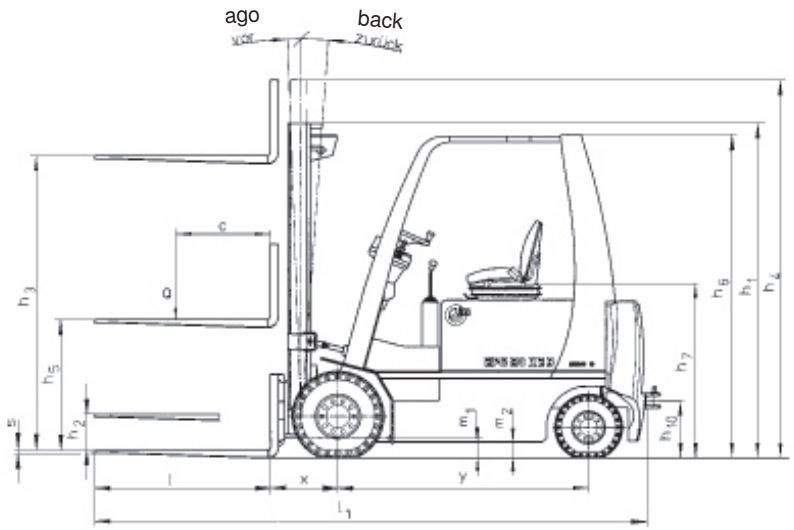
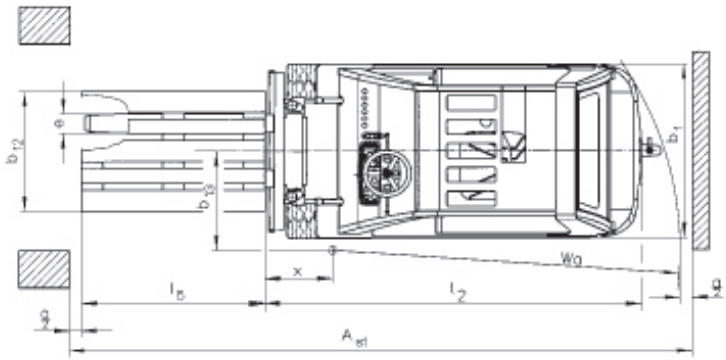
MIAG ex

The specialist in Ex-industrial lift trucks and innovative transport systems

Electric Fork Lift Truck
Explosion-proof, three-phase current techn.

EFG





$A_{st} = W_a + x + l_6 + a$

A_{st} = Aisle width between stacks
a = Safety distance = 200 mm
l_6 = Pallet width (e.g. 800 or 1000 mm)
b_{12} = Pallet length (e.g. 1200 mm)

EFG 16, 20XE3 / ..H2 / ..ST
Technical Data

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Ex CE

Technical Data (in accord. with VDI 2198)

Electric Fork Lift Truck (four-wheeled version)
EFG 16, 20XE3/..H2/..ST; explosion-proof, three-phase current technology

Explosion protection: the devices are tested and approved by the Physikalisch Technische Bundesanstalt (PTB) (Physical-Technical Federal Institute) for use in areas at risk of explosion according to the following protection classes****: Gas explosion protection - suitable for use in explosive areas, zones 1 and 2 according to GefStoffV within explosion sub-groups IIA and IIB or IIB + H2 and temperature classes T1 to T4; Dust explosion protection: - suitable for use in explosive areas, zones 21 and 22 according to GefStoffV at surface temperatures of maximum 130°C.

