

FESTOON SYSTEMS I-BEAM SUPPORTED

FOR FLAT CABLE



VAHLE FESTOON SYSTEMS

INDEX	Page	Seite
General Information	2	Wheel sets LWB for Cable carriers W 65/W 75 25
Questionnaire	3	Wheel sets LWB for Cable carriers W 85/W 95 26
W 20 Cable carriers & Accessories 	4	Cable Loop clamps 27
W 25, 26, 30		Cable Tension Relief Steel Ropes 28
Cable carriers and Accessories 	5	Cable Tension Relief Elastic Ropes 29, 30
W 35 Cable carriers & Accessories 	6	Spare parts 32
W 40 Cable carriers & Accessories 	7	Installation Information 33
W 45 FR Carriers & Accessories 	8/ 9	Typical Application and how to order graph on wheel life expectation 34
W 55 Cable carriers & Accessories 	10-14	System Layout 35
W 65 Cable carriers & Accessories 	15-18	How to determine:, Number and depth of loops, storage distance, cable length, number of carriers 36
W 75 Cable carriers & Accessories 	19/20	Graphs to determine number of cable loop considering 10, 15 or 20 % cable safety length 37-39
W 85 Cable carriers & Accessories 	21/22	Productline 40
W 95 Cable carriers & Accessories 	23/24	

General:

Vahle Festoon systems support electric cables or hoses for mobile machinery.

The cable carriers contained in this catalog comply with VDE regulations and international safety requirements. Flat and round cables could be used.

Due to the good bending characteristics and the small allowed bending radii the flat cables are preferred.

Track profiles can be standard I-beams of the INP or IPE series. The suitable beam sizes could be found in the tables at the particular cable carriers.

Application

Cable carrier ride on an I-beam parallel to the traversing track of the equipment. Where there is sufficient space for the storage distance, the cable carriers can run on the hoist track.

While at the cable carriers of the series 20 and 30 the lead is handled over a lead carrier, where at the machinery installed towing arm engage at the lead carrier, at all other cable carrier series is the lead handled over a towing arm which is fixed with the machinery.

The track clamp is the stationary fastening point of the cables and is bolted to the I-beam at fixed position. The cable ends extending from the track clamp are terminated at a junction box. The track clamp, together with the bumper, facing towards the last carrier, serves as a limit stop for the carriers.

Tow ropes are optional depending on the cable arrangement, loop depth, travel speed and acceleration. The strain relief ropes are slightly shorter than the electric cables in each loop.

Layout

Layout considerations for cable carriers are cable or hose dimensions and the load-carrying capacity of the cable carriers.

When selecting a Festoon system please refer to pages 35 – 39 of this catalog or please send us the completed questionnaire on page 3.

Catalog No. 8a: Cable Carriers on  -Tracks

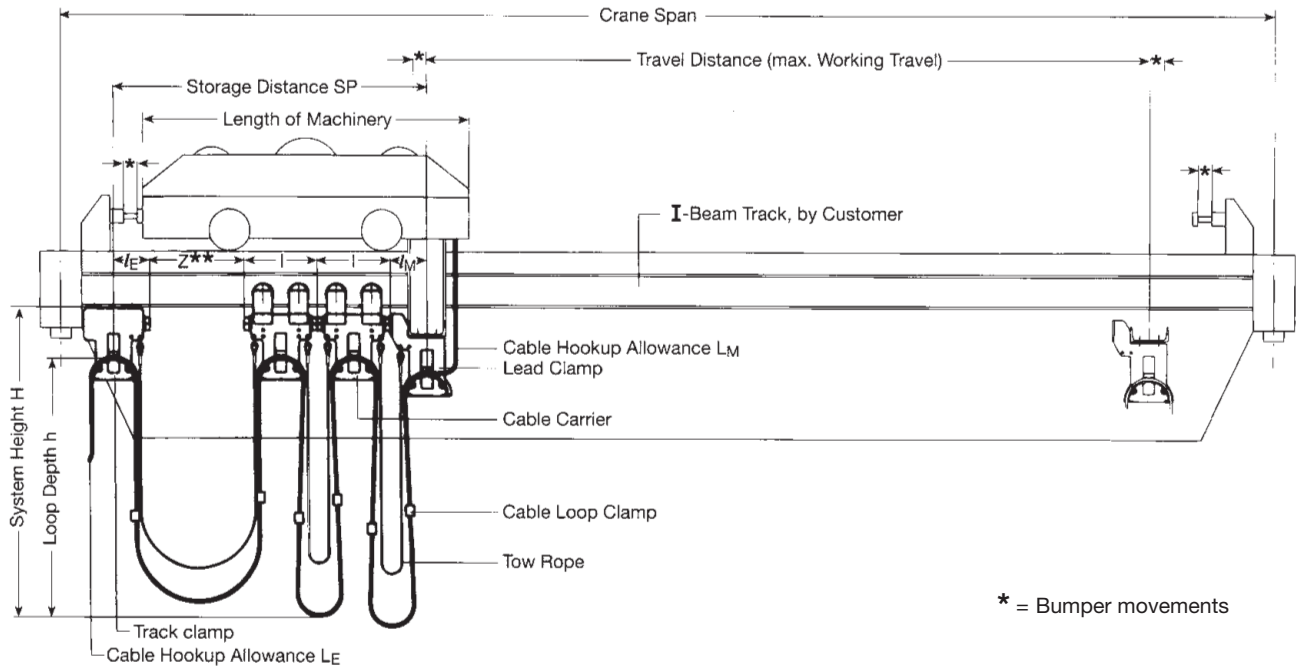
Catalog No. 8b: Cable Carriers for flatform cable on  -Beam Tracks

Catalog No. 8c: Cable Carriers for round cable on  -Beam Tracks

Catalog No. 8d: Cable Carriers on  -Tracks

Catalog No. 8e: Conductor Cables & Fittings

QUESTIONNAIRE



Name and adress of customer:

Ref.:

1. Type of application:

2. Operation

indoor ☐

outdoor ☐

3. Temperature conditions:

4. Platform cable ☐ (Specification below)

round cable ☐

5. What is the max. possible storage length? (SP)

m

6. Is it possible to extend the track for the festoon cable system in case the length of machinery is insufficient for storage?

☐ no

☐ yes, by

m

7. Special operating/environmental conditions:

8. Length of machinery:

m

9. Working travel (S):

m

10. Travel speed (v):

m/min

11. Acceleration (a):

m/s²

12. Max. loop depth (h):

m

13. Max. system height (H):

m

14. Cable hookup allowance

Track clamp side (L_E):

m

Lead clamp side (L_M):

m

15. Beam track

☐ I NP standard beam

☐ I PE flat flange beam

Cable Specification:

Quantity of Cables	Cable Specification Type/Number of Conductors/Size of Conductors	Height x Width mm	Weight kg/m	Total Weight kg/m

CABLE CARRIERS W 20

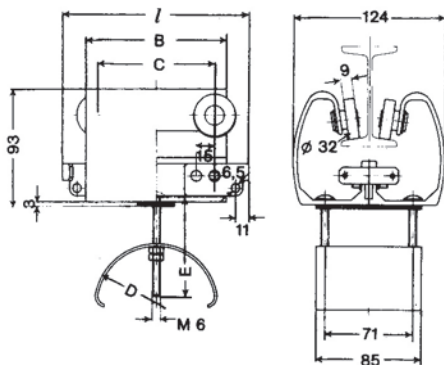
(Standard profile)



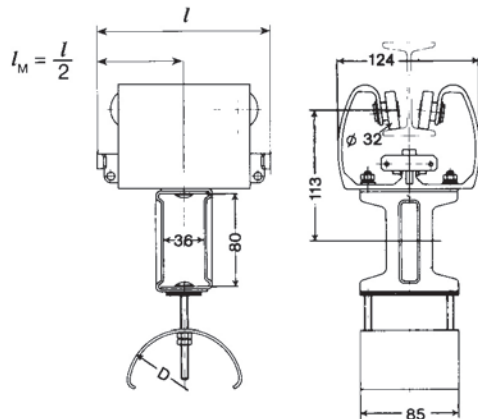
Engineering data

Type	WN 20 F for standard beam I NP 80-160
Carrying capacity	25 kg
Wheels	Hardened and galvanized steel, Ø 32 mm, with sealed precision ball bearings
Material	Carrier body: aluminium Bumpers: galvanized steel Cable saddle: galvanized steel, anodized hardware
Operating ambients	-30° C thru + 100° C
Travel speed	max. 80 m/min

Cable carrier

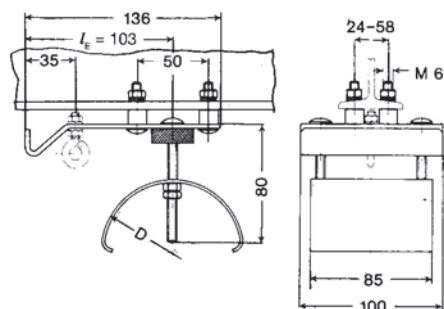


Type	max. allow. thickness of individual cable mm	max. clamping capacity mm (window dim.) height x width	<i>l</i>	B	C	D	E	Weight kg	Order- No.
			mm						
WN 20 F/ 50-125	7,9	37 x 65	125	89	69	50	60	0,900	341 450
WN 20 F/ 80-125	10,0	22 x 65	125	89	69	80	60	0,970	341 460
WN 20 F/ 50-150	7,9	50 x 65	150	114	94	50	80	1,010	341 710
WN 20 F/ 80-150	10,0	35 x 65	150	114	94	80	60	1,080	341 720
WN 20 F/100-150	12,5	25 x 65	150	114	94	100	60	1,110	341 730
WN 20 F/ 80-180	10,0	50 x 65	180	114	94	80	80	1,080	341 750
WN 20 F/100-180	12,5	40 x 65	180	114	94	100	80	1,110	341 760



Lead carrier

Type	for cable carrier	<i>l</i>	D	Weight kg	Order- No.
		mm			
MN 20 F/ 50-125	WN 20 F/ 50-125	125	50	1,270	341 340
MN 20 F/ 80-125	WN 20 F/ 80-125	125	80	1,340	341 380
MN 20 F/ 50-150	WN 20 F/ 50-150	150	50	1,380	341 550
MN 20 F/ 80-150	WN 20 F/ 80-150	150	80	1,450	341 560
MN 20 F/100-150	WN 20 F/100-150	150	100	1,480	341 570
MN 20 F/ 80-180	WN 20 F/ 80-180	180	80	1,450	345 220
MN 20 F/100-180	WN 20 F/100-180	180	100	1,480	345 230



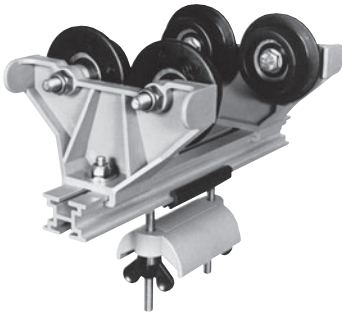
Track clamp

Type	for cable carrier	D mm	Weight kg	Order- No.
E 20 F/ 50	WN 20 F/ 50-125	50	0,590	345 240
	WN 20 F/ 50-150			
E 20 F/ 80	WN 20 F/ 80-125	80	0,660	345 250
	WN 20 F/ 80-150			
	WN 20 F/ 80-180			
E 20 F/100	WN 20 F/100-150	100	0,690	345 260
	WN 20 F/100-180			



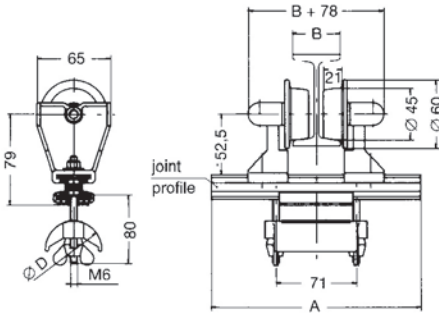
CABLE CARRIERS W 25 F, W 26 F, W 30 F

(Standard- or European profile)



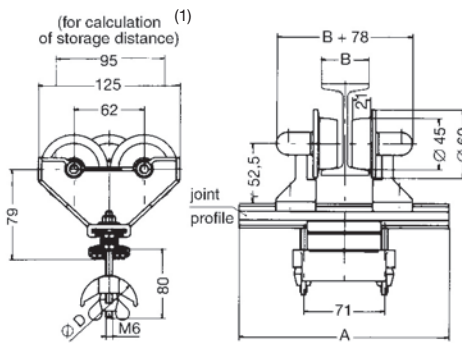
Engineering data

Type	W 25 F (2-wheels)	W 26 F (3-wheels)	W 30 F (4-wheels)
Carrying capacity	10 kg	10 kg	20 kg
Wheels	K Flanged polyamid wheels Ø 45/60 mm on stainless steel bushed bearings KL Flanged polyamid wheels Ø 45/60 mm on sealed (2 RS) precision ball bearings		
Material	Polyamid carrier body adjustable on light metal profile. Cable support saddles: polyamid Hardware: galvanized		
Operating ambients	-30° C thru +100° C		
Travel speed	max. 60 m/min		



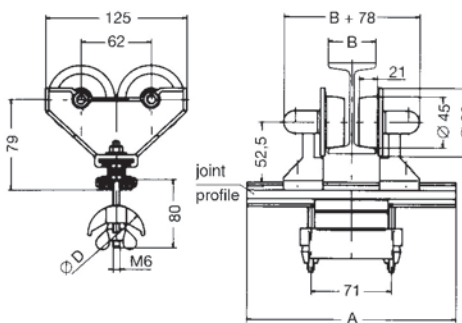
Cable carrier for platform cable Type W 25 F (2 wheels)

Type	wheels	max. clamping capacity mm height x width	A mm	D mm	for Track Profile		Weight kg	Order- No.
					INP	IPE		
W 25 F/65-50 K -1	K	25x65	185	50	80-220	80-200	0,420	346 647
W 25 F/65-50 K -2			235		240-380	220-300	0,450	346 648
W 25 F/65-50 KL-1	KL		185		80-220	80-200	0,500	346 649
W 25 F/65-50 KL-2			235		240-380	220-300	0,530	346 650



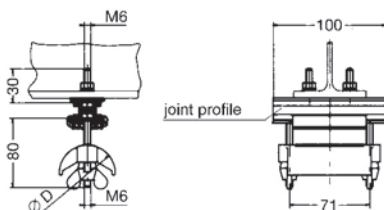
Cable carrier for platform cable Type W 26 F (3 wheels)

Type	wheels	max. clamping capacity mm height x width	A mm	D mm	for Track Profile		Weight kg	Order- No.
					INP	IPE		
W 26 F/125-50 K -1	K	25x65	185	50	80-220	80-200	0,490	346 651
W 26 F/125-50 K -2			235		240-380	220-300	0,520	346 652
W 26 F/125-50 KL-1	KL		185		80-220	80-200	0,610	346 653
W 26 F/125-50 KL-2			235		240-380	220-300	0,640	346 654



Cable carrier for platform cable Type W 30 F (4 wheels)

Type	wheels	max. clamping capacity mm height x width	A mm	D mm	for Track Profile		Weight kg	Order- No.
					INP	IPE		
W 30 F/125-50 K -1	K	35x65	185	50	80-220	80-200	0,560	346 655
W 30 F/125-50 K -2			235		240-380	220-300	0,590	346 656
W 30 F/125-50 KL-1	KL		185		80-220	80-200	0,720	346 657
W 30 F/125-50 KL-2			235		240-380	220-300	0,750	346 658
W 30 F/125-80 K -1	K	25x65	185	80	80-220	80-200	0,570	346 659
W 30 F/125-80 K -2			235		240-380	220-300	0,610	346 660
W 30 F/125-80 KL-1	KL		185		80-220	80-200	0,730	346 661
W 30 F/125-80 KL-2			235		240-380	220-300	0,770	346 662



Track clamp for platform cable Type E 25-30 F

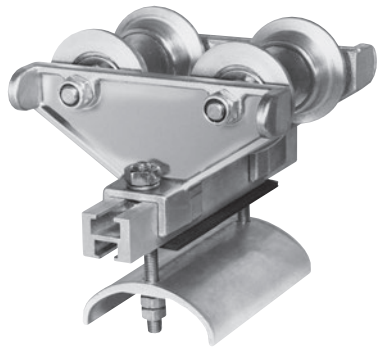
(to be used as well as towing arm)

Type	for cable carrier	D mm	Weight kg	Order- No.
E 25-30 F/50	W 25 F/ 65-50 ...	50	0,180	346 663
	W 26 F/125-50 ...			
	W 30 F/125-50 ...			
E 25-30 F/80	W 30 F/125-80 ...	80	0,200	346 664

⁽¹⁾ alternately installation of cable carriers necessary

CABLE CARRIERS W 35

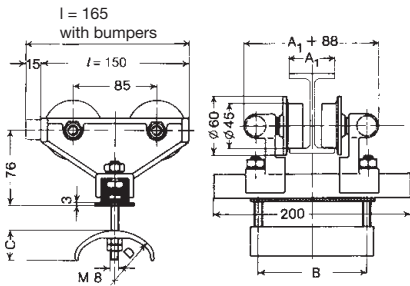
(Standard- or European profile)



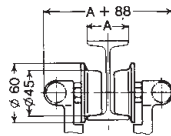
Engineering data

Type	WE 35 F for flat flange beam I PE 80-200 WN 35 F for standard beam I NP 80-220
Carrying capacity	30 kg
Wheels	a) Polyamid wheels on stainless steel bush bearing b) hardened and galvanized steel wheels with sealed ball bearing, sealed against dust and splash water – spherical form
Material	Carrier body: aluminium – seawater resistant Support saddle: aluminium 100 mm Ø, or steel galvanized 50 mm Ø Hardware: galvanized
Operating ambients	-30° C thru +100° C
Travel speed	max. 80 m/min.

Cable carrier



Type ⁽¹⁾		wheels	max.perm. thickness of cable in mm	max. clamping capacity mm height x width	B	C	D	Weight kg	Order- No.	Order- No. with bumper
					mm					
Cable carrier Standard beam	WN 35 F/ 50	a	8,0	45 x 100	110	25	50	1,170	345 481	345 492
	WN 35 F/ 100		12,0	25 x 100		30	100		345 482	345 493
Cable carrier Fl. fl. beam	WE 35 F/ 50	a	8,0	45 x 100	110	25	50	1,170	345 483	345 494
	WE 35 F/ 100		12,0	25 x 100		30	100		345 484	345 495
Cable carrier Standard- and Fl. fl. beam	W 35 F/ 50 S	b	8,0	45 x 100	110	25	50	1,940	345 485	345 496
	W 35 F/100 S		12,0	25 x 100		30	100		345 486	345 497

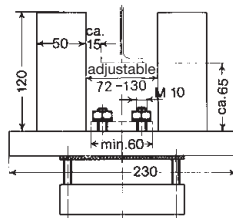
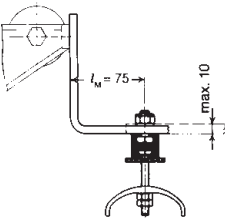


Standard beam

Beam I NP	80	100	120	140	160	180	200	220
Dim. A	42	50	58	66	74	82	90	98

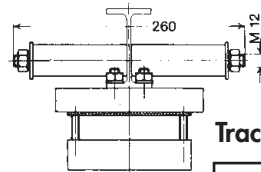
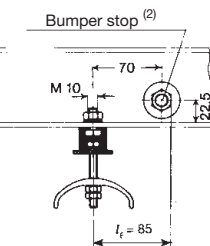
Flat flange beam

Beam I NP	80	100	120	140	160	180	200
Dim. A	46	55	64	73	82	91	100



Lead clamp

Type		for Cable carrier	B	C	D	Weight kg	Order- No.
			mm				
Lead clamp	M 35 F/ 50	W (N, E) 35 F/ 50 (S)	110	25	50	2,160	345 487
	M 35 F/100	W (N, E) 35 F/100 (S)		30	100		345 488



Track clamp and Bumper stop

Type		for Cable carrier	B	C	D	Weight kg	Order- No.
			mm				
Track clamp	E 35 F/ 50 ⁽²⁾	W (N, E) 35 F/ 50 (S)	110	25	50	0,490	345 489
	E 35 F/100 ⁽²⁾	W (N, E) 35 F/100 (S)		30	100		345 490
Bumper stop	PS 3 – 4	–	–	–	–	0,410	340 100

⁽¹⁾ Use suffix –P for bumper version (example: W 35 F/100 S–P Order-no. 345 497).

