SPRING OPERATED CABLE REELS

VAHLE
ELECTRIFICATION SYSTEMS

Introduction

Our spring operated cable reels serve the industry for reliable electrification of equipment in motion; for automatic winding of flexible power- and control-cables. They fully meet VDE and other safety requirements.

Applications

include Portal- and Gantry Cranes, Dockside-, Ship- and Construction Cranes, Grabs and Magnets, Electric Hoists and other material handling -lifting -stacking and -storing equipment.

This comprehensive line of the finest reels is also a proven automatic cable and hose care taker in the following instances:

- VAHLE Reels on board ships or in the tropics.
- VAHLE Reels in aggressive environments (galvanizing plants, pickling lines, sewage treatment systems).
- VAHLE Reels in explosionproof versions (slipringless).
- VAHLE Reels for Control-, Signal- and Highfrequency-Transmission.
- VAHLE Reels for Air, Liquids and Gases (Hose Reels).
- VAHLE Reels for handling steel ropes in travel distance-tracking systems and for grab stability on heavy cranes (Tag Line Reels).
- VAHLE Reels for Curves and for Endless Monorails with special swivel base.
- VAHLE Reels of the Ratchet Type with a lock mechanism for multi level machine tools and for push-button pendants.
- VAHLE Reels for Flatform Cable (especially in the palette stacking and machine tool industry).
- VAHLE Reels in the Monospiral Version.

Vahle welcomes your inquiry on your particular application.

Electrical Properties of Sliprings

Standard sliprings are rated for 500 Volt AC and 600 Volt DC; Control Rings in block system for 230 Volts.
Collector Ring Ampere capacities are for 100% nominal rating.

Protection Code

Slipring enclosures are designed to IP 54; protected against harmful dust deposits and splash water proof per DIN 40050. Higher grade protection – available upon request.

Drive System

The Reel Drive is achieved via helical springs of high quality spring steel. Depending on the duty and type of service they will last about 100.000 working cycles.

Cable Payout

is normally following the technical information on pages 16 to 18 of this catalog.
Other requirements can be fulfilled; add suffix A in the type designation for opposite hand rotation.

Limit Switch Assemblies

for switching off travel and hoist motors with one or two safety windings on the reel are optional.

Accident Prevention

All moveable parts of the drive system, e.g. chaindrive are covered in accordance with the Accident Prevention Code. Therefore, the cable reels can be installed in work areas as well as traffic areas. Additional protective devices, such as a cover for the revolving reel body itself, are to be furnished and fitted at site.

Corrosion Protection

The all-steel construction of the VLF 146 to VLF 530 reel series is galvanized. All other reels come with one primer coat and one finishing paint of epoxy-resin RAL 7031 blue-gray varnish.

Installation Information

Installation instructions and operation manuals for commissioning advice and assistance are attached to each reel shipment and found in the slipring housing.

Reel Capability

max. speed of travel or lift application
v = 60 m/min.

max. travel acceleration
a = 0,2 m/sec^2

max. lift acceleration
a = 0,2 m/sec^2

Cable Length

Reels are designed to handle a certain type and length of cable in a specific manner. Never use reels for more cable than outlined in the selection charts.

The total cable length required results from maximum payout length plus reel installation height plus two safety windings plus free end length for connection.

Safety Advice

According to EEC-regulation 89/392/EWG rotating parts such as reel compartments must be protected against accidents.

Flexible Cable

Cable to be flexible, portable, generally neoprene jacketed or tough rubber sheathed – capable for the reel application and for handling the full operating load and electrical requirements.

Please refer to our Catalog No. 8 L for all cable data or contact your local VAHLE agent or the factory for proper recommendations.

Factors in selecting cable for reel use, considering motor currents, required wire sizes and allowable voltage drop (A. C.):

$$A = \frac{1{,}73 \cdot L \cdot IG \cdot \cos\varphi}{\Delta U \cdot \chi} \ (mm^2)$$

Legend to Formula:

A = Required Wire Size (Conductor Cross Section in sq. mm)
L = Total Cable Length (m)
IG = Total Ampere Load (Amps)
$\cos\varphi$ = Power Factor = approx. 0,8
χ = Conductor Conductivity (Copper = 56)
ΔU = Allowable Voltage Drop (Volts)

Cable selection and determining wire size ampacity, considering permissible temperature rise.

The reel selection charts are based on the cable data per table No. 1, indicating continuous ampacity for 3-conductor open air installation with an ambient temperature of 30° C.

Turn to table No. 2 for intermittent service factors and use derating table No. 3 for other ambient temperature.

The derating for multilayer service is shown in table No. 4. However, as many applications in practice do not have the cable fully spooled all the time, it is recommended to use an intermediate factor only.
Monospiral winding equals one-layer operation.

All ratings in table No. 1 are based on 3-conductor assemblies and must be derated for multiconductor service per table No. 5.

Table 1: Continuous cable ampacity for open air installation

Wire Size mm²	Ampere Capacity in Amps. max. permissible temp. at conductors 60° C	80° C
1,5	18	24
2,5	25	32
4	34	43
6	44	56
10	60	78
16	80	104
25	107	138
35	133	171
50	165	213

Table 2: Multiplier for intermittent service

Wire Size (mm²)	at intermittent duty cycle of 60%	40%	25%	15%
1,5	1,00	1,00	1,00	1,00
2,5	1,00	1,00	1,04	1,07
4	1,00	1,03	1,05	1,19
6	1,00	1,04	1,13	1,27
10	1,03	1,09	1,21	1,44
16	1,07	1,16	1,34	1,62
25	1,10	1,23	1,46	1,79
35	1,13	1,28	1,53	1,90
50	1,16	1,34	1,62	2,03

Table 3: Derating for other ambient temperature

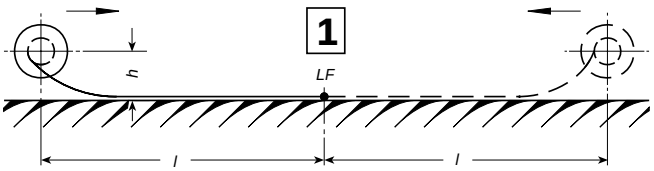
Ambient °C	Correction Factors 25	30	35	40	45	50	55	60	65	70	75
Cable for max. 60° C	1,08	1,00	0,91	0,82	0,71	0,58	0,41				
Cable for max. 80°C	1,05	1,00	0,95	0,89	0,84	0,77	0,71	0,63	0,55	0,45	0,32

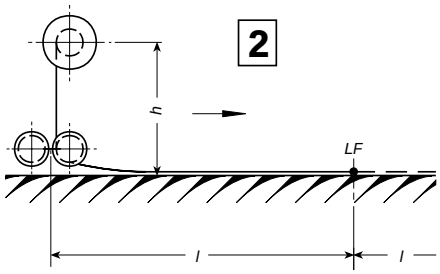
Table 4: Derating for multilayer service

No. of layers on reel	1	2	3	4
Multiplier	0,76	0,58	0,47	0,40

Table 5: Derating for multiconductor service

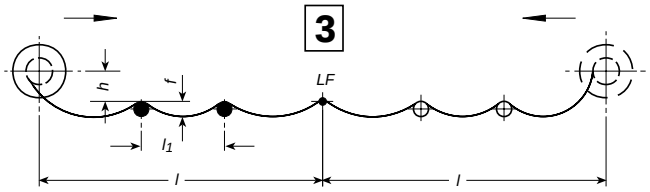
No. of Cond. in service	5	7	10	14	19	24	40
Multiplier	0,75	0,65	0,55	0,50	0,45	0,40	0,35

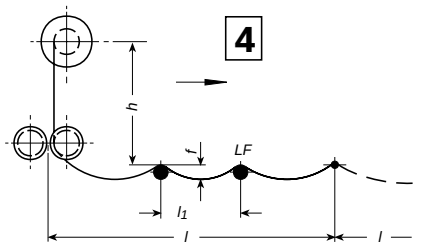




retrieve **retrieve lift**

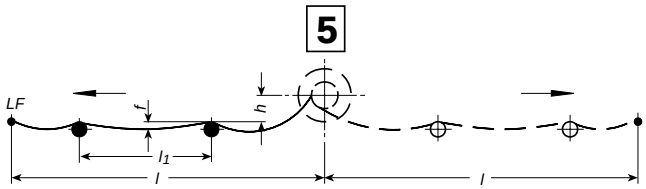
Reel is mounted on the moving equipment, winds and pays-out cable into a tray or other surface. One- or two-way payout.
The application becomes a modified retrieve lift when reel mounts more than 1.5 m above ground and uses double sheave guide.





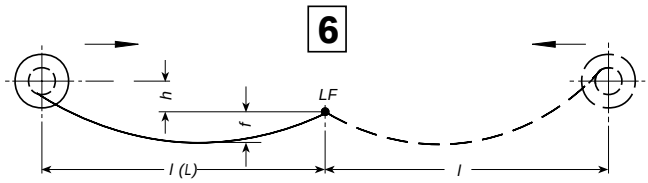
retrieve **retrieve lift**

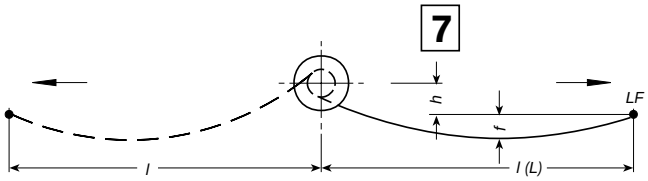
Much the same as above, however cable recovery from round support brackets or rollers at regular intervals;
l_1 for brackets max. 1 m, for rollers 1 up to 3 m.



drag

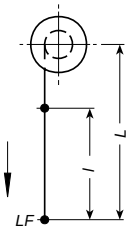
In this case the reel is stationary. Cable is dragged over round supports or rollers to and from the reel, in one or two directions ($l_1 \leqq 3$ m).

