



metreel

INDUSTRIAL CABLE REELING DRUMS

www.metreel.co.uk





INDUSTRIAL CABLE REELING DRUMS

Designed for automatic payout and retrieval or storage of flexible cables for use on a wide range of industrial equipment with a proven history dating back to the early 1940's...



Our comprehensive range can be conveniently adapted to the requirements of your application. The SC range is supplied as standard with a flange mount, whereas the SCXL starts its configuration as a floor mount. All models have mounting holes which provide a quick and easy method to mount direct to your machinery. Options of floor mounted brackets (SC), multi-position rollers guides, swivel bases and a variety of static cable terminations make the range easy to adapt for any installation.

- Indoor and outdoor use in normal industrial environments
- Travel speeds up to 60 m/min and accelerations up to 0.2 m/s²

General Construction

Using heavy gauge steel the Metreel design is both strong and weatherproof whilst employing minimum components within its build. The drums revolve on a pair of "sealed for life" ball races resulting in the complete reel being generally maintenance free.

Features:-

- IP65 protection degree
- Simple to install and set up
- Long service life
- Easy spring replacement

- Complete range of accessories, brackets, guides and cable securing devices.
- Heavy Duty Construction
- Robust

Springs

Metreel springs have been proven in service for over 80 years and are manufactured from the highest quality materials. They are of the "clock spring" or spiral wound type and by using the springs singly or in series or parallel, a wide range of performance characteristics is obtained from the standard range.

Enclosures

The slipping compartments and enclosure of the reels are generally designed and built for IP65 protection.

Standards

Designed and built in accordance with the Machinery Directive 2006/42/CE and the Low Voltage Directive 2006/95/CE. As our reeling drums 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.

CONSTRUCTION

Two model choices “SC” and “SCXL” produce a range of eight reeling drum options. Each manufactured using a heavy gauge steel with a Poppy Red powdercoat finish.

Spool diameters ranging from 180 to 650mm, with adjustable spool widths on the SCXL model from 130 to 550mm.

For use in applications both indoors and outdoors, the Metreel reels are weatherproof and meet IP65 protection.

Drums revolve on a pair of sealed for life bearings, resulting in the complete reel being generally maintenance free.

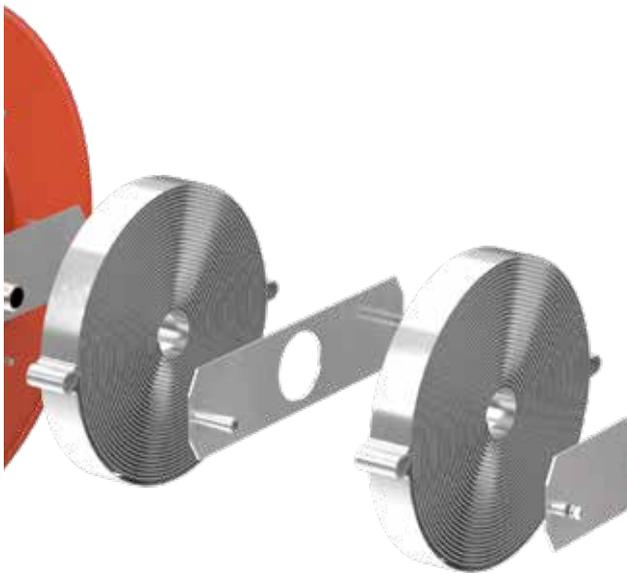
Designed and built in accordance with the Machinery Directive 2006/42/CE and Low Voltage Directive 2006/95/CE.



SPRINGS

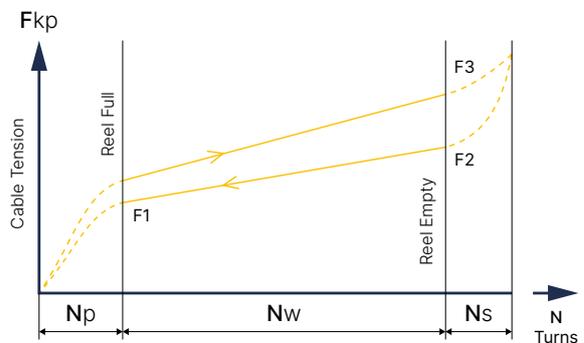
Metreel springs are manufactured from high quality steel for prolonged operating performance. The springs are contained within a steel safety band. Springs are employed either singly, in series or parallel depending upon application. The table opposite shows typical performance characteristics of each arrangement.

Spring Type	Part No	Dia. (mm)	Width (mm)	Net Wt. Kg
A	FC43230510	150	45	3.2
V	FC43334120	267	38	7.2
X	FC43285220	267	38	8.3
R	FC43434340	312	45	11.2
P	FC43335340	312	45	11.9