⁽²⁾ Bumper stop PS 3-4 to be ordered separately.



CABLE CARRIERS W 40

(Standard- or European profile)



Engineering data

Type	WE 40 F for flat flange beam I PE 80-200 WN 40 F for standard beam I NP 80-220
Carrying capacity	30 kg
Wheels	a) Polyamid wheels on stainless steel bushed bearing b) hardened and galvanized steel wheels with sealed ball bearing spherical form
Material	Carrier body: aluminium – seawater resistant Support saddle: steel galvanized Hardware: galvanized
Operating ambients	–30° C thru +100° C
Travel speed	max. 80 m/min.

Cable carrier

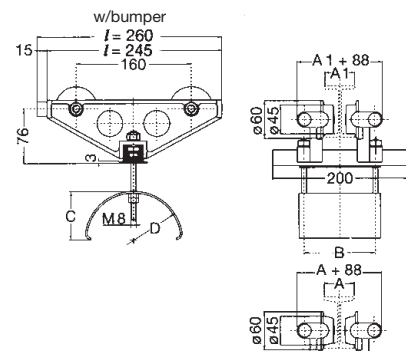
Type ⁽¹⁾	wheels	max.perm. thickness of cable in mm	max. clamping capacity mm height x width	B	C	D	Weight kg	Order- No.	Order- No. with Bumper
Cable carrier Standard beam	a	14 17	50 x 100 35 x 100	110	70 85	140 170	1,820 2,040	345 904 345 905	345 910 345 911
Cable carrier Fl. fl. beam	a	14 17	50 x 100 35 x 100	110	70 85	140 170	1,830 2,050	345 906 345 907	345 912 345 913
Cable carrier Standard- and Fl. fl. beam	b	14 17	50 x 100 35 x 100	110	70 85	140 170	2,820 2,600	345 908 345 909	345 914 345 915

Standard beam

Beam I NP	80	100	120	140	160	180	200	220
Dim. A	42	50	58	66	74	82	90	98

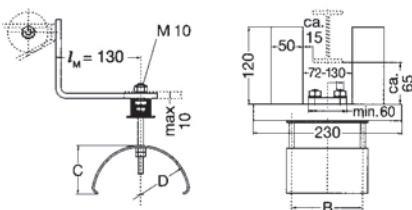
Flat flange beam

Träger I IPE	80	100	120	140	160	180	200
Dim. A ₁	46	55	64	73	82	91	100



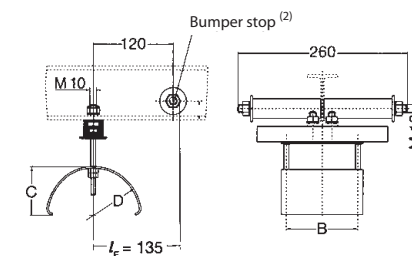
Lead clamp

Type		for Cable carrier	B	C	D	Weight kg	Order- No.
			mm				
Lead clamp	M 40 F/140	W (N, E) 40 F/140 (S)	110	70	140	2,180	345 916
	M 40 F/170	W (N, E) 40 F/170 (S)		85	170	2,400	345 917



Track clamp and Bumper stop

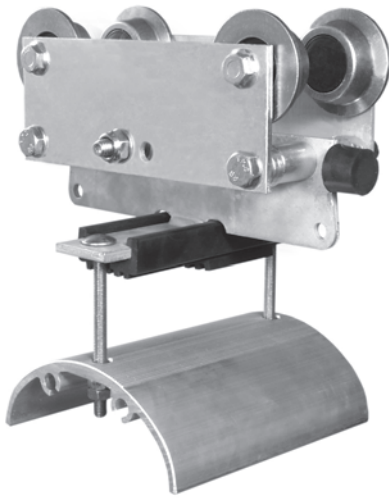
Type		for Cable carrier	B	C	C	Weight kg	Order- No.
			mm				
Track clamp	E 40 F/140 ⁽²⁾	W (N, E) 40 F/140 (S)	110	70	140	0,920	345 918
	E 40 F/170 ⁽²⁾	W (N, E) 40 F/170 (S)		85	170	1,140	345 919
Bumper stop	PS 3-4	—	—	—	—	0,410	340 100



⁽¹⁾ Use suffix –P for bumper version (example: W 40 F/170 S–P Order-no. 345 915).

⁽²⁾ Bumper stop PS 3-4 to be ordered separately.

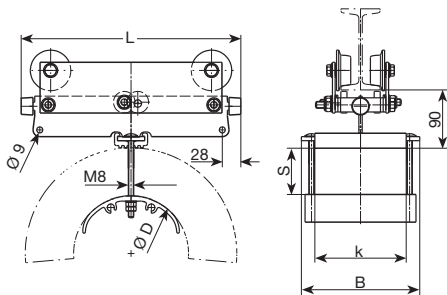
CABLE CARRIER W 45 FR



Engineering data

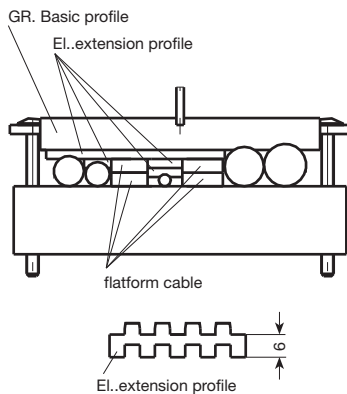
Type	W 45 FR on I-profil for flatform and round cable
Carrying capacity	50 kg (max. 80 kg - consult factory)
Travel speed	max. 120 m/min. when using appropriate cable tension relief
Wheel sets	for standard tracks INP 80 to INP 200 and for flat flange beams IPE 80 to IPE 200 other profiles on request on stainless steel bushed bearing
Wheels	flanged steel wheels Ø 45/60 mm, hardened and galvanized, steel kick-up rollers Ø 32 mm with bushed bearing and tread hardened and galvanized
Material	Carrier body: steel galvanized Support saddle: aluminium
Operating ambients	-30 °C thru +100 °C

Cable carrier W 45 FR



Collecting clamp for round cables

Extension rubber profile can be ordered per meter (Order- No.: 348 845)

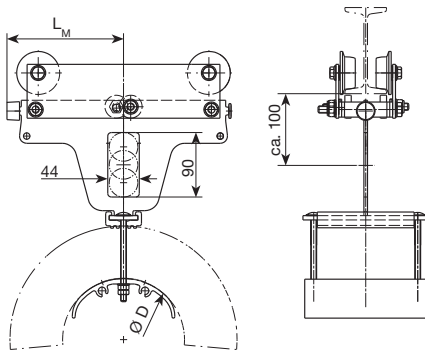


Type	max. clamping capacity mm height x width (s x k)	L mm	B mm	D mm	Weight kg	Order- No. w/o kick-up rollers	Order- No. w/kick-up rollers
W 45 FR/160- 80 B 175	35 x 130	160	175	80	2,750	348 663	348 685
W 45 FR/160- 80 B 225	35 x 180	160	225	80	2,880	348 664	348 686
W 45 FR/160-100 B 175	25 x 130	160	175	100	2,830	348 665	348 687
W 45 FR/160-100 B 225	25 x 180	160	225	100	3,000	348 666	348 688
W 45 FR/200- 80 B 175	55 x 130	200	175	80	3,050	348 667	348 689
W 45 FR/200- 80 B 225	55 x 180	200	225	80	3,180	348 668	348 690
W 45 FR/200-100 B 175	45 x 130	200	175	100	3,130	348 669	348 691
W 45 FR/200-100 B 225	45 x 180	200	225	100	3,300	348 670	348 692
W 45 FR/200-140 B 175	25 x 130	200	175	140	3,370	348 671	348 693
W 45 FR/200-140 B 225	25 x 180	200	225	140	3,610	348 672	348 694
W 45 FR/250-100 B 175	70 x 130	250	175	100	3,490	348 673	348 695
W 45 FR/250-100 B 225	70 x 180	250	225	100	3,660	348 674	348 696
W 45 FR/250-140 B 175	50 x 130	250	175	140	3,730	348 675	348 697
W 45 FR/250-140 B 225	50 x 180	250	225	140	3,970	348 676	348 698
W 45 FR/250-170 B 175	35 x 130	250	175	170	3,790	348 677	348 699
W 45 FR/250-170 B 225	35 x 180	250	225	170	4,040	348 678	348 700
W 45 FR/290-140 B 175	70 x 130	290	175	140	4,010	348 679	348 701
W 45 FR/290-140 B 225	70 x 180	290	225	140	4,250	348 680	348 702
W 45 FR/290-170 B 175	55 x 130	290	175	170	4,070	348 681	348 703
W 45 FR/290-170 B 225	55 x 180	290	225	170	4,230	348 682	348 704
W 45 FR/325-170 B 175	72 x 130	325	175	170	4,290	348 683	348 705
W 45 FR/325-170 B 225	72 x 180	325	225	170	4,540	348 684	348 706



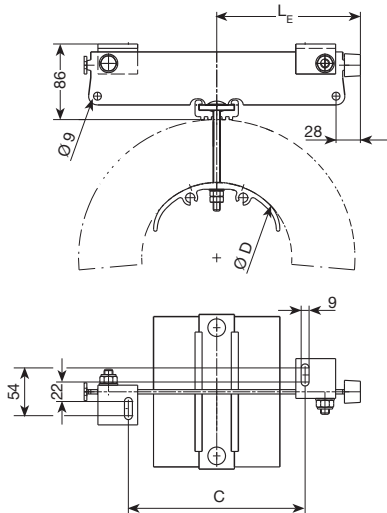
CABLE CARRIER W 45 FR

Lead clamp MW 45



Type	for Cable carrier	L _M mm	D mm	Weight kg	Order- No.
MW 45 FR/200- 80 B 175	W 45 FR/160- 80 B 175 W 45 FR/200- 80 B 175	100	80	3,290	348 741
MW 45 FR/200- 80 B 225	W 45 FR/160- 80 B 225 W 45 FR/200- 80 B 225	100	80	3,430	348 742
MW 45 FR/200-100 B 175	W 45 FR/160-100 B 175 W 45 FR/200-100 B 175	100	100	3,370	348 743
MW 45 FR/200-100 B 225	W 45 FR/160- 100 B 225 W 45 FR/200- 100 B 225	100	100	3,550	348 744
MW 45 FR/200-140 B 175	W 45 FR/200-140 B 175	100	140	3,610	348 745
MW 45 FR/200-140 B 225	W 45 FR/200-140 B 225	100	140	3,860	348 746
MW 45 FR/325-100 B 175	W 45 FR/250-100 B 175	162	100	4,280	348 747
MW 45 FR/325-100 B 225	W 45 FR/250-100 B 225	162	100	4,450	348 748
MW 45 FR/325-140 B 175	W 45 FR/250-140 B 175 W 45 FR/290-140 B 175	162	140	4,510	348 749
MW 45 FR/325-140 B 225	W 45 FR/250-140 B 225 W 45 FR/290-140 B 225	162	140	4,760	348 750
MW 45 FR/325-170 B 175	W 45 FR/250-170 B 175 W 45 FR/290-170 B 175 W 45 FR/325-170 B 175	162	170	4,570	348 751
MW 45 FR/325-170 B 225	W 45 FR/250-170 B 225 W 45 FR/290-170 B 225 W 45 FR/325-170 B 225	162	170	4,830	348 752

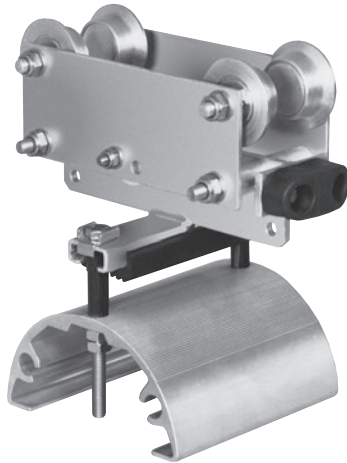
Track clamp E 45



Type	for Cable carrier	L _E mm	D mm	C mm	Weight kg	Order- No.
E 45 FR/160- 80 B 175	W 45 FR/160- 80 B 175	80	80	35	1,120	348 786
E 45 FR/160- 80 B 225	W 45 FR/160- 80 B 225	80	80	35	1,250	348 787
E 45 FR/160-100 B 175	W 45 FR/160-100 B 175	80	100	35	1,200	348 788
E 45 FR/160-100 B 225	W 45 FR/160-100 B 225	80	100	35	1,370	348 789
E 45 FR/200- 80 B 175	W 45 FR/200- 80 B 175	100	80	75	1,220	348 790
E 45 FR/200- 80 B 225	W 45 FR/200- 80 B 225	100	80	75	1,350	348 791
E 45 FR/200-100 B 175	W 45 FR/200-100 B 175	100	100	75	1,300	348 792
E 45 FR/200-100 B 225	W 45 FR/200-100 B 225	100	100	75	1,470	348 793
E 45 FR/200-140 B 175	W 45 FR/200-140 B 175	100	140	75	1,540	348 794
E 45 FR/200-140 B 225	W 45 FR/200-140 B 225	100	140	75	1,780	348 795
E 45 FR/250-100 B 175	W 45 FR/250-100 B 175	125	100	125	1,420	348 796
E 45 FR/250-100 B 225	W 45 FR/250-100 B 225	125	100	125	1,590	348 797
E 45 FR/250-140 B 175	W 45 FR/250-140 B 175	125	140	125	1,660	348 798
E 45 FR/250-140 B 225	W 45 FR/250-140 B 225	125	140	125	1,900	348 799
E 45 FR/250-170 B 175	W 45 FR/250-170 B 175	125	170	125	1,720	348 800
E 45 FR/250-170 B 225	W 45 FR/250-170 B 225	125	170	125	1,970	348 801
E 45 FR/290-140 B 175	W 45 FR/290-140 B 175	145	140	165	1,760	348 802
E 45 FR/290-140 B 225	W 45 FR/290-140 B 225	145	140	165	2,000	348 803
E 45 FR/290-170 B 175	W 45 FR/290-170 B 175	145	170	165	1,820	348 804
E 45 FR/290-170 B 225	W 45 FR/290-170 B 225	145	170	165	2,070	348 805
E 45 FR/325-170 B 175	W 45 FR/325-170 B 175	162	170	200	1,900	348 806
E 45 FR/325-170 B 225	W 45 FR/325-170 B 225	162	170	200	2,150	348 807

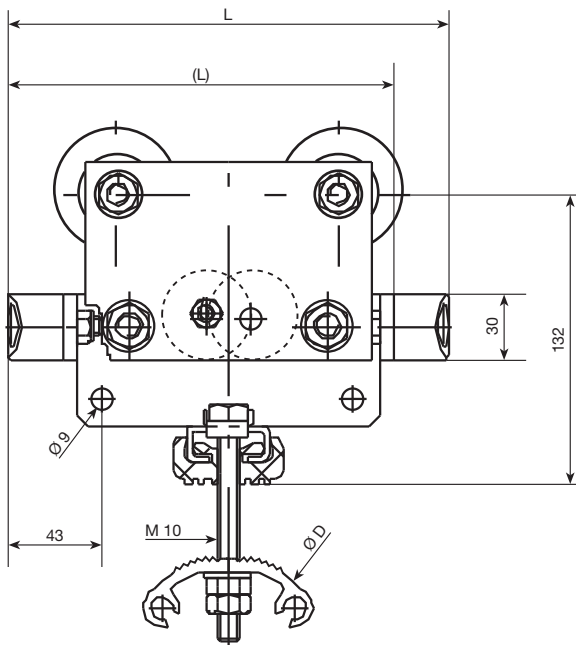
CABLE CARRIER W 55 • HEAVY DUTY

(Standard- or European profile)

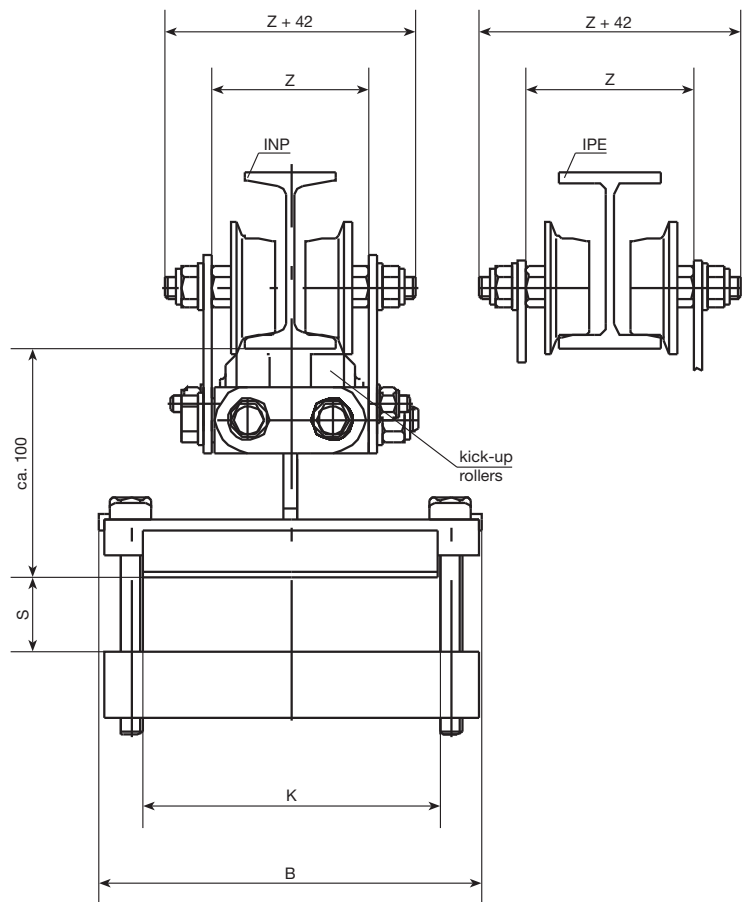


Engineering data

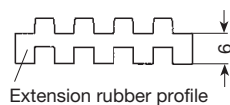
Type	W 55
Carrying capacity	70 kg
Travel speed	max. 120 m/min when using appropriate cable tension relief
Wheel sets	for standard tracks INP 80 to 200 ⁽¹⁾ for flat flange beams IPE 80 to 200 ⁽¹⁾
Wheels	flanged steel wheels Ø 45/60 mm, on stainless steel, bushed bearing, tread hardened and galvanized Support rollers (Dia.) 45 mm made of polyamid, /w antirust plain bearing
Material	Carrier body: steel galvanized Support saddle: aluminium
Operating ambients	-30° C thru +100° C



(L) = with one bumper



Beam	Z
INP 80	71
INP 100	79
INP 120	87
INP 140	95
INP 160	103
INP 180	111
INP 200	119
IPE 80	76
IPE 100	85
IPE 120	94
IPE 140	103
IPE 160	112
IPE 180	121
IPE 200	130



Assembly clamping of round clamping:
The extension profil can be ordered as piece goods
(see Page 8. (Order-No.: 348 845))

Please specify with your order:

Carrier body: Type

Order- No.

Wheel sets: Type

Order- No.

