

# SR Spring Reels



**CONDUCTIX**  
wampfler



# Contents

<b>General Information</b>	<b>5</b>
Application Area.....	5
SR Spring Reels.....	5
Applicable Standards.....	5
<b>Spring Reel Design</b>	<b>6</b>
Modular Design.....	6
Drums.....	7
Safety Springs.....	7
Spring Motors.....	8
Slip Ring Assemblies.....	9
Slip Ring Assemblies.....	10
Rotary Joints.....	11
Mounting Flanges.....	12
Cables and Hoses.....	12
Options.....	13
Accessories.....	13
<b>Reeling Applications Informations</b>	<b>15</b>
Types of Application.....	15
Winding Direction.....	16
Orientation.....	16
Pre-tension Set-up.....	16
Deflection Pulley Arrangement.....	16
<b>SR10   Dimensional Details</b>	<b>17</b>
<b>SR20   Dimensional Details</b>	<b>18</b>
<b>SR30   Dimensional Details</b>	<b>19</b>
<b>SR40   Dimensional Details</b>	<b>20</b>
<b>SR50   Dimensional Details</b>	<b>21</b>
<b>SR60   Dimensional Details</b>	<b>22</b>
<b>Adapter Flanges</b>	<b>23</b>
<b>Accessories</b>	<b>24</b>
Cable Grips and Spring Impact Absorbers.....	24
Deflection Pulleys.....	24
Roller Guides.....	24
<b>Questionnaire</b>	<b>25</b>



# General Information

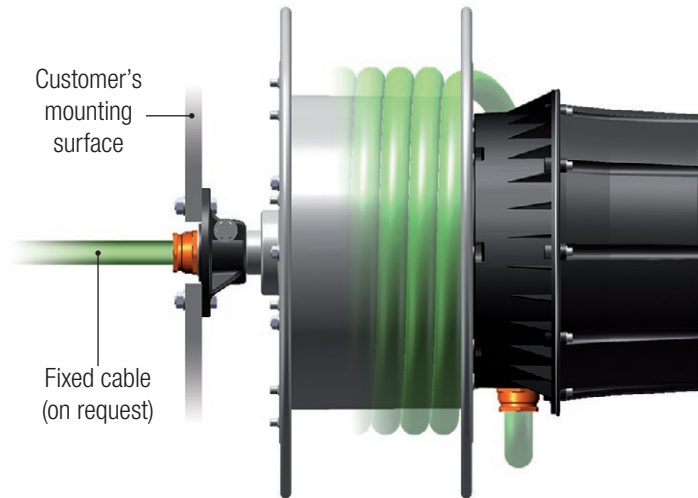
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## Application Area

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SR Spring Reels are used for the automatic storage of power and control cables and hoses for a wide range of mobile industrial equipment: overhead cranes, mobile tables, telescopic booms and ladders, grapples, elevators, lifts and so on.

Most of these machines move in a straight line, horizontally or vertically, and are generally guided by rails.



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## SR Spring Reels

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A wide range of reels with versatile accessories for many varied applications:

- Indoor and outdoor use, in a neutral industrial environment <sup>1)</sup>.
- Ambient temperature from -40 up to +60°C (de-rating of the slip rings above +30°C, below -20°C low temperature lubrication is used and a heating strip is added in the slipping housing).
- Cable outer diameter up to 42 mm.
- Travel speeds up to 60 m/min and accelerations up to 0.3 m/s<sup>2</sup> according to the type of application <sup>1)</sup>.

### Features

- Protection degree IP65.
- High degree of corrosion protection.
- Simple and easy installation and set-up.
- Long service life, easy and reduced maintenance.
- Secure spring replacement with patented spring cassette system (SR40 up to SR60).
- Wide range of cables and hoses specifically designed for reeling applications.

- Complete range of accessories and options: reel brackets, cable guides and cable anchoring devices.
- On request, spring reels can be supplied with cable pre-wired to slip ring.
- Slip rings dedicated to communication and data transmission up to 1 Gbps (consult us).

*1) Consult us for other conditions.*

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## Applicable Standards

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SR Spring Reels are designed and built in accordance with:

- Machinery directive 2006/42/CE
- Low voltage directive 2006/95/CE (for cable reels)

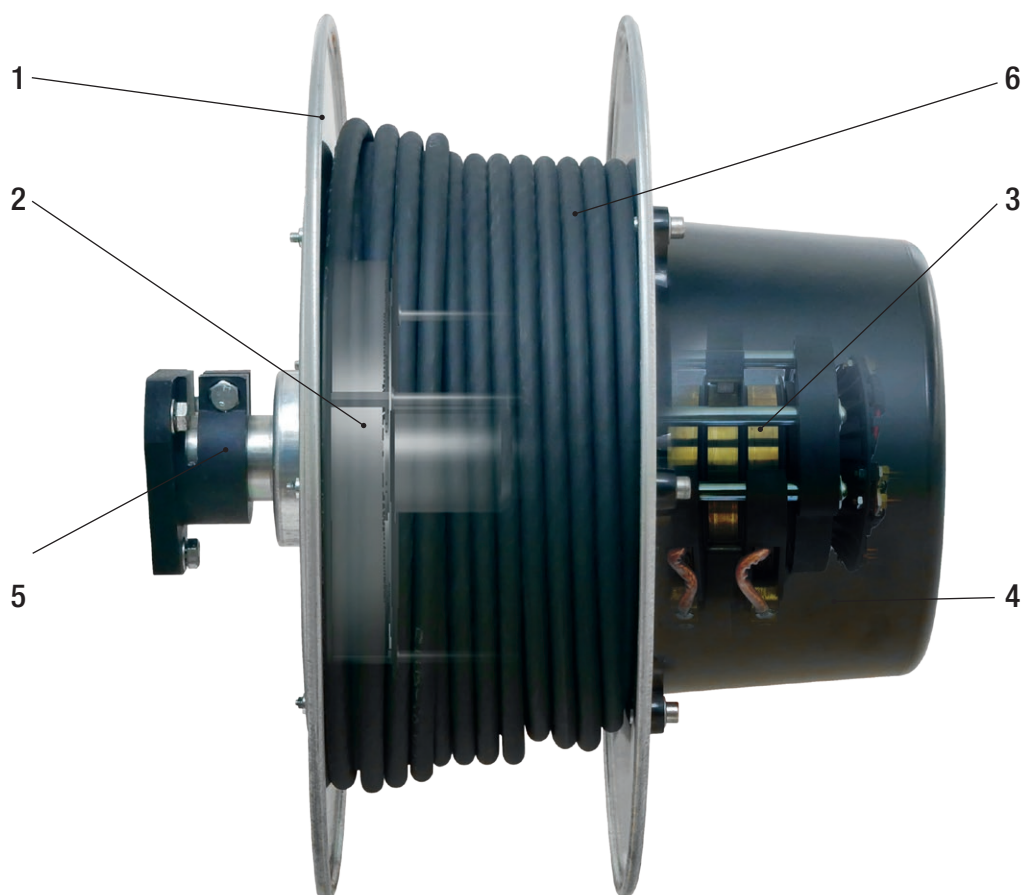
SR Spring Reels are intended to be integrated into the design of a machine. A declaration of incorporation is attached to the installation instruction manual supplied with the reel.

# Spring Reel Design

## Modular Design

SR Spring Reels consists of the following components:

- 1 - Drum
- 2 - Spring motor
- 3 - Slip rings
- 4 - Slip ring housing
- 5 - Mounting flange
- 6 - Cable or hose



### Model designation

SR40 2SA 4GD090 BR E0

Type of cable drum

No. of springs and spring arrangement

Slip ring type and no. of poles or size and type of rotary joint

- Environment<sup>1)</sup>

- Options

<sup>1)</sup> E0 : neutral industrial environment  
E1 : severe environment



# Spring Reel Design

## Drums

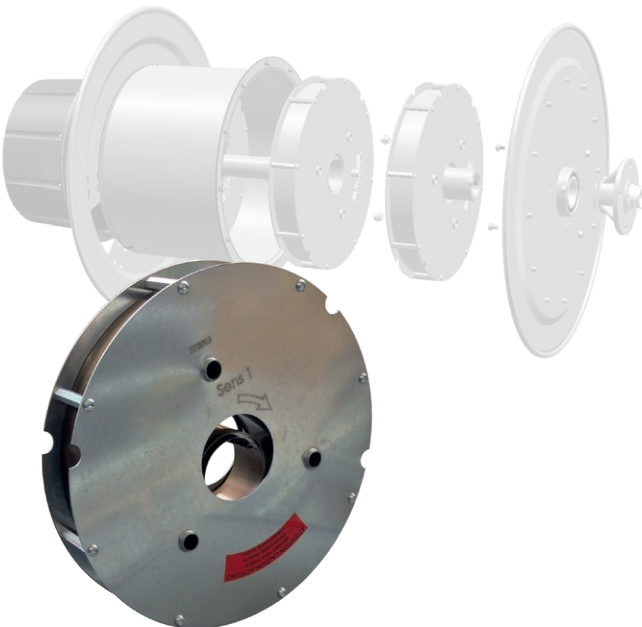
- SR10 | SR20 | SR30: PA6-GF drum body, galvanized steel flanges.
- SR40 | SR50 | SR60: drum body and flanges made of zinc plated steel.
- Winding diameter ranging from 170 to 500 mm.
- Design of the flange edge optimizes cable arrangement during winding and ensures safety for the user.
- Lubricated for life, sealed ball bearings.



## Safety Springs

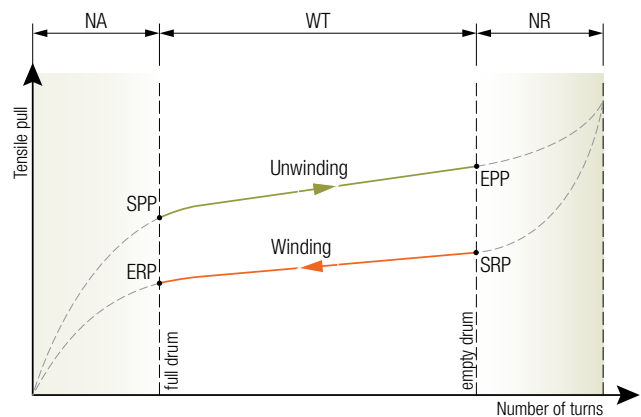
### Technical details

- The spring motor is located inside the drum:
  - SR10 | SR20 | SR30: spring drum assembly
  - SR40 | SR50 | SR60: spring individually encapsulated in a cassette for a safe and easy manipulation (replacement or reversal of winding direction).
- Springs made of high-performance textured steel to ensure a long service life: 100 000 spring moves
- Arrangement of the springs in series or parallel within the drum.
- Springs lubricated with a corrosion resistant grease.



