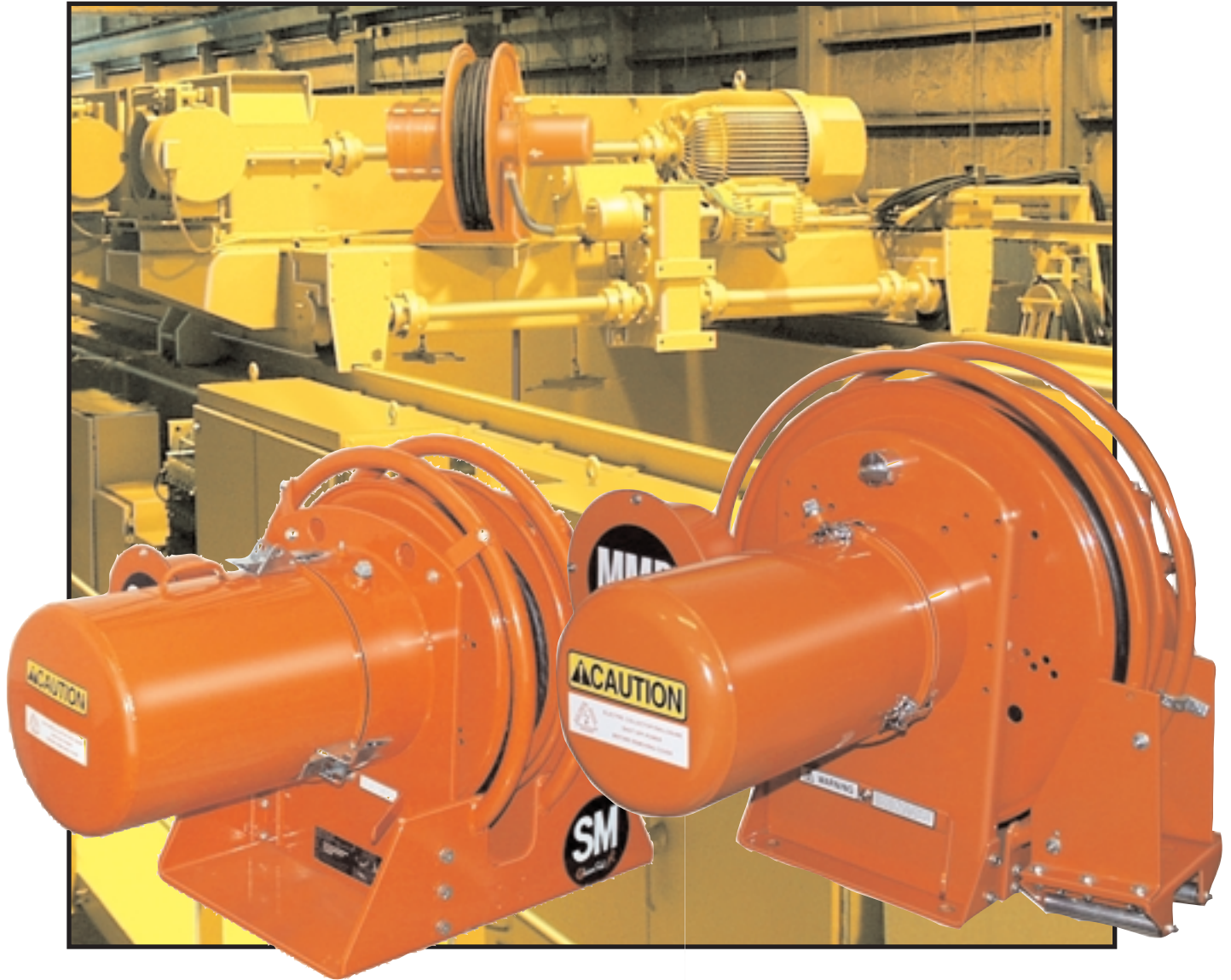


HEAVY DUTY, SPRING DRIVE CABLE REELS



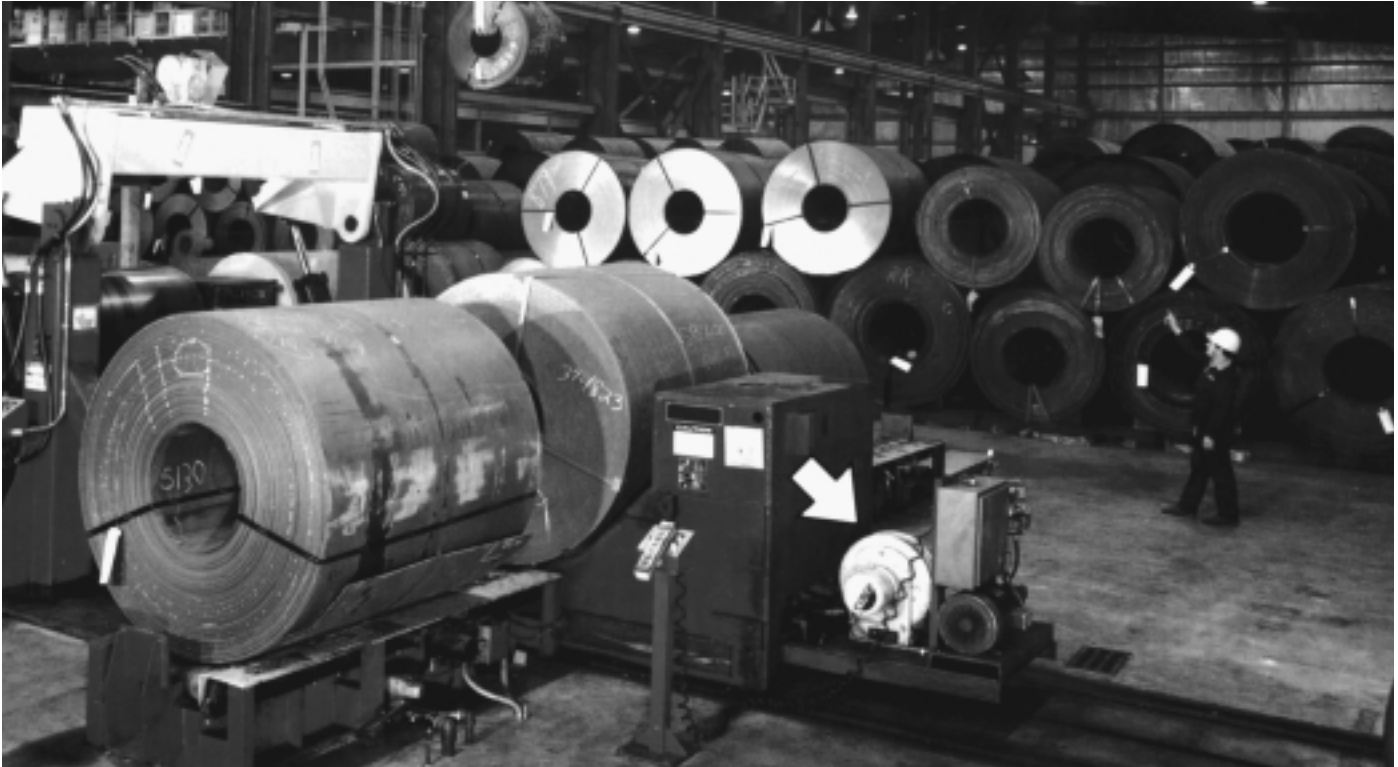
**Series “SM” & “MMD” Reels for Mills,
Overhead Magnet Cranes and other Rugged Applications**



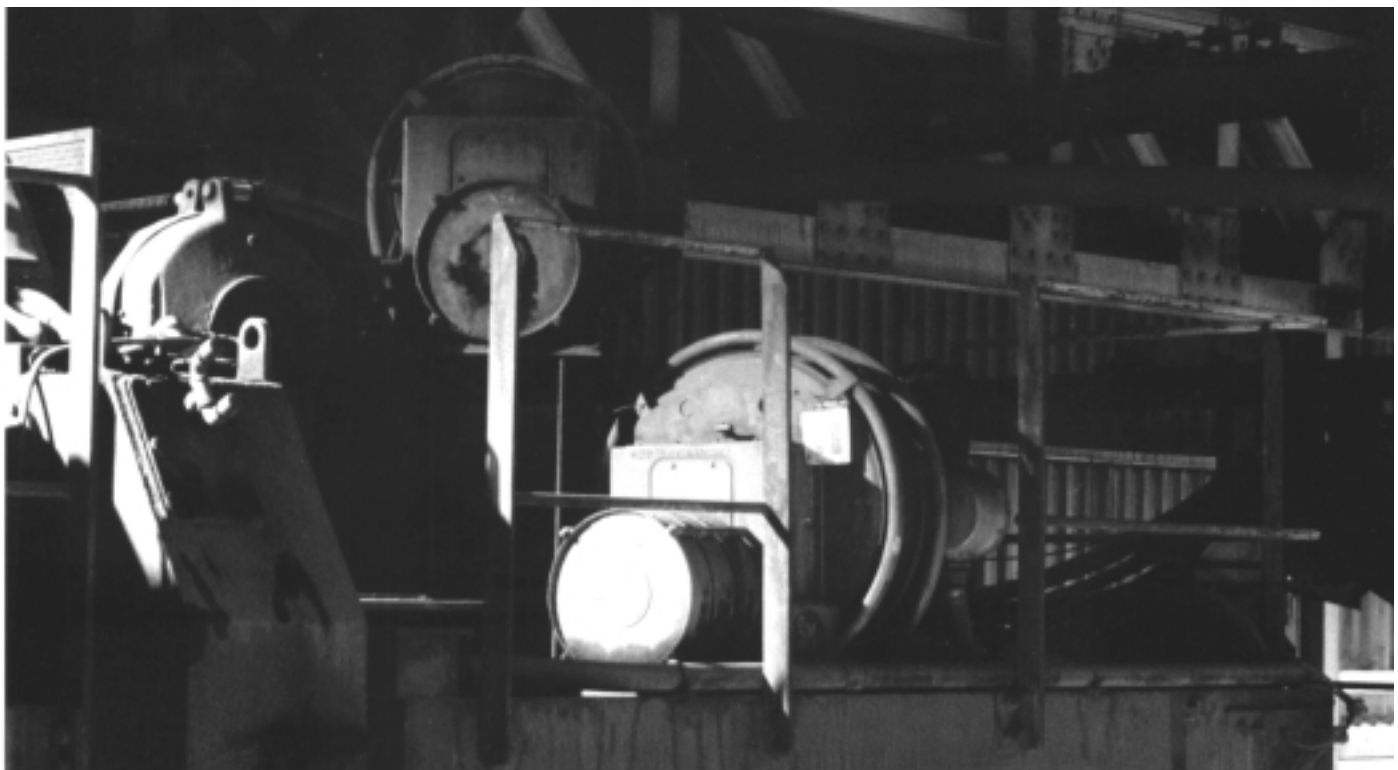


Steel Mill Cable Reels

Gleason Series SM and MMD cable reels are designed for the high duty cycle application and harsh environment of steel mills and similar facilities. With cable capacities up to 200 feet or more (depending on application and cable size) there is a model to fit your plant.



Typical MMD Reel application on transfer car.



Typical SM Reel application in steel mill. Two reels shown.

Spring-Driven ELECTRIC CABLE REELS

In This Catalog...

Series “MMD” Mill Duty Electric Cable Reels

Built tough to provide dependable Mill Duty service under adverse conditions. Specially designed to operate reliably and safely, MMD reels feature “beefed-up” all steel construction, oversized bearings on both sides of the load bearing spool, and a heavy duty shaft. Three spool diameters, a wide variety of drum diameters and either direct or geared drive allow maximum flexibility in specifying the right reel for your application. To guarantee minimum downtime, Gleason MMD reels employ externally mounted Safetychange® spring motors and slip rings for simple, fast replacement. Mill duty reels are built with operator and machine safety in mind.