I-Beam Size:



CABLE CARRIER W 55 • HEAVY DUTY

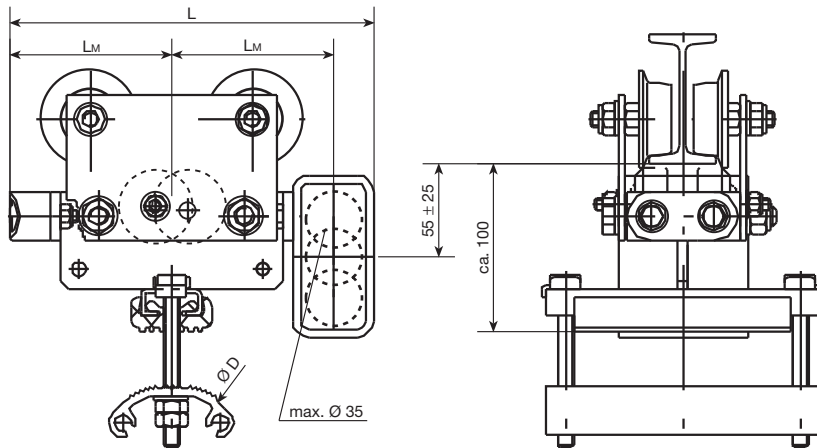
(Standard- or European profile)

Cable carrier W 55

Type	max. perm. thickness of cable in mm (s x k)	L mm	(L) mm	B mm	D mm	Weight kg	Order- No. w/o kick-up roller	Order- No. w/ kick-up roller
W 55 FR/175-100-B 175	30 x 130		175	175	100	4,000	346 101	346 115
W 55 FR/175-100-B 225	30 x 180			225		4,100	348 885	348 604
W 55 FR/175-100-B 275	30 x 230			275		4,300	348 899	348 918
W 55 FR/200-100-B 175	45 x 130	200		175	100	4,100	346 102	346 116
W 55 FR/200-100-B 225	45 x 180			225		4,200	348 886	348 137
W 55 FR/200-100-B 275	45 x 230			275		4,400	348 900	348 466
W 55 FR/200-140-B 175	25 x 130			175	140	4,200	346 103	346 117
W 55 FR/200-140-B 225	25 x 180			225		4,400	348 887	348 913
W 55 FR/200-140-B 275	25 x 230			275		4,500	348 901	348 919
W 55 FR/250-140-B 175	50 x 130			175	140	4,800	346 104	346 118
W 55 FR/250-140-B 225	50 x 180			225		5,000	348 888	346 905
W 55 FR/250-140-B 275	50 x 230			275		5,100	348 902	348 086
W 55 FR/250-170-B 175	35 x 130			175	170	5,000	346 105	346 119
W 55 FR/250-170-B 225	35 x 180			225		5,200	348 889	348 914
W 55 FR/250-170-B 275	35 x 230			275		5,500	348 903	348 920
W 55 FR/250-200-B 175	20 x 130			175	200	5,700	346 106	346 120
W 55 FR/250-200-B 225	20 x 180			225		5,900	348 890	348 915
W 55 FR/250-200-B 275	20 x 230			275		6,200	348 904	348 921
W 55 FR/275-140-B 175	60 x 130	275		175	140	4,900	346 107	346 121
W 55 FR/275-140-B 225	60 x 180			225		5,100	348 891	347 241
W 55 FR/275-140-B 275	60 x 230			275		5,200	348 905	348 922
W 55 FR/275-170-B 175	45 x 130			175	170	5,100	346 108	346 122
W 55 FR/275-170-B 225	45 x 180			225		5,300	348 892	348 270
W 55 FR/275-170-B 275	45 x 230			275		5,600	348 906	348 923
W 55 FR/275-200-B 175	30 x 130			175	200	5,800	346 109	346 123
W 55 FR/275-200-B 225	30 x 180			225		6,200	348 893	348 916
W 55 FR/275-200-B 275	30 x 230			275		6,700	348 907	348 085
W 55 FR/325-170-B 175	70 x 130			175	170	5,600	346 110	346 124
W 55 FR/325-170-B 225	70 x 180			225		5,800	348 894	347 552
W 55 FR/325-170-B 275	70 x 230			275		6,100	348 908	348 924
W 55 FR/325-200-B 175	55 x 130			175	200	6,300	346 111	346 125
W 55 FR/325-200-B 225	55 x 180			225		6,700	348 895	346 763
W 55 FR/325-200-B 275	55 x 230			275		7,200	348 909	348 925
W 55 FR/325-230-B 175	40 x 130			175	230	6,600	346 112	346 126
W 55 FR/325-230-B 225	40 x 180			225		7,100	348 896	348 917
W 55 FR/325-230-B 275	40 x 230			275		7,600	348 910	348 926
W 55 FR/350-200-B 175	70 x 130	350		175	200	6,400	346 113	346 127
W 55 FR/350-200-B 225	70 x 180			225		6,800	348 897	347 370
W 55 FR/350-200-B 275	70 x 230			275		7,300	348 911	348 927
W 55 FR/350-230-B 175	55 x 130			175	230	6,700	346 114	346 128
W 55 FR/350-230-B 225	55 x 180			225		7,200	348 898	346 897
W 55 FR/350-230-B 275	55 x 230			275		7,700	348 912	348 928

CABLE CARRIER W 55 • HEAVY DUTY

(Standard- or European profile)



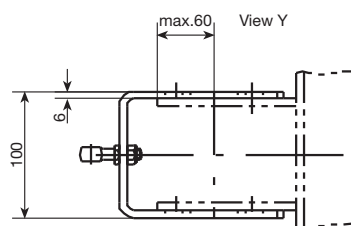
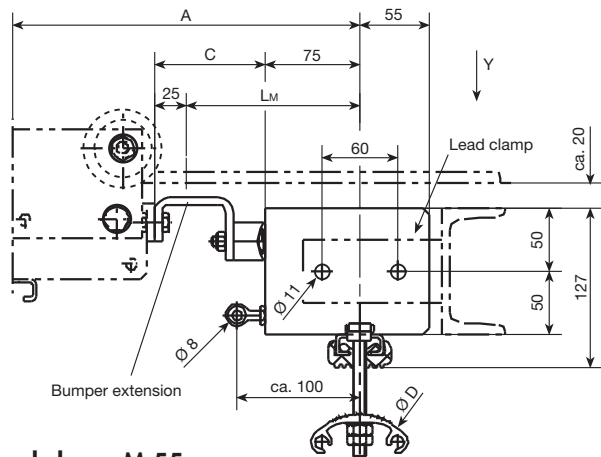
Lead clamp MW 55

Type	for Cable carrier	L	L _M	D	Weight kg	Order- No.
MW 55 FR/200-100-B 175	W 55 FR/175-100-B 175 W 55 FR/200-100-B 175	225	100	100	4,800	346 716
MW 55 FR/200-100-B 225	W 55 FR/175-100-B 225 W 55 FR/200-100-B 225				4,900	348 953
MW 55 FR/200-100-B 275	W 55 FR/175-100-B 275 W 55 FR/200-100-B 275				5,100	348 960
MW 55 FR/200-140-B 175	W 55 FR/200-140-B 175	225	100	140	5,000	346 734
MW 55 FR/200-140-B 255	W 55 FR/200-140-B 225				5,200	348 954
MW 55 FR/200-140-B 275	W 55 FR/200-140-B 275				5,300	348 961
MW 55 FR/275-140-B 175	W 55 FR/250-140-B 175 W 55 FR/275-140-B 175	300	138	140	5,700	346 584
MW 55 FR/275-140-B 225	W 55 FR/250-140-B 225 W 55 FR/275-140-B 225				5,900	348 955
MW 55 FR/275-140-B 275	W 55 FR/250-140-B 275 W 55 FR/275-140-B 275				6,000	348 962
MW 55 FR/275-170-B 175	W 55 FR/250-170-B 175 W 55 FR/275-170-B 175	300	138	170	5,000	346 735
MW 55 FR/275-170-B 225	W 55 FR/250-170-B 225 W 55 FR/275-170-B 225				5,200	348 956
MW 55 FR/275-170-B 275	W 55 FR/250-170-B 275 W 55 FR/275-170-B 275				5,500	348 963
MW 55 FR/275-200-B 175	W 55 FR/250-200-B 175 W 55 FR/275-200-B 175	300	138	200	5,600	346 736
MW 55 FR/275-200-B 225	W 55 FR/250-200-B 225 W 55 FR/275-200-B 225				6,000	348 957
MW 55 FR/275-200-B 275	W 55 FR/250-200-B 275 W 55 FR/275-200-B 275				6,500	348 964
MW 55 FR/350-170-B 175	W 55 FR/325-170-B 175	375	175	170	6,400	346 733
MW 55 FR/350-170-B 225	W 55 FR/325-170-B 225				6,600	348 958
MW 55 FR/350-170-B 275	W 55 FR/325-170-B 275				6,900	348 965
MW 55 FR/350-200-B 175	W 55 FR/325-200-B 175 W 55 FR/350-200-B 175	375	175	200	7,100	346 737
MW 55 FR/350-200-B 225	W 55 FR/325-200-B 225 W 55 FR/350-200-B 225				7,500	347 371
MW 55 FR/350-200-B 275	W 55 FR/325-200-B 275 W 55 FR/350-200-B 275				8,000	348 966
MW 55 FR/350-230-B 175	W 55 FR/325-230-B 175 W 55 FR/350-230-B 175	375	175	230	7,400	346 738
MW 55 FR/350-230-B 225	W 55 FR/325-230-B 225 W 55 FR/350-230-B 225				7,900	348 959
MW 55 FR/350-230-B 275	W 55 FR/325-230-B 275 W 55 FR/350-230-B 275				8,400	348 967



CABLE CARRIER W 55 • HEAVY DUTY

(Standard- or European profile)



Lead clamp M 55

Type	for Cable carrier	A	D	Weight kg	Order- No.
M 55 FR/100-1 B 175	W 55 FR/175-100-B 175	238	100	2,200	346 140
M 55 FR/100-1 B 225	W 55 FR/175-100-B 225			2,300	348 605
M 55 FR/100-1 B 275	W 55 FR/175-100-B 275			2,500	348 970
M 55 FR/100-2 B 175	W 55 FR/200-100-B 175		100	2,200	346 141
M 55 FR/100-2 B 225	W 55 FR/200-100-B 225			2,300	347 681
M 55 FR/100-2 B 275	W 55 FR/200-100-B 275			2,500	348 971
M 55 FR/140-1 B 175	W 55 FR/200-140-B 175		140	2,300	346 142
M 55 FR/140-1 B 225	W 55 FR/200-140-B 225			2,500	348 968
M 55 FR/140-1 B 275	W 55 FR/200-140-B 275			2,600	348 972
M 55 FR/140-2 B 175	W 55 FR/250-140-B 175 W 55 FR/275-140-B 175	275	140	2,300	346 143
M 55 FR/140-2 B 225	W 55 FR/250-140-B 225 W 55 FR/275-140-B 225			2,500	347 242
M 55 FR/140-2 B 275	W 55 FR/250-140-B 275 W 55 FR/275-140-B 275			2,600	348 973
M 55 FR/170-1 B 175	W 55 FR/250-170-B 175	275	170	3,000	346 144
	W 55 FR/275-170-B 175	350			
	W 55 FR/325-170-B 175				
M 55 FR/170-1 B 225	W 55 FR/250-170-B 225	275		3,200	347 553
	W 55 FR/275-170-B 225	350			
	W 55 FR/325-170-B 225				
M 55 FR/170-1 B 275	W 55 FR/250-170-B 275	275		3,500	348 491
	W 55 FR/275-170-B 275	350			
	W 55 FR/325-170-B 275				
M 55 FR/200-1 B 175	W 55 FR/250-200-B 175 W 55 FR/275-200-B 175	275	200	3,200	346 145
M 55 FR/200-1 B 225	W 55 FR/250-200-B 225 W 55 FR/275-200-B 225			3,600	348 969
M 55 FR/200-1 B 275	W 55 FR/250-200-B 275 W 55 FR/275-200-B 275			4,100	348 974
M 55 FR/200-2 B 175	W 55 FR/325-200-B 175 W 55 FR/350-200-B 175	350	200	3,200	346 146
M 55 FR/200-2 B 225	W 55 FR/325-200-B 225 W 55 FR/350-200-B 225			3,600	346 765
M 55 FR/200-2 B 275	W 55 FR/325-200-B 275 W 55 FR/350-200-B 275			4,100	348 978
M 55 FR/230-1 B 175	W 55 FR/325-230-B 175 W 55 FR/350-230-B 175	350	230	3,400	346 147
M 55 FR/230-1 B 225	W 55 FR/325-230-B 225 W 55 FR/350-230-B 225			3,900	346 898
M 55 FR/230-1 B 275	W 55 FR/325-230-B 275 W 55 FR/350-230-B 275			4,400	348 979

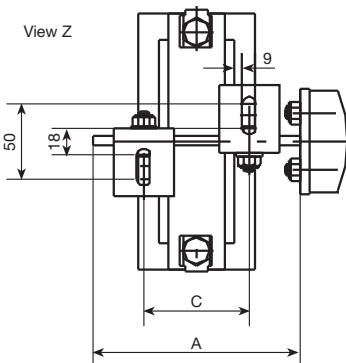
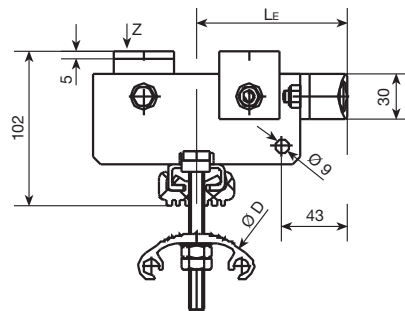
CABLE CARRIER W 55 • HEAVY DUTY

(Standard- or European profile)



Bumper extension PV 55 (see graph page 13)

Type	for Cable carrier	C	L _M	Weight kg	Order- No.
PV 55-1	W 55 FR/175-100 (all types)	88	138	0,500	346 148
	W 55 FR/200-100 (all types)				
	W 55 FR/200-140 (all types)				
	W 55 FR/250-140 (all types)				
	W 55 FR/250-170 (all types)				
	W 55 FR/250-200 (all types)				
	W 55 FR/275-140 (all types)				
	W 55 FR/275-170 (all types)				
PV 55-2	W 55 FR/325-170 (all types)	125	175	0,600	346 149
	W 55 FR/325-200 (all types)				
	W 55 FR/325-230 (all types)				
	W 55 FR/350-200 (all types)				
	W 55 FR/350-230 (all types)				



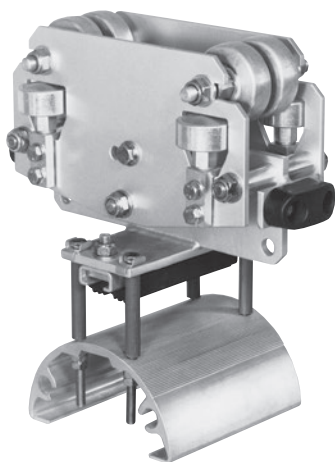
Track clamp E 55

Type	for Cable carrier	L _E	A	C	D	Weight kg	Order- No.
E 55 FR/175-100-B 175	W 55 F/175-100-B 175	100	138	70	100	1,900	346 150
E 55 FR/175-100-B 225	W 55 F/175-100-B 225					2,000	348 935
E 55 FR/175-100-B 275	W 55 F/175-100-B 275					2,200	348 944
E 55 FR/200-100-B 175	W 55 F/200-100-B 175	100	138	70	100	2,000	346 151
E 55 FR/200-100-B 225	W 55 F/200-100-B 225					2,100	348 936
E 55 FR/200-100-B 275	W 55 F/200-100-B 275					2,300	348 945
E 55 FR/200-140-B 175	W 55 F/200-140-B 175	100	138	70	140	2,100	346 152
E 55 FR/200-140-B 225	W 55 F/200-140-B 225					2,300	348 937
E 55 FR/200-140-B 275	W 55 F/200-140-B 275					2,400	348 946
E 55 FR/275-140-B 175	W 55 F/250-140-B 175	138	213	145	140	2,400	346 153
	W 55 F/275-140-B 175						
E 55 FR/275-140-B 225	W 55 F/250-140-B 225					2,600	348 938
	W 55 F/275-140-B 225						
E 55 FR/275-140-B 275	W 55 F/250-140-B 275 W 55 F/275-140-B 275					2,700	348 947
E 55 FR/275-170-B 175	W 55 F/250-170-B 175	138	213	145	170	3,100	346 154
	W 55 F/275-170-B 175						
E 55 FR/275-170-B 225	W 55 F/250-170-B 225					3,300	348 939
	W 55 F/275-170-B 225						
E 55 FR/275-170-B 275	W 55 F/250-170-B 275 W 55 F/275-170-B 275					3,600	348 948
E 55 FR/275-200-B 175	W 55 F/250-200-B 175	138	213	145	200	3,200	346 155
	W 55 F/275-200-B 175						
E 55 FR/275-200-B 225	W 55 F/250-200-B 225					3,600	348 940
	W 55 F/275-200-B 225						
E 55 FR/275-200-B 275	W 55 F/250-200-B 275 W 55 F/275-200-B 275					4,100	348 949
E 55 FR/325-170-B 175	W 55 F/325-170-B 175	175	288	220	170	3,600	346 156
	W 55 F/325-170-B 225					3,800	348 941
E 55 FR/325-170-B 275	W 55 F/325-170-B 275					4,100	348 950
E 55 FR/350-200-B 175	W 55 F/325-200-B 175	175	288	220	200	3,700	346 157
	W 55 F/350-200-B 175						
E 55 FR/350-200-B 225	W 55 F/325-200-B 225					4,100	348 942
	W 55 F/350-200-B 225						
E 55 FR/350-200-B 275	W 55 F/325-200-B 275 W 55 F/350-200-B 275					4,600	348 951
E 55 FR/350-230-B 175	W 55 F/325-230-B 175	175	288	220	230	4,000	346 158
	W 55 F/350-230-B 175						
E 55 FR/350-230-B 225	W 55 F/325-230-B 225					4,500	348 943
	W 55 F/350-230-B 225						
E 55 FR/350-230-B 275	W 55 F/325-230-B 275 W 55 F/350-230-B 275					5,000	348 952



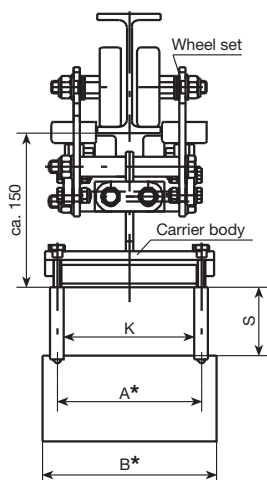
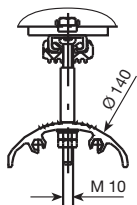
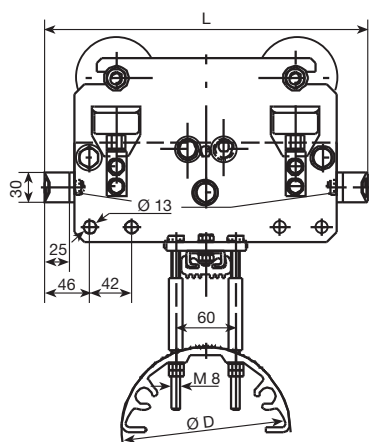
CABLE CARRIER W 65 • HEAVY DUTY

(Standard- or European profile)



Engineering data

Type	W 65	
Carrying capacity	wheels 65 mm: max. 200 kg 80 mm: max. 300 kg	see wheel sets page 25
Travel speed	max. 160 m/min	
Wheel sets	for standard track (INP) and flat flange beam (IPE) available with or without lateral & vertical guide rollers	
Wheels	flanged steel wheels Ø 65/80 mm or cylindrical steel wheels 80 mm OD with sealed precision ball bearings hardened and galvanized or with polyurethane-covering	
Material	Carrier body: steel galvanized Support saddle: aluminium	
Operating ambients	-30° C thru +100° C	



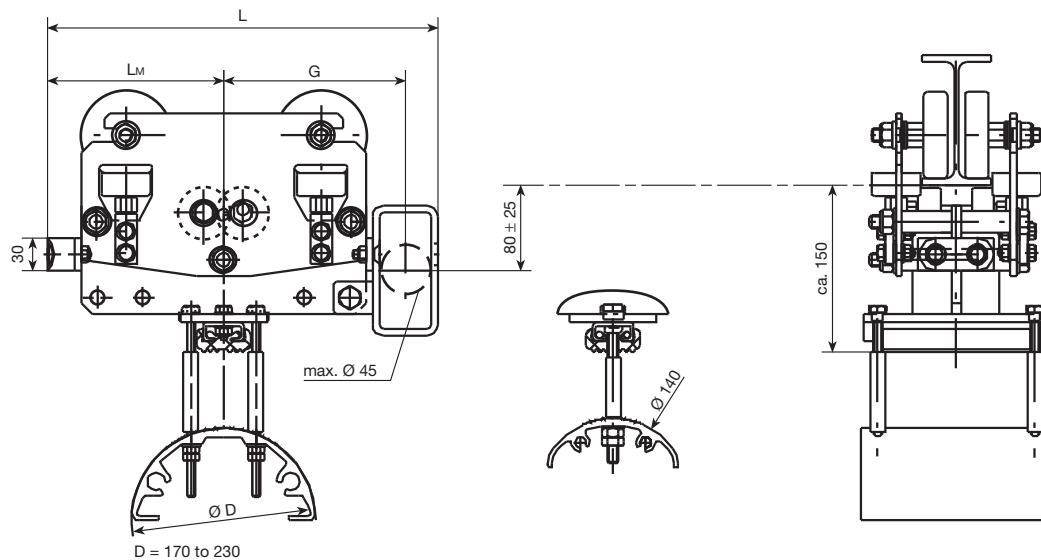
* Other width on request

Carrier body W 65 (w/o wheel set) (wheel set see page 25)

