

# Spring Driven Cable Reels PowerReel® Series



**CONDUCTIX**  
wampfler

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Don't see what you need? Give us a call . . . we have hundreds of special reel designs.

# Spring Driven Cable Reels

The people at Conductix-Wampfler build high quality spring driven cable reels in the USA and have since 1946. We manufacture dozens of standard designs in hundreds of configurations. These modular reels are competitively priced and assembled from stocked components for quick delivery. Conductix-Wampfler also builds the rugged, galvanized “6100 Series” Cable Reels.

The engineers and sales consultants at Conductix-Wampfler are experts at applying custom-engineered cable reels to industrial needs. While other reel manufacturers have reduced their custom engineering capabilities, we continue to meet the unique and demanding challenges of industrial users.

Conductix-Wampfler in the USA, headquartered in Omaha, NE, began making reels as Industrial Electric Reels. IER and later merged with “Insul-8 Corporation”. Beginning in 1996, some reel models began to be manufactured at our plant in Harlan, Iowa.

In 2006 Insul-8 was renamed “Conductix/Insul-8”. Following the merger with Wampfler in 2007, **Conductix-Wampfler** is now the world leader in the design and manufacture of high-performance cable management systems.

All Conductix-Wampfler plants are **ISO9001:2008** certified. Our stringent quality systems ensure that you will get the right product . . . every time.



## 1200 Series

The best-built small cord reel on the market. When a “throw-away” reel won’t do, try the 1200! 12” diameter spool; available with receptacles and drop lights.



## 1400 Series

Larger than the 1200 Series and even more robust, covering the mid-range of our line. A great value with features you will not find on other reels. Also available for welding cable.



## 1500 to 3500 Series Hazardous Location

These are equipped with a special slip ring housing for use in hazardous locations.



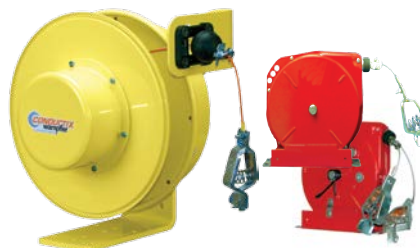
## 1900 to 3600 Series

The 19”, 24”, 32”, and 36” diameter PowerReels® handle larger and longer cables. The 3200 and 3600 has many useful features, such as external spring adjustment and quick-change spring motors.



## 6100 Series Reels

The low profile 6100 Series is ideal for exceptionally demanding applications and restricted spaces. Features flange mounting.



## Grounding Reels

Reels for static discharge in locations such as refueling stations for trucks or aircraft.

# Cable Reel Specification Data Sheet - Page 1 of 2

To make sure you get the right reel, please collect your requirements using the data sheet below and on the next page. All page references refer to this catalog (Spring Driven Cable Reels CAT1000). If you need help, contact us at 800-521-4888 (or 402-339-9300). Fax the completed sheets to 800-780-8329 (402-339-9627) or e-mail them to sales.us@conductix.com to obtain a quotation. See back cover of this catalog for other sales offices.

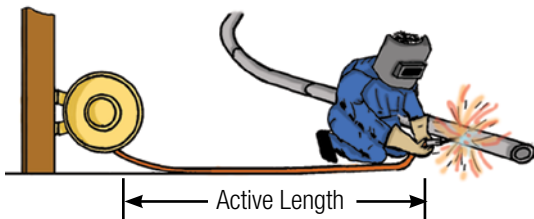
For definition of terms, see "Cable Reel Components", Appendix I, Page 37

<b>Request Date</b> _____	<b>Sales Person</b> _____
<b>Company</b> _____	<b>Name</b> _____
_____	<b>Title</b> _____
_____	<b>Phone</b> _____
_____	<b>Fax</b> _____
<b>Company Type</b> _____	<b>E-mail</b> _____

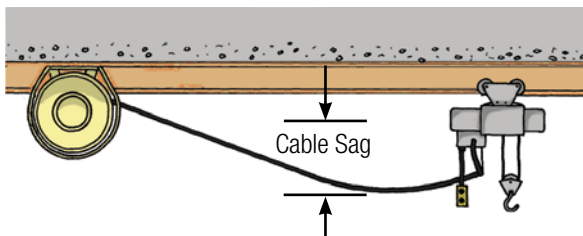
## APPLICATION

1. How will the reel(s) be used? (Check One)

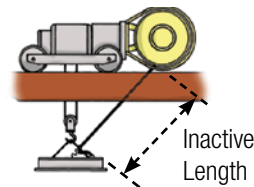
**Drag** - Extension Reel (ratchet employed)



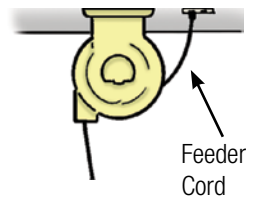
**Stretch** - Automatic reel (no ratchet)



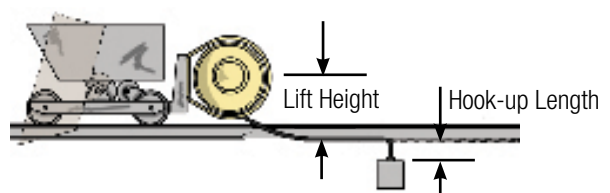
**Lift** Automatic reel (no ratchet)



**Extension Reel** (ratchet employed)



**Retrieve** - Automatic reel (no ratchet)



2. **Other application information:** Describe the application or attach a sketch. For example, will the reel need to lift a cable-end accessory? Will the cable be run through rollers or sheaves? Will the cable pay out at an angle?

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## ENVIRONMENTAL DATA

Describe the environment in which the cable reel will be installed and used.

1.  Indoors  Outdoors  Dusty  Snow  Ice

Electrical enclosure sealing required (if known)  NEMA \_\_\_\_\_ or  IP \_\_\_\_\_

2. Ambient temperature Min \_\_\_\_\_ Max \_\_\_\_\_ °F °C [To convert Centigrade to Fahrenheit, refer to Appendix V, page 41]

3. Will there be corrosive materials present?  Yes  No [salt, chlorine, steam, acids, etc.]

If yes, describe the type of corrosive \_\_\_\_\_

4. Is this a hazardous location?  Yes  No If yes, state required NEC Class \_\_\_\_\_ Division \_\_\_\_\_ Group \_\_\_\_\_

5. Other considerations (vibration, shock loads, etc) : \_\_\_\_\_

# Cable Reel Specification Data Sheet - Page 2 of 2

## MECHANICAL DATA

1. **DUTY CYCLE** \_\_\_\_\_ cycles per \_\_\_\_\_ [How often will the reel payout and retract?]

**Note:** For very high cycle rates, and/or harsh environments, and/or cables that must be routed through sheaves or rollers, premium cable may be required. Please refer to Appendix VII, page 43 and consult Conductix-Wampfler.

2. **SPEED** If reel will power moving equipment, what is the speed of the equipment? \_\_\_\_\_  ft/min  m/min

3. **PAYOUT ANGLE** How will the cable be paid out?  Parallel with spool  At an angle from the spool

**Note:** If the cable payout is more than 15 degrees from parallel with the spool, a swivel base or swing-mount will be required. Refer to pages 13, 24, and 25 or contact Conductix-Wampfler for recommendations.

4. **OTHER MECHANICAL NOTES** Will cable pass through/along devices such as rollers or sheaves that might affect cable retraction?

## ELECTRICAL DATA

1. **AMPACITY REQUIRED** \_\_\_\_\_ [The amount of amperage the reel/cable needs to handle per conductor.]

- To convert motor horsepower-to-amperage - see Appendix II, page 38
- To power an **electromagnet**, please consult Conductix-Wampfler

2. **NUMBER OF CONDUCTORS REQUIRED (with ground)** \_\_\_\_\_ [Note: Single phase needs three conductors; three-phase needs four.]

3. **WIRE GAUGE/SIZE REQUIRED** \_\_\_\_\_  AWG  Metric [To handle the required amperage per conductor.]

To help determine required wire gauge, See Appendix IV, page 40. For metric conversion, see Appendix V, page 41.

4. **CABLE TYPE NEEDED** \_\_\_\_\_

For further information, see Cable Types - Appendix III, page 39

5. **OPERATING VOLTAGE** \_\_\_\_\_ (volts)  AC  DC

6. **OPERATING FREQUENCY** \_\_\_\_\_ Hz (Note: USA is 60 Hz)

**CABLE LENGTH NEEDED** Sum the cable length you need using the table below. See applications, page 4

	Lift ↓	Drag ↓	Stretch ↓	Retrieve ↓	
<b>Active length</b>	_____	_____	_____	_____	The difference between minimum and maximum operating payout.
<b>Inactive length</b>	_____	_____	_____	_____	The cable that will stay <u>outside</u> the reel, even at minimum payout.
<b>Sag allowance</b>			_____		Add 10% to the active + inactive length to accommodate cable sag.
<b>Lift height</b>		_____		_____	The distance from the cable lay up to the reel location.
<b>Hook-up length</b>	_____	_____	_____	_____	The amount needed to make connections at the "free end" of the cable.
<b>TOTAL</b>	_____	_____	_____	_____	Sum of all lengths listed above.

**Feeder Cable Length (if needed)** \_\_\_\_\_ This cable "feeds" the non-rotating part of the reel. A feeder cable is standard on some reels, as noted in the catalog; customer-supplied for other reels (usually the larger models).

# 1200 Series PowerReel®

The **1200 Series PowerReel®** is the best-built small spring driven cord reel on the market today. These are industrial grade, precision machines that will provide years of service with little or no maintenance.



## 1200 Series Reels are ideal for:

- Assembly and fabrication work areas
- Automotive and truck work bays
- Schools, theaters, and recreation centers
- Truck crane control cables
- Conveyors and utility trucks
- Other mobile power applications

## Standard Features

- **All-steel construction with fiberglass/nylon drum**
- **Durable yellow powder coated finish**
- **Standard versions:** Ball stop only, receptacle box, incandescent hand lamp, or fluorescent hand lamp

## Each 1200 Reel includes:

- **Cable:** Refer to Table A page 9 for the types of cable supplied.
- **Adjustable cable guide arm:** Can be placed at 12 possible positions to direct the cable where you need it. Includes smooth-running 4 roller guide for minimum cable stress.
- **Ratchet:** Locks the spool to keep cable at the desired extension. Can be disengaged with a pull on the cable or completely locked out for “constant tension” (stretch) applications - see page 4.
- **Adjustable ball stop:** Limits cable retraction and prevents damage to cord end accessories.
- **Precision slip ring assembly:** Provides flawless contact and long life.
- **6 foot feeder cord:** Transfers incoming power to the reel. Three conductor reel feeder cords have a three-prong molded plug.
- **Safety chain hole:** Attachment point for a safety chain when the reels are mounted overhead.
- **UL and CSA Listed:** See pages 8-9 for details.

## Choosing a 1200 Series Reel

- The reels in the charts on pages 8 and 9 are sized for Lift/Drag applications, see page 4 for application descriptions.
- This reel can be used for other applications - see Specification Data Sheet on page 4.
- Cable length listed is actual length. Be sure to order enough cable. For recommendations, see “Cable Length Needed” page 5.
- If the cable needs to payout at an angle, order a **Swing-Mount Bracket** (#35087) separately:



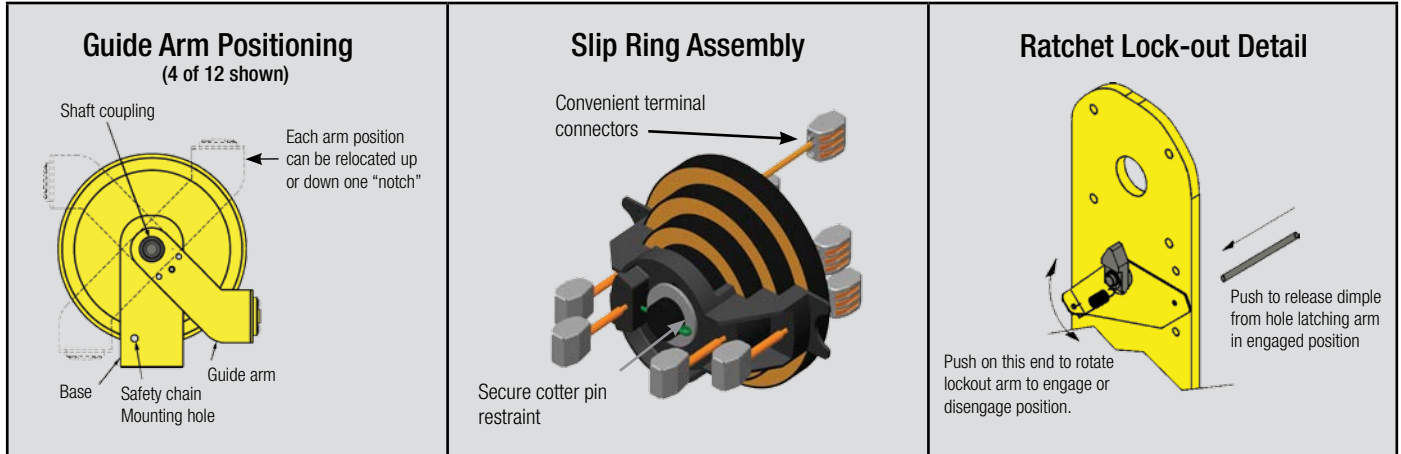
If the reel base needs to rotate, order a **Pivot Base**, see pages 13 and 24.



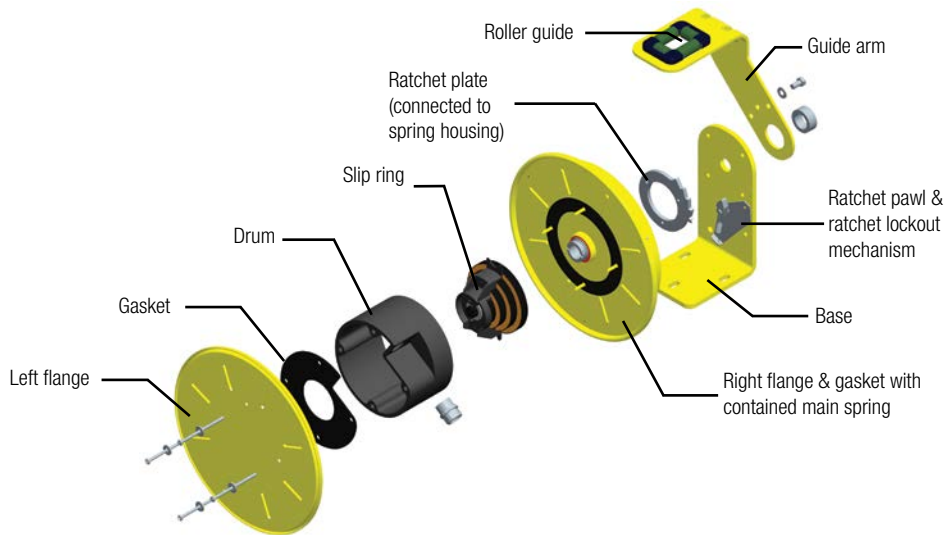
# 1200 Series PowerReel® Features

The 1200 Series PowerReel® is built with a minimum of components for maximum reliability. Unlike “consumer-grade” cord reels, this reel has all the features you require for tough industrial applications. For more information, refer to the 1200 Series PowerReel Manual on [www.conductix.us](http://www.conductix.us).

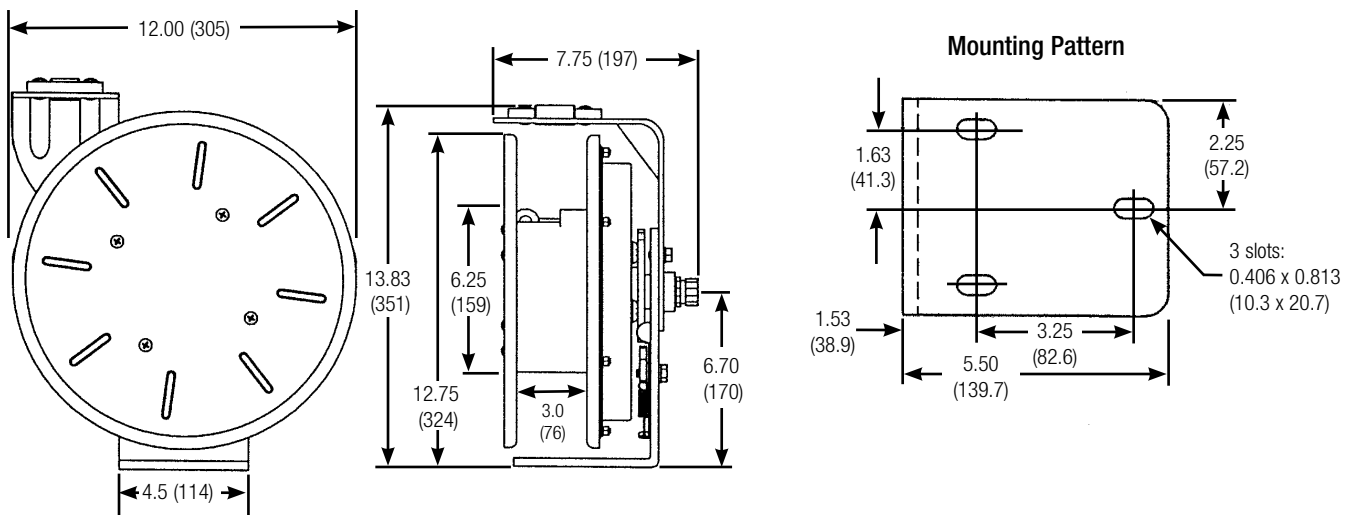
## Feature Details



## Exploded View



## Dimensions - Inches (mm)



# 1200 Series PowerReel®

## With Ball Stop Only



This reel can be used to power moving machinery or used by hand use a customer-installed cable-end accessory. If the accessory weighs over two pounds (0.9 kg), please contact the factory. Reels come with ball stop and various cable types; see Table A on page 9. Three-conductor 110 volt reels come with six foot feeder cord and NEMA 2 molded plug. Four conductor reels are rated NEMA 4 (IP56) for indoor or outdoor use.

**UL and CSA Listed** (Note: Reels with customer installed components are NOT listed.)

AWG	# of Cond	Max. Capacity Amps	Cable Length ft (m)	Part No. (110 or 300 Volt Reels)	Reel Max. Volts*	Part No. (600 Volt Reels)	Wt lb (kg)
16	3	10	25 (7.62)	121160302511	110	122160302511	20 (9.07)
16	3	10	35 (10.67)	121160303511	110	122160303511	21 (9.53)
16	3	10	50 (15.24)	121160305011	110	122160305011	23 (10.43)
14	3	15	30 (9.14)	121140303011	110	122140303011	24 (10.89)
14	3	15	40 (12.19)	121140304011	110	122140304011	27 (12.25)
14	3	15	50 (15.24)	121140305011	110	n/a	29 (13.16)
12	3	20	25 (7.62)	121120302511	110	122120303011	24 (10.89)
12	3	20	50 (15.24)	121120305011	110	n/a	28 (12.70)
16	4	8	35 (10.67)	121160403511	300	122160403511	22 (10.00)
16	4	8	50 (15.24)	121160405011	300	122160405011	27 (12.25)
14	4	12	35 (10.67)	121140403511	300	n/a	25 (11.34)
12	4	16	25 (7.62)	121120402511	300	122120402511	24 (10.89)
12	4	16	35 (10.67)	121120403511	300	n/a	26 (11.79)

\* 110 V reels: Maximum voltage is restricted by the molded plug on the feeder cord.

## With Receptacle Box



This version of the 1200 Series PowerReel comes with a factory installed receptacle box as noted below. Boxes are yellow, heavy-duty molded TPE (thermoplastic elastomer) - oil resistant and impervious to most chemicals. Includes internal cord grip. Reels include six-foot feeder cable with molded plug - rated NEMA 2 for indoor use. GFCI (Ground Fault Circuit Interrupter) models include the GFCI as part of the plug on the feeder cord.