SPRING PERFORMANCE

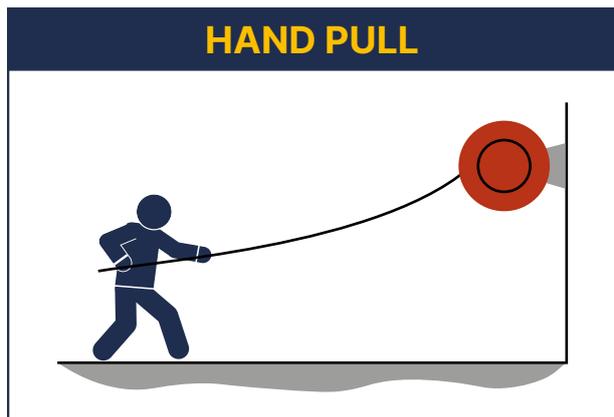
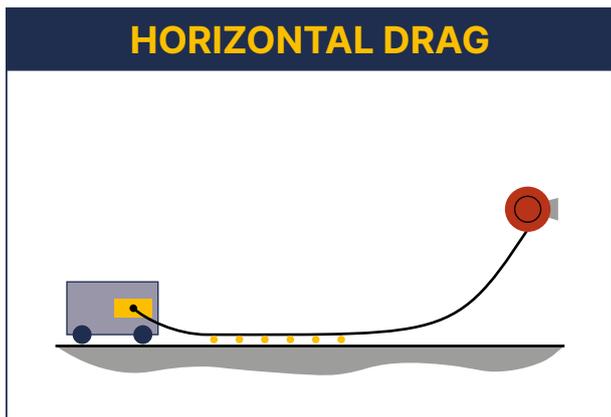
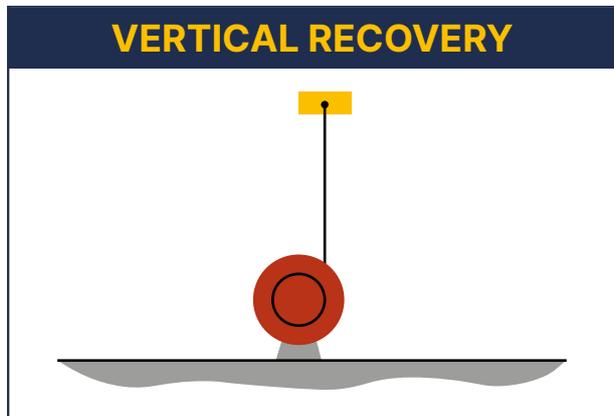
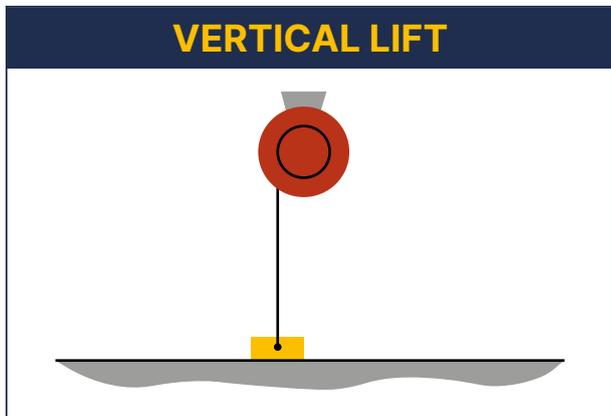
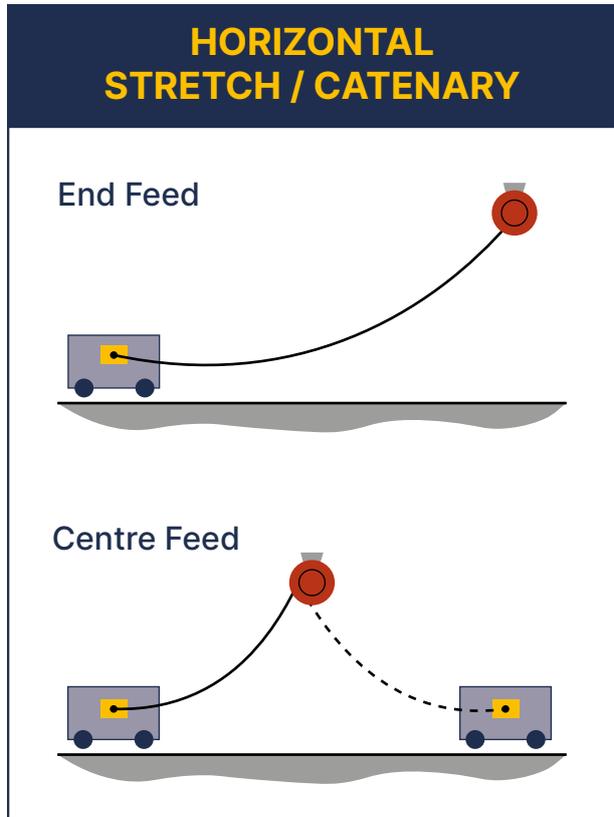
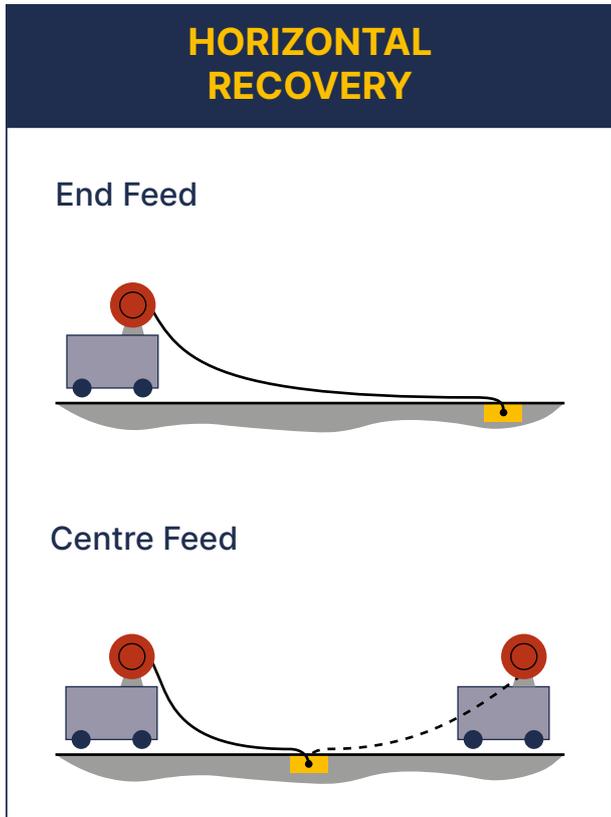
Spring Type	F1	F2	F3	Nw
1AX	1.34	3.4	4.5	18.0
1VX	2.4	8.4	12.0	23.0
1XX	4.0	15.0	19.8	14.0
2VP	4.8	16.8	24.0	23.0
2VS(Z)	1.2	8.4	12.0	46.0
2XS(Z)	2.0	15.0	19.8	28.0
1RX	2.6	8.8	10.4	23.0
1PX	4.5	15.0	20.5	16.0
2RP	5.2	17.6	20.8	23.0
2PP	9.0	29.0	41.0	16.0
2RS(Z)	1.3	8.8	10.4	46.0
2PS(Z)	3.0	15.0	20.5	35.0
3RP	7.8	26.4	31.2	23.0
3PP	13.5	45.0	61.5	16.0



- F1 = Minimum recovery tension k_p
- F2 = Maximum recovery tension k_p
- F3 = Maximum paying out tension k_p
- Nw = Maximum number of usable spring turns
- Np = Spring preload turns (min. 2 shown)
- Ns = Safety turns (usually 2)

APPLICATION

The following arrangements show the most common ways of installing reeling drums. For other applications please consult our technical sales team.



SPRING ARRANGEMENTS

Reel	Spring Motor	No of Springs	Arrangement
SC18	1AX	1	-
SC20 SC30 SCXL20 SCXL30 SCXL40 SCXL50	1VX	1	-
	1XX	1	-
	2VP	2	Parallel
	2VS	2	Series
	2XS	2	Series
	2VZ	2	Series Reverse
	2XZ	2	Series Reverse
SC40 SCXL20 SCXL30 SCXL40 SCXL50	1RX	1	-
	1PX	1	-
	2RP	2	Parallel
	2PP	2	Parallel
	2RS	2	Series
	2PS	2	Series
	2RZ	2	Series Reverse
	2PZ	2	Series Reverse
	3RP	3	Parallel
	3PP	3	Parallel

PRELOADING OF SPRINGS

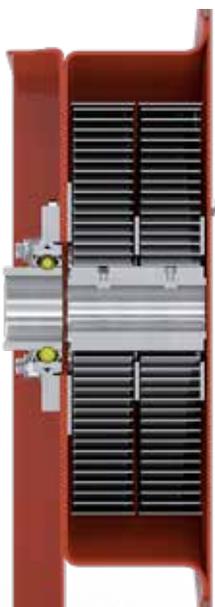
In order that the reel recovers all the cable correctly it is necessary to ensure that the spring is under tension at all times and to achieve this, a minimum of two preload turns are applied to the full reel on installation before the cable begins to pay out. Some applications may require more than two preload turns to obtain the required minimum tension and so the number of usable spring revolutions will be reduced accordingly.

CABLE TENSION

On our selection we calculate that permissible tension allowed on the cable being used as 15N/mm². Please confirm this with your cable supplier.

SPRINGS IN PARALLEL

Multiple springs operating in a parallel function provides double the tensile pull, allowing for heavier cables to be accommodated.

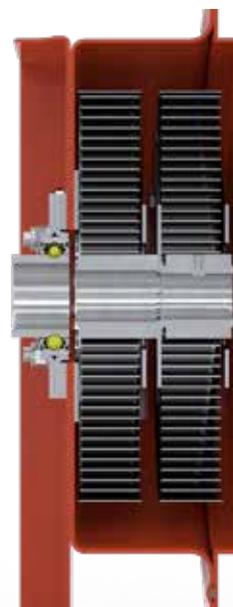


SPRINGS IN SERIES

Multiple springs operating in a series function provides double the amount of turns, allowing for longer cables to be accommodated.

SPRINGS IN SERIES (REVERSE ROTATION)

Multiple springs operating in a series reverse function provides double the amount of turns, allowing for longer cables to be reeled in a reverse direction.

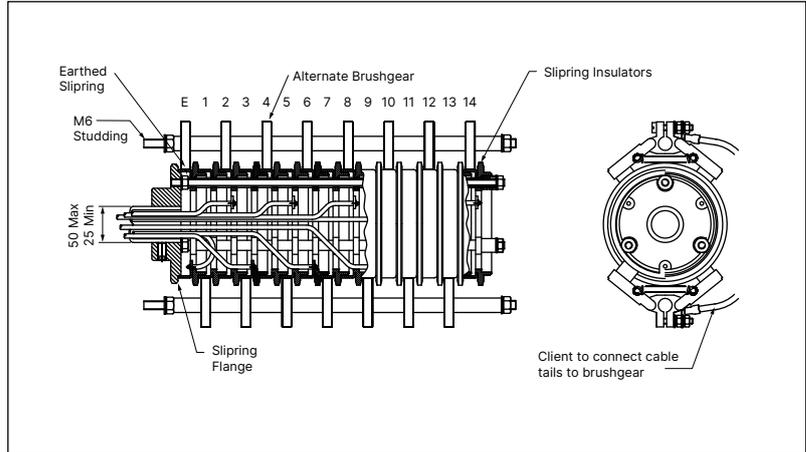


SLIP RINGS

The Metreel range of slipring assemblies are produced in phosphor bronze or brass with suitable insulators between each ring. Each ring is fitted with at least two copper graphite brushes held in contact by self-adjusting, spring loaded calliper type brush holders. Where low contact resistance and low noise levels are required, silver plated rings can be supplied. Gold plated rings can also be provided.

