor ND

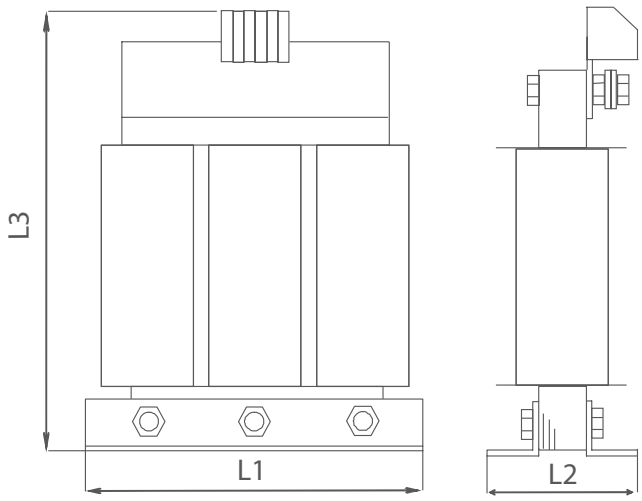
Description

- For ZETADYN 3BF
- For compliance with the limits required by EN 12015 (interference emission)
- Reduction of the harmonics
- Damping of commutation notches and mains feedback

Technical data

Type	Article no.	Rated current [A]	Protection class	Weight [kg]	Frequency inverter
ND009-1	**357091**	9.0	IP00	1.3	ZETADYN3BF009-1
ND011	**357180**	11.0	IP00	2.4	ZETADYN3BF011
ND013	**357181**	13.0	IP00	2.5	ZETADYN3BF013
ND017	**357182**	17.0	IP00	3.3	ZETADYN3BF017
ND023	**357183**	23.0	IP00	4.0	ZETADYN3BF023
ND032	**357184**	32.0	IP00	6.7	ZETADYN3BF032
ND040	**357185**	40.0	IP00	7.7	ZETADYN3BF040
ND050	**357186**	50.0	IP00	8.7	ZETADYN3BF050
ND062	**357187**	62.0	IP00	12.1	ZETADYN3BF062
ND074	**357188**	74.0	IP00	12.3	ZETADYN3BF074
ND110	**357196**	110.0	IP00	14.0	ZETADYN3BF110
ND180	**357197**	180.0	IP00	21.0	ZETADYN3BF180

Dimensions in mm



Type	L1	L2	L3
ND009-1	80	65	118
ND011	125	61	135
ND013	125	71	135
ND017	125	71	135
ND023	155	80	160
ND032	155	95	170
ND040	190	85	200
ND050	190	120	200
ND062	190	120	200
ND074	190	120	200
ND110	230	150	280
ND180	230	150	305

Radio interference filter FEF

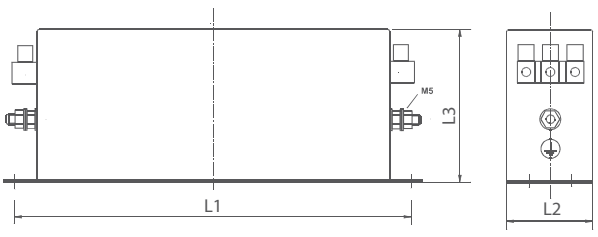
Description

- For ZETADYN 3BF
- For compliance with the limits required by EN 12015 (interference emission)
- Reduces high-frequency electromagnetic emission

Technical data

Type	Article no.	Rated current [A]	Protection class	Weight [kg]	Frequency inverter
FEF009KK2D	**357166**	9.0	IP20	0.4	ZETADYN 3BF009-1
FEF011KK4D	**357192**	11.0	IP20	0.7	ZETADYN 3BF011
FEF023KK4D	**357176**	23.0	IP20	1.0	ZETADYN 3BF013 ZETADYN 3BF017 ZETADYN 3BF023
FEF040KK4D	**357177**	40.0	IP20	1.4	ZETADYN 3BF032 ZETADYN 3BF040
FEF050KK4D	**357178**	50.0	IP20	1.5	ZETADYN 3BF050
FEF074KK4D	**357179**	74.0	IP20	2.0	ZETADYN 3BF062 ZETADYN 3BF074
FEF180KK4D	**357199**	180.0	IP20	6.0	ZETADYN 3BF110 ZETADYN 3BF180

Dimensions in mm



Type	L1	L2	L3
FEF009KK2D	115	54	41
FEF011KK4D	190	40	70
FEF023KK4D	250	45	70
FEF040KK4D	270	50	85
FEF050KK4D	250	85	90
FEF074KK4D	250	85	90
FEF180KK4D	450	130	180

Control and connection cables

Allocation control and connection cables

Connection	ZETADYN 3C.		ZETADYN 3C.-MRL	
	DCP	Parallel	DCP	Parallel
DCP	L-SL-..HX-ZA2/3-DCP*	-	L-SL-..HX-ZA2/3-DCP*	-
Digital inputs	L-SL-..HX-ZA2/3-X-I**	L-SL-..HX-ZA2/3-X-I	L-SL-..HX-ZA2/3-X-I**	L-SL-..HX-ZA2/3-X-I
Digital outputs	L-SL-..HX-ZA2/3-X-O***	L-SL-..HX-ZA2/3-X-O	L-SL-..HX-ZA2/3-X-O***	L-SL-..HX-ZA2/3-X-O
Motor contactors	L-SL-..HX-ZA2/3-X-K	L-SL-..HX-ZA2/3-X-K	-	-
Optional				
Brake air monitoring	L-BL-..-HX-ZA3	L-BL-..-HX-ZA3	L-BL-..-HX-ZA3	L-BL-..-HX-ZA3
Brake control	L-BA-..-HX-ZA3****	L-BA-..-HX-ZA3****	L-BA-..-HX-ZA3****	L-BA-..-HX-ZA3****
Motor PTC	L-KL-..-HX-ZA3	L-KL-..-HX-ZA3	L-KL-..-HX-ZA3	L-KL-..-HX-ZA3

* with NEW LIFT control special cable L-SL-..-HX-ZA2/3-DCP-1
** Only with additional triggering from digital inputs
*** Only required for controllers from the company New Lift and Böhnke und Partner or with additional use of digital outputs
**** Only with integrated brake control