### Spring diagram

With coil springs, the tensile pull on the cable varies depending on the length of unwound cable and whether the reel is in the winding or unwinding mode.



- NA: number of pre-turns (pre-load of the springs)
- WT: number of working turns
- NR: number of reserve turns
- SPP: tensile pull at start of payout (unwinding mode)
- EPP: tensile pull at end of payout (unwinding mode)
- SRP: tensile pull at start of retraction (winding mode)
- ERP : tensile pull at end of retraction (winding mode)

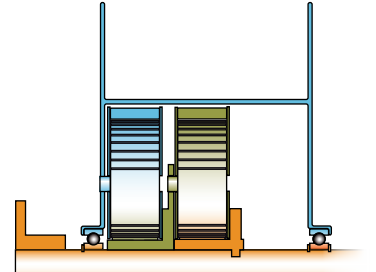
When calculating tensile pull, it is necessary to consider the diameter and the number of cable turns. According to these parameters, the amount of tensile pull exerted by the spring motor will vary.

# Spring Reel Design

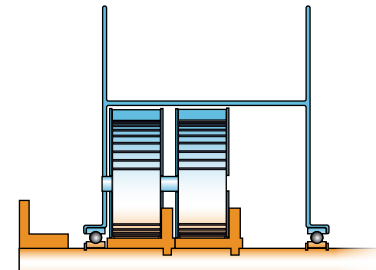
## Spring Motors

Drum type	Spring motor type	No. of springs	Arrangement	No. of pre-turns 'NA'	No. of working turns	Tensile pull [kg]	
						Min.	Max.
SR10	1SA	1	-	2	15	2.6	5.8
	2PA	2	Parallel	2	15	5.1	11.1
	2SA	2	Series	4	30	2.4	5.5
	1SL	1	-	2	25	1.3	3.7
SR20	1SA	1	-	2	20	2.1	4.6
	2SA	2	Series	4	40	2.1	4.6
	2PA	2	Parallel	2	20	3.9	8.8
	1SR	1	-	2	14	3.3	7.6
	2SR	2	Series	4	29	3.1	7.6
	2PR	2	Parallel	2	14	6.8	16.2
SR30	1SA	1	-	2	20	1.7	7.7
	2SA	2	Series	4	40	1.9	7.6
	3SA	3	Series	6	60	2.5	7.8
	2PA	2	Parallel	2	20	5.5	16.0
	3PA	3	Parallel	2	20	8.0	23.0
	1SR	1	-	2	17	3.5	12.1
	2SR	2	Series	4	34	3.0	11.1
	3SR	3	Series	6	51	4.0	11.2
	2PR	2	Parallel	2	17	7.0	22.2
	3PR	3	Parallel	2	17	10.2	35.3
SR40	1SA	1	-	2	25	3.5	12.2
	2SA	2	Series	4	50	2.0	11.2
	3SA	3	Series	6	75	3.3	11.2
	2PA	2	Parallel	2	25	4.0	24.2
	3PA	3	Parallel	2	25	7.0	37.2
SR50	1SA	1	-	2	24	3.0	15.2
	2SA	2	Series	4	49	2.7	15.2
	3SA	3	Series	6	73	3.2	14.2
	4SA	4	Series	8	98	3.5	14.1
	2PA	2	Parallel	2	24	6.0	29.5
	3PA	3	Parallel	2	24	13.5	46.0
	4PA	4	Parallel	2	24	11.5	60.5
	4SPA	4	Series/Parallel	4	48	7.1	30.1
SR60	1SA	1	-	2	26	3.0	16.0
	2SA	2	Series	4	52	3.1	17.1
	3SA	3	Series	6	78	2.9	16.2
	4SA	4	Series	8	104	3.5	17.1
	2PA	2	Parallel	2	26	4.5	32.5
	3PA	3	Parallel	2	25	11.2	49.5
	4PA	4	Parallel	2	25	12.0	71.0
	4SPA	4	Series/Parallel	4	52	6.2	34.2

## Spring motor arrangements



- A motor with two identical springs in series allows twice the number of working turns.



- A motor with two identical springs in parallel generates twice the tensile pull.

## Deflection devices

When a deflecting device is used (roller box, deflection pulley, cable guide), it is necessary to increase the value of the required spring motor torque.

## Maximum permissible cable tension

In accordance to VDE 0298 (Part 3) a continuous tension of 15 N/mm<sup>2</sup> on the cable is permissible for moving equipment based upon the total copper cross-section of the cable.

Depending on the type of cable this value could be higher. Supplier should be consulted.

Cable screens, concentric conductors, divided conductors, additional control cores and/or supervising cores must be taken into consideration.

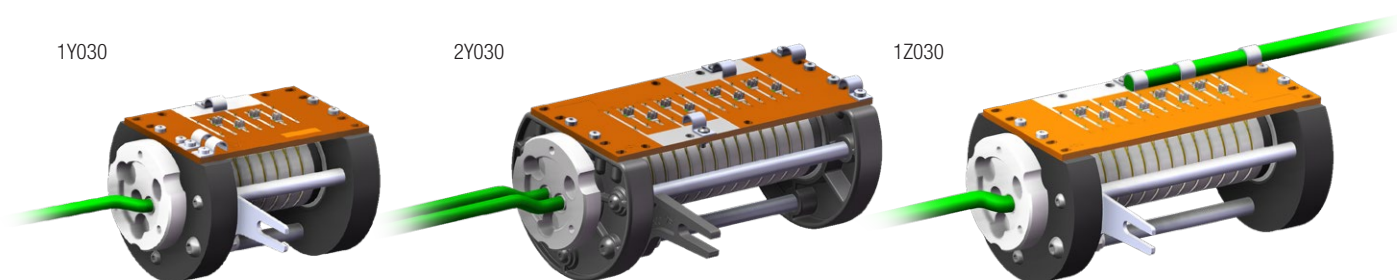


# Spring Reel Design

## Slip Ring Assemblies

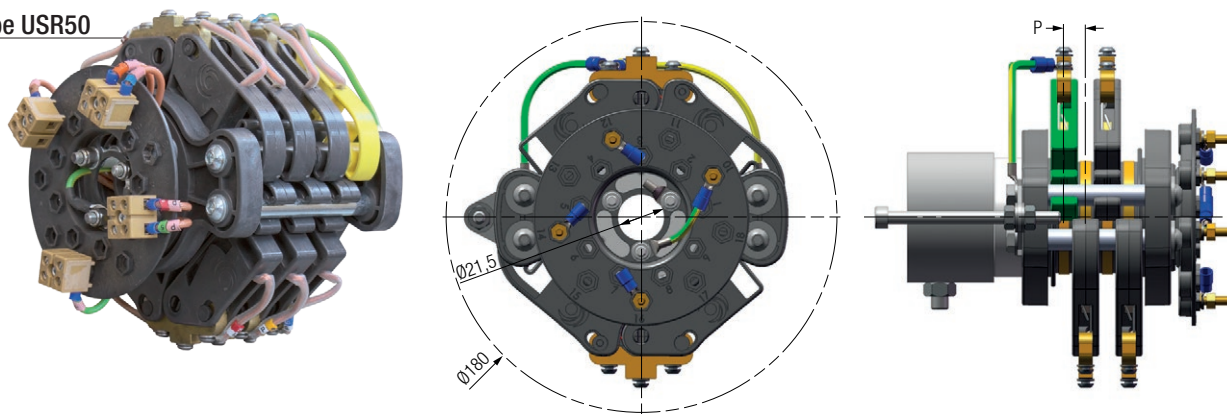
- Optimal accessibility of connection terminals.
- Ambient operating temperature from -20 up to +60°C (de-rating beyond +30°C).
- ABS-PC, impact-resistant slip ring cover equipped with captive screws and with a breather to prevent condensation (steel housing optional).
- Combinations of different types of rings of the same diameter are possible.
- Slip rings dedicated to Ethernet data transmission up to 1 Gbps type USR30 can be added on USR50 and USR90 slirpings.

### Type USR30



Type	Protocol compatibility	Rotation speed Max. [rpm]	Data Transmission speed	Material	
1Y030	Ethernet, Profinet and high bandwidth industrial bus	100	100 Mbps / 100 MHz	Brush	Ring
2Y030				Gold wires	Gold-plated brass
1Z030			1000 Mbps / 250 MHz		

### Type USR50

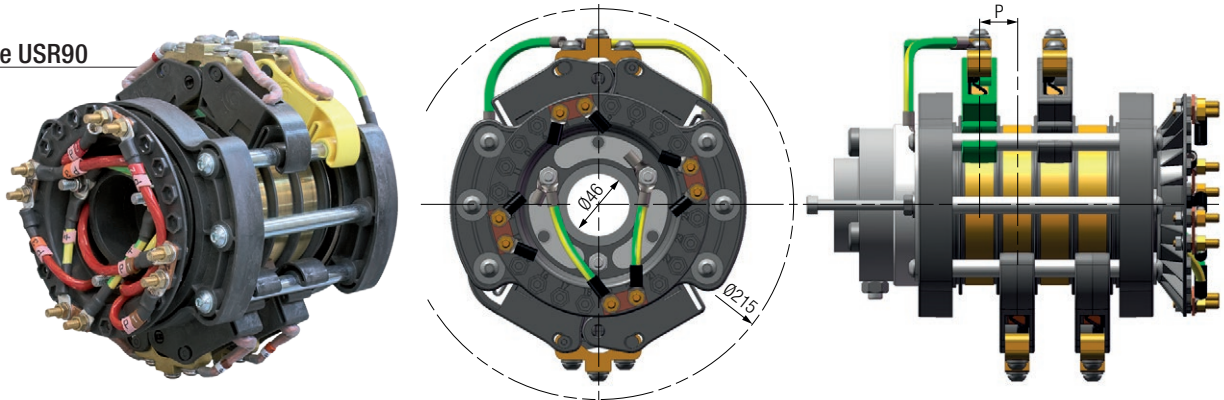


Type	Amp <sup>1)</sup> Nom. [A]	Operating voltage <sup>2)</sup> Max. [V]	Rotation speed Max. [rpm]	Diameter [mm]	Rings Pitch 'P' [mm]	Material
U050	4-20 mA	690AC / 600DC	140	52	9	silver-plated brass
W050	<12 Mbps					gold-plated brass
A050	11				10	brass
B050	25				15	
D050	50				21	
E050	95					

# Spring Reel Design

## Slip Ring Assemblies

Type USR90



Type	Amp <sup>1)</sup> Nom. [A]	Operating voltage <sup>2)</sup> Max. [V]	Rotation speed Max. [rpm]	Diameter [mm]	Rings Pitch 'P' [mm]	Material
U090	4-20 mA	690AC / 600DC	80	90	9	silver-plated brass
W090	<12 Mbps					gold-plated brass
A090	13				10	brass
B090	23					
D090	50					
E090	85					
F090	130				27	

<sup>1)</sup> Slip rings in motion (rotation), @ +30°C and duty cycle 100%.