**UL and CSA Listed**



# RB: Dual 15 amp, 125 volt duplex (four outlets total) - used on 16/3 and 14/3 cables

# RB-5-20R: Dual 20 amp, 125 volt duplex (four outlets total) - used on 12/3 cable



**GFCI Option:** The GFCI is part of the plug on the end of the feeder cord. These reels have part numbers ending in "17".

AWG	# of Cond	Max. Capacity Amps	Cable Length ft (m)	Part No. (W/ Std. Feeder Cable)	Part No. (W/ GFCI on Feeder Cable)	Wt lb (kg)
16	3	10	25 (7.62)	121160302512	n/a	22 (10.0)
16	3	10	35 (10.67)	121160303512	n/a	23 (10.4)
16	3	10	50 (15.24)	121160305012	n/a	24 (10.9)
14	3	15	30 (9.14)	121140303012	121140303017	25 (11.3)
14	3	15	40 (12.19)	121140304012	121140304017	29 (13.2)
14	3	15	50 (15.24)	121140305012	121140305017	30 (13.6)
12	3	20	25 (7.62)	121120302516	121120302517	26 (11.8)
12	3	20	50 (15.24)	121120305016	121120305017	29 (13.2)



# 1200 Series PowerReel®

## With Incandescent Hand Lamp



This 1200 Series PowerReel comes with # HSR factory-installed incandescent hand lamp when extra lighting is required for safety and convenience. The lamp has:

- High-impact yellow handle
- Recessed on/off switch
- 15 amp / 125 volt auxiliary outlet on the side.
- All-steel, grounded reflector cage and swivel hook

The lamp requires a 100 watt rough-service bulb - bulb not included.

### UL Listed - for indoor use

AWG	# of Cond	Cable Length ft (m)	Part No.	Max Capacity Amps	Wt lb (kg)
16	3	25 ( 7.62)	121160302513	10	24 (10.89)
16	3	35 (10.67)	121160303513	10	25 (11.34)
16	3	50 (15.24)	121160305013	10	26 (11.79)
14	3	30 ( 9.14)	121140303013	15	25 (11.34)
14	3	40 (12.19)	121140304013	15	29 (13.16)
14	3	50 ( 15.24)	121140305013	15	30 (13.61)

## With Fluorescent Hand Lamp



This 1200 Series PowerReel comes with # FHL factory-installed fluorescent hand lamp when extra lighting is required for safety or convenience. The lamp has:

- Yellow rubber handle
- Recessed on/off “bump switch” on the end
- Plastic non-glare shield with cool operating 13 watt bulb included
- Feeder cord mounted ballast
- Double hanging hook

### UL Listed, for indoor use

AWG	# of Cond	Cable Length ft (m)	Part No.	Max Capacity Amps	Wt lb (kg)
16	3	25 ( 7.62)	121160302514	10	24 (10.89)
16	3	35 (10.67)	121160303514	10	25 (11.34)
16	3	50 (15.24)	121160305014	10	26 (11.79)
14	3	30 ( 9.14)	121140303014	15	25 (11.34)
14	3	40 (12.19)	121140304014	15	28 (12.70)
14	3	50 (15.24)	121140305014	15	30 (13.61)

**Table A - Cable Types Used on 1200 Series Reels**

AWG / # of Conductors	110 or 300 Volt reels		600 Volt Reels
	Cable on Spool	Feeder Cable	Cable on Spool
16/3 Cables	SOOW-A	SJT00W-A, SJOOW or SJE00W	SOOW-A
16/4 Cables	SOOW-A	SOOW-A	SOOW-A
14/3 Cables	SJE00W-A	SJT00W-A, SJOOW or SJE00W	SOOW-A
14/4 Cables	SJE00W-A	SJE00W-A	SOOW-A
12/3 Cables	SJOOW-A	SJT00W-A	SOOW-A
12/4 Cables	SJOOW-A	SJOOW-A	SOOW-A

# 1400 Series PowerReel®

The **1400 Series PowerReel®** is the leading industrial grade cable reel in its class. These reels are the “professionals’ choice”. The reel is modular and built with a minimum of components for maximum reliability. This reel will give you years of service with little or no maintenance. It has all the features you need for demanding industrial applications.



UL and CSA Listed For indoor and outdoor use - if we supply cable

## 1400 Series PowerReels are ideal for:

- Assembly and fabrication work areas
- Extendable conveyors
- Automotive and truck work bays
- Class A-C overhead cranes / hoists
- Schools and theaters
- Truck cranes, utility, and ladder trucks

## Standard Features

- Rugged, all-steel construction with safety chain hole for overhead-mounted reels.
- Precision-built main spring housed in a safety-sealed canister
- Durable yellow powder coated finish
- Available with cable in common sizes - see page 12.

## Each 1400 PowerReel includes:

- **Adjustable Guide Arm:** Directs the cable where you need it. Guide has 12 possible positions. Includes smooth-running 4 roller guide for minimum cable stress.
- **Ratchet:** Locks the spool to maintain the desired cable extension, until the user releases it with a pull on the cable. The ratchet can be disabled for constant tension (“stretch”) applications - see page 4 for definition.
- **Adjustable Ball Stop:** Limits cable retraction and prevents damage to cord-end accessories. Included only with “Lift/Drag” reels listed on page 12. Available as an option for other reels - see page 21.
- **Precision Slip Ring Assembly:** Provides flawless contact and long operational life. Enclosed in NEMA 4 weather-proof, gasketed enclosure. Ring #1 is grounded to the enclosure for safety.

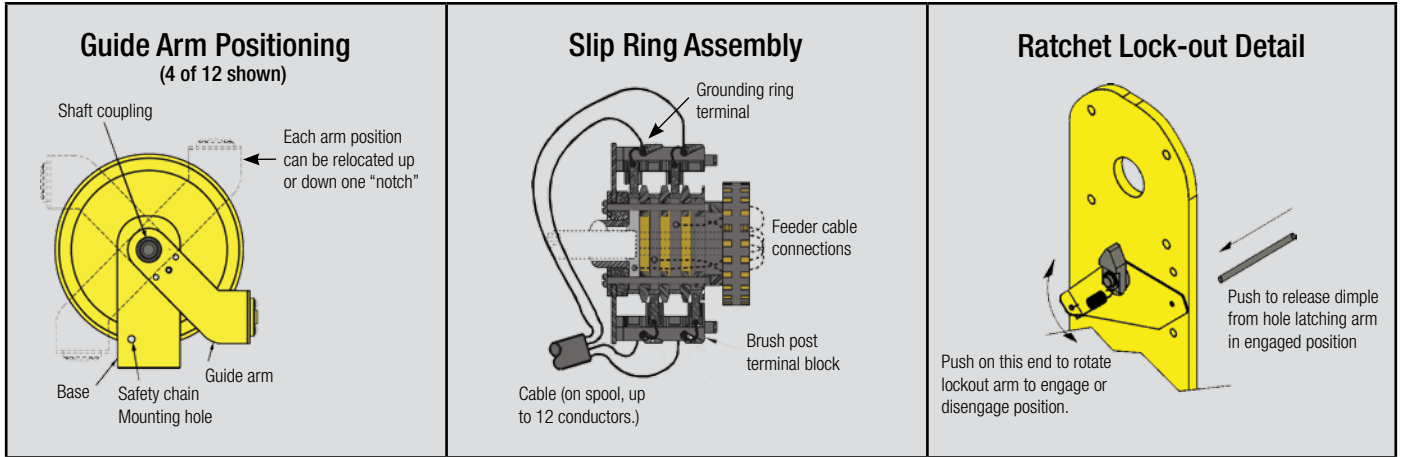
## Choosing a 1400 Series PowerReel

- The reels on page 12 are sized for Lift/Drag applications, such as ceiling or wall/bench mounting - See page 4 for definitions.
- This reel can accommodate other applications - see Specification Data Sheets on page 4-5.
- Cable length is actual length. Be sure to order enough cable - See Cable Length Needed on page 5.

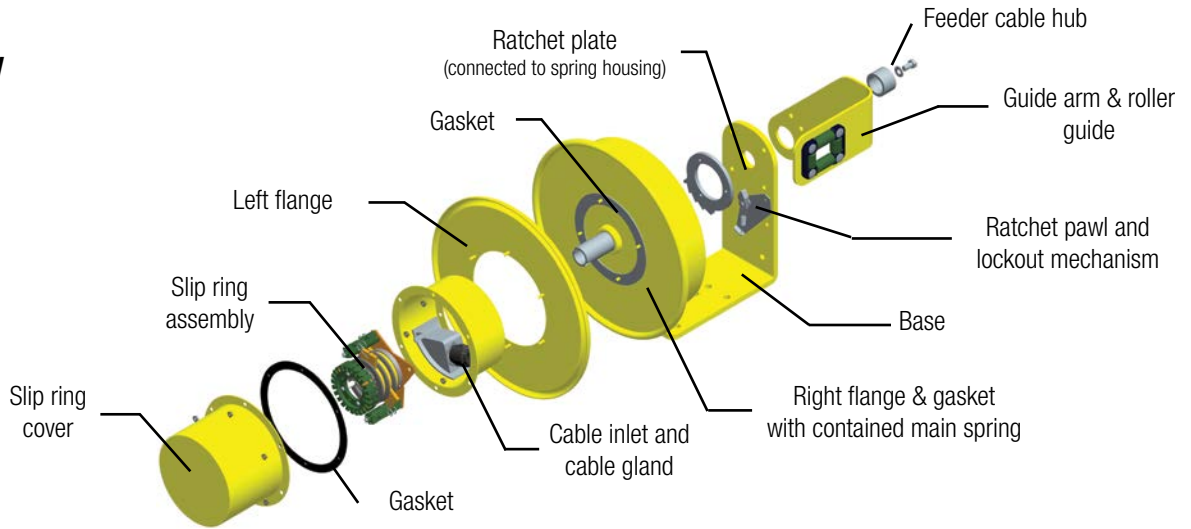


# 1400 Series PowerReel® Features

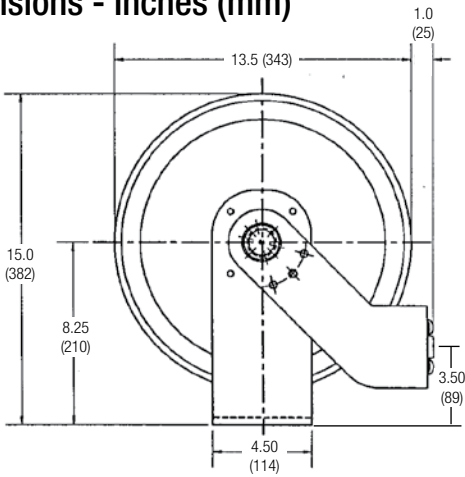
## Feature Details



## Exploded View

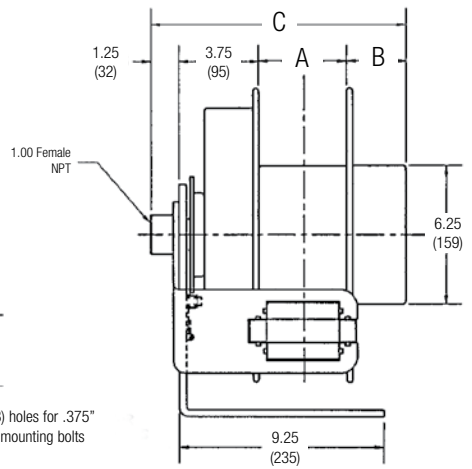
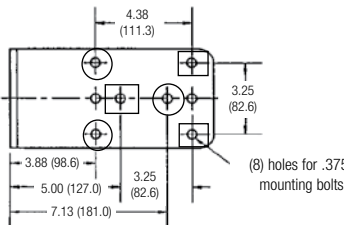


## Dimensions - Inches (mm)



**Note:** Mounting pattern for use with pivot base - see page 24.

- 3" & 4.5" drum width
- 6" drum width



**A** = 3.0 to 6.0 (76-152)

**B** = 3.5 to 8.5 (89-216)

**C** = 13.0 to 18.0 (330-457)

A, B, and C dimensions depend on the exact reel configuration - Contact Factory

For more information, please download the 1400 Series Manual from [www.conductix.com](http://www.conductix.com) or [www.conductix.us](http://www.conductix.us)

# 1400 Series PowerReel® Selection Chart

The most common 1400 Series configurations are listed below. Cable lengths listed are the total length of cable on the spool, plus some allowance for “safety wraps”.

Reels operate best when the cable is pulled no more than 15 degrees from parallel with the guide and retracted the same way. For greater payout angles, we recommend adding a pivot base (pages 13 or 24) or swivel base (page 25).

## The reels below:

- Are UL listed and CSA certified to NEMA 4
- Come with one conductor grounded to the reel.  
e.g: 3 conductors (single-phase) = 2 live conductors + 1 ground
- Come with Type S00W-A cable pre-installed
- Come with ball stop (3 or 4 conductors only)

Cable AWG / # of Con.	Available Cable Length in Feet (Meters)						
	20 (6.10)	30 (9.14)	40 (12.19)	50 (15.24)	60 (18.29)	70 (21.33)	80 (24.38)
16/3	1421603020**	1421603030**	1421603040**	1421603050**	1421603060**	1421603070**	1421603080**
16/4	1421604020**	1421604030**	1421604040**	1421604050**	1421604060**	1421604070XX	1421604080XX
16/6	1421606020**	1421606030**	1421606040**	1421606050**	+	+	+
16/8	1421608020**	1421608030**	1421608040**	1421608050**	+	+	+
16/10	1421610020**	1421610030**	1421610040**	+	+	+	+
16/12	1421612020**	1421612030**	1421612040XX	+	+	+	+
14/3	1421403020**	1421403030**	1421403040**	1421403050**	1421403060XX	1421403070XX	+
14/4	1421404020**	1421404030**	1421404040**	1421404050**	1421404060XX	142140407031	+
14/6	1421406020**	1421406030**	1421406040**	1421406050XX	+	+	+
14/8	1421408020**	1421408030**	+	+	+	+	+
14/10	1421410020**	+	+	+	+	+	+
14/12	+	+	+	+	+	+	+
12/3	1421203020**	1421203030**	1421203040**	1421203050**	1421203060XX	+	+
12/4	1421204020**	1421204030**	1421204040**	1421204050**	142120406031	+	+
12/6	1421206020**	1421206030**	+	+	+	+	+
12/8	1421208020**	+	+	+	+	+	+
10/3	1421003020**	1421003030**	1421003040**	142100305031	142100306031	+	+
10/4	1421004020**	1421004030**	1421004040XX	142100405031	+	+	+
10/6	1421006020**	1421006030**	+	+	+	+	+

\*\* Add the two-digit code from the list below to the above part numbers to ensure that the reel is properly set up for the desired application. Refer to page 4 for application details.

- 11 = Lift or Drag Application
- 21 = Stretch Application
- 31 = Retrieve Application

XX = Reels can be used in Lift/Drag (11) or Retrieve (31) applications only.

31 = Reels can be used in a “Retrieve” application only.

## IMPORTANT

If the reel will be:

- Paying out and retracting at a very high cycle rate
  - Operating in an exceptionally harsh environment
- you may need **Premium Cable** - see Appendix VII, page 43, and contact Conductix-Wampfler for details.

Don't see the cable reel you need in our catalog? Contact Conductix-Wampfler!  
We have wide variety of reels designed for special applications.

# Common 1400 Series PowerReel® Options

## Pivot Base

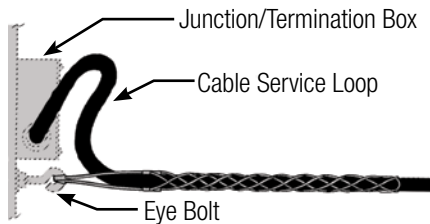


The Pivot Base allows reels to rotate up to 345 degrees left-to-right. The unit bolts to the base of the reel in the field (see page 24 for more details). Also fits 1200 Series reels.

Part No.	Wt lb (kg)
PVB	7.5 (3.41)

For 360° Swivel Base, see page 25

## Cord/Cable Grips



Cable Grips (or Kellems Grips) relieve the concentrated strain at the cable termination point, thereby increasing cable life. Grips are recommended for all applications. In most installations, the eye of the cable grip is connected to an eye bolt or U-bolt. Allow for a cable service loop to minimize the strain on the cable.

Part No.	Description
03622	Cable grip for cable O.D. ranges 0.430" to 0.610"
03623	Cable grip for cable O.D. ranges 0.611" to 0.740"
03624	Cable grip for cable O.D. ranges 0.741" to 0.990"
03625	Cable grip for cable O.D. ranges 0.991" to 1.24"
03626	Cable grip for cable O.D. ranges 1.25" to 1.49"

## Incandescent Hand Lamp



The HSR has a high impact yellow handle with recessed on/off switch and 15 amp, 125 volt outlet on the side. Features a grounded steel reflector cage with swivel hanger. Accepts up to 14/3 SJ00W-A cable. 100-watt rough service bulb not included.

UL listed for indoor use.

Part No.	Wt lb (kg)
HSR	1.3 (0.59)

## Fluorescent Hand Lamp

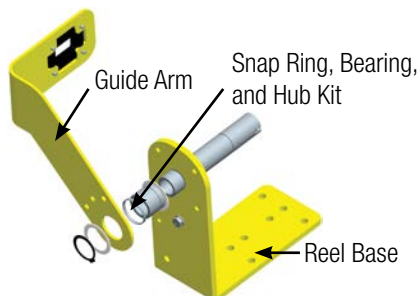


The FHL has rubber handles with switch and hanger. Features a plastic non-glare shield with cool operating 13-watt lamp (included). Ballast is mounted on the feeder cord. For use with 16 or 14 AWG 3 conductor SJ00W-A cable only.

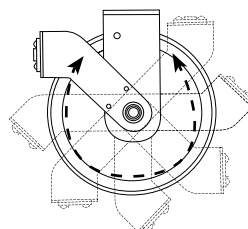
UL listed for indoor use.

Part No.	Wt lb (kg)
FHL	1.2 (.55)

## Flop-Over Guide Kit



The Flop-Over Guide Kit consisting of special hub, snap ring, and bearings. The kit modifies the standard stationary guide arm to let it freely pivot around the shaft hub. Ideal for overhead reels that require a back and forth payout. Only for 1400 Series.



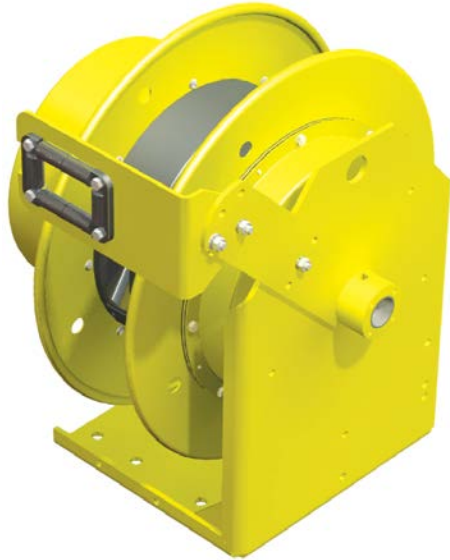
Part No.	Wt lb (kg)
FGK	n/a

Receptacle Boxes - see page 23.

Ball Stops - see page 21.

# 1900 & 2400 Series PowerReel®

Our 1900 Series and 2400 Series PowerReels® are top-quality, low-cost alternatives to other higher capacity spring reels. These reels offer heavy-duty performance at competitive prices.