Brake release monitoring

- Connection of the microswitches for brake release monitoring on the ZETADYN frequency inverter
- Prefabricated:
  - Connection side ZETADYN 3: Plug 6-pin
  - Connection side brake: wire end sleeves
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-BL-018-HX-ZA3	00165645	1.8	3 x 0.75
L-BL-03-HX-ZA3	00165646	3.0	3 x 0.75
L-BL-05-HX-ZA3	00165831	5.0	3 x 0.75
L-BL-10-HX-ZA3	00165796	10.0	3 x 0.75
L-BL-15-HX-ZA3	00165832	15.0	3 x 0.75

Brake control

- In ZETADYN 3C and ZETADYN 3C-MRL with integrated brake control
- Connection of brake coils to frequency inverter type ZETADYN
- Prefabricated:
  - Connection side ZETADYN 3: wire end sleeves
  - Connection side brake: wire end sleeves
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-BA-018-HX-AE	00165647	1.8	3 x 1.0
L-BA-03-HX-AE	00165648	3.0	3 x 1.0
L-BA-05-HX-AE	00165833	5.0	3 x 1.0
L-BA-10-HX-AE	00165797	10.0	3 x 1.0
L-BA-15-HX-AE	00165834	15.0	3 x 1.0

Connection cables

Connection cable motor temperature monitoring PTC thermistor

- Connection of the PTC to the ZETADYN 3 frequency inverter
- Prefabricated:
  - Connection side ZETADYN 3: Plug 3-pin
  - Connection side motor: wire-end sleeves
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-KL-018-HX-ZA3	00165801	1.8	2 x 0.75
L-KL-03-HX-ZA3	00165650	3.0	2 x 0.75
L-KL-05-HX-ZA3	00165846	5.0	2 x 0.75
L-KL-10-HX-ZA3	00165800	10.0	2 x 0.75
L-KL-15-HX-ZA3	00165847	15.0	2 x 0.75

Control cable DCP

Standard cables

- Prefabricated:
  - Connection side ZETADYN 3: plug 4-pin
  - Connection side elevator controller: wire-end sleeves
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-SL-03-HX-ZA2/3-DCP	00164123	3.0	2 x 2 x 0.25
L-SL-10-HX-ZA2/3-DCP	00164136	10.0	2 x 2 x 0.25
L-SL-25-HX-ZA2/3-DCP	00164137	25.0	2 x 2 x 0.25
L-SL-50-HX-ZA2/3-DCP	00164138	50.0	2 x 2 x 0.25

Control-dependent special cable NEW LIFT

- Prefabricated:
  - Connection side ZETADYN 3: plug 4-pin
  - Connection side elevator controller: D-SUB 9-pin
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-SL-03-HX-ZA2/3-DCP-1	00164048	3.0	2 x 2 x 0.25
L-SL-10-HX-ZA2/3-DCP-1	00164049	10.0	2 x 2 x 0.25
L-SL-25-HX-ZA2/3-DCP-1	00164050	25.0	2 x 2 x 0.25
L-SL-50-HX-ZA2/3-DCP-1	00164051	50.0	2 x 2 x 0.25

Control cables motor contactors

- For ZETADYN 3C.
- Activating and monitoring of the motor contactors integrated in the ZETADYN 3C. by the elevator controller
- Prefabricated:
  - Connection side ZETADYN 3: plug 14-pin with housing
  - Connection side elevator controller: wire-end sleeves
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-SL-03-HX-ZA2/3-X-K	00159785	3.0	12 x 0.75
L-SL-10-HX-ZA2/3-X-K	00164116	10.0	12 x 0.75
L-SL-25-HX-ZA2/3-X-K	00164134	25.0	12 x 0.75
L-SL-50-HX-ZA2/3-X-K	00164135	50.0	12 x 0.75

Signal cables and connectors

Control cable digital inputs

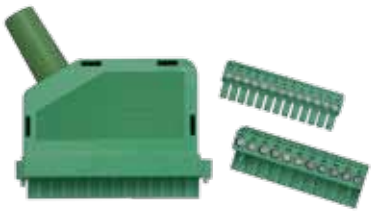
- For ZETADYN 3C. and ZETADYN 3C.-MRL
- Activation of the digital inputs by the elevator controller
- Prefabricated:
  - Connection side ZETADYN 3: plug 13-pin
  - Connection side elevator control: wire-end sleeves
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-SL-03-HX-ZA3-X-I	00159991	3.0	12 x 0.5
L-SL-10-HX-ZA3-X-I	00159993	10.0	12 x 0.5
L-SL-25-HX-ZA3-X-I	00159995	25.0	12 x 0.5
L-SL-50-HX-ZA3-X-I	00159997	50.0	12 x 0.5

Control line digital outputs

- For ZETADYN 3C. and ZETADYN 3C.-MRL
- Evaluation of the digital outputs by the elevator control
- Prefabricated:
  - Connection side ZETADYN 3: plug 11-pin
  - Connection side elevator control: wire-end sleeves
- Halogen-free

Type	Article no.	Length [m]	Cable cross section [mm²]
L-SL-03-HX-ZA3-X-O	00159992	3.0	12 x 0.5
L-SL-10-HX-ZA3-X-O	00159994	10.0	12 x 0.5
L-SL-25-HX-ZA3-X-O	00159996	25.0	12 x 0.5
L-SL-50-HX-ZA3-X-O	00159998	50.0	12 x 0.5



Plug set ST3C

- For ZETADYN 3C includes plug connectors for the connection terminals
  - X-IN
  - X-OUT
  - X-K

Article no. 357189

Plug connector X-IN

- For additional activation of the digital inputs during DCP or CAN operation

Article no. 00162353

Plug connector X-OUT

- For additional evaluating of the digital outputs during DCP or CAN operation

Article no. 00162354

Plug connector X-ENC15

- Adapter plug for connecting absolute encoder to ZETADYN 3
- D-SUB 15-pin to screw connector

Article no. 00152676

Connection cables ZETAPAD

ZETAPAD data cable

- Connection of the ZETAPAD to frequency inverter type ZETADYN and evacuation unit type EVAC
- Double plug RJ45
- Halogen-free

Type	Article no.	Length [m]
L-DL-005-HX-RJ45	00159973	0.5
L-DL-10-HX-RJ45	00159967	10.0
L-DL-25-HX-RJ45	00159968	25.0
L-DL-50-HX-RJ45	00159969	50.0