<sup>2)</sup> Altitude < 2000 m

# Spring Reel Design

## Rotary Joints



Three types of rotary joints can be used depending on the application: BP, BPO and HPO. BP and BPO for fluid pressure < 20bar.

HPO for fluid pressure >20bar (please contact application Engineering team)



Low-pressure rotary joint	Material	max Pressure (Bar)	Junction	Temperature range (°C)	Service	Medium
3/8" BP & BPO	Bronze + Zn steel	20	Male plug fitted to the hose size	-20°C / +200°C	Normal	Air, inert gas & Water
3/4" BP & BPO	Bronze + Zn steel	20	Male plug fitted to the hose size	-20°C / +200°C	Normal	Air, inert gas & Water
1" BPO	316L stainless steel	300	Male plug fitted to the hose size	-20°C / +180°C	Severe	Air, inert gas & Water

for water : min T > 0°C

High-pressure rotary joint	Material	max Pressure (Bar)	Junction	max. possible temperature range (°C)	Service	Medium
1/4" HPO	316L stainless steel	400	G 1/4" BSPP female	-20°C / +200°C	Severe	Air, inert gas, water & hydraulic oil
3/8" HPO	316L stainless steel	400	G 3/8" BSPP female	-20°C / +200°C	Severe	Air, inert gas, water & hydraulic oil
1/2" HPO	316L stainless steel	350	G 1/2" BSPP female	-20°C / +200°C	Severe	Air, inert gas, water & hydraulic oil
3/4" HPO	316L stainless steel	350	G 3/4" BSPP female	-20°C / +200°C	Severe	Air, inert gas, water & hydraulic oil
1" HPO	316L stainless steel	300	G 1" BSPP female	-20°C / +180°C	Severe	Air, inert gas, water & hydraulic oil

for water : min T > 0°C

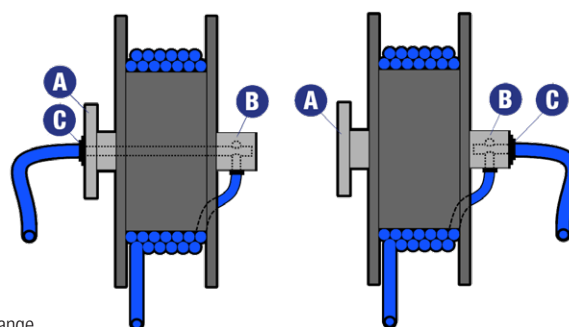
BP = Low pressure, with rotary joint placed on side of the flange

BPO = Low pressure, with rotary joint placed on Opposite side of the flange

HPO = High pressure with rotary joint placed on Opposite side of the flange

### Note:

High pressure joints and hoses need to be checked regarding application and are available only from our Application Engineering team.



A: Fixed mounting flange  
B: Rotary joint  
C: Fixed feeding input side

BP

BPO or HPO

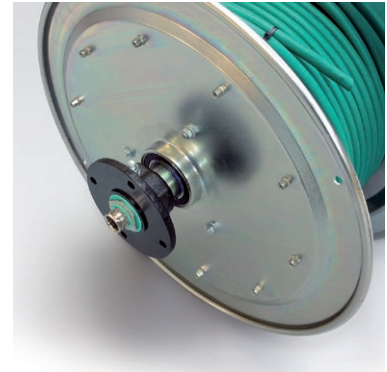
# Spring Reel Design

## Mounting Flanges

Spring reels are supplied equipped with a mounting flange designed for an easy, quick and safe installation. Mounting flanges are also designed to accommodate all optional brackets.

### Adapter flanges (option)

Adapter flanges are supplied separately. They are designed for the installation of the spring reel SR in place of a spring reel from a different range without modification of the existing support.



## Cables and Hoses

Conductix-wampfler offers a wide range of cables and hoses specifically designed for reeling applications:

- Small outer diameter
- Small bending radius
- High resistance to mechanical stress (tension, deflection, twisting)

Cable type	Outer sheath	Voltage U <sub>0</sub> /U	Max. tension force [N/mm <sup>2</sup> ]	Ambient temperature [°C]	Service
C800	PVC	0.6/1 kV	15	-10 up to +60°C	normal
GPM   GPM-RF	PUR		12   20	-25 up to +60°C	normal/intensive
RG (NSHTOEJ-J)	Rubber		20	-25 up to +80°C	normal
RXP (12YHRDT11YH)	PUR		25	-40 up to +80°C	intensive
RXG (NSHTOEJ-J)	Rubber		30	-35 up to +80°C	severe
TRA   TRA-RF	PUR		25   30	-25 up to +60°C	intensive/severe

Standard reeling cables and hoses are available from stock and can be supplied immediately.

On request, spring reels can be supplied with a fixed cable or hose tail connected to the slip rings in the factory.

### Overall cable length

- Overall cable length = working cable length (travel length) +  $\Delta L$
- $\Delta L$  = one safety turn on the drum (never unwound) + cable length required for slip ring connection.

Drum type	$\Delta L$ [m]
SR10	2
SR20	2
SR30	3
SR40	4
SR50	4
SR60	5

Low-pressure hoses	Outer sheath	max Pressure (Bar)	Temperature range (°C)	Service	Medium
Maxair 7x13	Rubber	15	-40°C / +70°C	Normal	Air, inert gas & Water
Maxair 9x16	Rubber	15	-40°C / +70°C	Normal	Air, inert gas & Water
Maxair 10x17	Rubber	15	-40°C / +70°C	Normal	Air, inert gas & Water
Maxair 13x21	Rubber	15	-40°C / +70°C	Normal	Air, inert gas & Water
Maxair 16x26	Rubber	15	-40°C / +70°C	Normal	Air, inert gas & Water
Maxair 19x29	Rubber	15	-40°C / +70°C	Normal	Air, inert gas & Water
Maxair 25x35	Rubber	15	-40°C / +70°C	Normal	Air, inert gas & Water
Flexo2 19x30	Rubber	20	-30°C / +70°C	Severe	Air, inert gas & Water
Flexo2 25x37	Rubber	20	-30°C / +70°C	Severe	Air, inert gas & Water

for water : min T > 0°C

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## Options

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- **SE, BR or SP:** brackets, roller guide arms and swivel brackets.
- **AB:** adapter flanges (see 'Mounting Flange')
- **CM:** steel slip ring housings (and steel connecting boxes, according to model).
- **ELT:** Adaptation for use at low temperatures (from -40°C up to +40°C) including suitable lubrication of the springs and bearings, and a heating strip in the slip ring housing
- **K:** ratchet option for manual operation of the SR as an extension. Ratchet made of stainless steel. Only available with SE, BR and SP options



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## Accessories

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- Cable grips and spring impact absorbers
- Deflection pulleys and roller boxes

Consult us for:

- Cable guides, anchor drums and cable entries
- Two and four contacts end limit switches
- Heating strip inside the slip ring housing required in humid conditions and/or where ambient temperatures vary widely
- High pressure applications



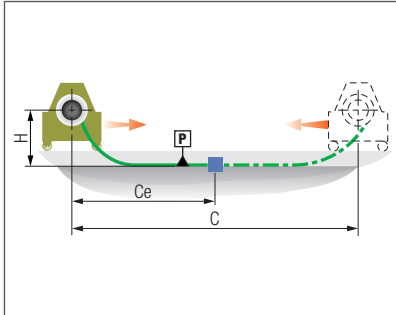




# Reeling Applications Informations

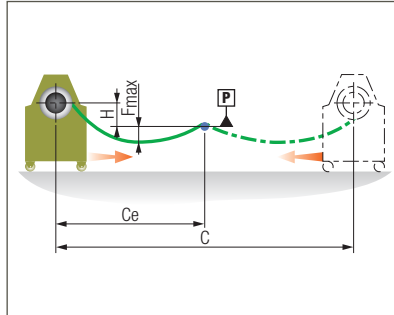
## Types of Application

### 1 - Retrieve



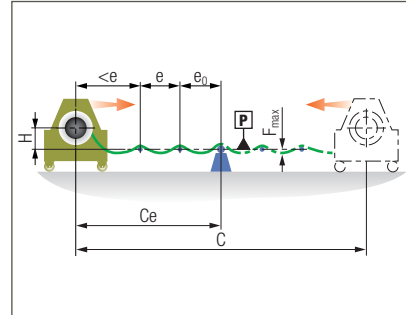
- Reel mounted on the machine
- Cable laying on the ground

### 2 - Stretch



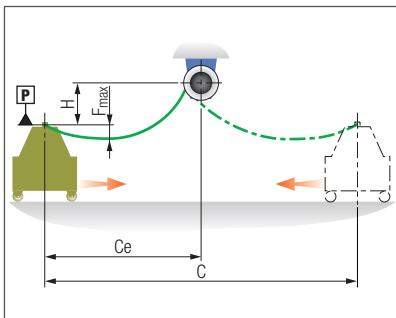
- Reel mounted on the machine
- Cable not supported
- For short runs only
- Cable sag ' $F_{max}$ ' less than 10% of ' $C_e$ '
- Extra length of cable required (approx. 10% of ' $C_e$ ') to compensate for cable sag ' $F_{max}$ '

### 3 - Supported stretch



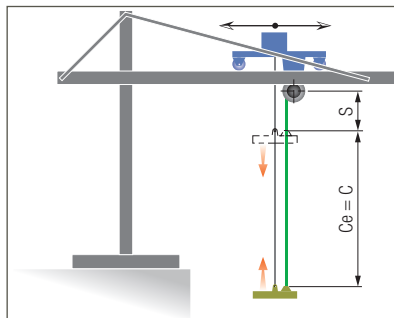
- Reel mounted on the machine
- Cable supported (e.g. by rollers)
- Extra length of cable required (approx. 10% of ' $C_e$ ') to compensate for cable sag ' $F_{max}$ '

### 4 - Stretch



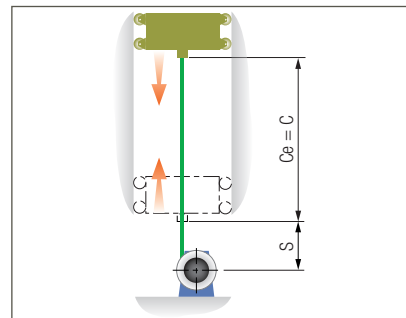
- Reel mounted stationary
- Cable not supported
- For short runs only
- Cable sag ' $F_{max}$ ' less than 10% of ' $C_e$ '
- Extra length of cable required (approx. 10% of ' $C_e$ ') to compensate for cable sag ' $F_{max}$ '

### 5 - Lift



- Reel mounted stationary
- Reel located at the top

### 6 - Vertical retrieve



- Reel mounted stationary
- Reel located at the bottom

P: position that cable lays on the ground

C: active travel length

$C_e$ : travel length to be considered to calculate the reel

H: height of reel axis above P

$F_{max}$ : max. allowable cable sag

$e_0$ : distance of the first support

e: distance between two adjacent supports

S: length of permanently paid out cable

# Reeling Applications Informations

## Winding Direction



Unless otherwise specified when ordering, SR reels are built according to the **Winding Direction 1** (viewed from the slip ring side) and the roller guide arm is oriented as per Pos 1.1 (options 'BR' / 'SP').