“D” Type

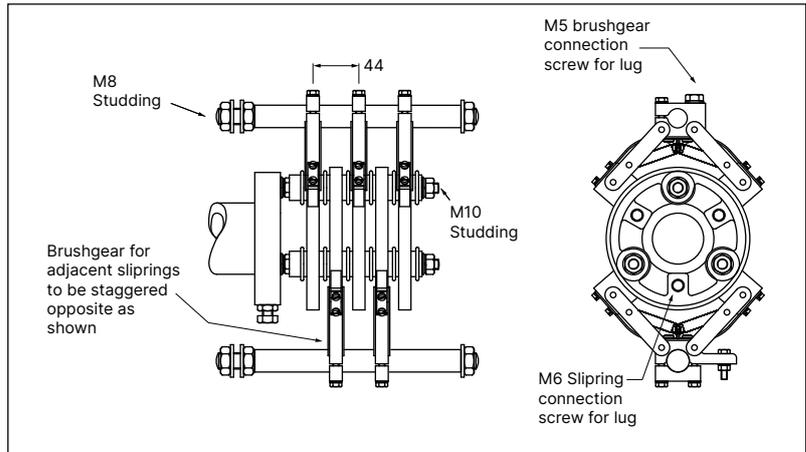
Reel Model	Slip Rings Qty	Cable Size mm ²	Max Amps* (BS7671:2018)	
			3.2.1	3.2.2
SC18	4	4.0	30	30
	6	4.0	25	30
	8	2.5	15	20
SC20 & SC30	4	6.0	30	30
	8	6.0	30	30
	12	4.0	20	25
SC40	18	2.5	15	15
	8	6.0	30	30
	18	6.0	20	30
	24	4.0	15	20
	32	2.5	10	15



Max Current: 30Amps
Max Voltage: 600V

“M” Type

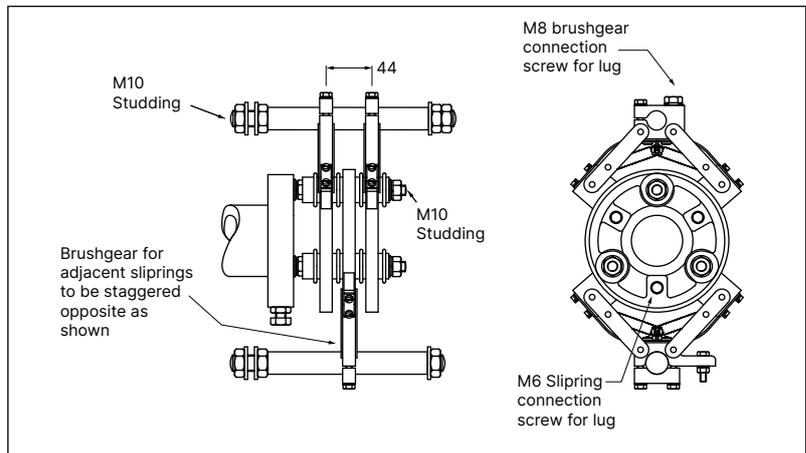
Reel Model	Slip Rings Qty	Cable Size mm ²	Max Amps* (BS7671:2018)	
			3.2.1	3.2.2
SC40	5	16.0	60	60



Max Current: 60Amps
Max Voltage: 600V

“N” Type

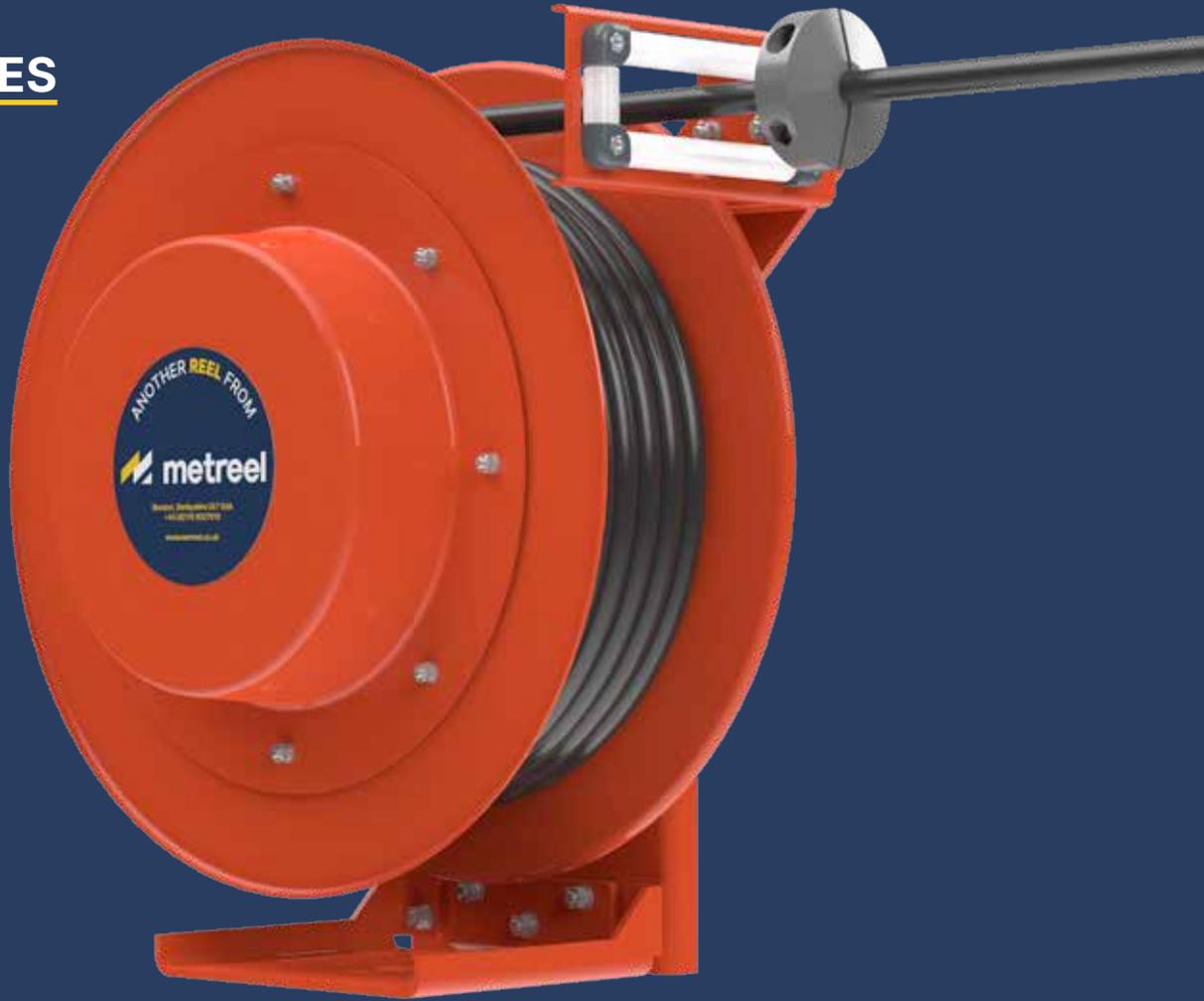
Reel Model	Slip Rings Qty	Cable Size mm ²	Max Amps* (BS7671:2018)	
			3.2.1	3.2.2
SC40	3	25.0	100	100



Max Current: 100Amps
Max Voltage: 600V

* Max Amps design verification is based on the cable reel only and not any external wiring which is to be connected to the equipment. The end user must carry out suitable design reviews to take into account the complete circuit design as detailed within BS7671:2018. Max amps stated are for either 3.2.1: Standard Design Single Circuit/s or 3.2.2 Three Phase 3P/E or 3NP/E Circuit(s).

