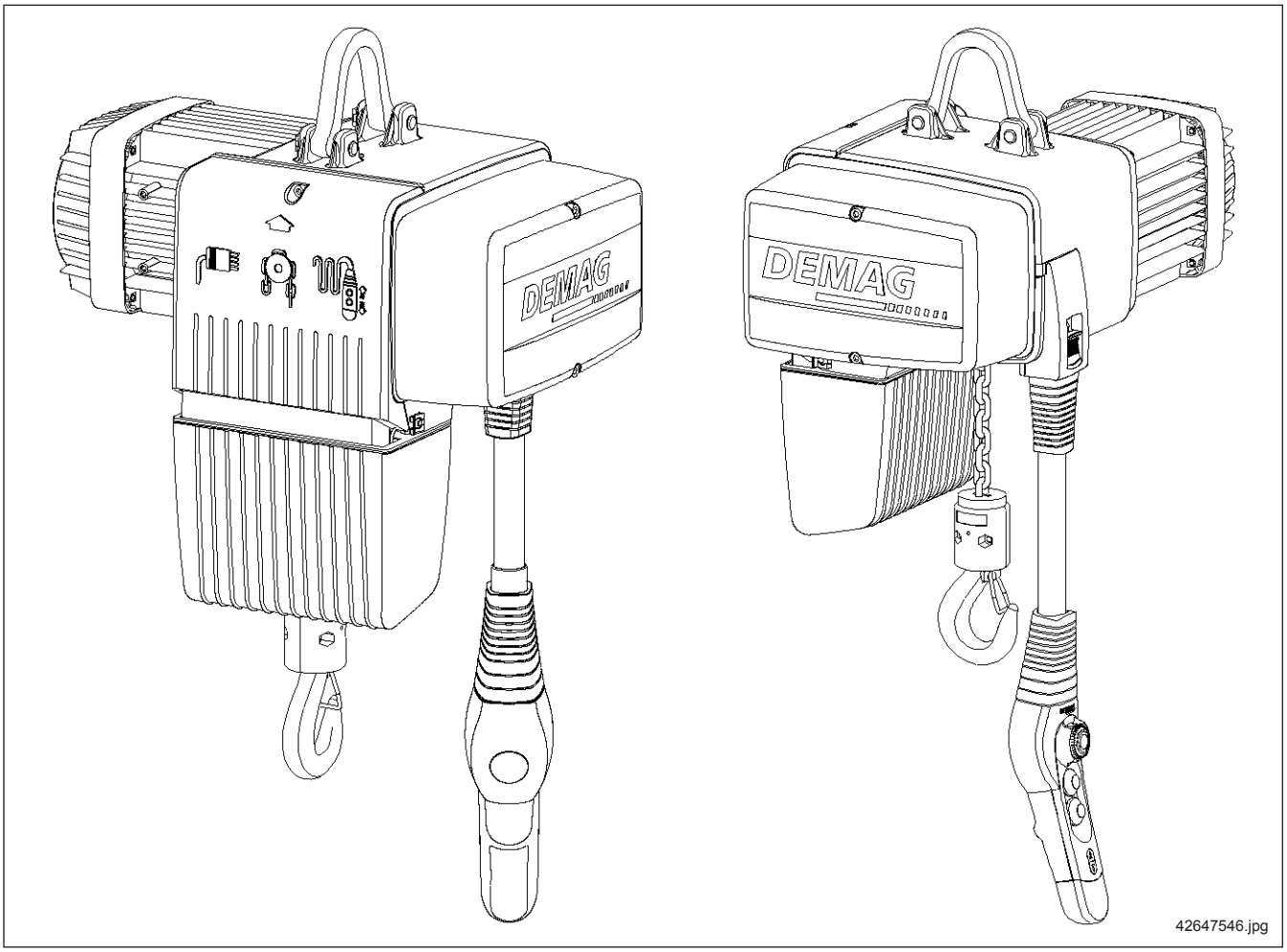
DEMAG
Cranes & Components

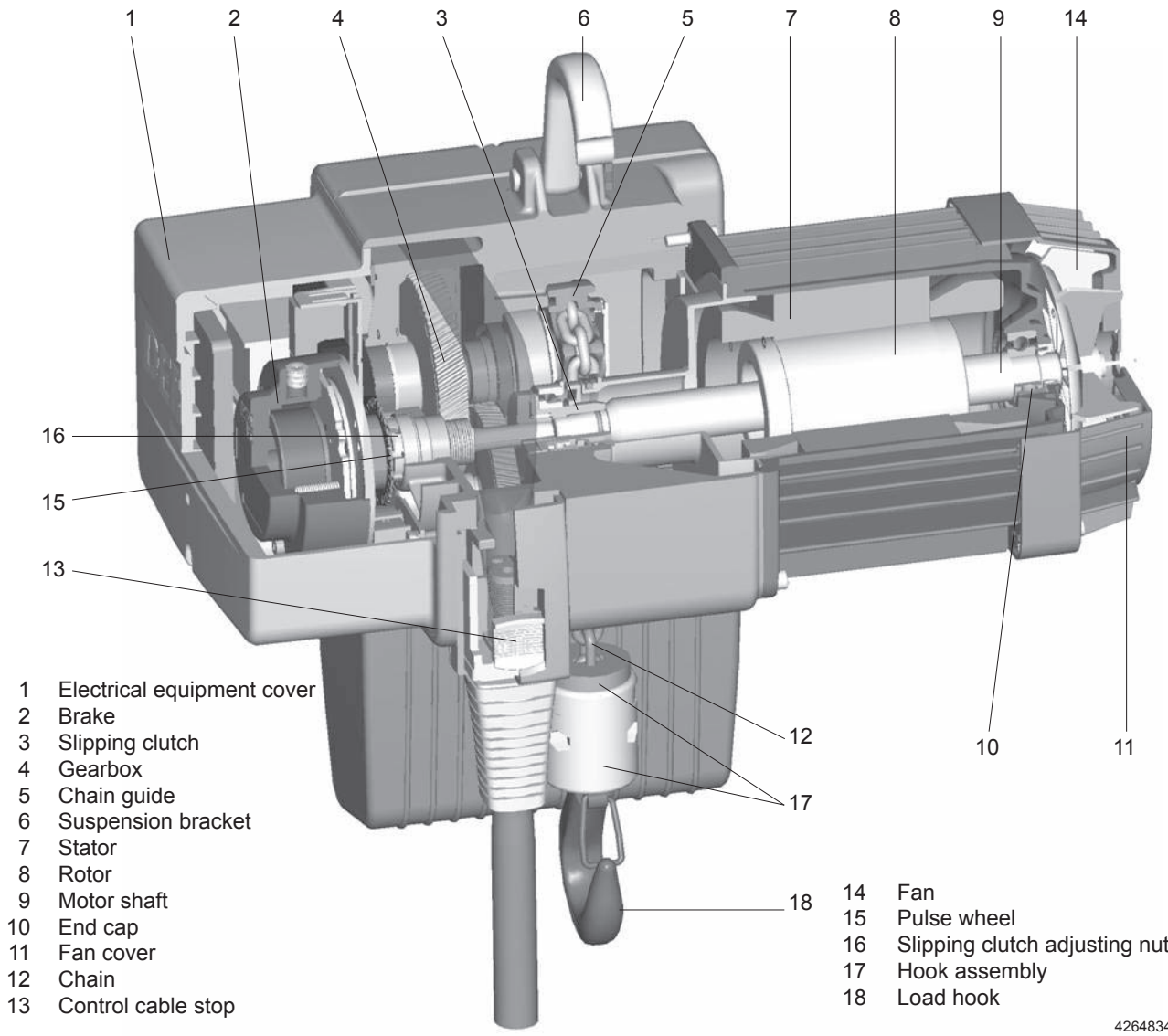
Technical data

Demag DC-Com 1 to DC-Com 10 chain hoists



Design overview

Single-fall design



1 Electrical equipment cover
2 Brake
3 Slipping clutch
4 Gearbox
5 Chain guide
6 Suspension bracket
7 Stator
8 Rotor
9 Motor shaft
10 End cap
11 Fan cover
12 Chain
13 Control cable stop
14 Fan
15 Pulse wheel
16 Slipping clutch adjusting nut
17 Hook assembly
18 Load hook

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For other designs of chain hoists, see DC-Pro technical data 203 525 44.

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Model code

E	U	D	DC-Pro	10 -	1000	2/1	H5	V6/1,5	380 - 415 /	50	24/6	200	220 - 480
													Travel drive voltage range / voltage [V]
												Max. flange width of trolley [mm]	
											Travel speed [m/min]		
										Frequency [Hz]			
									Chain hoist voltage range [V]				
									Hoist speed [m/min]				
								V	2-steps = Main/creep lifting				
								VS	Stepless = VS at nominal load up to VS_{max} in the partial load range				
							Hook path [m]						
						Reeving							
					Load capacity [kg]								
				Size									
			DC-Pro	Demag chain hoist, 2-steps						DC-ProDi	Chain hoist 2-steps for direct control		
			DCM-Pro	Manulift, 2-steps						DC-ProFi	Chain hoist stepless for control via an external frequency inverter		
			DCS-Pro	Chain hoist stepless									
			DCMS-Pro	Manulift stepless									
			DCRS-Pro	Rocker switch stepless						DC-Com	Chain hoist, 2-steps basic version		
		D	Articulated trolley (curve-negotiating)										
	K		Low headroom trolley										
	U		Standard-headroom monorail hoist										
		11	Trolley size load capacity [kg • 100]										
		22											
		34											
		56											
R			Push-travel trolley										
E			Travel drive										
C	F	5	Click-Fit (push-travel trolley)										

Not all features of the mounting code can be combined.

Selection criteria

The size of the hoist is determined by the load spectrum, average operating time per working day, SWL and reeving.

1. What are the operating conditions?
2. What is the specified safe working load?
3. To what height must the load be lifted?
4. What is the required lifting speed?
5. Do the loads need to be lifted and lowered with high precision?
6. Is horizontal load travel necessary?
7. How is the hoist to be controlled?

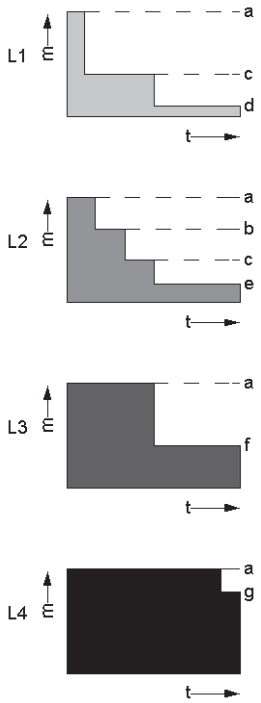
The load spectrum
(in most cases estimated) can be evaluated in accordance with the following definitions:

L1 Light
Hoist units which are usually subject to very small loads and in exceptional cases only to maximum loads.

L2 Medium
Hoist units which are usually subject to small loads but rather often to maximum loads.

L3 Heavy
Hoist units which are usually subject to medium loads but frequently to maximum loads.

L4 Very heavy
Hoist units which are usually subject to maximum or almost maximum loads.