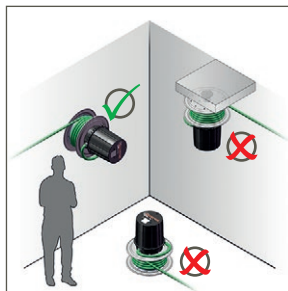


## Orientation

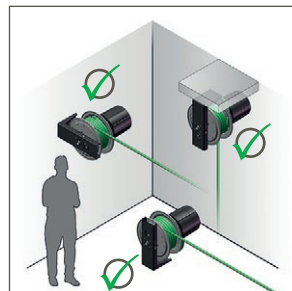
The rotation axis of the spring reel must be horizontal.

The rotation axis of the optional swivel bracket 'SP' must be vertical.

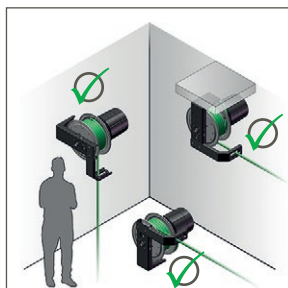
### Reel with mounting flange



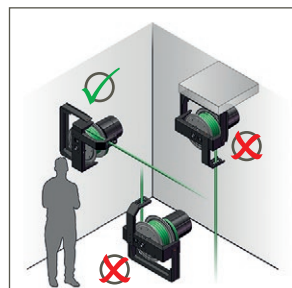
### Reel with option 'SE'



### Reel with option 'BR'



### Reel with option 'SP'



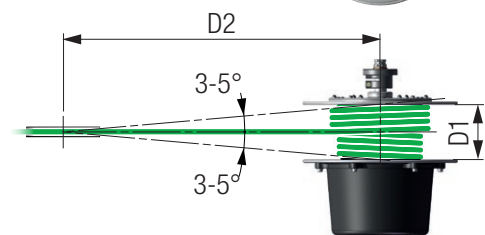
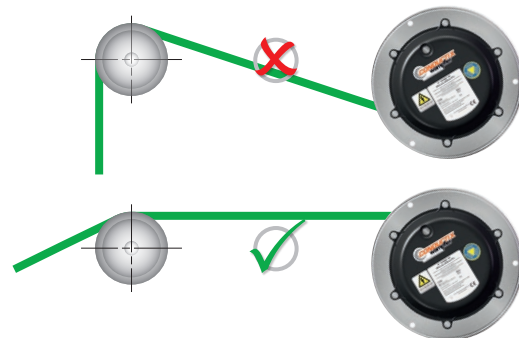
## Pre-tension Set-up



The spring reels not equipped with a roller guide arm are delivered without pre-tension set-up. In this case, prior to use, the spring motor must be pre-tensioned with the appropriate number of turns 'NA' and direction as indicated on the drum flange.

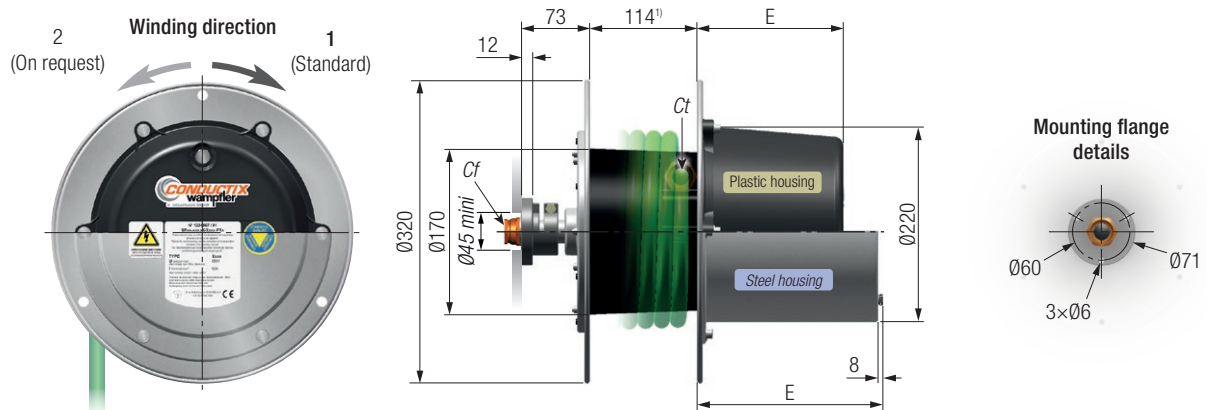
## Deflection Pulley Arrangement

Recommendations for proper roller guide or sheave roller location.



D1 [mm]	D2 [mm]	
	3°	5°
115	1100	650
130	1240	750
180	1700	1050
200	1900	1150
250	2400	1450
260	2500	1500

# SR10 | Dimensional Details



Max. number of poles of the same slip ring type according to 'E' (one pole PE included)

Slip ring	E [mm]				
	Plastic slip ring housing			Steel slip ring housing	
Type	138	168	218	227	333
U050 / W050	5	7	13	13	22
A050	5	7	13	13	22
B050	5	7	12	12	20
D050	2	5	8	8	8
E050	2	3	4	4	4

Ct min./max.: Ø8/Ø17 mm

Cf min./max.: Ø8/Ø17 mm

Winding diameter: Ø270 mm max.

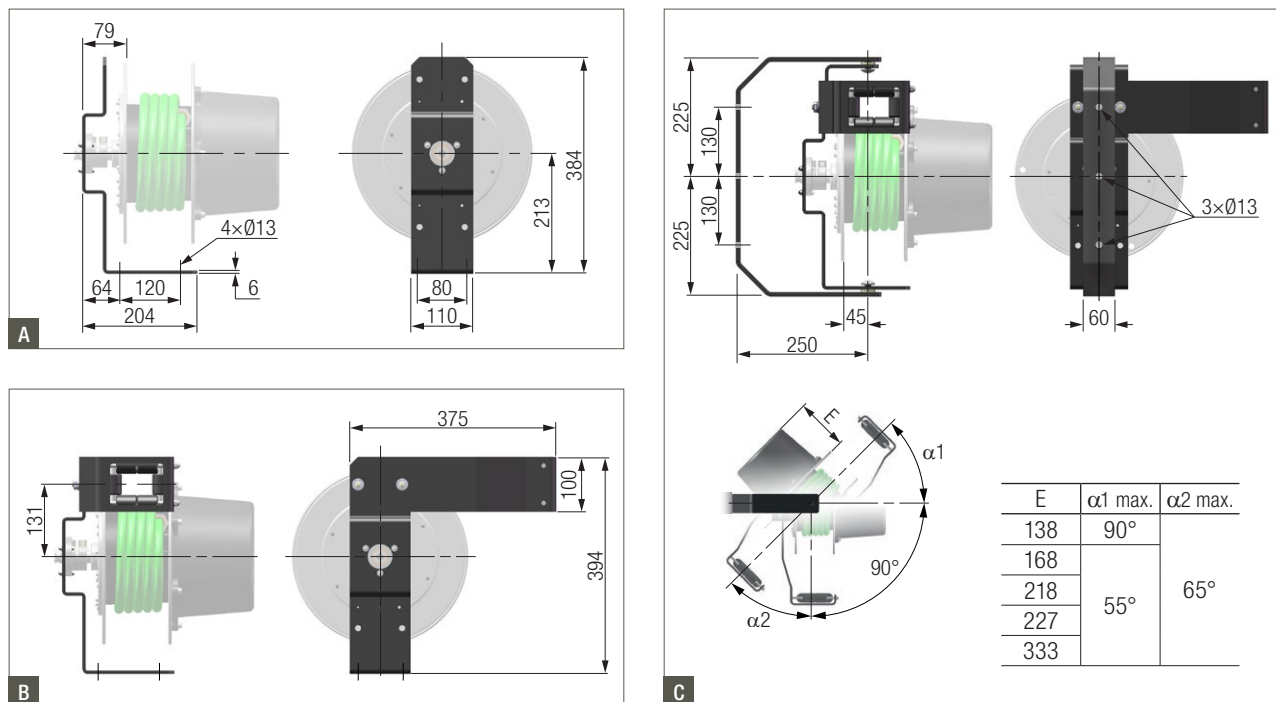
Weight approx.<sup>2)</sup>: 6.5 up to 8.5 kg

<sup>1)</sup> Useful width = 120 mm

<sup>2)</sup> Cable excluded and according to slip ring type

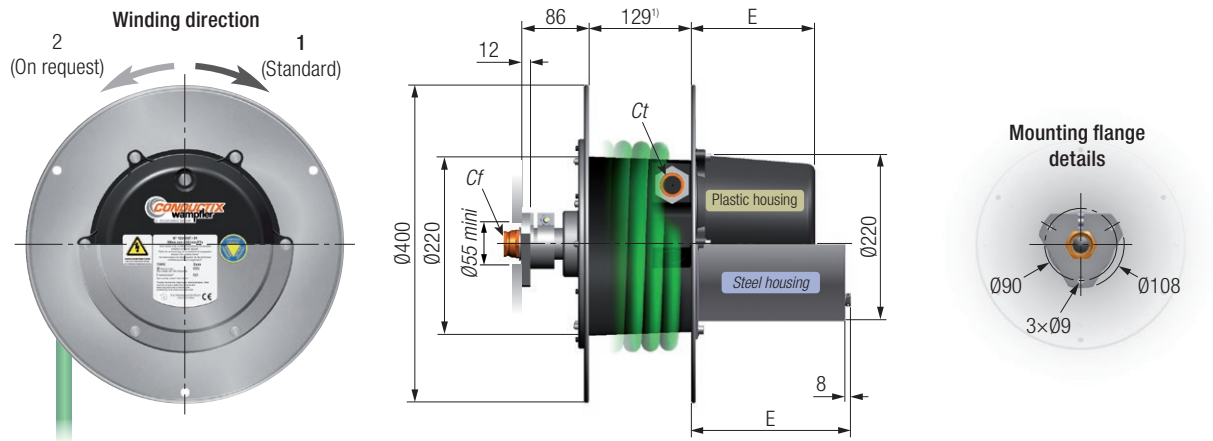
Rotary joints | 3/8" BP (E = 74 mm), 3/8" BPO (E = 138 mm), 3/8" BPO (E = 138 mm)

## Options



Model	Dimensions as	Weight [kg]
Bracket 'SE' for SR10	fig. A	3.0
Bracket and roller guide arm 'BR' for SR10	fig. A+B	5.5
Swivel bracket 'SP' for SR10	fig. A+B+C	10.0
Adapter flange	See p.19	

# SR20 | Dimensional Details



Max. number of poles of the same slip ring type according to 'E' (one pole PE included)

Slip ring	E [mm]				
	Plastic slip ring housing			Steel slip ring housing	
Type	138	168	218	227	333
U050 / W050	5	7	13	13	22
A050	5	7	13	13	22
B050	5	7	12	12	20
D050	3	5	8	8	8
E050	2	3	4	4	4

Ct min./max.: Ø8/Ø22 mm

Cf min./max.: Ø8/Ø22 mm

Winding diameter: Ø340 mm max.