Type	max. clamping capacity mm height x width (s x k)	L mm	A mm	B mm	D mm	Weight kg	Order- No.
W 65 F/275-140-B 175	60 x 130	275	145	175	140	3,600	346 164
W 65 F/275-140-B 225	60 x 180		195	225		4,000	348 153
W 65 F/275-140-B 275	60 x 230		245	275		4,400	347 730
W 65 F/275-170-B 175	45 x 130		145	175	170	4,300	346 165
W 65 F/275-170-B 225	45 x 180		195	225		4,700	348 038
W 65 F/275-170-B 275	45 x 230		245	275		5,000	348 986
W 65 F/275-200-B 175	30 x 130	275	145	175	200	4,500	346 166
W 65 F/275-200-B 225	30 x 180		195	225		4,900	348 983
W 65 F/275-200-B 275	30 x 230		245	275		5,300	348 987
W 65 F/325-140-B 175	85 x 130	325	145	175	140	3,900	346 167
W 65 F/325-140-B 225	85 x 180		195	225		4,400	348 645
W 65 F/325-140-B 275	85 x 230		245	275		4,700	348 988
W 65 F/325-170-B 175	70 x 130		145	175	170	4,600	346 168
W 65 F/325-170-B 225	70 x 180		195	225		5,000	348 869
W 65 F/325-170-B 275	70 x 230		245	275		5,350	348 534
W 65 F/325-200-B 175	55 x 130		145	175	200	4,800	346 169
W 65 F/325-200-B 225	55 x 180		195	225		5,200	347 583
W 65 F/325-200-B 275	55 x 230		245	275		5,600	348 989
W 65 F/325-230-B 175	40 x 130		145	175	230	5,000	346 170
W 65 F/325-230-B 225	40 x 180		195	225		5,400	348 984
W 65 F/325-230-B 275	40 x 230		245	275		5,800	348 990
W 65 F/375-140-B 175	110 x 130	375	145	175	140	4,300	346 171
W 65 F/375-140-B 225	110 x 180		195	225		4,700	348 245
W 65 F/375-140-B 275	110 x 230		245	275		5,200	348 991
W 65 F/375-170-B 175	95 x 130		145	175	170	5,000	346 172
W 65 F/375-170-B 225	95 x 180		195	225		5,400	348 478
W 65 F/375-170-B 275	95 x 230		245	275		5,800	347 760
W 65 F/375-200-B 175	80 x 130		145	175	200	5,200	346 173
W 65 F/375-200-B 225	80 x 180		195	225		5,600	348 985
W 65 F/375-200-B 275	80 x 230		245	275		6,000	348 992
W 65 F/375-230-B 175	65 x 130		145	175	230	5,400	346 174
W 65 F/375-230-B 225	65 x 180		195	225		5,800	348 576
W 65 F/375-230-B 275	65 x 230		245	275		6,200	348 993

CABLE CARRIER W 65 • HEAVY DUTY

(Standard- or European profile)



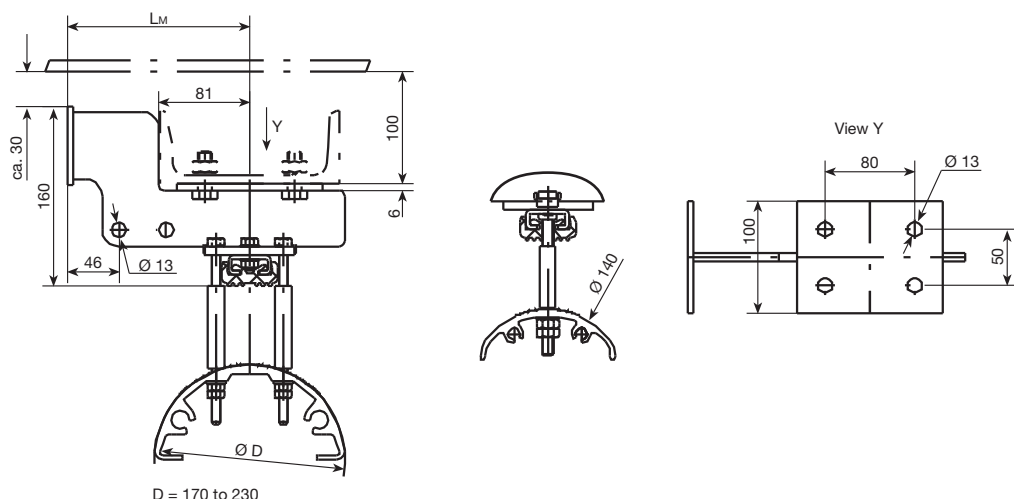
Lead carrier MW 65 (w/o wheel set)
(wheel set see page 25)

Type	for Cable carrier	L mm	Lm mm	G mm	D mm	Weight kg	Order- No.
MW 65 F/325-140-B 175	W 65 F/275-140-B 175 W 65 F/325-140-B 175	360	163	168	140	4,200	347 863
MW 65 F/325-140-B 225	W 65 F/275-140-B 225 W 65 F/325-140-B 225					5,700	348 155
MW 65 F/325-140-B 275	W 65 F/275-140-B 275 W 65 F/325-140-B 275					5,000	347 731
MW 65 F/325-170-B 175	W 65 F/275-170-B 175 W 65 F/325-170-B 175				170	5,900	347 696
MW 65 F/325-170-B 225	W 65 F/275-170-B 225 W 65 F/325-170-B 225					6,300	349 023
MW 65 F/325-170-B 275	W 65 F/275-170-B 275 W 65 F/325-170-B 275					6,600	348 532
MW 65 F/325-200-B 175	W 65 F/275-200-B 175 W 65 F/325-200-B 175				200	6,100	348 093
MW 65 F/325-200-B 225	W 65 F/275-200-B 225 W 65 F/325-200-B 225					6,500	349 024
MW 65 F/325-200-B 275	W 65 F/275-200-B 275 W 65 F/325-200-B 275					6,900	349 033
MW 65 F/325-230-B 175	W 65 F/325-230-B 175				230	6,300	348 092
MW 65 F/325-230-B 225	W 65 F/325-230-B 225					6,700	349 025
MW 65 F/325-230-B 275	W 65 F/325-230-B 275					7,000	349 034
MW 65 F/375-140-B 175	W 65 F/375-140-B 175	410	188	193	140	5,700	348 091
MW 65 F/375-140-B 225	W 65 F/375-140-B 225					6,000	349 026
MW 65 F/375-140-B 275	W 65 F/375-140-B 275					6,500	349 035
MW 65 F/375-170-B 175	W 65 F/375-170-B 175				170	6,300	347 312
MW 65 F/375-170-B 225	W 65 F/375-170-B 225					6,700	349 027
MW 65 F/375-170-B 275	W 65 F/375-170-B 275					7,000	347 761
MW 65 F/375-200-B 175	W 65 F/375-200-B 175				200	6,500	348 007
MW 65 F/375-200-B 225	W 65 F/375-200-B 225					6,900	349 028
MW 65 F/375-200-B 275	W 65 F/375-200-B 275					7,300	349 036
MW 65 F/375-230-B 175	W 65 F/375-230-B 175				230	6,700	348 088
MW 65 F/375-230-B 225	W 65 F/375-230-B 225					7,100	349 029
MW 65 F/375-230-B 275	W 65 F/375-230-B 275					7,500	349 037



CABLE CARRIER W 65 • HEAVY DUTY

(Standard- or European profile)

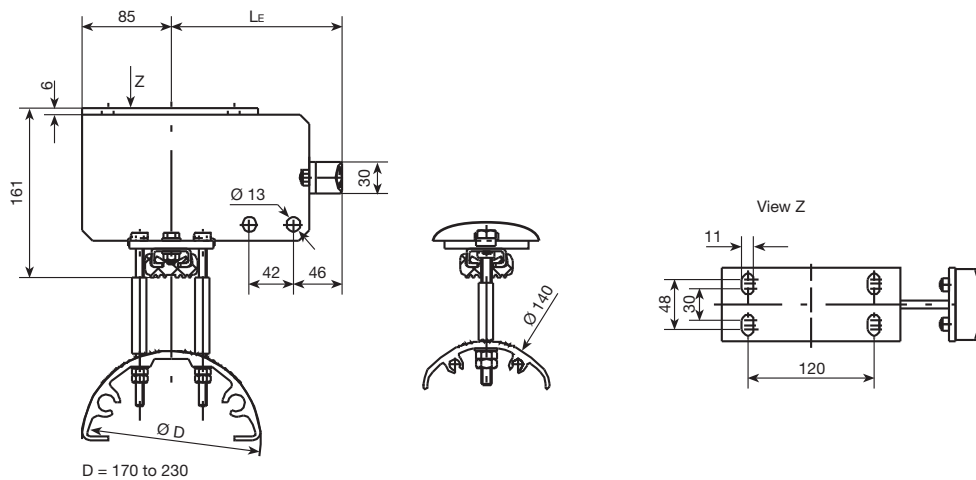


Lead clamp M 65

Type	for Cable carrier	L _M mm	D mm	Weight kg	Order- No.
M 65 F/325-140-B 175	W 65 F/275-140-B 175	163	140	4,000	346 244
M 65 F/325-140-B 225	W 65 F/275-140-B 225			4,400	349 005
M 65 F/325-140-B 275	W 65 F/275-140-B 275			4,800	349 010
M 65 F/325-170-B 175	W 65 F/275-170-B 175		170	4,700	346 245
M 65 F/325-170-B 225	W 65 F/275-170-B 225			5,100	348 711
M 65 F/325-170-B 275	W 65 F/275-170-B 275			5,400	349 011
M 65 F/325-200-B 175	W 65 F/275-200-B 175		200	4,900	346 246
M 65 F/325-200-B 225	W 65 F/275-200-B 225			5,300	347 585
M 65 F/325-200-B 275	W 65 F/275-200-B 275			5,700	349 012
M 65 F/325-230-B 175	W 65 F/325-230-B 175		230	5,100	346 247
M 65 F/325-230-B 225	W 65 F/325-230-B 225			5,500	349 006
M 65 F/325-230-B 275	W 65 F/325-230-B 275			5,900	349 013
M 65 F/375-140-B 175	W 65 F/375-140-B 175	188	140	4,300	346 248
M 65 F/375-140-B 225	W 65 F/375-140-B 225			4,700	348 247
M 65 F/375-140-B 275	W 65 F/375-140-B 275			5,100	349 014
M 65 F/375-170-B 175	W 65 F/375-170-B 175		170	5,000	346 249
M 65 F/375-170-B 225	W 65 F/375-170-B 225			5,400	349 007
M 65 F/375-170-B 275	W 65 F/375-170-B 275			5,800	349 015
M 65 F/375-200-B 175	W 65 F/375-200-B 175		200	5,200	346 250
M 65 F/375-200-B 225	W 65 F/375-200-B 225			5,600	349 008
M 65 F/375-200-B 275	W 65 F/375-200-B 275			6,000	349 016
M 65 F/375-230-B 175	W 65 F/375-230-B 175		230	5,400	346 251
M 65 F/375-230-B 225	W 65 F/375-230-B 225			5,800	349 009
M 65 F/375-230-B 275	W 65 F/375-230-B 275			6,200	349 017

CABLE CARRIER W 65 • HEAVY DUTY

(Standard- or European profile)



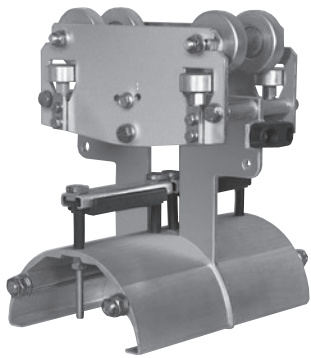
Track clamp E 65

Type	for Cable carrier	L _M mm	D mm	Weight kg	Order- No.
E 65 F/325-140-B 175	W 65 F/275-140-B 175 W 65 F/325-140-B 175	163	140	4,400	346 252
E 65 F/325-140-B 225	W 65 F/275-140-B 225 W 65 F/325-140-B 225			4,800	348 156
E 65 F/325-140-B 275	W 65 F/275-140-B 275 W 65 F/325-140-B 275			5,200	349 041
E 65 F/325-170-B 175	W 65 F/275-170-B 175 W 65 F/325-170-B 175		170	5,100	346 253
E 65 F/325-170-B 225	W 65 F/275-170-B 225 W 65 F/325-170-B 225			5,500	348 712
E 65 F/325-170-B 275	W 65 F/275-170-B 275 W 65 F/325-170-B 275			5,850	348 537
E 65 F/325-200-B 175	W 65 F/275-200-B 175 W 65 F/325-200-B 175		200	5,300	346 254
E 65 F/325-200-B 225	W 65 F/275-200-B 225 W 65 F/325-200-B 225			5,700	349 038
E 65 F/325-200-B 275	W 65 F/275-200-B 275 W 65 F/325-200-B 275			6,100	349 042
E 65 F/325-230-B 175	W 65 F/325-230-B 175		230	5,100	346 255
E 65 F/325-230-B 225	W 65 F/325-230-B 225			5,500	349 039
E 65 F/325-230-B 275	W 65 F/325-230-B 275			5,900	349 043
E 65 F/375-140-B 175	W 65 F/375-140-B 175	188	140	5,600	346 256
E 65 F/375-140-B 225	W 65 F/375-140-B 225			6,000	348 248
E 65 F/375-140-B 275	W 65 F/375-140-B 275			6,400	349 044
E 65 F/375-170-B 175	W 65 F/375-170-B 175		170	4,600	346 257
E 65 F/375-170-B 225	W 65 F/375-170-B 225			5,000	348 480
E 65 F/375-170-B 275	W 65 F/375-170-B 275			5,350	347 764
E 65 F/375-200-B 175	W 65 F/375-200-B 175		200	5,600	346 258
E 65 F/375-200-B 225	W 65 F/375-200-B 225			6,000	349 040
E 65 F/375-200-B 275	W 65 F/375-200-B 275			6,400	349 045
E 65 F/375-230-B 175	W 65 F/375-230-B 175		230	5,900	346 259
E 65 F/375-230-B 225	W 65 F/375-230-B 225			6,300	348 578
E 65 F/375-230-B 275	W 65 F/375-230-B 275			6,700	349 046



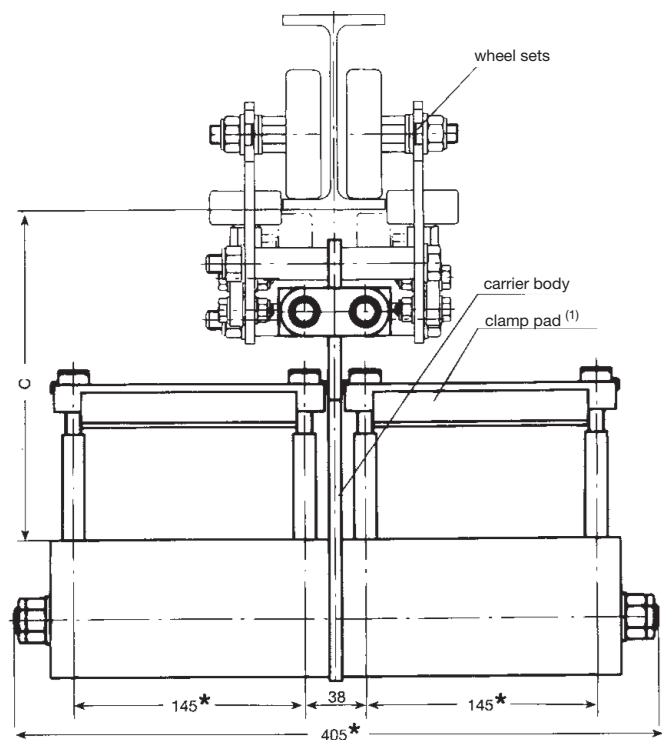
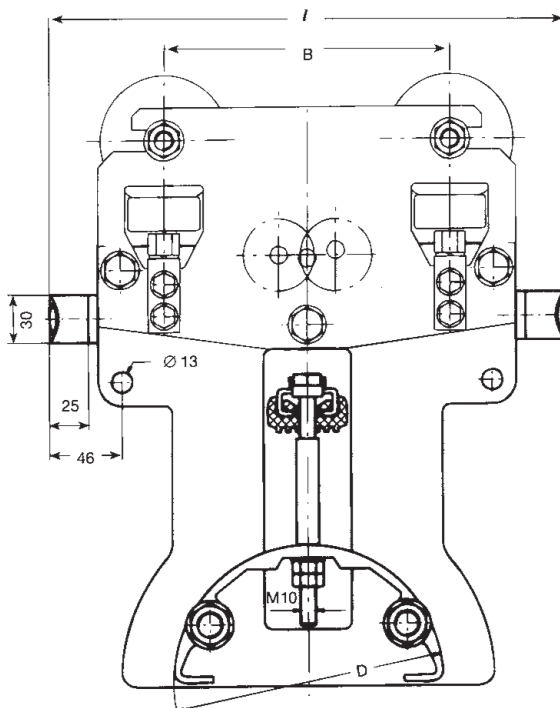
CABLE CARRIER W 75 • HEAVY DUTY

(Standard- or European profile)



Engineering data

Type	W 75	
Carrying capacity	wheels Ø 65 mm: max. 200 kg 80 mm: max. 300 kg	see wheel sets page 25
Travel speed	max. 160 m/min	
Wheel sets	for standard track (INP) and flat flange beam (IPE), Type LWB available with or without lateral & vertical guide rollers	
Wheels	flanged steel wheels Ø 65/80 mm or cylindrical steel wheels 80 mm OD with sealed precision ball bearings hardened and galvanized or with polyurethane-covering	
Material	Carrier body: steel galvanized Support saddle: aluminium	
Operating ambients	-30° C thru +100° C	



Carrier body W 75 ⁽²⁾

Type	max. clamping capacity mm height x width		l	B	C	D	Weight kg	Order- No.
W 75 F/275-170	2x	45 x 130	275	130	ca. 180	170	7,700	346 211
W 75 F/275-200		30 x 130			ca. 165	200	7,900	346 212
W 75 F/325-170		70 x 130			ca. 205	170	8,200	346 213
W 75 F/325-200		55 x 130	325	180	ca. 190	200	8,400	346 214
W 75 F/325-230		40 x 130			ca. 175	230	8,900	346 215
W 75 F/375-170		95 x 130			ca. 230	170	8,700	346 216
W 75 F/375-200		80 x 130	375	230	ca. 215	200	8,900	346 217
W 75 F/375-230		65 x 130			ca. 200	230	9,400	346 218

Please specify with your order:

Carrier body: Type

Order- No.

Wheel sets: Type

Order- No.

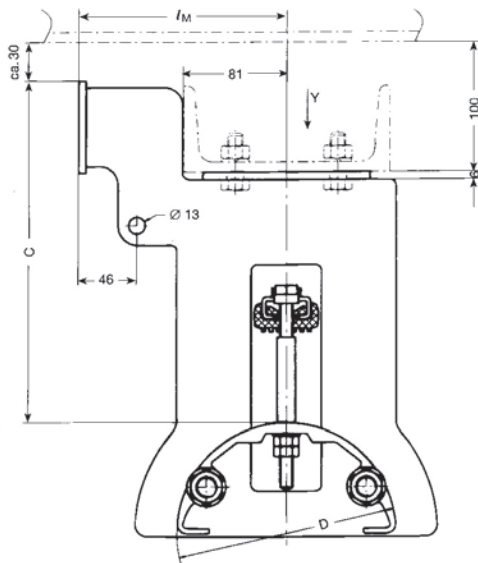
I-Beam Size:

⁽¹⁾ Extra wide carriers and continuous clamp pads are available; please consult the factory.

⁽²⁾ Wheel sets not included; see page 25.