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m = SWL
t = Operating time
a = Full load
b = Medium partial load
c = Small to medium partial load
d = Small dead load
e = Small to medium dead load
f = Heavy dead load
g = Very heavy dead load

The chain hoist group of mechanisms is determined by the load spectrum and operating time.

Load spectrum		Average operating time per working day in hours			
L1	**Light**	2-4	4-8	8-16	over 16
L2	**Medium**	1-2	2-4	4-8	8-16
L3	**Heavy**	0,5-1	1-2	2-4	4-8
L4	**Very heavy**	0,25-0,5	0,5-1	1-2	2-4
Group of mechanisms to FEM		1Am	2m	3m	4m

Reeving arrangement		Range	Size		
1/1	2/1				
SWL in kg					
		Demag DC chain hoist			
80		DC-Com 1			80
100		DC-Com 1		100	
125		DC-Com 1		125	
160		DC-Com 2		160	
200		DC-Com 2	200		
250		DC-Com 2	250		
315		DC-Com 5		315	
400		DC-Com 5	400		
500		DC-Com 5	500		
630		DC-Com 10		630	
800		DC-Com 10	800		
1000		DC-Com 10	1000		
	1250	DC-Com 10		1250	
	1600	DC-Com 10	1600		
	2000	DC-Com 10	2000		

Example:

Load capacity	250 kg	“Medium” load spectrum from table	
Hoist speed	4 m/min	1/1 reeving	
Average hook path	3 m	No. of cycles/h 9	Working time/day 8 h

The average operating time per working day is estimated or calculated as follows:

$$\text{Operating time/day} = \frac{2 \times \text{average hook path} \times \text{no. of cycles/h.} \times \text{working time/day}}{60 \times \text{hoist speed}} =$$

$$\frac{2 \times 3 \times 9 \times 8}{60 \times 4} = 1{,}8 \text{ hours}$$

For the medium load spectrum and an average daily operating time of 1,8 hours, the table shows group 1Am. For the load capacity of 250 kg, the diagram shows size DC-Com 2–250.

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Selection table

DC-Com (2 hoist speeds)

SWL	Chain hoist	Reeving	Group of mechanisms	Hoist speed		Standard hook path 2)	Motor size 1)	Max. weight for hook path		
	Type		DIN EN 14492	at 50 Hz	at 60 Hz	H		4 m	5 m	8 m
[kg]	DC-Com		FEM / ISO	[m/min]	[m/min]	[m]		[kg]	[kg]	[kg]
80	1	1/1	3m/M6	8,0/2,0	9,6/2,4	4, 5 and 8	ZNK 71 B 8/2	21	22	24
100			2m/M5							
125										
160	2			6,0/1,5	7,2/1,8		ZNK 71 B 8/2			
200			1Am / M4							
250										
315	5		2m / M5	4,5/1,1	5,4/1,3		ZNK 80 A 8/2	27	28	30
400			1Am / M4							
500										
630	10		2m / M5	4,0/1,0	4,8/1,2		ZNK 100 A 8/2	47	48	52
800			1Am / M4							
1000										
1250		2/1	2m / M5				ZNK 100 B 8/2	63	65	73
1600			1Am / M4							
2000										

Hoist speeds until 09/2008 (no longer available)

SWL	Chain hoist	Reeving	Group of mechanisms	Hoist speed		Standard hook path 2)	Motor size 1)	Max. weight for hook path		
	Type		DIN EN 14492	at 50 Hz	at 60 Hz	H		4 m	5 m	8 m
[kg]	DC-Com		FEM / ISO	[m/min]	[m/min]	[m]		[kg]	[kg]	[kg]
160	2	1/1	2m/M5	4,0/2,0	4,8/2,4	4, 5 and 8	ZNK 71 B 8/4	21	22	24
200			1Am / M4							
250										
315	5		2m / M5				ZNK 80 A 8/4	27	28	30
400			1Am / M4							
500										

1) See Electrical key data page for key motor data.
2) Larger hook paths on request.

Hoist motor data (The tolerance of the voltage range must not exceed ± 10 %.)
The motors are designed in compliance with insulation class F.

Size	Motor size	No. of poles	Min. / max. currents and starting current													
							220-240 V, 50 Hz, 3 ~ (CE)					380-415 V, 50 Hz, 3 ~ (CE)				
			P_N	CDF	n_N	Starts/h	$I_{N\ 220}$	$I_{N\ 240}$	I_{max} 1)	$I_A/I_{N\ 240}$	cos φ_N	$I_{N\ 380}$	$I_{N\ 415}$	I_{max} 1)	$I_A/I_{N\ 415}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]			[A]	[A]	[A]		
1	ZNK 71 B 8/2	8	0,05	20	720	240	1,75	2,10	2,10	1,45	0,48	1,00	1,20	1,20	1,45	0,48
		2	0,18	40	2950	120	2,10	2,80	2,80	2,75	0,46	1,20	1,60	1,60	2,75	0,46
2	ZNK 71 B 8/2	8	0,07	15	695	240	1,80	2,10	2,35	1,45	0,52	1,00	1,20	1,35	1,45	0,52
		2	0,30	25	2880	120	2,30	2,80	3,20	2,75	0,55	1,30	1,60	1,85	2,75	0,55
5	ZNK 80 A 8/2	8	0,10	15	720	240	1,90	1,90	2,15	2,50	0,46	1,10	1,10	1,25	2,50	0,46
		2	0,41	25	2910	120	3,60	4,70	5,50	4,70	0,49	2,10	2,70	3,20	4,70	0,49
10	ZNK 100 A 8/2	8	0,19	15	705	240	2,80	3,10	3,65	1,90	0,48	1,60	1,80	2,10	1,90	0,48
		2	0,75	25	2850	120	3,50	4,00	4,50	4,85	0,65	2,00	2,30	2,60	4,85	0,65
	ZNK 100 B 8/2	8	0,37	15	735	240	-					3,90	4,60	5,40	2,30	0,42
		2	1,50	25	2955	120						5,40	6,30	7,70	5,10	0,49

Size	Motor size	No. of poles	Min. / max. currents and starting current								
							500-525 V, 50 Hz, 3 ~ (CE/CSA)				
			P_N	CDF	n_N	Starts/h	$I_{N\ 500}$	$I_{N\ 525}$	I_{max} 1)	$I_A/I_{N\ 525}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]		
1	ZNK 71 B 8/2	8	0,05	20	720	240	0,75	0,95	0,95	1,45	0,48
		2	0,18	40	2925	120	0,90	1,25	1,25	2,75	0,46
2	ZNK 71 B 8/2	8	0,07	15	695	240	0,80	0,95	1,10	1,45	0,52
		2	0,30	25	2880	120	1,10	1,25	1,45	2,75	0,55
5	ZNK 80 A 8/2	8	0,10	15	720	240	0,90	0,90	1,00	2,50	0,46
		2	0,41	25	2910	120	1,70	2,15	2,55	4,70	0,49
10	ZNK 100 A 8/2	8	0,19	15	705	240	1,30	1,40	1,70	1,90	0,48
		2	0,75	25	2850	120	1,70	1,80	2,00	4,85	0,65
	ZNK 100 B 8/2	8	0,37	15	735	240	3,30	3,70	4,30	2,27	0,42
		2	1,50	25	2955	120	4,15	5,00	6,10	5,13	0,49

Size	Motor size	No. of poles	Min. / max. currents and starting current													
							220-240 V, 60 Hz, 3 ~ (CSA)					380-400 V, 60 Hz, 3 ~ (CE)				
			P_N	CDF	n_N	Starts/h	$I_{N\ 220}$	$I_{N\ 240}$	I_{max} 1)	$I_A/I_{N\ 240}$	cos φ_N	$I_{N\ 380}$	$I_{N\ 400}$	I_{max} 1)	$I_A/I_{N\ 400}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]			[A]	[A]	[A]		
1	ZNK 71 B 8/2	8	0,06	20	870	240	2,10	2,50	2,50	1,45	0,47	1,35	1,60	1,60	1,45	0,47
		2	0,22	40	3525	120	2,50	3,35	3,35	2,75	0,45	1,70	2,00	2,00	2,75	0,45
2	ZNK 71 B 8/2	8	0,09	15	845	240	2,10	2,50	2,80	1,45	0,51	1,40	1,60	1,70	1,45	0,51
		2	0,36	25	3480	120	2,70	3,30	3,85	2,75	0,54	1,80	2,00	2,20	2,75	0,54
5	ZNK 80 A 8/2	8	0,12	15	870	240	2,30	2,30	2,60	2,50	0,45	1,55	1,55	1,75	2,50	0,45
		2	0,49	25	3510	120	4,40	5,60	6,60	4,70	0,48	3,00	3,50	4,10	4,70	0,48
10	ZNK 100 A 8/2	8	0,23	15	855	240	3,35	3,75	4,40	1,90	0,47	2,30	2,50	2,80	1,90	0,47
		2	0,90	25	3450	120	4,20	4,80	5,40	4,85	0,67	2,70	2,90	3,30	4,85	0,64
	ZNK 100 B 8/2	8	0,44	15	885	240	-					5,75	6,40	7,10	2,30	0,41
		2	1,80	25	3555	120						7,30	8,90	10,00	5,10	0,48

Size	Motor size	No. of poles	Min. / max. currents and starting current												
							440-480 V, 60 Hz, 3 ~ (CSA)					575 V, 60 Hz, 3 ~ (CSA)			
			P_N	CDF	n_N	Starts/h	$I_{N\ 440}$	$I_{N\ 480}$	I_{max} 1)	$I_A/I_{N\ 480}$	cos φ_N	$I_{N\ 575}$	I_{max} 1)	$I_A/I_{N\ 575}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]			[A]	[A]		
1	ZNK 71 B 8/2	8	0,06	20	870	240	0,96	1,15	1,15	1,45	0,47	1,10	1,10	1,22	0,49
		2	0,22	40	3525	120	1,15	1,55	1,55	2,75	0,45	1,20	1,20	3,50	0,41
2	ZNK 71 B 8/2	8	0,09	15	845	240	1,05	1,25	1,40	1,45	0,51	0,80	0,90	1,65	0,60
		2	0,36	25	3480	120	1,35	1,70	1,95	2,75	0,54	1,00	1,15	2,75	0,55
5	ZNK 80 A 8/2	8	0,12	15	870	240	1,15	1,15	1,30	2,50	0,45	0,95	1,10	2,50	0,45
		2	0,49	25	3510	120	2,20	2,80	3,30	4,70	0,48	1,80	2,10	4,70	0,48
10	ZNK 100 A 8/2	8	0,23	15	855	240	1,65	1,85	2,20	1,90	0,47	1,30	1,50	2,20	0,46
		2	0,90	25	3450	120	2,10	2,40	2,70	4,85	0,64	1,60	1,80	5,70	0,73
	ZNK 100 B 8/2	8	0,44	15	885	240	4,10	4,80	5,60	2,30	0,41	3,00	3,50	2,33	0,43
		2	1,80	25	3555	120	5,60	6,60	8,00	5,10	0,48	3,90	4,70	5,60	0,60

1) I_{max} = maximum rated current for lowering operation.