1900 Series Reel Shown



## 1900 and 2400 Series Reels are ideal for:

- Utility trucks
- Large cable-end accessories
- Aviation hangars
- Overhead hoists and cranes (Class A-C)
- Automated material handling
- Truck cranes and ladder trucks

## Standard Features

- Excellent performance for industrial indoor and outdoor applications. Built to NEMA 4 standards for wet or dry environments.
- Heavy-duty, all-steel construction
- Two-piece roller guide can be repositioned to four different locations
- Ball stop and ratchet assembly come standard with all "Lift/Drag" models.
- Sealed, lifetime lubricated spring motor canister for easy and safe spring replacement
- A variety of ring amp ratings from 35-150 amps.
- 600 volt rating (1-4 conductors). 250 volts (5 or more conductors) per UL requirements. Operating range: -22°F to 220°F.
- **CSA Certified**

## Choosing a 1900-2400 Series Cable Reel:

- Use the Specification Data Sheets on pages 4-5 to determine your needs. Contact the factory for quotations.
- Be sure to specify enough cable - see "Cable Length Needed" on page 5.
- Reels are sized to handle Type SOOW-A, Type W, or Type G-GC cable.

### **IMPORTANT**

**If the reel will be paying out and retracting at a very high cycle rate and/or operating in an exceptionally harsh environment you may need Premium Cable - see Appendix VII, page 43 - contact Conductix-Wampfler for details.**

## Suggested Reel Options For Other Options, see pages 20-31

Option	Purpose	Details on Page:	Spool Size In. (mm)	Part No.
Guide Rail Set	To Protect Spool Flanges	n/a	19 x 5 (483 x 127)	40212A
Guide Rail Set	To Protect Spool Flanges	n/a	24 x 5 (610 x 127)	40212B
Guide Rail Set	To Protect Spool Flanges	n/a	19 x 8 (483 x 203)	40212AA
Guide Rail Set	To Protect Spool Flanges	n/a	24 x 8 (483 x 203)	40212BB
Spool Lock	To Keep the Spool From Rotating	26	n/a	40260A or 40260B
Pivot Base	Allows reel to pivot <360°	24	n/a	40274
Swivel Base	Allows reel to swivel 360°	25	n/a	

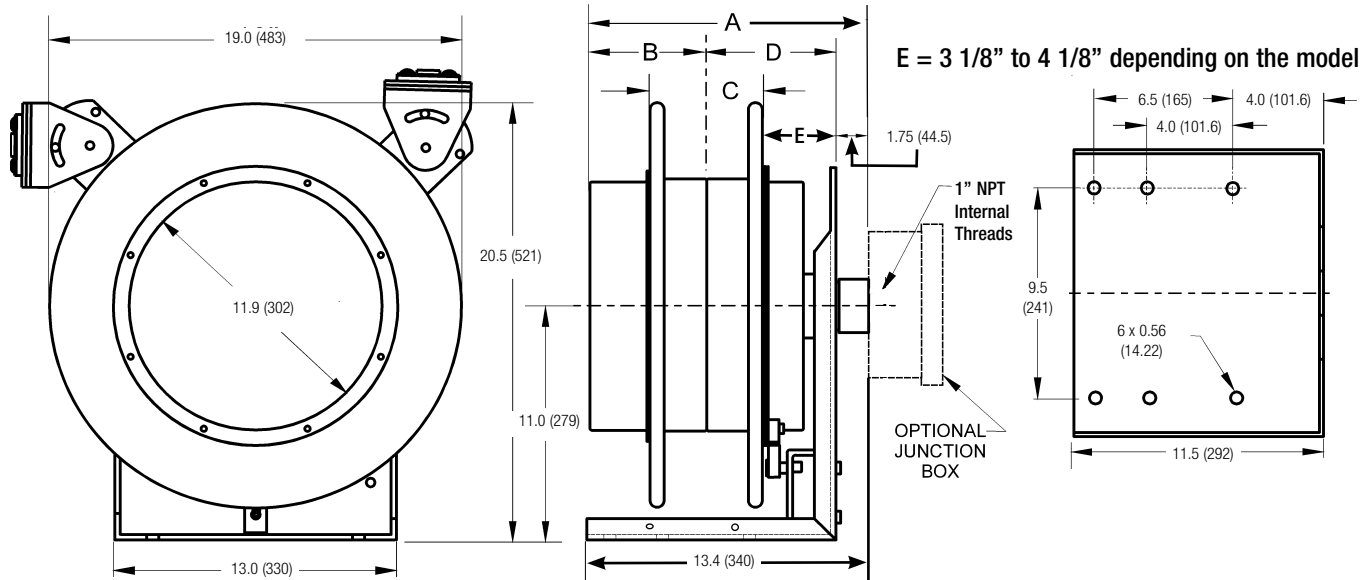
## NEMA 4 Junction Boxes

Cable Size	Cable O.D. Inches		Cable O.D. Inches		Cable O.D. Inches	
	w/ 1" NPT	Part No.	w/ 1.25" NPT	Part No.	w/ 1.50" NPT	Part No.
4 Conductor, 16-8 AWG	0.31 - 0.95	40923	n/a	n/a	n/a	n/a
4 Conductor, 6-2 AWG	n/a	n/a	0.875 - 1.245	40924	n/a	n/a
12 Conductor	0.31 - 0.95	40925A	0.875 - 1.245	40925B	n/a	n/a
24 Conductor	0.31 - 0.95	40926A	0.875 - 1.245	40926B	1.156 - 1.495	40926C
30 Conductor	n/a	n/a	0.875 - 1.245	40927B	1.156 - 1.495	40927C

# 1900 & 2400 Series PowerReel® Dimensions

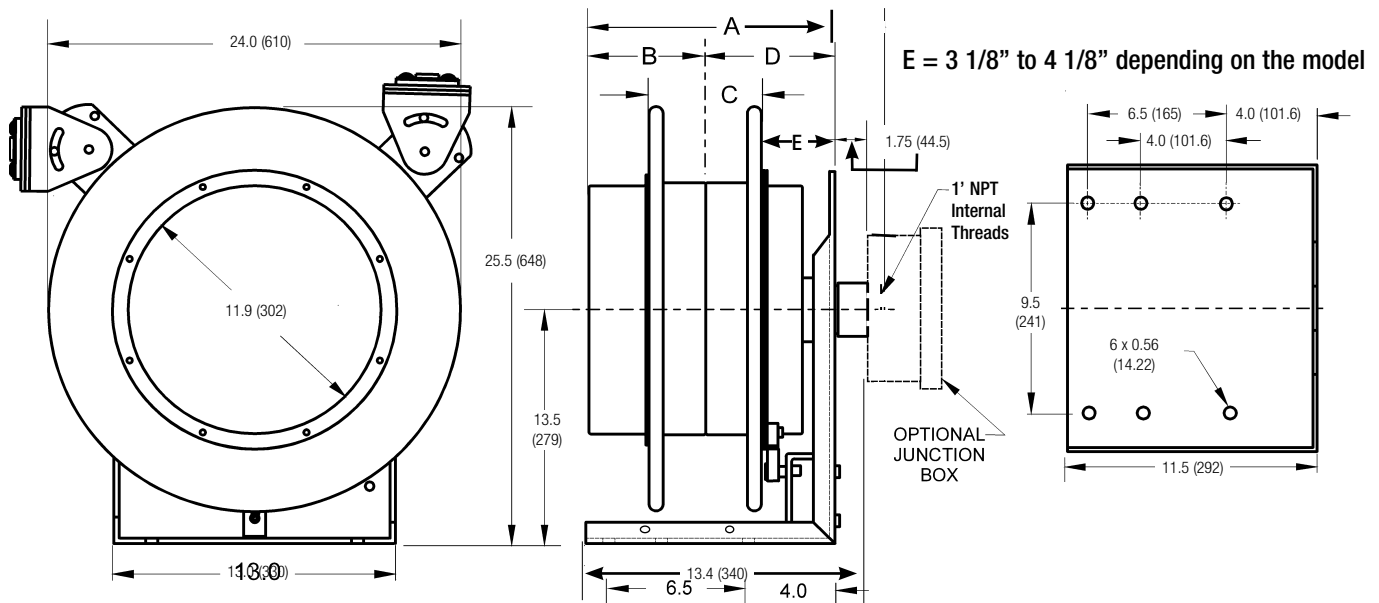
## 1900 Series Dimensions

Dimensions A through D will vary depending on the model and can be provided with quote.



## 2400 Series Dimensions

Dimensions A through D will vary depending on the model and can be provided with quote.



# 3200 & 3600 Series PowerReel®

Our Heavy-Duty 3200 and 3600 Series Cable Reels are designed for larger, more robust applications. These reels will handle cables ranging from 16 AWG to 1 AWG cables, having up to 36 conductors, and in lengths up to 200 feet (60 m).

Reels are generally sized for type SOOW-A, Type W or Type G-GC cable.



## 3200 - 3600 Series Reels are ideal for:

- Overhead cranes & hoists
- Theater lighting cables
- Conveyors & trippers
- Any very demanding application

## Standard Features

- All-steel modular construction with yellow powder coated finish
- Roller-guide able to be mounted anywhere along a 345° arc
- Safety-sealed, lifetime lubricated spring motor canisters with **Quick-Change** feature
- External spring torque adjustment
- Reel lifting eyes
- Integrated junction box and spool guard rails
- Sealed slip ring housing (NEMA 4)

## Reel Options

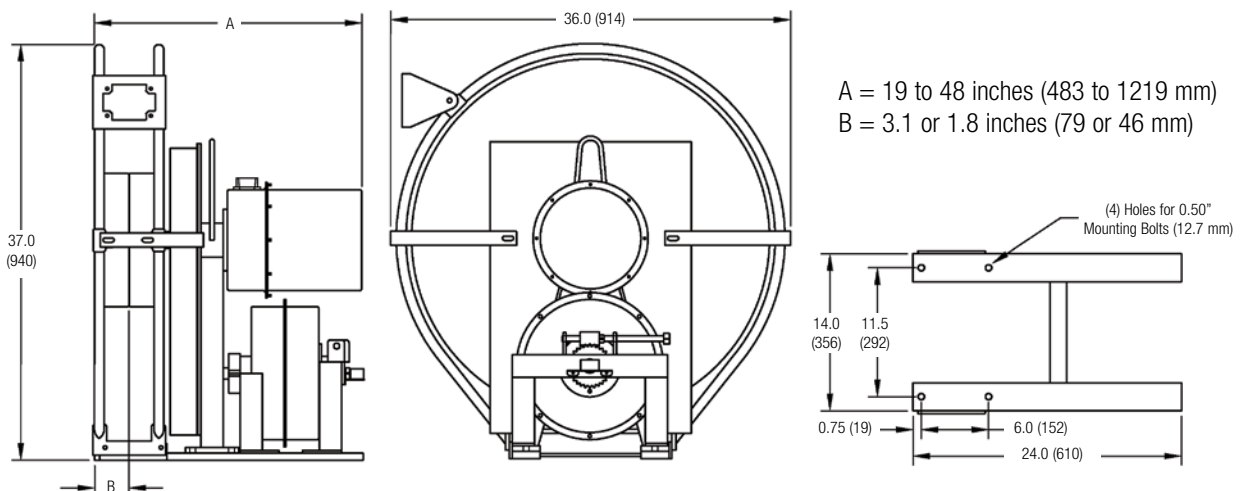
- Left Hand Rotation - contact factory
- Spool Lock (page 26)
- Limit Switch (page 27)
- Marine Duty (page 27)
- Pivot Base (page 24)
- Ratchet (page 26)
- ReelSafe Brake (Retraction Governor, page 26)

## Other Custom Features - Contact Conductix-Wampfler

## Choosing a 3200-3600 Series Cable Reel

- Use the Specification Data Sheets on pages 4-5 to determine your needs. Contact the factory for quotations.
- Be sure to specify enough cable - see "Cable Length Needed" on page 5.

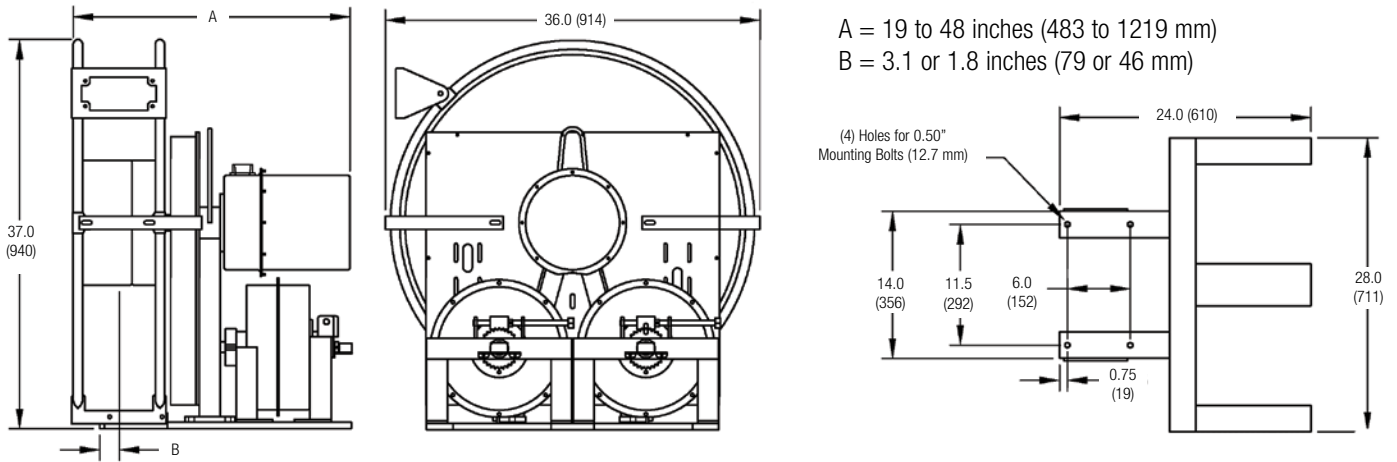
## 3200 Series Dimensions, Single Motor



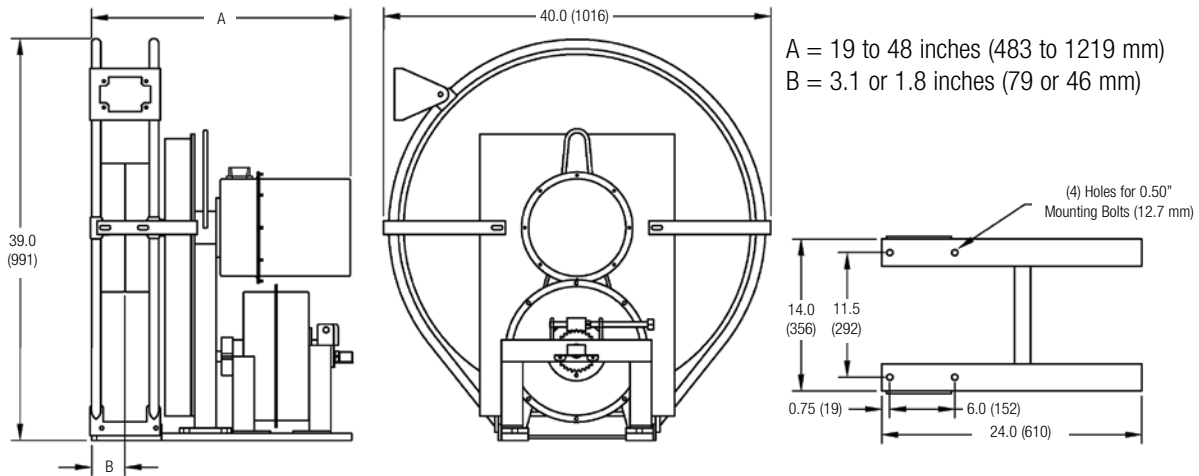


# 3200 & 3600 Series PowerReel® Dimensions

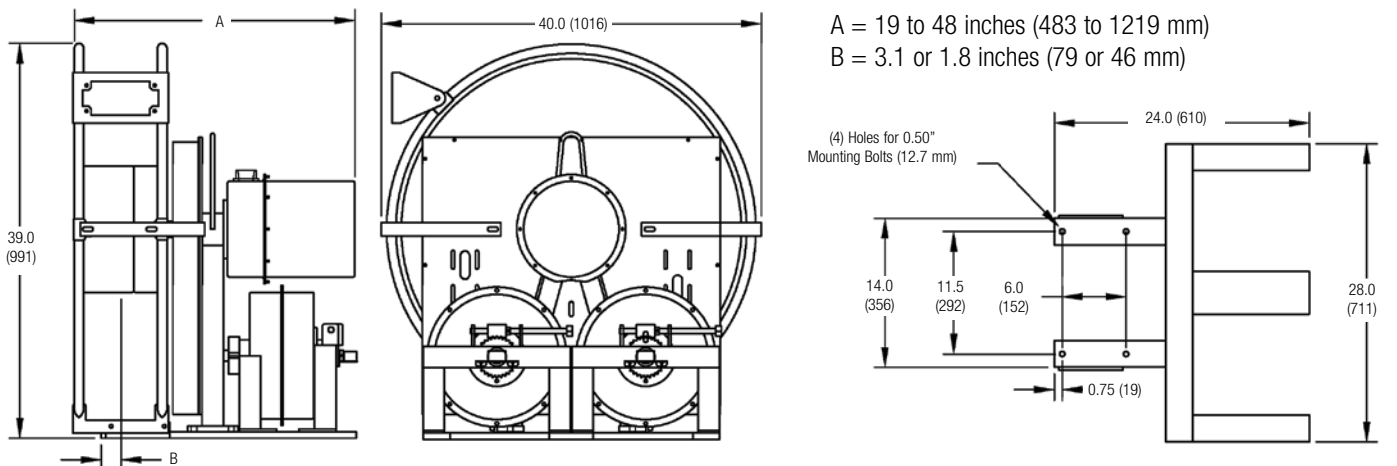
## 3200 Series Dimensions, Dual Motor



## 3600 Series Dimensions, Single Motor



## 3600 Series Dimensions, Dual Motor



# 1500 Series Hazardous Location PowerReel®

These reels are also commonly referred to as “explosion-proof” or “hazardous duty” reels. They are built with modular “1400 Series” components, coupled with a spark-proof ratchet and hazardous location slip ring housing.



## Hazardous Location PowerReels are ideal for:

- Petroleum facilities
- Waste water treatment plants
- Grain storage and handling silos
- Paint booths
- Underground mines
- Chemical plants

## Standard Features

- SOW-A cable, on all reels
- Spring activated ratchet
- 4 roller adjustable cable guide and ball stop
- Built to UL 508C table 36.1 / NEC Standards
- 6' feeder cord on fixed end
- Indoor or outdoor use
- 35 amp, 1-4 conductors 600 Volt, 5-12 conductors 250 Volt
- Rugged fabricated steel and cast aluminum construction
- Threaded cast aluminum slip ring enclosure
- Gray epoxy finish on steel parts

## Choosing a 1500 Series PowerReel:

- Use the 1400 Series “Lift/Drag” chart on page 12 to select your 3 or 4 conductor 1500 Series reel. Use the same part number as the equivalent 1400 Series, but replace prefix “14” with “15”. For example:  
**152160305011** - rather than **142160305011**)
- Cable length is actual length. Be sure to order enough cable - see “Cable Length Needed” on page 5.
- This reel can accommodate other applications - see Specification Data Sheets pages 4-5.