MMD Reel

Series “SM” Extra-Heavy Duty Electric Cable Reels

Gleason’s rugged SM electric cable reels are specially designed for steel mill and magnet service. The heavy 3/8" steel plate L-shaped frame and 1/4" thick steel spool disks provide added strength. Oversized regreasable bearings on both sides of the load-bearing spool are standard. All models are gear drive. Steel gears enclosed in water-tight and dust-tight housing have easy-access grease fittings, eliminating the need to remove cover for lubrication. The heavy-duty collector assembly, rated at 35, 75, 125 or 200 amps, 600vAC or 550vDC features polished copper rings for maximum dependability. Safetychange® spring motors are linked...the reel will continue to function even if one spring breaks



SM Reel

WARRANTY

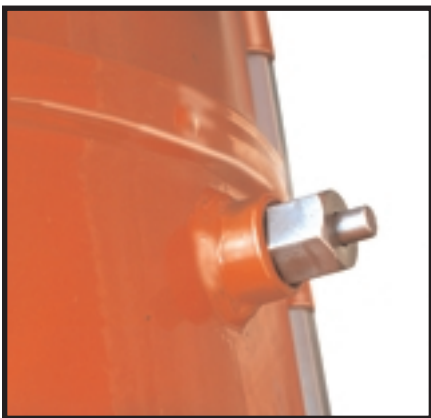
Gleason warrants for a period of twelve (12) months after date of shipment, all goods manufactured by it to be free from defects in material and workmanship. If, within such warranty period, any such goods are proved, to Gleason’s satisfaction, to be defective, such goods shall be repaired or, at Gleason’s option, replaced f.o.b. Gleason’s factory, without charge. Gleason’s obligation hereunder shall be confined to such repair or replacement and shall be further conditioned upon Gleason receiving written notice of any alleged defect within 10 days after its discovery and, at Gleason’s option, the return of the alleged defective goods to Gleason, f.o.b. its factory.

The foregoing warranty shall not apply to goods not manufactured by Gleason, or to goods which shall have been repaired or altered by others than Gleason so as to, in Gleason’s judgement, adversely affect the same, or which shall have been subject to other than normal use of service, negligence, accident, or improper maintenance care, or storage. With respect to goods furnished but not manufactured by Gleason, the warranty obligations of Gleason shall in all respects conform and be limited to the warranty extended to Gleason by the supplier.

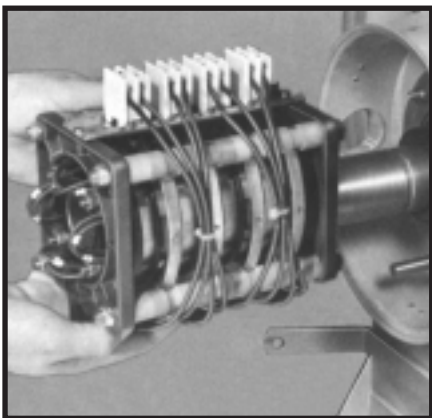
The foregoing warranty is in lieu of all other express or implied warranties (except of title) and of all other obligations of Gleason.

MMD Mill Duty Reels

Gleason Series MMD Mill Duty Cable reels are built for around-the-clock rugged performance in the tough environments found in mills, foundries and other heavy duty industries. Six different frame sizes allow optimum flexibility in specifying the right reel for your application. Literally hundreds of specific MMD model combinations are available, handling cables 200' or longer. Cable capacity depends on type of application, cable diameter and cable weight. See model charts on following pages for more information. Consult your local Gleason representative if there is no model to suit your specific requirements.



Exclusive parallel springs keep reel in operation even if one spring should break. Broken spring indicator on each spring canister allow quick visual inspection of all drive springs.



Unitized slip-ring (collector) assembly can be easily repaired or replaced. Simply disconnect leads, loosen two set screws and slide slip-ring off shaft.



Cable guide with nylon or steel rollers (optional) clamps to hoop guides and may be adjusted throughout entire circumference of hoop.

SM Extra Heavy Duty Mill Reels

Everything is “rugged” about the Gleason Series SM cable reels. Driven by as many as eight springs, these reels are designed and built to handle long, heavy cable in harsh environments. The SM Series reels have all the convenience and safety features that have made Gleason the industry leader in reel design...features such as an oversized junction box to facilitate cable connection, a positive spool lock and free wheeling spring hub are standard. Options include dog-and-ratchet mechanism for window-shade action, three position cable guides with steel rollers, 340° swivel base and rotary limit switch. It's the ultimate spring powered reel.

Safetychange® spring motors are linked so that reel will continue to function should one spring break. All springs feature broken spring indicators.

Hoop cable guides direct cable onto spool for even wrap (standard).

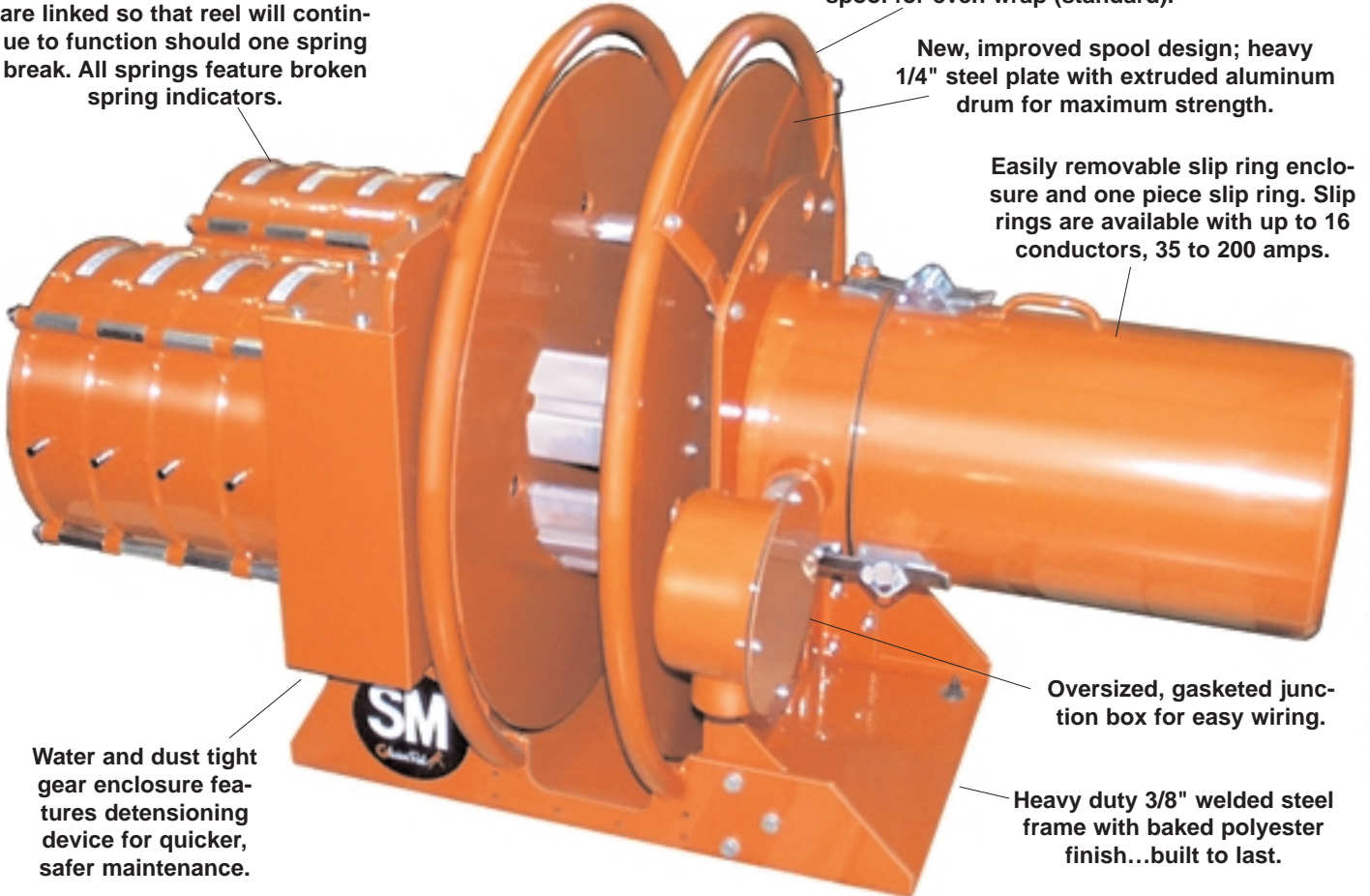
New, improved spool design; heavy 1/4" steel plate with extruded aluminum drum for maximum strength.

Easily removable slip ring enclosure and one piece slip ring. Slip rings are available with up to 16 conductors, 35 to 200 amps.

Oversized, gasketed junction box for easy wiring.

Heavy duty 3/8" welded steel frame with baked polyester finish...built to last.

Water and dust tight gear enclosure features detensioning device for quicker, safer maintenance.



Positive, extra-heavy spool lock prevents dangerous spool free-wheeling during maintenance to reel or cable.



Roomy, oversized junction box allows quick and easy wiring. Gasketed cover keeps out water, smoke and dirt.



Precision, heavy-duty drive includes convenient detensioning device for de-energizing spring during cable replacement or other maintenance.

How to Select Reels

Gleason Electric Cable Reels are assembled from several components with a great variety of combinations possible. In order to select the CORRECT reel from the following pages, follow STEPS 1–3 on this page.

STEP 1 Identify Your Cable

Cable is the **WHAT** in reel selection. **WHAT** is the size (AWG) and number of conductors. Reel calculations are based on the cable weight per foot, active travel and cable O.D. Fill in “Selection Input Required” on the facing page for each reel you order.

STEP 2 Identify Your Application

Application is the **HOW** in reel selection. From the [applications](#) on the facing page, choose the one that resembles the way you are applying the cable in STEP 1 above. There are specific selection charts on the following pages for each application type. Reel calculations are based on **HOW** you want to handle the cable. Note: Identify any added weight such as extra cable (overhang) or pushbutton stations – Selection charts do NOT consider any added weight.

STEP 3 Select a Reel Model

Applying your input from STEP 1 and STEP 2, the correct reel model number may be found in the Selection Charts on the following pages. Note that either an MMD Reel or SM Reel can be used in many applications.

EXAMPLE: A reel must LIFT [TURN TO LIFT CHART] #12 AWG, 10 conductor cable [FIND “14-AWG, 10 CONDUCTOR” ROW] for a Total Travel 40.0 feet, ONE WAY PAYOUT – see Fig. 1 below. Active Travel is, therefore, 40 feet [FIND “40 FEET” COLUMN, THEN FOLLOW “40 FEET” COLUMN DOWN TO “12-AWG, 10 CONDUCTOR” ROW. THE INTERSECTION IS THE CORRECT REEL MODEL – MMD21-1001-103-13-1 or SM211001 - 103 - 13- M - 1].

For requirements not fully covered in the Selection Charts such as cable sizes, greater Active Travel or greater weight, contact your factory representative. We will be happy to make specific calculations for you.

Definition of terms

- **Active Travel** = The **DISTANCE** in **ONE DIRECTION** from reel centerline to full extension of cable; the **TRAVEL** allowed by one full cable extension. See Figures 1 & 2 below.
- **Total Travel** = The **TOTAL DISTANCE** reel is to service. See Figures 1 & 2 below.
- **Payout** = The **ACTION** of cable winding off of the reel, in one or two directions. See Figures 1 & 2 below.
- **Cable Length** = The total **AMOUNT** of cable **REQUIRED** for connections, unwind/wind, SAG (if any) and “extra” lengths you require. See “Cable Length–Don’t Cut Yourself Short” at the back of this catalog.

REMEMBER: Cable Length is NEVER equal to Active Travel or Total Travel!