Key hoist motor data until 09/2008 (no longer available)

Size	Motor size	No. of poles	Min. / max. currents and starting current														
							220-240 V, 50 Hz, 3 ~ (CE)					380-415 V, 50 Hz, 3 ~ (CE)				
			P_N	CDF	n_N	Starts/h	$I_{N\ 220}$	$I_{N\ 240}$	I_{max} 1)	$I_A/I_{N\ 240}$	cos φ_N	$I_{N\ 380}$	$I_{N\ 415}$	I_{max} 1)	$I_A/I_{N\ 415}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]			[A]	[A]	[A]		
2	ZNK 71 B 8/4	8	0,09	15	665	240	2,10	2,20	2,50	1,25	0,52	1,20	1,30	1,45	1,25	0,52
		4	0,18	25	1405	120	2,10	2,10	2,40	2,30	0,56	1,20	1,20	1,40	2,30	0,56
5	ZNK 80 A 8/4	8	0,18	15	710	240	2,60	2,90	3,30	1,70	0,49	1,50	1,70	1,90	1,70	0,49
		4	0,36	25	1455	120	3,10	3,80	4,50	2,70	0,52	1,80	2,20	2,60	2,70	0,52

Size	Motor size	No. of poles	Min. / max. currents and starting current								
							500-525 V, 50 Hz, 3 ~ (CE/CSA)				
			P_N	CDF	n_N	Starts/h	$I_{N\ 500}$	$I_{N\ 525}$	I_{max} 1)	$I_A/I_{N\ 525}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]		
2	ZNK 71 B 8/4	8	0,09	15	665	240	1,00	1,05	1,15	1,25	0,52
		4	0,18	25	1405	120	0,85	0,95	1,10	2,30	0,56
5	ZNK 80 A 8/4	8	0,18	15	710	240	1,20	1,35	1,50	1,70	0,49
		4	0,36	25	1455	120	1,45	1,75	2,05	2,70	0,52

Size	Motor size	No. of poles	Min. / max. currents and starting current														
							220-240 V, 60 Hz, 3 ~ (CSA)					380-400 V, 60 Hz, 3 ~ (CE)				
			P_N	CDF	n_N	Starts/h	$I_{N\ 220}$	$I_{N\ 240}$	I_{max} 1)	$I_A/I_{N\ 240}$	cos φ_N	$I_{N\ 380}$	$I_{N\ 400}$	I_{max} 1)	$I_A/I_{N\ 400}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]			[A]	[A]	[A]		
2	ZNK 71 B 8/4	8	0,11	15	815	240	2,50	2,70	3,00	1,25	0,51	1,70	1,70	2,00	1,25	0,51
		4	0,22	25	1705	120	2,50	2,50	2,90	2,30	0,55	1,45	1,60	1,80	2,30	0,55
5	ZNK 80 A 8/4	8	0,22	15	860	240	3,10	3,50	4,00	1,70	0,48	2,00	2,25	2,40	1,70	0,48
		4	0,43	25	1755	120	3,80	4,60	5,45	2,70	0,51	2,60	2,75	3,30	2,70	0,51

Size	Motor size	No. of poles	Min. / max. currents and starting current												
							440-480 V, 60 Hz, 3 ~ (CSA)					575 V, 60 Hz, 3 ~ (CSA)			
			P_N	CDF	n_N	Starts/h	$I_{N\ 440}$	$I_{N\ 480}$	I_{max} 1)	$I_A/I_{N\ 480}$	cos φ_N	$I_{N\ 575}$	I_{max} 1)	$I_A/I_{N\ 575}$	cos φ_N
DC-Com			[kW]	[%]	[rpm]		[A]	[A]	[A]			[A]	[A]		
2	ZNK 71 B 8/4	8	0,11	15	815	240	1,25	1,35	1,50	1,25	0,51	0,95	1,10	1,25	0,47
		4	0,22	25	1705	120	1,25	1,25	1,45	2,30	0,55	0,95	1,10	2,30	0,57
5	ZNK 80 A 8/4	8	0,22	15	860	240	1,55	1,75	2,00	1,70	0,48	1,20	1,35	1,70	0,44
		4	0,43	25	1755	120	1,90	2,30	2,70	2,70	0,51	1,45	1,70	2,70	0,49

Mains connection delay fuse links

Motor size	220-240 V	380-415 V	500-525 V	220-240 V	380-400 V	440-480 V	575 V
	50 Hz			60 Hz			
	[A]	[A]	[A]	[A]	[A]	[A]	[A]
ZNK 71 B 8/2	6	6	6	6	6	6	6
ZNK 71 B 8/4							
ZNK 80 A 8/2							
ZNK 80 A 8/4							
ZNK 100 A 8/2	10			10	10		
ZNK 100 B 8/2	25	16	10	25	20	16	16

Supply cables 2) for 5% voltage drop ΔU and starting current I_A

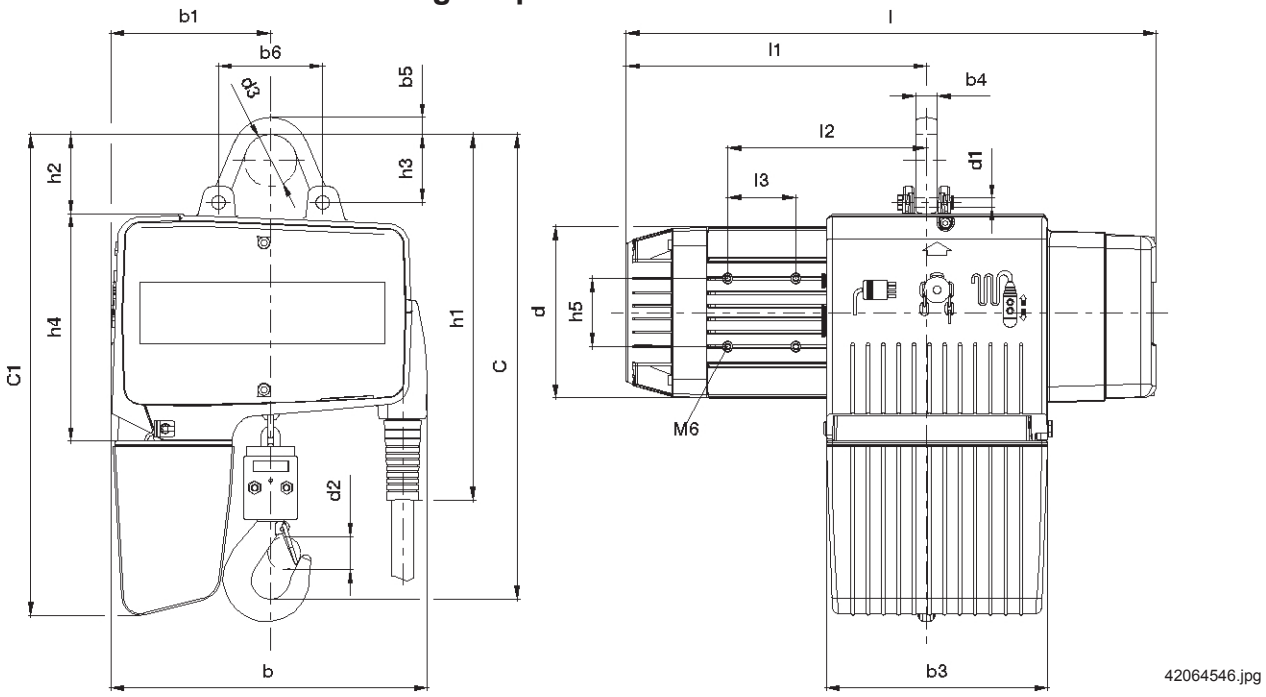
Motor size	220-240 V		380-415 V		500-525 V		220-240 V		380-400 V		440-480 V		575 V	
	50 Hz						60 Hz							
	[mm^2]	[m]	[mm^2]	[m]	[mm^2]	[m]	[mm^2]	[m]	[mm^2]	[m]	[mm^2]	[m]	[mm^2]	[m]
ZNK 71 B 8/2	1,5	89	1,5	100	1,5	100	1,5	76	1,5	100	1,5	100	1,5	100
ZNK 71 B 8/4		100						100						
ZNK 80 A 8/2		67						56						
ZNK 80 A 8/4														
ZNK 100 A 8/2		34						29		80				
ZNK 100 B 8/2	2,5	21		38		61	2,5	18		26		43		59

1) I_{max} = maximum rated current for lowering operation.

2) The lengths of the supply lines are calculated on the basis of an earth-loop impedance of 200 mΩ.

Demag chain hoist
DC-Com 1 to DC-Com 10 < 1000 kg
1/1 reeving

DC-Com 1-10 chain hoist with long suspension bracket



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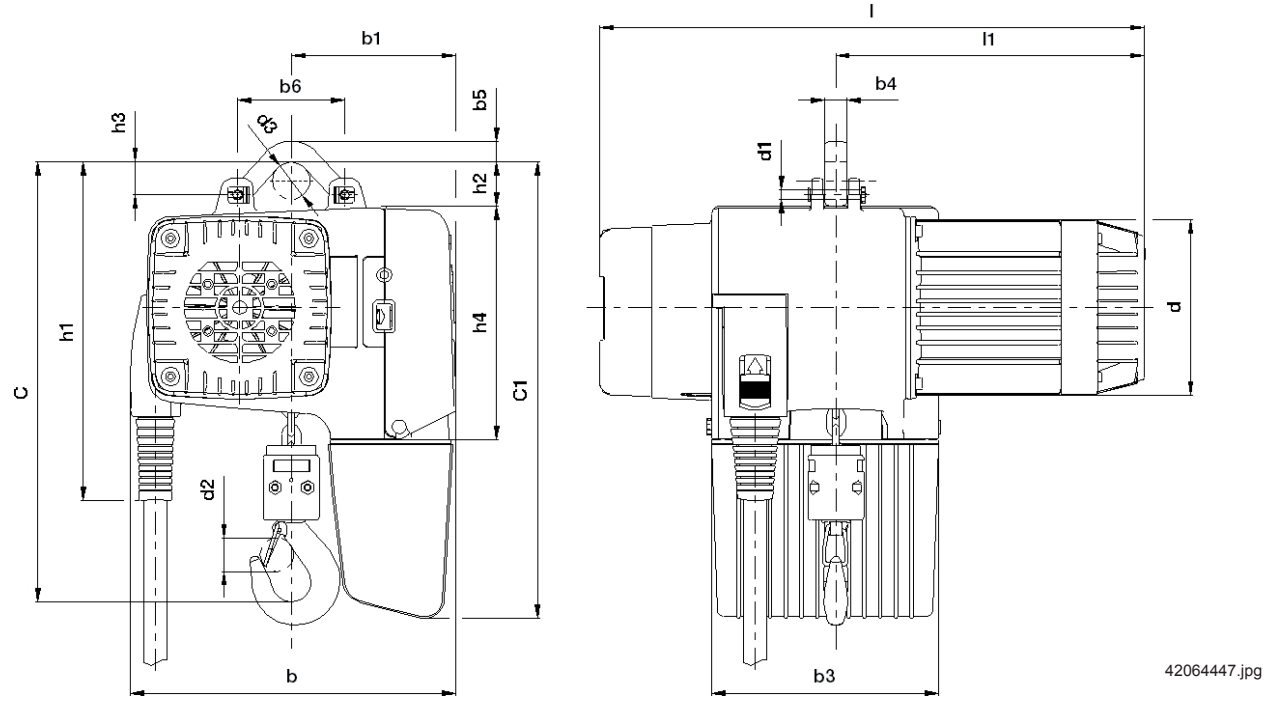
DC-Com 1-10 chain hoist with short suspension bracket (optional)