Modular coupler RJ

- Coupler to connect the cable type L-DL-...-HX-RJ45
- Double jack RJ45

Article no. 00155975

ZETAMON data line

- Connection of the ZETAPAD to a notebook or PC to be able to use the ZETAMON software
- USB 2.0 connection line A/B
- Halogen-free
- Length: 1.8 m
- Type: L-DL-018-HX-USB-A-B

Article no. 00159946

ZETADYN 2 retrofit kit

ZETADYN 2 → ZETADYN 3 adapter board

- Adapter for fast and simple retrofitting of ZETADYN 2 to ZETADYN 3
- No rewiring of the control and signal cables required

Article no. 357245

Brake resistor cables L-BR

For ZETADYN 3BF

- Cable to connect the brake resistor BR..-3 to the ZETADYN 3BF frequency inverter
- Prefabricated
- Integrated conductors for temperature monitoring
- Halogen-free

L-BR-..-HX-2,5-ZA3BF
L-BR-..-HX-6-ZA3BF

L-BR-..-HX-16-ZA3BF

Frequency inverter type	Type	Article no.	Length [m]	Cable cross section [mm²]
ZETADYN 3BF 009-1	L-BR-03-HX-2,5-ZA3BF	00164178	3.0	3x2.5 + 2x0.5
	L-BR-05-HX-2,5-ZA3BF	00164182	5.0	
ZETADYN 3BF 011	L-BR-03-HX-2,5-ZA3BF	00164178	3.0	3x2.5 + 2x0.5
	L-BR-05-HX-2,5-ZA3BF	00164182	5.0	
ZETADYN 3BF 013	L-BR-03-HX-2,5-ZA3BF	00164178	3.0	3x2.5 + 2x0.5
	L-BR-05-HX-2,5-ZA3BF	00164182	5.0	
ZETADYN 3BF 017	L-BR-03-HX-2,5-ZA3BF	00164178	3.0	3x2.5 + 2x0.5
	L-BR-05-HX-2,5-ZA3BF	00164182	5.0	
ZETADYN 3BF 023	L-BR-03-HX-2,5-ZA3BF	00164178	3.0	3x2.5 + 2x0.5
	L-BR-05-HX-2,5-ZA3BF	00164182	5.0	
ZETADYN 3BF 032	L-BR-03-HX-6-ZA3BF	00164180	3.0	3x6.0 + 2x0.5
	L-BR-05-HX-6-ZA3BF	00164183	5.0	
ZETADYN 3BF 040	L-BR-03-HX-6-ZA3BF	00164180	3.0	3x6.0 + 2x0.5
	L-BR-05-HX-6-ZA3BF	00164183	5.0	
ZETADYN 3BF 050	L-BR-03-HX-6-ZA3BF	00164180	3.0	3x6.0 + 2x0.5
	L-BR-05-HX-6-ZA3BF	00164183	5.0	
ZETADYN 3BF 062	L-BR-03-HX-6-ZA3BF	00164180	3.0	3x6.0 + 2x0.5
	L-BR-05-HX-6-ZA3BF	00164183	5.0	
ZETADYN 3BF 074	L-BR-03-HX-6-ZA3BF	00164180	3.0	3x6.0 + 2x0.5
	L-BR-05-HX-6-ZA3BF	00164183	5.0	
ZETADYN 3BF 110	L-BR-03-HX-16-ZA3BF	00165724	3.0	3x16.0 + 2x0.5
	L-BR-05-HX-16-ZA3BF	00165725	5.0	
ZETADYN 3BF 180	L-BR-03-HX-16-ZA3BF	00165724	3.0	3x16.0 + 2x0.5
	L-BR-05-HX-16-ZA3BF	00165725	5.0	

For ZETADYN 3C

- Cable to connect the brake resistor BR..-3 to the ZETADYN 3C frequency inverter
- Prefabricated
- Integrated conductors for temperature monitoring
- Halogen-free

L-BR-03-HX-2,5-ZA2/3
L-BR-03-HX-6-ZA2/3

Frequency inverter type	Type	Article no.	Length [m]	Cable cross section [mm²]
ZETADYN 3C.011	L-BR-03-HX-2,5-ZA2/3	00164170	3.0	3x2.5 + 2x0.5
ZETADYN 3C.013 ZETADYN 3C.013-MRL-BE	L-BR-03-HX-2,5-ZA2/3	00164170	3.0	3x2.5 + 2x0.5
ZETADYN 3C.017 ZETADYN 3C.017-MRL-BE	L-BR-03-HX-2,5-ZA2/3	00164170	3.0	3x2.5 + 2x0.5
ZETADYN 3C.023 ZETADYN 3C.023-MRL-BE	L-BR-03-HX-2,5-ZA2/3	00164170	3.0	3x2.5 + 2x0.5
ZETADYN 3C.032 ZETADYN 3C.032-MRL-BE	L-BR-03-HX-6-ZA2/3	00159778	3.0	3x6.0 + 2x0.5
ZETADYN 3C.040	L-BR-03-HX-6-ZA2/3	00159778	3.0	3x6.0 + 2x0.5
ZETADYN 3C.050	L-BR-03-HX-6-ZA2/3	00159778	3.0	3x6.0 + 2x0.5
ZETADYN 3C.062	L-BR-03-HX-6-ZA2/3	00159778	3.0	3x6.0 + 2x0.5
ZETADYN 3C.074	L-BR-03-HX-6-ZA2/3	00159778	3.0	3x6.0 + 2x0.5

EVAC battery and wiring harness set

Battery set EVAC BATT

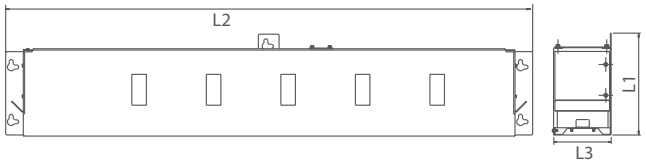
Description

- To supply ZETADYN 3 and additional components
- Selection depends on the rated current of the motor and the duration or number of the evacuation trips

Technical data

Type	Article no.	Rated voltage [VDC]	Rated capacity [Ah]	Rated current [A]	Weight [kg]
032-120-24	**357234**	120	24.0	32	2 x 50
050-120-24	**357235**	120	24.0	50	2 x 50
074-120-24	**357236**	120	24.0	74	2 x 50
032-180-7.2	**357238**	180	7.2	32	24 + 26
032-180-24	**357242**	180	24.0	32	3 x 50
050-180-24	**357243**	180	24.0	50	3 x 50
074-180-24	**357244**	180	24.0	74	3 x 50