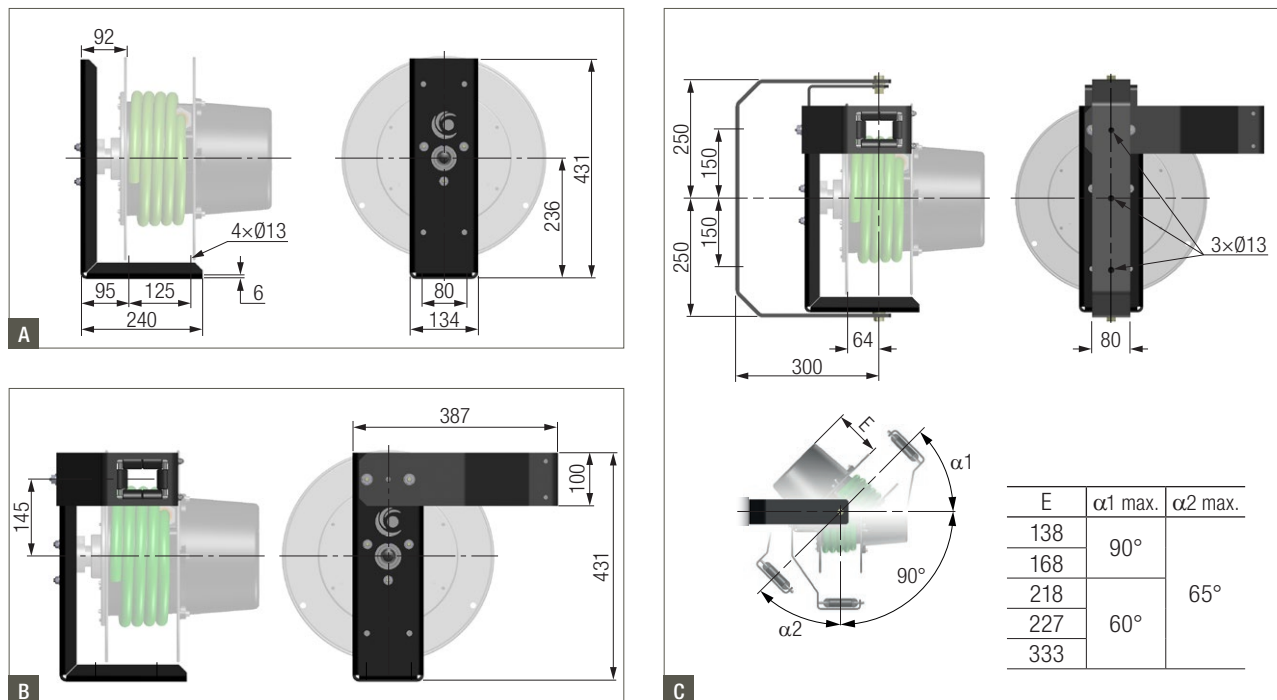
Weight approx.<sup>2)</sup>: 8.5 up to 13 kg

<sup>1)</sup> Useful width = 135 mm

<sup>2)</sup> Cable excluded and according to slip ring type

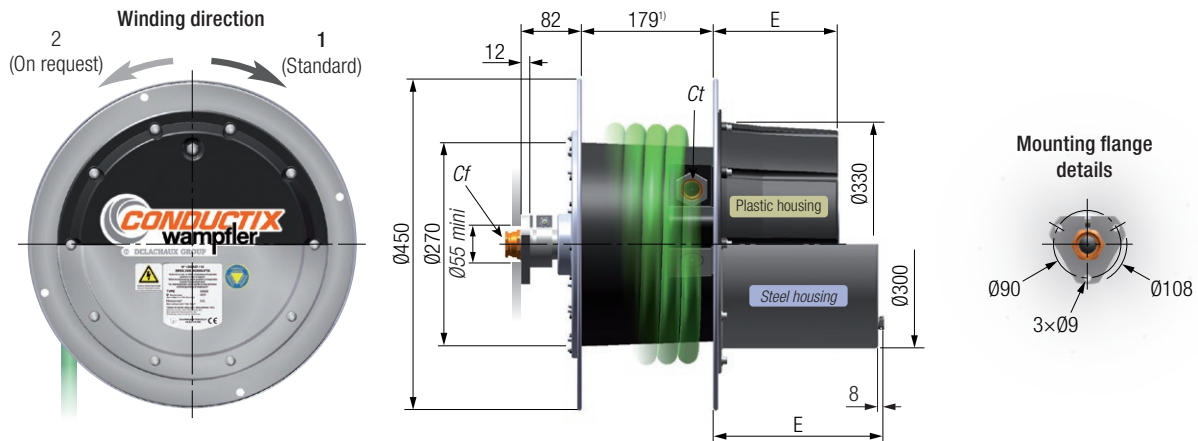
Rotary joints	3/8" BP (E = 67 mm), 3/8" BPO (E = 132 mm), 3/8" BPO (E = 132 mm)
---------------	---

## Options



Model	Dimensions as	Weight [kg]
Bracket 'SE' for SR20	fig. A	5.0
Bracket and roller guide arm 'BR' for SR20	fig. A+B	8.0
Swivel bracket 'SP' for SR20	fig. A+B+C	15.0
Adapter flange	See p.19	

# SR30 | Dimensional Details



Max. number of poles of the same slip ring type according to 'E' (one pole PE included)

Slip ring Type	E [mm]					
	Plastic slip ring housing			Steel slip ring housing		
	168	218	322	230	336	471
U050 / W050	8	13	22	13	22	32
A050	8	13	22	13	22	32
B050	7	12	20	12	20	22
D050	5	8	8	8	8	8
E050	3	4	4	4	4	4
U090 / W090	7	12	24	12	24	38
A090	7	12	24	12	24	38
B090	6	11	21	11	21	34
D090	4	7	14	7	14	23
E090	3	6	10	5	10	15
F090	2	4	8	4	8	8

Ct min./max.: Ø8/Ø28 mm

Cf min./max.: Ø8/Ø28 mm

Winding diameter: Ø400 mm max.

Weight approx.<sup>2)</sup>: 14 up to 23 kg

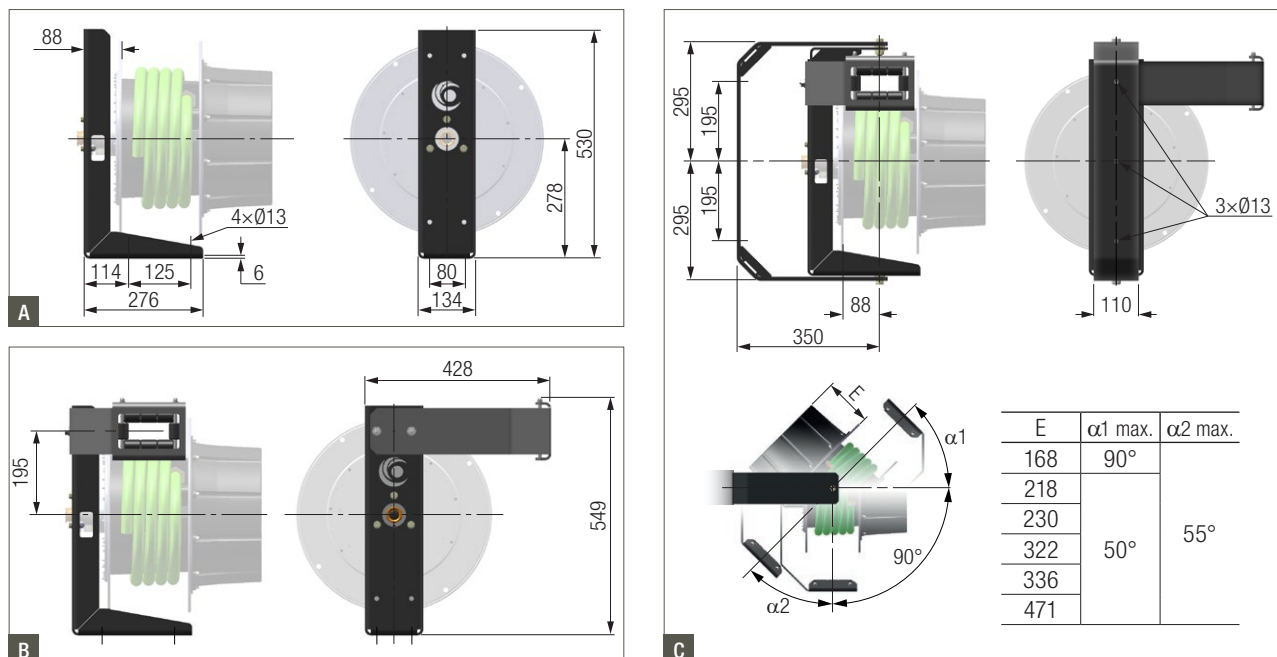
<sup>1)</sup> Useful width = 185 mm

<sup>2)</sup> Cable excluded and according to slip ring type

## Rotary joints

3/8" BP (E=84mm), 3/8" BPO (E=129mm), 3/4" BP (E=84mm), 3/4" BPO (E=129mm)