"SC" SERIES



MODEL EXPLANATION

SC302PP - D04BB - B1RGRL - SV

FRAME SIZE

- SC18
- SC20
- SC30
- SC40

SPRING ARRANGEMENT

- 1?X - Single Spring
- #?P - Multiple Springs in Parallel
- #?S - Multiple Springs in Series
- #?Z - Multiple Springs in Series Reverse Rotation

Where ? = Spring Type
Where # = No of Springs

SLIPRING CAPACITY

- D = 30amps
- M = 60amps
- N = 100amps
- V = 200amps

NO. OF RINGS

SLIPRING MATERIAL

- B = Brass
- S = Silver Plated
- G = Gold Plated
- A = Aluminium/Nickel Plated

BRACKET OPTIONS

- B0 = Bracket to suit Conduit connection
- BA = Bracket with Gland
- B1 = Bracket with Terminal Box

CABLE GLAND

- A = M16 Nylon (5-10mm)
- B = M20 Nylon (6-12mm)
- C = M25 Nylon (13-18mm)
- D = M32 Nylon (18-25mm)
- E = M40 Nylon (22-32mm)

LIMIT SWITCH

- L = Yes
- X = No

RATCHET ASSEMBLY

- R = Yes
- X = No

ROLLER GUIDE

- RG = Yes
- XX = No

SWIVEL ASSEMBLY

FEATURES

The basic reel is supplied complete with a mounting flange which can be attached to the supporting structure allowing a central clearance hole for connection to the reel shaft.

FLANGE MOUNT



If there is no suitable structure available to directly attach the flange, a bracket is available which bolts to the flange and allows the reel to be fixed on to a floor or tray.

BRACKET MOUNT



MULTI POSITION ROLLER GUIDE

Used in combination with the bracket mount, the multi position roller guide accommodates a variety of mounting configurations.

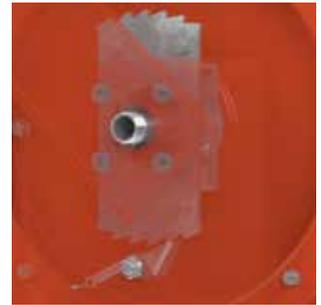
SLIPRINGS

Produced in phosphor bronze or brass with suitable insulators between each ring. Each ring is fitted with at least two copper graphite brushes held in contact by self-adjusting brush holders, which ensure positive contact at all times.



RATCHET ASSEMBLY

An optional spring loaded stopcatch which will work in any position allows cable to be pulled from the reel and then locks it with the required length paid out.



ROTARY LIMIT

Reels can be furnished with a rotary limit switch for use as "raise/lower" and "in/out" limits.



SWIVEL BASE

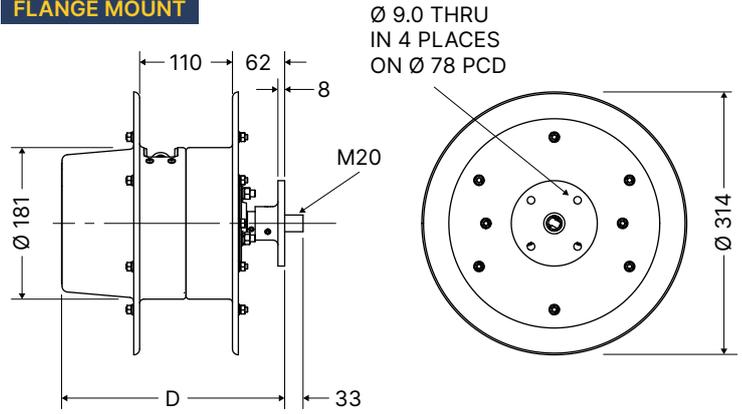
Optional swivel base allows 330° rotation of reel assembly. Required for two way payout and other applications demanding that they self align to the direction of the cable run.



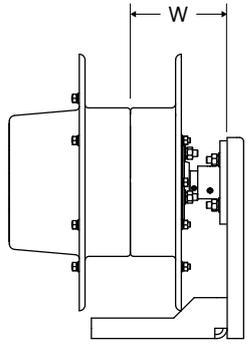
SC18 Technical Details



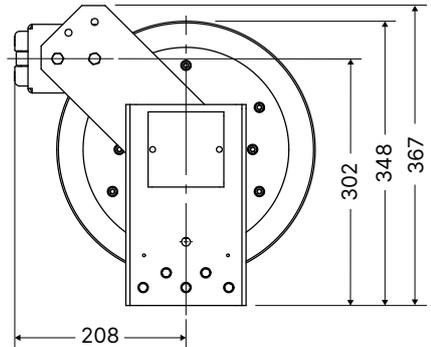
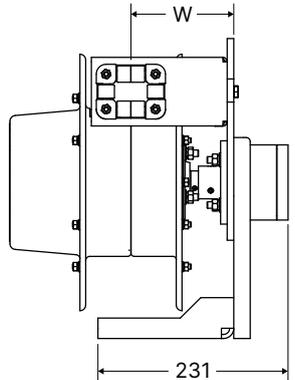
FLANGE MOUNT



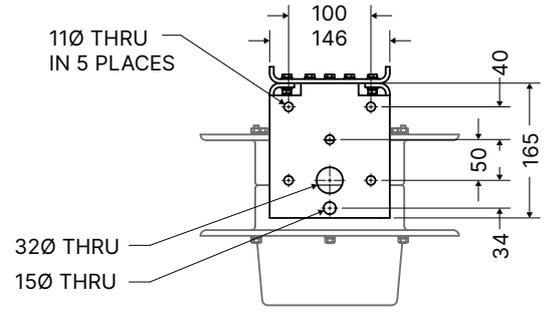
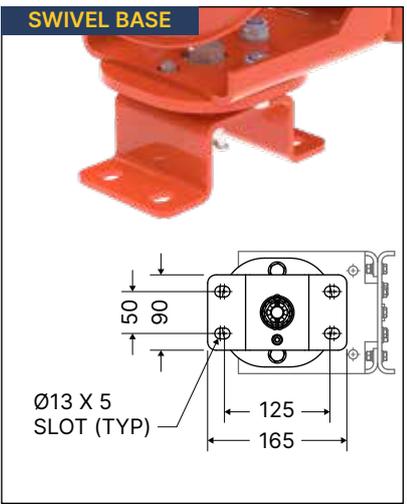
BRACKET MOUNT



ROLLER GUIDE & TERMINAL BOX



SWIVEL BASE

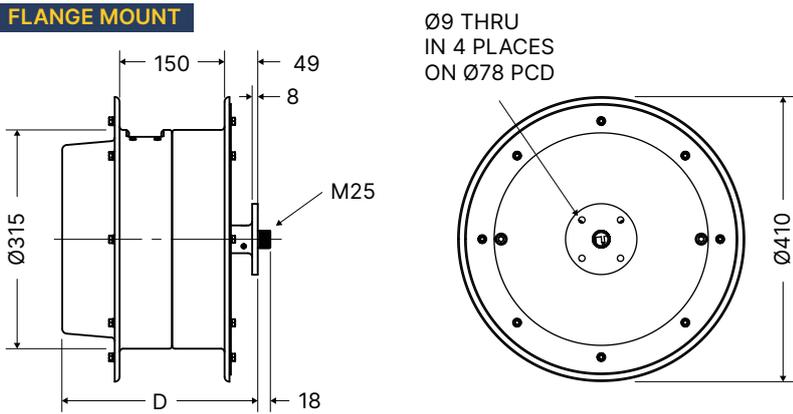


DIMENSIONS (MM)