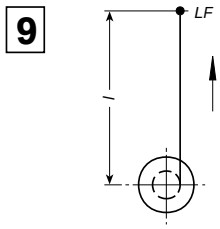




horizontal stretch with reel on moving equipment **horizontal stretch with stationary reel**

Cable is suspended horizontally in the air, supported only at both ends, allowing a standard sag (*f*) in relation to *l* or L whatever is longer.





vertical lift **vertical retrieve**

Reel is mounted above where cable is hoisted and payed-out vertically. Total cable length and weight plus any extra load (pushbutton station, etc.) must be considered. The latter does not apply to case 9 where the reel is located below rather than above.

Legend to Drawings:

- *l* = operational length of cable
- l_1 = support intervals
- L = max. length between reel and end of cable
- LF = feed point or connection to moving member
- h = height of reel above recovery surface
- *f* = cable sag

For applications 2, 4, 5 and reels beyond the listed capacities, please contact your local VAHLE representative or the factory.

Use the reel data form on pages 25/26 of this catalog.

Having all the facts will ensure determining of the best reel for your specific requirement.

MODEL EXPLANATION

Definition of ...

Reel Type

VLF 220 - 2 - 951H - 4 - 26

VLF 500 - 4 - 914 - 5 - 150

VLKG 700 - 6 - 915 - 4 - 220 - A

Reel Series

Drum Dia.

No. of Springs

Spring Series

No. of Poles incl. Ground

Amps

Suffix for opposite rotation

Selecting a VAHLE Cable Reel

To select the right Vahle Reel from the Reel Selection Charts you must know the application (see page 5), the length and the type of cable (wire size, number of conductors, outside diameter, weight per meter).

Legend to Selection Charts:

l = max. operational length of cable (see page 5)

L = max. length between reel and end of cable (see page 5)

h = max. height of reel above recovery surface (see page 5)

LZ = No. of layers on reel

n_v = Turns initial spring tension

n = max. operational and permissible turns for max. cable length „l“

Z = max. reel torque in newton (N)

f = max. cable sag in meters (see page 5)

Note:

A broad selection of springs provides many different torque combinations.
Initial spring tension n_v can be increased when reducing the max. cable length to be handled. However, never exceed the total permissible turns $n_v + n$.

l (m)	h (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 4 x 1,5 mm²			**Ø 12,0 mm**		**0,200 kg/m**		
6	0,5	1,5	VLF 146-1-908 -4- 26	4	12	25	902 010
6,5	0,5	1,6	VLF 146-2-908 -4- 26	2	14	40	902 011
10	0,5	2,2	VLF 146-2-908H -4- 26	1	14	25	902 012
12	0,5	2,1	VLF 180-1-931 -4- 26	2	18	55	902 020
22	0,5	3,5	VLF 180-2-931H -4- 26	6	32	55	902 022
24	1,0	3,2	VLF 220-2-951H -4- 26	6	30	60	902 102
36	1,0	2,5	VLF 300-2-952H -4- 26	3	36	100	902 291
52	1,5	2,0	VLF 420-2-983H -4- 36	6	38	140	902 402
60	1,5	2,2	VLF 420-2-953H -4- 36	8	43	110	902 401
75	1,5	1,8	VLF 530-2-985H -4- 36	6	44	120	903 780
Cable 4 x 2,5 mm²			**Ø 14,0 mm**		**0,290 kg/m**		
11	0,5	2,1	VLF 180-1-931 -4- 26	3	17	55	902 020
17	0,5	3,0	VLF 180-2-931H -4- 26	13	25	55	902 022
22	1,0	3,0	VLF 220-2-951H -4- 26	10	27	60	902 102
26	1,0	3,3	VLF 221-2-951H -4- 26	6	31	60	902 200
38	1,0	2,75	VLF 300-2-952H -4- 26	3	36	100	902 291
56	1,5	2,75	VLF 420-2-983H -4- 36	5	39	140	902 402
60	1,5	3,0	VLF 420-2-953H -4- 36	10	41	110	902 401
75	1,5	2,1	VLF 530-2-985H -4- 36	6	44	120	903 780
95	1,5	3,3	VLK 500-4-924 -4- 36	10	55	140	902 880
120	1,5	2,2	VLK 700-5-924 -4- 36	8	52	145	903 160
Cable 4 x 2,5 mm²			**Ø 18,0 mm**		**0,400 kg/m**		
8	0,5	2,0	VLF 180-2-931 -4- 26	6	12	105	902 021
13	1,0	2,7	VLF 220-1-951 -4- 26	4	15	60	902 100
22	1,0	3,2	VLF 221-2-991H -4- 26	5	25	100	902 201
32	1,0	3,1	VLF 300-2-952H -4- 26	10	29	100	902 291
33	1,5	1,9	VLF 420-1-953 -4- 36	3	23	110	902 400
52	1,5	2,8	VLF 420-2-983H -4- 36	9	35	140	902 402
58	1,5	3,2	VLF 420-2-953H -4- 36	12	39	110	902 401
75	1,5	2,7	VLF 530-2-985H -4- 36	8	42	120	903 780
85	1,5	3,8	VLK 500-3-914 -4- 36	8	48	110	902 871
100	1,5	3,1	VLK 503-3-924 -4- 36	10	57	110	903 030
Cable 4 x 4 mm²			**Ø 16,5 mm**		**0,390 kg/m**		
12	0,5	2,5	VLF 180-2-931 -4- 40	3	17	105	902 030
13	1,0	2,4	VLF 220-1-951 -4- 40	4	15	60	902 110
22	1,0	3,0	VLF 221-2-991H -4- 40	5	25	100	902 211
32	1,0	2,7	VLF 300-2-952H -4- 40	10	29	100	902 302
33	1,5	1,7	VLF 420-1-953 -4- 42	3	23	110	902 410
52	1,5	2,6	VLF 420-2-983H -4- 42	9	35	140	902 413
58	1,5	2,8	VLF 420-2-953H -4- 42	12	39	110	902 411
75	1,5	2,4	VLF 530-2-985H -4- 42	8	42	120	903 781
85	1,5	3,2	VLK 500-3-914 -4- 42	8	48	110	902 890
100	1,5	2,8	VLK 503-3-924 -4- 42	10	57	110	903 040
Cable 4 x 4 mm²			**Ø 20 mm**		**0,520 kg/m**		
12	1,0	2,8	VLF 220-1-951 -4- 40	6	13	60	902 110
14	1,0	2,8	VLF 221-2-951 -4- 40	2	17	100	902 210
17	1,0	3,0	VLF 221-2-991H -4- 40	6	21	80	902 211
19	1,0	2,1	VLF 300-1-952 -4- 40	2	18	100	902 300
23	1,0	2,5	VLF 300-1-992 -4- 40	3	21	80	902 303
32	1,0	3,2	VLF 300-2-952H -4- 40	4	30	100	902 302
35	1,5	2,2	VLF 420-1-953 -4- 42	2	24	110	902 410
58	1,5	3,3	VLF 420-2-983H -4- 42	6	38	140	902 413
68	1,5	3,8	VLF 421-2-953H -4- 42	7	44	110	902 529
72	1,5	5,0	VLK 380-3-924 -4- 42	9	48	110	902 792
84	1,5	4,0	VLK 500-3-914 -4- 42	7	46	120	902 890
95	1,5	4,5	VLK 500-4-914 -4- 42	6	51	140	902 891
115	1,5	3,0	VLK 700-4-924 -4- 42	7	48	150	903 170
125	1,5	3,3	VLKG 700-6-914 -4- 42	8	52	150	903 360

l (m)	h (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 4 x 6 mm²			**Ø 21,0 mm**		**0,600 kg/m**		
8	1,0	2,0	VLF 220-1-951 -4- 60	9	10	60	902 120
10	1,0	2,4	VLF 220-1-991 -4- 60	4	11	80	902 121
14	1,0	2,7	VLF 221-2-951 -4- 60	2	17	100	902 220
18	1,0	2,2	VLF 300-1-952 -4- 60	3	17	100	902 310
22	1,0	2,7	VLF 300-1-992 -4- 60	3	21	80	902 314
28	1,0	3,2	VLF 300-2-952H -4- 60	14	25	100	902 312
30	1,5	2,0	VLF 420-1-983 -4- 60	2	20	140	902 423
35	1,5	2,4	VLF 420-1-953 -4- 60	2	24	110	902 420
55	1,5	3,5	VLF 420-2-983H -4- 60	8	36	140	902 425
60	1,5	3,7	VLF 420-2-953H -4- 60	12	39	110	902 422
67	1,5	2,8	VLF 530-2-986H -4- 60	4	36	220	903 783
80	1,5	3,9	VLK 530-3-914 -4- 60	10	43	120	902 900
90	1,5	4,3	VLK 500-4-914 -4- 60	8	47	150	902 910
110	1,5	3,1	VLK 700-4-925 -4- 60	8	47	150	903 180
120	1,5	3,3	VLKG 700-6-914 -4- 60	9	51	150	903 370
Cable 4 x 10 mm²			**Ø 25,5 mm**		**1,030 kg/m**		
18	1,0	2,5	VLF 300-2-952 -4- 60	4	16	200	902 311
30	1,5	2,3	VLF 420-2-983 -4- 60	3	19	250	902 424
35	1,5	2,6	VLF 420-2-953 -4- 60	4	22	200	902 421
45	1,5	3,3	VLF 421-2-983H -4- 60	15	28	140	902 531
50	1,5	3,8	VLF 421-2-953H -4- 60	18	33	110	902 530
66	1,5	3,0	VLF 530-2-986H -4- 60	6	34	220	903 783
80	1,5	3,5	VLK 503-4-914 -4- 60	7	42	150	903 050
110	1,5	3,6	VLKG 700-6-914 -4- 60	9	43	160	903 370
Cable 4 x 16 mm²			**Ø 30,5 mm**		**1,430 kg/m**		
30	1,5	2,8	VLF 420-2-983 -4- 150	3	19	250	902 430
36	1,5	3,2	VLF 421-2-953 -4- 150	4	22	200	902 540
43	1,5	2,5	VLF 530-2-985 -4- 150	2	22	240	903 784
50	1,5	3,6	VLK 500-4-903 -4- 150	10	26	190	902 920
65	1,5	3,1	VLK 503-4-914 -4- 150	6	34	210	903 060
80	1,5	3,1	VLK 700-4-925 -4- 150	12	32	200	903 190
100	1,5	3,5	VLKG 700-6-925 -4- 150	8	39	270	903 380
Cable 4 x 25 mm²			**Ø 35,0 mm**		**2,050 kg/m**		
33	1,5	2,3	VLF 530-2-986 -4- 150	3	17	440	903 785
44	1,5	3,0	VLF 530-2-985 -4- 150	2	22	240	903 784
60	1,5	3,5	VLK 503-4-914 -4- 150	12	30	200	903 060
70	1,5	3,0	VLKG 700-6-915 -4- 150	10	26	280	903 381
90	1,5	3,9	VLKG 700-6-975 -4- 150	6	34	240	903 382
Cable 4 x 35 mm²			**Ø 39,5 mm**		**2,680 kg/m**		
35	1,5	2,5	VLF 530-2-986 -4- 150	3	17	440	903 785
42	1,5	2,8	VLK 503-4-903 -4- 150	10	22	220	903 061
60	1,5	3,8	VLKG 503-6-914 -4- 150	12	30	200	903 320
70	1,5	3,3	VLKG 700-6-915 -4- 150	10	26	280	903 381
79	1,5	3,6	VLKG 700-6-975 -4- 150	11	29	250	903 382
Cable 4 x 50 mm²			**Ø 46,0 mm**		**3,600 kg/m**		
36	1,5	2,8	VLK 503-4-915 -4- 220	10	18	280	903 070
44	1,5	2,6	VLKG 700-6-915 -4- 220	8	17	400	903 390
53	1,5	3,0	VLKG 700-6-975 -4- 220	8	20	400	903 391