Description							
1.1	Manufacturer (Make [abbreviation])			MIAG	MIAG		
1.2	Type designation of the manufacturer			EFG 16XE3 ..	EFG 20XE3 ..		
1.3	Drive Battery, Diesel, Petrol, fuel gas, mains current			Battery	Battery		
1.4	Operation Hand, Pedestrian, stand-on, driver-seated			Driver seated	Driver seated		
1.5	Carrying capacity / Load	Q	(t)	1,6	2,0		
1.6	Load centre	c	(mm)	500	500		
1.8	Load distance , mast lowered	x	(mm)	445-505****	445-505****		
1.9	Wheel base	y	(mm)	1450	1450		
Weights ****							
2.1	Dead weight	kg		4200*	4200*		
2.2	Axle load laden front/rear	kg		4930 / 870	5580 / 620		
2.3	Axle load unladen front/rear	kg		2000 / 2200	2000 / 2200		
Wheels, Chassis							
3.1	Tyres Pneumatic, Solid, Vulcollan			Sup.cush./Pneum.	Sup.cush./Pneum.		
3.2	Dimension in front			23x9-10/20PR	23x9-10/20PR		
3.3	Dimension at the rear			18x7-8 /14 PR	18x7-8 /14 PR		
3.5	Wheels number front / rear, x=driven			2x / 2	2x / 2		
3.6	Truck width front	b_{10}	(mm)	950	950		
3.7	Truck width rear	b_{11}	(mm)	944	944		
Base dimensions ***							
4.1	Mast tilt /fork carriage, ago / back	Degree		2 / 4	2 / 4		
4.2	Height of mast, lowered	h_1	(mm)	2175*	2175*		
4.3	Free lift	h_2	(mm)	150*	150*		
4.4	Lift at double mast	h_3	(mm)	2900*	2900*		
4.5	Height of mast, raised	h_4	(mm)	3625*	3625*		
4.7	Height above overhead guard (cabin)	h_6	(mm)	2200	2200		
4.8	Seat height (seat load)	h_7	(mm)	1125	1125		
4.12	Height coupling	h_{10}	(mm)	420	420		
4.19	Length total	l_1	(mm)	3346****	3346****		
4.20	Length including shank	l_2	(mm)	2346****	2346****		
4.21	Width total	b_1 / b_2	(mm)	1160	1160		
4.22	Fork dimensions	$s/e/l$	(mm)	48/128/1000	48/128/1000		
4.23	Fork carriage according to DIN 15173 / ISO 2328, A/ B			A	A		
4.24	Fork carriage width	b_3	(mm)	1100	1100		
4.31	Ground clearance with load under lifting frame	m_1	(mm)	117	117		
4.32	Ground clearence centre wheel base (lowest point)	m_2	(mm)	90	90		
4.33	Aisle width for pallets 1000x1200 cross	A_{st}	(mm)	3700	3700		
4.34	Aisle width for pallets 800x1200 cross	A_{st}	(mm)	3500	3500		
4.35	Turning radius	W_a	(mm)	2055	2055		
4.36	min. fulcrum distance	b_{13}	(mm)	585	585		
Performance							
5.1	Speed travel laden / unladen	km / h		13 / 14	13 / 14		
5.2	Speed lift laden / unladen	m / s		0,29 / 0,32	0,29 / 0,32		
5.3	Speed lower laden / unladen	m / s		0,45 / 0,38	0,45 / 0,38		
5.5	draw-bar pull laden / unladen(outside expl.-proof area)	N		-	-		
5.6	max. draw-bar pull laden/unladen (outs. expl.-proof area)	N		12000/10000	12000/10000		
5.7	Climbing capacity with / without load	%		12 / 15	12 / 15		
5.8	Max. gradeability laden / unladen	%		on application	on application		
5.9	Acceleration period laden / unladen	s		5 / 4	5 / 4		
5.10	Service brake			electrical	electrical		
E-Motor							
6.1	Traction motor, output / 1 hour rating	kW		8	8		
6.2	Lift motor, output / 1 hour rating	kW		8	8		
6.3	Battery according to DIN 43531 / 35 / 36, A / B / C, no			no	no		
6.4	Battery voltage / Capacity K_5	V / Ah		80 / 320	80 / 320		
6.5	Battery weight	kg		865	865		
Others							
8.1	Motor control type			pulse	pulse		
8.2	Working pressure for attachments	bar		max. 200	max. 200		
8.3	Oil quantity for attachments	l / min		48	48		
8.4	Sound level at driver´s ear to EN12053	dB (A)		64	64		
8.5	Coupling, Kind / Type DIN			SK3	SK3		

* statements for design with SV mast (without integrated side shift) with basic equipment
** from 3500 mm lift height reduction of carrying capacity to80 %
*** with mast design in series, further designs on request
**** depending on device version