Dimensions in mm



Type	L1	L2	L3
032-120-24	231	1195	130
050-120-24			
074-120-24			
032-180-7.2	205	948	116
032-180-24	231	1195	130
050-180-24			
074-180-24			

EVAC wiring harness

LS-EV-03-HX-0../AE

- 3-part cable set for connecting the ZETADYN 3 and the EVAC BATT to EVAC 3C:
  - Voltage supply for ZETADYN 3 through EVAC 3C
  - Signal transmission EVAC 3C ⇄ ZETADYN 3
  - Connection battery set EVAC BATT

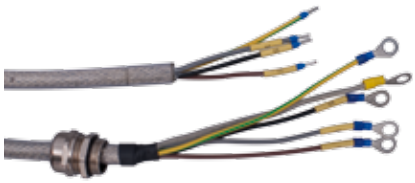
Type	Article no.	Cable length [m]	Cable cross-section EVAC 3C ⇄ ZETADYN 3 [mm²]	Cable cross-section EVAC 3C ⇄ EVAC BATT [mm²]
LS-EV-03-HX-032/AE	**357239**	3	4 x 6.0 (supply) 4 x 0.5 (signals)	3 x 6.0 + 2 x 0.5
LS-EV-03-HX-050/AE	**357240**	3	4 x 10.0 (supply) 4 x 0.5 (signals)	3 x 6.0 + 2 x 0.5
LS-EV-03-HX-074/AE	**357241**	3	4 x 25.0 (supply) 4 x 0.5 (signals)	4 x 10.0 + 2 x 1.0

LS-EV-..-HX-ST/AE

- 3-part wiring harness for connecting the elevator control and the main switch monitoring to EVAC 3C:
  - Control power supply through EVAC 3C
  - Signal transmission EVAC 3C ⇄ Control
  - Main switch monitoring

Type	Article no.	Cable length [m]	Cable cross-section EVAC 3C ⇄ Control [mm²]	Cable cross-section EVAC 3C ⇄ Main switch [mm²]
LS-EV-03-HX-ST/AE	**357247**	3	3 x 1.5 (supply) 3 x 0.75 (signals)	2 x 0.75 (monitoring)
LS-EV-03-HX-ST/AE	**357248**	10	3 x 1.5 (supply) 3 x 0.75 (signals)	2 x 0.75 (monitoring)

Motor cables



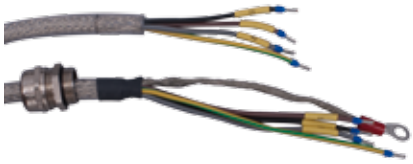
For motor types ZETATOP, ZETASYN SM860 and VFD

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Including cable gland
- Prefabricated:
  - Connection side motor: Ring cable lug
  - Connection side ZETADYN: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Ring cable lug for terminal board	Fits motor	Cable length [m]	**Type**	**Article no.**
20	4 x 2.5	M25	M6	VFD132	5.0	**L-ML-05-YY-2,5-M6**	**356035-05M**
					10.0	**L-ML-10-YY-2,5-M6**	**356035-10M**
			M8	SM200.40 SM225 VFD160	1.8	**L-ML-018-YY-2,5-M8**	**356038-01.8M**
					3.0	**L-ML-03-YY-2,5-M8**	**356038-03M**
					5.0	**L-ML-05-YY-2,5-M8**	**356038-05M**
					10.0	**L-ML-10-YY-2,5-M8**	**356038-10M**
25	4 x 4.0	M32	M6	VFD132	5.0	**L-ML-05-YY-4-M6**	**356036-05M**
					10.0	**L-ML-10-YY-4-M6**	**356036-10M**
			M8	SM200.40 SM225 SM860 VFD160	1.8	**L-ML-018-YY-4-M8**	**356039-01.8M**
					3.0	**L-ML-03-YY-4-M8**	**356039-03M**
					5.0	**L-ML-05-YY-4-M8**	**356039-05M**
					10.0	**L-ML-10-YY-4-M8**	**356039-10M**
35	4 x 6.0	M32	M6	VFD132	5.0	**L-ML-05-YY-6-M6**	**356037-05M**
					10.0	**L-ML-10-YY-6-M6**	**356037-10M**
			M8	SM200.40 SM225 SM250 SM860 VFD180	1.8	**L-ML-018-YY-6-M8**	**356040-01.8M**
					3.0	**L-ML-03-YY-6-M8**	**356040-03M**
					5.0	**L-ML-05-YY-6-M8**	**356040-05M**
					10.0	**L-ML-10-YY-6-M8**	**356040-10M**
50	4 x 10.0	M40	M8	SM200.40 SM225 SM250 SM860 VFD160-225	3.0	**L-ML-03-YY-10-M8**	**356041-03M**
					5.0	**L-ML-05-YY-10-M8**	**356041-05M**
					10.0	**L-ML-10-YY-10-M8**	**356041-10M**
63	4 x 16.0	M40	M8	SM200.40 SM225 SM250 SM860 VFD180-250	1.8	**L-ML-018-YY-16-M8**	**356042-01.8M**
					3.0	**L-ML-03-YY-16-M8**	**356042-03M**
					5.0	**L-ML-05-YY-16-M8**	**356042-05M**
					10.0	**L-ML-10-YY-16-M8**	**356042-10M**
80	4 x 25.0	M50	M8	SM225 SM250 SM860 VFD180-250	3.0	**L-ML-03-YY-25-M8**	**356043-03M**
					5.0	**L-ML-05-YY-25-M8**	**356043-05M**
					10.0	**L-ML-10-YY-25-M8**	**356043-10M**
100	4 x 35.0	M50	M8 M10	SM225 SM250 SM860 VFD180-25	10.0	**L-ML-10-YY-35-M8**	**356044-10M**
					5.0	**L-ML-05-YY-35-M10**	**356033-05M**
					10.0	**L-ML-10-YY-35-M10**	**356033-10M**

* The stated rated currents are rated according to DIN VDE 0298-4 for wiring method B2 and a max. ambient temperature of 40° C.