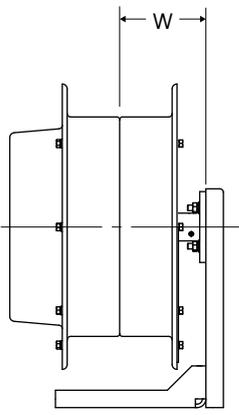
Reel Type	Slip Rings (D - 30amps)	D	W	
			Without Roller Guide	With Roller Guide
SC181AX	Up to 4	264	117	125
	5 to 8	334		

SC20 Technical Details

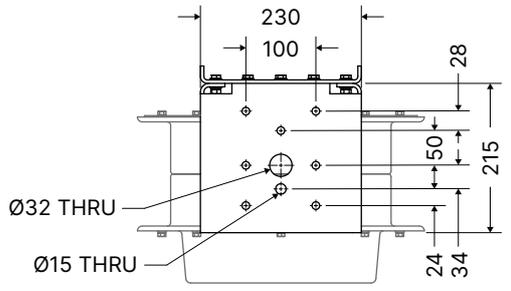
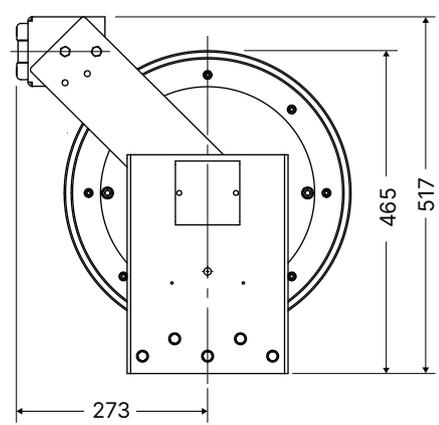
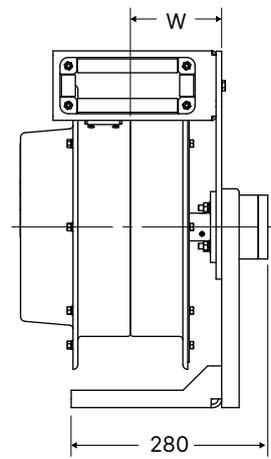
FLANGE MOUNT



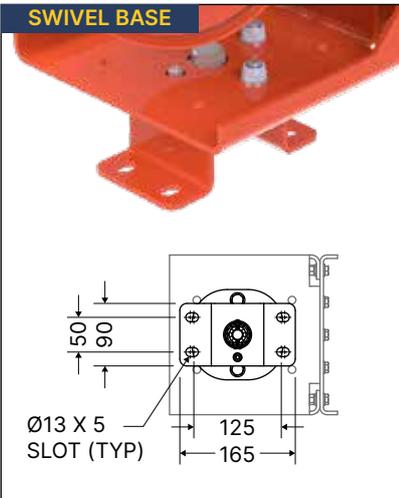
BRACKET MOUNT



ROLLER GUIDE & TERMINAL BOX



SWIVEL BASE

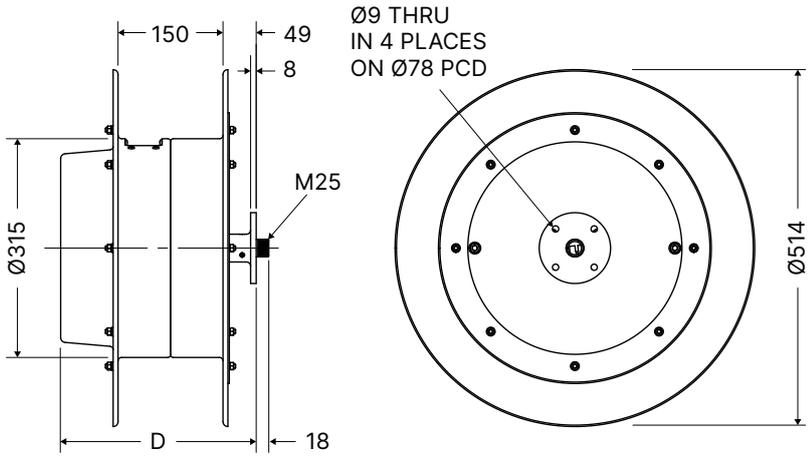


DIMENSIONS (MM)

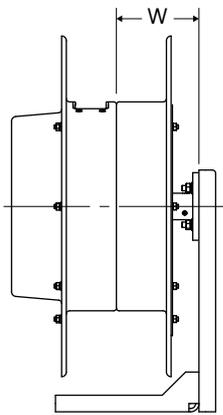
Reel Type	Slip Rings (D - 30amps)	D	W	
			Without Roller Guide	With Roller Guide
SC201VX SC201XX	Up to 4	281	124	132
	5 to 14	416		
	15 to 18	499		
SC202V(P/S/Z) SC202X(P/S/Z)	Up to 4	341	184	192
	5 to 14	476		
	15 to 18	559		

SC30 Technical Details

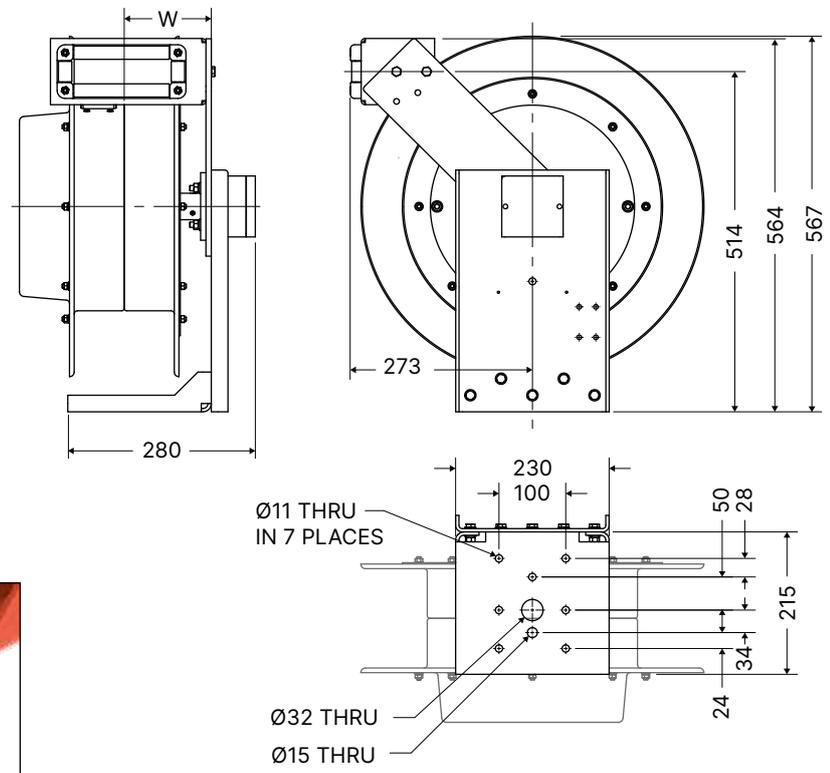
FLANGE MOUNT



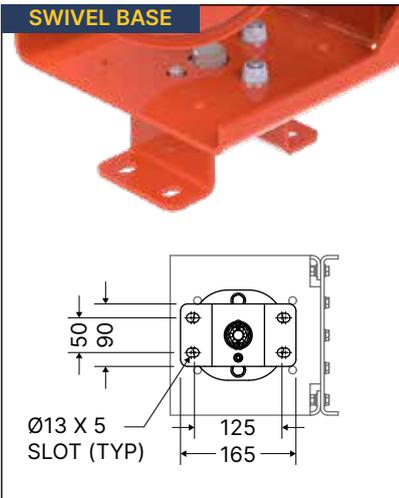
BRACKET MOUNT



ROLLER GUIDE & TERMINAL BOX



SWIVEL BASE

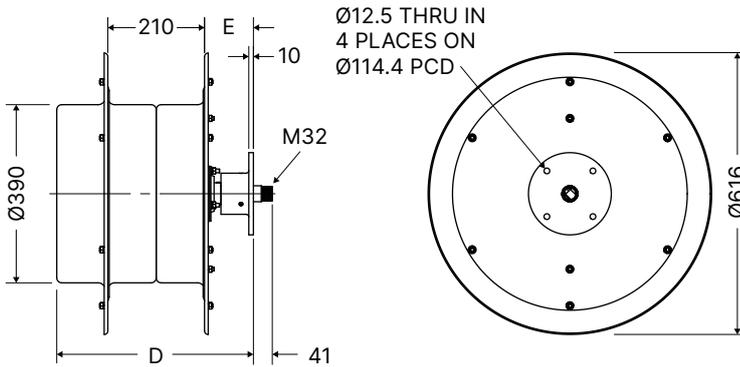


DIMENSIONS (MM)