l (m)	h (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 5 x 1,5 mm²			**Ø 15,0 mm**		**0,320 kg/m**		
11	0,5	2,1	VLF 180-1-931 -5- 26	3	17	55	902 040
15	0,5	3,0	VLF 180-2-931H -5- 26	13	25	55	902 042
22	1,0	3,0	VLF 220-2-951H -5- 26	10	27	60	902 132
26	1,0	3,3	VLF 221-2-951H -5- 26	6	31	60	902 230
38	1,0	2,8	VLF 300-2-952H -5- 26	3	36	100	902 322
56	1,5	2,8	VLF 420-2-983H -5- 36	5	39	140	902 443
60	1,5	3,0	VLF 420-2-953H -5- 36	10	41	110	902 441
75	1,5	2,2	VLF 530-2-985H -5- 36	6	44	120	903 786
Cable 5 x 2,5 mm²			**Ø 18,6 mm**		**0,370 kg/m**		
12	0,5	2,5	VLF 180-2-931 -5- 26	3	17	105	902 041
13	1,0	2,4	VLF 220-1-951 -5- 26	4	15	60	902 130
22	1,0	3,0	VLF 221-2-991H -5- 26	5	25	100	902 231
32	1,0	2,7	VLF 300-2-952H -5- 26	10	29	100	902 322
33	1,5	1,7	VLF 420-1-953 -5- 36	3	23	110	902 440
52	1,5	2,6	VLF 420-2-983H -5- 36	9	35	140	902 443
58	1,5	2,8	VLF 420-2-953H -5- 36	12	39	110	902 441
78	1,5	2,3	VLF 530-2-985H -5- 36	6	44	120	903 786
85	1,5	3,2	VLK 500-3-914 -5- 36	8	48	110	902 930
100	1,5	2,8	VLK 503-3-924 -5- 36	10	57	110	903 080
Cable 5 x 4 mm²			**Ø 20,0 mm**		**0,640 kg/m**		
8	0,5	2,0	VLF 180-2-931 -5- 40	6	12	105	902 050
13	1,0	2,7	VLF 220-1-951 -5- 40	4	15	60	902 140
22	1,0	3,2	VLF 221-2-991H -5- 40	5	25	100	902 240
32	1,0	3,1	VLF 300-2-952H -5- 40	10	29	100	902 331
33	1,5	1,9	VLF 420-1-953 -5- 42	3	23	110	902 450
52	1,5	2,8	VLF 420-2-983H -5- 42	9	35	140	902 453
58	1,5	3,2	VLF 420-2-953H -5- 42	12	39	110	902 451
75	1,5	2,7	VLF 530-2-985H -5- 42	8	42	120	903 787
85	1,5	3,8	VLK 500-3-914 -5- 42	8	48	110	902 940
100	1,5	3,1	VLK 503-3-924 -5- 42	10	57	110	903 090
Cable 5 x 6 mm²			**Ø 21,5 mm**		**0,760 kg/m**		
8	1,0	2,0	VLF 220-1-951 -5- 60	9	10	100	902 150
10	1,0	2,4	VLF 220-1-991 -5- 60	4	11	80	902 151
14	1,0	2,7	VLF 221-2-951 -5- 60	2	17	100	902 250
18	1,0	2,2	VLF 300-1-952 -5- 60	3	17	100	902 340
22	1,0	2,7	VLF 300-1-992 -5- 60	3	21	80	902 343
28	1,0	3,2	VLF 300-2-952H -5- 60	14	25	100	902 342
30	1,5	2,0	VLF 420-1-983 -5- 60	2	20	140	902 463
35	1,5	2,4	VLF 420-1-953 -5- 60	2	24	110	902 460
55	1,5	3,5	VLF 420-2-983H -5- 60	8	36	140	902 465
60	1,5	3,7	VLF 420-2-953H -5- 60	12	39	110	902 462
67	1,5	2,8	VLF 530-2-985H -5- 60	4	36	220	903 789
80	1,5	3,9	VLK 500-3-914 -5- 60	10	43	120	902 950
90	1,5	4,3	VLK 500-4-914 -5- 60	8	47	150	902 951
110	1,5	3,1	VLK 700-4-925 -5- 60	8	47	150	903 200
120	1,5	3,3	VLKG 700-6-914 -5- 60	9	51	150	903 400
Cable 5 x 10 mm²			**Ø 27,5 mm**		**1,300 kg/m**		
18	1,0	2,6	VLF 300-2-952 -5- 60	5	15	200	902 341
30	1,5	2,6	VLF 420-2-983 -5- 60	3	19	250	902 464
35	1,5	2,9	VLF 420-2-953 -5- 60	4	22	200	902 461
45	1,5	3,5	VLF 421-2-983H -5- 60	15	27	140	902 551
50	1,5	3,9	VLF 421-2-953H -5- 60	20	30	110	902 550
66	1,5	3,0	VLF 530-2-986H -5- 60	6	34	220	903 791
80	1,5	3,7	VLK 503-4-914 -5- 60	7	42	150	903 100
110	1,5	3,8	VLKG 700-6-914 -5- 60	9	43	160	903 400

l (m)	h (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 5 x 16 mm²			**Ø 31,5 mm**		**1,680 kg/m**		
30	1,5	2,8	VLF 420-2-983 -5- 150	3	19	250	902 470
36	1,5	3,2	VLF 421-2-953 -5- 150	4	22	200	902 560
43	1,5	2,7	VLF 530-2-985 -5- 150	2	22	240	903 792
50	1,5	3,6	VLK 500-4-903 -5- 150	10	26	190	902 960
65	1,5	3,4	VLK 503-4-914 -5- 150	6	34	210	903 110
80	1,5	3,2	VLK 700-4-925 -5- 150	12	32	200	903 210
100	1,5	3,8	VLKG 700-6-925 -5- 150	8	39	270	903 410
Cable 5 x 25 mm²			**Ø 37,0 mm**		**2,470 kg/m**		
34	1,5	2,5	VLF 530-2-986 -5- 150	6	18	440	903 793
44	1,5	3,0	VLF 530-2-985 -5- 150	2	22	240	903 792
60	1,5	3,5	VLKG 503-6-914 -5- 150	12	30	200	903 335
70	1,5	3,2	VLKG 700-6-915 -5- 150	9	27	280	903 411
79	1,5	3,6	VLKG 700-6-975 -5- 150	10	30	250	903 412
Cable 7 x 1,5 mm²			**Ø 18,5 mm**		**1,200 kg/m**		
8	0,5	2,0	VLF 180-2-931 -7- 26	6	12	105	902 055
13	1,0	2,7	VLF 220-1-951 -7- 26	4	15	60	902 160
22	1,0	3,2	VLF 221-2-991H -7- 26	5	25	100	902 261
32	1,0	3,1	VLF 300-2-952H -7- 26	10	29	100	902 352
33	1,5	1,9	VLF 420-1-953 -7- 36	3	23	110	902 480
52	1,5	2,8	VLF 420-2-983H -7- 36	9	35	140	902 484
58	1,5	3,2	VLF 420-2-953H -7- 36	12	39	110	902 481
75	1,5	2,6	VLF 530-2-985H -7- 36	8	42	120	903 794
Cable 7 x 2,5 mm²			**Ø 21,5 mm**		**0,710 kg/m**		
8	1,0	2,2	VLF 220-2-951 -7- 26	9	10	100	902 161
10	1,0	2,6	VLF 220-2-991 -7- 26	4	11	140	902 162
14	1,0	2,8	VLF 221-2-951 -7- 26	3	16	100	902 260
18	1,0	2,2	VLF 300-1-952 -7- 26	4	16	100	902 350
22	1,0	2,6	VLF 300-2-992 -7- 26	4	20	140	902 353
28	1,0	3,2	VLF 300-2-952H -7- 26	15	24	100	902 352
30	1,5	2,1	VLF 420-1-983 -7- 36	2	20	140	902 482
35	1,5	2,5	VLF 420-1-953 -7- 36	2	24	110	902 480
55	1,5	3,6	VLF 420-2-983H -7- 36	9	35	140	902 484
60	1,5	3,8	VLF 420-2-953H -7- 36	13	38	110	902 481
67	1,5	3,0	VLF 530-2-986H -7- 36	4	36	220	903 796
80	1,5	4,1	VLK 500-3-914 -7- 36	10	43	120	902 970
90	1,5	4,5	VLK 500-4-914 -7- 36	8	47	140	902 971
Cable 8 x 2,5 mm²			**Ø 20,0 mm**		**0,650 kg/m**		
8	1,0	2,1	VLF 220-2-951 -8- 26	9	10	100	902 170
10	1,0	2,4	VLF 220-2-991 -8- 26	3	12	140	902 171
14	1,0	2,6	VLF 221-2-951 -8- 26	3	16	100	902 270
18	1,0	2,1	VLF 300-1-952 -8- 26	3	17	100	902 360
22	1,0	2,5	VLF 300-2-992 -8- 26	4	20	140	902 363
28	1,0	3,0	VLF 300-2-952H -8- 26	14	25	100	902 362
29	1,5	2,0	VLF 420-1-983 -8- 36	2	20	140	902 492
35	1,5	2,3	VLF 420-1-953 -8- 36	2	24	110	902 490
55	1,5	3,3	VLF 420-2-983H -8- 36	8	36	140	902 494
60	1,5	3,6	VLF 420-2-953H -8- 36	12	39	110	902 491
67	0,9	2,6	VLF 530-2-986H -8- 36	4	36	220	903 798
80	1,5	3,8	VLK 500-3-914 -8- 36	9	44	120	902 980
90	1,5	4,2	VLK 500-4-914 -8- 36	6	49	140	902 981