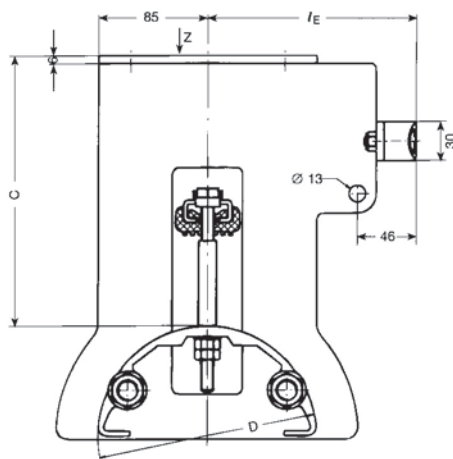
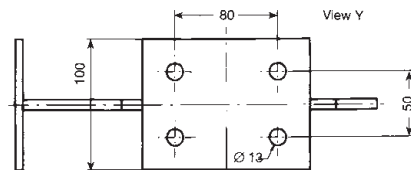
CABLE CARRIER W 75 • HEAVY DUTY

(Standard- or European profile)



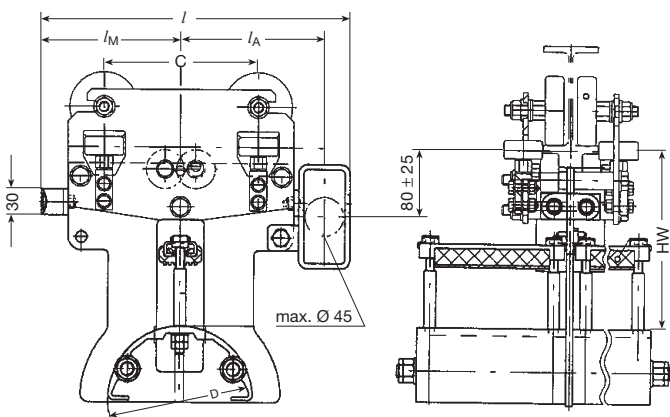
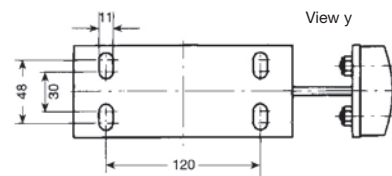
Track clamp M 75

Type	for Cable carrier	l_M	C	D	Weight kg	Order- No.
		mm				
M 75 F/325-170	W 75 F/275-170	163	ca. 265	170	8,900	346 260
	W 75 F/325-170					
M 75 F/325-200	W 75 F/275-200	163	ca. 250	200	9,100	346 261
	W 75 F/325-200					
M 75 F/325-230	W 75 F/325-230		ca. 235	230	9,600	346 262
M 75 F/375-170	W 75 F/375-170		ca. 290	170	9,200	346 263
M 75 F/375-200	W 75 F/375-200	188	ca. 275	200	9,400	346 264
M 75 F/375-230	W 75 F/375-230		ca. 260	230	9,900	346 265



Track clamp E 75

Type	for Cable carrier	l_E	C	D	Weight kg	Order- No.
		mm				
E 75 F/325-170	W 75 F/275-170	163	ca. 211	170	8,600	346 266
	W 75 F/325-170					
E 75 F/325-200	W 75 F/275-200	163	ca. 196	200	8,800	346 267
	W 75 F/325-200					
E 75 F/325-230	W 75 F/325-230		ca. 181	230	9,300	346 268
E 75 F/375-170	W 75 F/375-170		ca. 236	170	8,900	346 269
E 75 F/375-200	W 75 F/375-200	188	ca. 221	200	9,100	346 270
E 75 F/375-230	W 75 F/375-230		ca. 206	230	9,600	346 271



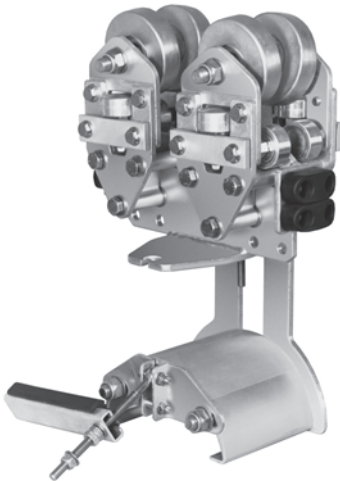
Carrier body MW 75⁽¹⁾

Type ⁽²⁾	for Cable carrier	l	l_A	l_M	C	D	HW	Weight kg	Order- No.
		mm							
MW 75 F/375-230	W 75 F/375-230	410	167,5	187,5	230	230	200	9,7	348 099
MW 75 F/375-200	W 75 F/375-200					200	215		348 100
MW 75 F/375-170	W 75 F/375-170					170	230		348 101
MW 75 F/325-230	W 75 F/325-230	360	167,5	162,5	180	230	175	9,2	348 102
MW 75 F/325-200	W 75 F/325-200					200	190		348 103
	W 75 F/275-200					200	190	9,0	348 104
MW 75 F/325-170	W 75 F/325-170					170	205		
	W 75 F/275-170					170	205		



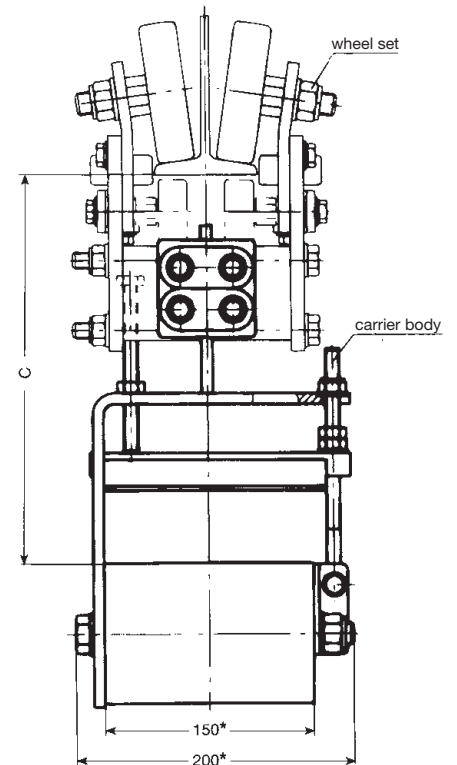
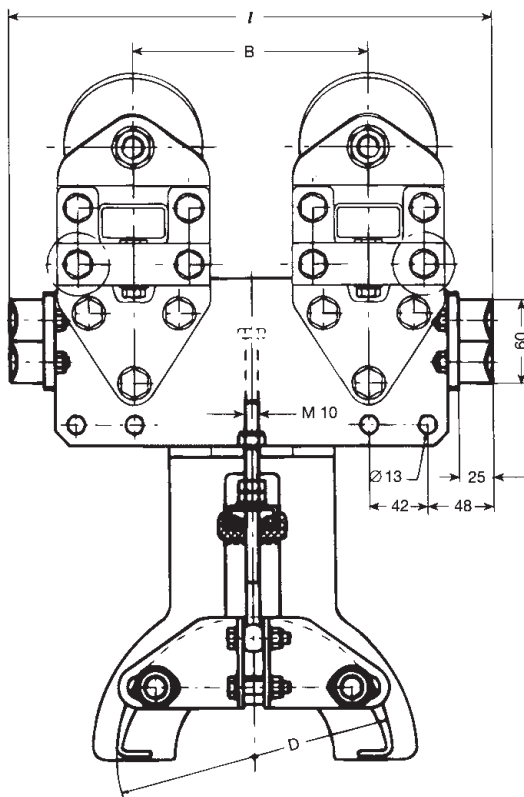
CABLE CARRIER W 85 • HEAVY DUTY

(Standard- or European profile)



Engineering data

Type	W 85	
Carrying capacity	max. 500 kg	see wheel sets page 26
Travel speed	max. 160 m/min	
Wheel sets	for standard track (INP) and flat flange beam (IPE) Type LWA	
Wheels	cylindrical steel wheels 100 mm OD with sealed precision ball bearings, hardened and galvanized or with polyurethane-covering	
Material	Carrier body: steel galvanized Support saddle: aluminium	
Operating ambients	-30° C thru +100° C	



Carrier body W 85 ⁽²⁾

Type	max. clamping capacity mm height x width	I	B	C	D	Weight kg	Order- No.
		mm					
W 85 F/300-170	55 x 150	300	120	ca. 300	170	9,100	346 219
W 85 F/300-200	40 x 150			ca. 285	200	9,200	346 220
W 85 F/350-170	80 x 150	350	170	ca. 300	170	9,500	346 221
W 85 F/350-200	65 x 150			ca. 285	200	9,600	346 222
W 85 F/350-230	50 x 150	400	220	ca. 270	230	9,700	346 223
W 85 F/400-170	105 x 150			ca. 350	170	10,100	346 224
W 85 F/400-200	90 x 150	450	270	ca. 335	200	10,200	346 225
W 85 F/400-230	75 x 150			ca. 320	230	10,300	346 226
W 85 F/450-200	115 x 150	450	270	ca. 335	200	10,600	346 227
W 85 F/450-230	100 x 150			ca. 320	230	10,700	346 228

Please specify with your order:

Carrier body: Type
Order- No.

Wheel sets: Type
Order- No.

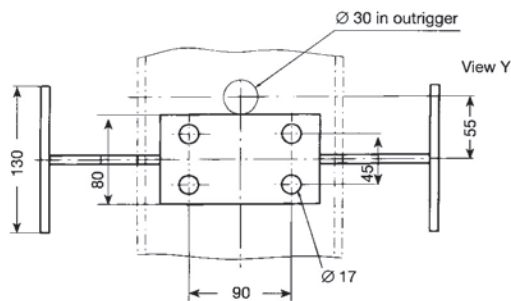
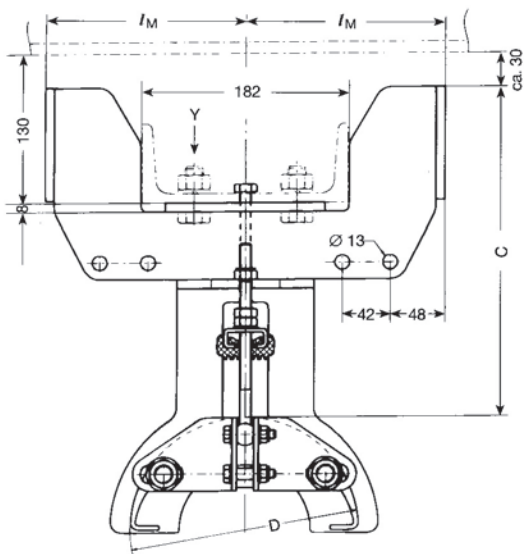
I-Beam Size:

⁽¹⁾ Extra wide side loading carriers are available; please consult the factory.

⁽²⁾ Wheel sets not included; see page 26).

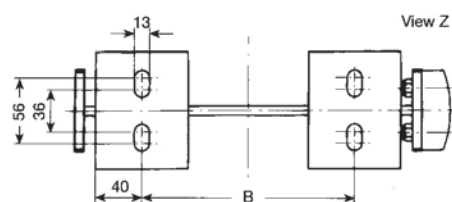
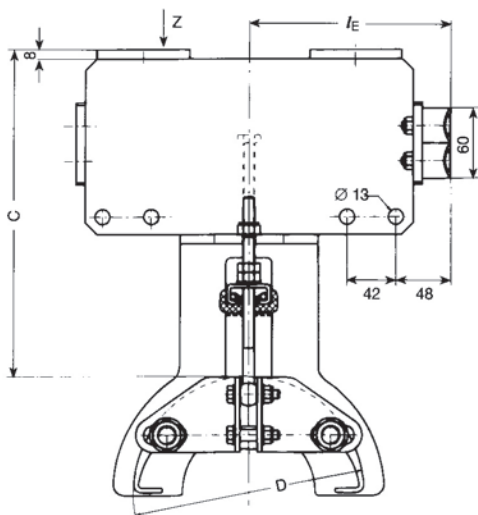
CABLE CARRIER W 85 • HEAVY DUTY

(Standard- or European profile)



Lead clamp M 85

Type	for Cable carrier	I_M	C	D	Weight kg	Order- No.
		mm				
M 85 F/350-170	W 85 F/300-170	175	ca. 310	170	10,500	346 272
	W 85 F/350-170					
M 85 F/350-200	W 85 F/300-200		ca. 295	200	10,600	346 273
	W 85 F/350-200					
M 85 F/350-230	W 85 F/350-230		ca. 280	230	10,700	346 274
M 85 F/450-200	W 85 F/400-170	225	ca. 345	200	12,000	346 275
	W 85 F/400-200					
	W 85 F/450-200					
M 85 F/450-230	W 85 F/400-230		ca. 330	230	12,100	346 276
	W 85 F/450-230					



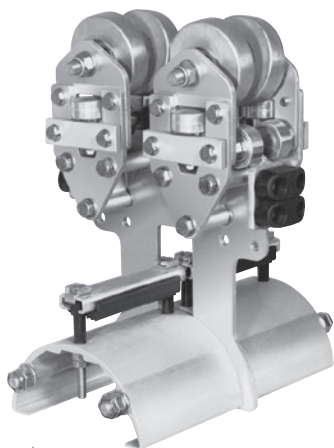
Track clamp E 85

Type	for Cable carrier	I_E	B	C	D	Weight kg	Order- No.
		mm					
E 85 F/350-170	W 85 F/300-170	175	184	ca. 298	170	9,800	346 277
	W 85 F/350-170						
E 85 F/350-200	W 85 F/300-200			ca. 283	200	9,900	346 278
	W 85 F/350-200						
E 85 F/350-230	W 85 F/350-230			ca. 268	230	10,000	346 279
E 85 F/450-200	W 85 F/400-170	225	284	ca. 333	200	11,100	346 280
	W 85 F/400-200						
	W 85 F/450-200						
E 85 F/450-230	W 85 F/400-230			ca. 318	230	11,200	346 281
	W 85 F/450-230						



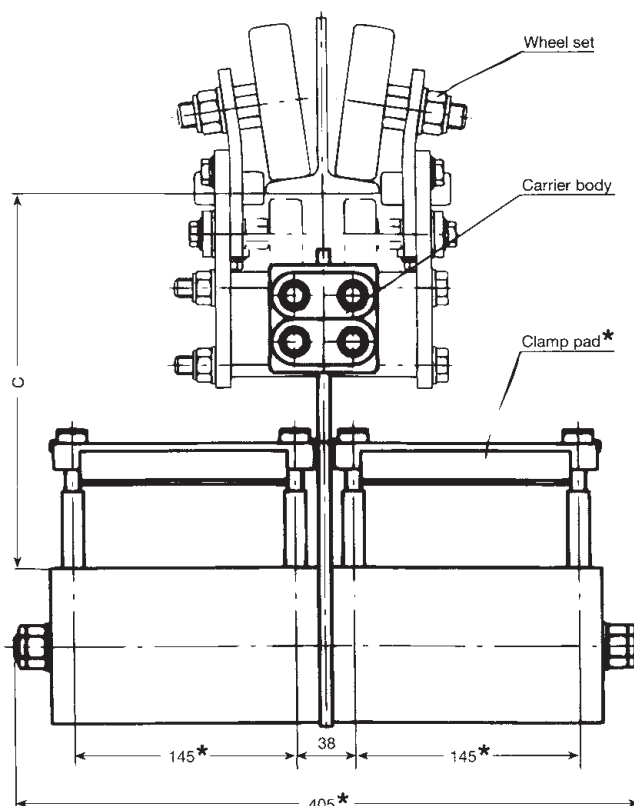
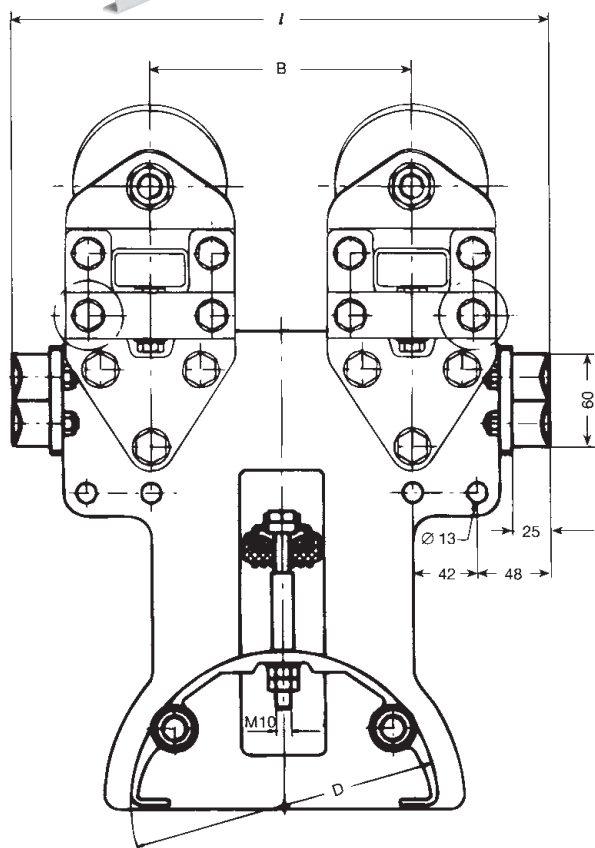
CABLE CARRIER W 95 • HEAVY DUTY

(Standard- or European profile)



Engineering data

Type	W 95	
Carrying capacity	max. 500 kg	see wheel sets page 26
Travel speed	max. 160 m/min	
Wheel sets	for standard track (INP) and flat flange beam (IPE); Type LWA	
Wheels	cylindrical steel wheels 100 mm OD with sealed precision ball bearings, hardened and galvanized or with polyurethane-covering	
Material	Carrier body: steel galvanized Support saddle: aluminium	
Operating ambients	-30° C thru +100° C	



Carrier body W 95 ⁽²⁾

Type	max. clamping capacity mm height x width		l	B	C	D	Weight kg	Order- No.
W 95 F/300-170	2x	55 x 130	300	120	ca. 240	170	10,700	346 229
W 95 F/300-200		40 x 130			ca. 225	200	11,000	346 230
W 95 F/350-170		80 x 130			ca. 265	170	11,300	346 231
W 95 F/350-200		65 x 130	350	170	ca. 250	200	11,600	346 232
W 95 F/350-230		50 x 130			ca. 235	230	11,900	346 233
W 95 F/400-170		105 x 130			ca. 290	170	11,800	346 234
W 95 F/400-200		90 x 130	400	220	ca. 275	200	12,100	346 235
W 95 F/400-230		75 x 130			ca. 260	230	12,400	346 236
W 95 F/450-200		115 x 130	450	270	ca. 315	200	12,700	346 237
W 95 F/450-230		100 x 130			ca. 285	230	13,000	346 238

Please specify with your order:

Carrier body: Type
Order- No.

Wheel sets : Type
Order- No.

I-Beam Size:

⁽¹⁾ Extra wide carriers and continuous clamp pads are available; please consult the factory.

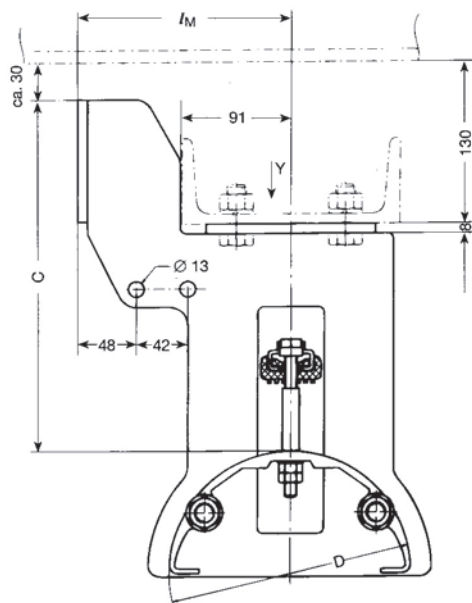
⁽²⁾ Wheel sets not included; see page 26.