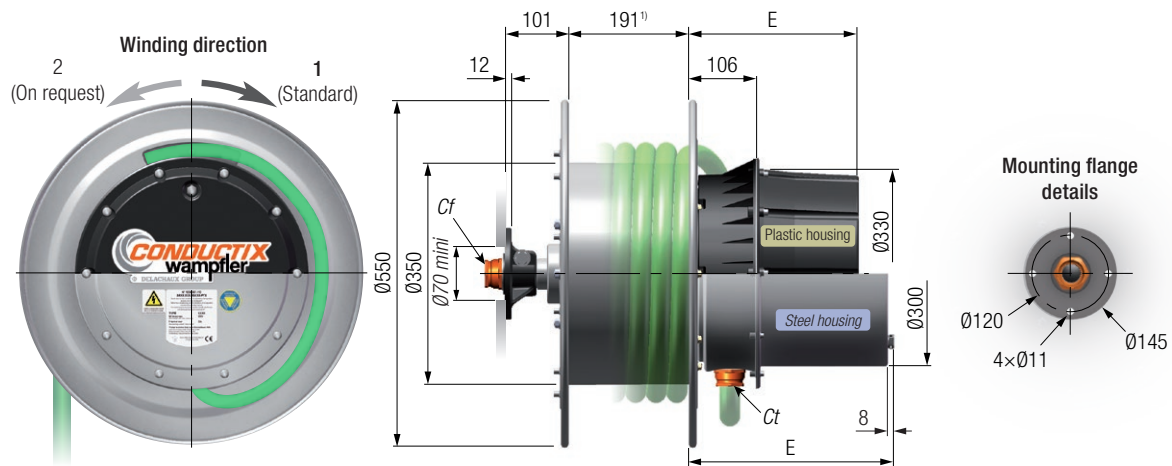
## Options



Model	Dimensions as	Weight [kg]
Bracket 'SE' for SR30	fig. A	8.0
Bracket and roller guide arm 'BR' for SR30	fig. A+B	11.5
Swivel bracket 'SP' for SR30	fig. A+B+C	24.5
Adapter flange	See p.19	



# SR40 | Dimensional Details



Max. number of poles of the same slip ring type according to 'E' (one pole PE included)

Slip ring	E [mm]					
	Plastic slip ring housing			Steel slip ring housing		
Type	269	319	423	327	433	568
U050 / W050	10	15	24	15	24	32
A050	10	15	24	15	24	32
B050	9	14	22	14	22	22
D050	6	8	8	8	8	8
E050	4	4	4	4	4	4
U090 / W090	9	14	24	14	26	40
A090	9	14	24	14	26	40
B090	8	13	23	13	24	36
D090	5	8	15	8	16	24
E090	4	6	10	6	11	15
F090	3	4	8	4	8	8

Ct min. / max.: Ø8 / Ø36 mm

Cf min. / max.: Ø8 / Ø32 mm

Winding diameter: Ø477 mm max.

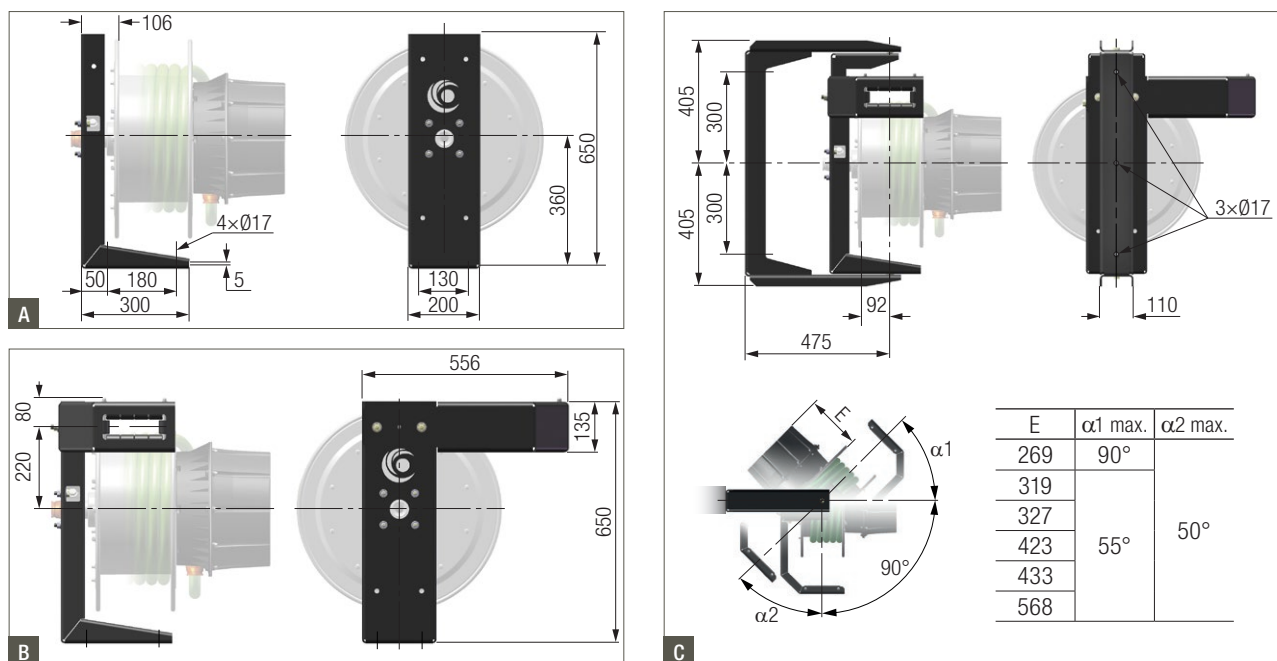
Weight approx.<sup>2)</sup>: 35 up to 65 kg

<sup>1)</sup> Useful width = 196 mm

<sup>2)</sup> Cable excluded and according to slip ring type

**Rotary joints** | 3/8" BP (E=161mm), 3/8" BPO (E=208mm), 3/4" BP (E=161mm), 3/4" BPO (E=208mm)

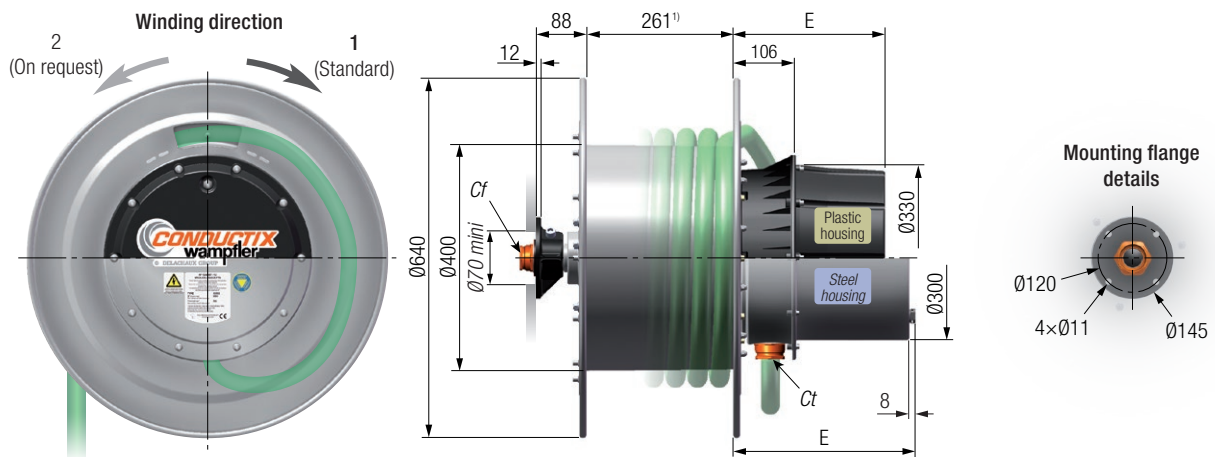
## Options



Model	Dimensions as	Weight [kg]
Bracket 'SE' for SR40	fig. A	11.0
Bracket and roller guide arm 'BR' for SR40	fig. A+B	18.0
Swivel bracket 'SP' for SR40	fig. A+B+C	38.5
Adapter flange	See p.19	



# SR50 | Dimensional Details



Max. number of poles of the same slip ring type according to 'E' (one pole PE included)

Slip ring	E [mm]					
	Plastic slip ring housing			Steel slip ring housing		
Type	269	319	423	327	433	568
U050 / W050	10	15	24	15	24	32
A050	10	15	24	15	24	32
B050	9	14	22	14	22	22
D050	6	8	8	8	8	8
E050	4	4	4	4	4	4
U090 / W090	9	14	26	14	26	40
A090	9	14	26	14	26	40
B090	8	13	23	13	24	36
D090	5	8	15	8	16	24
E090	4	6	10	6	11	15
F090	3	4	8	4	8	8

Ct min. / max.: Ø8 / Ø36 mm

Cf min. / max.: Ø8 / Ø32 mm

Winding diameter: Ø557 mm max.

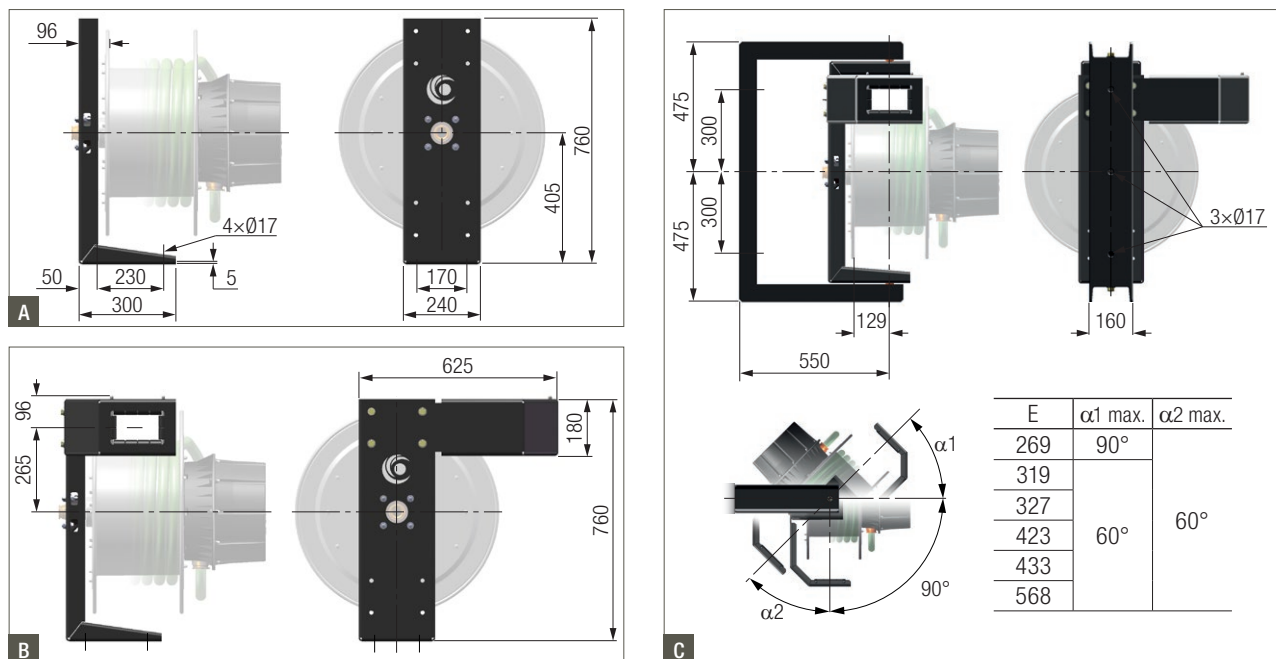
Weight approx.<sup>2)</sup>: 42 up to 90 kg