l (m)	h (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 12 x 1,5 mm²			**Ø 21,5 mm**		**0,660 kg/m**		
8	1,0	2,2	VLF 220-2-951 -12- 26	9	10	100	902 180
10	1,0	2,6	VLF 220-2-991 -12- 26	4	11	140	902 181
13	1,0	2,8	VLF 221-2-951 -12- 26	4	15	100	902 280
18	1,0	2,2	VLF 300-1-952 -12- 26	4	16	100	902 370
22	1,0	2,6	VLF 300-2-992 -12- 26	4	20	140	902 374
28	1,0	3,2	VLF 300-2-952H -12- 26	15	24	100	902 372
33	1,5	2,4	VLF 420-1-953 -12- 36	3	23	110	902 500
54	1,5	3,5	VLF 420-2-983H -12- 36	9	35	140	902 504
60	1,5	3,8	VLF 420-2-953H -12- 36	13	38	110	902 502
67	1,5	2,7	VLF 530-2-986H -12- 36	4	36	220	903 800
80	1,5	4,1	VLK 500-3-914 -12- 36	10	43	120	902 990
88	1,5	4,4	VLK 500-4-914 -12- 36	9	46	140	902 991
Cable 12 x 2,5 mm²			**Ø 26,5 mm**		**0,900 kg/m**		
18	1,0	2,6	VLF 300-2-952 -12- 26	5	15	200	902 371
29	1,5	2,5	VLF 420-2-983 -12- 36	4	18	250	902 503
35	1,5	2,9	VLF 420-2-953 -12- 36	4	22	200	902 501
45	1,5	3,5	VLF 421-2-983H -12- 36	15	27	140	902 571
50	1,5	3,9	VLF 421-2-953H -12- 36	20	30	110	902 570
66	1,5	3,0	VLF 530-2-986H -12- 36	6	34	220	903 800
78	1,5	3,6	VLK 503-4-914 -12- 36	8	41	150	903 120
108	1,5	3,7	VLKG 700-6-914 -12- 36	10	42	160	903 420
Cable 18 x 2,5 mm²			**Ø 29,5 mm**		**1,200 kg/m**		
30	1,5	2,8	VLF 420-2-983 -18- 36	3	19	250	902 510
36	1,5	3,2	VLF 421-2-953 -18- 36	4	22	200	902 580
43	1,5	2,7	VLF 530-2-985 -18- 36	2	22	240	903 801
50	1,5	3,6	VLK 500-4-903 -18- 36	10	26	190	903 000
62	1,5	3,2	VLK 503-4-914 -18- 36	7	33	210	903 130
80	1,5	3,2	VLK 700-4-925 -18- 36	12	32	200	903 220
95	1,5	3,7	VLKG 700-6-925 -18- 36	9	40	270	903 430
Cable 24 x 1,5 mm²			**Ø 28,0 mm**		**1,100 kg/m**		
18	1,0	2,6	VLF 300-2-952 -24- 36	5	15	180	902 380
27	1,5	2,5	VLF 420-2-983 -24- 36	5	17	225	902 521
33	1,5	2,8	VLF 420-2-953 -24- 36	5	21	180	902 520
45	1,5	3,5	VLF 421-2-983H -24- 36	15	27	125	902 591
50	1,5	3,9	VLF 421-2-953H -24- 36	20	30	100	902 590
66	1,5	3,0	VLF 530-2-986H -24- 36	6	34	220	903 804
75	1,5	3,5	VLK 503-4-914 -24- 36	9	40	135	903 140
105	1,5	3,7	VLKG 700-6-914 -24- 36	11	41	145	903 440
Cable 24 x 2,5 mm²			**Ø 34,5 mm**		**1,650 kg/m**		
33	1,5	2,4	VLF 530-2-986 -24- 36	3	17	440	903 803
42	1,5	2,7	VLK 500-4-903 -24- 36	10	22	200	903 024
60	1,5	3,5	VLK 503-4-914 -24- 36	12	30	180	903 140
70	1,5	3,2	VLKG 700-6-915 -24- 36	9	27	250	903 441
79	1,5	3,6	VLKG 700-6-975 -24- 36	10	30	225	903 442
Cable 30 x 2,5 mm²			**Ø 39,0 mm**		**2,110 kg/m**		
35	1,5	2,5	VLF 530-2-986 -30- 36	3	17	440	903 805
42	1,5	2,8	VLK 500-4-903 -30- 36	10	22	200	903 022
60	1,5	3,8	VLKG 503-6-914 -30- 36	12	30	190	903 352
70	1,5	3,3	VLKG 700-6-915 -30- 36	10	26	250	903 450
76	1,5	3,5	VLKG 700-6-975 -30- 36	12	28	255	903 451

l (m)	h (m)	~ f (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 4 x 1,5 mm²				**Ø 12,0 mm**		**0,200 kg/m**		
6,5	1,5	0,30	1,6	VLF 146-2-908 -4- 26	2	14	40	902 011
11	1,5	0,65	1,5	VLF 180-1-931 -4- 26	3	17	55	902 020
12	1,5	0,40	2,1	VLF 180-2-931 -4- 26	2	18	105	902 021
24	1,5	1,70	3,2	VLF 220-2-991H -4- 26	9	29	100	902 103
36	1,5	3,80	3,2	VLF 300-2-952H -4- 26	3	36	100	902 291
Cable 4 x 2,5 mm²				**Ø 14,0 mm**		**0,290 kg/m**		
11	1,5	0,95	2,1	VLF 180-1-931 -4- 26	3	17	55	902 020
13	1,5	0,70	2,3	VLF 220-2-951 -4- 26	2	17	100	902 101
20	1,5	1,70	3,2	VLF 221-2-991H -4- 26	6	24	100	902 201
20	1,5	1,75	2,0	VLF 300-2-992 -4- 26	2	22	200	902 292
30	1,5	2,30	1,5	VLF 420-2-983H -4- 36	16	33	140	902 402
Cable 4 x 2,5 mm²				**Ø 18,0 mm**		**0,400 kg/m**		
8	1,5	0,35	2,0	VLF 180-2-931 -4- 26	6	12	105	902 021
13	1,5	1,00	2,7	VLF 220-2-951 -4- 26	4	15	100	902 101
18	1,5	1,90	3,5	VLF 220-2-991H -4- 26	10	20	100	902 103
24	1,5	2,40	2,0	VLF 300-2-992 -4- 26	2	22	200	902 292
Cable 4 x 4 mm²				**Ø 16,5 mm**		**0,390 kg/m**		
12	1,5	0,80	2,5	VLF 180-2-931 -4- 40	3	17	105	902 030
13	1,5	1,00	2,4	VLF 220-2-951 -4- 40	4	15	100	902 111
29	1,5	2,50	2,3	VLF 300-2-952 -4- 40	5	17	200	902 301
Cable 4 x 4 mm²				**Ø 20,0 mm**		**0,520 kg/m**		
10	1,5	0,55	2,4	VLF 220-2-991 -4- 40	3	12	140	902 113
12	1,5	1,10	2,8	VLF 220-2-951 -4- 40	6	13	100	902 111
17	1,5	1,10	2,0	VLF 300-2-952 -4- 40	3	17	200	902 301
21	1,5	1,60	2,4	VLF 300-2-992 -4- 40	4	20	200	902 304
31	1,5	1,50	2,0	VLF 530-2-986 -4- 42	5	18	440	903 806
Cable 4 x 6 mm²				**Ø 21,0 mm**		**0,600 kg/m**		
10	1,5	0,65	2,4	VLF 220-2-991 -4- 60	4	11	140	902 122
21	1,5	2,00	2,5	VLF 300-2-992 -4- 60	4	20	200	902 315
32	1,5	1,70	1,5	VLF 530-2-986 -4- 60	5	18	440	903 782
Cable 4 x 10 mm²				**Ø 25,5 mm**		**1,030 kg/m**		
17	1,5	1,45	2,4	VLF 300-2-972 -4- 60	4	16	300	902 313
25	1,5	1,80	1,2	VLF 530-2-986 -4- 60	6	19	440	903 782
Cable 4 x 16 mm²				**Ø 30,5 mm**		**1,430 kg/m**		
15	1,5	1,90	1,7	VLF 420-2-983 -4- 150	10	10	250	902 430
18	1,5	1,30	1,0	VLF 530-2-986 -4- 150	8	10	440	903 785
Cable 4 x 25 mm²				**Ø 35,0 mm**		**2,050 kg/m**		
7	1,5	0,70	1,0	VLF 420-2-983 -4- 150	12	5	250	902 430
14	1,5	1,10	1,0	VLF 530-2-986 -4- 150	8	9	440	903 785
20	1,5	2,00	2,0	VLKG 500-6-915 -4- 150	12	11	600	903 240
Cable 4 x 35 mm²				**Ø 39,5 mm**		**2,680 kg/m**		
10	1,5	0,70	1,0	VLF 530-2-986 -4- 150	8	8	440	903 785
13	1,5	1,10	1,6	VLKG 500-6-915 -4- 150	10	8	600	903 240