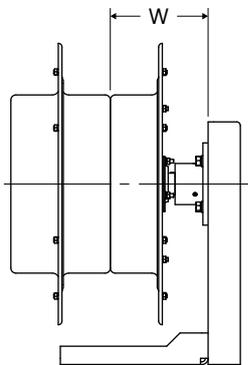
Reel Type	Slip Rings (D - 30amps)	D	W	
			Without Roller Guide	With Roller Guide
SC301VX SC301XX	Up to 4	281	124	132
	5 to 14	416		
	15 to 18	499		
SC302V(P/S/Z) SC302X(P/S/Z)	Up to 4	341	184	192
	5 to 14	476		
	15 to 18	559		

SC40 Technical Details

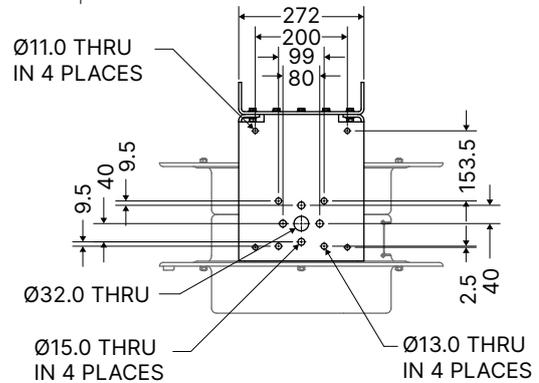
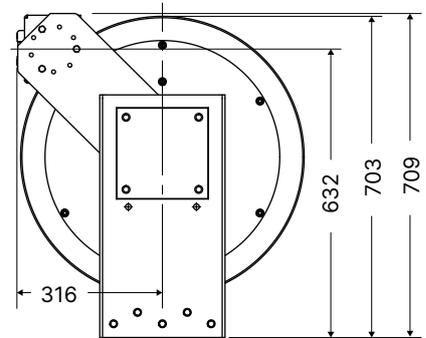
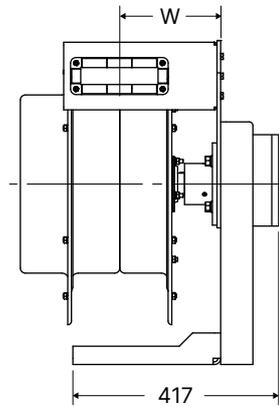
FLANGE MOUNT



BRACKET MOUNT



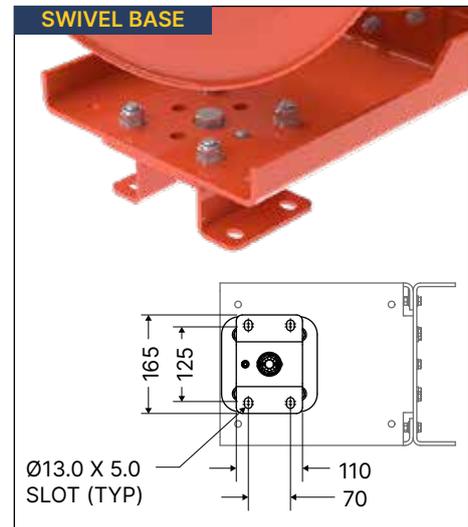
ROLLER GUIDE & TERMINAL BOX



DIMENSIONS (MM)

Reel Type	Slip Rings		D	E	W	
	Qty	Amps			Without Roller Guide	With Roller Guide
SC401PX SC401RX	Up to 3	100	427	106	211	219
	Up to 4	30/60	427			
SC402PP SC402RP	5	60	499			
	5 to 8	30	499			
	9 to 16	30	634			
SC402P (S/Z) SC402R (S/Z)	17 to 24	30	722	123	228	236
	Up to 3	100	444			
	Up to 4	30/60	444			
	5	60	516			
	5 to 8	30	516			
SC403PP SC403RP	9 to 16	30	651	158	263	271
	17 to 24	30	739			
	Up to 3	100	479			
	Up to 4	30/60	479			
	5	60	551			
SC403PP SC403RP	5 to 8	30	551			
	9 to 16	30	689			
	17 to 24	30	774			

SWIVEL BASE



"SCXL" SERIES "NEW"



MODEL EXPLANATION

SCXL318302PP - D04BB - RGRL - SV

FRAME SIZE

- SCXL2
- SCXL3
- SCXL4
- SCXL5

DRUM WIDTH

x 10
In millimetres.

DRUM DIA.

x 10
In millimetres.

SPRING ARRANGEMENT

- 1?X - Single Spring
 - #?P - Multiple Springs in Parallel
 - #?S - Multiple Springs in Series
 - #?Z - Multiple Springs in Series Reverse Rotation
- Where ? = Spring Type
Where # = No of Springs

SLIPRING CAPACITY

- B = 15amps
- D = 30amps
- M = 60amps
- N = 100amps
- V = 200amps

NO. OF RINGS

SLIPRING MATERIAL

- B = Brass
- S = Silver Plated
- G = Gold Plated
- A = Aluminium/ Nickel Plated

CABLE GLAND

- A = M16 Nylon (5-10mm)
- B = M20 Nylon (6-12mm)
- C = M25 Nylon (13-18mm)
- D = M32 Nylon (18-25mm)
- E = M40 Nylon (22-32mm)

LIMIT SWITCH

- L = Yes
- X = No

RATCHET ASSEMBLY

- R = Yes
- X = No

ROLLER GUIDE

- RG = Yes
- XX = No

SWIVEL ASSEMBLY



SLIPRINGS

Produced in phosphor bronze or brass with suitable insulators between each ring. Each ring is fitted with at least two copper graphite brushes held in contact by self-adjusting brush holders, which ensure positive contact at all times.



RATCHET ASSEMBLY

An optional spring loaded stopcatch which will work in any position allows cable to be pulled from the reel and then locks it with the required length paid out.



ROTARY LIMIT

Reels can be furnished with a rotary limit switch for use as "raise/lower" and "in/out" limits.