## UL Hazardous Location Listings

### 3 and 4 conductor models with cable installed only

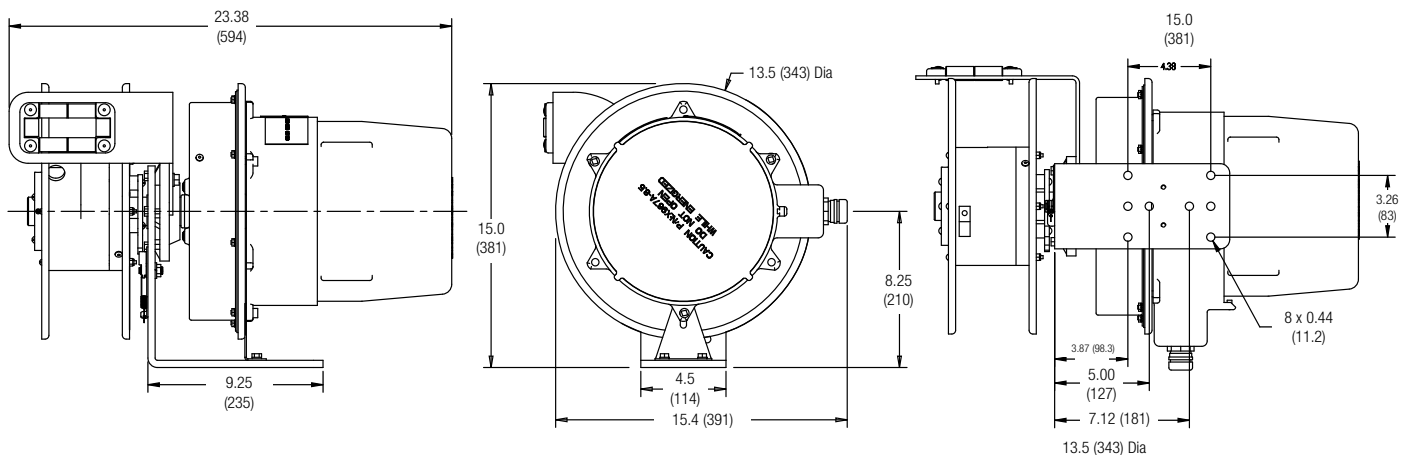
- Class I Division 1, Groups C & D (flammable gases or vapors)
- Class II Division 1, Groups E, F, & G (combustible dusts)
- Class III Division 1 (easily-ignitable fibers or flyings)
- Class I Zone 1: AEx d IIB, EX d IIB
- Conforms to NEMA 9 and NEMA 4 (IP56) standards



## 1500 Series Options:

- Hazardous location swivel bases - page 25.
- Hazardous location hand lamps - pages 22 & 23
- 345° pivot base for 1500 Series reels - page 25

## 1500 Series Dimensions



# 2500 & 3500 Series Hazardous Location PowerReel®

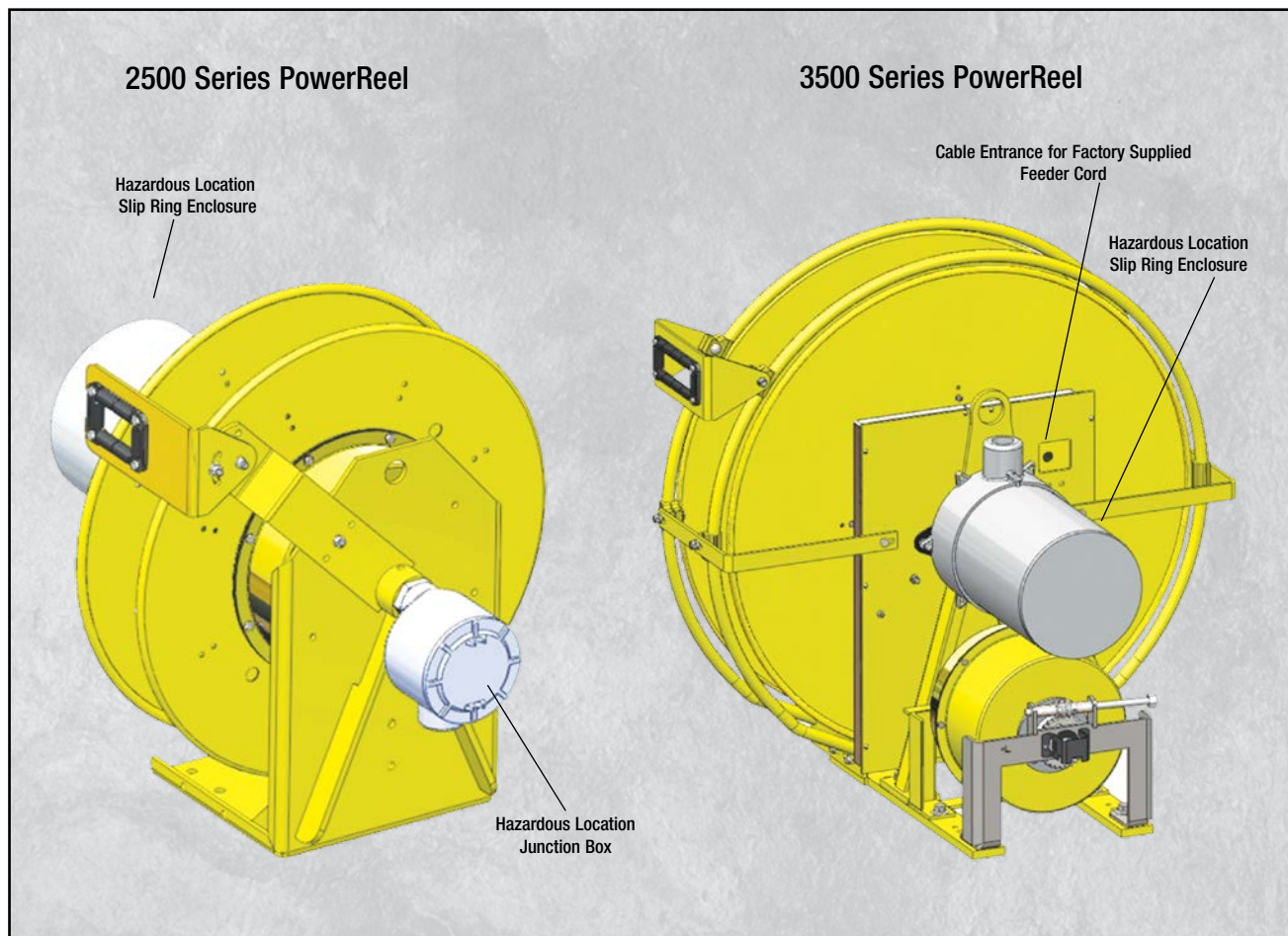
Conductix-Wampfler 2500 & 3500 Series Hazardous Location Reels are built on the same platform as the 2400 and 3200/3600 Series reels, except they have been specially equipped to meet hazardous duty (explosion proof) requirements. The 2500/3500 Series reels will meet application requirements beyond the 1500 Series (namely longer travel distances and larger cables).

Contact Conductix-Wampfler for assistance with choosing the 2500 or 3500 Series reel to ensure a correct fit with your application.

**Complies with NEC requirements. Not third party listed or certified by any regulatory body:**

- Class I Division I, Groups C & D (flammable gases or vapors)
- Class II Division I, Groups E, F, & G (combustible dusts)
- Class III Division I (easily ignitable fibers or flyings)

Conforms to NEMA 9 and NEMA 4 (IP56) standards for applications in wet and dry locations.



Dimensional information will vary with specifications. Contact Conductix-Wampfler with your requirements.

## 330° Hazardous Location Pivot Base

Reel Series	Pivot Base
2500	40274X
3500	P3-3200

# Options and Accessories Reference Chart

For your convenience, the chart below lists each series of reel, the option, and whether that option is available for that reel series. Options and accessories are described on the pages listed in the second column. Some reel models include common add-on options as standard features of the basic reel.

**Need assistance with choosing accessories?  
Contact Conductix-Wampfler at 1-800-521-4888**

Accessory	Accessory Page Number	Reel Series				
		1200	1400	1500	1900 2400 2500	3200 3600 3500
		Reel Series Page Number				
		6-9	10-13	18	14-15, 19	16-17, 19
Ball Stops	21	Std	Std *	Std	Std *	Add-on
Cable Grip	21	Add-on	Add-on	Add-on	Add-on	Add-on
External Spring Tensioning Device	16	-	-	-	-	Std
Flop-Over Guide Kit	13	-	Add-on	-	-	-
Guide Rail Set	14	-	-	-	Add-on	Std
Hand Lamps	9,13,22	Std*	Add-on	Add-on	Add-on	Add-on
Junction Box	14	-	-	-	Add-on	Std
Limit Switch	27	Call	Call	Call	Add-on	Add-on
Marine Duty	27	-	-	-	Call	Call
Pivot Base (345°)	24	Add-on	Add-on	Add-on	Add-on	Add-on
Push-Button Pendants	27	Add-on	Add-on	Add-on	Add-on	Add-on
Quick-Change Spring Motor	16	-	-	-	-	Std
Ratchet	26	Std	Std	Std	Std *	Add-on
Receptacle Boxes	23	Std *	Add-on	-	Add-on	Add-on
ReelSafe Brake	26	-	Add-on	Call	Add-on	Add-on
Roller Guides	28-30	Std	Std	Std	Std	Std
Slip Ring Assemblies (Special)	31	-	Call	Call	Call	Call
Spool Lock	26	-	-	-	Add-on	Add-on
Swing Mount	6	Add-on	Add-on	-	-	-
Swivel Base	25	Add-on	Add-on	Add-on	Add-on	Add-on
Hazardous Location Swivel Base	25	-	-	Add on	Add-on 2500 only	Add-on 3500 only

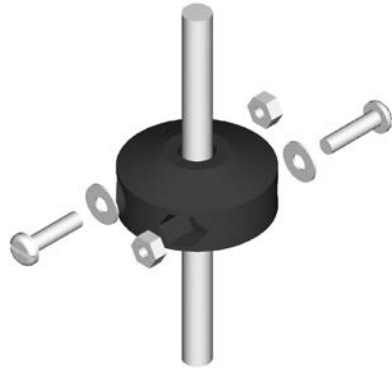
\* Selected models ONLY

# Ball Stops and Cable Grips

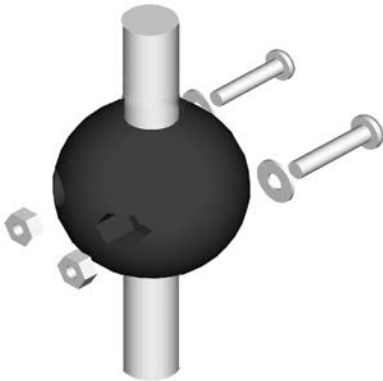
## Ball Stops



Type A - Round with spring



Type B - Split Donut



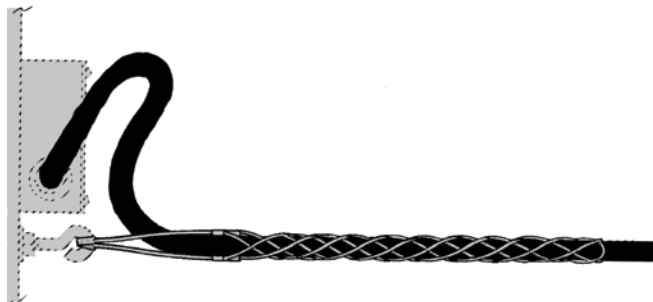
Type C - Split Round

Ball Stops, also referred to as “Cable Stops” or “Bumper Stops” are:

- Generally used for manually operated “Lift/Drag” applications govern retraction length. Stops are required when cable-end accessories such as hand lamps and receptacle boxes are installed on the reels.
- Ball stops are included with all 1200 Series reels.
- Ball stops are included on 1400, 1500, 1900, 2400 and 2500 Series reels “Lift/Drag” application only.

Type	For Outside Cable Dia of: inches (mm)	For Reel Series:	Part No.
A	0.19 to 0.44 (4.8 to 11.2)	1200 or 1400 only <b>Not for 1500</b>	<b>34885</b>
B	0.44 to 0.62 (11.2 to 15.7)	Any	<b>34474</b>
B	0.63 to 0.75 (16.0 to 19.1)	Any	<b>34475</b>
B	0.75 to 1.05 (19.1 to 26.7)	Any	<b>34476</b>
C	0.44 to 1.38 (11.2 to 35.0)	Any	<b>533328-K</b>

## Cable Grips



Also referred to as “Kellems” grips, these devices are recommended to maximize cable life. They relieve the concentrated strain on individual conductors at the cable termination point. In most installations, the eye of the cable grip is connected to an eye bolt or U-bolt. This allows free movement between the cable and the grip. Include a generous cable loop to minimize the strain on the cable.

**Strongly Recommended** for “stretch” applications - see page 4.

For Outside Cable Dia of: inches (mm)	Part No.
0.43 to 0.61 (10.9 to 15.5)	<b>03622</b>
0.61 to 0.74 (15.5 to 18.8)	<b>03623</b>
0.74 to 0.99 (18.8 to 25.1)	<b>03624</b>
0.99 to 1.24 (25.1 to 31.5)	<b>03625</b>
1.25 to 1.49 (31.8 to 37.8)	<b>03626</b>

# Hand Lamps

Hand Lamps provide extra lighting in applications where proper lighting is required for safety or convenience. Suitable for indoor use on all 3 conductor 16 AWG & 14 AWG cable reels. Standard on selected 1200 Series PowerReels - see page 9. Available in incandescent or fluorescent type in standard and hazardous duty models.

Ratchet (page 26) and ball stop (page 21) are required and may need to be ordered separately if they are not standard on the host reel. Please refer to chart on page 20.

## Hand Lamps are ideal for:

- Manufacturing work cells
- Automotive work bays
- School shop areas
- Recreation centers
- Maintenance shops
- Maintenance trucks & trailers

## Incandescent Hand Lamp



The HSR has a high impact yellow handle with recessed on/off switch and 15 amp, 125 volt outlet on the side. Features a grounded steel reflector cage with swivel hanger. Accepts up to 14/3 SJOOW-A cable. 100-watt rough service bulb not included.

**UL listed for indoor use.**

Part No.	Wt lb (kg)
HSR	1.3 (.59)

## Fluorescent Hand Lamp



The FHL has rubber handles with switch and hanger. Features a plastic non-glare shield with cool operating 13-watt lamp (included). Ballast is mounted on the feeder cord. For use with 16 or 14 AWG 3 conductor SJOOW-A cable only.

**UL listed for indoor use.**

Part No.	Wt lb (kg)
FHL	1.2 (.55)

## Hazardous Duty Incandescent Hand Lamp



Ideal when a hand lamp needs to be used in a hazardous location. Light-weight construction. Features non-sparking aluminum guard with full swivel hook and high impact glass reinforced phenolic handle. Resists heat up to 300° F. Accepts up to 14/3 SOOW-A cable. 100 Watt, 120 Volt.

**UL listed**

Part No.	Wt lb (kg)
XHL	4.9 (2.22)

# Hand Lamps and Receptacle Boxes

## Hazardous Duty Fluorescent Hand Lamp



Ideal when a hand lamp needs to be used in a hazardous location. Light-weight construction. Features non-sparking plastic guard with full swivel hook and high impact glass reinforced phenolic handle. Resists heat up to 300 degrees F. Accepts 16/3 SOOW-A cable. 13 Watt, 120 Volt

UL listed

Part No.	Wt lb (kg)
100211-PL	4.9 (2.22)

## Receptacle Boxes

Receptacle boxes mounted to the reel cable supply mobile power where it is needed. They are standard on some models of 1200 Series reels - see page 8. They can also be wired to other PowerReels and can accommodate up to 12/3 SOOW-A cable.

Made from a heavy duty, molded yellow thermoplastic elastomer (TPE), these boxes have an internal cord grip and are oil resistant and impervious to most chemicals.

Ratchet (page 26) and Ball Stop (page 21) are required and are standard on the reels that most commonly use a receptacle box - see page 20.

UL Listed and CSA approved.



### Receptacle Boxes are ideal for:

- Factory work cells
- Automotive work bays
- School shop areas
- Recreation centers
- Maintenance shops
- Maintenance trucks & trailers

Description	Part No.
Dual 15 amp 125 volt duplex (4 outlets total)	RB
Dual 20 amp 125 volt duplex (4 outlets total)	RB-5-20R

## Ground Fault Circuit Interrupter (GFCI)



A Ground Fault Circuit Interrupter (GFCI) and plug assembly can be mounted onto the feeder cord of some reels. It comes standard on 1200 reels with part numbers ending in "17" - see page 8.

# 345 Degree Pivot Base

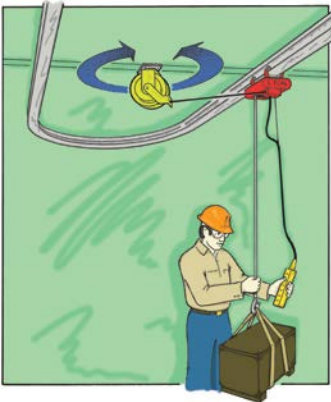


Pivot Bases allow the cable reel to pivot back and forth for alternating directions of cable payout. See part number chart below for maximum rotation.

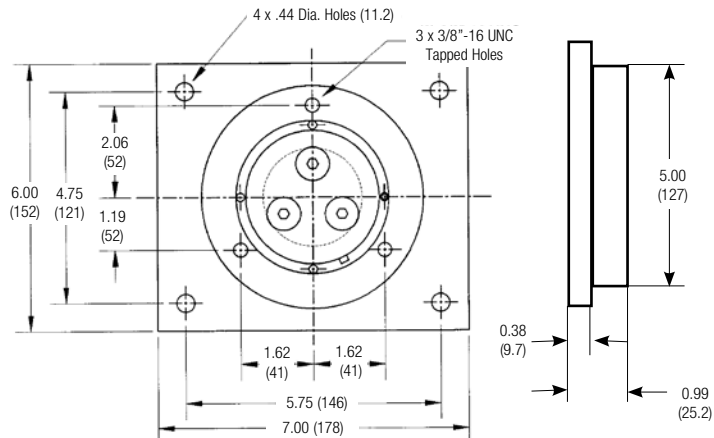
**If the cable is to be paid out at more than 15 degrees away from parallel with the spool flanges, a pivot base should be used.**

Note that Swivel Bases are available for applications that require a full 360 degree rotation - see page 25. Pivot Bases are ordered based on the specific series of reel used - see chart below.

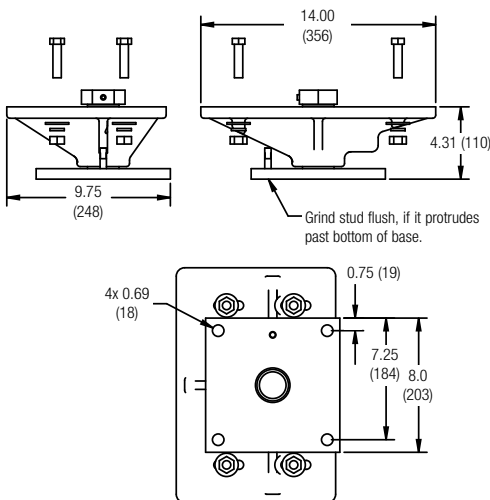
Reel Series	Maximum Rotation (Degrees)	Part No.	Wt lb (kg)
1200 and 1400	345	<b>PVB</b>	7.5 (3.40)
1500	345	<b>XPVB</b>	20.0 (9.07)
1900 & 2400	330	<b>40274</b>	43.0 (19.51)
2500	330	<b>40274X</b>	43.0 (19.51)
3200 & 3600	330	<b>P3-3200</b>	103.0 (46.72)



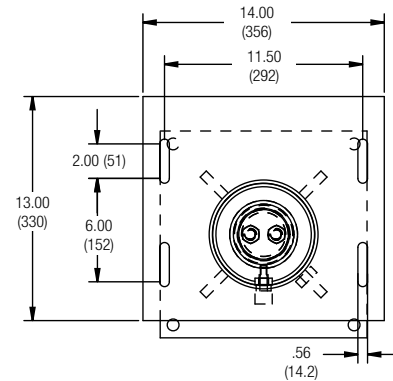
## PVB Dimensions



## 40274 and 40274X



## P3-3200





# 360 Degree Swivel Bases



1200 / 1400 Swivel Shown



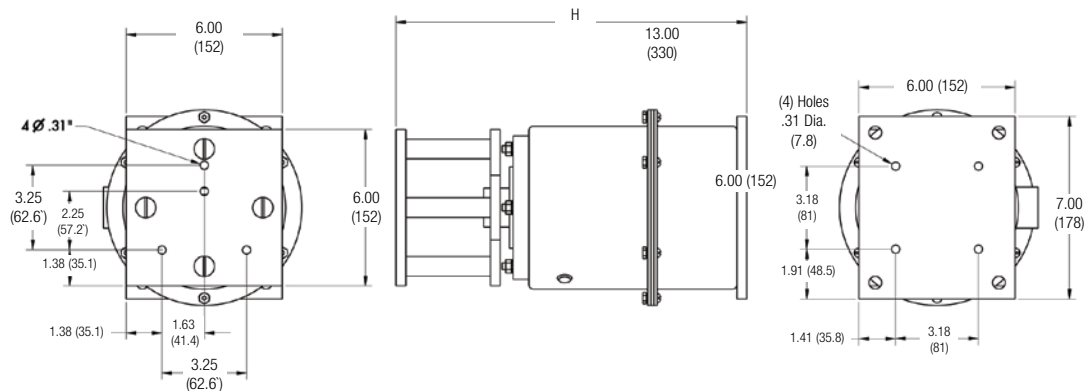
Swivel Bases allow reels to rotate 360 degrees in applications where continuous electrical rotation is required. They feature completely free running ball bearings in a water-tight and dust-tight enclosure. Access holes are provided for simple slip ring inspection. Hazardous duty version is available - see page 19.