Fig. 1 **ONE-WAY PAYOUT**

TOTAL TRAVEL = ACTIVE TRAVEL

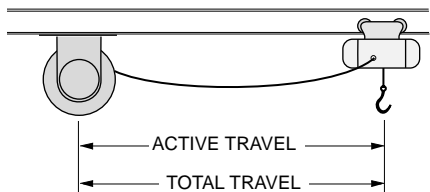
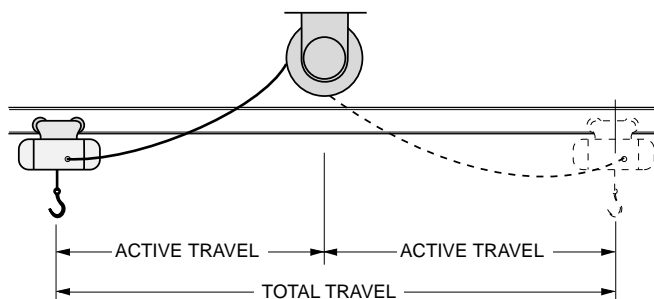


Fig. 2 **TWO-WAY PAYOUT**

TOTAL TRAVEL = ACTIVE TRAVEL x 2



Selection INPUT Required

TYPE OF APPLICATION

LIFT STRETCH RETRIEVE DRAG

If none of the above apply to how the reel will be used, or if extra weight is added at the end of the cable (overhang, push-button station, etc.) please consult your factory representative.

Active Travel _____ ft.
 Size _____
 No. Cond. _____

INCLUDE THE FOLLOWING INFORMATION IF IT IS DIFFERENT than the cable data at the back of this catalog for the cable size listed above:

O.D. _____ Weight (lbs/ft) _____

Model Number Explanation

MMD DIRECT DRIVE	MMD	21	100	1	-	12	3	-	14	-	1		
MMD GEAR DRIVE	MMD	28	100	4	-	14	3	-	11	-	K	-	2
SM GEAR DRIVE	SM	32	100	8	-	8	3	-	9	-	Y	-	2
	REEL TYPE	FRAME SERIES	SPRING MOTOR	No. of SPRINGS		No. of POLES	AMPACITY CODE*		CORE DIA.		GEAR RATIO**		PRETENSION TURNS

*SLIP RING AMPACITY CODE	
GLEASON CODE	MAX AMPS
3	35
7	75
12	125
20	200

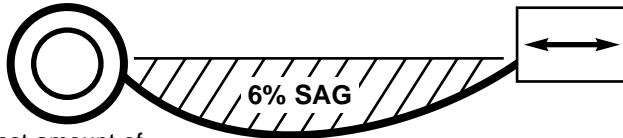
**GEAR RATIOS

RATIO	8-PITCH						6-PITCH									
	1.22	1.50	1.72	1.86	2.00	2.07	2.33	2.75	3.00	4.00	1.22	1.50	2.00	2.33	2.75	4.00
CODE-Series MMD	A	B	-	C	-	D	E	-	F	G	H	I	J	K	-	-
CODE-Series SM	-	M	N	-	P	-	Q	R	-	S	-	T	V	-	W	Y

Common Applications

HORIZONTAL STRETCH

STRETCHING cable horizontally requires the greatest amount of tension on any application to maintain a minimum sag. In this catalog, all reel capacities for horizontal stretch applications are based on a sag of 6%.



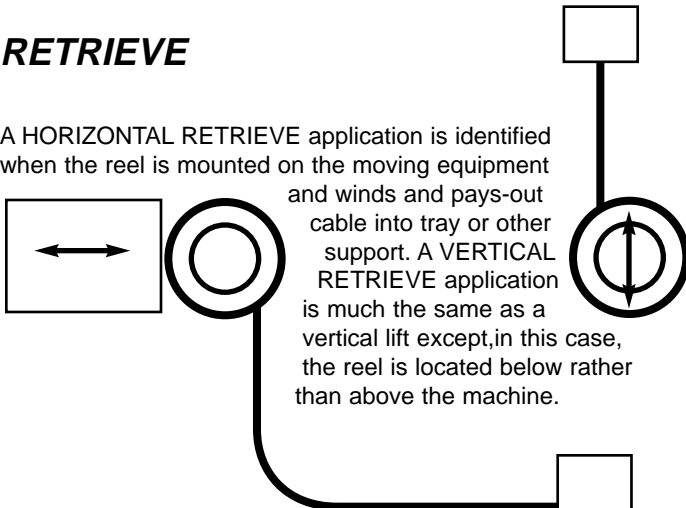
VERTICAL LIFT

VERTICAL LIFT refers to any application where the cable is simply hoisted vertically with only the weight of the cable involved. Special consideration must be given to any weight added to the end of the cable such as a push-button station or overhang (i.e. extra cable).



RETRIEVE

A HORIZONTAL RETRIEVE application is identified when the reel is mounted on the moving equipment and winds and pays-out cable into tray or other support. A VERTICAL RETRIEVE application is much the same as a vertical lift except, in this case, the reel is located below rather than above the machine.



DRAG

In DRAG applications, the reel is stationary. As the machine moves, cable is pulled off of the reel and "dragged" over the surface. Dragging produces wear on the cable and is NOT a recommended application.



MMD Reel, Lift/Drag Application (con't.)

MMD reel: 90 FT. LIFT	MMD reel: 100 FT. LIFT	MMD reel: 110 FT. LIFT	MMD reel: 120 FT. LIFT	AWG	COND
MMD21-1001-23-17-C-1	MMD21-1001-23-17-D-1	MMD21-1001-23-17-E-1	MMD21-1001-23-17-F-1	16	2
MMD21-1001-33-17-C-1	MMD21-1001-33-17-D-1	MMD21-1001-33-17-E-1	MMD21-1001-33-17-F-2	16	3
MMD21-1001-43-17-C-1	MMD21-1001-43-17-D-1	MMD21-1001-43-17-E-1	MMD21-1001-43-13-F-1	16	4
MMD21-1001-63-16-C-1	MMD21-1001-63-16-D-1	MMD21-1001-63-15-E-1	MMD21-1002-63-15-F-1	16	6
MMD21-1001-83-16-C-1	MMD21-1001-83-13-E-1	MMD21-1002-83-14-F-1	MMD21-1002-83-12-F-1	16	8
MMD21-1001-103-13-D-1	MMD21-1002-103-14-E-1	MMD21-1002-103-12-F-1	MMD21-1002-103-10-F-1	16	10
MMD21-1002-123-13-D-1	MMD21-1002-123-11-F-1	MMD21-1002-123-11-F-1	MMD21-1002-123-10-F-1	16	12
MMD21-1002-143-13-D-1	MMD21-1002-143-11-F-3	MMD21-1002-143-9-F-1	MMD28-1003-143-21-C-1	16	14
MMD21-1002-163-13-D-1	MMD21-1002-163-10-F-2	MMD21-1002-163-8-F-1	MMD28-1003-163-21-C-1	16	16
MMD21-1002-203-10-E-1	MMD21-1002-203-8-F-1	MMD24-1003-203-13-K-1	MMD28-1003-203-21-C-1	16	20
MMD24-1002-243-10-D-1	MMD28-1003-243-18-C-2	MMD28-1004-243-18-C-1	MMD28-1004-243-18-J-1	16	24
MMD24-1003-303-9-K-1	MMD28-1004-303-17-C-1	MMD28-1004-303-16-J-1	MMD32-1004-303-10-W-1	16	30
MMD28-1004-363-19-B-1	MMD28-1004-363-16-C-1			16	36
MMD21-1001-23-16-C-1	MMD21-1001-23-16-D-1	MMD21-1001-23-16-E-1	MMD21-1001-23-13-F-1	14	2
MMD21-1001-33-16-C-1	MMD21-1001-33-16-D-1	MMD21-1001-33-16-E-1	MMD21-1002-33-16-F-1	14	3
MMD21-1001-43-16-C-1	MMD21-1001-43-16-D-1	MMD21-1002-43-14-F-1	MMD21-1002-43-14-F-1	14	4
MMD21-1001-63-15-C-1	MMD21-1002-63-13-E-1	MMD21-1002-63-13-F-1	MMD21-1002-63-11-F-1	14	6
MMD21-1002-83-13-D-1	MMD21-1002-83-11-F-3	MMD21-1002-83-9-F-1	MMD28-1003-83-21-C-1	14	8
MMD21-1002-103-10-E-1	MMD21-1002-103-8-F-1	MMD24-1002-103-13-E-1	MMD28-1003-103-21-C-1	14	10
MMD21-1002-123-10-E-1	MMD24-1003-123-13-K-1	MMD24-1003-123-13-K-1	MMD28-1003-123-18-D-1	14	12
MMD24-1002-143-14-C-1	MMD24-1003-143-12-K-1	MMD28-1003-143-19-C-1	MMD28-1004-143-20-C-1	14	14
MMD24-1003-163-9-K-1	MMD28-1003-163-16-C-1	MMD28-1004-163-17-J-1	MMD28-1004-163-17-J-1	14	16
MMD28-1003-203-19-B-1	MMD28-1004-203-16-C-1	MMD28-1004-203-12-K-1		14	20
MMD28-1004-243-14-C-1				14	24
				14	30
MMD21-1001-23-16-C-1	MMD21-1001-23-16-D-1	MMD21-1001-23-11-F-1	MMD21-1002-23-14-F-1	12	2
MMD21-1001-33-16-C-1	MMD21-1001-33-16-D-1	MMD21-1002-33-14-F-1	MMD21-1002-33-14-F-1	12	3
MMD21-1001-43-14-D-1	MMD21-1002-43-14-E-1	MMD21-1002-43-14-F-1	MMD21-1002-43-12-F-1	12	4
MMD21-1002-63-13-D-1	MMD21-1002-63-11-F-3	MMD21-1002-63-9-F-1	MMD28-1003-63-21-C-1	12	6
MMD24-1002-83-15-C-1	MMD24-1002-83-8-F-2	MMD28-1003-83-21-C-1	MMD28-1003-83-21-C-1	12	8
MMD24-1002-103-10-D-1	MMD28-1003-103-18-C-2	MMD28-1004-103-18-C-1	MMD28-1004-103-18-J-1	12	10
MMD24-1003-123-9-K-1	MMD28-1003-123-16-C-1	MMD28-1004-123-17-J-1	MMD28-1004-123-17-J-1	12	12
MMD28-1003-143-19-B-1	MMD28-1004-143-19-C-1	MMD28-1004-143-15-J-1		12	14
MMD28-1003-163-13-C-1	MMD28-1004-163-16-C-1			12	16
MMD28-1004-203-14-C-2				12	20
				12	24
MMD21-1001-23-16-C-1	MMD21-1001-23-13-E-1	MMD21-1002-23-14-F-1	MMD21-1002-23-12-F-1	10	2
MMD21-1002-33-14-D-1	MMD21-1002-33-14-E-1	MMD21-1002-33-14-F-1	MMD21-1002-33-12-F-1	10	3
MMD21-1002-43-13-D-1	MMD21-1002-43-11-F-1	MMD21-1002-43-11-F-1	MMD21-1002-43-10-F-1	10	4
MMD21-1002-63-10-E-1	MMD21-1002-63-8-F-1	MMD24-1003-63-13-K-1	MMD28-1003-63-21-C-1	10	6
MMD24-1003-83-9-K-1	MMD28-1003-83-16-C-1	MMD28-1004-83-17-J-1	MMD28-1004-83-17-J-1	10	8
MMD28-1003-103-19-B-1	MMD28-1004-103-19-C-1	MMD28-1004-103-17-C-1		10	10
MMD28-1003-123-13-C-1	MMD28-1004-123-16-C-1			10	12
MMD28-1004-143-12-C-1				10	14
				10	20
MMD21-1002-27-13-D-1	MMD21-1002-27-11-F-1	MMD21-1002-27-11-F-1	MMD24-1002-27-10-F-1	8	2W
MMD21-1002-37-10-E-1	MMD21-1002-37-8-F-1	MMD24-1003-37-13-K-1	MMD28-1003-37-21-C-1	8	3W
MMD21-1002-47-10-E-1	MMD24-1003-47-13-D-1	MMD24-1003-47-13-K-1	MMD28-1004-47-21-C-1	8	3G
MMD24-1002-47-11-D-1	MMD24-1003-47-12-K-1	MMD28-1003-47-16-D-1	MMD28-1004-47-20-C-1	8	4W
MMD21-1002-27-10-E-1	MMD21-1002-27-8-F-1	MMD24-1002-27-9-F-2	MMD24-1002-27-8-F-1	6	2W
MMD24-1002-37-11-D-1	MMD24-1003-37-12-K-1	MMD28-1003-37-18-C-1	MMD28-1004-37-20-C-1	6	3W
MMD24-1003-47-10-D-1	MMD28-1004-47-18-C-2	MMD28-1004-47-16-J-1		6	3G
MMD24-1003-47-9-K-1	MMD28-1004-47-17-C-1	MMD28-1004-47-15-J-1		6	4W
MMD24-1003-212-9-K-1	MMD28-1004-212-17-C-1	MMD28-1004-212-12-K-1		4	2W
MMD24-1003-312-9-K-1	MMD28-1004-312-17-C-1	MMD28-1004-312-12-K-1		4	3W
MMD28-1004-412-13-C-1				4	3G
MMD28-1004-412-19-B-1				4	4W
MMD28-1004-212-12-C-1				2	2W
MMD28-1004-312-12-C-1				2	3W
				2	3G
				2	4W
				1	2W
				1	3W
				1	3G
				1	4W

MMD Reel, Stretch Application (con't.)