SWIVEL BASE

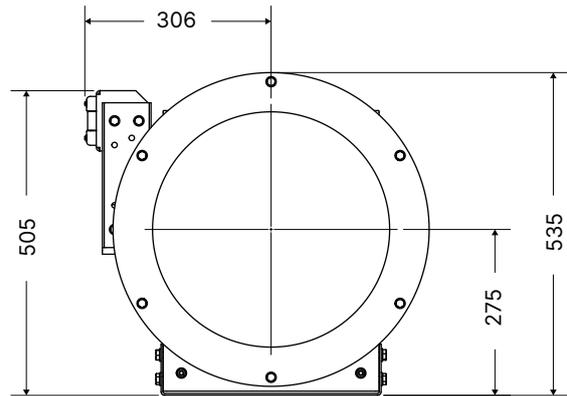
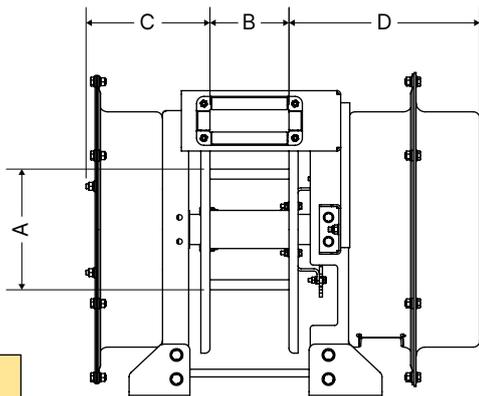
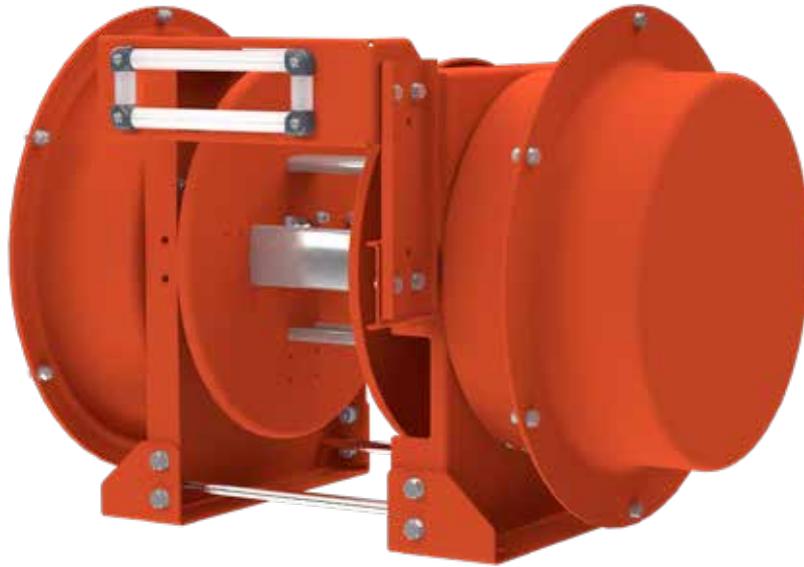
Optional swivel base allows 330° rotation of reel assembly. Required for two way payout and other applications demanding that they self align to the direction of the cable run.

MULTI POSITION ROLLER GUIDE

Used in combination with the bracket mount, the multi position roller guide accommodates a variety of mounting configurations.



SCXL20 Technical Details

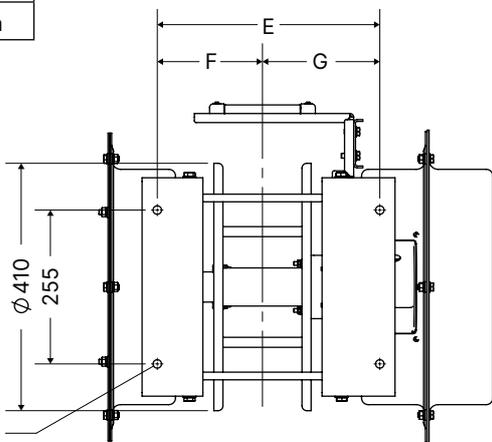


Barrel Diameters A
200mm
250mm
300mm

DIMENSIONS (MM)

Slip Rings Housing	D
Up to 4	314
5 to 8	391
9 to 16	524
17 to 24	566
25 to 36	771

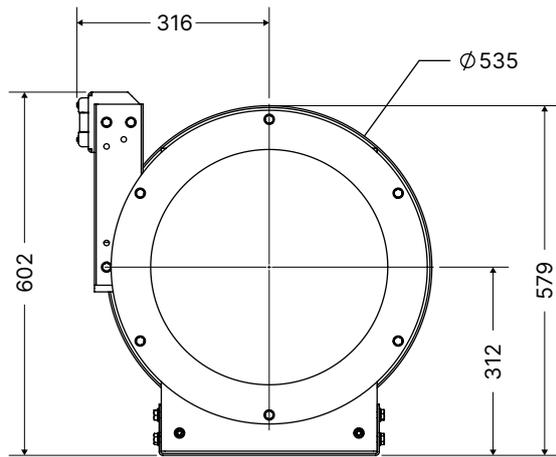
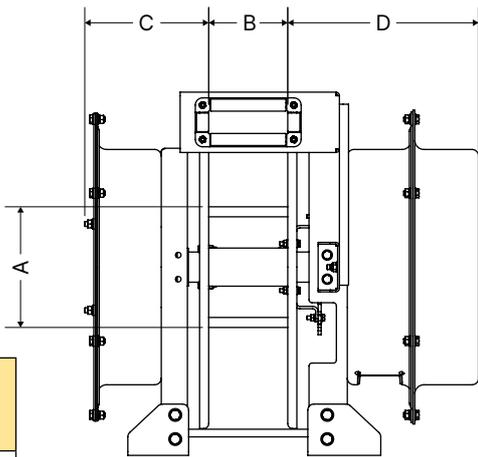
Spring Housing	C
1 Spring	204
2 Springs (Parallel)	204
2 Springs (Series)	208



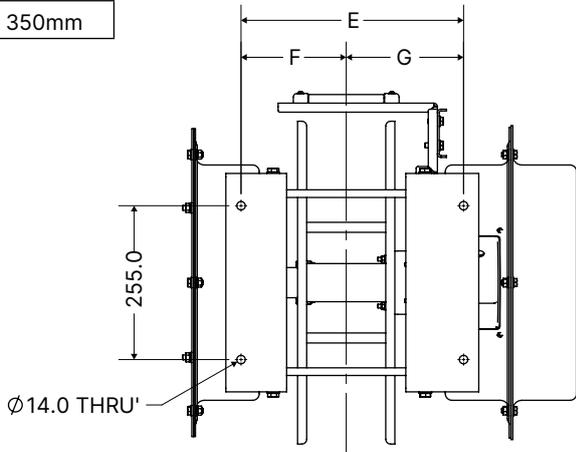
Ø 14.0 THRU'

Spool Widths B	E	F	G
130mm	366	173	193
190mm	421	201	221
250mm	486	233	253
400mm	636	308	328
550mm	786	383	403

SCXL30 Technical Details



Barrel Diameters A
200mm
250mm
300mm
350mm



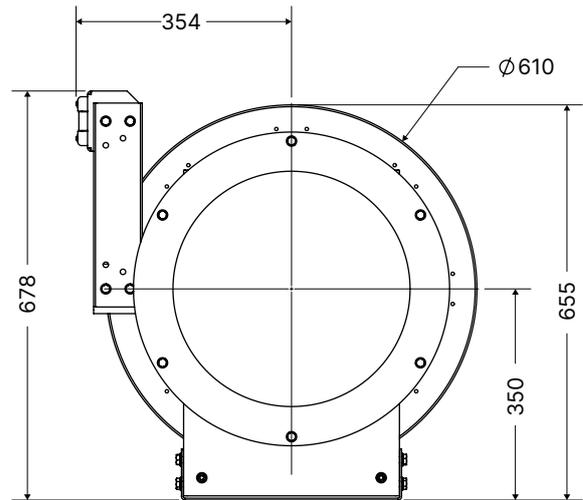
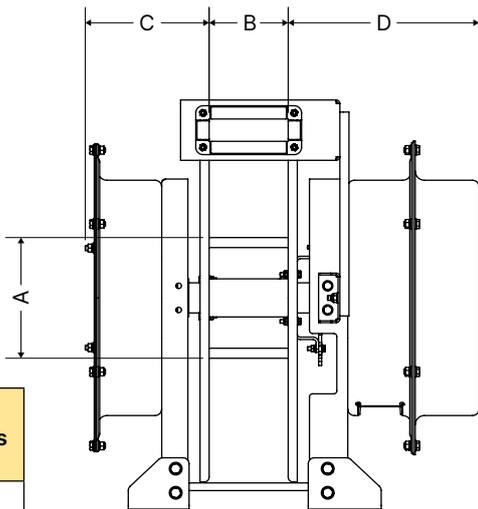
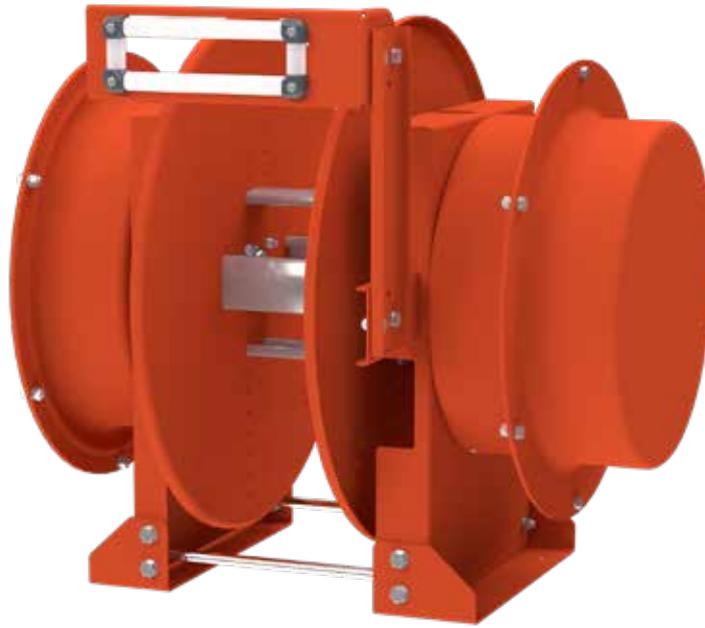
DIMENSIONS (MM)