Motor cables



For motor types ZETASYN SM700 and externally procured motors

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Including cable gland
- Prefabricated:
  - Connection side motor: Wire-end sleeves
  - Connection side ZETADYN: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Fits motor	Cable length [m]	Type	Article no.
20.0	4 x 2.5	M25	SM700	3.0	L-ML-03-YY-2,5-AE	356016-03M
				10.0	L-ML-10-YY-2,5-AE	356016-10M
25.0	4 x 4.0	M32	SM700	3.0	L-ML-03-YY-4-AE	356017-3M
				10.0	L-ML-10-YY-4-AE	356017-10M
35.0	4 x 6.0	M32	SM700	3.0	L-ML-03-YY-6-AE	356018-03M
				10.0	L-ML-10-YY-6-AE	356018-10M
50.0	4 x 10.0	M25	SM700	3.0	L-ML-03-YY-10-AE	356019-03M
				10.0	L-ML-10-YY-10-AE	356019-10M
63.0	4 x 16.0	M40	SM700	3.0	L-ML-03-YY-16-AE	356020-03M
				10.0	L-ML-10-YY-16-AE	356020-10M
80.0	4 x 25.0	M50	SM700	10.0	L-ML-10-YY-25-AE	356021-03M
100.0	4 x 35.0	M50	SM700	10.0	L-ML-10-YY-35-AE	356022-10M

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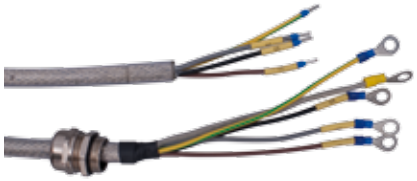
Halogen-free motor cables



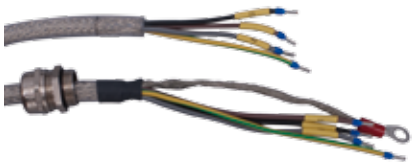
For motor types ZETATOP, ZETASYN SM860 and VFD

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Halogen-free
- Including cable gland
- Prefabricated:
  - Connection side motor: Ring cable lug
  - Connection side ZETADYN: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Ring cable lug for terminal board	Fits motor	Cable length [m]	Type	Article no.
20	4 x 2.5	M25	M8	SM200.40 SM225 VFD160	10.0	L-ML-10-HX-2,5-M8	356056-10M
25	4 x 4.0	M32	M8	SM200.40 SM225 VFD160	10.0	L-ML-10-HX-4-M8	356057-10M
35	4 x 6.0	M32	M8	SM200.40 SM225 SM250 VFD160	5.0	L-ML-05-HX-6-M8	356058-05M
					10.0	L-ML-10-HX-6-M8	356058-10M
50	4 x 10.0	M40	M8	SM200.40 SM225 SM250 SM860 VFD160-225	5.0	L-ML-05-HX-10-M8	356059-05M
					10.0	L-ML-10-HX-10-M8	356059-10M
63	4 x 16.0	M40	M8	SM200.40 SM225 SM250 VFD180-250	10.0	L-ML-10-HX-16-M8	356060-10M
80	4 x 25.0	M50	M8	SM225 SM250 VFD180-250	10.0	L-ML-10-HX-25-M8	356061-10M

* The stated rated currents are rated according to DIN VDE 0298-4 for wiring method B2 and a max. ambient temperature of 40° C.

Motor cables



For motor types ZETASYN SM700 and externally procured motors

- Cable for connecting the motor to frequency inverter Type ZETADYN
- Halogen-free
- Including cable gland
- Prefabricated:
  - Connection side motor: Wire-end sleeves
  - Connection side ZETADYN 3: Wire-end sleeves

Rated current* [A]	Cable cross section [mm²]	Cable gland	Fits motor	Cable length [m]	**Type**	**Article no.**
20.0	4 x 2.5	M25	SM700	10.0	**L-ML-10-HX-2,5-AE**	**356026-10M**
25.0	4 x 4.0	M32	SM700	10.0	**L-ML-10-HX-4-AE**	**356027-10M**
35.0	4 x 6.0	M32	SM700	3.0	**L-ML-03-HX-6-AE**	**356028-03M**
				10.0	**L-ML-10-HX-6-AE**	**356028-10M**
50.0	4 x 10.0	M40	SM700	3.0	**L-ML-03-HX-10-AE**	**356029-03M**
				10.0	**L-ML-10-HX-10-AE**	**356029-10M**
63.0	4 x 16.0	M40	SM700	10.0	**L-ML-10-HX-16-AE**	**356030-10M**
80.0	4 x 25.0	M50	SM700	10.0	**L-ML-10-HX-25-AE**	**356031-10M**

* The stated rated currents are rated according to DIN VDE 0298-4 for wiring method B2 and a max. ambient temperature of 40° C.

Encoder cables

Standard encoder cables

For absolute encoders (synchronous motors)

- Cable to connect the absolute encoder to frequency inverter type ZETADYN
- For ZETATOP and ZETASYN type motors
- Prefabricated

Encoder type	Frequency inverter	Encoder connection	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
ECN113 ECN1313	ZETADYN 3 ZETADYN 4	Jack M16 x 0.75 (KV120)	Plug D-SUB 15-pin	6 x 2 x 0.14	3.0	**L-GL-03-YY-ZA-ECN**	**00164198**
					5.0	**L-GL-05-YY-ZA-ECN**	**00159923**
					10.0	**L-GL-10-YY-ZA-ECN**	**00155050**
					25.0	**L-GL-25-YY-ZA-ECN**	**00159925**
ERN1387	ZETADYN 3 ZETADYN 4	Jack M23 x 1	Plug D-SUB 15-pin	8 x 2 x 0.14	10.0	**L-GL-10-YY-ZA-ERN1387**	**00159964**

For incremental encoder (asynchronous motors)

- Cable to connect the incremental encoder to frequency inverter type ZETADYN
- For VFD type motors
- Prefabricated

Encoder type	Frequency inverter	Encoder connection	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
ET2S	ZETADYN 3	Jack M16 x 0.75 (KV120)	Plug D-SUB 9-pin	6 x 0.14	10.0	**L-GL-10-YY-ZA-ET2S**	**00159927**

For incremental encoder BUCHER hydraulic unit (asynchronous motors)

- Cable to connect the incremental encoder of the hydraulic pump to frequency inverter type ZETADYN
- For units type Saturn ALPHA and Orion ALPHA from the company BUCHER HYDRAULICS
- Prefabricated