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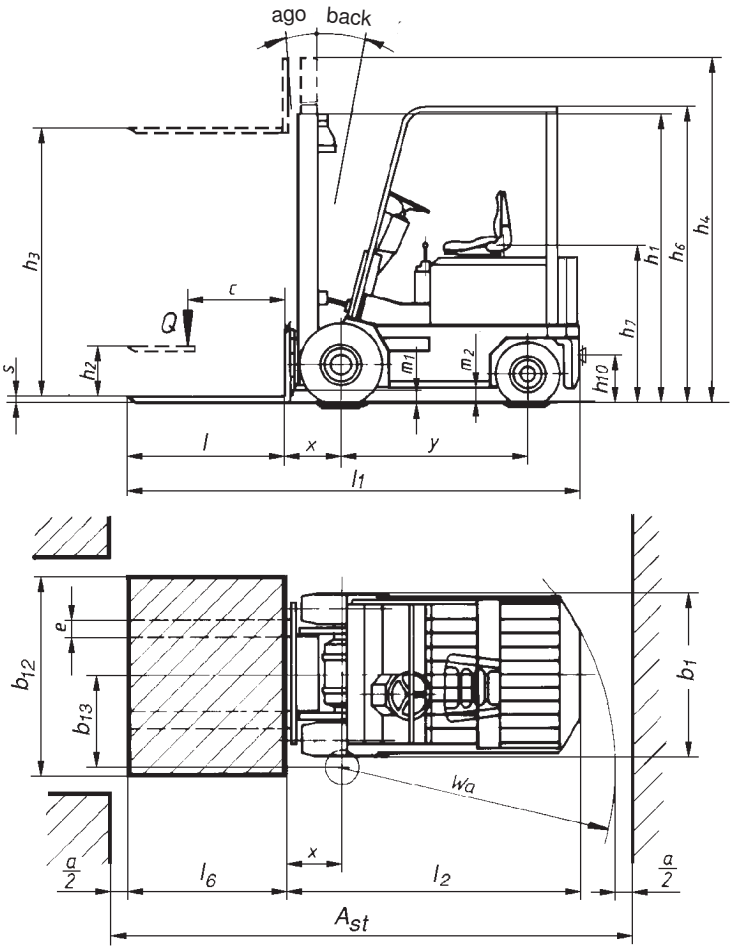

A_{st} = $W_a + x + l_6 + a$
A_{st} = Aisle width between stacks
a = Safety distance = 200 mm
l_6 = Pallet width (e.g. 800 or 1000 mm)
b_{12} = Pallet length (e.g. 1200 mm)

EFG 12-25XE2 / ..H2 / ..ST
Technical Data

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Ex CE

Technical Data (in accord. with VDI 2198)

Electric Fork Lift Truck (four-wheeled version)
EFG 12-25XE2/..H2/..ST; explosion-proof, three-phase current technology

Explosion protection: the devices are tested and approved by the Physikalisch Technische Bundesanstalt (PTB) (Physical-Technical Federal Institute) for use in areas at risk of explosion according to the following protection classes****: Gas explosion protection - suitable for use in explosive areas, zones 1 and 2 according to GefStoffV within explosion sub-groups IIA and IIB or IIB + H2 and temperature classes T1 to T4 and 120°C; Dust explosion protection: - suitable for use in explosive areas, zones 21 and 22 according to GefStoffV at surface temperatures of maximum 115°C.