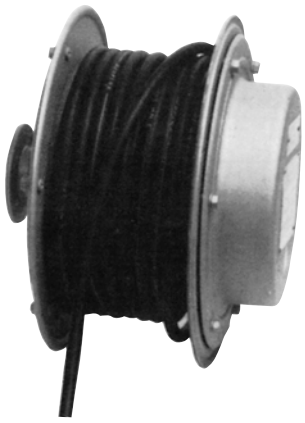
REEL SELECTION CHART Application

l (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 4 x 1,5 mm²		**Ø 12,0 mm**		**0,200 kg/m**		
5	1,4	VLF 146-2-908 -4- 26	5	10	40	902 011
10	1,9	VLF 180-1-931 -4- 26	3	16	55	902 020
12	2,0	VLF 180-2-931 -4- 26	2	18	105	902 021
13	2,0	VLF 220-1-951 -4- 26	2	17	60	902 100
22	3,3	VLF 220-2-951H -4- 26	8	28	60	902 102
Cable 4 x 2,5 mm²		**Ø 14,0 mm**		**0,290 kg/m**		
10	1,9	VLF 180-1-931 -4- 26	3	16	55	902 020
12	2,0	VLF 180-2-931 -4- 26	2	18	105	902 021
13	2,1	VLF 220-2-951 -4- 26	2	17	100	902 101
18	1,5	VLF 300-1-952 -4- 26	2	18	100	902 290
22	1,9	VLF 300-2-952H -4- 26	16	22	100	902 291
Cable 4 x 4 mm²		**Ø 20,0 mm**		**0,520 kg/m**		
8	2,1	VLF 220-2-951 -4- 40	9	10	100	902 111
19	2,1	VLF 300-2-952 -4- 40	3	17	200	902 301
25	1,8	VLF 420-2-983 -4- 42	4	18	250	902 412
31	1,3	VLF 530-2-986 -4- 42	2	18	450	903 806
36	2,7	VLK 380-4-914 -4- 42	6	26	350	902 791
Cable 4 x 6 mm²		**Ø 21,0 mm**		**0,600 kg/m**		
18	2,2	VLF 300-2-952 -4- 60	3	17	200	902 311
22	2,2	VLF 420-2-983 -4- 60	8	16	250	902 424
32	1,4	VLF 530-2-986 -4- 60	2	18	450	903 782
36	2,8	VLK 380-4-925 -4- 60	6	26	400	902 801
Cable 4 x 10 mm²		**Ø 25,5 mm**		**1,030 kg/m**		
10	1,7	VLF 300-2-552 -4- 60	10	10	200	902 311
14	2,1	VLF 300-2-972 -4- 60	5	13	250	902 313
15	1,5	VLF 420-2-983 -4- 60	11	11	250	902 424
25	1,3	VLF 530-2-986 -4- 60	3	14	450	903 782
30	2,5	VLK 380-4-925 -4- 60	8	21	500	902 801
35	2,4	VLKG 500-6-975 -4- 60	9	20	550	903 230
Cable 4 x 16 mm²		**Ø 30,5 mm**		**1,430 kg/m**		
10	1,2	VLF 420-2-983 -4- 150	15	7	250	902 430
15	1,0	VLF 530-2-985 -4- 150	10	10	300	903 784
18	1,2	VLF 530-2-986 -4- 150	8	10	450	903 785
20	1,7	VLK 500-4-925 -4- 150	6	12	560	902 922
25	2,1	VLKG 500-6-965 -4- 150	7	14	600	903 250
Cable 4 x 25 mm²		**Ø 35,0 mm**		**2,050 kg/m**		
12	1,0	VLF 530-2-985 -4- 150	9	6	300	903 784
14	1,3	VLF 530-2-986 -4- 150	10	8	450	903 785
16	1,8	VLK 500-4-915 -4- 150	6	10	500	902 921
22	2,2	VLKG 500-6-965 -4- 150	4	12	750	903 250
Cable 4 x 35 mm²		**Ø 39,5 mm**		**2,680 kg/m**		
9	1,0	VLF 530-2-986 -4- 150	12	5	450	903 785
12	2,2	VLK 500-4-915 -4- 150	7	9	500	902 921
18	2,1	VLKG 500-6-965 -4- 150	6	10	750	903 250

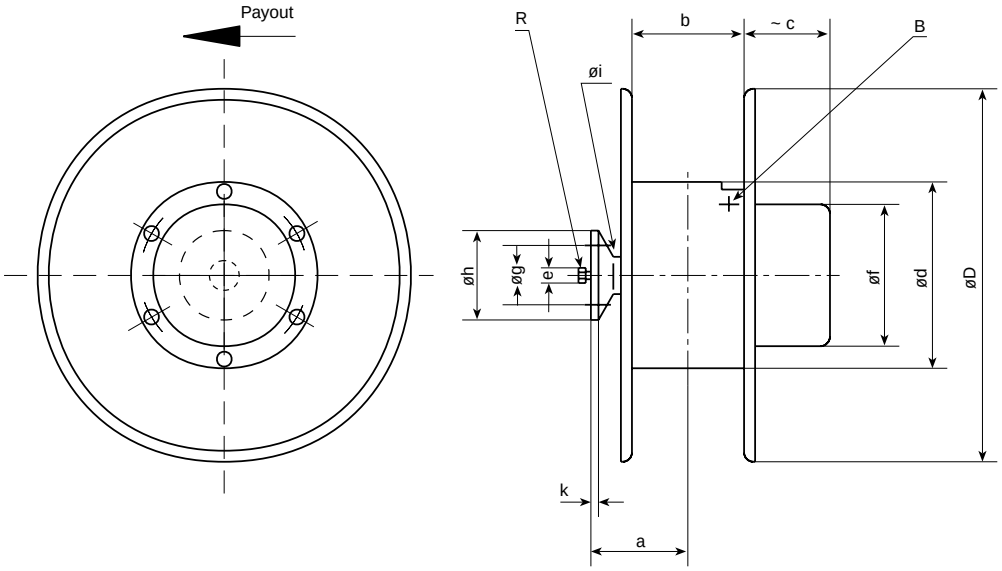
l (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 5 x 1,5 mm²		**Ø 15,0 mm**		**0,320 kg/m**		
9	1,8	VLF 180-1-931 -5- 26	4	15	55	902 040
11	1,9	VLF 180-2-931 -5- 26	3	17	105	902 041
12	2,0	VLF 220-2-951 -5- 26	3	16	100	902 131
15	1,4	VLF 300-1-952 -5- 26	4	16	100	902 320
19	1,8	VLF 300-2-952H -5- 26	2	18	100	902 322
Cable 5 x 2,5 mm²		**Ø 18,6 mm**		**0,370 kg/m**		
10	2,0	VLF 180-2-931 -5- 26	4	15	105	902 041
11	2,0	VLF 220-2-951 -5- 26	5	14	100	902 131
13	1,3	VLF 300-1-952 -5- 26	7	13	100	902 320
16	1,5	VLF 300-2-952 -5- 26	4	16	200	902 321
26	1,3	VLF 420-2-983 -5- 36	2	19	250	902 442
Cable 5 x 4 mm²		**Ø 20,0 mm**		**0,640 kg/m**		
8	2,0	VLF 220-2-951 -5- 40	9	10	100	902 141
16	1,8	VLF 300-2-952 -5- 40	4	16	200	902 330
24	1,5	VLF 420-2-983 -5- 42	4	17	250	902 452
32	1,3	VLF 530-2-986 -5- 42	2	18	450	903 807
36	2,3	VLK 380-4-914 -5- 42	5	27	350	902 821
Cable 5 x 6 mm²		**Ø 21,5 mm**		**0,760 kg/m**		
15	2,0	VLF 300-2-952 -5- 60	5	15	200	902 341
18	2,0	VLF 420-2-983 -5- 60	10	14	250	902 464
25	1,1	VLF 530-2-985 -5- 60	6	14	300	903 808
32	1,4	VLF 530-2-986 -5- 60	2	18	450	903 790
34	2,7	VLK 380-4-925 -5- 60	8	24	450	902 831
Cable 5 x 10 mm²		**Ø 27,5 mm**		**1,300 kg/m**		
10	1,0	VLF 420-2-983 -5- 60	10	8	250	902 464
15	1,0	VLF 530-2-985 -5- 60	9	9	300	903 808
18	1,1	VLF 530-2-986 -5- 60	10	10	450	903 790
25	2,0	VLKG 500-6-965 -5- 60	6	15	600	903 260
Cable 5 x 16 mm²		**Ø 31,5 mm**		**1,680 kg/m**		
8	1,0	VLF 420-2-983 -5- 150	12	6	250	902 470
10	0,5	VLF 530-2-985 -5- 150	10	6	300	903 792
15	1,2	VLF 530-2-986 -5- 150	12	8	450	903 793
20	1,8	VLKG 500-6-965 -5- 150	9	12	600	903 270
Cable 5 x 25 mm²		**Ø 37,0 mm**		**2,470 kg/m**		
11	1,0	VLF 530-2-986 -5- 150	14	6	450	903 793
13	1,4	VLF 500-4-915 -5- 150	12	8	450	902 961
18	2,1	VLKG 500-6-965 -5- 150	10	11	750	903 270
Cable 7 x 1,5 mm²		**Ø 18,5 mm**		**0,470 kg/m**		
8	2,0	VLF 220-2-951 -7- 26	9	10	100	902 161
16	1,8	VLF 300-2-952 -7- 26	4	16	200	902 351
24	1,5	VLF 420-2-983 -7- 36	4	17	250	902 483
32	1,2	VLF 530-2-986 -7- 36	3	17	440	903 809
Cable 7 x 2,5 mm²		**Ø 21,5 mm**		**0,710 kg/m**		
15	2,0	VLF 300-2-952 -7- 26	5	15	200	902 351
18	2,0	VLF 420-2-983 -7- 36	10	14	250	902 483
25	1,2	VLF 530-2-986 -7- 36	2	13	350	903 809