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Size	Motor	Suspension bracket																				Suspension bracket												
		short	long	short		long																short					long								
				Chain collector box size																														
				H4 H5	H8	H4 H5	H8																											
DC-Com		C		C1				b	b1	l	l1	l2	l3	b3	b4	b6	d	d1	d2	b5	d3	h1	h2	h3	b5	d3	h1	h2	h3	h4	h5		
1 / 2	ZNK 71 B	326	364	335	365	373	403	268	138	422	237	170	60	183	19	92	124	8	22	17	30	263	40	30	16	45	300	78	68	163	50			
5	ZNK 80 A	378	416	395	425	435	465	280	141	468	265	175	60	195	19	92	151	8	24	17	30	293	40	30	16	45	323	78	68	201	60			
10	ZNK 100 A 8/2	472	505	493	582	526	615	349	184	528	289	183	60	227	23	124	187	18	33	28	52	350	65	48	27	52	383	98	81	233	60			

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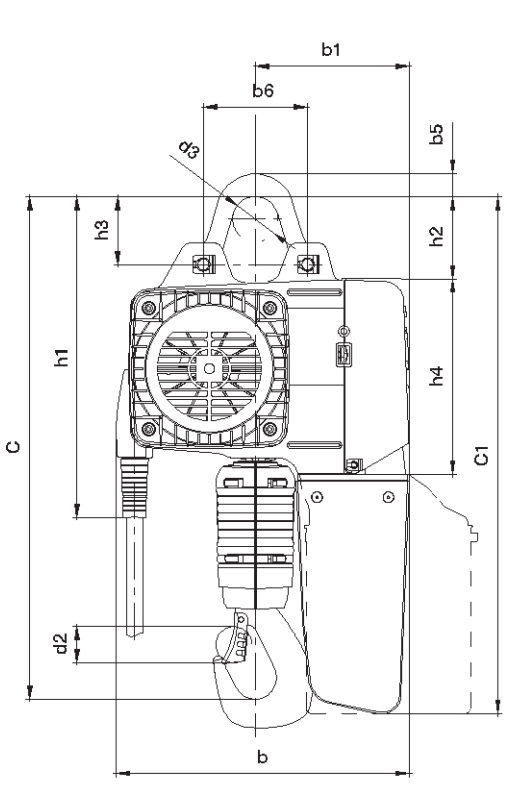
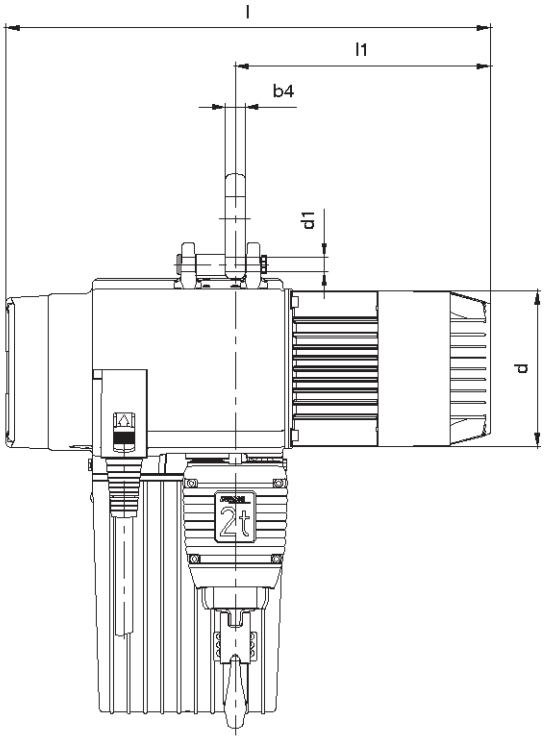
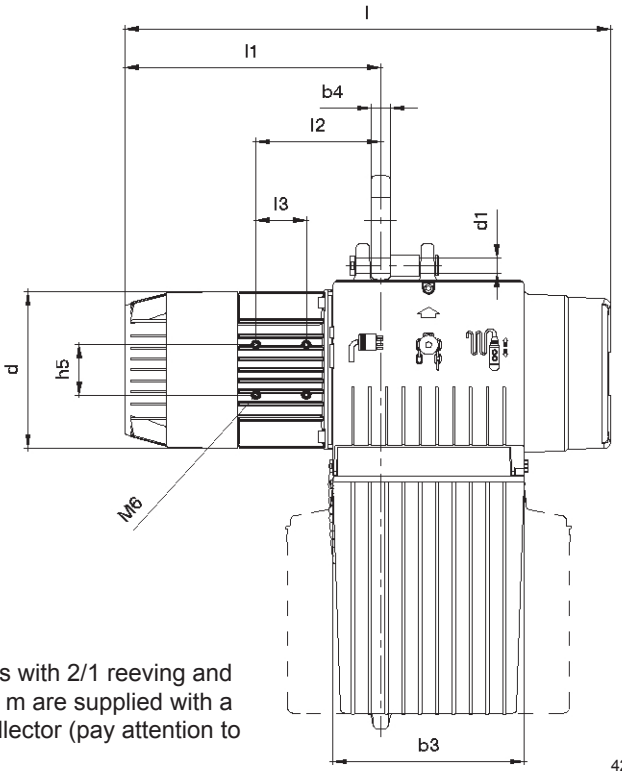
Demag chain hoist
DC-Com 10 > 1000 kg
2/1 reeving

DC-Com 10 chain hoist with long suspension bracket

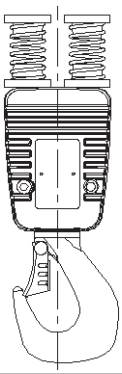






Bottom block with external cut-off springs, 2/1 reeving

When this bottom block is used, dimension C is increased by 60 mm.



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DC-Com 10 units with 2/1 reeving and a hook path of 8 m are supplied with a flexible chain collector (pay attention to dimensions).

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Size	Motor	Suspension bracket																					Suspension bracket												
		short	long	short		long																	short					long							
DC-Com 10	ZNK 100 B 8/2	C		Chain collector size				b		b1		b3		l	l1	l2	l3	b4	b6	d	d1	d2	b5	d3	h1	h2	h3	b5	d3	h1	h2	h3	h4	h5
				H4 H5	H8	H4 H5	H8	H4 H5	H8	H4 H5	H8	H4 H5	H8																					
				C1																														
		564	597	582	582	615	615	349	409	184	244	227	330	578	304	149	60	23	124	187	18	42	28	52	350	65	48	27	52	383	98	81	233	60

Suspension

DC-Com chain hoists are supplied with a long suspension bracket as standard. The short suspension bracket is available as an option.

The suspension bracket facilitates installation, since the chain hoist can be directly suspended from the trolley. It is not necessary to dismantle existing trolleys.

Chain hoists with short or long suspension brackets can be combined with the following trolleys:

		Trolley load capacity [kg]	Flange width [mm]	Flange thickness [mm]	Crossbar diameter [mm]	DC 1	DC 2	DC 5	DC 10		DC 16		DC 25	
SWL chain hoist [kg]						80-125	80-250	160-500	315-1250	1250-2500	1250-1600	2500-3200	2000-2500	4000-5000
Reeving						1/1				2/1	1/1	2/1	1/1	2/1
						See next page for diagram								
RU 3		450	60-90	12	21	1+2	1+2	1+2 [1]						
RU 6		450	58-143	20	30									
			144-300	18	35	1	1	1 [1]						
		700	58-143	20	30	1+2	1+2	1+2						
			144-300	18	38	1	1	1						
RU / EU 11 DK		850	58-300	16	34									
		1350	58-143											
			144-300		45									
RU / EU 22 DK		2600	82-300	22	51				3+4	3+4	5 [4]			
RU / EU 36 DK		3600	106-300	30	56						5	5	5	5
RU / EU 55 DK		5500	106-186		70									
			187-300		82,5									
CF 5		550	50-91	15	16	1+2	1+2	1+2	3+4 [5]	3+4 [6]	5	5	5	5
U / EU 11 DC		1100	58-200	22	30									
			201-310											
U / EU 22 DC		2200	82-200	30 [2]	40	1	1	1						
U / EU 34 DC		2200	201-310											
		3400	82-310											
RU / EU 56 DC		5600	98-200	30	55				3 [7]	3 [7]				
			201-310											
KBK trolley	100	100				2	2	2						
	I	300												
	II	600							3+4 [3]					
	III	1300				1	1	1	3					
KBK articulated frame (double trolley)	I	400												
	II	1200							3					
	III	2600								3				
KBK crane traverse	100	200				1	1	1						
	I	600												
	II	1400-2200							3					
	III	2600								3				
KBK crab frame	100	200												
	I	600												
	II	1200/2400							3	3				
	III	3300												

1) up to 400 kg
2) max. 28 mm for DC16/25
3) up to 500 kg
4) Flange thickness max. 20 mm
5) DC 10 - 1250 1/1 with U / EU 22 DC
6) DC 10 - 2500 2/1 with U / EU 34 DC
7) DC 10 with RU / EU 56 on request

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Fig. 1

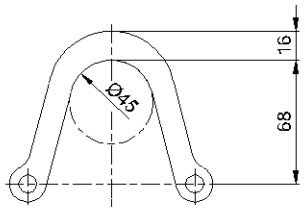


Fig. 2

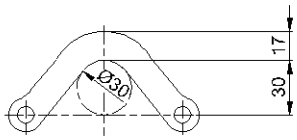


Fig. 3

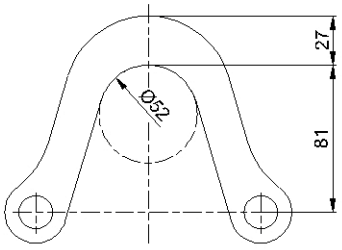


Fig. 4

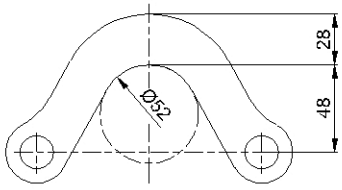
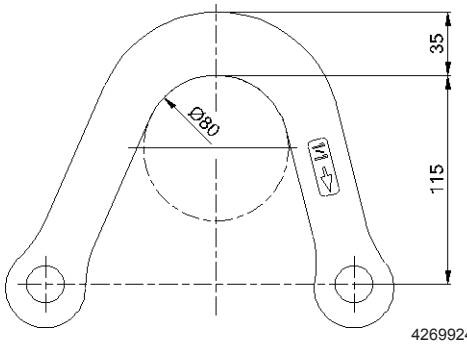


Fig. 5



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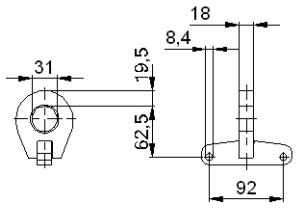
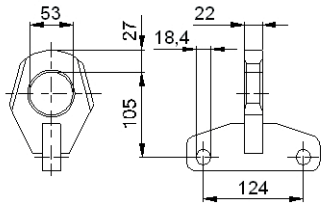
Optional suspensions

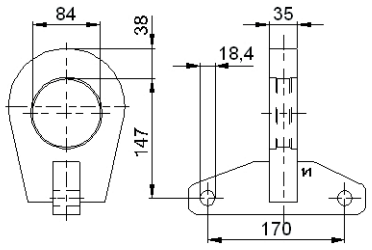
DC-Pro 1-5 suspension ring
Part no.: 718 278 45
for suspension parallel to track girder



DC-Pro 10 suspension ring
Part no.: 715 278 45
for suspension parallel to track girder



DC-Pro 16-25 suspension ring
Part no.: 721 278 45
including 2 adjusting rings
for suspension parallel to track girder



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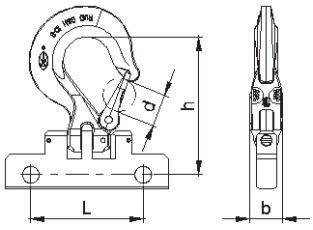
Suspension hook, folding



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Size	Part no.	Dimensions [mm]			
		L	b	h	d
DC 1-5	718 910 45	92	22	104	25
DC 10	715 910 45	124	36	152	36

Limit switch

Operating limit switches for the upper and lower hook positions are available as an option (DC-Com 1 to DC-Com 10, 1/1 reeving). DC-Com 10 chain hoists, 2/1 reeving, are fitted with limit switches as standard.