Standard top and side fittings: 1.0 inch NPT for cable diameters ranging from 0.50 to 0.75 inches.

Contact factory regarding fittings for larger size cable.

1200 and 1400 Swivel Bases				
# Cond	Amps	Volts	dim "H"	Part No.
3	35	600	13.5 (343)	38036
4	35	600	13.5 (343)	38036B
5	35	250	15.0 (381)	38036C
6	35	250	15.0 (381)	38036D
8	35	250	16.5 (419)	38036E
10	35	250	16.5 (419)	38036F
12	35	250	18.5 (471)	38036G

## 1200 / 1400 Swivel Base Dimensions

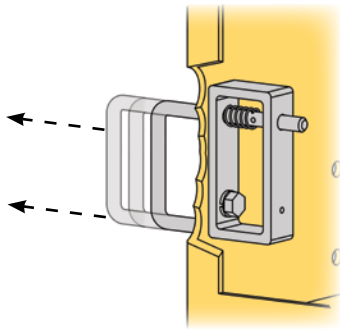


1900 and 2400 Series Swivel Bases			
# Cond	Amps	Volts	Part No.
3	35	600	SM-33-P***-8
4	35	600	SM-34-P***-8
5	35	250	SM-35-P***-8
6	35	250	SM-36-P***-8
8	35	250	SM-38-P***-8
10	35	250	SM-310-P***-8
12	35	250	SM-312-P***-8

1500 Series Swivel Bases			
# Cond	Amps	Volts	Part No.
3	35	600	XSM-33-XPVB
4	35	600	XSM-34-XPVB
5	35	250	XSM-35-XPVB
6	35	250	XSM-36-XPVB
8	35	250	XSM-38-XPVB
10	35	250	XSM-310-XPVB
12	35	250	XSM-312-XPVB

# Optional Spool Locks, Ratchets, and Brake

## Spool Locks



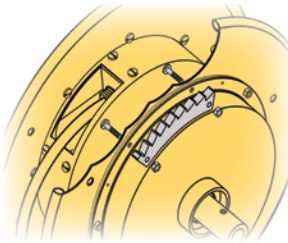
Spool Locks hold the spool in place to prevent rotation of the reel in adverse conditions or during routine maintenance. Can be included with 1900 through 3600 Series Reels.

### Spool Locks are used for:

- Overhead cranes
- Rail cars
- Reel maintenance situations

For Reel Series	Part No.
1900-2400	<b>40260A or 40260B</b> (depending on reel - consult factory)
3200-3600	<b>44333</b>

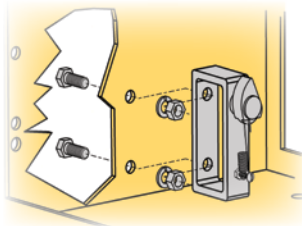
## Ratchets



Ratchets are spring activated mechanisms that temporarily lock the spool in place at selected points in the cable payout. The ratchet is released by pulling the cable. Ratchets are standard on 1900, 2400 and 2500 Series "Lift/Drag" Reels. For 3200 through 3600 Series, they need to be specified on quote/order.

### Ratchets are used for:

- Manually operated reels
- Lift/Drag applications  
- see page 4
- Reels with hand lamps, receptacle boxes, or pendants installed



For Reel Series	Part No.
1900-2400	<b>40251A-K or 40251B-K *</b>
3200-3600	<b>43418</b>

\* This part number is for replacement as 1900, 2400 and 2500 Series Lift/Drag reels now have ratchets included standard.

## ReelSafe Brake



The "ReelSafe" brake (U.S. Patent # 6488224) limits the retraction speed of a spring-powered reel. This device greatly reduces the chance that an accidental uncontrolled cable retraction will occur, thereby reducing the risk of personal injury or property damage.

The ReelSafe is preset at the factory to a safe speed, but it can be adjusted to the user's preference after reel installation. Some variation in retraction rate will be noticeable during large temperature variations such as seasonal temperature change, and minor adjustments may be necessary.

For Reel Series	Part No. (ReelSafe Brake Unit Only *)
1400	<b>42900</b>
1900-2400	<b>42900</b>
3200-3600	<b>42900</b>

\* Final part number character determined upon order entry based on reel style.

# Other Options

## Limit Switches

Rotary cam-type limit switches are used when an electrical interlock between cable payout length and other electrical equipment is required. These are adjustable for accurate location of the tripping mechanism. A variety of internal gear ratios are available so that the selection of the proper ratio will give maximum rotation of the actuator. The standard limit switch consists of a 2-element switch to provide 2 NO (normally open) and 2 NC (normally closed) sets of contacts in a NEMA 4 enclosure.

### Limit Switches are used for:

- 1900 through 3600 Series Reels
- Pendant Switches
- Overrun Control

Limit Switches	Part No.
Contact Factory for Consultation	To be Determined

## Marine Duty Option

Marine Duty option is available for 1900 through 3600 Series PowerReels® used in applications around bodies of water and other moist environments as defined by marine specifications IEEE-45 and U.S. Coast Guard specification ABS. Hardware is stainless steel, reel shaft is zinc plated, and the slip ring leads are fully sealed at both ends of the shaft.

### Marine Duty Reels are ideal for:

- Ports and Terminals
- Water Treatment Plants
- Other Extremely Moist Areas

Limit Switches	Part No.
Contact Factory for Consultation	To be Determined

## Push Button Pendants



Cable reels can be used to manage pendant cables and the push button pendant on the cable end. Conductix-Wampfler offers a complete line of ergonomically designed push button pendants - From 2 to 24 buttons.

Contact Conductix-Wampfler Sales and ask for the Pendant Catalog (CAT1001) or download it from [www.conductix.us](http://www.conductix.us)



# Roller Guides, Type "A"

Conductix-Wampfler includes a 4 roller guide as a standard item on each spring driven cable reel. For special cable payout applications, we recommend our Type C - page 29.

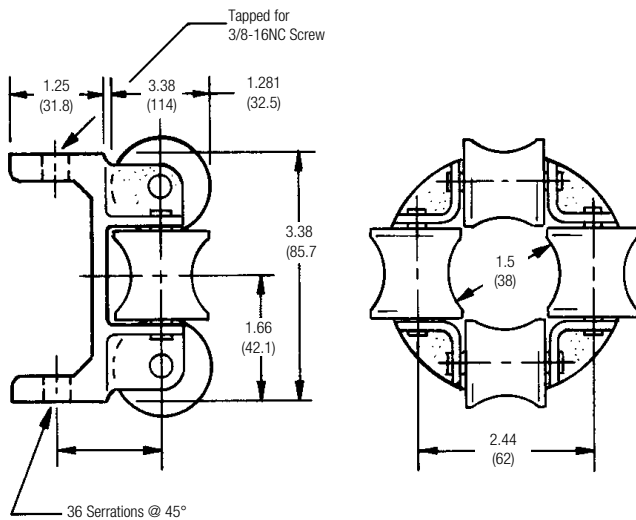
**IMPORTANT NOTE:** Do not use the standard rigid mount roller guide supplied with reel in a two-way payout application. Refer to pages 29-30 for Appropriate Options.

## Type "A" Roller Guides are used to:

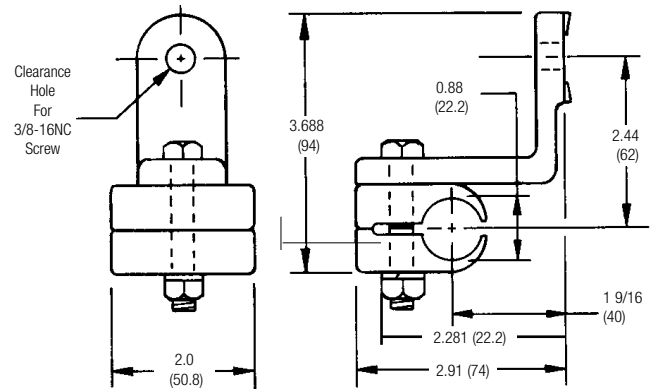
- Centering the cable on the spool
- Lift Applications
- Payouts not more than 15 degrees from tangent to the drum
- Single-direction stretch applications
- Providing a "seat" for a Ball Stop

Maximum Cable O.D. inches (mm)	Roller Guide Part No.	Roller Guide Mounting Set Part No. (for old E, F, H, and M Style Reels)
1.25 (32)	A2	AA
2.00 (51)	A3A	08397Z

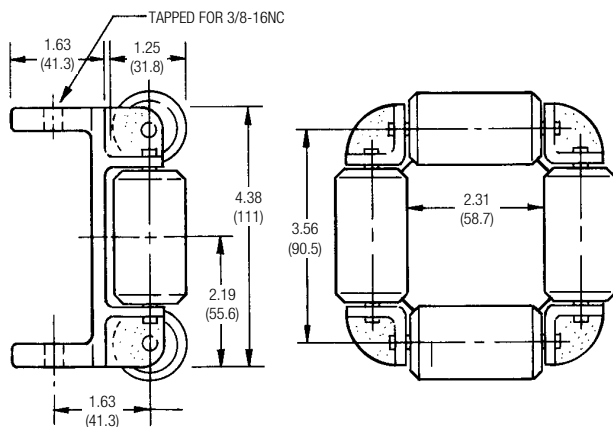
### # A2 Four Roller Guide



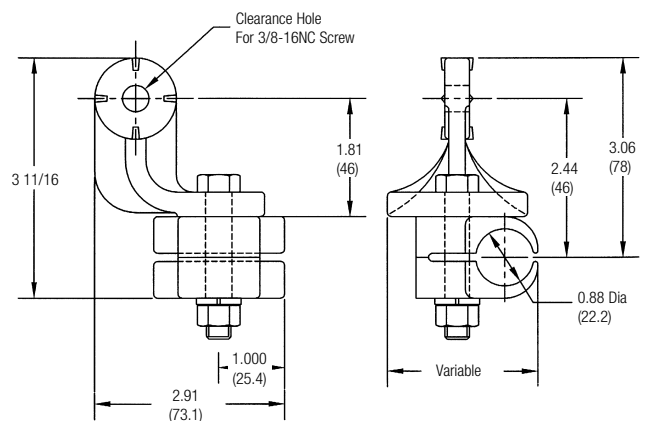
### # AA Guide Mount Set (Used on 3" or greater drum widths).



### # A3A Four Roller Guide



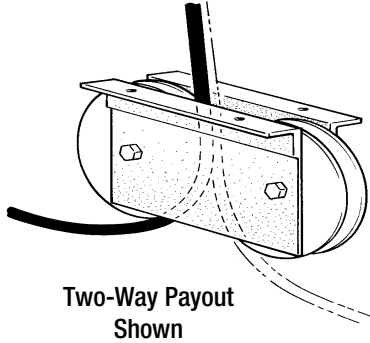
### # 08397Z Cable Guide Support (Used on 2.5" or less drum widths).



# Roller Guides, Type “C”

The rugged “Type C” guide mounts separate from the reel.

- Suitable for all PowerReel® cable reels.
- Features sealed ball bearings
- Comes in standard matte black finish



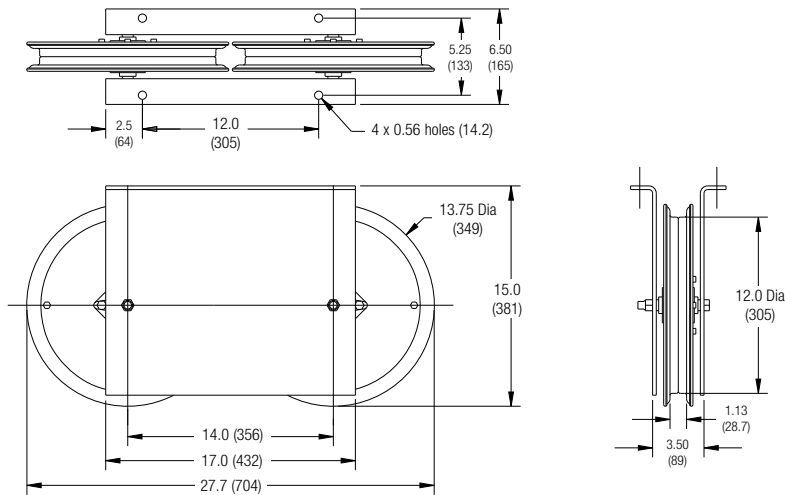
**Type “C” Roller Guide (Two-Way Version) is ideal for:**

- Cable that pays out in two directions and is terminated at the center of travel
- When a structural member or obstruction would interfere with the normal payout and retraction of the cable

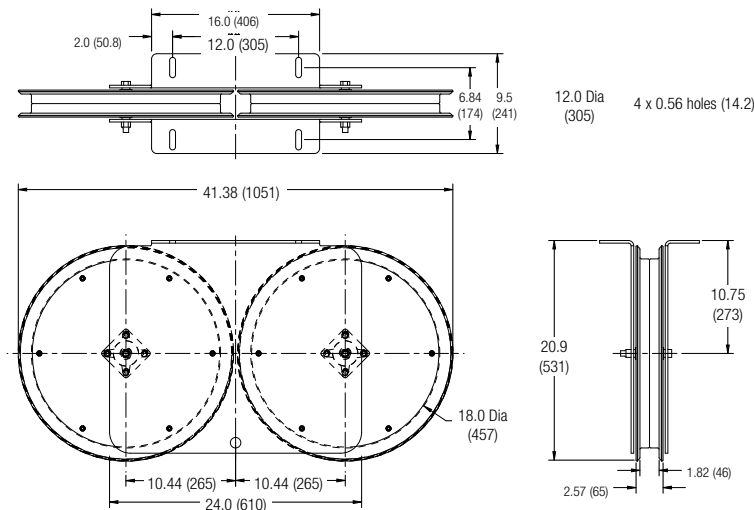
Type	Bend Diameter	Max. Cable O.D.	Part No.
	inches (mm)		
Two-Way Payout	12 (305)	1.0 (25.4)	<b>C12S</b>
Two-Way Payout	18 (457)	1.5 (38.1)	<b>C18S</b>
Two-Way Payout	24 (610)	2.0 (50.8)	<b>C24S</b>
Single Sheave	12 (305)	1.0 (25.4)	<b>CA11397</b>
Single Sheave	18 (457)	1.5 (38.1)	<b>CA11518</b>
Single Sheave	24 (610)	2.0 (50.8)	<b>CA11199</b>

**IMPORTANT NOTE:** When using roller guides premium cable will be required. See Appendix VII, page 43, and contact the factory for details.

## # C12S Roller Guide (# CA11397 Has just one 12” sheave)



## # C18S Roller Guide (# CA11518 has just one 18” sheave)

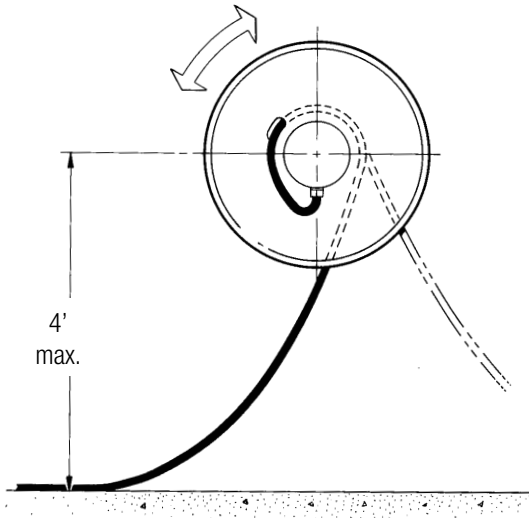


# Roller Guide Installation

## Configuration A

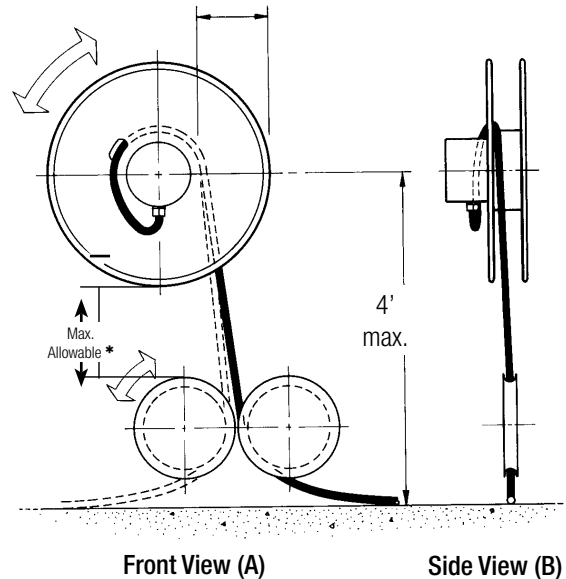
Low lift height to the center line of reel. No obstructions to nominal catenary of cable.

**Secondary roller guide is not needed.**



## Configuration B

There is an obstruction to the normal catenary of the cable between the lift height center line and the lay of the cable. There is also adequate space between reel flange and cable lay for two-way payout roller guide (Part No. C12S, C18S or C24S - page 29)



\* Space window available will vary depending on reel and guide mounting position - contact the factory.

## Selection of Roller for Configuration B

- 1) Determine the bend diameter required. The bend diameter (sheave diameter) should be no less than 10 times the cable diameter to maximize cable life.
- 2) Select roller guide with required bend diameter (from page 29). Lay out cable reel and roller guide to assure that there is no interference. When in doubt as to which configuration applies, lay out the application using configuration B.
- 3) Specify catalog number of roller guide and note on the order, "**For separate mounting with cable reel part number...**" If the cable reel is not on the same order, refer to the cable reel order or specify the cable that will run on the roller guide.

## Mounting for Configuration B

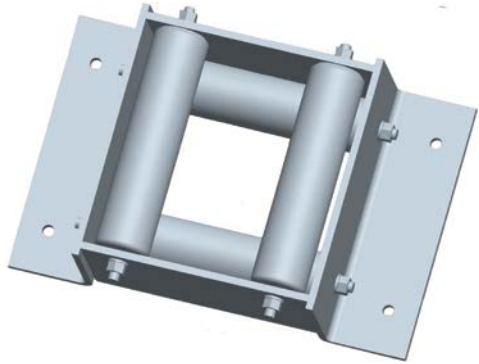
**Front View (A):** Locate center line of the roller guide on the mean center line of the spool flange to obtain a vertical line payout of cable from the spool to the roller guide when the spool is one half full.