REEL SELECTION CHART Application

l (m)	LZ ~	Reel Type	nv (U)	n (U)	Z (N)	Cat.-No.
Cable 8 x 2,5 mm²		**Ø 20,0 mm**		**0,650 kg/m**		
8	2,1	VLF 220-2-951 -8- 26	9	10	100	902 170
19	2,1	VLF 300-2-952 -8- 26	3	17	200	902 361
25	1,8	VLF 420-2-983 -8- 36	4	18	250	902 493
33	1,4	VLF 530-2-986 -8- 36	2	18	450	903 797
36	2,7	VLK 380-4-914 -8- 36	6	26	350	902 851
Cable 12 x 1,5 mm²		**Ø 21,5 mm**		**0,660 kg/m**		
15	2,0	VLF 300-2-952 -12- 26	5	15	200	902 371
18	2,0	VLF 420-2-983 -12- 36	10	14	250	902 503
25	1,1	VLF 530-2-985 -12- 36	5	15	300	903 810
30	1,3	VLF 530-2-986 -12- 36	3	17	450	903 799
34	2,7	VLK 380-4-925 -12- 36	8	24	450	902 860
Cable 12 x 2,5 mm²		**Ø 26,5 mm**		**0,900 kg/m**		
10	1,7	VLF 300-2-952 -12- 26	10	10	200	902 371
14	2,1	VLF 300-2-972 -12- 26	5	13	250	902 373
15	1,5	VLF 420-2-983 -12- 36	11	11	250	902 503
25	1,2	VLF 530-2-985 -12- 36	5	15	300	903 810
26	1,5	VLF 530-2-986 -12- 36	6	14	450	903 799
28	2,2	VLF 380-4-925 -12- 36	10	19	500	902 860
32	2,2	VLKG 500-6-975 -12- 36	11	18	550	903 280
Cable 18 x 2,5 mm²		**Ø 29,5 mm**		**1,200 kg/m**		
10	1,2	VLF 420-2-983 -18- 36	15	7	250	902 510
15	0,9	VLF 530-2-985 -18- 36	10	9	300	903 801
18	1,4	VLF 530-2-986 -18- 36	10	10	450	903 802
25	2,1	VLKG 500-6-965 -18- 36	7	14	600	903 290
Cable 24 x 1,5 mm²		**Ø 28,0 mm**		**1,100 kg/m**		
10	1,0	VLF 420-2-983 -24- 36	10	8	250	902 521
15	0,9	VLF 530-2-985 -24- 36	10	9	300	903 811
18	1,2	VLF 530-2-986 -24- 36	10	10	450	903 803
25	2,0	VLKG 500-6-965 -24- 36	6	15	600	903 300
Cable 24 x 2,5 mm²		**Ø 34,5 mm**		**1,650 kg/m**		
13	1,1	VLF 530-2-986 -24- 36	13	7	450	903 803
16	1,8	VLK 500-4-915 -24- 36	6	10	500	903 011
22	2,2	VLKG 500-6-965 -24- 36	4	12	750	903 300
Cable 30 x 2,5 mm²		**Ø 39,0 mm**		**2,110 kg/m**		
11	1,2	VLF 530-2-986 -30- 36	13	7	450	903 805
12	2,0	VLK 500-4-915 -30- 36	7	9	500	903 020
18	2,1	VLKG 500-6-965 -30- 36	6	10	750	903 310



REEL DIMENSIONAL DATA VLF Series



R = cable entry to sliprings
B = cable entry to brushes
e = opening for cable gland

Table 6: Reel Dimensions (mm)

Reel Type*	Drum Dim.						Flange Dim.					Weight [1]
	Ø d	Ø D	b	a	~ c	Ø f	e	Ø g	Ø h	Ø i	k	kg
VLF 146	155	260	110	101,5	80	155	35	65	85	4 x 9	10	2,5
VLF 180	180	290	130	113	110	170	35	65	85	4 x 9	10	6,5
VLF 220	220	400	120	114	80	220	35	100	130	4 x 13	9	13,0
VLF 221	220	450	150	130	80	220	35	100	130	4 x 13	9	14,0
VLF 300	300	550	190	165	125	300	40	100	135	4 x 16	15	16,0
VLF 420	420	680	240	200	165	420	60	130	178	4 x 17	20	35,0
VLF 421	420	770	240	200	165	420	60	170	215	4 x 17	20	40,0
VLF 530	530	900	310	255	85	420	70	200	250	4 x 18	23	80,0

[1] Basic weight (slipring-assy 3 + ground) without springs. Total weight = Basic weight plus weight of springs (see below)

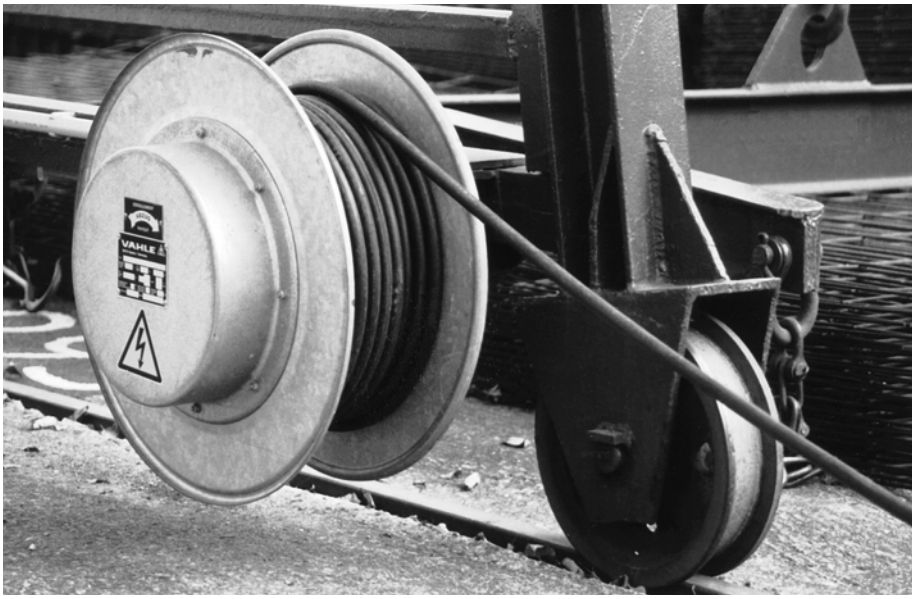
Spring L.-Nr.	908	931/931 H	951/951 H	991/991 H	952/952 H	972/972 H	992/992 H
Weight ca. kg	0,6	2,5	3,4	3,4	6,6	10,0	7,7

Spring L.-Nr.	985/985 H	986/986 H	903	953/953 H	983/983 H	914	924	915	925
Weight ca. kg	16	25	7,2	13,0	10,0	10,0	13,2	12,1	16,0

* see selection charts for full reel definition

Table 7: Slipring Data

Reel Type*	Amps**	Dim. c of enclosures (mm) for Std. Assys incl. Ground (staggered)								Cable Gland Pg
		3	4	6	7	11	17	23	29	
VLF 146	26	60	80	80	100					11
VLF 180	26	50	50	90						16
VLF 180	40	50	50	90	90					16
VLF 220	26	50	50	100	100	150				16
VLF 220	42	75	75	100	100	200				16
VLF 220	40	50	50	100	100	150				16
VLF 220	60	75	100							16
VLF 221	26	50	50	75	75	130				16
VLF 221	42	50	50	75	100	130				16
VLF 221	40	50	50	75						16
VLF 221	60	50	75	100						16
VLF 300	26	80	80	80	120	150				21
VLF 300	42	80	80	120	120	200		320		21
VLF 300	40	80	80	80	120					21
VLF 300	60	80	80							21
VLF 420/421	42	85	85	135	135	165	265	335		29
VLF 420/421	60	85	85							29
VLF 420/421	150	85	85							29
VLF 530	42	85	85	85	85	85	155	270	400	
VLF 530	60	85								
VLF 530	150	85								



* see selection charts for full reel definition
** ratings at 100% duty cycle

REEL DIMENSIONAL DATA VLK & VLKG Series

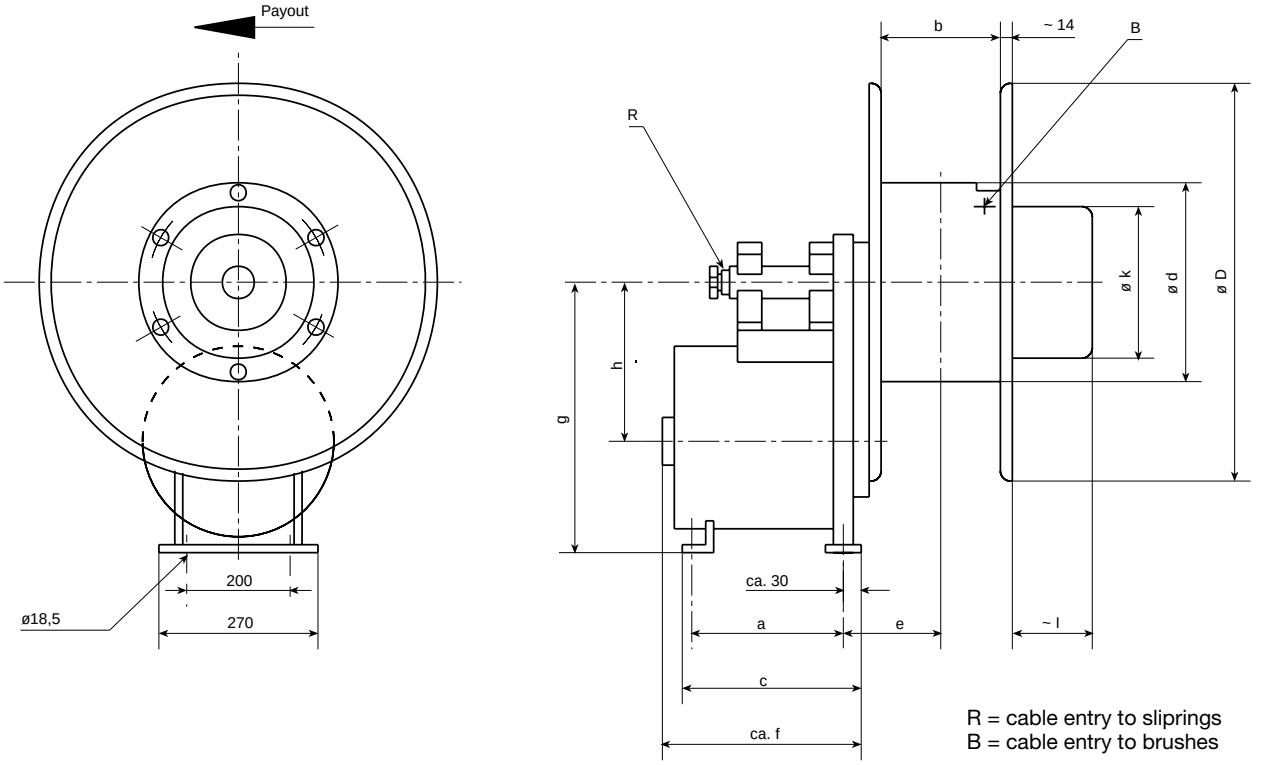


Table 8: Reel Dimensions (mm)