<sup>1)</sup> Useful width = 267 mm

<sup>2)</sup> Cable excluded and according to slip ring type

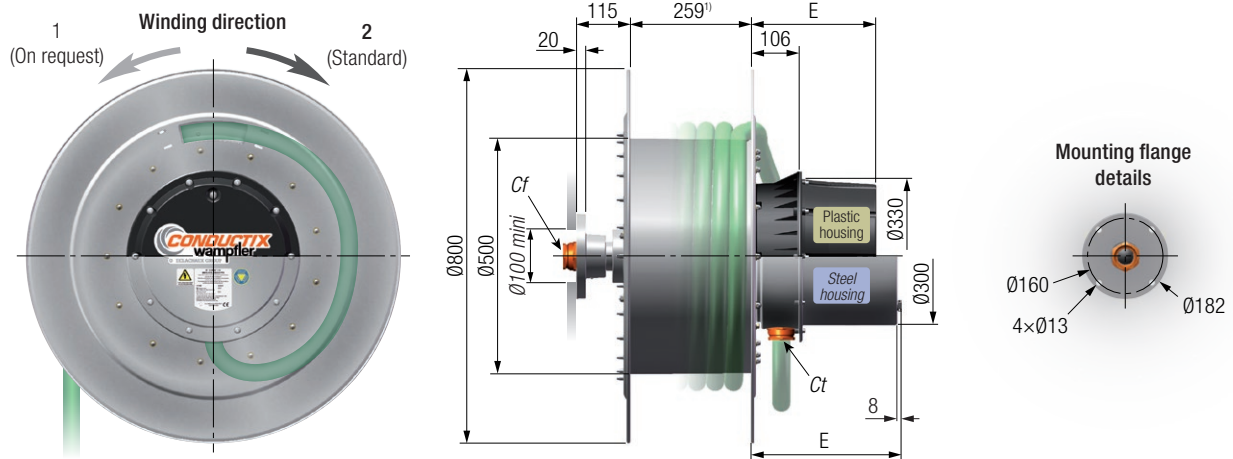
Rotary joints	3/4" BP (E=161mm), 3/4" BPO (E=239mm)
---------------	---------------------------------------

## Options



Model	Dimensions as	Weight [kg]
Bracket 'SE' for SR50	fig. A	14.5
Bracket and roller guide arm 'BR' for SR50	fig. A+B	23.0
Swivel bracket 'SP' for SR50	fig. A+B+C	72.0
Adapter flange	See p.19	

# SR60 | Dimensional Details



Max. number of poles of the same slip ring type according to 'E' (one pole PE included)

Slip ring Type	E [mm]					
	Plastic slip ring housing			Steel slip ring housing		
	269	319	423	327	433	568
U050 / W050	10	15	24	15	24	32
A050	10	15	24	15	24	32
B050	9	14	22	14	22	22
D050	6	8	8	8	8	8
E050	4	4	4	4	4	4
U090 / W090	9	14	26	14	26	40
A090	9	14	26	14	26	40
B090	8	13	23	13	23	36
D090	5	8	15	8	16	24
E090	4	6	10	6	11	15
F090	3	4	8	4	8	8

Ct min. / max.: Ø8 / Ø42 mm

Cf min. / max.: Ø8 / Ø38 mm

Winding diameter: Ø687 mm max.

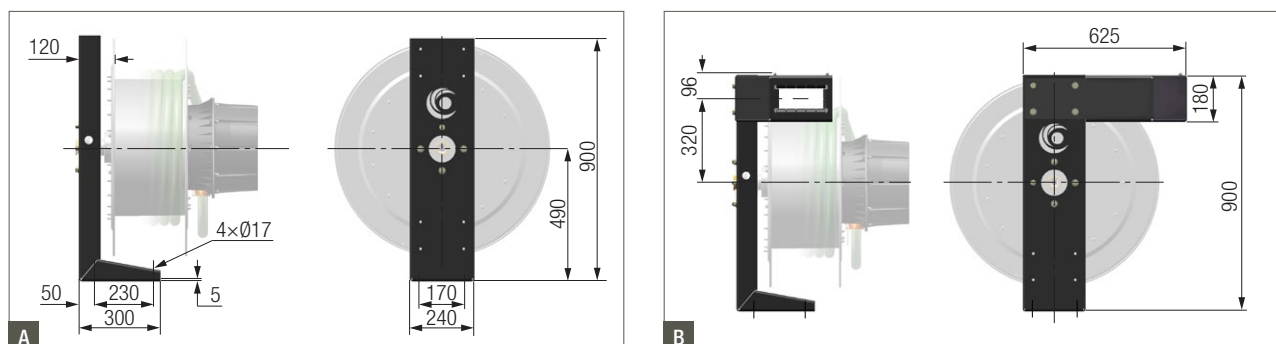
Weight approx.<sup>2)</sup>: 59 up to 122 kg

<sup>1)</sup> Useful width = 266 mm

<sup>2)</sup> Cable excluded and according to slip ring type

Rotary joints	3/4" BP (E=159mm), 3/4" BPO (E=240mm)
---------------	---------------------------------------

## Options



Model	Dimensions as	Weight [kg]
Bracket 'SE' for SR60	fig. A	18.0
Bracket and roller guide arm 'BR' for SR60	fig. A+B	26.0
Adapter flange	See p.19	

# Adapter Flanges

## Selection of Option 'AB'

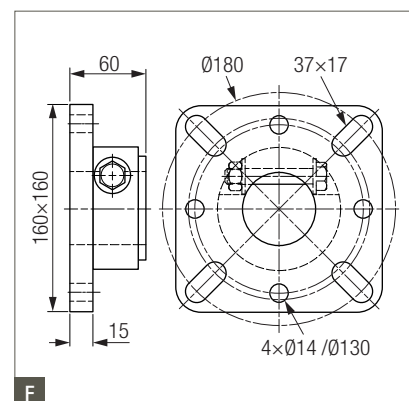
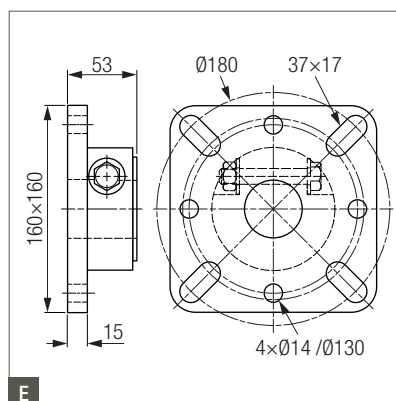
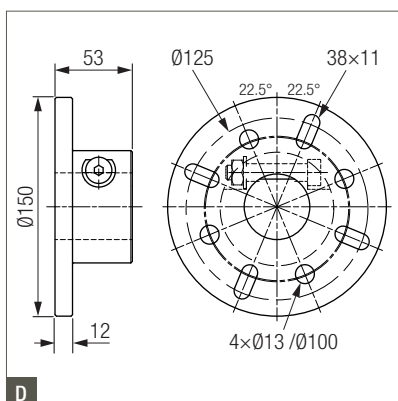
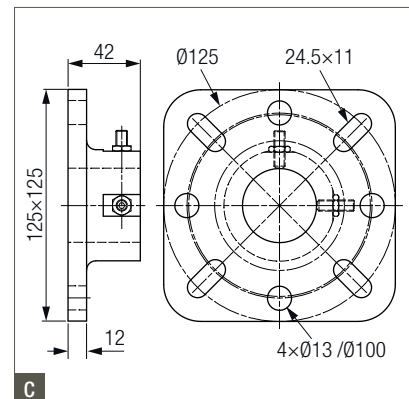
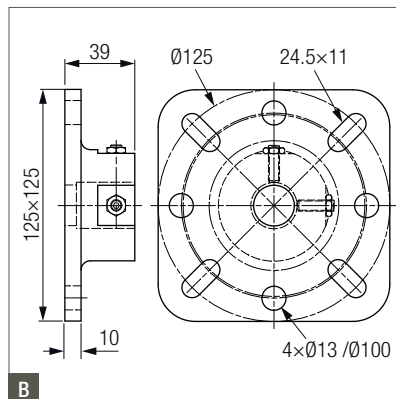
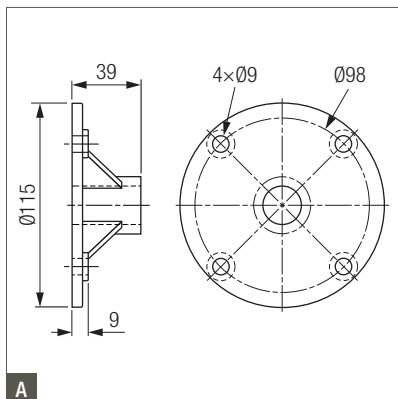
SR model...	15...	18...	22...	26...	32...	40...	50...	Dims as per
SR10	AB15							A
		AB18		AB26				B
SR20		AB18	AB22	AB26				C
SR30		AB18	AB22	AB26				C
SR40			AB22	AB26	AB32			D
						AB40		E
SR50						AB40	AB50	E
SR60						AB40	AB50	F

### Example

Select option 'AB26' to replace a former Conductix-Wampfler's spring reel model BEF26 with a spring reel model SR20 without modification of the support.

SR model...	0	1/A	2	3	4	5/A	6/A	Dims as per
SR10	AB00							B
SR20		AB01	AB02	AB03	AB04			C
SR30		AB01	AB02	AB03	AB04			C
SR50						AB05	AB06	E
SR60						AB05	AB06	F

Adapter flange option is not required for the replacement of a former Conductix-Wampfler's EXEL spring reel with a SR spring reel.