Slip Rings Housing	D
Up to 4	314
5 to 8	391
9 to 16	524
17 to 24	566
25 to 36	771

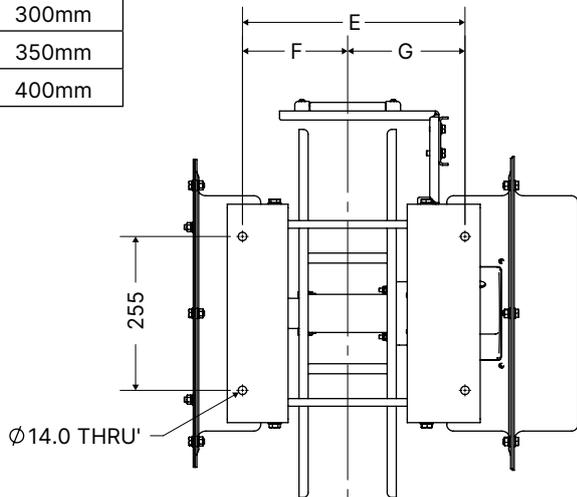
Spring Housing	C
1 Spring	204
2 Springs (Parallel)	204
2 Springs (Series)	208

Spool Widths B	E	F	G
130mm	366	173	193
190mm	421	201	221
250mm	486	233	253
400mm	636	308	328
550mm	786	383	403

SCXL40 Technical Details



Barrel Diameters A
200mm
250mm
300mm
350mm
400mm



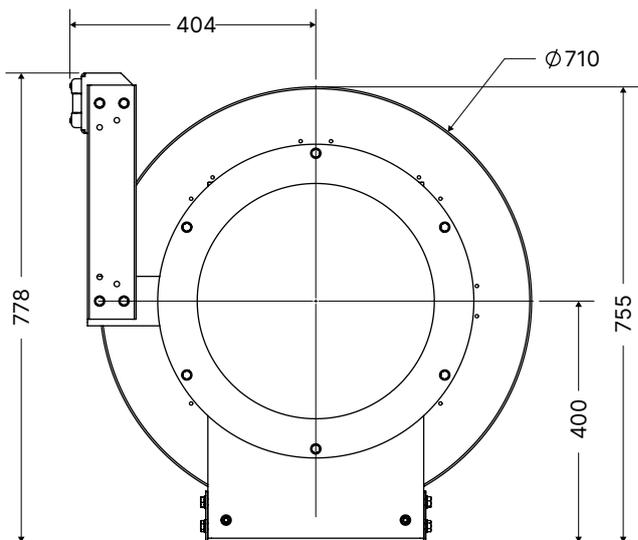
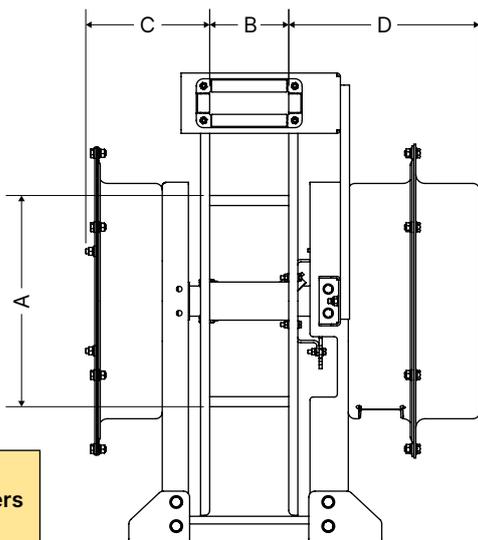
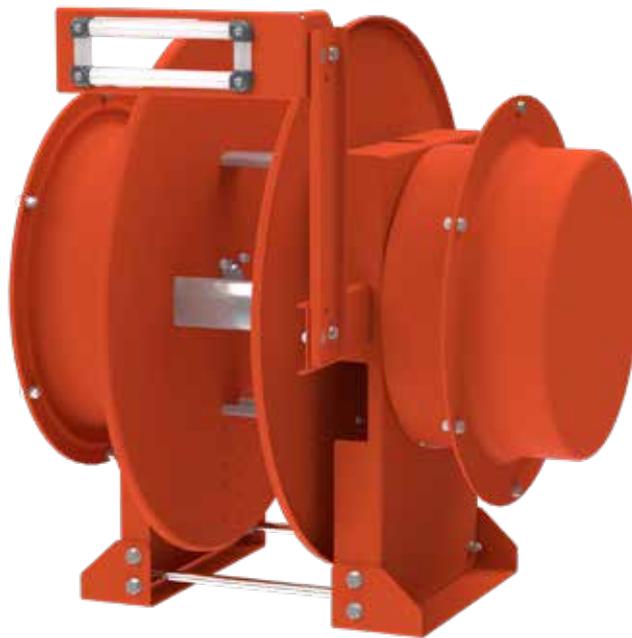
DIMENSIONS (MM)

Slip Rings Housing	D
Up to 4	314
5 to 8	391
9 to 16	524
17 to 24	566
25 to 36	771

Spring Housing	C
1 Spring	204
2 Springs (Parallel)	204
2 Springs (Series)	208

Spool Widths B	E	F	G
130mm	366	173	193
190mm	421	201	221
250mm	486	233	253
400mm	636	308	328
550mm	786	383	403

SCXL50 Technical Details

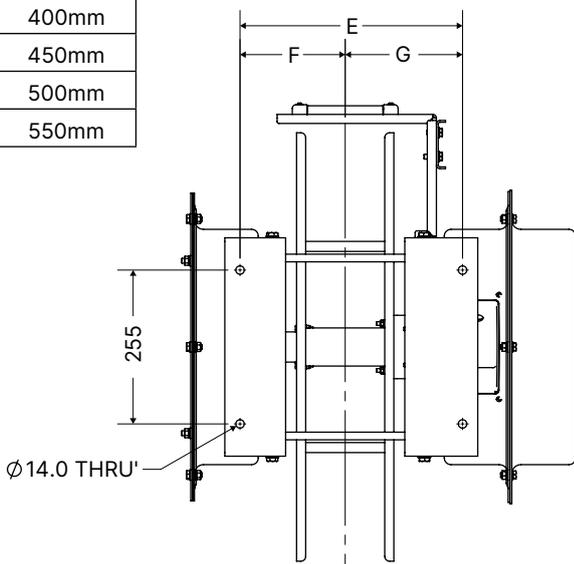


Barrel Diameters A
350mm
400mm
450mm
500mm
550mm

DIMENSIONS (MM)

Slip Rings Housing	D
Up to 4	314
5 to 8	391
9 to 16	524
17 to 24	566
25 to 36	771

Spring Housing	C
1 Spring	204
2 Springs (Parallel)	204
2 Springs (Series)	208



Spool Widths B	E	F	G
130mm	366	173	193
190mm	421	201	221
250mm	486	233	253
400mm	636	308	328
550mm	786	383	403