The upper end position must not be approached during normal operation, if the chain hoist is not provided with an operating limit switch (optional).

Trolleys

Properties

The trolleys have the following product features:

- Infinitely variable adjustment of the flange width by means of adjusting rings,
- U 11 travel rollers made of plastic (optional steel rollers),
- U 22 / U 34 travel rollers made of steel,
- Universal travel rollers for parallel and sloping running surfaces,
- Travel rollers without flanges, additional lateral steel guide rollers,
- Integrated drop stops in the individual die-cast aluminium halves,
- The side cheek surfaces are powder-coated.

U 11 - U 34 travel on curved tracks

The minimum permissible curve radius for push-travel trolleys is 1000 mm for U 11 and 2000 mm for U 22 / U 34 trolleys. However, to ensure good travel characteristics and a longer trolley service life, we recommend that much larger curve radii be used, e.g. 1500 mm or 3000 mm, respectively.

The minimum permissible curve radius for electric-travel trolleys is 2000 mm (U 11) and 3000 mm (U 22 / U 34).

Wear on the travel wheels strongly depends on the curve radius. The forces required to move the load may strongly increase in the case of small curve radii in connection with high loads.

Trolleys with steel and spheroidal graphite cast iron travel rollers

We recommend that steel travel rollers be used for:

- frequent travel on curved tracks,
- extreme ambient conditions (dirt accumulation, hot atmospheres, etc.),
- heavily worn girders,
- very heavy dead loads.

U11-S 200	58-200	Part no. 716 535 45	l=290
U11-S 310	On request		

EUDDC double-wheel articulated trolleys

The travel wheels and guide rollers of four-wheel trolleys may display increased wear in installations featuring intensive operation, we recommend the use of EUDDC units for:

- frequent travel on curved tracks with small curve radii (1000 mm) and high load capacities,
- automatic operation in connection with travel on curved tracks, small curve radii (1000 mm) and high load capacities.

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Curve radii of trolleys

The specified curve radii apply for normal applications.

Contact the manufacturer or his representative for frequent curve travel operation (e.g. automatic installations).

Curve radii in mm

Trolley size		SWL	Runway girder				Travel wheel material
			Push travel		Electric travel		
		[kg]	Flange width 2)	Rmin	Flange width 2)	Rmin	
CF 5		550	50-91	800	-	-	Plastic
U 11 DC	EU 11 DC	1100	58-310	1000	58-310	2000	Plastic 1)
U 22 DC	EU 22 DC	2200	82-200	2000	82-200	3000	Spheroidal graphite cast iron
U 34 DC	EU 34 DC	2200	201-310		201-310		Spheroidal graphite cast iron
		3400	82-310		82-310		

1) Steel travel rollers optional

2) Max. flange width 500 mm (except CF 5)

Travel speeds

SWL	Chain hoist	Reeving	Possible cross-travel speeds in approx. ... m/min							
			V14/3,5		V12/4		V24/6		V40/10	
[kg]	Type		Trolley	Travel drive	Trolley	Travel drive	Trolley	Travel drive	Trolley	Travel drive
80 to 1000	DC-Com 1 to DC-Com 10	1/1	-	-	-	-	U 11 DC	E 11 DC	-	-
1250 to 2000	DC-Com 10	2/1					U 22 DC U 34 DC	E 22 DC		

U 11 trolley (design until 08/2008)

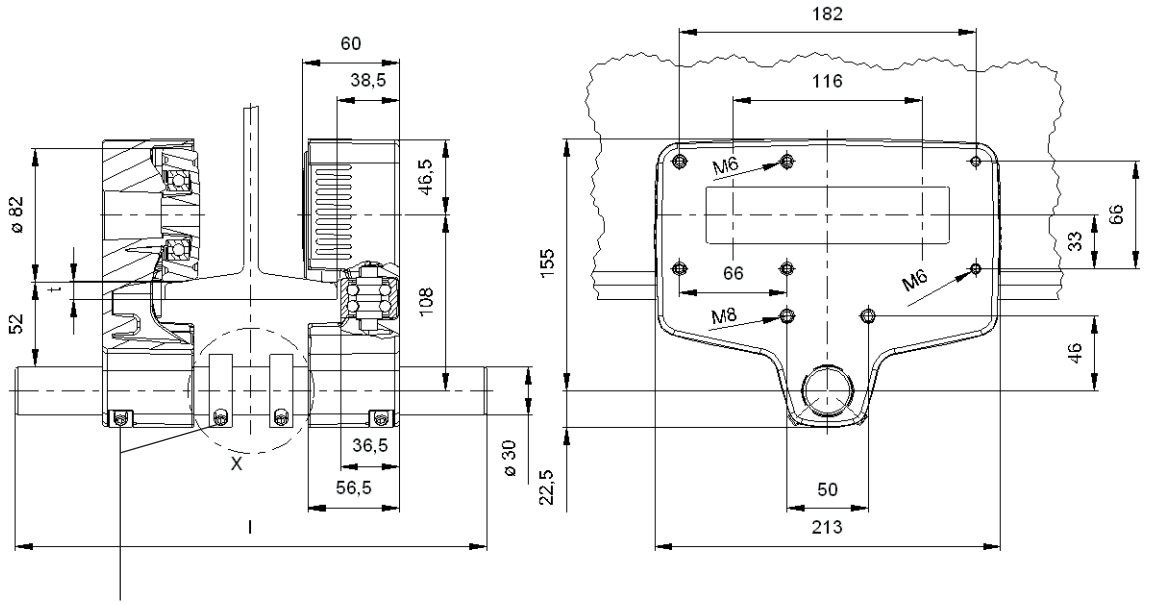
Max. SWL 1100 kg

Suitable for
Demag chain hoist:
DC-Com 1 - 80 to 125,
DC-Com 2 - 160 to 250,
DC-Com 5 - 315 to 500,
DC-Com 10 - 630 to 1000

U 11 trolley

for girders to DIN 1025, part 1 + 5

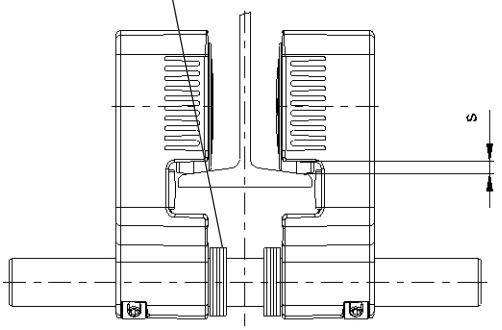
For further information, see publication 203 569 44.



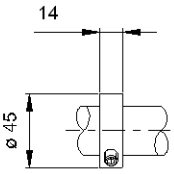
Adjusting ring with grub screw
Tightening torque 18 Nm

Screws for fittings	Tightening torque	Thread depth	
		min.	max.
	[Nm]	[mm]	[mm]
M6	9	12	17
M8	18	16	21

Supporting washers



Detail “X”
Retaining arrangement complete



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Pay attention to clearance dimension for girder connection by means of fish plates.

Cast-in hexagon holes without a thread are available for all fitting possibilities on the trolley side cheeks. Screws are directly bolted in for fitting current collectors or limit switches, for example.

Number of supporting washers	Flange width [mm]					
	58	66	74	82	90	98 - 310
DC 1-5, DCM 1-5	-	2	4	8	Adjusting rings	
DKUN 1-2		4	5	10		
DKUN 5		2	4	8		
DC 10 1/1		-	4	8	10	
DKUN 10	-	-	4	6	10	

Designation	Max. flange thickness t [mm]	Flange width [mm]	Part no.	l [mm]	Weight [kg]
U 11 - 200	22	58 - 200	716 521 45	290	7,0
U 11 S - 200			716 535 45		8,7
U 11 - 310		201 - 310	716 532 45	400	7,4
U 11 - 500		311 - 500	On request	590	9,6

s	Sloping flange	Parallel flange
[mm]	6	7

U 11 trolley (design from 09/2008)

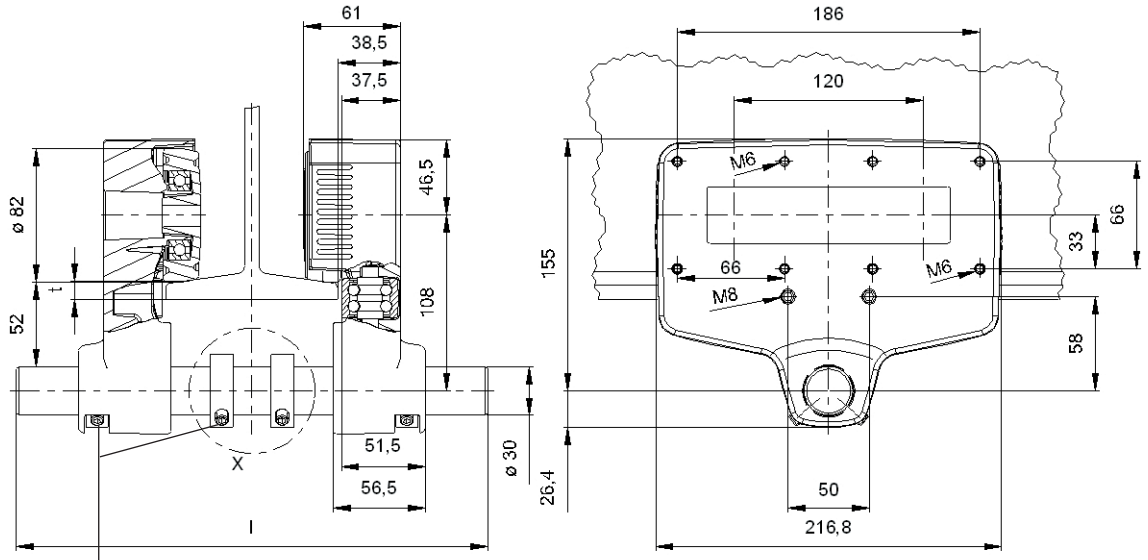
Max. SWL 1100 kg

Suitable for
Demag chain hoist:
DC-Com 1 - 80 to 125,
DC-Com 2 - 160 to 250,
DC-Com 5 - 315 to 500,
DC-Com 10 - 630 to 1000

U 11 trolley

for girders to DIN 1025, part 1 + 5

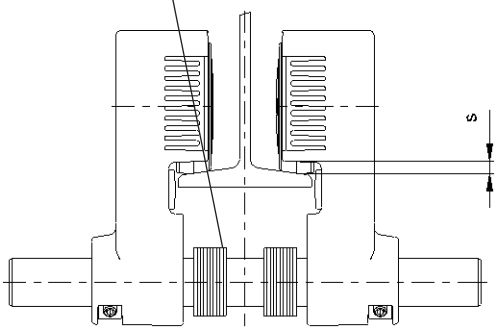
For further information, see publication 203 569 44.