Encoder type	Frequency inverter	Encoder connection	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
Bucher	ZETADYN 3	Jack D-SUB 9-pin	Plug D-SUB 9-pin	6 x 2 x 0.14	3.0	**L-GL-03-YY-ZA-BU**	**00165660**
					6.0	**L-GL-06-YY-ZA-BU**	**00165661**
					10.0	**L-GL-10-YY-ZA-BU**	**00165662**

Halogen-free encoder cable

For absolute encoders (synchronous motors)

- Cable to connect the absolute encoder to frequency inverter type ZETADYN
- For ZETATOP and ZETASYN type motors
- Prefabricated
- Halogen-free

Encoder type	Frequency inverter	Encoder connection	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
ECN113 ECN1313	ZETADYN 3 ZETADYN 4	Jack M16 x 0.75 (KV120)	Plug D-SUB 15-pin	6 x 2 x 0.14	1.8	**L-GL-018-HX-ZA-ECN**	**00165713**
					3.0	**L-GL-03-HX-ZA-ECN**	**00165644**
					10.0	**L-GL-10-HX-ZA-ECN**	**00165615**
					15.0	**L-GL-15-HX-ZA-ECN**	**00157818**
					25.0	**L-GL-25-HX-ZA-ECN**	**00165616**

Encoder cables

Encoder cables for frequency inverters from other manufacturers

For absolute encoders (synchronous motors)

- Cable to connect the absolute encoder to frequency inverters from other manufacturers
- For ZETATOP and ZETASYN type motors
- Prefabricated

Encoder type	Frequency inverter	Encoder connection	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
ECN113 ECN1313	Dietz / Emotron	Jack M16 x 0.75 (KV120)	Plug D-SUB 15-pin	6 x 2 x 0.14	10.0	**L-GL-10-YY-DI-ENC**	**00159928**
					20.0	**L-GL-20-YY-DI-ENC**	**00159932**
	FUJI		Plug D-SUB 16-pin MC1.5 / Phoenix		10.0	**L-GL-10-YY-FUJI-ENC**	**00165827**
	KEB		Plug D-SUB 15-pin		5.0	**L-GL-05-YY-KEB-F5-ENC**	**00157813**
					10.0	**L-GL-10-YY-KEB-F5-ENC**	**00159734**
	Schindler		Plug D-SUB 15-pin		5.0	**L-GL-05-YY-SCH-ENC**	**00159922**
					10.0	**L-GL-10-YY-SCH-ENC**	**00159951**
					20.0	**L-GL-20-YY-SCH-ENC**	**00159954**
	KEB		Plug D-SUB 15-pin		10.0	**L-GL-10-YY-KEB-ERN1387**	**00159929**
	GEFRAN / SIEI		Plug D-SUB 15-pin		10.0	**L-GL-10-YY-SIEI-ERN1387**	**00159941**
					25.0	**L-GL-25-YY-SIEI-ERN1387**	**00159944**
ERN1387	Control Techniques	Jack M23 x 1	Open ends	8 x 2 x 0.14	10.0	**L-GL-10-YY-CT-SRS/SHS**	**02005801**

For incremental encoder (asynchronous motors)

- Cable to connect the incremental encoder to frequency inverters from other manufacturers
- For VFD type motors
- Prefabricated

Encoder type	Frequency inverter	Encoder connection	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
ET2S	Dietz / Emorton	Coupling M16 x 0.75 (KV120)	Plug D-SUB 15-pin	6 x 2 x 0.14	10.0	**L-GL-10-YY-DI-ET2S**	**00155051**

Extension cables for encoder cables

For absolute encoder (D-SUB 15-pin)

- Extension of the encoder cable
- Prefabricated

Connection side encoder cable	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
Jack D-SUB 15-pin	Plug D-SUB 15-pin	6 x 2 x 0.25	10.0	**L-GL-10-YY-ZA-SYN-EXT**	**00159952**

For incremental encoder (D-SUB 9-pin)

- Extension of the encoder cable
- Prefabricated

Connection side encoder cable	Frequency inverter connection	Cable cross section [mm²]	Cable length [m]	Type	Article no.
Jack D-SUB 9-pin	Plug D-SUB 9-pin	6 x 2 x 0.25	5.0	**L-GL-05-YY-ZA-ASM-EXT**	**00159970**

Incremental encoder

Incremental encoder with hollow shaft
Description

- For motor types VFD and other asynchronous motors
- Signal shape: sine or square
- Speed: max. 3500 rpm
- Phase shift: 90°
- Protection class: IP54

Type	Article no.	Shaft diameter [mm]	Signal shape	Reso-lution ppr	Signal tracks	Operating voltage [VDC]	Frequency inverter connection	Connection cable length [m]	For frequency inverter
ET2R-1024/28/05V	359010	28	TTL	1024	A, B, /A, /B	5.0	Wire-end sleeves	10.0	-
ET2R-1024/28/05V-1	359026		TTL	1024	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2S-1024/28/05V-1	02006760		1 V_{SS}	1024	A, B, /A, /B	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2R-1024/28/30V	359004		HTL	1024	A, B	10…30	Wire-end sleeves	10.0	-
ET2R-2500/28/05V-1	359023		TTL	2500	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2R-4096/28/05V-1	359013		TTL	4096	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2R-1024/38/05V	359011	38	TTL	1024	A, B, /A, /B	5.0	Wire-end sleeves	10.0	-
ET2R-1024/38/05V-1	359027		TTL	1024	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2S-1024/38/05V-1	02006762		1 V_{SS}	1024	A, B, /A, /B	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2S-1024/38/05V-2	02006794		1 V_{SS}	1024	A, B, /A, /B	5.0	M16 x 0.75 (SV120) 12-pin	0.5	-
ET2R-1024/38/30V	359005		HTL	1024	A, B	10…30	Wire-end sleeves	10.0	-
ET2R-2500/38/05V-1	359024		TTL	2500	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2R-4096/38/30V	359008		HTL	4096	A, B	5.0	Wire-end sleeves	10.0	-
ET2R-4096/38/05V-1	00037299		TTL	4096	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2R-1024/42/05V	359012	42	TTL	1024	A, B, /A, /B	5.0	Wire-end sleeves	10.0	-
ET2R-1024/42/05V-1	359028		TTL	1024	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN
ET2R-1024/42/30V	359006		HTL	1024	A, B	10…30	Wire-end sleeves	10.0	-
ET2R-2500/42/05V-1	359025		TTL	2500	A, B, /A, /B, N	5.0	D-SUB 9-pin	10.0	ZETADYN