MMD reel: 90 FT. S	MMD reel: 100 FT. S	MMD reel: 110 FT. S	MMD reel: 120 FT. S	MMD reel: 140 FT. S	MMD reel: 160 FT. S	AWG	COND
MMD21-1001-23-17-C-1	MMD21-1001-23-17-D-1	MMD21-1001-23-17-E-1	MMD21-1001-23-13-F-1	MMD21-1002-23-17-F-1	MMD21-1002-23-16-G-3	16	2
MMD21-1001-33-17-C-1	MMD21-1001-33-17-D-1	MMD21-1001-33-16-E-1	MMD21-1002-33-17-F-1	MMD21-1002-33-17-F-1	MMD21-1002-33-13-G-1	16	3
MMD21-1001-43-17-C-1	MMD21-1002-43-17-D-1	MMD21-1002-43-17-E-1	MMD21-1002-43-17-F-3	MMD21-1002-43-15-F-1	MMD28-1003-43-24-K-1	16	4
MMD21-1001-63-12-E-1	MMD21-1002-63-16-D-1	MMD21-1002-63-15-E-1	MMD21-1002-63-14-F-2	MMD21-1002-63-9-G-1	MMD32-1004-63-28-V-1	16	6
MMD21-1002-83-16-C-1	MMD21-1002-83-14-E-1	MMD21-1002-83-11-F-1	MMD21-1002-83-11-F-1	MMD28-1004-83-22-K-1	MMD32-1004-83-19-W-1	16	8
MMD21-1002-103-14-D-1	MMD21-1002-103-14-E-2	MMD21-1002-103-9-F-1	MMD24-1003-103-17-K-1	MMD28-1004-103-20-K-1		16	10
MMD21-1002-123-13-D-1	MMD21-1002-123-9-F-2	MMD24-1003-123-16-K-1	MMD28-1004-123-21-J-1	MMD32-1004-123-10-Y-2		16	12
MMD21-1002-143-13-D-1	MMD24-1003-143-16-D-1	MMD24-1003-143-16-D-1	MMD28-1004-143-21-C-1			16	14
MMD21-1003-163-13-C-1	MMD24-1003-163-16-D-1	MMD24-1003-163-16-D-1	MMD28-1004-163-21-C-1			16	16
MMD21-1003-203-10-K-1	MMD24-1003-203-11-K-1	MMD24-1004-203-13-K-1				16	20
MMD24-1003-243-10-D-1	MMD28-1004-243-16-C-1	MMD32-1004-243-9-W-1				16	24
MMD24-1004-303-9-K-1						16	30
						16	36
MMD21-1001-23-16-C-1	MMD21-1002-23-16-D-1	MMD21-1002-23-16-E-1	MMD21-1002-23-15-F-2	MMD21-1002-23-10-G-1	MMD28-1003-23-24-K-1	14	2
MMD21-1002-33-16-C-1	MMD21-1002-33-16-D-1	MMD21-1002-33-16-E-1	MMD21-1002-33-14-F-2	MMD28-1003-33-24-D-1	MMD28-1004-33-24-K-1	14	3
MMD21-1002-43-16-C-1	MMD21-1002-43-16-D-1	MMD21-1002-43-12-F-2	MMD24-1003-43-19-K-1	MMD28-1003-43-20-K-1	MMD32-1004-43-28-V-1	14	4
MMD21-1002-63-15-C-1	MMD21-1002-63-13-E-1	MMD24-1003-63-16-K-1	MMD24-1003-63-16-K-1	MMD32-1004-63-23-V-1		14	6
MMD21-1002-83-13-D-1	MMD24-1003-83-16-D-1	MMD24-1003-83-14-K-1	MMD28-1004-83-21-C-1			14	8
MMD24-1002-103-9-E-1	MMD24-1003-103-13-K-2	MMD24-1004-103-13-K-1	MMD28-1004-103-18-J-1			14	10
MMD21-1003-123-10-K-1	MMD28-1003-123-12-K-1	MMD24-1004-123-13-K-1				14	12
MMD24-1003-143-14-C-1	MMD24-1004-143-12-K-1	MMD28-1004-143-13-K-1				14	14
MMD24-1003-163-9-K-1	MMD28-1004-163-11-K-1					14	16
MMD28-1004-203-13-C-1						14	20
						14	24
						14	30
MMD21-1001-23-8-F-1	MMD21-1002-23-16-D-1	MMD21-1002-23-14-F-3	MMD21-1002-23-13-F-2	MMD28-1003-23-22-K-2	MMD32-1004-23-28-V-1	12	2
MMD21-1002-33-16-C-1	MMD21-1002-33-16-D-1	MMD21-1002-33-11-F-1	MMD24-1003-33-19-D-1	MMD28-1004-33-22-K-1		12	3
MMD21-1002-43-14-D-1	MMD21-1002-43-13-E-1	MMD24-1003-43-17-D-1	MMD24-1003-43-17-K-1	MMD28-1004-43-20-K-1		12	4
MMD21-1002-63-13-D-1	MMD24-1003-63-16-D-1	MMD24-1003-63-16-D-1	MMD28-1004-63-21-C-1			12	6
MMD24-1003-83-15-C-1	MMD24-1003-83-12-K-1	MMD28-1004-83-19-C-1				12	8
MMD24-1003-103-10-D-1	MMD28-1004-103-16-C-1	MMD32-1004-103-9-W-1				12	10
MMD24-1003-123-9-K-1	MMD28-1004-123-14-J-1					12	12
MMD28-1004-143-14-C-1						12	14
MMD28-1004-163-13-C-1						12	16
						12	20
						12	24
MMD21-1002-23-16-C-1	MMD21-1002-23-14-E-1	MMD21-1002-23-10-F-1	MMD24-1003-23-17-K-1	MMD28-1004-23-22-K-1	MMD32-1004-23-11-Y-1	10	2
MMD21-1002-33-14-D-1	MMD21-1002-33-13-E-1	MMD24-1003-33-17-D-1	MMD24-1003-33-16-K-1	MMD32-1004-33-16-W-1		10	3
MMD21-1002-43-13-D-1	MMD24-1003-43-16-D-1	MMD24-1003-43-14-K-1	MMD28-1004-43-20-J-1			10	4
MMD21-1003-63-10-K-1	MMD24-1003-63-12-K-1	MMD24-1004-63-13-K-1				10	6
MMD24-1003-83-9-K-1	MMD28-1004-83-14-J-1					10	8
MMD28-1004-103-14-C-1						10	10
MMD28-1004-123-13-C-1						10	12
						10	14
						10	20
MMD21-1002-27-13-D-1	MMD21-1002-27-9-F-2	MMD24-1003-27-16-D-1	MMD28-1004-27-22-C-1	MMD32-1004-27-15-W-1		8	2W
MMD24-1002-37-9-E-1	MMD24-1003-37-12-K-1	MMD24-1004-37-13-K-1				8	3W
MMD21-1003-47-10-K-1	MMD24-1004-47-13-J-1					8	3G
MMD24-1003-47-12-D-1	MMD24-1004-47-12-K-1					8	4W
MMD21-1002-27-10-E-1	MMD24-1003-27-13-K-1	MMD28-1004-27-20-C-1	MMD32-1004-27-12-W-1			6	2W
MMD24-1003-37-11-D-1	MMD24-1004-37-12-K-1					6	3W
MMD24-1004-47-10-J-1						6	3G
MMD24-1004-47-9-K-1						6	4W
MMD24-1004-212-9-K-1						4	2W
MMD24-1004-312-9-K-1						4	3W
						4	3G
						4	4W
						2	2W
						2	3W
						2	3G
						2	4W
						1	2W
						1	3W
						1	3G
						1	4W

SM Reel, Lift/Drag Application (con't.)