CABLE CARRIER W 95 · HEAVY DUTY

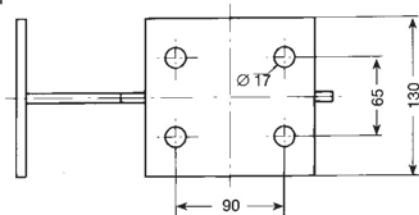
(Standard- or European profile)



Lead clamp M 95

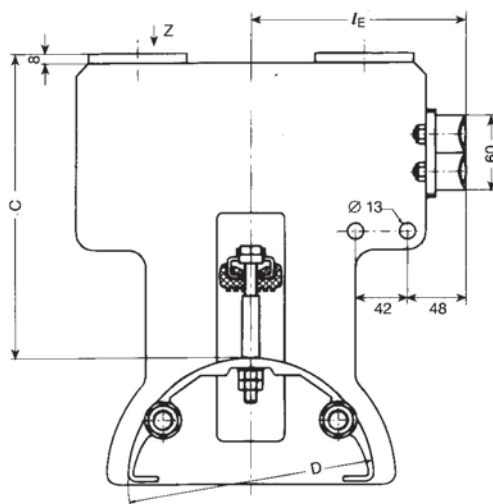


View Y

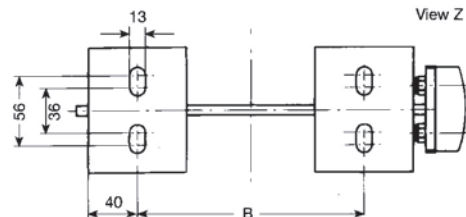


Type	for Cable carrier	l_M	C	D	Weight kg	Order- No.
		mm				
M 95 F/350-170	W 95 F/300-170	175	ca. 305	170	12,000	346 282
	W 95 F/350-170					
M 95 F/350-200	W 95 F/300-200		ca. 290	200	12,300	346 283
	W 95 F/350-200					
M 95 F/350-230	W 95 F/350-230		ca. 275	230	12,600	346 284
M 95 F/450-200	W 95 F/400-170	225	ca. 340	200	13,200	346 285
	W 95 F/400-200					
	W 95 F/450-200					
M 95 F/450-230	W 95 F/400-230		ca. 325	230	13,400	346 286
	W 95 F/450-230					

Track clamp E 95



View Z



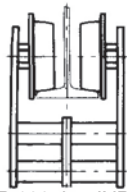
Type	for Cable carrier	l_E	B	C	D	Weight kg	Order- No.
		mm					
E 95 F/350-170	W 95 F/300-170	175	184	ca. 263	170	11,800	346 287
	W 95 F/350-170						
E 95 F/350-200	W 95 F/300-200			ca. 248	200	12,100	346 288
	W 95 F/350-200						
E 95 F/350-230	W 95 F/350-230			ca. 233	230	12,400	346 289
E 95 F/450-200	W 95 F/400-170	225	284	ca. 298	200	13,300	346 290
	W 95 F/400-200						
	W 95 F/450-200						
E 95 F/450-230	W 95 F/400-230			ca. 283	230	13,600	346 291
	W 95 F/450-230						

WHEEL SETS FOR CABLE CARRIERS W 65 UND W 75

(Standard- or European profile)

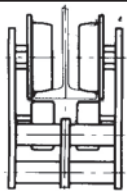
Diameter of Wheels 65 mm

Carrying capacity	max. 200 kg tread of steel
Travel speed	max. 120 m/min when using appropriate cable tension relief
Wheel Type	machined and hardened flange type steel wheels Ø 65/80 mm, galvanized and equipped with precision ball bearings, protected against dust and splash water
Kick-up Rollers	cylindrical steel wheels Ø 45 mm, hardened and galvanized with ball bearings; polyurethane on special request..

Wheel sets for standard beam ⁽³⁾ w/o kick-up-roller				
Type	l ⁽²⁾ mm	Wght. kg	Order- No.	
LWB- 3/65-275	275	5,400	346 181	
LWB- 3/65-325	325	6,000	346 182	
LWB- 3/65-375	375	6,700	346 183	

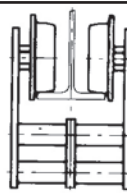
INP 100 thru INP 120

INP 100 thru INP 120

Wheel sets for standard beam w/ kick-up-roller				
Type	l ⁽²⁾ mm	Wght. kg	Order- No.	
LWB- 4/65-275	275	5,800	346 184	
LWB- 4/65-325	325	6,500	346 185	
LWB- 4/65-375	375	7,100	346 186	

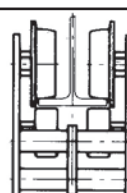
INP 100 thru INP 200

INP 100 thru INP 200

Wheel sets for flat flange beam ⁽³⁾ w/o kick-up-roller				
Type	l ⁽²⁾ mm	Wght. kg	Order- No.	
LWB- 7/65-275	275	5,400	346 193	
LWB- 7/65-325	325	6,000	346 194	
LWB- 7/65-375	375	6,700	346 195	

IPE 100 thru IPE 120

IPE 100 thru IPE 120

Wheel sets for flat flange beam w/ kick-up-roller				
Type	l ⁽²⁾ mm	Wght. kg	Order- No.	
LWB- 8/65-275	275	5,800	346 196	
LWB- 8/65-325	325	6,500	346 197	
LWB- 8/65-375	375	7,100	346 198	

IPE 100 thru IPE 200

IPE 100 thru IPE 200

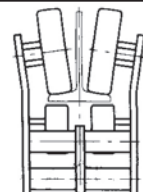
Note: All wheel sets can be upgraded with support rollers.

Runner wheel diameter 80 mm

Carrying capacity	300 kg tread of steel 200 kg tread of polyurethane
Travel speed	max. 160 m/min when using appropriate cable tension relief
Wheel Type	machined and hardened cylindrical type steel wheels Ø 80 mm, galvanized and equipped with precision ball bearings, protected against dust and splash water – polyurethane optional.
Side and Kick-up Rollers	cylindrical steel wheels Ø 45 mm, hardened and galvanized with ball bearings; polyurethane on special request.

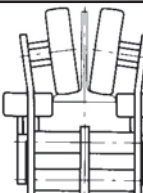
Wheel sets for standard beam w/o side roller and w/o kick-up-roller					 INP 100 thru INP 180
Type ⁽¹⁾	l ⁽²⁾ mm	Wght. kg	Order- No.	Order- No. w/polyure- thane wheels	
LWB- 1/80-275	275	6,400	346 175	346 292	
LWB- 1/80-325	325	7,100	346 176	346 293	
LWB- 1/80-375	375	7,700	346 177	346 294	

INP 100 thru INP 180

Wheel sets for standard beam w/o side roller and w/o kick-up-roller					
Type ⁽¹⁾	l ⁽²⁾ mm	Wght. kg	Order- No.	Order- No. w/polyure- thane wheels	
LWB- 2/80-275	275	6,800	346 178	346 295	
LWB- 2/80-325	325	7,500	346 179	346 296	
LWB- 2/80-375	375	8,100	346 180	346 297	

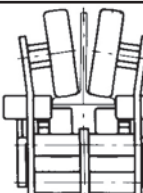
INP 100 thru INP 180

INP 100 thru INP 180

Wheel sets for standard beam w/o side roller and w/o kick-up-roller					
Type ⁽¹⁾	l ⁽²⁾ mm	Wght. kg	Order- No.	Order- No. w/polyure- thane wheels	
LWB- 5/80-275	275	7,600	346 187	346 298	
LWB- 5/80-325	325	8,300	346 188	346 299	
LWB- 5/80-375	375	9,000	346 189	346 300	

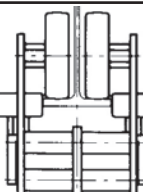
INP 120 thru INP 200

INP 120 thru INP 200

Wheel sets for standard beam w/o side roller and w/o kick-up-roller					
Type ⁽¹⁾	l ⁽²⁾ mm	Wght. kg	Order- No.	Order- No. w/polyure- thane wheels	
LWB- 6/80-275	275	8,000	346 190	346 301	
LWB- 6/80-325	325	8,700	346 191	346 302	
LWB- 6/80-375	375	9,400	346 192	346 303	

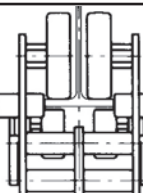
INP 120 thru INP 200

INP 120 thru INP 200

Wheel sets for flat flange beam w/ side roller and w/ kick-up-roller					
Type ⁽¹⁾	l ⁽²⁾ mm	Wght. kg	Order- No.	Order- No. w/polyure- thane wheels	
LWB- 9/80-275	275	7,600	346 199	346 304	
LWB- 9/80-325	325	8,300	346 200	346 305	
LWB- 9/80-375	375	9,000	346 201	346 306	

IPE 120 thru IPE 200

IPE 120 thru IPE 200

Wheel sets for flat flange beam w/ side roller and w/ kick-up-roller					
Type ⁽¹⁾	l ⁽²⁾ mm	Wght. kg	Order- No.	Order- No. w/polyure- thane wheels	
LWB-10/80-275	275	8,000	346 202	346 307	
LWB-10/80-325	325	8,700	346 203	346 308	
LWB-10/80-375	375	9,400	346 204	346 309	

IPE 120 thru IPE 200

IPE 120 thru IPE 200

Wheel set settings for beams with alternative flange dimensions on request.

⁽¹⁾ The type description of the wheel sets with vulkollan-wheels have the addition -V (Example: LWB 1/80-275-V).

⁽²⁾ While choosing the wheel set please bare in mind that the dimension „l“ corresponds with the dimension „l“ of the carrier body!

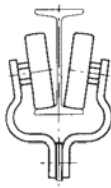
⁽³⁾ With the track profile INP/IPE 140 upto 200 the versions with support rollers have to be used.

WHEEL SETS FOR CABLE CARRIERS W 85 & W 95

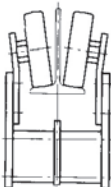
(Standard- or European profile)

Diameter of Wheels 100 mm

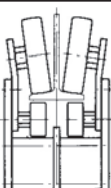
Carrying capacity	500 kg w/steel wheels 350 kg w/polyurethane wheels
Travel speed	max. 160 m/min. when using appropriate cable tension relief
Wheel Type	machined and hardened cylindrical type steel wheels Ø 100 mm, galvanized and equipped with precision ball bearings, protected against dust and splash water – polyurethane optional
Side and Kick-up Rollers	cylindrical steel wheels Ø 45 mm, hardened and galvanized with ball bearings; polyurethane on special request

Wheel sets for standard beam w/o side roller and w/o kick-up-roller				
Type ⁽¹⁾	Weight kg	Order- No.	Order- No. w/polyure- thane wheels	
LWA- 0/100	12,300	346 239	346 310	

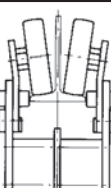
INP 140 thru INP 200

Wheel sets for standard beam w/o side roller and w/o kick-up-roller				
Type ⁽¹⁾	Weight kg	Order- No.	Order- No. w/polyure- thane wheels	
LWA- 1/100	13,800	346 240	346 311	

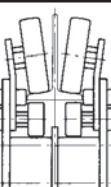
INP 140 thru INP 200

Wheel sets for standard beam w/o side roller and w/o kick-up-roller				
Type ⁽¹⁾	Weight kg	Order- No.	Order- No. w/polyure- thane wheels	
LWA- 2/100	14,700	346 241	346 312	

INP 140 thru INP 200

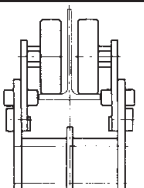
Wheel sets for standard beam w/ side roller and w/o kick-up-roller				
Type ⁽¹⁾	Weight kg	Order- No.	Order- No. w/polyure- thane wheels	
LWA- 5/100	15,400	346 242	346 313	

INP 140 thru INP 200

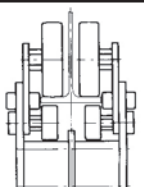
Wheel sets for standard beam w/ side roller and w/o kick-up-roller				
Type ⁽¹⁾	Weight kg	Order- No.	Order- No. w/polyure- thane wheels	
LWA- 6/100	16,300	346 243	346 314	

INP 140 thru INP 200

Note: Installation of support- and guiding rollers are at the **LWA-0/100** not possible.

Wheel sets for flat flange beam w/side roller and w/o kick-up-roller				
Type ⁽¹⁾	Weight kg	Order- No.	Order- No. w/polyure- thane wheels	
LWA- 9/100	15,700	346 205	346 315	

IPE 140 thru IPE 200

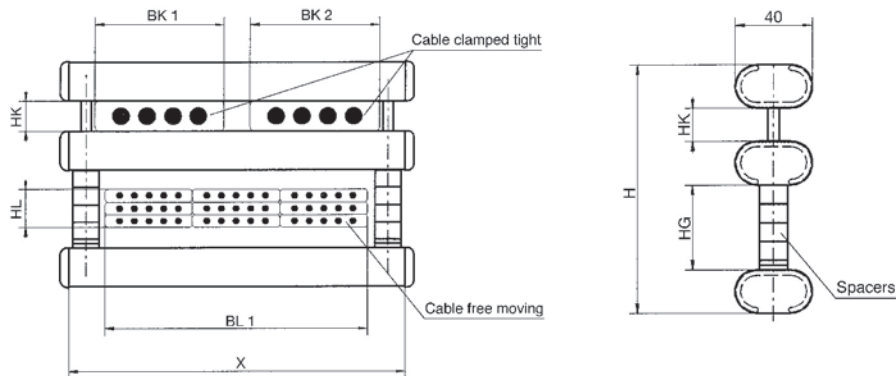
Wheel sets for flat flange beam w/side roller and w/o kick-up-roller				
Type ⁽¹⁾	Weight kg	Order- No.	Order- No. w/polyure- thane wheels	
LWA- 10/100	16,500	346 206	346 316	

IPE 140 thru IPE 200

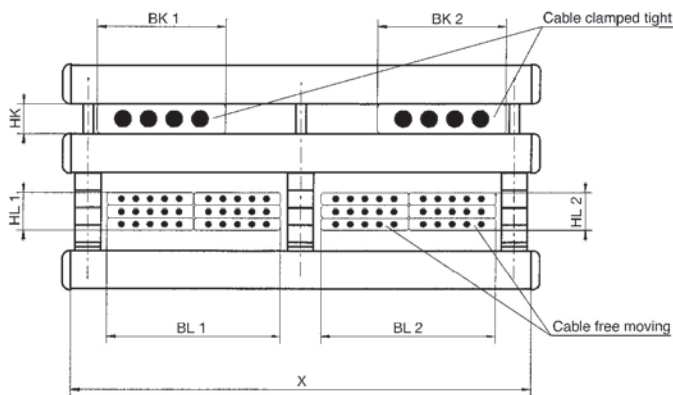


CABLE LOOP CLAMPS

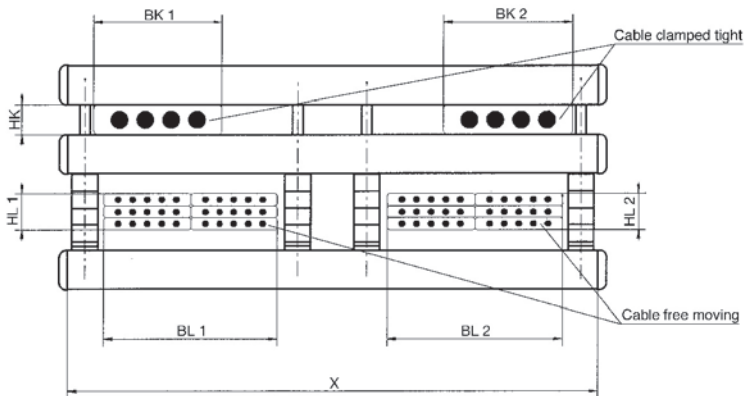
Material: Clamping parts of aluminium
Spacers and end caps of plastic
Hardware of galvanized steel



Type	GIK 2 – AI
Order- No.	346 961
Material	2 clamping bolts



Type	GIK 3 – AI
Order- No.	346 971
Material	3 clamping bolts



Type	GIK 4 – AI
Order- No.	346 972
Material	4 clamping bolts

The cable loop clamps are supplied with a clamping height HK – 5 mm.
Larger clamping heights HK reduce the space HG accordingly.
For correct adjustment of space HG remove spacers.
Space reduction = cable thickness – 5 mm.
Available reductions of space HG in mm:

2,5 / 5 / 10 / 12,5 / 15 / 20 / 22,5 / 25

General dimensions of cable loop clamps on request.

Please specify with your order:

Cable Loop Clamp:	: Type	Order- No.	
Dimensions of cable packs: HK x BK 1 / HK x BK 2 :		/	mm
HL 1 x BL 1 / HL 2 x BL 2 :		/	mm

TENSION RELIEF

1. Steel Ropes (Tow Cables)

Recommended for applications with

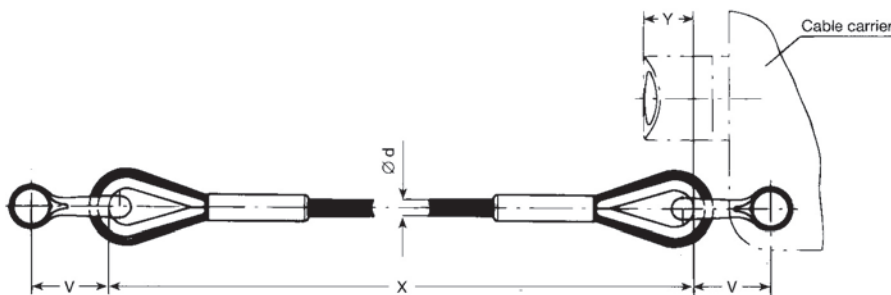
- Over 30 m Travel Distance (Working Travel)
or in general for mechanical sensitive cables and/or in very dusty environments
- Travel Speeds up to 80 m/min
- Accelerations up to 0.3 m/s²

For higher speeds or accelerations please consult the factory.

Type	Z 4	Z 4-PVC	Z 5	Z 5-PVC	Z 6	Z 6-PVC
Ø d =	6 mm	6/8 mm	6 mm	6/8 mm	8 mm	8/10 mm
Weight	0,125 kg/m	0,150 kg/m	0,125 kg/m	0,150 kg/m	0,221 kg/m	0,250 kg/m
V =	28 mm		42 mm		42 mm	
Material and finish	steel galvanized	steel galvanized PVC-shrouded	steel galvanized	steel galvanized PVC-shrouded	steel galvanized	steel galvanized PVC-shrouded
Admissible tension force (6 times safety factor)	3500 N		3500 N		6100 N	
Type of shackle lock	safety nut		hex. nut and split-pin			
for Cable carrier	W 45 / W 55		W 65 thru W 95			

Design: Round cord rope made of steel wires with fibre layers, galvanized or additional PVC-shrouding, in prefabricated length, incl. rope-clips, thimbles and shackles.

Weight: Shackles, thimbles, bush = 0.5 kgs on both sides



Projecting bumper:

Cable Carrier Type	Y in mm
W 45	0
W 55 (1 bumper)	3
W 55 (2 bumper)	15
W 65 and W 75	4
W 85 and W 95	6

How to determine the Tow rope Length:

$$X = \frac{S(f - 0,1) + Z}{n} + 2 Y$$

X = Length of tow rope mm
S = working travel mm
f = Cable safety factor (1,15)
Z = open space mm (min. one carrier)
n = number of cable loops
Y = projecting bumper (mm; see table)

Length of Tow Rope mm	Order-No.					
	Cable carrier W 45 / W 55		Cable carrier W 65 thru W 95			
	Z 4	Z 4-PVC	Z 5	Z 5-PVC	Z 6	Z 6-PVC
thru – 2000	346 372	346 383	346 394	346 368	346 405	346 367
2001 – 3000	346 373	346 384	346 395	346 346	346 406	346 356
3001 – 4000	346 374	346 385	346 396	346 347	346 407	346 357
4001 – 5000	346 375	346 386	346 397	346 348	346 408	346 358
5001 – 6000	346 376	346 387	346 398	346 349	346 409	346 359
6001 – 7000	346 377	346 388	346 399	346 350	346 410	346 360
7001 – 8000	346 378	346 389	346 400	346 351	346 411	346 361
8001 – 9000	346 379	346 390	346 401	346 352	346 412	346 362
9001 – 10000	346 380	346 391	346 402	346 353	346 413	346 363
10001 – 11000	346 381	346 392	346 403	346 354	346 414	346 364
11001 – 12000	346 382	346 393	346 404	346 355	346 415	346 365

Please specify with your order

Tow rope: Type
Length of rope X: mm
Order- No.:

TENSION RELIEF

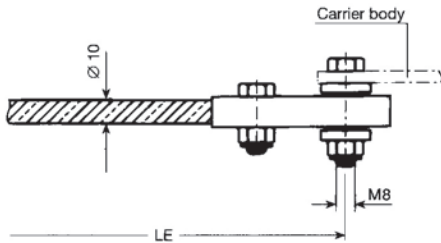
2. Elastic Tow Ropes

2.1. Material and Finish: Rope 10 mm Dia.
complete, cut to suit the application, incl. attachments in galvanized steel

Preferably used for Cable Carriers Type W 55. Job adapted Finish on request.