Description							
1.1	Manufacturer (Make [abbreviation])			MIAG	MIAG	MIAG	MIAG
1.2	Type designation of the manufacturer			EFG 12XE2 ..	EFG 16XE2 ..	EFG 20XE2 ..	EFG 25XE2 ..
1.3	Drive Battery, Diesel, Petrol, fuel gas, mains current			Battery	Battery	Battery	Battery
1.4	Operation Hand, Pedestrian, stand-on, driver-seated			Driver seated	Driver seated	Driver seated	Driver seated
1.5	Carrying capacity / Load	Q	(t)	1,2	1,6	2,0	2,5
1.6	Load centre	c	(mm)	500	500	500	500
1.8	Load distance , mast lowered *	x	(mm)	445	445	445	445
1.9	Wheel base	y	(mm)	1450	1450	1450	1630
Weights							
2.1	Dead weight	kg		3400	3900	4100	4400
2.2	Axle load laden front/rear	kg		3920 / 680	4750/ 750	5800 / 800	6060 / 840
2.3	Axle load unladen front/rear	kg		1900 / 1500	2000 / 1900	2050 / 2050	2100 / 2300
Wheels, Chassis							
3.1	Tyres Pneumatic, Solid, Vulcollan			Sup.cush./Pneum.	Sup.cush./Pneum.	Sup.cush./Pneum.	Sup.cush./Pneum.
3.2	Dimension in front			23x9-10/20PR	23x9-10 / 20PR	23x9-10 / 20PR	23x9-10 / 20PR
3.3	Dimension at the rear			18x7-8/14 PR	18x7-8/14 PR	18x7-8/14 PR	18x7-8/14 PR
3.5	Wheels number front / rear, x=driven			2x / 2	2x / 2	2x / 2	2x / 2
3.6	Truck width front	b_{10}	(mm)	940	940	940	940
3.7	Truck width rear	b_{11}	(mm)	926	926	926	926
Base dimensions * **							
4.1	Mast tilt /fork carriage, ago / back	Degree		3 / 6	3 / 6	3 / 6	3 / 6
4.2	Height of mast, lowered	h_1	(mm)	2175	2175	2175	2175
4.3	Free lift	h_2	(mm)	150	150	150	150
4.4	Lift at double mast	h_3	(mm)	2900	2900	2900	2900
4.5	Height of mast, raised	h_4	(mm)	3625	3625	3625	3625
4.7	Height above overhead guard (cabin)	h_6	(mm)	2200	2200	2200	2200
4.8	Seat height (seat load)	h_7	(mm)	1140	1140	1140	1140
4.12	Height coupling	h_{10}	(mm)	435	435	435	435
4.19	Length total (without forks) *	l_1	(mm)	3210	3210	3210	3430
4.20	Length including shank (retired) *	l_2	(mm)	2210	2210	2210	2430
4.21	Width total	b_1 / b_2	(mm)	1160	1160	1160	1160
4.22	Fork dimensions	$s/e/l$	(mm)	48/128/1000	48/128/1000	48/128/1000	48/128/1000
4.23	Fork carriage according to DIN 15173 / ISO 2328, A/ B			A	A	A	A
4.24	Fork carriage width	b_3	(mm)	1100	1100	1100	1100
4.31	Ground clearance with load under lifting frame	m_1	(mm)	125	125	125	125
4.32	Ground clearence centre wheel base (lowest point)	m_2	(mm)	110	110	110	110
4.33	Aisle width for pallets 1000x1200 cross	A_{st}	(mm)	3625	3625	3625	3875
4.34	Aisle width for pallets 800x1200 cross	A_{st}	(mm)	3425	3425	3425	3675
4.35	Turning radius	W_a	(mm)	1995	1995	1995	2230
4.36	min. fulcrum distance	b_{13}	(mm)	620	620	620	640
Performance							
5.1	Speed travel laden / unladen	km / h		13 / 14	13 / 14	13 / 14	13 / 14
5.2	Speed lift laden / unladen	m / s		0,22 / 0,23	0,22 / 0,23	0,22 / 0,23	0,20 / 0,23
5.3	Speed lower laden / unladen	m / s		0,35 / 0,22	0,35 / 0,22	0,35 / 0,22	0,35 / 0,22
5.5	draw-bar pull laden / unladen(outside expl.-proof area)	N		-	-	-	-
5.6	max. draw-bar pull laden/unladen (outs. expl.-proof area)	N		12000/10000	12000/10000	12000/10000	12000/10000
5.7	Climbing capacity with / without load	%		14/ 15	13 / 15	12 / 15	11 / 15
5.8	Max. gradeability laden / unladen	%		on application	on application	on application	on application
5.9	Acceleration period laden / unladen	s		5 / 5	5 / 5	5 / 4	5 / 4
5.10	Service brake			electrical	electrical	electrical	electrical
E-Motor							
6.1	Traction motor, output / 1 hour rating	kW		8	8	8	8
6.2	Lift motor, output / 1 hour rating	kW		8	8	8	8
6.3	Battery according to DIN 43531 / 35 / 36, A / B / C, no			no	no	no	no
6.4	Battery voltage / Capacity K_5	V / Ah		80 / 320	80 / 320	80 / 320	80 / 400
6.5	Battery weight	kg		865	865	865	1060
Others							
8.1	Motor control type			pulse	pulse	pulse	pulse
8.2	Working pressure for attachments	bar		max. 160	max. 160	max. 180	max. 200
8.3	Oil quantity for attachments	l / min		48	48	48	48
8.4	Sound level at driver´s ear to EN12053	dB (A)		64	64	64	64
8.5	Coupling, Kind / Type DIN			SK3	SK3	SK3	SK3