# Accessories

## Cable Grips and Spring Impact Absorbers



### Single-eye cable grip SB | Light duty applications

Model	Without lacing		With lacing	
For cable OD	Type	Order No.	Type	Order No.
5 up to 8 mm	SB5	<b>3057558</b>	-	-
8 up to 13 mm	SB8	<b>3057560</b>	SBLA8	<b>3139643</b>
13 up to 18 mm	SB13	<b>3056836</b>	SBLA13	<b>3139644</b>
18 up to 25 mm	SB18	<b>3057564</b>	SBLA18	<b>3139645</b>
25 up to 38 mm	SB25	<b>3057566</b>	SBLA25	<b>3139646</b>

### Double-eye cable grip DB | Lift applications, standard duty

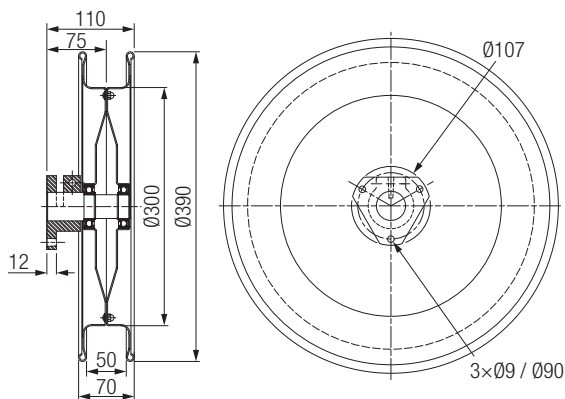
Model	Without lacing		With lacing	
For cable OD	Type	Order No.	Type	Order No.
8 up to 15 mm	DB8	<b>3057556</b>	DBLA8	<b>3139633</b>
15 up to 25 mm	DB15	<b>3057598</b>	DBLA15	<b>3139634</b>
25 up to 45 mm	DB25	<b>3057600</b>	DBLA25	<b>3139635</b>



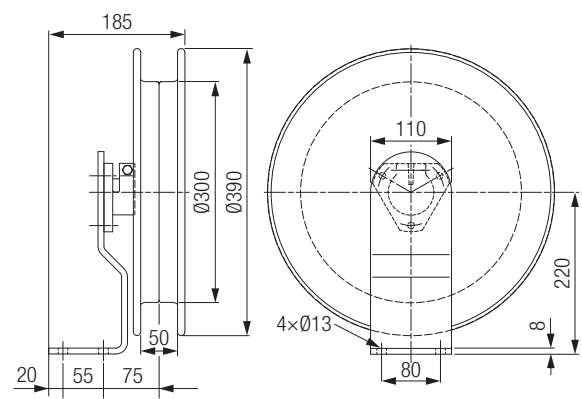
### Spring impact absorber

Model	Cadmium plated steel	Stainless steel
	Order No.	Order No.
20 kg	<b>3057690</b>	<b>3057691</b>
40 kg	<b>3057692</b>	<b>3057693</b>
80 kg	<b>3057175</b>	<b>3140790</b>
150 kg	<b>3057696</b>	<b>3140791</b>

## Deflection Pulleys

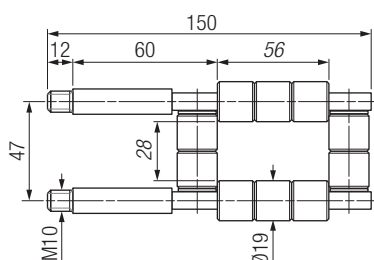


Model	Order No.	Cable OD
Deflection pulley Ø300/390 w/flange	<b>3168550</b>	Ø14 up to Ø25

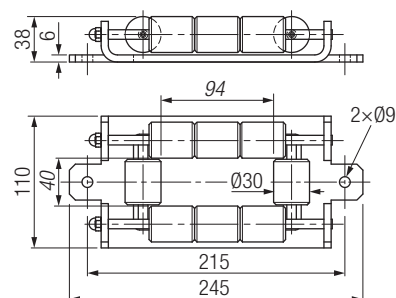


Model	Order No.	Cable OD
Deflection pulley Ø300/390 w/bracket	<b>3056839</b>	Ø14 up to Ø25

## Roller Guides



Model	Order No.	Cable OD
Roller guide (to for SR10 - SR20)	<b>3059248</b>	Ø23 max.



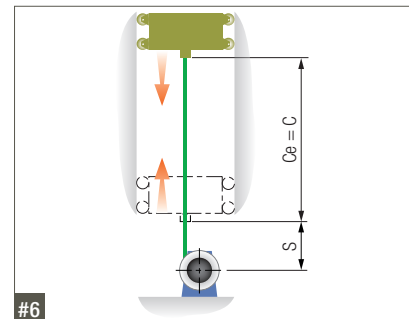
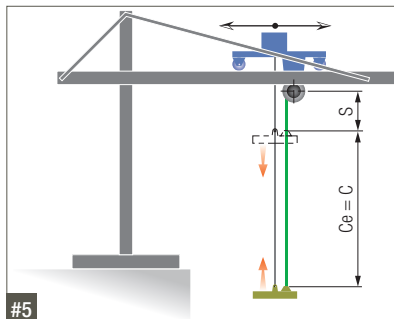
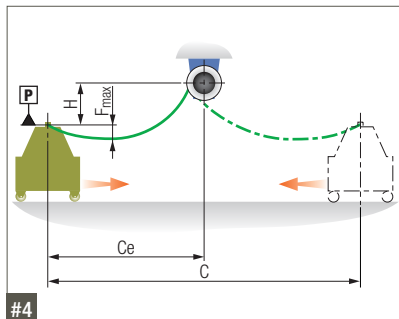
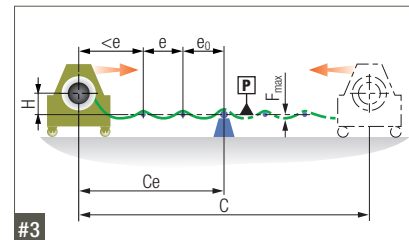
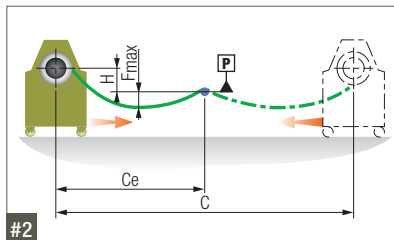
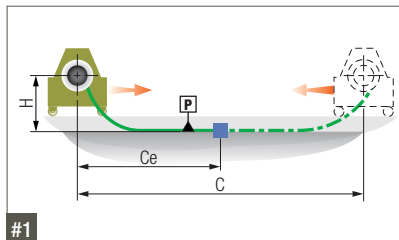
Model	Order No.	Cable OD
Roller guide (to fit SR30)	<b>3139465</b>	Ø28 max.

# Questionnaire

## Operation Conditions

- Type of mobile machine: .....
- Max. travel speed: ..... [m/min]
- Acceleration: ..... [m/s<sup>2</sup>] or run-up time: ..... [s]
- No. of travels/day: .....
- Operating hours/day: .....
- Ambient temperature: min..... [°C] max. .... [°C]
- Site: ☐ indoors ☐ outdoors Max. wind speed: ..... [m/s]
- Environmental conditions: ☐ tropics ☐ salty ☐ explosive ☐ dusty ☐ humidity:..... [%]
- ☐ chemical (☐ urea ☐ potash ☐ phosphate ☐ other: .....)
- ☐ nuclear
- ☐ offshore
- ☐ low temperature (below -15°C) Tmin:..... [°C]

## Type of Application



- Application as per fig. # .....
- 'Ce': winding length: ..... [m]
- 'C': total travel length: ..... [m]
- 'H': mounting height of the reel above 'P': ..... [m]
- 'F<sub>max</sub>': max. allowable cable sag: ..... [m]
- 'e': distance between supports: ..... [m]
- 'e<sub>0</sub>': distance to the first support: ..... [m]
- 'S': length of permanently paid-out cable: ..... [m]

## Electrical Data

- Operating voltage: ..... [V] ☐ AC3 / ..... Hz ☐ AC1 / ..... Hz ☐ DC
- Power: ..... [kW]
- Amperage: ..... [A]
- Duty: ..... [%]

## Cable

- Type: .....
- No. of cores × cross section: ..... PE: ☐ O ☐ N N: ☐ O ☐ N
- OD min./max.: ..... [mm] Weight: ..... [kg/m] Min. bending radius: ..... [mm]
- Max. allowable tensile force: ..... [kg]

# Questionnaire

## Options

- ☐ Bracket SE
- ☐ Roller guide arm BR <sup>1)</sup>
- ☐ Swivel bracket SP <sup>1)</sup>
- ☐ IP66
- ☐ Stainless steel screws
- ☐ End limit switch
- ☐ Heating strip for slip ring
- ☐ Epoxy paint finish
- ☐ SP200 paint finish
- ☐ Paint by others

<sup>1)</sup> Specify roller guide arm position:



## Accessories

- ☐ One-way cable guide
- ☐ Two-ways cable guide
- ☐ Deflection pulley
- ☐ Cable grip
- ☐ Spring impact absorber
- ☐ Cable entry
- ☐ Anchor drum
- ☐ Connecting box
- ☐ Other:

**Other Information** (please attach a sketch)

[illegible]

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**Customer**

Company: .....

Contact: .....

Adress: .....

---

Phone: .....

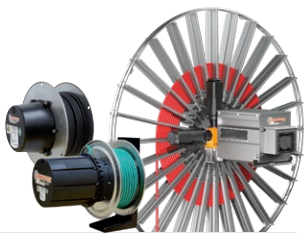
Fax: .....

Email: .....



# Your Applications – our Solutions

The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler systems can prove advantageous. You can count on Conductix-Wampfler for hands-on engineering support together with the optimum solution to safely meet your needs.



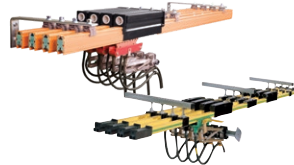
## Cable and Hose Reels

Motor driven and spring driven reels by Conductix-Wampfler provide energy, data and media over a variety of distances, in all directions, fast and safe.



## Festoon Systems

Conductix-Wampfler cable trolleys can be used in virtually every industrial application. They are reliable, robust and available in an enormous variety of dimensions and designs.



## Conductor Rails

Available as enclosed or multiple unipole systems, Conductix-Wampfler conductor rails reliably move people and material.



## Inductive Power Transfer IPT®

The no-contact system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear. Flexible installation when used with Automated Guided Vehicles.



## Non-insulated Conductor Rails

Robust, non-insulated aluminum conductor rails with stainless steel cap provide the ideal basis for power supply of people movers and transit networks.



## Radio Remote Controls

Safety remote control solutions customized to meet our customer needs with modern ergonomic design.



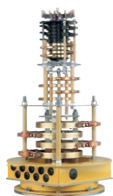
## Reels, Retractors and Balancers

Available for hoses and cables, as classical reels or high-precision positioning aids for tools, we offer a complete range of reels and spring balancers.



## Jib Booms

Complete with tool transporters, reels or an entire media supply system – safety and flexibility are key to the completion of difficult tasks.



## Slip Ring Assemblies

Whenever things are really "moving in circles", the proven slip ring assemblies by Conductix-Wampfler ensure the flawless transfer of energy and data. Here, everything revolves around flexibility and reliability!



## Mobile Control Systems

Mobile control solutions for your plant – whether straightforward or intricate. Control and communication systems from LKJ have been tried and tested in the automotive industry for decades.



## ProfiDAT

This data transfer system is a compact slotted waveguide and furthermore can be used as Grounding rail (PE) as well as positioning rail at the same time.

# www.conductix.com

## **Conductix-Wampfler**

has just one critical mission:

To provide you with energy and data transmission systems that will keep your operations up and running 24/7/365.

To contact your nearest sales office, please refer to:

**www.conductix.contact**