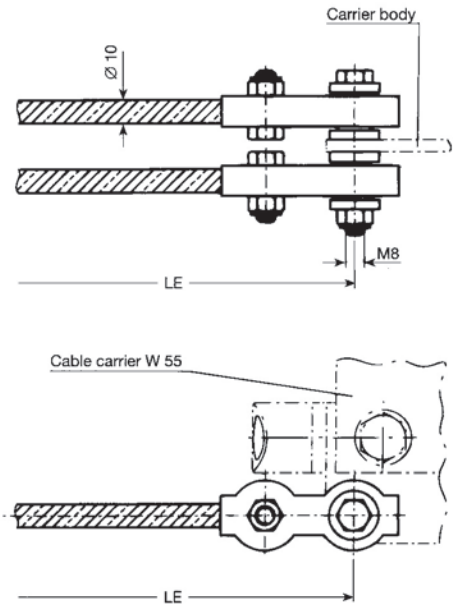
Type: ZE 1

1 Elastic Tow Rope for each Cable Loop



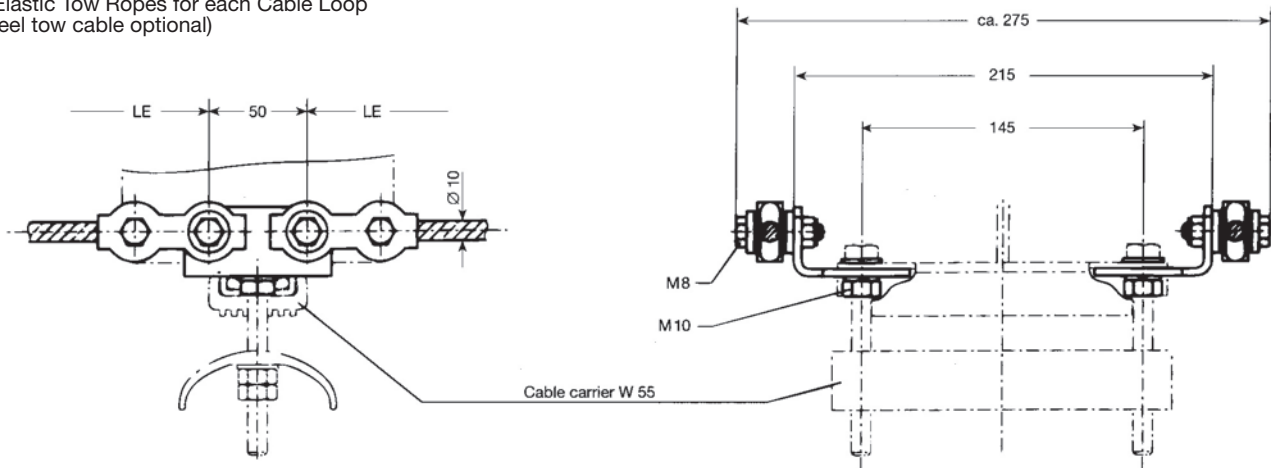
Type: ZE 2

2 Elastic Tow Ropes for each Cable Loop



Type: ZE 3

2 Elastic Tow Ropes for each Cable Loop
(steel tow cable optional)



Length of Tow Rope mm	Order- No.		
	ZE 1	ZE 2	ZE 3
1500 – 2000	346 416	346 427	346 438
2001 – 2500	346 417	346 428	346 439
2501 – 3000	346 418	346 429	346 440
3001 – 3500	346 419	346 430	346 441
3501 – 4000	346 420	346 431	346 442
4001 – 4500	346 421	346 432	346 443
4501 – 5000	346 422	346 433	346 444
5001 – 5500	346 423	346 434	346 445
5501 – 6000	346 424	346 435	346 446
6001 – 6500	346 425	346 436	346 447
6501 – 7000	346 426	346 437	346 448

Please specify with your order

Elastic Tow rope: Type

Length of rope LE: mm

Order- No.

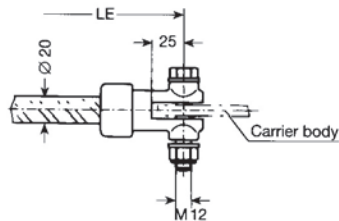
TENSION RELIEF

2.2. Material and Finish: Rope 20 mm Dia. complete, cut to suit the application, incl. attachments in stainless steel

Preferably used for Cable Carriers Type W 65 thru W 95. Job adapted Finish on request.

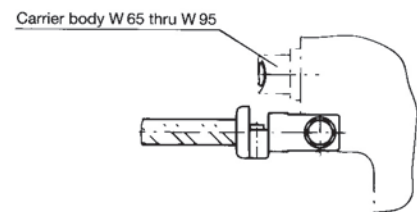
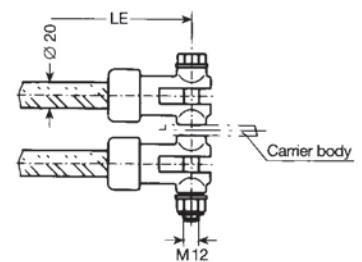
Type: ZE 5

1 Elastic Tow Rope for each Cable Loop



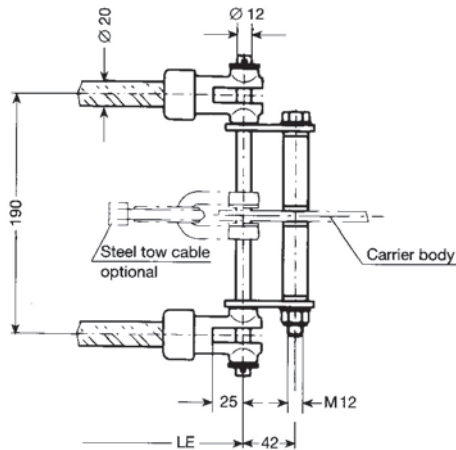
Type: ZE 6

2 Elastic Tow Ropes for each Cable Loop



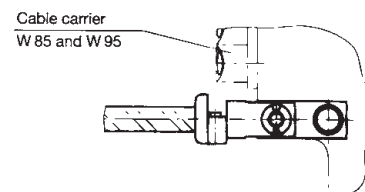
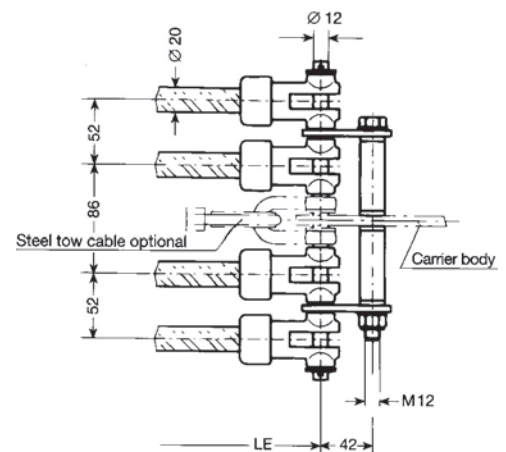
Type: ZE 7

2 Elastic Tow Ropes for each Cable Loop
(steel tow cable optional)



Type: ZE 8

4 Elastic Tow Ropes for each Cable Loop
(steel tow cable optional)



Length of Tow Rope mm	Order- No.			
	ZE 5	ZE 6	ZE 7	ZE 8
1500 – 2000	346 449	346 460	346 471	346 482
2001 – 2500	346 450	346 461	346 472	346 483
2501 – 3000	346 451	346 462	346 473	346 484
3001 – 3500	346 452	346 463	346 474	346 485
3501 – 4000	346 453	346 464	346 475	346 486
4001 – 4500	346 454	346 465	346 476	346 487
4501 – 5000	346 455	346 466	346 477	346 488
5001 – 5500	346 456	346 467	346 478	346 489
5501 – 6000	346 457	346 468	346 479	346 490
6001 – 6500	346 458	346 469	346 480	346 491
6501 – 7000	346 459	346 470	346 481	346 492

Please specify with your order

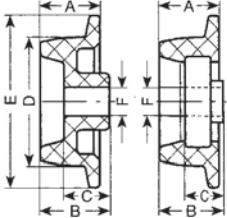
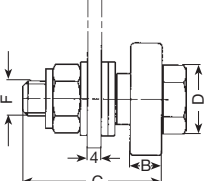
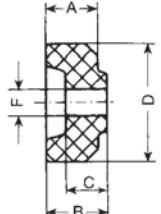
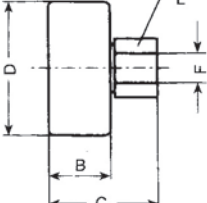
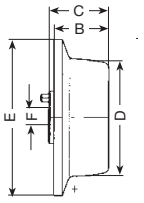
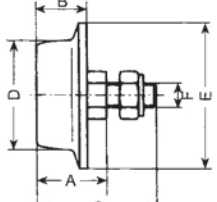
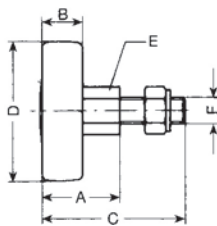
Elastic Tow rope: Type

Length of rope LE: mm

Order- No.

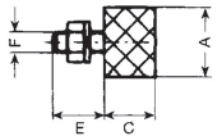
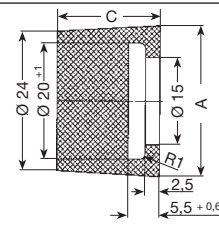
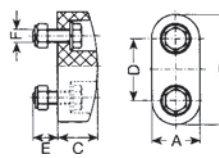
SPARE PARTS

1. Wheels

	for Cable carrier	Construction and Finish	Shape	Dimension mm						Weight kg	Order- No.	
				A	B	C	D	E	F			
	W 25-30 K WN-WE 35 WN-WE 40	Flanged polyamid wheel Ø 45/60 x 24,5 mm, bushed bearing	spherical	21	24,5	16	Ø 45	Ø 60	Ø 10	0,027	346 731	
		W 25 KL W 26 KL W 30 KL	Flanged polyamid wheel Ø 45/60 x 22,5 mm on sealed (2 RS) precision ball bearing	spherical	21	22,5	13.4	Ø 45	Ø 60	Ø 10	0,065	346 732
	W 45	Cyl. Kick-up Roller Steel, w/ precison ball bearings	cylindrical		9	40	Ø 32		M 10	0,040	348 709	
	W 55	Cyl. Kick-up Roller Ø 45 x 23,5 mm Polyamid, bushed bearing	cylindrical	20	23,5	16	Ø 45	–	M10	0,030	346 506	
	W 65 W 75 W 85 W 95	Cyl. Side and Kick-up Rollers Ø 45 x 21 mm Steel, w/ precision ball bearing (inner thread M 10)	cylindrical hardened steel	–	21	36	Ø 45	SW 17	M10 Thread Length 13 mm	0,200	346 507	
			cylindrical polyurethane covered							0,120	347 651	
	W 45	Cyl. wheel Ø 45/60 x 21 mm Steel, precision ball bearing, galvanized	spherical hardened steel		21	23	Ø 45	Ø 60	M10	0,240	348 708	
	W 30 S W 35 S W 40 S W 55	Cyl. wheel Ø 45/60 x 21 mm, Steel; w/ precision ball bearing, galvanized	spherical hardened steel	29	21	50	Ø 45	Ø 60	M10	0,250	344 750	
	W 65 W 75	Cyl. wheel, Ø 65/80 x 23 mm, Steel, galvanized, on sealed (2 RS), with sealed ball bearing.	galvanized	31,5	23	63	Ø 65	Ø 80	M12	0,520	346 509	
	W 65 W 75	Cyl. wheel, Ø 80 x 22 mm, Steel, galvanized, on sealed (2 RS), with sealed ball bearing.	spherical hardened steel	37	22	69	Ø 80	SW 19	M12	0,840	346 510	
			cylindrical, poly- urethane covered							0,450	346 511	
	W 85 W 95	Cyl. wheel, Ø 100 x 27 mm, Steel, galvanized equipped with precision ball bearing	spherical hardened steel	42	27	80	Ø 100	SW 24	M16	1,600	346 512	
			cylindrical, poly- urethane covered							1,020	346 513	

SPARE PARTS

2. Bumpers

	for Cable carriers	Construction and Finish	Dimension mm						Weight kg	Order- No.
			A	B	C	D	E	F		
	W 35 W 40	Neoprene Bumper Ø 20 x 15 mm compl. with hardware	Ø 20	–	15	–	15	M6	0,012	346 001
	W 45	EPDM	Ø 26		18				0,010	349 335
	W 55 W 65 W 75 W 85 W 95	Neoprene Bumper 30 x 68 x 25 mm compl. with hardware M 8 x 25	30	68	25	38	15	M8	0,090	346 137



Cable carrier at a container crane

INSTALLATION INFORMATION

I-Profil

1. Install I-beam track parallel with runway of equipment; the side clearance to be sufficient to avoid interference with swinging cables.
2. The support structure of the I-beam must be adequately designed for the anticipated loads. Smooth out welded joints to ensure smooth traversing of cable carriers.

The support of the I-beam has to take place according to the occurring load. The joints have to be carried out aligned. At the tread the welding seams have to be smoothed. den Laufflächen müssen die Schweißnähte geglättet werden.

Cable Carriers

Carriers type W 20 thru W 30

Installation procedure:

1. Lead carrier: The wheel set width (only W 30) have to be adjusted according to the I-beam.
2. Cable carrier: The wheel set width (only W 30) have to be adjusted according to the I-beam.
3. End clamp: Fixed to the lower flange of the I-beam.

4. Bumper (only W 30): Fixed at the bar of the I-beam.

5. Connecting of the lead carrier to the machinery: The towing arm – (approx. 25 thru 320 mm (dia.) by others) have to be installed that it fit into the center of the rectangular pipe of the lead carrier and the distance between end clamp at the runway and the lead carrier is not smaller than the storage distance.

Carriers type W 35, W 40

Installation procedure:

1. Cable carrier: The wheel set width have to be adjusted according to the I-beam.
2. End clamp: Fixed to the lower flange of the I-beam.
3. Bumper: Fixed at the bar of the I-Profile.

4. The lead carrier of the series W 35 and W 40 are not designed as carriers, but as free under the I-beam travelling units and are connected fix with the machinery over a boom (e.g. U-profile). The stopper have to be adjusted according to the I-beam. The arrangement of the boom can be seen on the dimensional drawing of the according cable carrier type.

Carriers type W 45 thru W 95

Installation procedure:

1. Cable carrier: Factory adjusted according to the I-beam.
2. End clamp: Fixed to the lower flange of the I-beam.
3. Lead carrier: The lead carriers of the series W 55 thru W 95, are not designed as carriers, but as free under the I-beam travelling units and are connected fix with the machinery over a boom (e.g. U-profile). The arrangement of the boom can be seen on the dimensional drawing of the according cable carrier type. The cable carriers of the series W 55 have in addition a bumper extension to cover bigger travel inaccuracy. It must be installed during installation at the first cable carrier behind the lead carrier.

ling units and are connected fix with the machinery over a boom (e.g. U-profile). The arrangement of the boom can be seen on the dimensional drawing of the according cable carrier type. The cable carriers of the series W 55 have in addition a bumper extension to cover bigger travel inaccuracy. It must be installed during installation at the first cable carrier behind the lead carrier.

Cables

The cables will be installed tight according to the cable arrangement drawing using terminal blocks on the support saddle. They are locked with counternuts.

During apply of the cables please note that the cable length (L) between end clamp and lead carrier will be installed with constant loop depth onto the carrier.

In the bottom peak of the loop is a distance of approx. 5-10 mm between the single cable layer necessary.

Cable loop clamps

Cable loop clamps serve in the loop to guide the cable. The number of clamps per loop is depending on loop depth, cable packet and assembly situation of the system. As a single clamp it will be installed in the lower peak of the loop. With more than one cable loop clamp they will be arranged staggered in the lower third of the loop. The installation could be done, depending on the cable packet, pendant or standing. (Picture = pendant)

The cables of the packet have to be clamped with approx. 2 mm air gap to the clamping screws.

To prevent damaging of the cables during use, the thread ends of the clamping screws don't have to protrude over the metal profile. (see Picture)

The cables which are guided through the clamp have to swing freely.

The cable loop clamps will be delivered with a clamping height of $HK = 5$ mm. With bigger clamping heights the clamping distance is reduced accordingly. To adjust the clamps correctly the spacers have to be removed. Distance reducing = Cable thickness – 5 mm.

Available reducing of the distance HG in mm: 2,5 / 5 / 10 / 12,5 / 15 / 20 / 22,5 / 25 (please refer to page 27).

Steel tow ropes

The lead of the cable carriers is supported by strain relief tow ropes. These have to be untwisted and fixed with a shackle to the cable carrier. The protection of the shackle is done with nut and split-pin or with a locknut.

Rubber tow ropes

Please refer to the installation instructions.

Pre-assembly

Cable carrier systems could be delivered pre-assembled on a installation support beam.

Please note: When the installation of the cable carrier system is made on a support beam, please note that heavy connecting length are intercepted and not load the particular cable carrier.

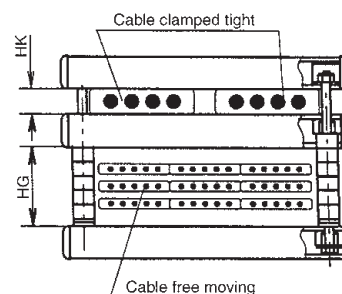
Test run

Check of the running characteristics of the cable carrier and the correct travel over the beam joints.

Maintenance

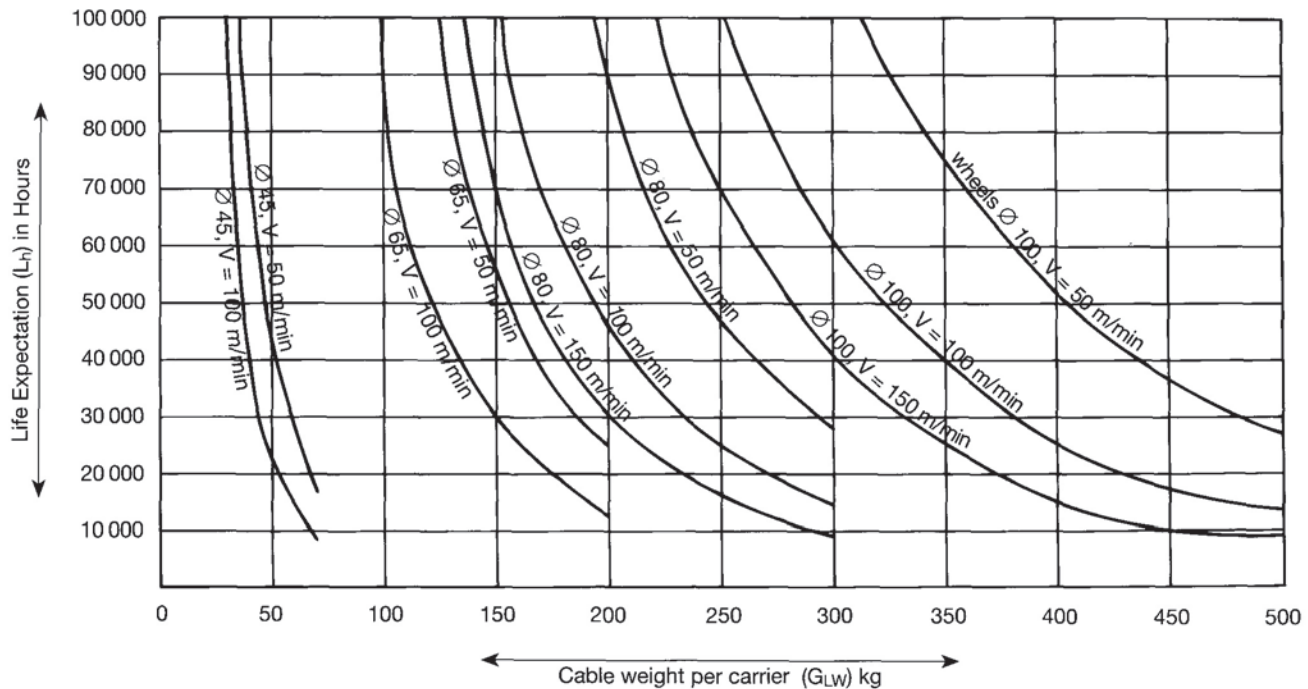
All rollers have a lifetime lubrication, a additional grease is not necessary. Approx. All three months the following controls have to be done:

1. Check – Wear of the rollers.
2. Check of all screws and nuts.
3. Check of the cable clamping at the cable carrier, lead carrier and the end clamp und counternuts of these screws.
4. Check of all cable loop clamps.
5. Check of all strain relief ropes and there fixings.
6. Check of all cables.