Reel Type *	Drum Dim.										Weight [1]
	Ø d	Ø D	b	a	c	e	f	g	h	Ø k	kg
VLK 380	380	800	220	260	320	190	358	500	290	330	90
VLK 500	500	900	250	260	320	205	358	500	290	370	105
VLK 503	500	1000	350	260	320	255	358	500	290	370	115
VLK 700	700	1200	350	260	320	255	358	500	290	370	130
VLKG 500	500	900	250	390	446	205	488	500	290	370	120
VLKG 503	500	1000	350	390	446	255	488	500	290	370	130
VLKG 700	700	1200	350	390	446	255	488	500	290	370	145

[1]) Basic weight (slipring-assy 3 + ground) without springs, Total weight = Basic weight plus weight of springs (see below)

Spring L.-Nr.	903	914	915	924	925	965	975
Weight ca. kg	7,2	10,0	12,1	13,2	16,0	12,1	20,0

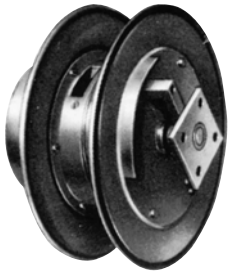
Table 9: Slipring Data

Reel Type *	Amps **	Dim. l of enclosures (mm) for Std. Assys incl. Ground (staggered)					Cable Gland
		7	11	17	23	29	PG
VLK 380	26 – 36	–	100	150	300	–	36
VLK 500	42	–	50	150	250	300	36
VLK 503	42	–	–	50	105	200	36
VLK 700	42	–	–	50	105	200	36
VLKG 500	42		50	150	250	300	36
VLKG 503	42	–	–	50	105	200	36
VLKG 700	42	–	–	50	105	200	36

* see selection charts for full reel definition
** ratings at 100% duty cycle

Ratchet Device
(one lock position per full reel turn)

Type	for Reel	Cat.-No.
EKV 146	VLF 146	901 720
EKV 180	VLF 180	901 721
EKV 220	VLF 220/221	901 722
EKV 300	VLF 300	901 723
EKV 420	VLF 420/421	901 724
EKV 530	VLF 530	901 726



Swivel Base · Rotation 150° · Wall Mounting
(cable guide arm page 20 must be used)

Type	for Reel	Cat.-No.
SWB 146	VLF 146	901 730
SWB 180	VLF 180	901 731
SWB 220	VLF 220/221	901 732
SWB 300	VLF 300	901 733
SWB 420	VLF 420/421	901 734
SWB 530	VLF 530	901 736

Pivot Base · Rotation 300° · Ceiling Mounting
(cable guide arm page 20 must be used)

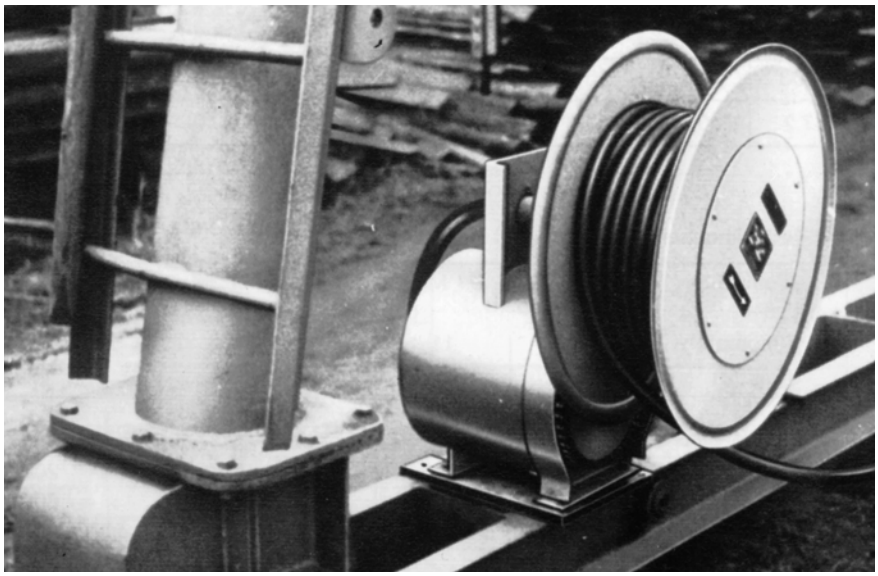
Type	for Reel	Cat.-No.
SDB 146	VLF 146	901 740
SDB 180	VLF 180	901 741
SDB 220	VLF 220/221	901 742
SDB 300	VLF 300	901 743
SDB 420	VLF 420/421	901 744
SDB 530	VLF 530	901 746

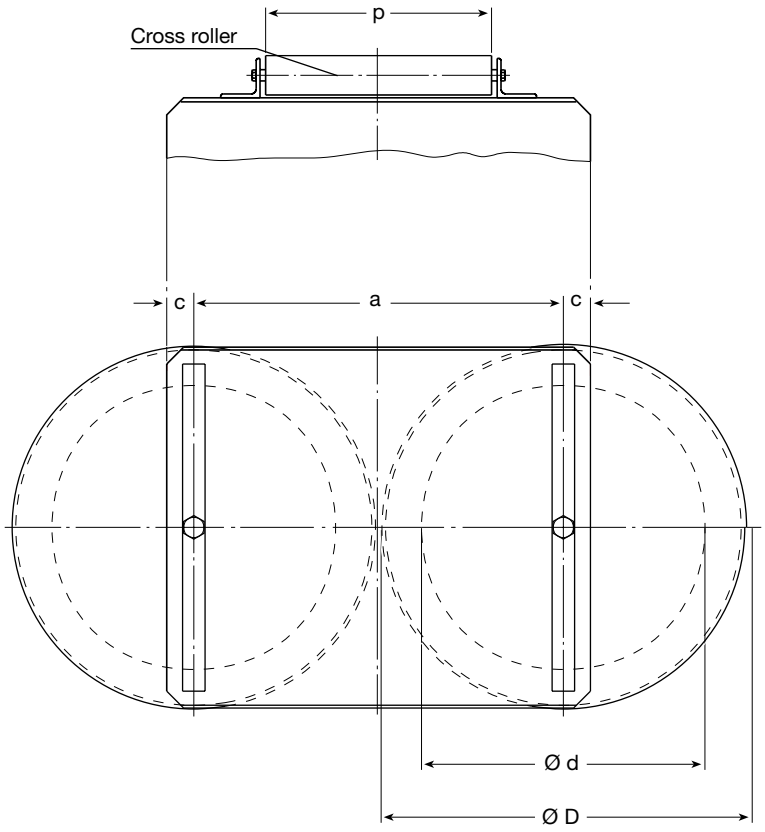
Cable Guide Arm
free swinging eyelet type

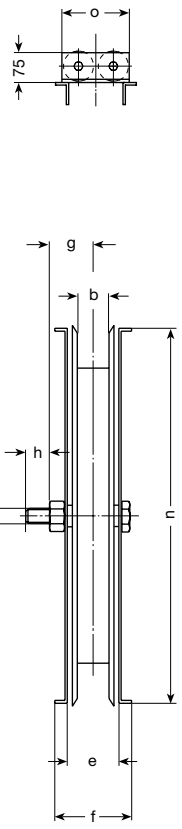
Type	for Reel	Cat.-No.
OFA 146	VLF 146	901 750
OFA 180	VLF 180	901 751
OFA 220	VLF 220	901 752
OFA 300	VLF 300	901 753

Cable Guide Arm
free swinging roller type

Type	for Reel	Cat.-No.
RFA 146	VLF 146	901 754
RFA 180	VLF 180	901 755
RFA 220	VLF 220	901 756
RFA 300	VLF 300	901 757
RFA 420	VLF 420	901 758
RFA 421	VLF 421	901 759
RFA 530	VLF 530	901 810







Double Sheave Guide c/w cross roller

Type	Cat.-No.	mm²	a	b	c	Ø d	Ø D	e	f	g	h	m	n	o	p
SU-R 1	901 630	4 x 6	455	70	32,5	350	450	114	170	85	50	M 24	445	180	315
SU-R 2	901 631	4 x 16	655	70	47,5	503	650	114	170	85	50	M 24	640	180	400
SU-R 3	901 632	4 x 35	785	70	80	663	780	114	170	85	50	M 24	770	180	500
SU-R 4	901 633	4 x 70	905	75	80	783	900	114	170	85	50	M 24	890	180	600
SU-R 5	901 634	4 x 95	1105	80	73	900	1100	134	192	103	62	M 30	1090	210	800

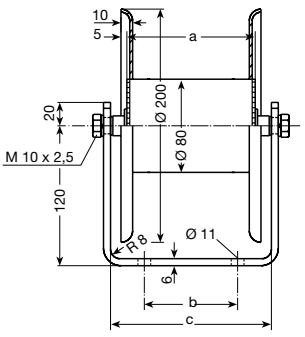
Double Sheave Guide w/o cross roller

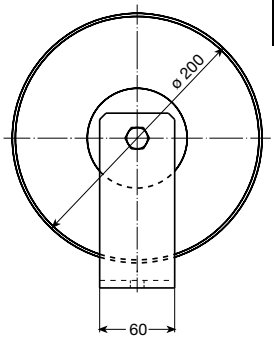
Type	Cat.-No.	mm²	a	b	c	Ø d	Ø D	e	f	g	h	m	n	o	p
SU 1	901 635	4 x 6	455	70	32,5	350	450	114	170	85	50	M 24	445	180	315
SU 2	901 636	4 x 16	655	70	47,5	503	650	114	170	85	50	M 24	640	180	400
SU 3	901 637	4 x 35	785	70	80	663	780	114	170	85	50	M 24	770	180	500
SU 4	901 638	4 x 70	905	75	80	783	900	114	170	85	50	M 24	890	180	600
SU 5	901 639	4 x 95	1105	80	73	900	1100	134	192	103	62	M 30	1090	210	800