SM reel: 90 FT. LIFT	SM reel: 100 FT. LIFT	SM reel: 110 FT. LIFT	SM reel: 120 FT. LIFT	AWG	COND
SM21-1001-23-17-Q-1	SM21-1001-23-17-R-1	SM21-1001-23-17-R-1	SM21-1001-23-15-S-2	16	2
SM21-1001-33-17-Q-1	SM21-1001-33-17-R-1	SM21-1001-33-17-R-1	SM21-1001-33-14-S-2	16	3
SM21-1001-43-17-Q-1	SM21-1001-43-17-R-1	SM21-1001-43-17-R-1	SM21-1002-43-17-S-1	16	4
SM21-1001-63-16-Q-1	SM21-1002-63-16-R-1	SM21-1002-63-15-S-1	SM21-1002-63-15-S-1	16	6
SM21-1001-83-12-R-1	SM21-1002-83-14-R-1	SM21-1002-83-14-S-2	SM21-1002-83-12-S-1	16	8
SM21-1002-103-14-R-1	SM21-1002-103-14-R-1	SM21-1002-103-11-S-1	SM21-1002-103-9-S-1	16	10
SM21-1002-123-13-R-1	SM21-1002-123-11-S-3	SM21-1002-123-10-S-2	SM21-1003-123-10-Y-1	16	12
SM21-1002-143-13-R-1	SM21-1003-143-11-Y-1	SM21-1003-143-11-Y-1	SM21-1003-143-9-Y-1	16	14
SM21-1002-163-12-R-1	SM21-1002-163-10-Y-1	SM21-1003-163-8-Y-1	SM24-1003-163-9-Y-1	16	16
SM21-1002-203-10-R-1	SM21-1003-203-8-Y-1	SM24-1003-203-13-W-1	SM24-1004-203-9-Y-1	16	20
SM24-1003-243-10-W-1	SM28-1004-243-20-V-1	SM32-1005-243-24-V-1	SM32-1005-243-24-V-1	16	24
SM24-1003-303-9-W-1	SM32-1005-303-23-V-2	SM32-1005-303-22-V-1	SM32-1006-303-16-W-1	16	30
SM28-1004-363-17-V-1	SM32-1005-363-19-V-1	SM32-1006-363-13-W-1	SM32-1008-363-18-W-2	16	36
SM21-1001-23-16-Q-1	SM21-1001-23-16-R-1	SM21-1001-23-10-S-1	SM21-1002-23-15-S-1	14	2
SM21-1001-33-16-Q-1	SM21-1002-33-16-R-1	SM21-1002-33-16-R-1	SM21-1002-33-16-S-1	14	3
SM21-1001-43-16-Q-1	SM21-1002-43-16-R-1	SM21-1002-43-14-S-3	SM21-1002-43-13-S-2	14	4
SM21-1002-63-15-Q-1	SM21-1002-63-12-S-3	SM21-1002-63-9-S-1	SM21-1003-63-11-Y-1	14	6
SM21-1002-83-13-R-1	SM21-1003-83-11-Y-1	SM21-1003-83-11-Y-1	SM21-1003-83-9-Y-1	14	8
SM21-1002-103-10-R-1	SM21-1003-103-8-Y-1	SM24-1003-103-13-W-1	SM24-1003-103-8-Y-1	14	10
SM21-1002-123-10-R-1	SM24-1003-123-13-W-1	SM24-1003-123-13-W-1	SM24-1004-123-9-Y-1	14	12
SM24-1003-143-14-W-1	SM24-1003-143-11-W-1	SM24-1004-143-9-Y-1	SM32-1005-143-19-W-2	14	14
SM24-1003-163-9-W-1	SM28-1004-163-20-V-1	SM32-1005-163-22-V-1	SM32-1006-163-24-V-1	14	16
SM28-1004-203-17-V-1	SM32-1005-203-20-V-1	SM32-1006-203-22-V-1	SM32-1007-203-16-W-1	14	20
SM32-1005-243-16-V-1	SM32-1006-243-19-V-1	SM32-1006-243-11-W-1	SM32-1008-243-13-W-1	14	24
SM32-1006-303-16-V-1	SM32-1007-303-12-W-2			14	30
SM21-1001-23-16-Q-1	SM21-1002-23-16-R-1	SM21-1002-23-14-S-1	SM21-1002-23-14-S-1	12	2
SM21-1002-33-16-Q-1	SM21-1002-33-16-R-1	SM21-1002-33-14-S-3	SM21-1002-33-11-S-1	12	3
SM21-1002-43-14-R-1	SM21-1002-43-14-R-1	SM21-1002-43-11-S-2	SM21-1002-43-10-S-1	12	4
SM21-1002-63-13-R-1	SM21-1002-63-8-S-2	SM21-1003-63-11-Y-1	SM21-1003-63-9-Y-1	12	6
SM24-1002-83-10-R-1	SM24-1003-83-12-W-1	SM24-1003-83-8-Y-2	SM24-1004-83-8-Y-1	12	8
SM24-1003-103-10-W-1	SM28-1004-103-20-V-1	SM32-1005-103-24-V-1	SM32-1005-103-24-V-1	12	10
SM24-1003-123-9-W-1	SM28-1004-123-20-V-1	SM32-1005-123-23-V-1	SM32-1005-123-9-Y-2	12	12
SM28-1004-143-18-V-1	SM28-1004-143-11-W-1	SM32-1005-143-13-W-1	SM32-1007-143-18-W-2	12	14
SM28-1004-163-17-V-1	SM32-1005-163-19-V-1	SM32-1006-163-13-W-1	SM32-1007-163-15-W-1	12	16
SM32-1006-203-19-V-2	SM32-1007-203-19-V-1	SM32-1007-203-12-W-1	SM32-1008-203-13-W-1	12	20
SM32-1006-243-14-V-1				12	24
SM21-1001-23-12-R-1	SM21-1002-23-14-R-1	SM21-1002-23-13-S-1	SM21-1002-23-12-S-2	10	2
SM21-1002-33-14-R-1	SM21-1002-33-14-R-1	SM21-1002-33-10-S-1	SM21-1002-33-10-S-1	10	3
SM21-1002-43-13-R-1	SM21-1002-43-8-S-1	SM21-1002-43-8-S-1	SM21-1003-43-10-Y-1	10	4
SM21-1002-63-10-R-1	SM21-1003-63-8-Y-1	SM24-1003-63-13-W-1	SM24-1004-63-9-Y-1	10	6
SM24-1003-83-9-W-1	SM28-1004-83-20-V-1	SM32-1005-83-23-V-1	SM32-1005-83-9-Y-2	10	8
SM28-1004-103-18-V-1	SM32-1005-103-21-V-1	SM32-1005-103-13-W-1	SM32-1007-103-18-W-2	10	10
SM28-1004-123-17-V-1	SM32-1005-123-19-V-1	SM32-1006-123-13-W-1	SM32-1007-123-15-W-1	10	12
SM32-1006-143-16-V-1	SM32-1007-143-19-V-1	SM32-1007-143-11-W-1		10	14
SM32-1007-203-14-V-1				10	20
SM21-1002-27-13-R-1	SM21-1002-27-9-S-2	SM21-1002-27-8-S-1	SM21-1003-27-9-Y-1	8	2W
SM21-1002-37-10-R-1	SM21-1003-37-8-Y-1	SM24-1003-37-13-W-1	SM24-1004-37-11-Y-1	8	3W
SM21-1003-47-10-W-1	SM24-1004-47-13-W-1	SM24-1004-47-13-W-1	SM24-1004-47-8-Y-1	8	3G
SM24-1003-47-12-W-2	SM24-1003-47-11-W-1	SM24-1004-47-10-Y-3	SM24-1004-47-8-Y-1	8	4W
SM21-1002-27-10-R-1	SM21-1003-27-8-Y-1	SM24-1003-27-9-Y-2	SM24-1003-27-8-Y-1	6	2W
SM24-1003-37-12-W-2	SM24-1003-37-11-W-1	SM24-1004-37-9-Y-2	SM28-1004-37-8-Y-1	6	3W
SM24-1003-47-9-W-1	SM32-1005-47-21-V-1	SM32-1006-47-23-V-1	SM32-1006-47-15-W-1	6	3G
SM24-1004-47-9-W-1	SM32-1005-47-21-V-1	SM32-1005-47-13-W-1	SM32-1006-47-9-Y-2	6	4W
SM24-1004-212-9-W-1	SM32-1005-212-20-V-1	SM32-1006-212-22-V-1	SM32-1007-212-16-W-1	4	2W
SM24-1004-312-9-W-1	SM32-1005-312-20-V-1	SM32-1006-312-22-V-1	SM32-1006-312-9-Y-2	4	3W
SM32-1005-412-23-T-1	SM32-1006-412-18-V-1	SM32-1007-412-12-W-1		4	3G
SM32-1005-412-17-V-1	SM32-1006-412-19-V-1	SM32-1007-412-13-W-1		4	4W
SM32-1006-212-16-V-1	SM32-1007-212-11-W-1	SM32-1007-212-11-W-1		2	2W
SM32-1005-312-16-V-1	SM32-1006-312-10-W-1	SM32-1008-312-20-V-1	SM32-1008-312-13-W-1	2	3W
SM32-1008-412-16-V-1				2	3G
SM32-1008-412-19-V-2				2	4W
SM32-1006-220-16-V-1	SM32-1007-220-18-V-1	SM32-1007-220-11-W-1		1	2W
SM32-1007-320-14-V-1				1	3W
				1	3G
				1	4W

SM Reel, Stretch Application (con't.)

SM reel: 90 FT. S	SM reel: 100 FT. S	SM reel: 110 FT. S	SM reel: 120 FT. S	SM reel: 140 FT. S	SM reel: 160 FT. S	AWG	COND
SM21-1001-23-17-Q-1	SM21-1001-23-16-R-1	SM21-1002-23-17-R-1	SM21-1002-23-17-S-2	SM21-1002-23-17-S-2	SM21-1003-23-17-Y-1	16	2
SM21-1001-33-17-Q-1	SM21-1002-33-17-R-1	SM21-1002-33-17-R-1	SM21-1002-33-15-S-2	SM21-1003-33-17-Y-1	SM21-1003-33-17-Y-1	16	3
SM21-1002-43-17-Q-1	SM21-1002-43-17-R-1	SM21-1002-43-17-R-1	SM21-1002-43-12-S-1	SM21-1003-43-16-Y-2	SM24-1004-43-19-Y-2	16	4
SM21-1002-63-16-Q-1	SM21-1002-63-16-R-1	SM21-1002-63-10-S-1	SM21-1003-63-15-Y-3	SM21-1003-63-13-Y-1	SM24-1004-63-15-Y-1	16	6
SM21-1002-83-16-Q-1	SM21-1002-83-14-R-1	SM21-1003-83-13-Y-1	SM21-1003-83-12-Y-2	SM24-1004-83-13-Y-1	SM32-1005-83-24-W-1	16	8
SM21-1002-103-12-R-1	SM21-1003-103-14-W-1	SM21-1003-103-10-Y-2	SM21-1003-103-9-Y-1	SM24-1004-103-11-Y-1	SM32-1006-103-15-Y-1	16	10
SM21-1003-123-13-W-1	SM21-1003-123-9-Y-2	SM21-1003-123-8-Y-1	SM21-1004-123-10-Y-1	SM32-1006-123-24-W-2	SM32-1007-123-24-W-1	16	12
SM21-1003-143-13-W-1	SM21-1004-143-11-Y-2	SM21-1004-143-11-Y-2	SM21-1004-143-9-Y-1	SM32-1006-143-13-Y-1	SM32-1008-143-24-W-1	16	14
SM21-1003-163-12-W-1	SM21-1004-163-10-Y-1	SM21-1004-163-8-Y-1	SM32-1005-163-25-V-1	SM32-1007-163-21-W-1	SM32-1008-163-14-Y-1	16	16
SM21-1003-203-10-W-1	SM21-1004-203-8-Y-1	SM32-1005-203-15-W-1	SM32-1006-203-25-V-1	SM32-1007-203-11-Y-1		16	20
SM24-1004-243-10-W-1	SM32-1005-243-12-W-1	SM32-1006-243-22-V-1	SM32-1007-243-24-V-1	SM32-1008-243-10-Y-1		16	24
SM24-1004-303-9-W-1	SM32-1006-303-12-W-1	SM32-1007-303-14-W-1	SM32-1008-303-15-W-1			16	30
SM32-1006-363-17-V-1	SM32-1006-363-11-W-1	SM32-1008-363-13-W-1				16	36
SM21-1002-23-16-Q-1	SM21-1002-23-16-R-1	SM21-1002-23-12-S-2	SM21-1003-23-15-Y-2	SM21-1003-23-14-Y-1	SM24-1004-23-18-Y-2	14	2
SM21-1002-33-16-Q-1	SM21-1002-33-16-R-1	SM21-1002-33-16-R-1	SM21-1003-33-16-Y-3	SM21-1004-33-15-Y-1	SM28-1004-33-16-Y-1	14	3
SM21-1002-43-16-Q-1	SM21-1002-43-9-S-1	SM21-1003-43-12-Y-2	SM21-1003-43-11-Y-1	SM21-1004-43-13-Y-1	SM32-1006-43-28-W-1	14	4
SM21-1003-63-15-W-1	SM21-1003-63-10-Y-2	SM21-1003-63-9-Y-1	SM21-1004-63-11-Y-1	SM32-1006-63-24-W-2	SM32-1007-63-24-W-1	14	6
SM21-1003-83-13-W-1	SM21-1004-83-11-Y-3	SM21-1004-83-9-Y-1	SM21-1004-83-9-Y-1	SM32-1007-83-21-W-1	SM32-1008-83-15-Y-1	14	8
SM21-1003-103-10-W-1	SM21-1004-103-8-Y-1	SM24-1004-103-13-W-1	SM32-1005-103-9-Y-1	SM32-1007-103-19-W-1	SM32-1008-103-13-Y-1	14	10
SM21-1003-123-10-W-1	SM24-1004-123-12-W-1	SM32-1006-123-8-Y-1	SM32-1006-123-16-W-1	SM32-1007-123-11-Y-1		14	12
SM24-1004-143-12-W-2	SM24-1004-143-11-W-1	SM32-1006-143-22-V-1	SM32-1007-143-16-W-1	SM32-1008-143-10-Y-1		14	14
SM24-1004-163-9-W-1	SM32-1006-163-20-V-1	SM32-1006-163-13-W-1	SM32-1007-163-9-Y-2	SM32-1008-163-9-Y-1		14	16
SM32-1005-203-10-W-1	SM32-1006-203-11-W-1	SM32-1008-203-14-W-1				14	20
SM32-1007-243-19-V-2	SM32-1008-243-18-V-1	SM32-1008-243-11-W-1				14	24
SM32-1007-303-15-V-1						14	30
SM21-1002-23-16-Q-1	SM21-1002-23-15-R-1	SM21-1003-23-14-Y-3	SM21-1003-23-13-Y-2	SM21-1004-23-13-Y-1	SM32-1005-23-25-W-1	12	2
SM21-1002-33-16-Q-1	SM21-1003-33-16-W-1	SM21-1003-33-12-Y-2	SM21-1003-33-11-Y-1	SM21-1004-33-13-Y-1	SM32-1006-33-25-W-1	12	3
SM21-1002-43-12-R-1	SM21-1003-43-14-W-1	SM21-1003-43-9-Y-1	SM21-1004-43-12-Y-1	SM32-1005-43-21-W-1	SM32-1006-43-15-Y-1	12	4
SM21-1003-63-13-W-1	SM21-1003-63-8-Y-2	SM21-1004-63-9-Y-1	SM21-1004-63-9-Y-1	SM32-1006-63-12-Y-1	SM32-1008-63-23-W-1	12	6
SM24-1003-83-10-W-1	SM24-1004-83-12-W-1	SM32-1005-83-15-W-1	SM32-1006-83-16-W-1	SM32-1007-83-11-Y-1		12	8
SM24-1004-103-10-W-1	SM32-1005-103-10-W-1	SM32-1006-103-22-V-1	SM32-1007-103-24-V-1	SM32-1008-103-10-Y-1		12	10
SM24-1004-123-9-W-1	SM32-1005-123-12-W-1	SM32-1006-123-13-W-1	SM32-1007-123-9-Y-2	SM32-1008-123-9-Y-1		12	12
SM32-1005-143-10-W-1	SM32-1006-143-12-W-1	SM32-1007-143-13-W-1				12	14
SM32-1006-163-17-V-1	SM32-1006-163-11-W-1	SM32-1008-163-13-W-1				12	16
SM32-1007-203-16-V-1	SM32-1008-203-18-V-1	SM32-1008-203-11-W-1				12	20
SM32-1008-243-15-V-1						12	24
SM21-1002-23-16-Q-1	SM21-1002-23-8-S-1	SM21-1003-23-11-Y-2	SM21-1003-23-10-Y-1	SM24-1004-23-12-Y-1	SM32-1006-23-25-W-1	10	2
SM21-1003-33-14-W-1	SM21-1003-33-14-W-1	SM21-1003-33-9-Y-1	SM21-1004-33-12-Y-2	SM32-1005-33-13-Y-1	SM32-1007-33-24-W-1	10	3
SM21-1003-43-13-W-1	SM21-1004-43-11-Y-2	SM21-1004-43-11-Y-2	SM21-1004-43-9-Y-1	SM32-1007-43-22-W-1	SM32-1008-43-15-Y-1	10	4
SM21-1003-63-10-W-1	SM21-1004-63-8-Y-1	SM24-1004-63-8-Y-2	SM32-1006-63-16-W-1	SM32-1007-63-11-Y-1		10	6
SM24-1004-83-9-W-1	SM32-1005-83-12-W-1	SM32-1006-83-13-W-1	SM32-1007-83-9-Y-2	SM32-1008-83-9-Y-1		10	8
SM32-1005-103-10-W-1	SM32-1006-103-12-W-1	SM32-1007-103-13-W-1				10	10
SM32-1006-123-17-V-1	SM32-1006-123-11-W-1	SM32-1008-123-13-W-1				10	12
SM32-1008-143-17-V-1						10	14
						10	20
SM21-1002-27-11-R-1	SM21-1003-27-9-Y-2	SM21-1003-27-8-Y-1	SM21-1004-27-9-Y-1	SM32-1005-27-12-Y-1	SM32-1007-27-23-W-1	8	2W
SM21-1003-37-10-W-1	SM21-1004-37-8-Y-1	SM24-1004-37-8-Y-2	SM32-1005-37-9-Y-1	SM32-1007-37-11-Y-1		8	3W
SM21-1004-47-10-W-1	SM32-1005-47-13-W-1	SM32-1006-47-8-Y-1	SM32-1007-47-16-W-1			8	3G
SM24-1004-47-12-W-2	SM24-1004-47-11-W-1	SM32-1006-47-14-W-1	SM32-1006-47-8-Y-1			8	4W
SM21-1003-27-10-W-1	SM21-1004-27-8-Y-1	SM24-1004-27-8-Y-1	SM24-1004-27-8-Y-1	SM32-1007-27-20-W-1		6	2W
SM24-1004-37-10-W-1	SM32-1005-37-8-Y-2	SM32-1006-37-14-W-1	SM32-1006-37-8-Y-1			6	3W
SM24-1004-47-9-W-1	SM32-1006-47-12-W-1	SM32-1008-47-22-V-1				6	3G
SM32-1005-47-10-W-1	SM32-1006-47-12-W-1	SM32-1007-47-13-W-1	SM32-1008-47-9-Y-2			6	4W
SM32-1005-212-10-W-1	SM32-1007-212-12-W-1	SM32-1008-212-14-W-1				4	2W
SM32-1005-312-10-W-1	SM32-1007-312-20-V-1	SM32-1007-312-13-W-1	SM32-1008-312-9-Y-2			4	3W
SM32-1007-412-16-V-1	SM32-1007-412-10-W-1					4	3G
SM32-1007-412-17-V-1	SM32-1007-412-11-W-1					4	4W
SM32-1008-212-16-V-1						2	2W
SM32-1008-312-16-V-1	SM32-1008-312-10-W-1					2	3W
						2	3G
						2	4W
SM32-1008-220-17-V-1						1	2W
						1	3W
						1	3G
						1	4W