**Side View (B):** Align the roller guide center line with spool center line.

**NOTE:** Allow a maximum of 4 feet from spool horizontal center line to the surface supporting the cable.

# Custom Roller Guides and Slip Ring Options

## Custom Roller Guides



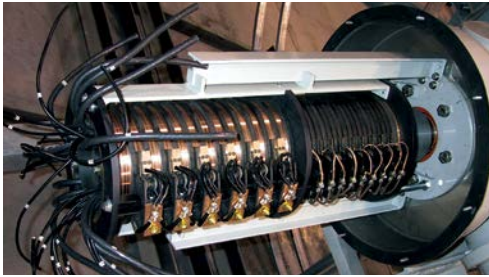
Conductix-Wampfler manufactures a variety of custom roller guides designed for specific applications. These are usually mounted separately from the reel to guide cables through floors, decks, and around obstacles.

The guide at the left is an example of a robust, custom cable guide - Part No. 46976. This unit has a roughly 9" (229 mm) box with a 3.6" (91 mm) square opening between the rollers. It is used to guide a cable through the deck of a crane or similar machine.

Note that the "A3A" guide shown on page 28 can also be remotely mounted and used in a similar manner.

Contact us to discuss your application!

## Slip Ring Options



Conductix-Wampfler offers a complete line of standard and custom engineered slip rings for use with a wide variety of industrial machinery. We have over 60 years of experience in slip ring design and can offer many alternate styles of slip rings for custom applications.

For some reeling cable applications, a special slip ring treatment may be required. We can also integrate fiber optic swivels with the basic electric slip ring assembly. We can also incorporate other devices such as rotary cam switches, position encoders, and so forth.

Contact Conductix-Wampfler with your application or problem - we have the solution!



## Slip Ring Features

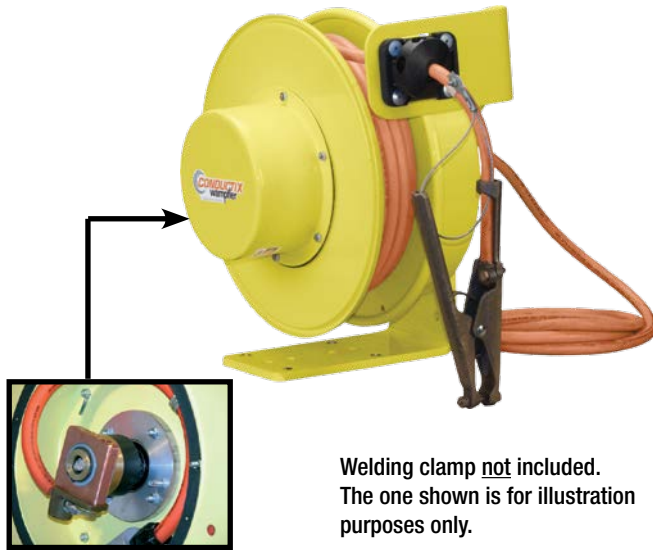
- Precision machined copper alloy rings with copper graphite brushes for power applications.
- Silver-plated rings and silver graphite brushes for low-level signal applications.
- Gold-plated rings and gold contact brushes for low-level signal applications (DMX, ethernet, video, etc.)
- Combination rings for power, control and signal level circuits.
- Single or redundant double brushes.
- A wide range of enclosure styles and bore sizes.

# Welding Reels

Conductix-Wampfler welding reels are specially designed for electric welding and grounding use. These reels are ideal for keeping excess cable stored and accessible in a neat, safe, and efficient manner.

Welding reels have positive locking ratchets and are suitable for both indoor and outdoor applications. We offer two welding reel models:

- **1400 Series** - See pages 10-11 for reel design details
- **1900 Series** - See pages 14-15 for reel design details



## 1400 Series Welding Reels are ideal for:

- Fabrication work areas
- Automotive and truck work bays
- Mobile utility vehicles
- Repair shops
- School shop areas
- Maintenance shops

## Features:

- Both 1400 and 1900 Series built to NEMA 4 standards, indoor or outdoor use
- Rugged, all-steel construction
- Positive Ratchet, including a ratchet lock-out feature for constant-tension applications
- Standard 4 Roller Guide included
- 6' Feeder Cord & Ball Stop included on Reels with cable
- Special 450 amp "knuckle-style" slip ring assembly for superior current carrying ability and reliability
- Reel will handle from 6 AWG to 2/0 AWG welding cable in lengths up to 75 feet (1400 Series) or 100 feet (1900 Series)

**Need to payout cable at an angle?  
See Pivot Bases, page 24**

## Choosing a Welding Cable Reel:

- The reels in the chart on page 33 are sized for a Lift/Drag application, such as for ceiling or wall/bench mounting - see page 4 for application definitions
- Make sure to consider the environment in which the reel will operate - see pages 4-5 Cable Reel Specification Data.
- Reels can be supplied with or without cable.
- Cable length is actual length. Be sure to order enough cable, see Cable Length Needed on page 5. For the Welding Reel, make sure to add 5 feet of cable to accommodate safety wraps and hook-ups.

Welding Cable Data			
Wire Size AWG	Amps	Approximate Diameter Inches	Approximate Wt lb/ft
6	95	0.370	0.125
4	150	0.420	0.200
2	200	0.490	0.275
1	250	0.530	0.365
1/0	350	0.610	0.435
2/0	450	0.635	0.550

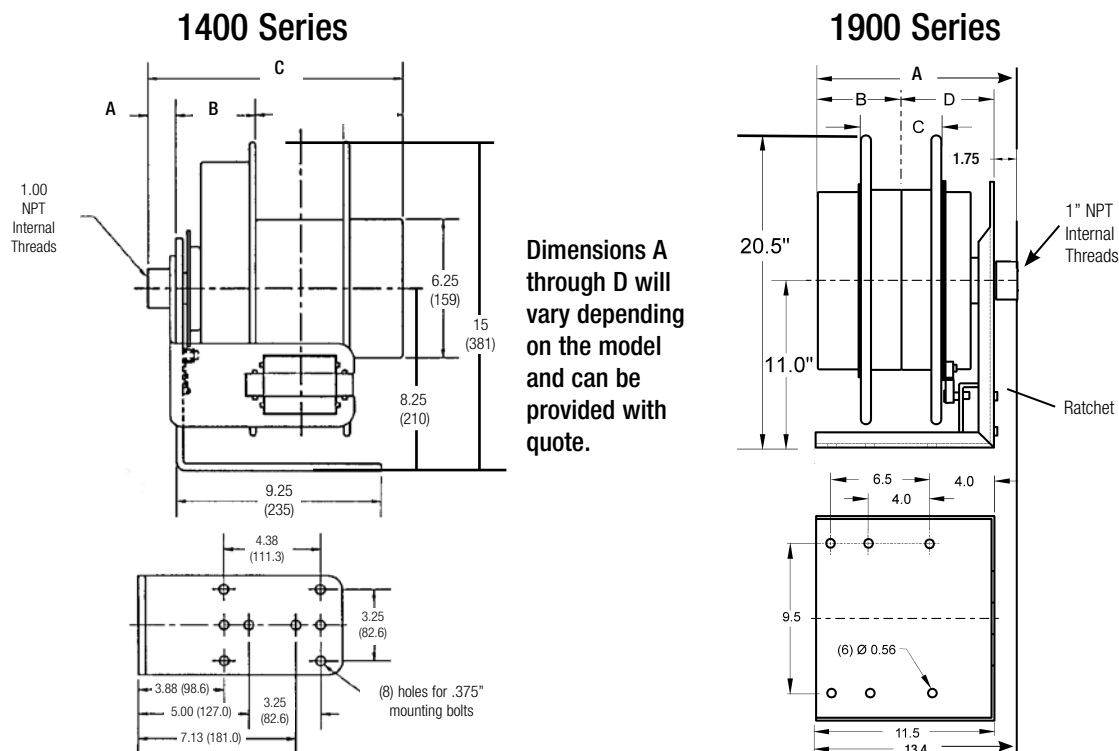


# Welding Reels Selection Chart

Lift / Drag Application Only - See Page 4

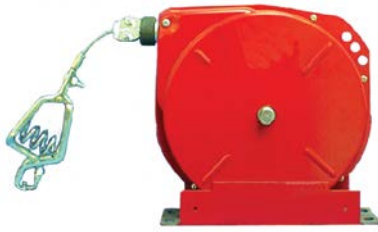
Welding Cable AWG	Cable Capacity ft (m)	Voltage Max. Amperage	Rated Duty Cycle	Max. Continuous Amperage (100% Duty Cycle)	Part No: (WITH cable)
6	25 (7.62)	600 Volts / 95 amps	100%	95 amps	145060102511
6	50 (15.24)	600 Volts / 95 amps	100%	95 amps	145060105011
6	75 (22.86)	600 Volts / 95 amps	100%	95 amps	145060107511
6	100 (30.48)	600 Volts / 95 amps	100%	95 amps	195060110011
4	25 (7.62)	600 Volts / 150 amps	60%	140 amps	145040102511
4	50 (15.24)	600 Volts / 150 amps	60%	140 amps	145040105011
4	75 (22.86)	600 Volts / 150 amps	60%	140 amps	145040107511
4	100 (30.48)	600 Volts / 150 amps	60%	140 amps	195040110011
2	25 (7.62)	600 Volts / 200 amps	60%	190 amps	145020102511
2	50 (15.24)	600 Volts / 200 amps	60%	190 amps	145020105011
2	75 (22.86)	600 Volts / 200 amps	60%	190 amps	195020107511
2	100 (30.48)	600 Volts / 200 amps	60%	190 amps	195020110011
1	25 (7.62)	600 Volts / 250 amps	60%	220 amps	145010102511
1	50 (15.24)	600 Volts / 250 amps	60%	220 amps	145010105011
1	75 (22.86)	600 Volts / 250 amps	60%	220 amps	195010107511
1	100 (30.48)	600 Volts / 250 amps	60%	220 amps	195010110011
1/0	25 (7.62)	600 Volts / 350 amps	60%	260 amps	145100102511
1/0	50 (15.24)	600 Volts / 350 amps	60%	260 amps	145100105011
1/0	75 (22.86)	600 Volts / 350 amps	60%	260 amps	195100107511
1/0	100 (30.48)	600 Volts / 350 amps	60%	260 amps	195100110011
2/0	50 (15.24)	600 Volts / 450 amps	40%	285 amps	145200105011
2/0	100 (30.48)	600 Volts / 450 amps	40%	285 amps	195200110011

Maximum dimensions shown. For actual dimensional information on a specific reel, contact Conductix-Wampfler Sales, 1-800-521-4888



# SDR Series Grounding (Static Discharge) Reels

## SDR Series Grounding Reel



SDR25-0



SDR50Y-0

### Grounding (Static Discharge) Reels are ideal for:

- Fuel tank static grounding
- Airplane static grounding
- Utility vehicle static grounding
- Maintenance shops
- Any place where static might build up and cause safety problems

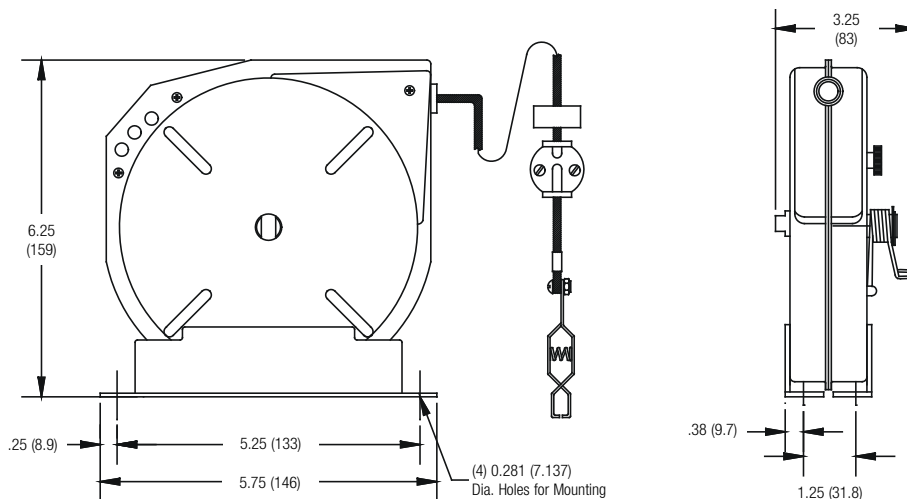
### Features:

- Built to NEC Standards
- Rugged all-steel construction
- Compact design
- Mounts in any position with spool perpendicular
- Ratchet and ball stop; ratchet can be locked out for “stretch” applications
- Available in a double-cable “Y” design to ground two places at once.

Cable Length ft (m)	Resistance (ohms)	Description	Part No.	Wt lb (kg)
25 (7.62)	1.4	Single Cable	<b>SDR25-0</b>	8.0 (3.63)
50 (15.2)	2.8	Single Cable	<b>SDR50-0</b>	12.0 (5.44)
50 (15.2) *	2.8	“Y” Cable	<b>SDR50Y-0</b>	12.0 (5.44)

\* 30 feet (13.61 m) travel, plus 20 feet (9.07 m) each branch

## Dimensional Drawing for SDR25-0 For SDR50-0, see page 35



# 1400 Series Grounding (Static Discharge) Reels

## 1400 Series Grounding Reel



These are 1400 Series PowerReels configured for static discharge applications. They are equipped with the cables listed in the table below.

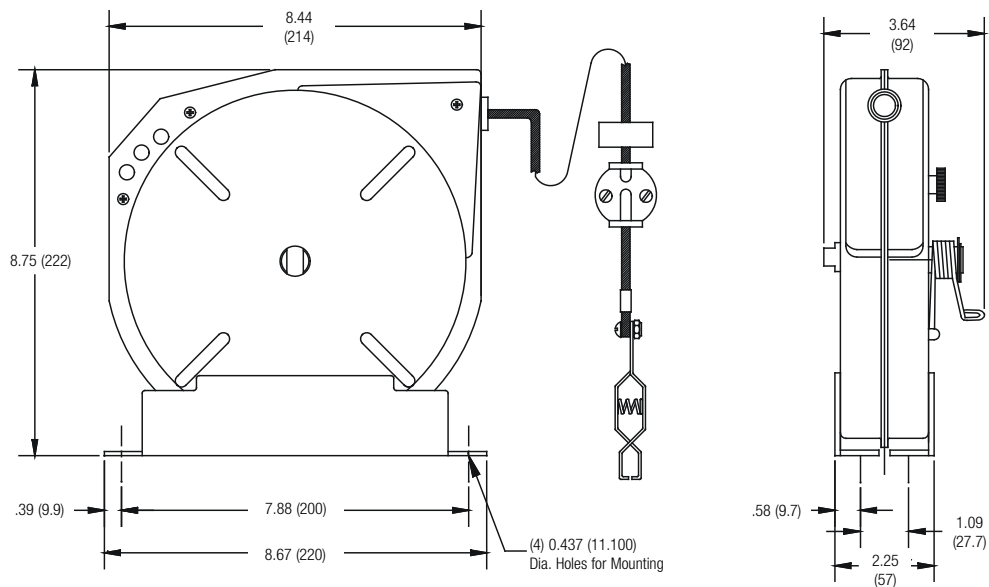
- Ball stop included
- 4 roller guide adjustable cable guide
- Auto locking ratchet for constant tension
- 100 amp grounding clamp included
- Resistance not exceeding 2 Ohms

1400 Series dimensional drawing - see page 11.

Reels listed below are roughly 14.9 high x 13.0 wide x 13.5 deep (378 x 330 x 343).

Cable Length ft (m)	Description	Part No.	Wt lb (kg)
75 (22.87)	12 AWG/1 Conductor SOW-A	142120107511	52 (23.6)
100 (30.49)	12 AWG/1 Conductor SOW-A	142120110011	65 (29.5)
75 (22.87)	Orange Nylon Jacket	146910107511	52 (23.6)
100 (30.49)	Orange Nylon Jacket	146910110011	65 (29.5)

## Dimensional Drawing for SDR50-0 and SDR50Y-0 - from page 34



# 6100 Series Spring Cable Reel

The Conductix-Wampfler “6100 Series” spring reel is a low-profile, heavy duty reel ideal for tough applications found in mills. They are ideal for transfer cars, cranes, water treatment facilities, and mobile equipment. Please contact us for catalog **KAT6100** that fully describes this product line.



## Minimum Reel Dimensions

Optimal cable and the smallest possible outside flange diameter: 7" to 19.7" (180mm to 500mm).

## Flange-Mounted

For ease of installation

## Optimal Corrosion Protection

Ideal for extremely demanding environments. The aggressive atmosphere – side shields made of galvanized steel, drum body powder coated

## High Durability and Long Life

High-grade double sided ball bearings

## Exceptionally High Spring Life

Springs made of high quality spring steel, tested to 50,000 cycles.

## Specially Designed Cable for Highest Mechanical Stress

The Conductix-Wampfler cable “RXP-8” has been specially developed for reeling applications, high maximum permissible tensile load. The RXP-8 jacket is abrasion-resistant and halogen free.

## Many Configurations Available!

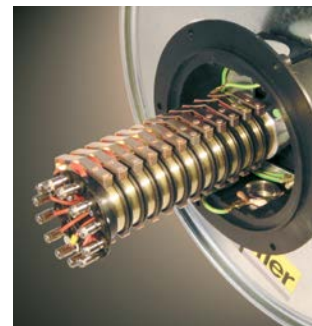


## Patented spring cassettes for maximum safety

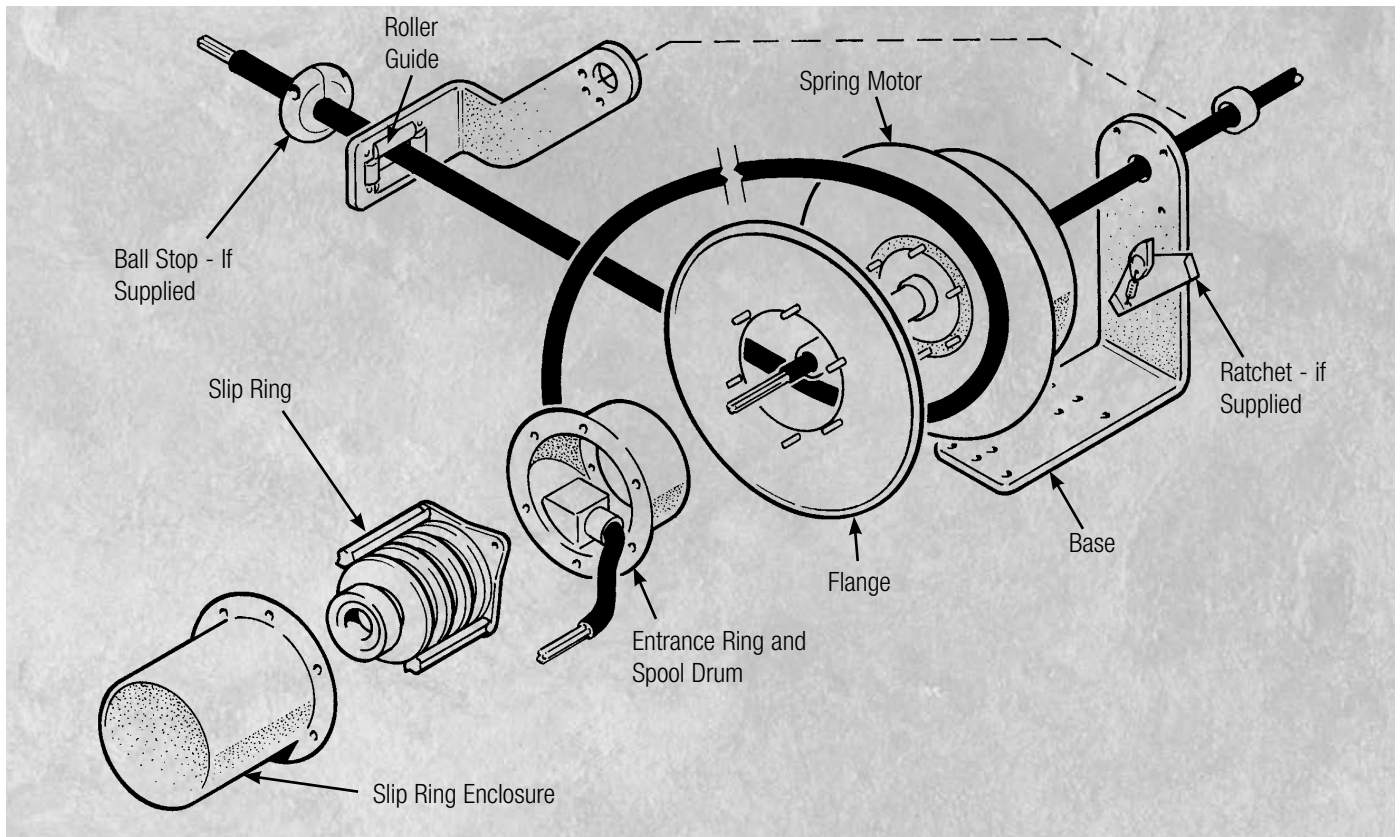


## Long-life Slip Ring Assembly

Low abrasion brushes and highly abrasion-resistant rings. Housed in a rigid plastic enclosure to reduce condensation. Up to 47 A at 100% continuous duty; 1000 V rated.