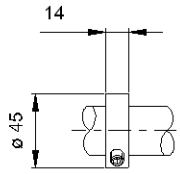
Adjusting ring with grub screw
Tightening torque 18 Nm

Screws for fittings	Tightening torque	Thread depth	
		min.	max.
	[Nm]	[mm]	[mm]
M6	9	12	17
M8	18	16	21

Supporting washers



Detail “X”
Retaining arrangement complete



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Pay attention to clearance dimension for girder connection by means of fish plates.

Cast-in hexagon holes without a thread are available for all fitting possibilities on the trolley side cheeks. Screws are directly bolted in for fitting current collectors or limit switches, for example.

Number of supporting washers	Flange width [mm]					
	58	66	74	82	90	98 - 310
DC 1-5, DCM 1-5	10	Adjusting rings				
DKUN 1-2						
DKUN 5	10					
DC 10 1/1	8					
DKUN 10	8					

Designation	Max. flange thickness t [mm]	Flange width [mm]	Part no.	l [mm]	Weight [kg]
U 11 - 200	22	58 - 200	716 502 45	320	7,3
U 11 S - 200			716 507 45		9,0
U 11 - 310		201 - 310	716 503 45	430	7,7
U 11 - 500		311 - 500	On request	620	9,9

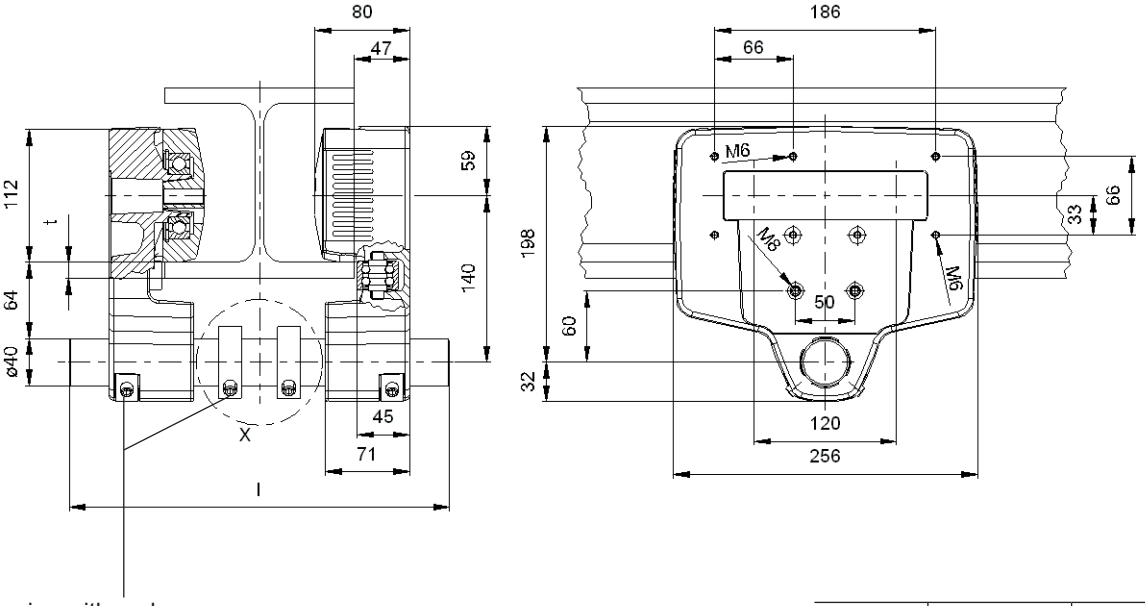
s	Sloping flange	Parallel flange
[mm]	6	7

Suitable for
Demag chain hoist:
DC-Com 10 - 1250 to 2000

U 22 / U 34 trolley

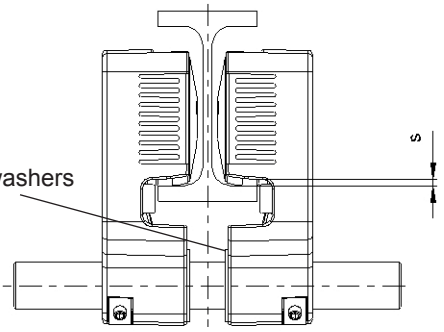
for girders to DIN 1025, part 1 + 5

For further information, see publication 203 569 44.



Adjusting ring with grub screw
Tightening torque 36 Nm

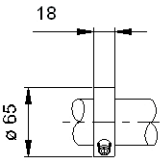
Screws for fittings	Tightening torque	Thread depth	
		min.	max.
	[Nm]	[mm]	[mm]
M6	9	12	17
M8	18	16	21



Supporting washers

Detail “X”

Retaining arrangement complete



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1) max. 28 mm for DC16/25

Number of supporting washers	Flange width [mm]				
	82	90	100	112	120 - 310
DC 1-5, DCM 1-5, DKUN 5	4	8	12	Adjusting rings	
DC 10	2	6	10		
DC 16 / 25		-	4	10	
DKUN 10	2	6	10		
DKUN 20	-	4	8		

Pay attention to clearance dimension for girder connection by means of fish plates.

Cast-in hexagon holes without a thread are available for all fitting possibilities on the trolley side cheeks. Screws are directly bolted in for fitting current collectors or limit switches, for example.

Designation	Max. flange thickness t [mm] 1)	Flange width [mm]	Part no.	l [mm]	Weight [kg]
U 22 - 200	30	82 - 200	716 620 45	325	13,6
U 22 - 310		201 - 310	716 631 45	435	14,6
U 22 - 500	35	311 - 500	On request	600	18,9
U 34 - 310	30	82 - 310	716 731 45	435	14,6

s	Sloping flange	Parallel flange
[mm]	6	5

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CF 5 trolley

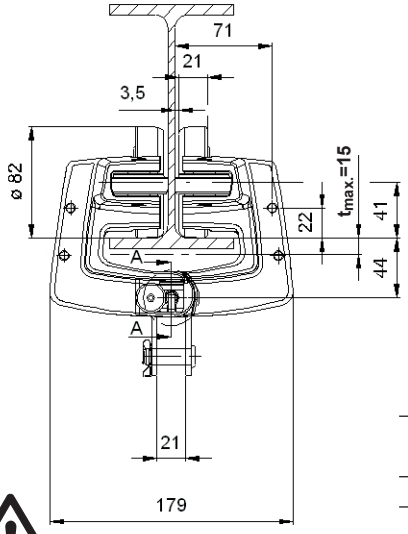
Max. SWL 550 kg

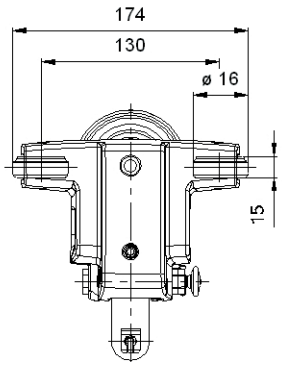
Suitable for
Demag chain hoist:
DC-Com 1 - 80 to 125,
DC-Com 2 - 160 to 250,
DC-Com 5 - 315 to 500

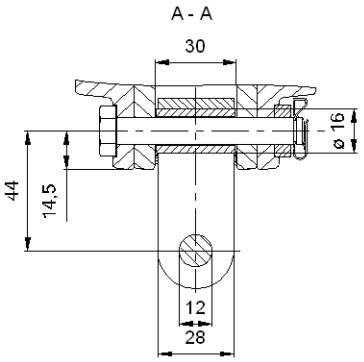
CF 5 trolley

for girders to DIN 1025, part 1 + 5

For further information, see publication 203 568 44.





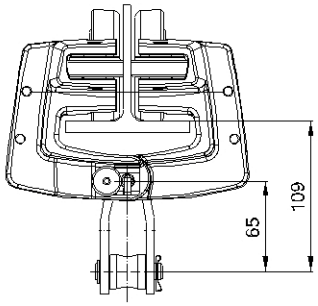


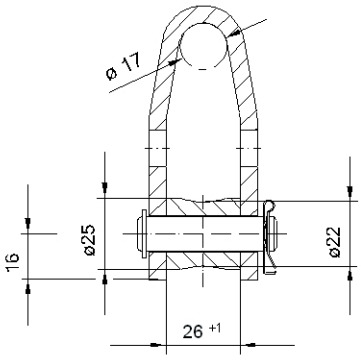
Designation	Max. flange thickness t [mm]	Flange width [mm]	Part no.	Weight [kg]
CF 5	15	50 - 91	840 007 44	2,6

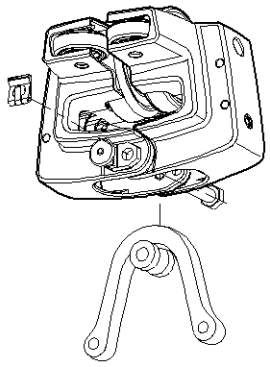
Girder connections by means of fish plates not permitted in the area of the guide rollers

CF 5 universal stirrup

Part no. 840 045 44

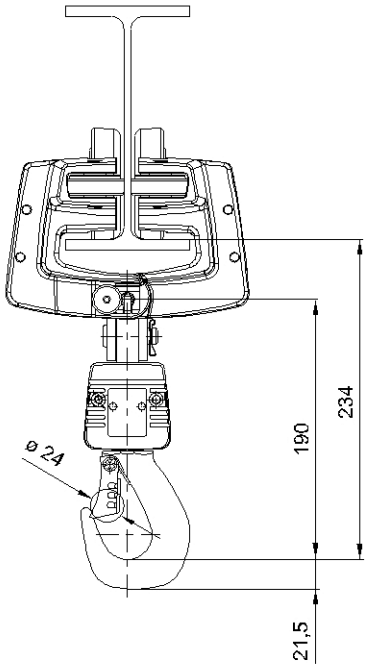


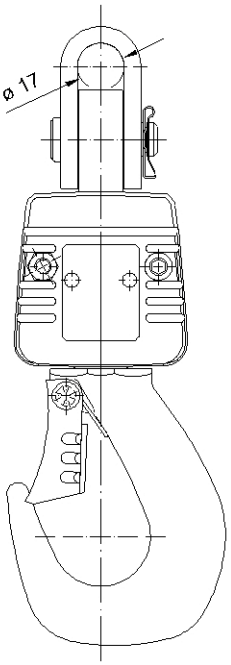




CF 5 load hook

Part no. 840 070 44





Chain hoist parallel to the track girder

The long suspension bracket of the DC chain hoist must be used.