Roller Supports

Type	Cat.-No.	a	b	c	Weight ~ kg	
TR 80/110 B 200	924 450	110	–	130	2,25	w/o bracket
TR 80/300 B 200	924 460	300	–	320	3,25	
TR 80/500 B 200	924 470	500	–	520	4,50	
TR 80/110 B 200 H	924 480	110	80	130	3,50	c/w bracket
TR 80/300 B 200 H	924 490	300	250	320	5,15	
TR 80/500 B 200 H	924 500	500	400	520	6,90	

Rollers include bolts and washers





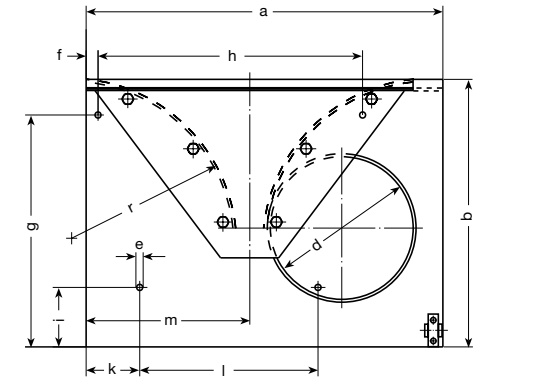
Wire Mesh Strain Relief Grips, 1250 mm long

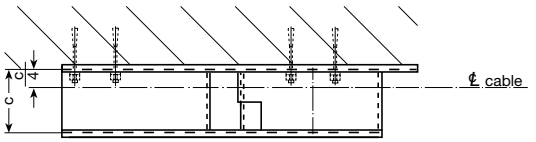
Type	Cat.-No.	for cable OD	max. permissible tension* kg
VLZ 1	901 620	15–20 mm	930
VLZ 2	901 621	20–30 mm	1165
VLZ 3	901 622	30–40 mm	1400
VLZ 4	901 623	40–50 mm	1630

* 3-times safety factor considered

Feed-point Funnel

With strain relief drum for up to 1000 Volt applications for two-way payout, all travelling speeds and frequent passing over midpoint.

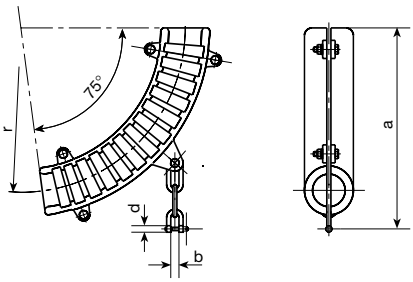




Type	Cat.-No.	for cable max. OD mm	for cable mm²	a	b	c	d	e	f	g	h	i	k	l	m	Weight ~ kg
ETZ 3	921 380	32,5	4 x 16	600	530	106	275	12,5	40	405	400	200	120	300	270	15
ETZ 4	921 390	49	4 x 50	850	700	146	400	16,5	40	550	740	200	210	400	410	28
ETZ 5	921 400	62	4 x 95	1220	900	208	500	16,5	40	780	900	200	180	600	480	52
ETZ 7	921 410	81	4 x 185	1760	1200	208	700	16,5	200	1080	1100	200	350	800	750	100

Turnover Anchor Clamp

for up to 1000 Volt applications for two-way payout and low travelling speeds.
Mainly used in connection with plug & socket service
or when feeding from underneath the cable tray is impossible.



Type	Cat.-No.	for cable OD	r	a	d	b	Weight ~ kg
LS 1	921 420	–21,5	100	205	10	14	1,6
LS 2	921 430	>21,5–28	130	225	10	14	2,5
LS 3	921 440	>28 –36,5	170	265	12	17	3,5
LS 4	921 450	>36,5–48	220	300	12	17	5,5
LS 5	921 460	>48 –63	290	405	16	21	8,5

The Reel Type Definition Key is important for the correct spare part selection.

Definition of …

Reel Type

VLF 220 - 2 - 951H - 4 - 26

VLF 500 - 4 - 914 - 5 - 150

VLKG 700 - 6 - 915 - 4 - 220 - A

Reel Series

Drum Dia.

No. of Springs

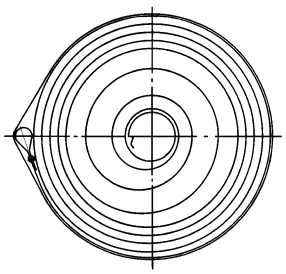
Spring Series

No. of Poles incl. Ground

Amps

Suffix for opposite rotation

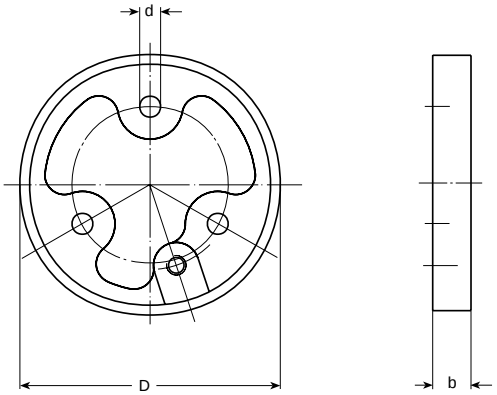
Springs



Type	Cat.-No.	Weight kg	Hub mm	OD mm	Width mm
908	901 640	0,550	35	126	18
910	901 641	0,550	25	114	18
931	901 642	2,200	35	160	25
951	901 643	3,100	35	190	30
991	901 644	3,100	35	190	30
952	901 645	6,000	45	280	45
972	901 646	9,000	45	280	45
992	901 647	7,000	45	280	45
903	901 648	6,500	50	315	60
953	901 684	12,000	60	400	60
983	901 685	9,000	60	400	60
914	901 686	9,000	50	315	60
924	901 687	12,000	50	315	60
915	901 688	11,000	50	315	60
925	901 689	14,500	50	315	60
965	901 704	11,000	65	315	60
975	901 705	18,000	65	315	60
985	901 706	16,000	85	450	60
986	901 707	25,000	85	450	60

*** The springs type 908 to 986 substitute former types 508 to 586.**

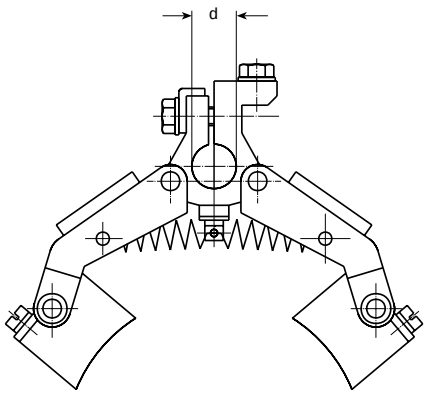
Note! Never remove springs from protection bandage and handle replaced springs carefully.



Collector Rings

Amps A	Dimensions (mm) D	d Phase	d Ground	b	Cat.-No. Phase	Cat.-No. Ground
* 26	50	8,5	5,5	10	901 670	901 671
** 36	80	11,5	6,5	10	901 672	901 673
40	50	8,5	5,5	10	901 674	901 675
42	80	11,5	6,5	10	901 682	901 683
60	80	11,5	6,5	12	901 676	901 677
150	130	12,5	8,5	15	901 678	901 679
220	130	12,5	8,5	20	901 680	901 681

* Corresponds to former type 25 A resp. 30 A.



Brush Assemblies

Amps A	Dimensions d (mm) Phase	Dimensions d (mm) Ground	Cat.-No. Phase	Cat.-No. Ground
26 *	10	8	901 690	901 691
36 **	10	8	901 692	901 693
40	10	8	901 694	901 695
42	10	8	901 702	901 703
60	13	12	901 696	901 697
150	16	15	901 698	901 699
220	17	16	901 700	901 701

* Corresponds to former type 25 A
** Corresponds to former type 30 A (max. cross section 2,5 mm²). For larger cross sections use brush assembly 42 A.

Questionnaire of VAHLE Cable Reels

1. For what type of moving equipment is the reel ? _____
   A rough sketch based on the typical applications shown on page 5 of this catalog is extremely valuable.

2. Reel installation height h = _____ m

3. Travel distance of equipment _____ m

4. Cable payout from center ☐ from one end ☐

5. What is the max. cable length on the reel ? l = _____ m
   Midway feed-point cuts the length of cable needed in half.

6. Type of Cable (number of conductors x wire size) _____ x _____ mm^2

   weight _____ kg/m

   outside dia. _____ mm

7. Electrical load _____ kW

   or amperes at _____ volts _____ A

8. Duty Cycle (time on) of full load? _____ %

9. No. of Collector Rings required ? _____ pcs
   (our slipring assemblies always include one ground)

10. Typ of application ? (see page 5) No. ☐

11. How many movements per hour ? _____ times

12. Operating hours per day ? _____ hours

13. Maximum travel/lift speed ? _____ m/min.

14. Acceleration 0 to full in _____ sec.

    or acceleration rate _____ $m/sec.^2$

Other Data: _____

Please provide drawings in case of non-straight cable payout.

Questionnaire of VAHLE Cable Reels

To our nearest local VAHLE-agency:

Customer: _____

_____

Adress: _____

_____

_____

Attention of: _____

Date: _____

Motor data	Crane 1			Crane 2			Crane 3		
	Power kW/HP	Current Amps	Duty factor %	Power kW/HP	Current Amps	Duty factor %	Power kW/HP	Current Amps	Duty factor %
Hoist motor									
Auxiliary hoist									
Travel motor - main-trolley									
Travel motor - aux.-trolley									
Main travel									
Slewing									
Luffing									

Mark with* any motor that may be in simultaneous operation.

Additional Comments: _____

_____

_____

_____

_____

_____

Notes