MMD Reel, Magnet Application

AWG	COND	MMD reel: 30 FT. M	MMD reel: 40 FT. M	MMD reel: 50 FT. M	MMD reel: 60 FT. M	MMD reel: 70 FT. M	MMD reel: 80 FT. M
8	2W	MMD21-1001-220-16-1	MMD21-1001-220-16-1	MMD21-1001-220-16-1	MMD28-1001-220-23-1	MMD28-1001-220-23-1	MMD32-1001-220-27-1
6	2W	MMD21-1001-220-16-1	MMD21-1001-220-16-1	MMD24-1001-220-17-1	MMD28-1001-220-23-1	MMD28-1001-220-23-1	MMD21-1002-220-10-D-1
4	2W	MMD21-1001-220-15-1	MMD21-1001-220-13-1	MMD24-1001-220-16-2	MMD28-1002-220-22-1	MMD32-1002-220-23-1	MMD32-1003-220-26-1
2	2W	MMD21-1001-220-11-1	MMD24-1001-220-11-2	MMD24-1002-220-12-1	MMD28-1003-220-18-1	MMD32-1003-220-22-1	MMD28-1004-220-15-B-1
1	2W	MMD21-1001-220-11-1	MMD24-1001-220-11-2	MMD28-1002-220-20-1	MMD28-1002-220-18-1	MMD32-1003-220-22-1	MMD28-1004-220-18-B-1
1/0	2W	MMD24-1001-220-13-5	MMD28-1002-220-20-1	MMD28-1002-220-16-2	MMD28-1003-220-17-1	MMD32-1003-220-20-1	

AWG	COND	MMD reel: 90 FT. M	MMD reel: 100 FT. M	MMD reel: 120 FT. M	MMD reel: 140 FT. M	MMD reel: 160 FT. M	MMD reel: 180 FT. M
8	2W	MMD21-1002-220-13-D-1	MMD21-1002-220-11-F-1	MMD24-1002-220-10-F-1	MMD28-1003-220-22-D-1	MMD32-1004-220-26-V-1	
6	2W	MMD21-1002-220-10-E-1	MMD21-1002-220-8-F-1	MMD24-1002-220-8-F-1	MMD28-1004-220-21-K-1	MMD32-1004-220-9-Y-1	
4	2W	MMD24-1003-220-9-K-1	MMD28-1004-220-17-C-1				
2	2W						
1	2W						
1/0	2W						

SM Reel, Magnet Application

AWG	COND	SM reel: 30 FT. M	SM reel: 40 FT. M	SM reel: 50 FT. M	SM reel: 60 FT. M	SM reel: 70 FT. M	SM reel: 80 FT. M
8	2W	SM21-1001-220-16-M-1	SM21-1001-220-16-M-1	SM21-1001-220-16-M-1	SM21-1001-220-15-N-1	SM21-1001-220-8-R-1	SM21-1002-220-13-Q-1
6	2W	SM21-1001-220-16-M-1	SM21-1001-220-16-M-1	SM21-1001-220-14-M-1	SM21-1001-220-14-N-1	SM21-1002-220-12-Q-1	SM21-1002-220-10-R-1
4	2W	SM21-1001-220-15-M-5	SM21-1001-220-11-M-2	SM21-1002-220-11-M-1	SM21-1002-220-11-N-1	SM24-1003-220-14-V-1	SM24-1003-220-9-W-2
2	2W	SM21-1002-220-11-M-1	SM24-1002-220-12-M-1	SM24-1002-220-12-M-1	SM28-1003-220-15-T-1	SM28-1004-220-12-V-1	SM32-1005-220-21-T-1
1	2W	SM21-1002-220-11-M-1	SM24-1002-220-11-M-1	SM28-1002-220-12-M-1	SM28-1003-220-15-T-1	SM28-1004-220-14-V-2	SM28-1004-220-13-V-1
1/0	2W	SM24-1002-220-13-M-2	SM28-1002-220-12-M-3	SM28-1003-220-15-T-3	SM28-1003-220-13-T-1	SM32-1005-220-20-T-1	SM32-1005-220-12-V-1

AWG	COND	SM reel: 100 FT. M	SM reel: 120 FT. M	SM reel: 140 FT. M	SM reel: 160 FT. M	SM reel: 180 FT. M	SM reel: 200 FT. M
8	2W	SM21-1002-220-8-S-2	SM21-1003-220-9-Y-1	SM24-1004-220-12-Y-1	SM32-1005-220-25-W-1	SM32-1006-220-17-Y-1	SM32-1007-220-19-Y-1
6	2W	SM21-1003-220-8-Y-1	SM24-1003-220-8-Y-1	SM32-1005-220-21-W-1	SM32-1006-220-24-W-1	SM32-1007-220-16-Y-1	
4	2W	SM32-1005-220-20-V-1	SM32-1007-220-16-W-1	SM32-1008-220-9-Y-1			
2	2W	SM32-1007-220-11-W-1					
1	2W	SM32-1007-220-18-V-1					
1/0	2W						

Model Explanation* and Cable Connection Requirements

Use the following guide to determine the amount of extra cable required to allow for one dead wrap around the drum, cable through the shaft, and cable connections to the ring leads. Locate the reel's drum diameter (left column) and collector assembly (top). Where they cross is the required extra cable length in feet.

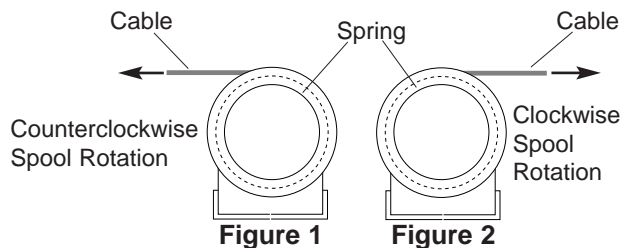
EXAMPLE: **MMD 21 100 1 - 2 3 - 14 - G** - 1**

Series* Frame Size Spring Motor Number of Springs Number Poles Ampacity Core Diameter Gear Ratio** Pretension Turns

* Model number explanation applies to both MMD and SM reels.
** Blank for Direct Drive reels

Drum Dia.	Collector Assembly								
	23 33 43	63 83	103 123 143 163 312	203	243	303	363	27 37 47 212 412	220 320 420
8	4	5	5	5	6	6	6	5	6
9	5	5	5	6	6	6	7	5	6
10	5	5	6	6	6	7	7	5	6
11	5	6	6	6	7	7	7	6	7
12	6	6	6	7	7	7	8	6	7
13	6	6	7	7	7	8	8	6	7
14	6	7	7	7	8	8	8	7	8
15	7	7	7	8	8	8	9	7	8
16	7	7	8	8	8	9	9	7	8
17	7	8	8	8	9	9	9	8	9
18	8	8	8	9	9	9	10	8	9
19	8	8	9	9	9	10	10	8	9
20	8	9	9	9	10	10	10	9	10
21	9	9	9	10	10	10	11	9	10
22	9	9	10	10	10	11	11	9	10
23	9	10	10	10	11	11	11	10	11
24	10	10	10	11	11	11	12	10	11
Extra Cable Required (feet)									

Standard rotation unspools cable with spool revolving counterclockwise when viewed from **spring side** (Fig. 1).