Incremental encoder with solid shaft
Description

- For motor types VFD and other asynchronous motors
- Signal shape: sine or square
- Speed: max. 3500 rpm
- Phase shift: 90°
- Protection class: IP54

Type	Article no.	Shaft diameter [mm]	Signal shape	Resolu-tion ppr	Signal tracks	Operating voltage [VDC]	Frequency inverter connection	Connection cable length [m]	For frequency inverter
ET2R-1024/10/30V	359020	10	HTL	1024	A, B	10...30	Wire-end sleeves	10.0	-
ET2R-2500/10/05V	359021	10	TTL	2500	A, B, N	5.0	Wire-end sleeves	2.0	-
ERN1321	02010592	9.25 Cone 1:10	TTL	4096	A, B, /A, /B	5.0	Board plug 12 pole	-	-

Absolute encoder / adapter cable

Encoder - absolute encoder

Absolute encoder with hollow shaft

- For ZETATOP motor type
- Absolute encoder
- Signal shape speed: sine
- Speed: max. 3500 rpm
- Phase shift: 90°
- Protection class: IP64

Type	Article no.	Shaft diameter [mm]	Interface absolute value	Resolution ppr	Signal tracks	Operating voltage [VDC]	Connection	Connection cable length [m]
ECN113 ENDAT 2048	**359001**	50	EnDat 01	2048	A, B, /A, /B	5.0	M16 x 1 (SV120) 12-pin	0.5
ECN113 ENDAT 17pol.	**359003**		EnDat 01				M23 17-pin	
ECN113 SSI 2048	**359000**		SSI				M16 x 0.75 (SV120) 12-pin	

Absolute encoder with solid shaft

- For ZETATOP and ZETASYN motor types
- Signal shape speed: sine
- Speed: max. 3500 rpm
- Phase shift: 90°
- Protection class: IP40

Type	Article no.	Shaft diameter [mm]	Interface absolute value	Resolution ppr	Signal tracks	Operating voltage [VDC]	Connection
ECN1313 ENDAT 2048 Hiatus	**02011422-E**	9.25 Cone 1:10	EnDat 01	2048	A, B, /A, /B	5.0	
ECN1313 SSI 2048 Hiatus	**02011423**		SSI				

Type	Article no.	Shaft diameter [mm]	Interface absolute value	Resolution ppr	Signal tracks	Operating voltage [VDC]	Connection
ERN 1387 Z 2048	**02003139**	9.25 Cone 1:10	Z* ~	2048	A, B, /A, /B	5.0	Board plug 14 pin
ERN 1326 UVW 4096	**02011534**		U, V, W	4096			Board plug 16 pin
ERN 1326 UVW 8192	**02008298**		⊓⊔	8192			

* 1 sine period / revolution

Adapter cable encoder ⇆ encoder cable

Encoder type	Article no.	Length [m]	Encoder connection	Encoder cable connection	Cable cross section [mm²]
ECN 1313	**00159930**	0.245	Jack 12 pin	Plug M16 x 0.75 (SV120)	12 x 0.14
	00159953	0.560			
	359018	0.185			
	00159933	0.245		Plug M23 x 1	12 x 0.14
ERN 1378	**00159931**	0.245	Jack 14 pin	Plug M16 x 0.75 (SV120)	12 x 0.14
	00159934	0.245		Plug M23 x 1	14 x 0.14
ECN 1326	**00159942**	0.245	Jack 16 pin	Plug M23 x 1	16 x 0.14
ERN 1321	**00159914**	0.350	Jack 12 pin	Jack D-SUB 9-pin	11 x 0.14

Software ZETAMON

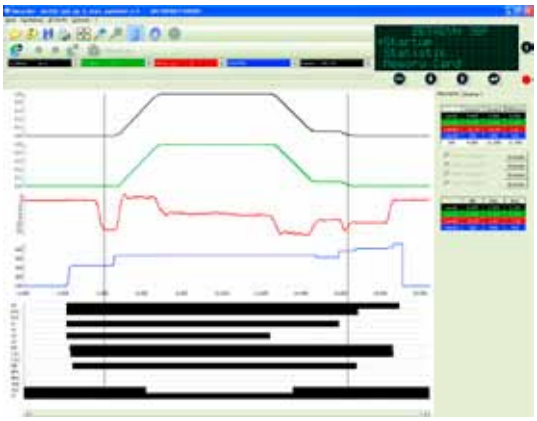
Description

- Simple and fast access to all parameters and functions in frequency inverter type ZETADYN
- Optimum tool for data backup and management plus for documenting the elevator system
- Time-optimised elevator system commissioning
- Optimum basis for analysing and optimising the elevator system.
- Rapid diagnosis of weak points such as rail joints, door locker interrupts and communication problems to the elevator control

The ZETAMON software is subdivided into four program modules:

“Display” module

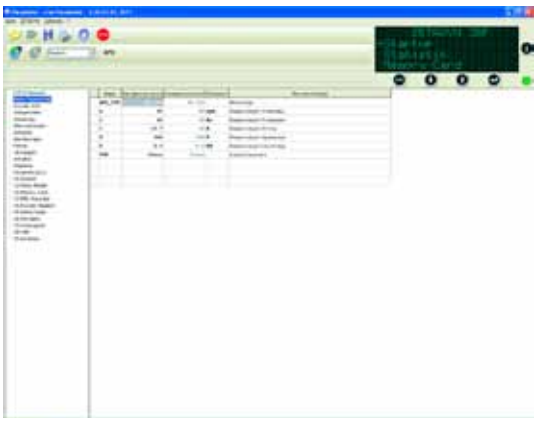
- Remote control of the frequency inverter via notebook
- Control through notebook keyboard / mouse



“Recorder” module

Records travel curves for diagnosis purposes

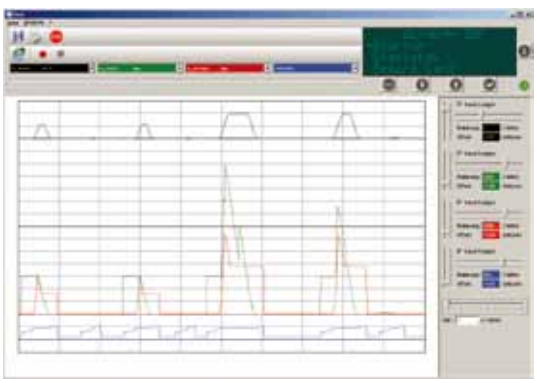
- 4 analogue measurement channels
- 1 digital measurement channel
- Free measurement channel assignment with measuring functions
- Backup of the recording
- Compares measurements
- FFT analysis
- Mathematic analysis functions
- Remote control of the ZETADYN 3 with open module