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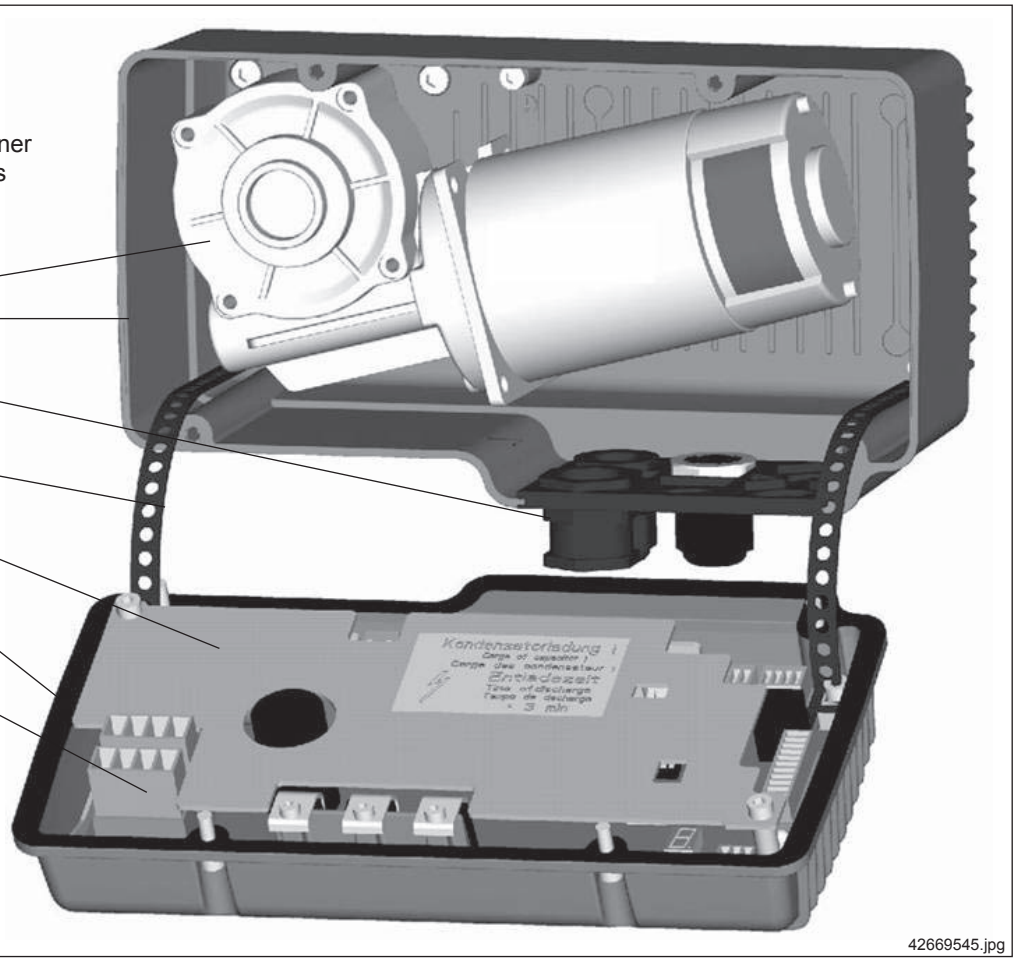
E 11 / E 22 / E 34 travel drive
220-480 V, 50 / 60 Hz, 3 ~

Suitable for Trolleys:
U 11 / U 22 / U 34
KBK RF 125

Design overview

1 DC worm geared motor
2 Control card
3 Housing lower part
4 Housing cover
5 Housing cover safety retainer
6 Plug-in module with unions
7 Cover plate of control card



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Selection table

Max. weight for travel incl. dead load [2] [kg]	Travel drive Type	Speed [3] at full load v_{nom} [m/min]	Speed [3] at partial load [1] v_{max} [m/min]	Possible trolleys	Part no.	Max. weight [kg]
1100	E 11	24/6	30/7,5	U 11	716 570 45	4
2200	E 22	24/6	30/7,5	U 22	716 590 45	5
		27/7	33/8	RF 125		
3400	E 34	14/3,5	-	U 34	716 740 45	5

1) Possible with different parameter setting
2) Max. gradient 1%, > 1% on request
3) In connection with DCS (stepless) from 0,5 m/min to v_{max}

Electrical key values

Size	Motor size	Min. / max. currents and starting current							
						220-480 V, 50 / 60 Hz, 3 ~ (CE/CSA)			
		P_N	CDF	n_N	Starts/h	$I_{N\ 220}$	$I_{N\ 480}$	$I_{max\ 220}$	$I_{max\ 480}$
		[kW]	[%]	[rpm]		[A]	[A]	[A]	[A]
E 11	MP 56 M	0,025	20	862	240	0,3	0,15	1,3	0,65
		0,1	40	3450	120	1,1	0,55	2,6	1,3
E 22	MP 56 L	0,05	20	630	240	0,5	0,24	1,16	0,58
		0,2	40	2525	120	1,8	0,9	4,3	2,15
E 34	MP 56 XL	0,04	20	478	240	0,5	0,24	1,16	0,58
		0,15	40	1914	120	1,6	0,8	3,8	1,9

The tolerance of the voltage range must not exceed +5% and -10%.
The motors are designed in compliance with insulation class F.

For further information, see publication 214 810 44.

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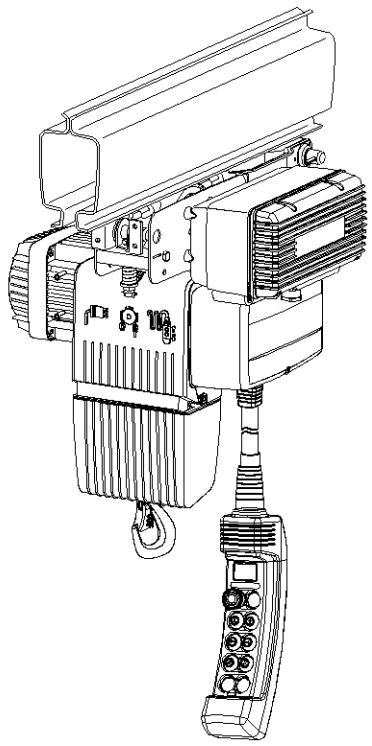
Properties



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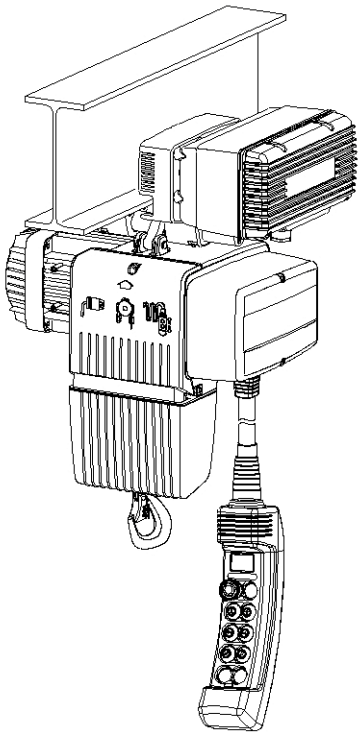

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- IP 55 enclosure,
- Ambient temperature -20 °C to + +40 °C,
- Temperature monitoring,
- 7-segment display for operating status, error messages, parameter programming;
- All electrical connections are of plug-in design,
- Inputs for limit switches and fast-to-slow limit switches are integrated into the control card,
- Smooth starting via ramps,
- For voltages from 480 V - 575 V, a single-phase isolating transformer with the following technical data be integrated into the line power supply:

Type:	TTT 0,25
Voltage, primary:	575 V
Voltage, secondary:	230 V
Output:	250 VA

- E 11 / E 22 / E 34 is fitted to the relevant U11 / U22 / U 34 trolley,
- E 22 can also be fitted to the new RF 125 friction wheel travel drive,
- The travel drive is designed to match the electrical concept of the DC chain hoist,
- Line voltage relayed to the chain hoist;
- Signal transmission in steps with 24 V tri-state signals for controlled DC chain hoists (half-wave evaluation),
- Stepless signal transmission with 0 –– 24 V PWM (pulse width modulation) signals in connection with stepless DCS chain hoists.

E 11 / E 22 / E 34 units are shipped ready for operation.

The following settings are also possible:

- Travel speed, acceleration and braking parameters can be programmed via DSE-10C/CS control pendant,
- Load-sway damping can be activated for the cross travel motion,
- Infinitely variable cross-travel speed only in connection with DCS-Pro and DSE-10CS.

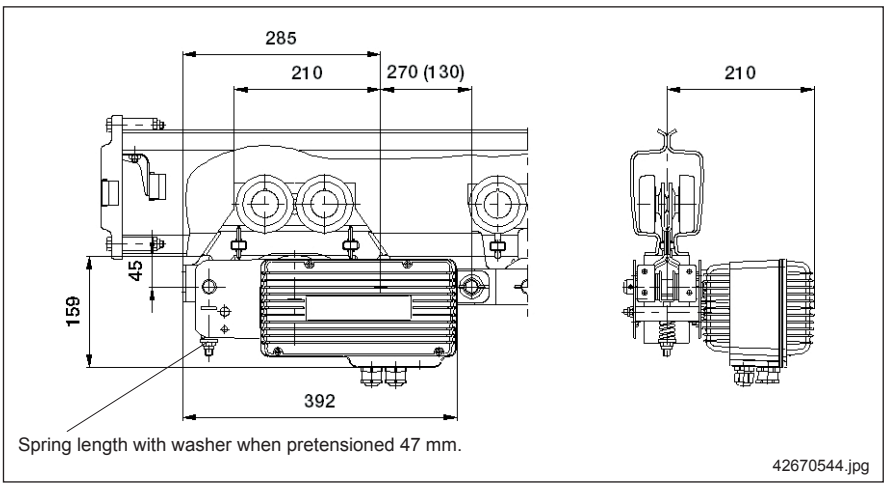
The following are provided for the electrical connection between the chain hoist and the trolley travel drive:

DC 1-10

Control cable set (part no. 720 070 45) and

Power supply cable (part no. 720 072 45).

E 22 travel drive on KBK RF 125



For further information on RF 125 trolleys, see publication 202 976 44.