* statements for design with SV mast (without integrated side shift) with basic equipment
** from 3500 mm lift height reduction of carrying capacity to80 %
*** with mast design in series, further designs on request
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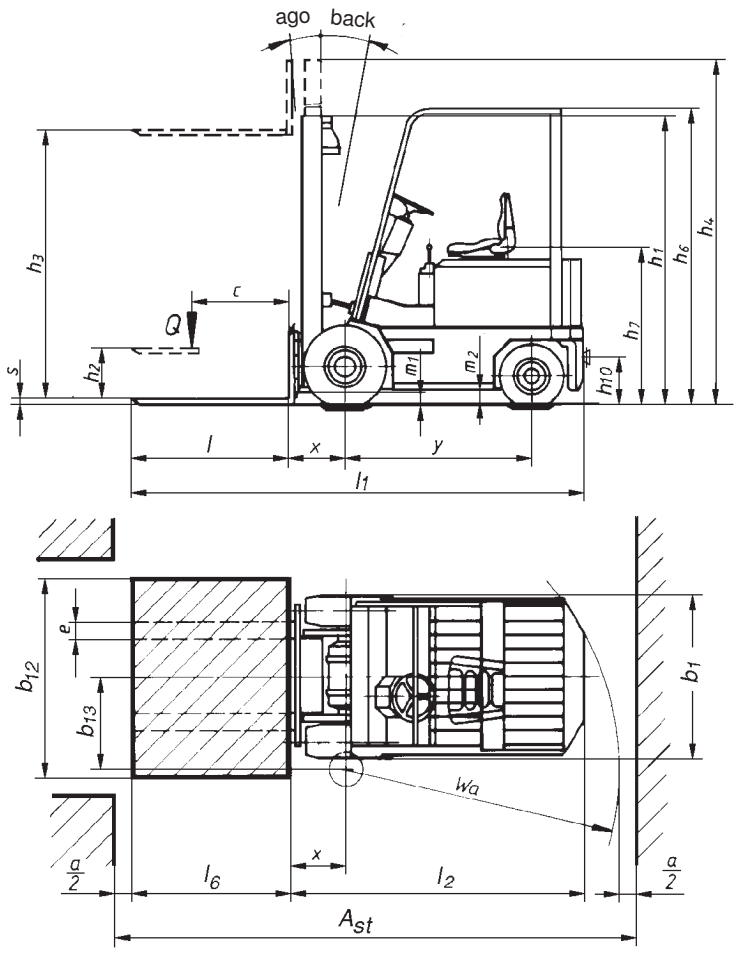

A_{st} = $W_a + x + l_6 + a$
A_{st} = Aisle width between stacks
a = Safety distance = 200 mm
l_6 = Pallet width (e.g. 800 or 1000 mm)
b_{12} = Pallet length (e.g. 1200 mm)