For opposite (clockwise) rotation (Fig. 2) add the letter "R" following "Number of Springs".

EXAMPLE:
SM211001**R**-412-10-M-4

Cable & Hose Data

TYPE SO CABLE — 600 VOLT

16 AWG			14 AWG			12 AWG			10 AWG		
No. Cond.	Dia. In.	Weight lb/ft	No. Cond.	Dia. In.	Weight lb/ft	No. Cond.	Dia. In.	Weight lb/ft	No. Cond.	Dia. In.	Weight lb/ft
2	0.374	0.094	2	0.512	0.158	2	0.586	0.204	2	0.638	0.250
3	0.393	0.110	3	0.538	0.184	3	0.616	0.244	3	0.671	0.310
4	0.427	0.144	4	0.584	0.224	4	0.668	0.282	4	0.730	0.371
5	0.510	0.156	5	0.665	0.260	5	0.725	0.322	5	0.796	0.425
6	0.565	0.178	6	0.710	0.302	6	0.805	0.380	6	0.883	0.485
7	0.605	0.202	7	0.710	0.329	7	0.865	0.435	7	0.982	0.593
8	0.645	0.222	8	0.770	0.373	8	0.920	0.475	9	1.127	0.725
9	0.720	0.268	9	0.820	0.414	9	1.020	0.550	10	1.127	0.760
10	0.720	0.278	10	0.885	0.434	10	1.020	0.581	12	1.153	0.850
12	0.740	0.305	12	0.905	0.481	12	1.050	0.645	20	1.455	1.400
14	0.775	0.348	14	1.000	0.556	14	1.105	0.743	24	1.595	1.645
16	0.825	0.386	16	1.050	0.657	16	1.160	0.840	26	1.595	1.740
18	0.860	0.430	18	1.110	0.715	18	1.227	0.925	28	1.725	1.880
20	0.900	0.466	20	1.150	0.785	20	1.287	1.005	32	1.830	2.180
22	0.940	0.503	22	1.210	0.857	22	1.370	1.140	36	1.890	2.400
24	1.015	0.564	24	1.320	0.920	24	1.443	1.225	40	2.030	2.660
26	1.015	0.604	26	1.350	0.986	26	1.443	1.290	44	2.115	2.890
28	1.070	0.654	28	1.370	1.098	28	1.523	1.400	48	2.150	3.100
30	1.070	0.677	30	1.390	1.138	30	1.523	1.450	52	2.200	3.330
32	1.120	0.714	32	1.450	1.220	40	1.820	1.990	56	2.275	3.550
34	1.155	0.807	34	1.495	1.300	44	1.900	2.140			
36	1.155	0.820	36	1.515	1.359	48	1.930	2.300			
40	1.235	0.881	40	1.550	1.429	52	1.980	2.450			
44	1.280	0.940	44	1.715	1.619	56	2.020	2.600			
48	1.290	0.995	48	1.740	1.734	60	2.090	2.780			
52	1.360	1.100	52	1.784	1.843						
56	1.410	1.170	56	1.865	2.030						
60	1.465	1.260	60	1.925	2.156						

TYPE W CABLE — 600 VOLT

AWG Size	No. Cond.	Dia. In.	Weight lb/ft
8	2	0.788	0.328
	3	0.894	0.470
	4	0.966	0.583
6	2	0.872	0.425
	3	0.983	0.614
	4	1.068	0.769
4	2	1.040	0.780
	3	1.068	0.797
	4	1.166	1.019
3	2	1.033	0.687
	3	1.135	0.950
	4	1.241	1.197
2	2	1.177	0.888
	3	1.244	1.152
	4	1.326	1.429
1	2	1.365	1.090
	3	1.413	1.491
	4	1.548	1.877
1/0	2	1.454	1.386
	3	1.539	1.805
	4	1.686	2.309
2/0	2	1.555	1.640
	3	1.647	2.154
	4	1.807	2.738

TYPE G-GC CABLE — 600 VOLT

AWG Size	No. Cond.	Dia. In.	Weight lb/ft
8	3	0.915	0.661
6	3	1.000	0.792
4	3	1.120	1.088
3	3	1.180	1.250
2	3	1.250	1.436
1	3	1.440	1.856
1/0	3	1.565	2.270
2/0	3	1.630	2.660

Refer to the National Electric Code for ampere ratings and other details.

Whenever possible, refer to specific manufacturer's information regarding cable or hose. If this information is not available, these charts are composites and may be used as guides to typical cable size and weights.

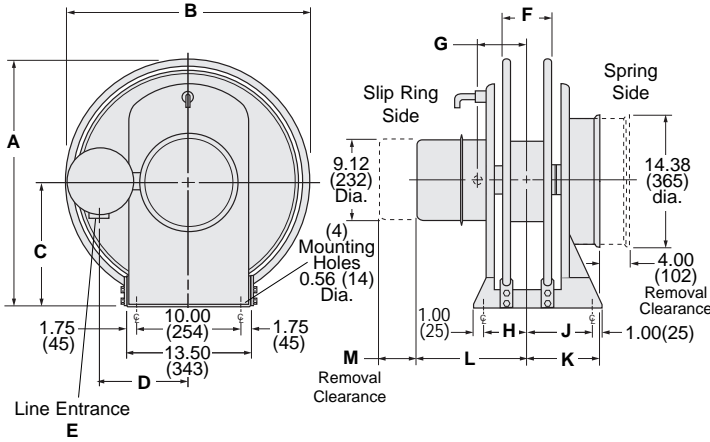
IMPORTANT:

If the reel will be paying out and retracting in a critical harsh environment and/or operating at a very high cycle rate, you may need premium cable. Premium cable is more costly, however, in a demanding environment it will help prevent premature system failures. Contact Gleason Reel for more details.

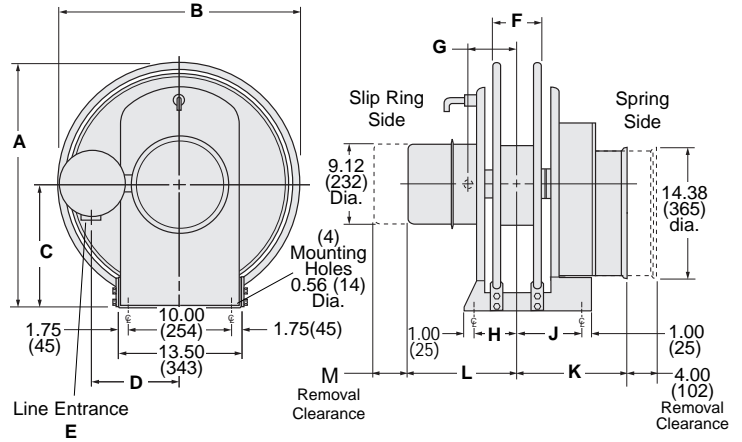
MMD Reel Dimensions

All dimensions in inches (mm). Weights in pounds (Kg.)

MMD Direct Drive Reels



MMD Gear Drive Reels



SERIES	A	B	C	D	E	F	G	H	J	SPRING MOTORS (Dimensions and Approximate Weights of Reel with Spring shown)							
										1001		1002		1003		1004	
										K	WGT.	K	WGT.	K	WGT.	K	WGT.
MMD 21 DIRECT DRIVE 21" dia. spool	24.34 (618)	23.68 (602)	12.50 (318)	9.75 (248)	1.50 NPT	6.12 (155)	5.75 (146)	5.25 (133)	5.25 (133)	8.50 (216)	195 (89)	11.88 (302)	255 (116)	15.25 (387)	315 (143)	18.62 (473)	375 (169)
MMD 21 GEAR DRIVE 21" dia. spool	24.34 (618)	23.68 (602)	12.50 (318)	9.75 (248)	1.50 NPT	6.12 (155)	5.75 (146)	5.25 (133)	5.25 (133)	13.50 (343)	220 (100)	16.88 (429)	280 (127)	20.25 (514)	340 (154)	23.62 (600)	400 (181)
MMD 24 DIRECT DRIVE 24" dia. spool	27.34 (694)	26.68 (678)	14.00 (356)	9.75 (248)	1.50 NPT	6.12 (155)	5.75 (146)	5.25 (133)	8.75 (222)	8.50 (216)	205 (93)	11.88 (302)	265 (120)	15.25 (387)	325 (147)	18.62 (473)	385 (175)
MMD 24 GEAR DRIVE 24" dia. spool	27.34 (694)	26.68 (678)	14.00 (356)	9.75 (248)	1.50 NPT	6.12 (155)	5.75 (146)	5.25 (133)	8.75 (222)	13.50 (343)	230 (104)	16.88 (429)	290 (132)	20.25 (514)	350 (159)	23.62 (600)	410 (186)
MMD 28 DIRECT DRIVE 28" dia. spool	31.34 (796)	30.68 (779)	16.00 (406)	11.12 (282)	2.00 NPT	8.12 (206)	6.75 (172)	6.25 (159)	9.75 (248)	9.50 (241)	220 (100)	12.88 (327)	280 (127)	16.25 (413)	340 (154)	19.62 (498)	400 (181)
MMD 28 GEAR DRIVE 28" dia. spool	31.34 (796)	30.68 (779)	16.00 (406)	11.12 (282)	2.00 NPT	8.12 (206)	6.75 (172)	6.25 (159)	9.75 (248)	14.50 (368)	250 (113)	17.88 (454)	310 (141)	21.25 (540)	370 (168)	24.62 (625)	430 (195)
MMD 32 DIRECT DRIVE 32" dia. spool	35.34 (898)	34.68 (881)	18.00 (457)	9.75 (248)	2.00 NPT	8.12 (206)	6.75 (172)	6.25 (159)	9.75 (248)	9.50 (241)	240 (108)	12.88 (327)	300 (135)	16.25 (413)	360 (162)	19.62 (498)	420 (189)
MMD 32 GEAR DRIVE 32" dia. spool	35.34 (898)	34.68 (881)	18.00 (457)	9.75 (248)	2.00 NPT	8.12 (206)	6.75 (172)	6.25 (159)	9.75 (248)	15.31 (389)	270 (122)	18.69 (475)	330 (149)	22.06 (560)	390 (176)	25.43 (646)	450 (203)

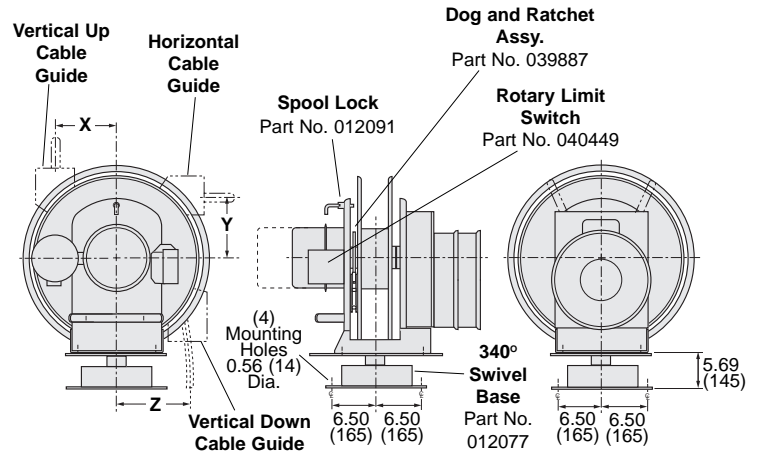
SLIP RING HOUSING DIMENSIONS

Slip Ring Model (Second Series of Digits in Model Number)	23	63	212	103	143	203	303
	33	83	220	123	163	243	363
	43	27	320	312	412		
		37	420				
"L" Dimension (Series 21 & 24)	15.00	17.50	20.00	22.50	27.50	35.50	
"L" Dimension (Series 28 & 32)	16.00	18.50	21.00	23.50	28.50	36.50	
"M" Dimension (All Series)	8.50	11.00	13.50	16.00	21.00	29.00	