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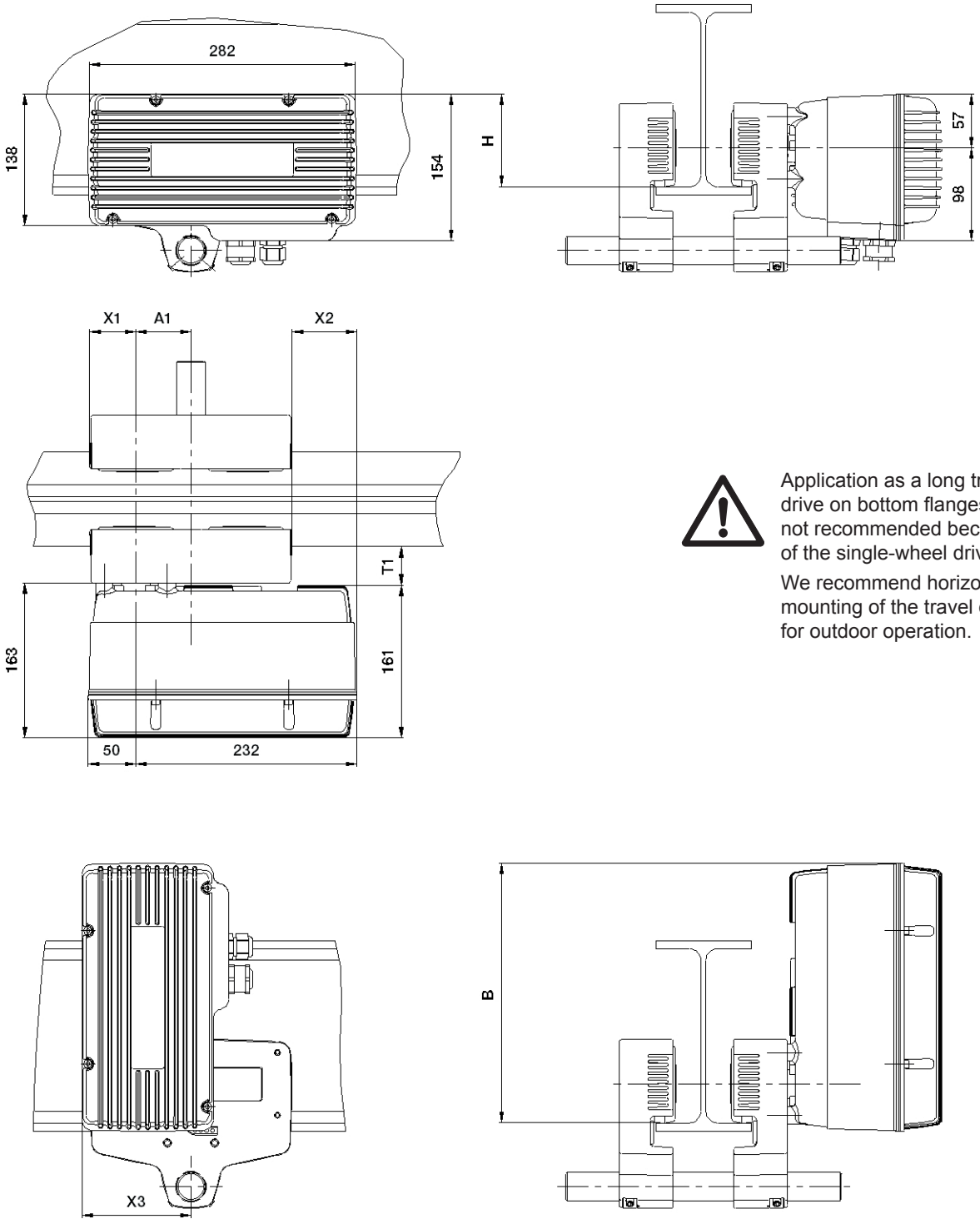
E 11 / E 22 / E 34 travel drive on U 11 / U 22 / U 34 trolley



Application as a long travel drive on bottom flanges is not recommended because of the single-wheel drive.

We recommend horizontal mounting of the travel drive for outdoor operation.

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Trolley	A1	B	H	X1	X2	X3	T1
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
EU 11	58	273	98	50	68	115	41
EU 22 / EU 34	60	288	112	68	44	117	49

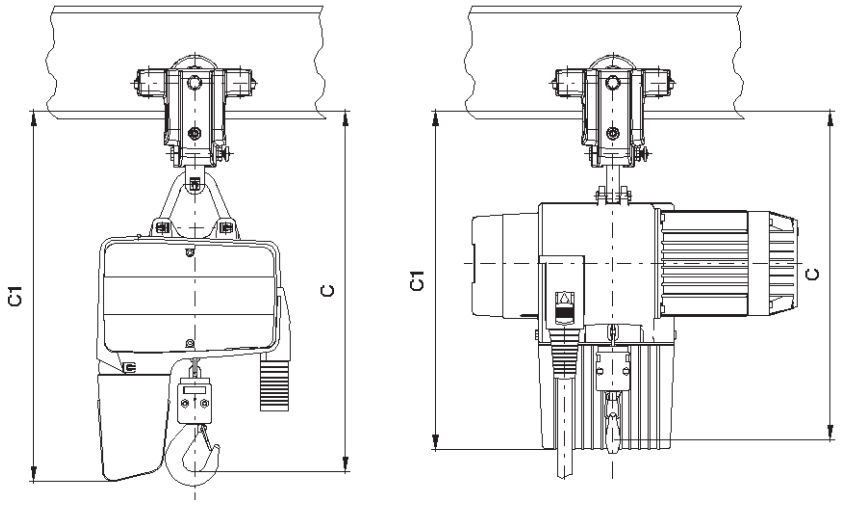
Hook dimension C

DC-Com chain hoist with CF 5 trolley

Size	Transverse to girder			Parallel to girder		
	C	C1		C	C1	
		Chain collector			Chain collector	
		H5	H8		H5	H8
DC-Com 1/2	406	415	445	401	410	440
DC-Com 5	458	477	507	453	472	502

Transverse to girder
with short suspension bracket

Parallel to girder
only with long suspension bracket



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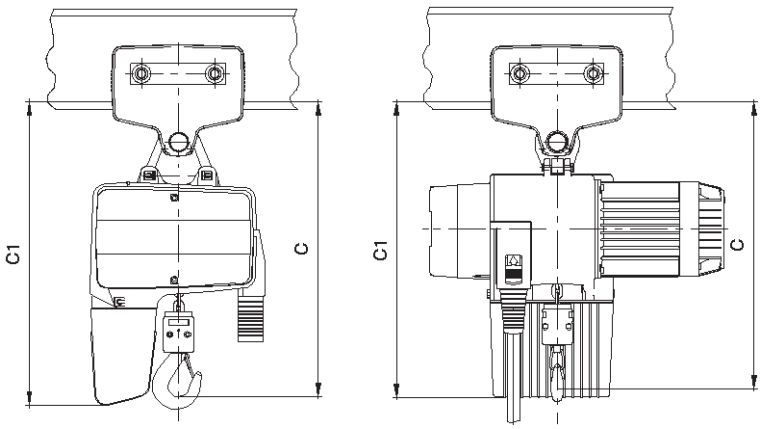
DC-Com chain hoist with U 11, U 22, U 34 trolley

Size [1]	Reeving	Travel unit	Transverse to girder			Parallel to girder		
			C	C1		C	C1	
				Chain collector			Chain collector	
				H4/H5	H8		H4/H5	H8
DC-Com 1/2	1/1	U 11	416	425	455	411	420	450
DC-Com 5		U 11	468	487	517	463	482	512
DC-Com 10		U 11	557	578	667	581	602	672
		U 22	569	590	679	593	614	703
	2/1	U 22 / U 34	661	679	679	685	703	803

Transverse to girder

Parallel to girder



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1) Dimensions C and C1 decrease when the short suspension bracket is used:
for DC-Pro 1-5 units by 38 mm,
for DC-Pro 10 units by 33 mm.

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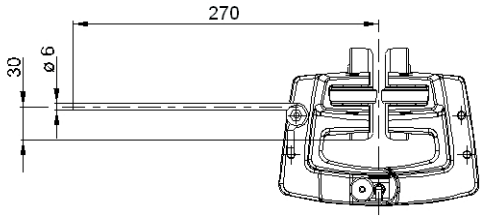
Current collectors for trolleys

CF 5 click-fit trolley



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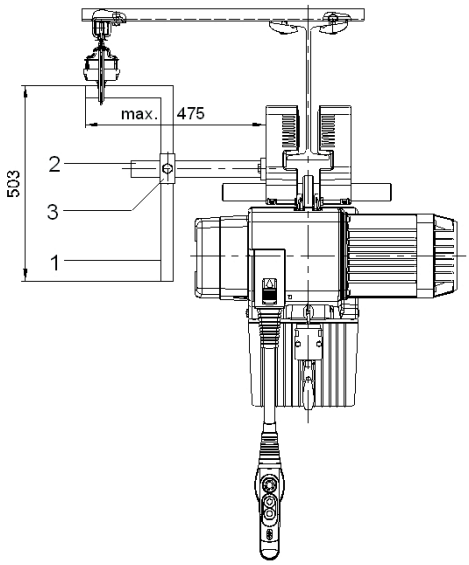
U 11 / U 22 trolley



Trolley	Current collector Part no.
CF 5 click-fit	840 085 44
U 11 / U 22	716 560 45

1 Towing arm tube
2 Current collector tube
3 Tube clip

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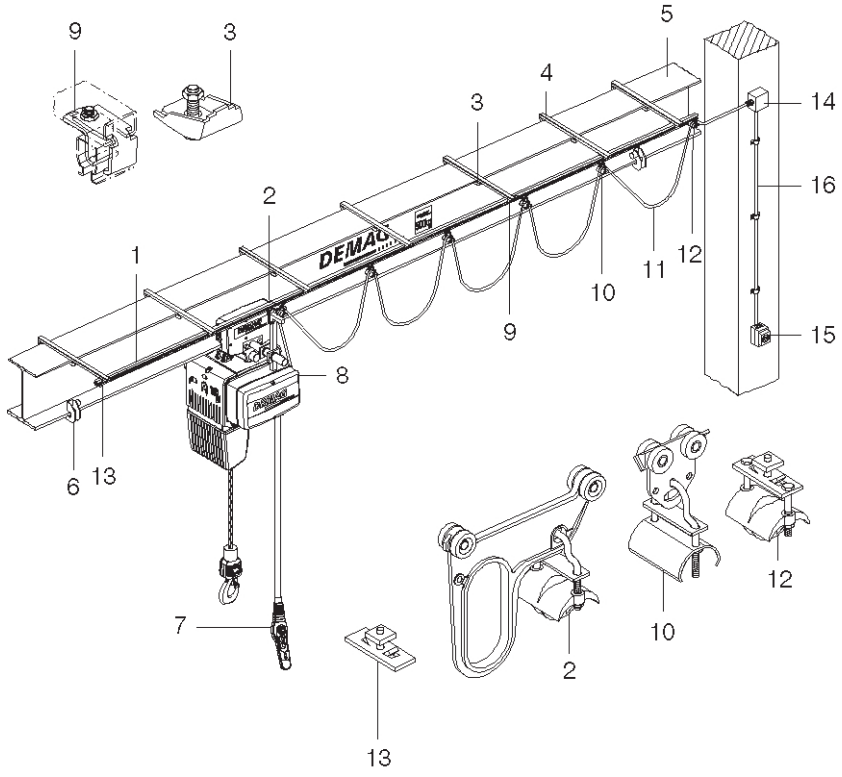
Example: KBK 25



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KBK 25 trailing cable power supply line for straight track sections up to 30 m in length, comprising:

1 KBK 25 rail section (galvanized)
2 Towing trolley
3 Retaining plate
4 C-rail 800 mm
5 Steel girder (by the customer)
6 Clamp-fitted buffers
7 Control pendant
8 Chain hoist
9 C-rail bracket
10 Cable trolley
11 Trailing cable
12 Rail end cable clamp
13 Adjustable limit stop
14 Terminal box
15 Mains connection switch
16 Rising line (by the customer)

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