# Appendix I Basic Cable Reel Components and Terms



TERM	DEFINITION
<b>PAYOUT</b>	Pulling cable out of the reel (off the spool)
<b>RETRACT OR REWIND</b>	Rewinding the cable back into the reel.
<b>BASE</b>	Supports and mounts the reel. Might also be called a "frame" or "stand".
<b>SPRING MOTOR</b>	A single spring or several springs working together that store energy as a cable is pulled out to provide power to retract/rewind the cable back onto the spool.
<b>SPOOL</b>	Composed of a drum and two flanges
<b>SLIP RING</b>	Electromechanical device consisting of an energized ring and a sliding brush that transfers power from the stationary feeder cable to the cable that is wound on the rotating spool.
<b>ROLLER GUIDE</b>	Guides the cable during payout and rewind. Can be mounted on the reel or separate from the reel
<b>ACTIVE LENGTH</b>	The difference between the minimum payout and maximum payout of cable.
<b>SAFETY WRAP</b>	Cable that stays on the reel at maximum payout of cable - usually two complete wraps on the drum.
<b>SAG FACTOR</b>	The effect of gravity on actual travel length during stretch applications (10%)

TERM	DEFINITION (See Illustrations on Page 4)
<b>LIFT HEIGHT</b>	The distance between where the cable lays to the center line of spool.
<b>LIFT</b>	The reel is mounted stationary and the cable is pulled out of the reel by machine or by hand (as with an overhead light source or a pendant station) To retract the cable, the reel needs to "lift" the cable vertically.
<b>DRAG</b>	The reel is usually stationary. Cable can be pulled out by hand or by machine. To retract the cable, the reel must "drag" the cable through supports or along the ground horizontally. This application is the hardest on cable life.
<b>STRETCH</b>	The reel may be stationary mounted or mounted onto moving equipment. Cable is pulled out by machine. The cable is "stretched" horizontally and is mostly unsupported. An extra 10% in cable beyond active travel is required to account for cable sag.
<b>RETRIEVE</b>	The reel needs to pickup (retrieve) the cable. The reel is mounted on moving equipment. Cable is pulled out by machine.
<b>VERTICAL RETRIEVE</b>	Looks like a "lift" application, except that the cable reel is mounted on the machine member that is moving up and down. The power source is at the end of the cable above the spool. The reel needs only to "retrieve" the cable back into the spool as the reel moves up with the machine.

# Appendix II Motor Amperage and Electrical Formulas

The chart below lists the most common combinations of motor HP (horsepower) in relation to voltage used and the resulting amperage draw. To use the chart, determine amperage draw based on horsepower and voltage. Then use the Cable Data Chart in Appendix IV to determine cable gauge and number of conductors required for your application. Direct Current requires 2 conductors. Single phase requires 3 conductors. Three-phase requires 4 conductors.

**NOTE:** For DC magnets, the Slip Ring must be sized to twice the magnet's cold amp rating. The cable amp rating does not need to be doubled.

MOTOR AMPERAGE DRAW (AT FULL LOAD OF 60 Hz)															
3 PHASE AC Induction Type - Squirrel Cage & Wound Rotor								Single Phase			Direct Current				
HP	115V	200V	230V	460V	575V	2300V	4160V	HP	115V	230V	HP	120V	240V	HP	240V
1/2	4.0	2.3	2.0	1.0	.8	n/a	n/a	1/6	4.4	2.2	n/a	n/a	n/a	n/a	n/a
3/4	5.6	3.2	2.8	1.4	1.1	n/a	n/a	1/4	5.8	2.9	1/4	2.9	1.5	15	55
1	7.2	4.15	3.6	1.8	1.4	n/a	n/a	1/3	7.2	3.6	1/3	3.6	1.8	20	72
1 1/2	10.4	6.0	5.2	2.6	2.1	n/a	n/a	1/2	9.8	4.9	1/2	5.2	2.6	25	89
2	13.6	7.8	6.8	3.4	2.7	n/a	n/a	3/4	13.8	6.9	3/4	7.4	3.7	30	106
3	n/a	11.0	9.6	4.8	3.9	n/a	n/a	1	16.0	8.0	1	9.4	4.7	40	140
5	n/a	17.5	15.2	7.6	6.1	n/a	n/a	1 1/2	20.0	10.0	1 1/2	13.2	6.6	50	173
7 1/2	25.0	22.0	11.0	9.0	n/a	n/a	n/a	2	24.0	12.0	2	17.0	8.5	60	206
10	n/a	32.0	28.0	14.0	11.0	n/a	n/a	3	34.0	17.0	3	25.0	12.5	75	225
15	n/a	48.0	42.0	21.0	17.0	n/a	n/a	5	56.0	28.0	5	40.0	20.0	100	341
20	n/a	62.0	54.0	27.0	22.0	n/a	n/a	7 1/2	80.0	40.0	7 1/2	58.0	29.0	125	425
25	n/a	78.0	68.0	34.0	27.0	n/a	n/a	10	100.0	50.0	10	76.0	38.0	150	506
30	n/a	92.0	80.0	40.0	32.0	n/a	n/a								
40	n/a	120.0	104.0	52.0	41.0	n/a	n/a								
50	n/a	150.0	130.0	65.0	52.0	n/a	n/a								
60	n/a	177.0	154.0	77.0	62.0	16.0	8.9								
75	n/a	221.0	192.0	96.0	77.0	20.0	11.0								
100	n/a	285.0	248.0	124.0	99.0	26.0	14.4								
125	n/a	358.0	312.0	156.0	125.0	31.0	17.0								
150	n/a	415.0	360.0	180.0	144.0	37.0	20.5								
200	n/a	550.0	480.0	240.0	192.0	49.0	27.0								

## Ohms Law

$$\text{Ohms} = \frac{\text{Volts}}{\text{Amperes}} \quad \text{Amperes} = \frac{\text{Volts}}{\text{Ohms}}$$

$$\text{Volts} = \text{Amperes} \times \text{Ohms}$$

## Speed Formulas

$$\text{Synchronous RPM} = \text{Hertz} \times 120 \text{ Poles}$$

$$\text{Percent Slip} = \frac{\text{Synchronous RPM} - \text{Full Load RPM}}{\text{Synchronous RPM}} \times 100$$

## Power Formulas

$$\text{Watts} = \text{Amperes} \times \text{Volts}$$

$$\text{Amperes (not 3-Phase)} = \frac{\text{Watts}}{\text{Volts}}$$

$$\text{HP} = \frac{\text{Volts} \times \text{Amps} \times \text{Efficiency}}{746}$$

$$\text{Power Factor} = \frac{\text{Watts}}{\text{Amperes} \times \text{Volts}}$$

$$\text{Single-Phase Kilowatts} = \frac{\text{Volts} \times \text{Amperes} \times \text{Power Factor}}{1000}$$

$$\text{Single-Phase Amperes} = \frac{746 \times \text{HP (Horsepower)}}{\text{Volts} \times \text{Efficiency} \times \text{Power Factor}}$$

$$\text{Kilowatts} = \frac{\text{Volts} \times \text{Amperes} \times \text{Power Factor} \times 1.732}{1000}$$

$$\text{Amperes} = \frac{746 \times \text{HP (Horsepower)}}{1.732 \times \text{Volts} \times \text{Efficiency} \times \text{Power Factor}}$$

$$\text{Volt-Amperes} = \text{Volts} \times \text{Amperes} \times 1.732$$

# Appendix III Cable Types

Conductix-Wampfler cable reels are designed to handle specific types of cable, as noted throughout this catalog:

- **1200 Series PowerReels** - Cable types are listed on page 9
- **1400 Series and Larger** (16 through 10 gauge cable) - cable type is **S00W-A**
- **1900 Series and Larger** (8 through 4/0 gauge cable) - cable type is **W** or **G-GC**.

Detailed cable information appears on page 40. All cable data presented in this catalog is for general information only. Specifications vary between manufacturers. Conductix-Wampfler reels can be used with other types of cable not specified in this catalog. Cable diameter and weight are critical to proper reel selection and operation. Please contact Conductix-Wampfler to discuss your requirements.

## GENERAL CABLE CHARACTERISTICS

### SJ00W-A

- General purpose, CPE jacketed with fine stranding for flexibility
- Resistant to oil, water, and weather
- Suitable for outdoor use
- 300 Volts

### S00W-A

- General purpose, CPE jacketed, with fine stranding for flexibility
- Jacket O.D. is larger than same size SJ00W-A cables
- Resistant to oil, water, and weather.
- Suitable for Outdoor use
- 600 Volts

### Type W

- General purpose, Neoprene jacket cable with fine stranding for flexibility. 8 AWG and larger
- Resistant to oil and water
- Suitable for outdoor use
- 600 Volts

### Type G-GC

- Similar to Type W, but the G-GC ground conductor is divided into three smaller wires rather than one large wire. G-GC has a smaller O..D. than a same-size Type W; symmetrical construction.
- Resistant to oil, acids, alkalids, heat, water, most chemicals.
- Suitable for outdoor use.
- 600 Volts

CPE = Chlorinated Polyethylene

Type	Conductor Temperature	Max. Voltage Rating	Conductor Insulation	Jacket	No. of Conductors	Ground Conductors
SJ00W-A	90°C	300	CPE	CPE (or equal)	1-4	N/A
S00W-A	90°C	600	EPDM	CPE (or equal)	2-36	N/A
SO	90°C	600	Rubber or EPR	Neoprene (or equal)	2-36	N/A
W	90°C	600	Rubber or EPR	Neoprene (or equal)	2-4	N/A
G-GC	90°C	600	Rubber or EPR	Neoprene (or equal)	3	Yes
“Premium”	SO/W based cable, but specifically designed for harsh and/or heavy-duty applications. Availability & specifications vary.					

## General Cable Conductor Colors

Cond. No.	Base Color	Tracer Color	Cond. No.	Base Color	Tracer Color	Cond. No.	Base Color	Tracer Color
1	Green	----	11	Blue	Black	21	Orange	Green
2	Black	----	12	Black	White	22	Black	----
3	White	----	13	Red	White	23	White	----
4	Red	----	14	Green	White	24	Red	----
5	Orange	----	15	Blue	White	25	Green	----
6	Blue	----	16	Black	Red	26	Orange	----
7	White	Black	17	White	Red	27	Blue	----
8	Red	Black	18	Orange	Red	28	White	Black
9	Green	Black	19	Blue	Red	29	Red	Black
10	Orange	Black	20	Red	Green	30	Green	Black

# Appendix IV Cable Data - American Wire Gauge (AWG)\*

Reels with 16 AWG - SOOW-A Cable			
No. Cond.	Amps	Dia. in. (mm)	Wt lb/ft (kg/m)
2	10	0.405 (10.24)	0.083 (0.1235)
3	10	0.430 (10.92)	0.102 (0.1518)
4	8	0.485 (12.32)	0.135 (0.2009)
5	8	0.525 (13.34)	0.153 (0.2277)
6	8	0.565 (14.35)	0.177 (0.2634)
7	7	0.605 (15.37)	0.202 (0.3006)
8	7	0.645 (16.38)	0.221 (0.3289)
10	5	0.720 (18.29)	0.278 (0.4137)
12	5	0.740 (18.80)	0.305 (0.4539)
14	5	0.775 (19.69)	0.348 (0.5179)
16	5	0.825 (20.96)	0.386 (0.5744)
20	5	0.900 (22.86)	0.466 (0.6935)
24	5	1.015 (25.78)	0.573 (0.8527)

Reels with 14 AWG - SOOW-A Cable			
No. Cond.	Amps	Dia. in. (mm)	Wt lb/ft (kg/m)
2	15	0.530 (13.46)	0.137 (0.2039)
3	15	0.560 (14.22)	0.169 (0.2515)
4	12	0.605 (15.37)	0.209 (0.3110)
5	12	0.685 (17.40)	0.262 (0.3899)
6	12	0.740 (18.80)	0.302 (0.4494)
7	10.5	0.785 (19.94)	0.329 (0.4896)
8	10.5	0.845 (21.46)	0.373 (0.5551)
10	7.5	0.905 (22.99)	0.434 (0.6459)
12	7.5	0.930 (23.62)	0.481 (0.7158)
14	7.5	0.980 (24.89)	0.556 (0.8274)
16	7.5	1.075 (27.31)	0.657 (0.9777)
20	7.5	1.180 (29.97)	0.786 (1.1697)
24	7.5	1.290 (32.77)	0.920 (1.3691)

Reels with 12 AWG - SOOW-A Cable			
No. Cond.	Amps	Dia. in. (mm)	Wt lb/ft (kg/m)
2	20	0.605 (15.34)	0.169 (0.2515)
3	20	0.640 (16.26)	0.230 (0.3423)
4	16	0.670 (17.02)	0.270 (0.4018)
5	16	0.730 (18.54)	0.319 (0.4747)
6	16	0.800 (20.32)	0.372 (0.5536)
7	14	0.860 (21.84)	0.429 (0.6384)
8	14	0.915 (23.24)	0.472 (0.7024)
10	10	1.015 (25.78)	0.577 (0.8587)
12	10	1.045 (26.54)	0.642 (0.9554)
14	10	1.100 (27.94)	0.740 (1.1013)
16	10	1.155 (29.34)	0.837 (1.2456)
20	10	1.285 (32.64)	1.002 (1.4912)
24	10	1.445 (36.70)	1.230 (1.8305)

Reels with 10 AWG - SOOW-A Cable			
No. Cond.	Amps	Dia. in. (mm)	Wt lb/ft (kg/m)
2	25	0.640 (16.26)	0.221 (0.3289)
3	25	0.690 (17.53)	0.283 (0.4212)
4	20	0.750 (19.05)	0.350 (0.5209)
5	20	0.815 (20.70)	0.419 (0.6236)
6	20	0.880 (22.35)	0.484 (0.7203)
7	17.5	0.980 (24.89)	0.590 (0.8780)
8	17.5	1.050 (26.67)	0.652 (0.9703)
10	12.5	1.125 (28.58)	0.762 (1.1340)
12	12.5	1.155 (29.34)	0.853 (1.2694)
14	12.5	1.225 (31.12)	0.987 (1.4689)
16	12.5	1.290 (32.77)	1.121 (1.6683)
20	12.5	1.460 (37.08)	1.410 (2.0984)
24	12.5	1.600 (40.64)	1.645 (2.4481)

## Reels with Type "W" Cable - 600 Volts

AWG	# of Con.	Amps	Dia in. (mm)	Wt lb/ft (kg/m)
8	2	50	0.81 (20.57)	0.420 (0.6250)
8	3	50	0.91 (23.11)	0.585 (0.8706)
8	4	45	0.99 (25.15)	0.675 (1.0045)
6	2	65	0.93 (23.62)	0.570 (0.8483)
6	3	65	1.01 (25.65)	0.754 (1.1221)
6	4	55	1.10 (27.94)	0.880 (1.3096)
4	2	75	1.08 (27.43)	0.785 (1.1682)
4	3	75	1.17 (29.72)	0.980 (1.4584)
4	4	65	1.27 (32.26)	1.220 (1.8156)
2	2	110	1.27 (32.26)	1.135 (1.6891)
2	3	110	1.34 (34.04)	1.410 (2.0984)
2	4	100	1.48 (37.59)	1.625 (2.4183)
1	2	140	1.44 (36.58)	1.445 (2.1504)
1	3	130	1.51 (38.35)	1.865 (2.7755)
1	4	110	1.68 (42.67)	2.230 (3.3187)
1/0	2	150	1.52 (38.61)	1.685 (2.5076)
1/0	3	145	1.65 (41.91)	2.180 (3.2443)
1/0	4	130	1.79 (45.47)	2.700 (4.0181)
2/0	2	195	1.65 (41.91)	2.040 (3.0359)
2/0	3	170	1.75 (44.45)	2.510 (3.7354)
2/0	4	150	1.93 (49.02)	3.240 (4.8218)
3/0	2	225	1.71 (43.43)	2.420 (3.6014)
3/0	3	195	1.89 (48.01)	3.085 (4.5911)
3/0	4	170	2.07 (52.58)	3.885 (5.7817)
4/0	2	260	1.92 (48.77)	2.950 (4.3902)
4/0	3	220	2.04 (51.82)	3.770 (5.6105)
4/0	4	190	2.26 (57.04)	4.805 (7.1508)

## Reels with Type "G-GC" Cable - 600 Volts Three Conductors + Ground

AWG	Amps	Dia. in. (mm)	Wt lb/ft (kg/m)
8	50	0.97 (24.64)	0.597 (0.8885)
6	65	1.05 (26.67)	0.764 (1.1370)
4	85	1.19 (30.23)	1.070 (1.5924)
2	115	1.34 (34.04)	1.533 (2.2814)
1	130	1.51 (38.35)	1.965 (2.9243)
1/0	145	1.65 (41.91)	2.315 (3.4452)
2/0	170	1.75 (44.45)	2.750 (4.0926)
3/0	195	1.89 (48.01)	3.330 (4.9557)
4/0	220	2.04 (51.82)	4.195 (6.2430)

\* The data on this page is for **general information only**. It is applicable to cable sold by Conductix-Wampfler on our "reels with cable", based on 90°C insulation temperature ratings. Amp ratings are based on an ambient temperature of 30°C, de-rated for cables with more than 3 current carrying conductors per NEC. Ampacity requirements are solely dependant on applicable local codes, Conductix-Wampfler cannot specifically recommend required ampacity. Nominal diameters and weights shown will vary with different manufacturers.

If you don't see the cable types and sizes you need, contact Conductix-Wampfler.