“Parameter” module

Administrates the parameters

- Clear display of menus and parameters
- Change the parameters in realtime
- Save parameter sets
- Print out parameter lists
- Print out error lists
- Transfer saved parameter sets in the ZETADYN
- Compare parameter sets
- Remote control of ZETADYN 3 with module open
- Transfer the installation and motor data from installation calculations created in the ZETALIFT design program



“Oszi” module

Realtime recording of travel curves for diagnosis purposes

- 4 analogue measurement channels
- Free assignment of measurement channels with measurement functions
- Save the recordings
- Remote control of the ZETADYN 3 with open module

ZETAMON is available as a free download on the ZIEHL-ABEGG homepage. Periodic updates of the software by our development engineers always keep you at the cutting edge.

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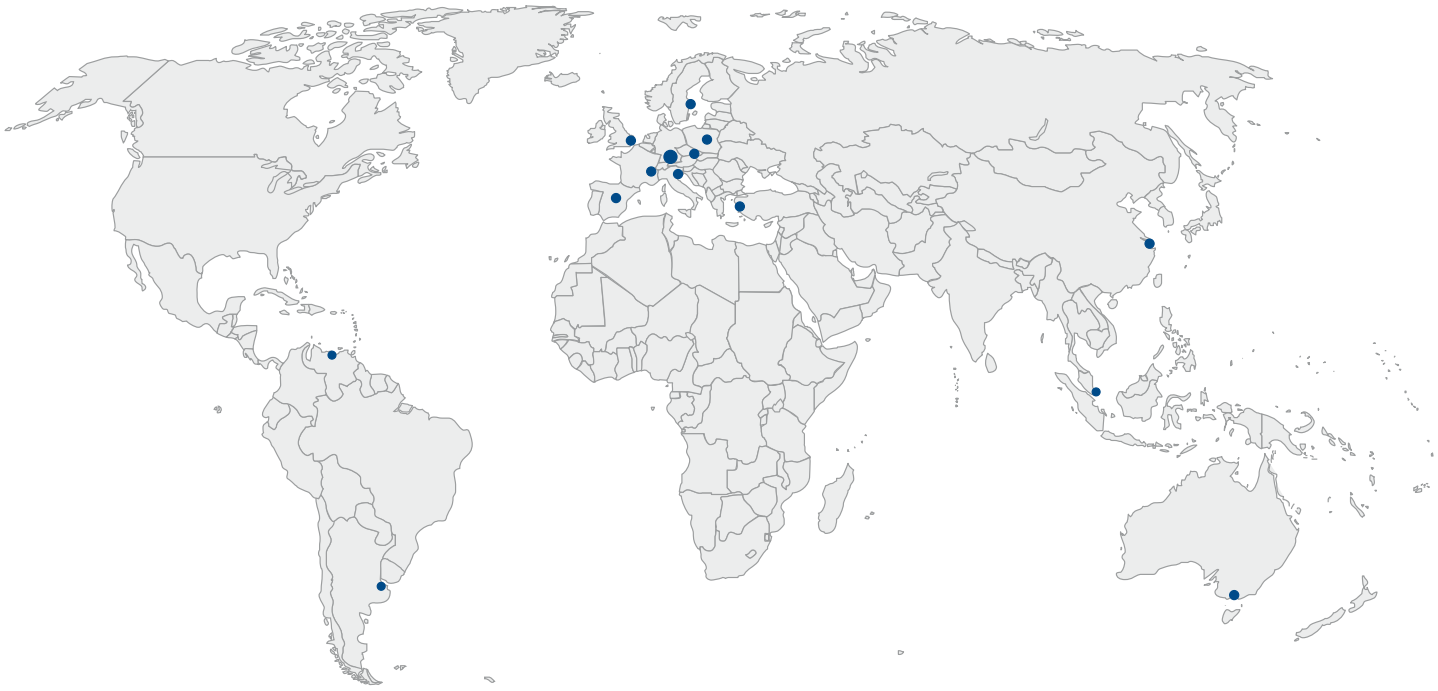

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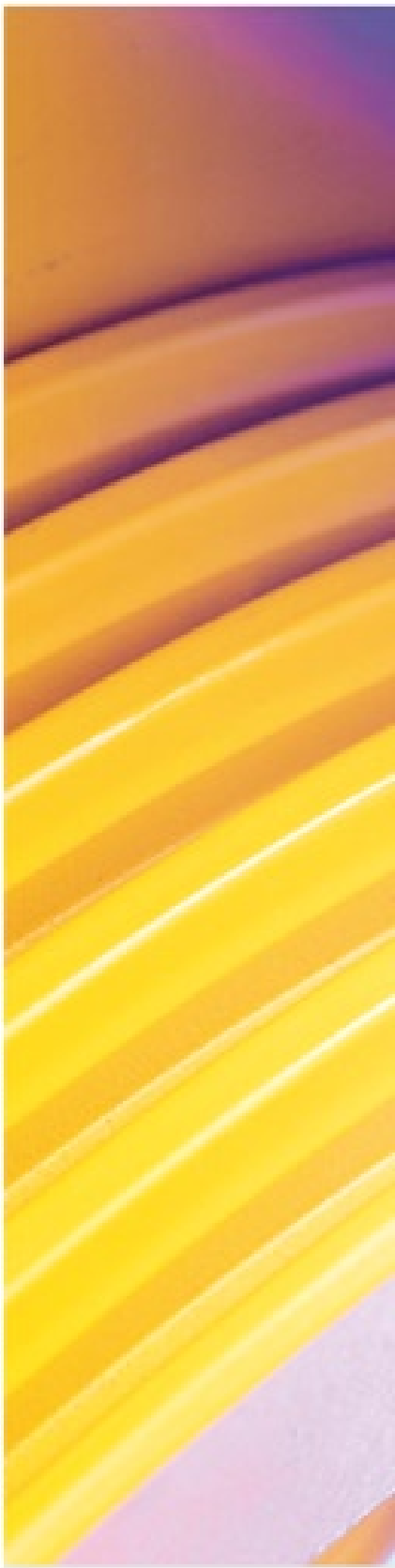

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