CABLE GUIDE DIMENSIONS AND PART NUMBERS

REEL SERIES	VERTICAL UP CABLE GUIDE		HORIZONTAL CABLE GUIDE		VERTICAL DOWN CABLE GUIDE	
	X	STEEL ROLLERS P/N	Y	STEEL ROLLERS P/N	Z	STEEL ROLLERS P/N
MMD 21	6.38 (162)	034742	6.38 (162)	034742	10.12 (257)	034744
MMD 24	7.00 (178)	034742	7.00 (178)	034742	10.12 (257)	034744
MMD 28	8.12 (206)	034743	8.12 (206)	034743	10.12 (257)	034745
MMD 32	12.50 (318)	034743	11.75 (298)	034743	9.50 (241)	034745

OPTIONAL ACCESSORIES



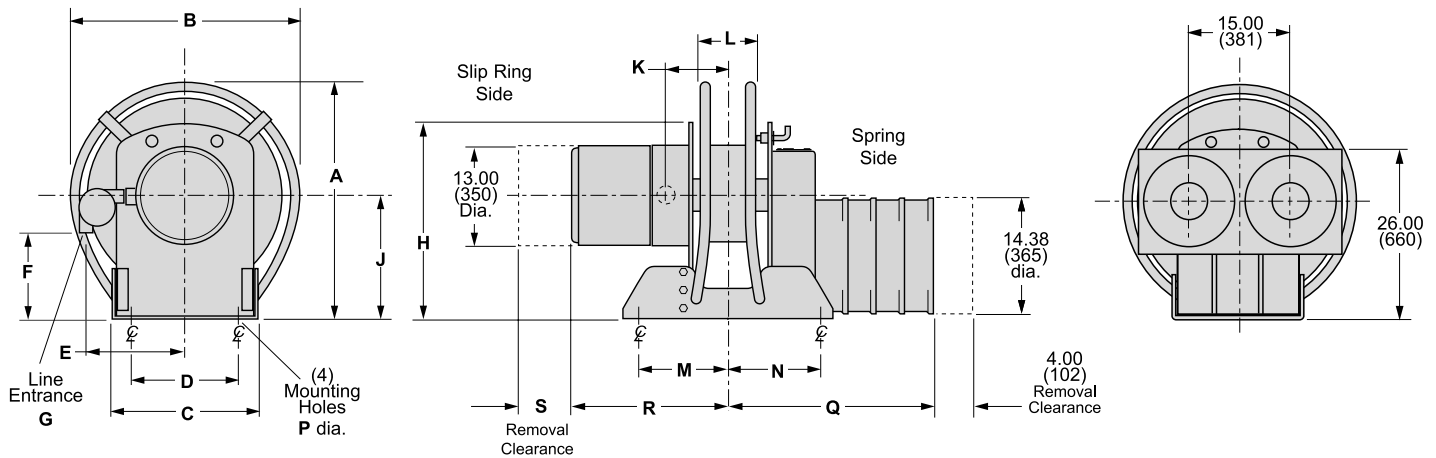
Cable Guides with Nylon Rollers mounted on Hoops are Part No. 015608 for horizontal, vertical and down on MMD 32 series reels.

SM Reel Dimensions

All dimensions in inches (mm). Weights in pounds (Kg.)

SM Gear Drive Reels

SM32 Gear Drive Reel Only



SERIES	A	B	C	D	E	F	G	H	J	K	L	M	N	P
SM 21 GEAR DRIVE 21" dia. spool	27.88 (708)	25.00 (635)	18.00 (457)	14.00 (356)	14.00 (356)	9.81 (249)	1.50 NPT	24.38 (620)	15.38 (391)	7.56 (192)	6.88 (175)	11.62 (295)	11.50 (292)	.81 dia. (21)
SM 24 GEAR DRIVE 24" dia. spool	29.38 (746)	28.00 (711)	18.00 (457)	14.00 (356)	14.00 (356)	9.81 (249)	1.50 NPT	24.38 (620)	15.38 (391)	7.56 (192)	6.88 (175)	11.62 (295)	11.50 (292)	.81 dia. (21)
SM 28 GEAR DRIVE 28" dia. spool	32.00 (813)	32.00 (813)	20.00 (508)	16.00 (406)	14.25 (362)	10.75 (293)	2.00 NPT	27.00 (686)	16.00 (406)	8.56 (218)	8.88 (226)	13.62 (346)	13.50 (343)	1.06 dia. (27)
SM32 GEAR DRIVE 32" dia. spool	36.00 (914)	36.00 (914)	20.00 (508)	16.00 (406)	14.25 (362)	12.75 (324)	2.00 NPT	29.00 (757)	18.00 (458)	8.56 (218)	8.88 (226)	13.62 (346)	13.50 (343)	1.06 dia. (27)

SPRING MOTORS

(Dimensions and Approximate Weights of Reel with Spring shown)

SERIES	1001		1002		1003		1004		1005		1006		1007		1008	
	Q	WGT.	Q	WGT.	Q	WGT.	Q	WGT.	Q	WGT.	Q	WGT.	Q	WGT.	Q	WGT.
SM 21 GEAR DRIVE 21" dia. spool	14.88 (378)	395 (179)	18.25 (464)	460 (209)	21.62 (549)	525 (238)	25.00 (635)	590 (268)	na -	na -	na -	na -	na -	na -	na -	na -
SM 24 GEAR DRIVE 24" dia. spool	14.88 (378)	405 (184)	18.25 (464)	470 (213)	21.62 (549)	535 (243)	25.00 (635)	600 (272)	na -	na -	na -	na -	na -	na -	na -	na -
SM 28 GEAR DRIVE 28" dia. spool	15.88 (403)	480 (218)	19.25 (489)	545 (247)	22.62 (575)	610 (277)	26.00 (660)	675 (306)	na -	na -	na -	na -	na -	na -	na -	na -
SM32 GEAR DRIVE 32" dia. spool	15.88 (403)	550 (250)	19.25 (489)	600 (272)	22.62 (575)	650 (295)	26.00 (660)	700 (318)	22.62 (575)	800 (363)	22.62 (575)	850 (386)	26.00 (660)	930 (422)	26.00 (660)	980 (445)

SLIP RING HOUSING DIMENSIONS

Slip Ring Model
(Second Series
of Digits
in Model Number)

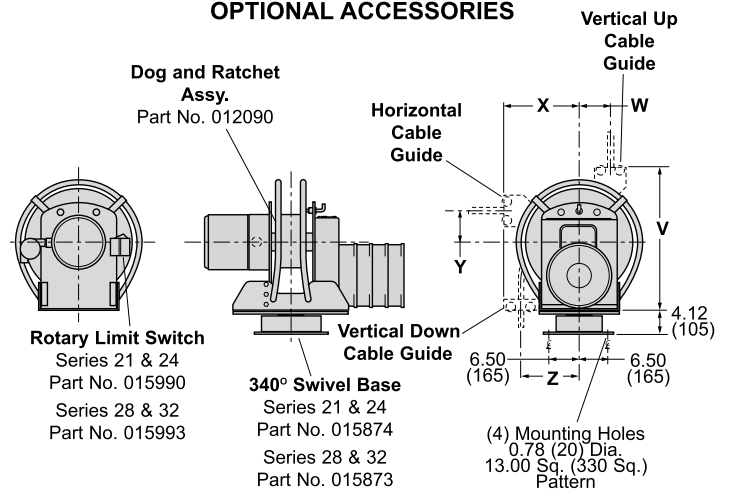
23	27	103	143	320
33	37	123	163	420
43	47	312	220	
63	212	412		
83				

"R" Dimension (Series 21 & 24)	20.75(527)	23.75(603)	25.75(654)	30.25(768)
"R" Dimension (Series 28 & 32)	21.75(553)	24.75(629)	26.75(680)	31.25(794)
"S" Dimension (Series 21 & 24)	11.75(299)	14.75(375)	16.75(426)	21.25(540)
"S" Dimension (Series 28 & 32)	13.75(349)	16.75(426)	18.75(476)	23.25(591)

CABLE GUIDE DIMENSIONS AND PART NUMBERS

REEL SERIES	VERTICAL UP CABLE GUIDE			HORIZONTAL CABLE GUIDE			VERTICAL DOWN CABLE GUIDE	
	W	V	Part No.	X	Y	Part No.	Z	Part No.
SM 21	6.38 (162)	31.38 (797)	015988	17.00 (432)	6.38 (162)	015988	14.25 (362)	015989
SM 24	7.00 (178)	33.38 (848)	015988	18.00 (457)	7.00 (178)	015988	14.25 (362)	015989
SM 28	8.25 (210)	35.50 (902)	015991	19.50 (495)	8.25 (210)	015991	15.25 (387)	015992
SM 32	9.38 (236)	35.75 (984)	015991	20.75 (527)	9.38 (236)	015991	15.25 (387)	015992

OPTIONAL ACCESSORIES



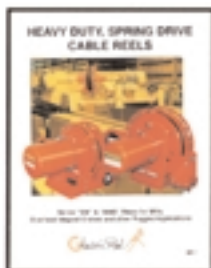
Cable Management

Since 1911, Gleason Reel Corp. has been in the business of CABLE MANAGEMENT. Our products are designed to convey and protect valuable cables and hoses that power and control moving machines of all types. They improve productivity and safety on the job by moving cables and hoses away from hazardous locations on machinery or the shop floor into a controlled environment. Whether you choose Reels for efficient storage and payout from virtually any angle, Festoon Systems for overhead applications or PowerTrak® for protection on machinery in motion, your cables and/or hoses will last longer and provide better service with a cable management system from **Gleason Reel Corp...**

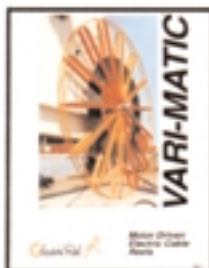
...The Cable & Hose Management Company!



Bulletin "CR"
Heavy Duty
Spring Driven
Electric Cable Reels
General Industrial



Bulletin "MR"
Extra Heavy Duty
Spring Driven
Electric Cable Reels
Demanding Service



Bulletin "VMR"
Large Retrieving
Motor Driven
Electric Cable Reels
Heavy Duty Industrial



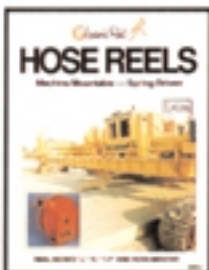
Bulletin "RET"
Long Travel Length
Motor Driven
Electric Cable Reels
Standard Industrial



Bulletin "PSR"
Lifting & Lowering
Motor Driven
Electric Cable Reels
Push-Button Reels



**Cable and Hose Reels
for Emergency Vehicles**
Specialty Reels



Bulletin "HRM"
Various Types
Spring Driven
Hose Reels
General Industrial



Bulletin "SR"
Slip Rings
Unitized Design
Low & High Amperage
Low & Medium Voltage



Bulletin "PTG"
Non-Metallic
Cable Chain
For Hose & Cable
Lightweight, Economical



Bulletin "PT"
Rugged Steel
Cable Chain
For Hose & Cable
Standard & Mill Duty



Bulletin "FC"
Rugged Steel
C-Rail Mounted
Festoon Systems
General Industrial



Bulletin "FB"
Heavy Duty
I-Rail Mounted
Festoon Systems
Heavy Duty Port Types



A Hubbell Company

Gleason Reel Corp.

600 South Clark St.
Mayville, Wisconsin 53050-0026
Phone: 920-387-4120
Fax: 920-387-4189

In your area contact:

Printed in U.S.A. ©Copyright GLEASON REEL CORP., 2001
Bulletin MR-1