# Appendix V Metric Conversion Tables

## AWG / Metric Conductor Size Conversion

AWG or MCM	Circular Mils	Cross-Sectional Area (mm <sup>2</sup> )	Metric Conductor Size
	987	0.50	.50
20 AWG	1020	0.52	
	1480	0.75	.75
18	1620	0.82	
	1970	1.0	1.0
16	2580	1.31	
	2960	1.50	1.5
14	4110	2.08	
	4930	2.50	2.5
12	6530	3.31	
	7890	4.00	4.0
10	10380	5.26	
	11800	6.00	6.0
8	16510	8.37	
	19700	10.00	10.0
6	26240	13.30	
	31600	16.00	16.0
4	41740	21.15	
	49300	25.00	25.0
2	66360	33.63	
	69100	35.00	35.0
1	83690	42.41	
	98700	50.00	50.0
1/0	105600	53.48	
2/0	133100	67.43	
	138000	70.00	70.0
3/0	167800	85.03	
	187000	95.00	95.0
4/0	211600	107.20	
	237000	120.00	120.0
250 MCM	250000	126.64	
	296000	150.00	150.0
300	300000	152.00	
350	350000	177.35	
	365000	185.00	185.0
400	400000	202.71	
	474000	240.00	240.0
500	500000	253.35	
	592000	300.00	300.0
600	600000	303.96	
	750000	379.95	
750	789000	400.00	400.0
	987000	500.00	500.0
1000	1000000	506.60	

## Celsius / Fahrenheit Temperature Conversion

1. Locate known temperature in °C/°F column.
2. Read converted temperature in either the °C or °F column.

°C	°C / °F	°F	°C	°C / °F	°F	°C	°C / °F	°F
-45.4	-50	-58	15.5	60	140	76.5	170	338
-42.7	-45	-49	18.3	65	149	79.3	175	347
-40.0	-40	-40	21.1	70	158	82.1	180	356
-37.2	-35	-31	23.9	75	167	85.0	185	365
-34.4	-30	-22	26.6	80	176	87.6	190	374
-32.2	-25	-13	29.4	85	185	90.4	195	383
-29.4	-20	-4	32.2	90	194	93.2	200	392
-26.6	-15	5	35.0	95	203	96.0	205	401
-23.8	-10	14	37.8	100	212	98.8	210	410
-20.5	-5	23	40.5	105	221	101.6	215	419
-17.8	0	32	43.4	110	230	104.4	220	428
-15.0	5	41	46.1	115	239	107.2	225	437
-12.2	10	50	48.9	120	248	110.0	230	446
-9.4	15	59	51.6	125	257	112.8	235	455
-6.7	20	68	54.4	130	266	115.6	240	464
-3.9	25	77	57.1	135	275	118.2	245	473
-1.1	30	86	60.0	140	284	120.9	250	482
1.7	36	95	62.7	145	293	123.7	255	491
4.4	40	104	65.5	150	302	126.5	260	500
7.2	45	113	68.3	155	311	129.3	265	509
10.0	50	122	71.0	160	320	132.2	270	518
12.8	55	131	73.8	165	329	135.0	275	527

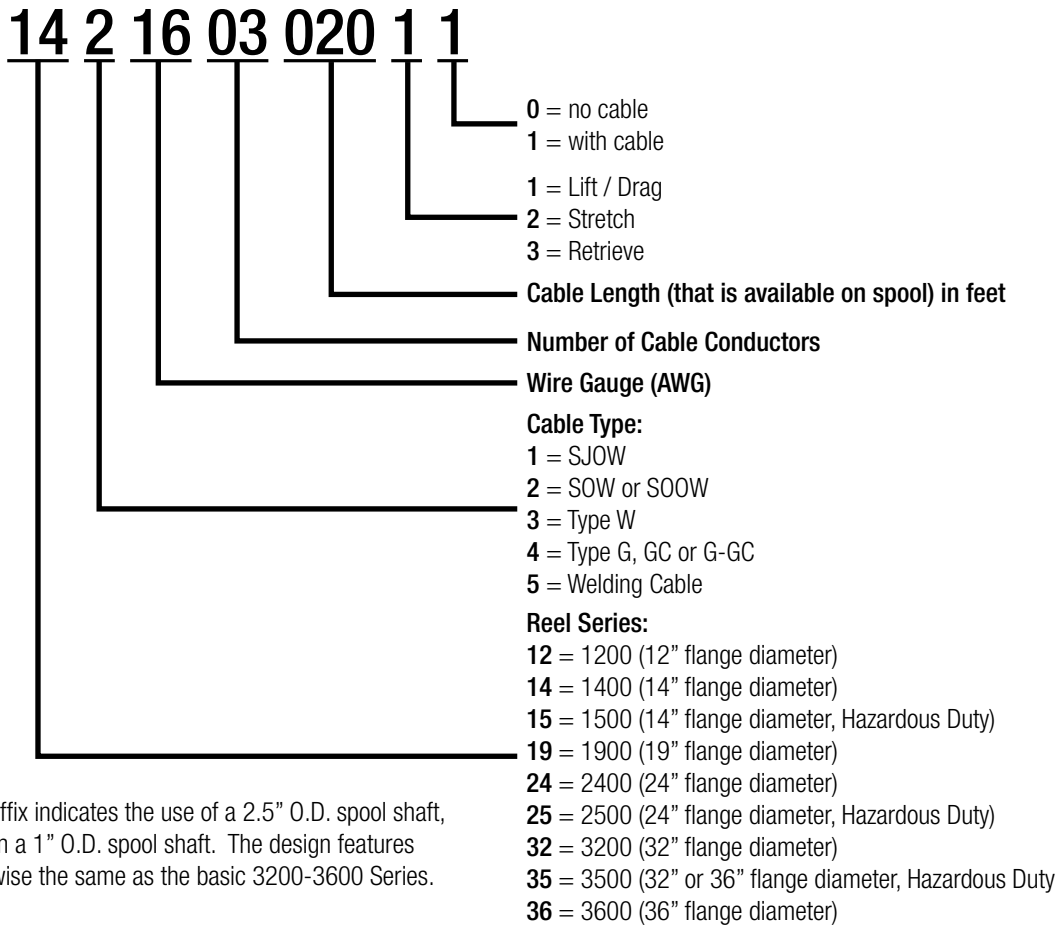
$$^{\circ}\text{F} = (9/5 \times ^{\circ}\text{C}) + 32 \quad ^{\circ}\text{C} = 5/9 (^{\circ}\text{F} - 32)$$

## Basic Metric Conversions

To Obtain	Multiply
Millimeters	Inches x 25.4
Inches	Millimeters x 0.0394
Meters	Feet x .3048
Feet	Meters x 3.281
Square Centimeters	Square Inches x 6.45
Square Inches	Square Centimeters x .155
Kilograms	Pounds x .454
Pounds	Kilograms x 2.205
Kilograms per Meter	Lb per foot x 1.488
Pounds per Foot	Kilograms per M x .672

# Appendix VI PowerReel® Catalog Numbering System

All standard Conductix-Wampfler PowerReels® employ the “smart number” system described below:



An “M” suffix indicates the use of a 2.5” O.D. spool shaft, rather than a 1” O.D. spool shaft. The design features are otherwise the same as the basic 3200-3600 Series.

The sample reel above is a 1400 Series (14” flange) with SOW cable, 16 AWG, 3 conductors, with 20 feet of cable on the spool, and designed for a lift/drag application.

If you have any problems or questions, feel free to call Conductix-Wampfler Sales. Contact information is on the back cover of this catalog.



# Appendix VII Standard vs Premium Reeling Cables

Cable reel manufacturers, including Conductix-Wampfler, offer generic cable types such as SOW-A, SOOW-A, and Type W as their standard reeling cables. These types are adequate for most non-rigorous reeling applications, such as three or four conductor portable power cables. The cable reel marketplace and third party certification agencies such as UL, NEC, and CSA recognize these types as acceptable reeling cables. However, generic cables may not survive very long in difficult reeling applications.

## The “Corkscrew” Effect

In very demanding cable applications and with certain types of cable configurations, generic cables can become stretched, twisted, and deformed. This phenomenon is commonly called “corkscrewing”. When cables start to corkscrew and if left unchecked, the conductors inside the cable can fray or break. This can even result in bare conductors being exposed through the outer jacket of the cable. The end result could be broken conductors, short-circuits, failed systems, and potential safety hazards.



Failing cable due to the “corkscrew” effect

## Should Premium Cable be Considered?

Premium cable should be considered if one or more of these conditions exist:

- The required cable has a large number of conductors of a small wire gauge, such as 16 AWG or smaller with 5 or more conductors.
- The cable will be under very high line-pull, such as a long “stretch” application - see page 4.
- The reeled cable will experience very high cycle rates, such as more than 10,000 cycles a year.
- Cables that pass through or over sheaves, external rollers, or other guiding devices.
- The cable will be subjected to tight bend radii, constant changes in bend direction, tight cable lay, and multiple bend cycles.
- The cable will be exposed to extreme climates or environments.



Effect of a sheave on standard cable

## Typical Premium Cables

Here are a few of the heavy-duty premium reeling cables available <sup>1</sup>:

- Siemens Cordaflex (SM) or (K)
- Draka/BIW All-Temp Industrite (Prysmian Group)
- TPC Super-Trex

These premium cables are costly; anywhere from three to eight times the cost of generic cable. However, in tough, critical applications, they represent the best overall value and will help prevent premature system failures.

**Call the cable reel experts at Conductix-Wampfler to discuss your application.** We will help you analyze your situation and can recommend and supply suitable premium cables if needed. 1-800-521-4888 “Press 2” for Inside Sales.

<sup>1</sup> All cable brands lists are held by their respective trademark holders.

# Appendix VIII Terms, Conditions, and Warranty

The technical data and images which appear in this catalog are for informational purposes only. NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE CREATED BY THE DESCRIPTIONS AND DEPICTIONS OF THE PRODUCTS SHOWN IN THIS CATALOG. Conductix-Wampfler ("seller") makes no warranty and assumes no liability as to the function of equipment or the operation of systems built according to customer design or of the ability of any of its products to interface, operate or function with any portions of customer systems not provided by Conductix-Wampfler.

Seller agrees to repair or exchange the goods sold hereunder necessitated by reason of defective workmanship, and material discovered and reported to Seller within one year after shipment of such goods to Buyer. Except where the nature of the defect is such that it is appropriate in Seller's judgment to effect repairs on site, the seller's obligation hereunder to remedy defects shall be limited to repairing or replacing (at Seller's option), FOB point of original shipment by Seller, any part returned to Seller at the risk and cost of Buyer. Defective parts replaced by Seller shall become the property of Seller.

Seller shall only be obligated to make such repair or replacement of the goods which have been used by Buyer in service recommended by Seller and altered only as authorized by Seller. Seller is not responsible for defects which arise from improper installation, neglect, or improper use or from normal wear and tear.

Additionally, Seller's obligation shall be limited by the manufacturer's warranty (and shall not be further warranted by Seller) for all parts procured from others according to published data, specifications, or performance information not designed by or for Seller.

Seller further agrees to replace, or at Seller's option to provide a refund of the sales price of any goods that did not conform to applicable specifications or which differ from that agreed to be supplied which non-conformity is discovered and forthwith reported to Seller within thirty (30) days after shipment to Buyer. Seller's obligation to replace or refund the purchase price for non-conforming goods shall arise once Buyer returns such good FOB point of original shipment by Seller at the risk and cost of Buyer. Goods replaced by Seller shall be come property of Seller.

There is no guarantee or warranty as to anything made or sold by Seller, or any service performed, except as to title and freedom from encumbrances, and except as herein expressly stated and particularly without limiting the foregoing. There is no guarantee or warranty, express or implied, of merchantability or of fitness for any particular purpose or against claim of infringement or the like.

Seller makes no warranty (and assumes no liability) as to function of equipment or operation of systems built to Buyer's design or of the ability of any goods to interface, operate or function with any portions of Buyer's system not provided by Seller.

Seller's liability on any claim; whether in contract (including negligence) or otherwise, for any loss or damage arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair, replacement or use of any products or, services shall in no case exceed the price paid for the product or services or any part thereof which give rise to the claim. In no event shall Seller be liable for consequential, special, incidental or other damages, nor shall Seller be liable in respect to personal injury or damage to property on the subject matter hereof unless attributable to gross misconduct of Seller, which shall mean an act of omission by Seller demonstrating reckless disregard of the foreseeable consequences thereof.

Seller is not responsible for incorrect choice of models or where products are used in excess of their rated and recommended capacities and design functions or under abnormal conditions. Seller assumes no liability for loss of time, damage or injuries to property or persons resulting from the use of Seller's products. Buyer shall hold Seller harmless from all liability, claims, suits and expenses in connection with loss or damage resulting from operation of products or utilization of services, respectively, of Seller and shall defend any suit or action which might arise there from Buyer's name, provided that Seller shall have the right to elect to defend any such suit or action for the account of Buyer. The foregoing shall be the exclusive remedies of the buyer and all persons and entitles claiming through the Buyer.



# Other Products from Conductix-Wampfler

Spring Driven Cable Reels from Conductix-Wampfler represent only one product line from the broad spectrum of Conductix-Wampfler components for the transfer of energy, data, gases, and fluids. The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler products are needed to fill the application. You can count on all of Conductix-Wampfler's business units for hands-on engineering support - coupled with the perfect solution to meet your energy management and control needs.



## Motor driven cable reels

Motor driven reels by Conductix-Wampfler are the perfect solution for managing long lengths of heavy cable and hoses in very demanding industrial applications. Monospiral, level wind, and random wind spools.



## Slip ring assemblies

Whenever powered machinery needs to rotate 360°, field proven slip ring assemblies by Conductix-Wampfler can flawlessly transfer energy and data. Here, everything revolves around flexibility and reliability.



## Energy guiding chains

The "Jack of all Trades" when it comes to managing energy and data cables and air and fluid hoses. A wide range of energy guiding chains are available for many industrial applications.



## Inductive Power Transfer IPT®

The contact-less system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear.



## Conductor bar

Whether they are enclosed conductor rails or expandable single-pole bar systems, Conductix-Wampfler's conductor bar is the proven solution to reliably move people and material.



## Cable Festoon systems

It's hard to imagine Conductix-Wampfler cable trolleys not being used in virtually every industrial application. They are reliable and robust and available in an enormous variety of sizes and models.



## Push Button Pendants

Our ergonomic pendants are ideally suited for industrial control applications. They are available in a wide range of configurations for overhead cranes and other machinery.



## Radio remote controls

Safe, secure, and reliable radios use the latest in microprocessor technology. Available in several models for overhead crane control and other types of machinery.



## Workstation equipment

Complete with tool transporters, reels, or an entire air and electric supply system. Workstation equipment provides safety and flexibility for difficult tasks.



## Air hoists and balancers

ENDO Air hoists accurately place delicate loads and continuously vary the speed for precise positioning. They run cool in continuous operations.



## Bumpers

Conductix-Wampfler offers a complete range of bumpers for the auto industry, cranes, and heavy machinery. These include rubber, rubber/metal, and cellular types.



## Spring balancers and retractors

ENDO spring balancers by Conductix-Wampfler are rugged, reliable high-precision positioning devices that reduce operator fatigue and assist with accurate tool placement.

# Custom Services you can count on!



You can count on us to meet your specific service needs and requirements. With Conductix-Wampfler everything is possible, from initial design and development to long term service contracts.

The more complex your system is, the greater your expectations are in terms of service life and operational reliability, and the more sense it makes to take advantage of our after-sales service.

When it comes to service, you can count on Conductix-Wampfler to perform!

## The Turnkey Solution

As a system supplier, Conductix-Wampfler offers you complete turnkey solutions. This includes the delivery of all necessary parts to complete your project.

We consider qualified consulting, project engineering of the complete system, the choice and selection of the right components, optimizing the accessories, the adequate logistic concept and the commissioning on site to be important elements of Conductix-Wampfler's business activities.

## Planning and Development

- Definition of the application parameters.
- Selection of the proper components for the required system - optimized to your requirements, application parameters, and environmental factors.
- Selection of the optimum energy supply solution in cooperation with you, our customer, as a function of all considerations including cost, service life, operating parameters, installation, and site requirements.

## Final Assembly

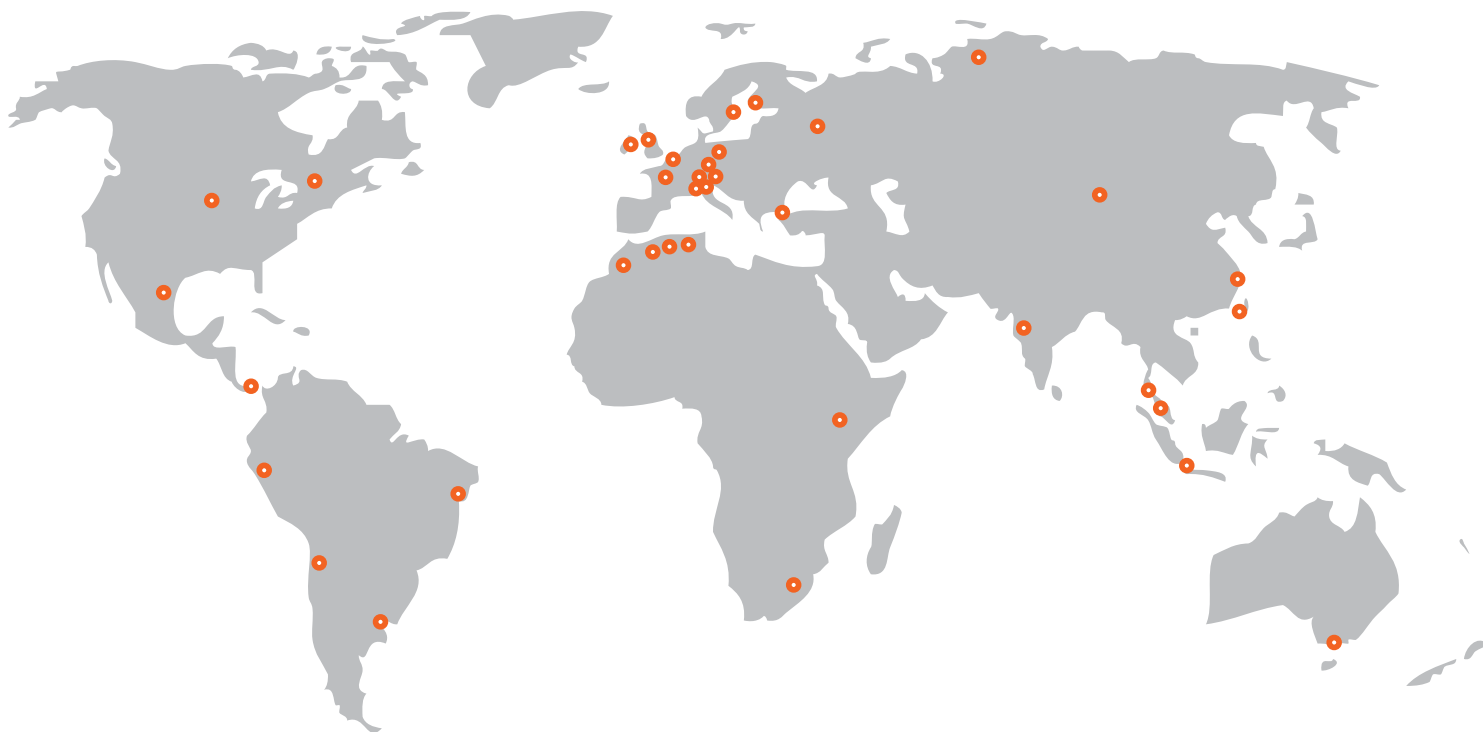
- Supervision of construction, assembly and mounting on site, or
- Complete installation by our trained specialists.

## Service Agreement

- Regular maintenance and inspections to increase the operational life of your facility, ensuring long-term performance and availability.
- All services required on site in the event of an incident, including spare parts and replacement materials
- Conductix-Wampfler service agreements: The "Worry-Free Package"



# ... just a call away



For global contact details please see  
our website: [www.conductix.com](http://www.conductix.com)

## Ten Good Reasons to Insist On **Conductix-Wampfler** Energy and Data Transmission Systems

### We will:

- Supply the latest technical solutions for your cable management needs
- Optimize your system without regard to the configuration used
- Provide state-of-the-art drive systems for reels
- Provide the best value in the industry with the right systems technology and service
- Deliver the best system durability and lowest product life cycle costs
- Meet your most demanding requirements and conditions
- quality measures (we are ISO9001: 2008 certified)
- Deliver on short notice and provide fast assembly times
- Offer worldwide, comprehensive pre-sale and after-sale service

#### **And last, but not least:**

- Apply our more than 50 years of successful mining industry expertise and experience to your project!

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