EFG 30-40XE2 / ..H2 / ..ST
Technical Data

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Description						
1.1	Manufacturer (Make [abbreviation])			MIAG	MIAG	MIAG
1.2	Type designation of the manufacturer			EFG 30XE2 ..	EFG 35XE2 ..	EFG 40XE2 ..
1.3	Drive Battery, Diesel, Petrol, fuel gas, mains current			Battery	Battery	Battery
1.4	Operation Hand, Pedestrian, stand-on, driver-seated			Driver seated	Driver seated	Driver seated
1.5	Carrying capacity / Load	Q	(t)	3,0	3,5	4,0
1.6	Load centre	c	(mm)	500	500	500
1.8	Load distance , mast lowered *	x	(mm)	430	470	470
1.9	Wheel base	y	(mm)	1820	1890	1890
Weights						
2.1	Dead weight	kg		4850	5750	6250
2.2	Axle load laden front/rear	kg		7170 / 680	8300 / 950	9000 / 1250
2.3	Axle load unladen front/rear	kg		2650 / 2200	3000 / 2750	2950 / 3300
Wheels, Chassis						
3.1	Tyres Pneumatic, Solid, Vulcollan			Sup.cush./Pneum.	Sup.cush./Pneum.	Sup.cush./Pneum.
3.2	Dimension in front			23x9-10 / 20PR	27x10-12	27x10-12
3.3	Dimension at the rear			18x7-8/14 PR	21x8-9	21x8-9
3.5	Wheels number front / rear, x=driven			2x / 2	2x / 2	2x / 2
3.6	Truck width front	b_{10}	(mm)	940	1225	1225
3.7	Truck width rear	b_{11}	(mm)	926	926	926
Base dimensions ***						
4.1	Mast tilt /fork carriage, ago / back	Degree		3 / 6	3 / 6	3 / 6
4.2	Height of mast, lowered	h_1	(mm)	2188	2380	2380
4.3	Free lift	h_2	(mm)	140	150	150
4.4	Lift at double mast	h_3	(mm)	3165	2900	2900
4.5	Height of mast, raised	h_4	(mm)	3785	3760	3760
4.7	Height above overhead guard (cabin)	h_6	(mm)	2200	2420	2420
4.8	Seat height (seat load)	h_7	(mm)	1140	1300	1300
4.12	Height coupling	h_{10}	(mm)	435	435	435
4.19	Length total (without forks) *	l_1	(mm)	3650	3760	3810
4.20	Length including shank (retired) *	l_2	(mm)	2650	2760	2810
4.21	Width total	b_1 / b_2	(mm)	1160	1235	1235
4.22	Fork dimensions	$s/e/l$	(mm)	58/128/1000	58/128/1000	58/128/1000
4.23	Fork carriage according to DIN 15173 / ISO 2328, A/ B			A	A	A
4.24	Fork carriage width	b_3	(mm)	1050	1050	1050
4.31	Ground clearance with load under lifting frame	m_1	(mm)	140	150	150
4.32	Ground clearence centre wheel base (lowest point)	m_2	(mm)	110	130	130
4.33	Aisle width for pallets 1000x1200 cross	A_{st}	(mm)	4085	4200	4245
4.34	Aisle width for pallets 800x1200 cross	A_{st}	(mm)	3890	4000	4045
4.35	Turning radius	W_a	(mm)	2450	2525	2570
4.36	min. fulcrum distance	b_{13}	(mm)	735	765	880
Performance						
5.1	Speed travel laden / unladen	km / h		10 / 11	8 / 9,5	8 / 9,5
5.2	Speed lift laden / unladen	m / s		0,20 / 0,23	0,19 / 0,23	0,18 / 0,23
5.3	Speed lower laden / unladen	m / s		0,35 / 0,22	0,35 / 0,22	0,35 / 0,22
5.5	draw-bar pull laden / unladen(outside expl.-proof area)	N		-	-	-
5.6	max. draw-bar pull laden/unladen (outs. expl.-proof area)	N		12000/10000	12000/10000	12000/10000
5.7	Climbing capacity with / without load	%		11 / 15	6 / 13	5 / 12
5.8	Max. gradeability laden / unladen	%		on application	on application	on application
5.9	Acceleration period laden / unladen	s		5 / 3	5 / 3,5	5 / 3
5.10	Service brake			electrical	electrical	electrical
E-Motor						
6.1	Traction motor, output / 1 hour rating	kW		8	8	8
6.2	Lift motor, output / 1 hour rating	kW		8	8	8
6.3	Battery according to DIN 43531 / 35 / 36, A / B / C, no			no	no	no
6.4	Battery voltage / Capacity K_5	V / Ah		80 / 480	80 / 750	80 / 750
6.5	Battery weight	kg		1260	1740	1740
Others						
8.1	Motor control type			pulse	pulse	pulse
8.2	Working pressure for attachments	bar		max. 200	max. 180	max. 180
8.3	Oil quantity for attachments	l / min		32	32	32
8.4	Sound level at driver´s ear to EN12053	dB (A)		64	64	64
8.5	Coupling, Kind / Type DIN			SK3	SK3	SK3

* statements for design with SV mast (without integrated side shift) with basic equipment
** from 3500 mm lift height reduction of carrying capacity to80 %
*** with mast design in series, further designs on request
**** depending on device version