TYPICAL APPLICATION AND HOW TO ORDER

Analytical Life Expectation (L_H) of Wheel Bearings⁽¹⁾



Example for ordering

Application: Electrification for mobile stacker/reclaimer system

Cables:	2 Neoprene flat cables 4 x 35 mm ² 6 Neoprene flat cables 12 x 2,5 mm ² 3 Neoprene flat cables 8 x 1,5 mm ² , screened
Cable allowance for hookup (each end):	2 x 5 m
Working travel:	60 m
Loop depth:	3,0 m
Travel speed:	max. 30 m/min
I-Beam track:	INP 100

How to select the correct cable festoon system:

1. Draw a sketch of your cable package inside the window (clamping capacity) of your carrier and make a rough calculation of the cable weight per carrier.	
2. Specify cable carriers (see page 11)	W 55 F / 325 – 170 – B 175
3. Safety factor cable length (see page 35)	f = 1,15
4. Cable loops (diagram page 37)	n = 12
5. Storage distance (formula page 34)	SP = min. 4,250 m
6. Cable loop clamps required? (see page 27)	yes, 2 per cable loop
7. Tension relief required? (see page 28)	yes
Specify diameter of tow rope	Ø 6/8
Specify length of tow rope (formula page 34)	X = 5300 mm
8. Determine length of cable required (formula page 34)	$L_{total} = 84 \text{ m}$

Material to order:	Type	Order- No.
11 Cable carriers for I-Beam track INP 100	W 55 F/325 – 170 – B 175	346 124
1 Lead clamp	M 55 F/170 – 1 – B 175	346 144
1 Bumper extension	PV 55 – 2	346 149
1 Track clamp	E 55 F/325 – 170 – B 175	346 156
24 Cable loop clamps 18 x 117/35 x 127 mm	GIK 2 – Al	346 961
12 Tow ropes Ø 6/8 mm; X = 5300 mm	Z 4-PVC	346 387
2 x 84 m Neoprene flat cable – NGFLGöu-J	4 x 35 mm ²	330 770
6 x 84 m Neoprene flat cable – NGFLGöu-J	12 x 2,5 mm ²	330 720
3 x 84 m Neoprene flat cable – MCHöu-J	8 x 1,5 mm ²	331 374
2 Group connectors	FL 21	331 241

⁽¹⁾ Equivalent wheel load = 1/3 of the cable weight per carrier.

SYSTEM LAYOUT

Engineering data

Cable Specification

Travel distance	S =	m	Qty.	Type and Size of Cables	Dimensions mm Height x Width	Weight kg/m	Total weight kg/m
Travel speed	v =	m/min					
Acceleration	a =	m/s ²					
Loop depth	h =	m					
Storage distance	SP =	m					
Open space ⁽¹⁾	Z =	m					
Cable safety factor	f =						
Number of loops	n =						
Cable carrier	Type						
Length of carrier	l =	m					
Dia. Support saddle	D =	m					
Cable hookup length – track clamp side	l _e =	m					
Cable hookup length – lead clamp side	l _w =	m					
Length of tow rope	X =	m					
Projectin bumper	Y =	m	Total weight of all cables per meter G _L =				

Layout of the system

1. Number of loops (see diagram or formula)

$n = \frac{f \times S}{2 h - f \times l + 1,254 D} = \frac{x}{2 x - x + 1,254 x} =$		determined
---	--	------------

2. Loop depth (see diagram or formula)

$h = \frac{f}{2} \left(\frac{S}{n} + l \right) - 0,627 \times D = \frac{\quad}{2} \left(\frac{\quad}{\quad} + \quad \right) - 0,627 \times \quad = \quad \text{m}$
--

3. Storage distance (center track clamp to center lead clamp)

$SP = l(n - 1) + l_e + l_w + Z = (\quad) + \quad + \quad + \quad = \quad \text{m}$
--

4. Cable length

Cable length w/o hookup ends (Center end clamp thru center lead carrier) $L = (S + SP) \times f = (\quad + \quad) \times \quad = \quad \text{m}$
Hookup length – track clamp side $L_e = \quad \text{m}$
Hookup length – lead clamp side $L_w = \quad \text{m}$
Total cable length $L_{ges} = \quad \text{m}$

5. Cable weight per carrier

$G_{LW} = \frac{L}{n} \times G_L = \quad \times \quad = \quad \text{kg}$
--

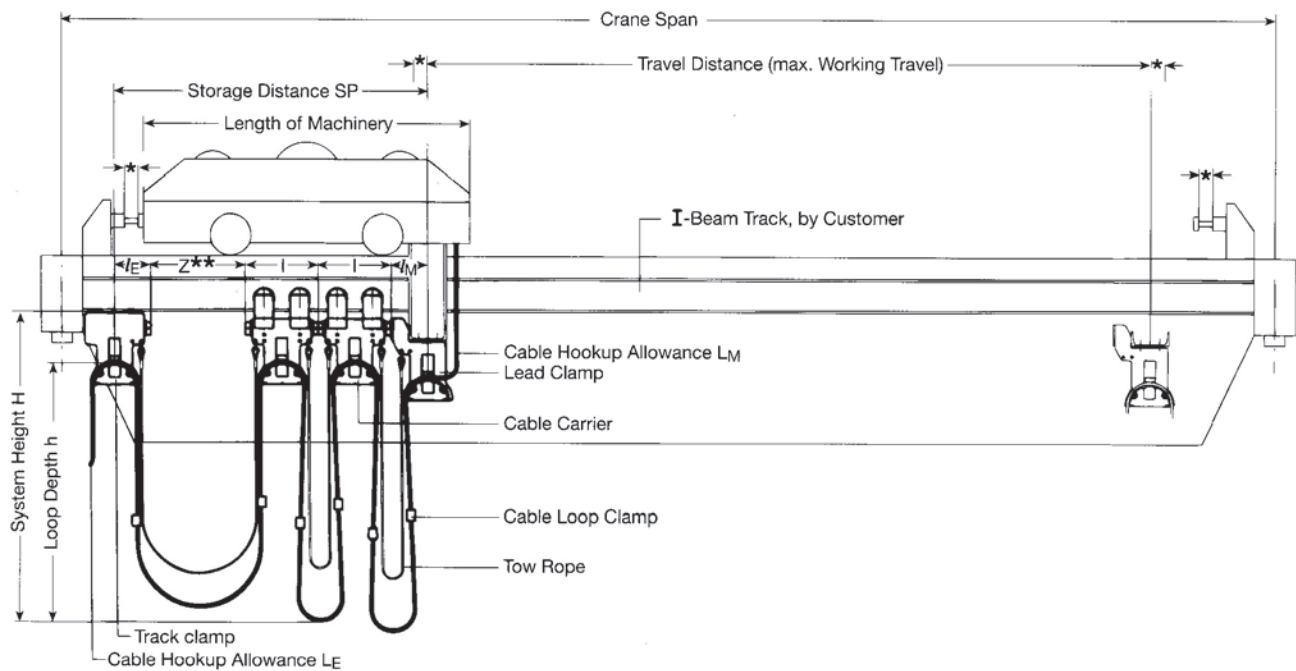
6. Length of tow rope

$X = \frac{S(f - 0,1) + Z}{n} + 2 Y = \frac{(\quad - 0,1) + \quad}{\quad} + 2 \times \quad = \quad \text{m}$
--

⁽¹⁾ (Free space (Z) must be available with stored crane bumper (emergency stop).

HOW TO DETERMINE

Number and Depth of Loops, Storage Distance, Cable Length, Number of Carriers



Cable Safety Length Directions

Travel speed	cable loop depth	safety factor
up to 35 m/min	more than 0,3 m	f = 1,1 (1,15 with tow ropes)
up to 50 m/min	up to 0,8 m	f = 1,15
up to 50 m/min	more than 0,8 m	f = 1,1 (1,15 with tow ropes)
up to 80 m/min	up to 0,8 m	f = 1,2
up to 80 m/min	more than 0,8 m	f = 1,15

For higher speed (> 80 m/min) and/or acceleration (> 0,3 m/s²) factors please consult factory.

Number of loops

$$n = \frac{f \times S}{2 h - f \times l + 1,254 D}$$

Cable loop depth

$$h = \frac{f}{2} \left(\frac{S}{n} + l \right) - 0,627 \times D$$

Storage distance

$$SP = l(n - 1) + l_E + l_M + Z$$

Cable length

(c/c track clamp – lead clamp without hookup ends)

$$L = (S + SP) \times f$$

Number of carriers

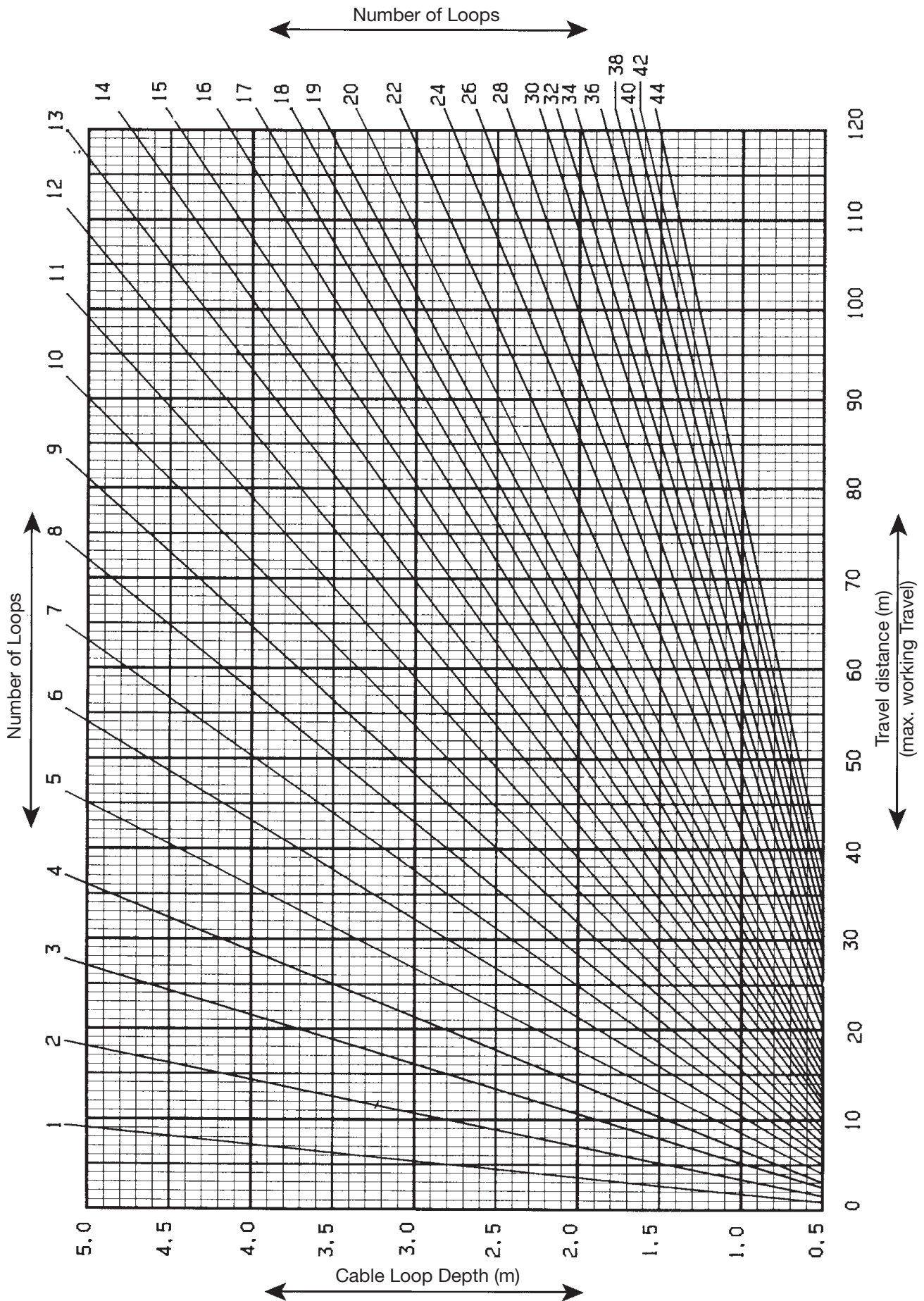
(w/o lead carrier and track clamp)

$$= n - 1$$

- S = travel distance (m)
- h = cable loop depth (m)
- SP = storage distance (m)
- Z = open space⁽²⁾
(min. one carrier length)
- n = number of loops
- l = length of carrier (m)
- D = diameter of support saddle(m)
- f = cable length safety factor
- l_E = cable hookup length – track clamp side (m)
- l_M = cable hookup length – lead clamp side (m)
- H = system height (m)

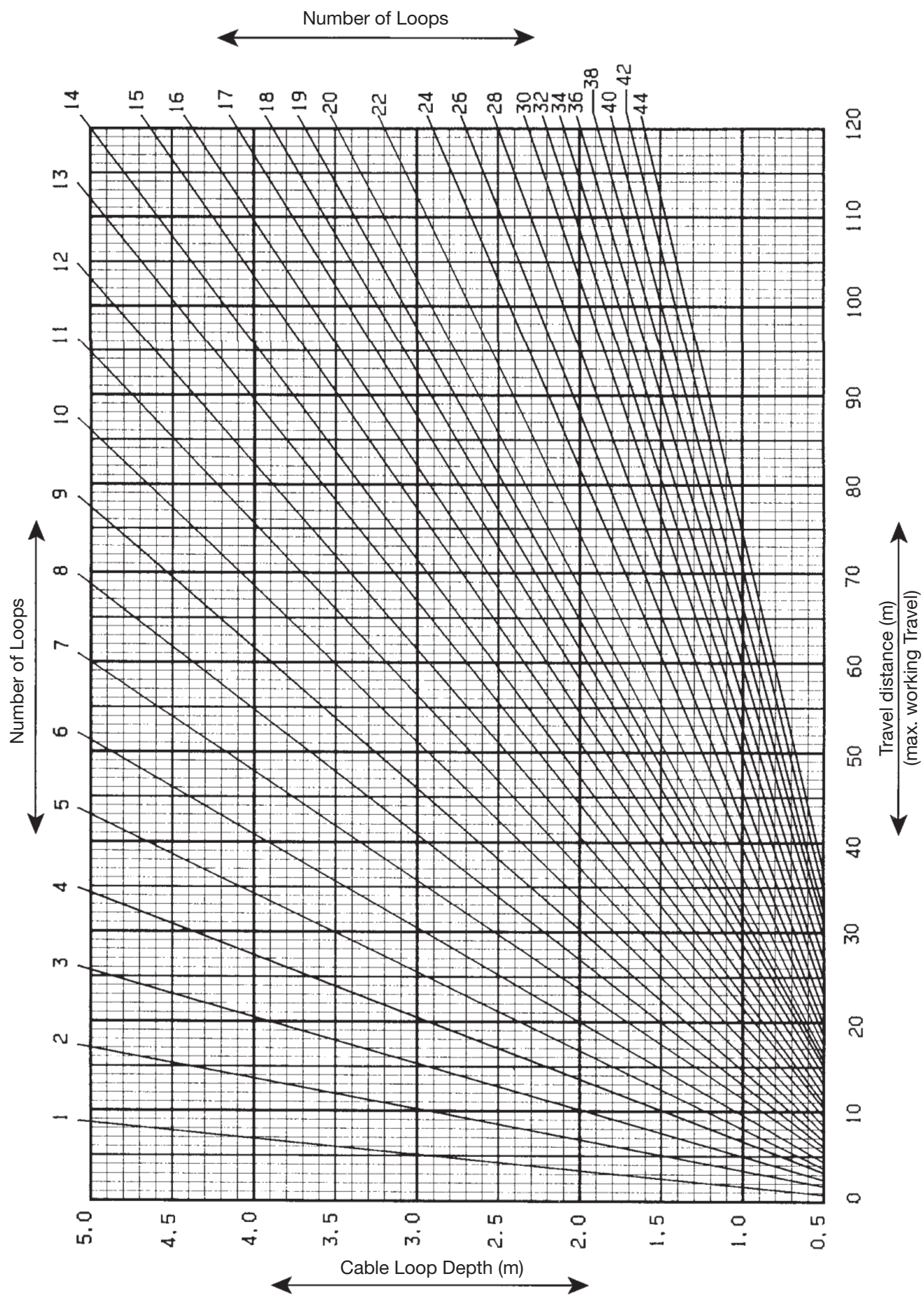
⁽²⁾ Free space (Z) must be available with stored crane bumper (emergency stop).

CABLE LOOPS



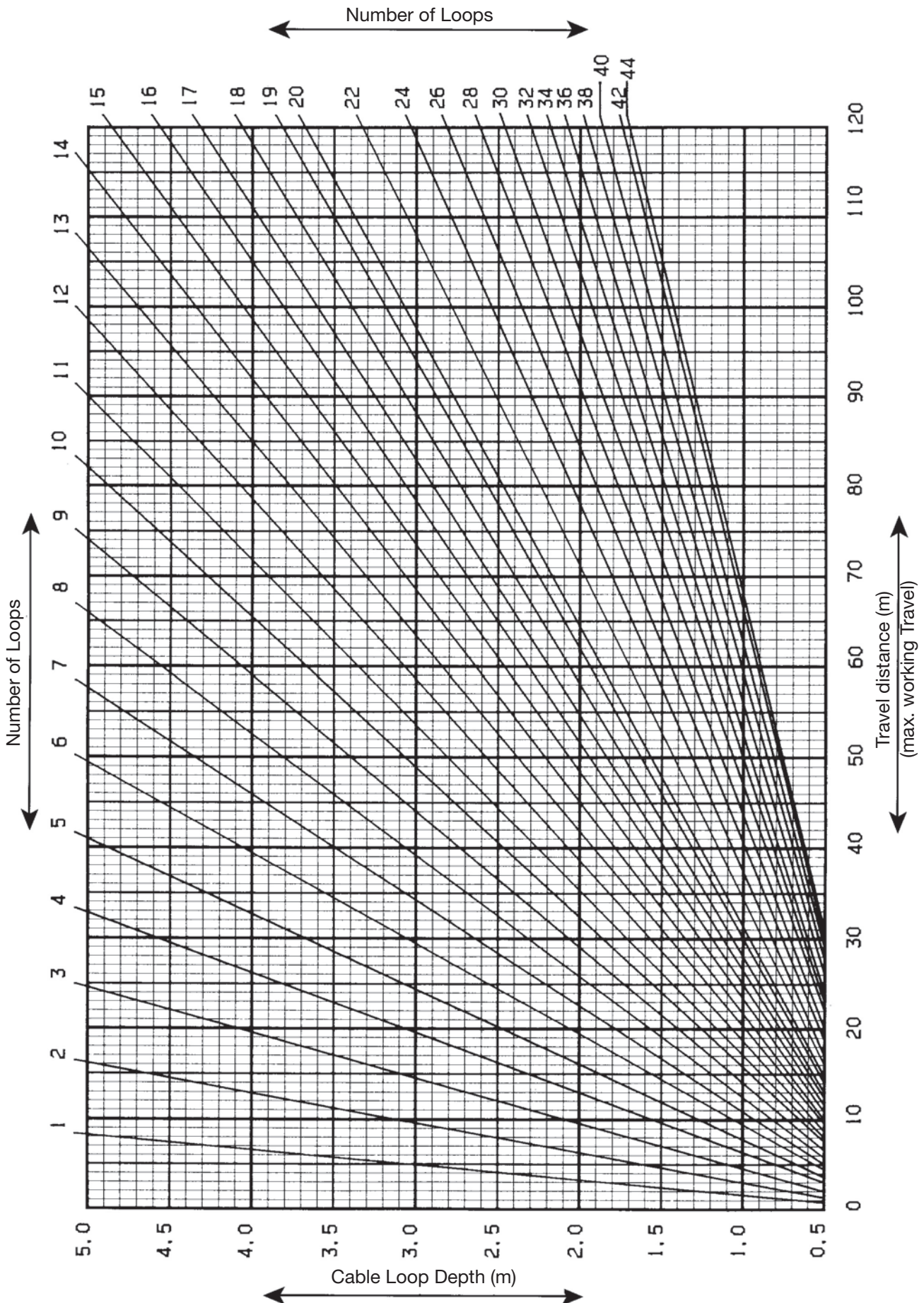
The diagram considers a cable safety length factor of $f = 1.1$

CABLE LOOPS



The diagram considers a cable safety length factor of $f = 1.15$

CABLE LOOPS



The diagram considers a cable safety length factor of $f = 1.2$



VAHLE, Inc.

407 Cane Island Parkway
Katy, Texas 77494, USA

Phone: +1 713.465.9796
Fax: +1 713.465.1851

sales.usa@vahle.com
www.vahle.com

You can find your local contact at:
www.vahle.com/contact