

MOTORISED CABLE REELING DRUMS



ELECON 

Always a step ahead in technology

INTRODUCTION :

Elecon is an organization of international reputation in the field of Material Handling Equipments and power Transmission Equipments for all core sector industries and also manufacture Motorised Cable Reels for all types of mobiles material handling equipments. With the Synergy of state-of-art design and development, manufacturing Facilities, and strict quality control, we deliver the Cable Reels that provides complete satisfaction to the customer in entire span of its operational life.

Elecon Range of Products for Power and Control Supply

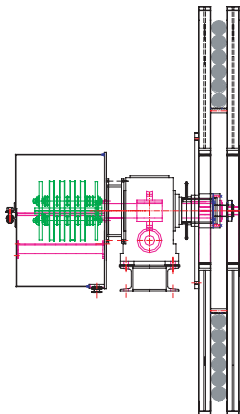
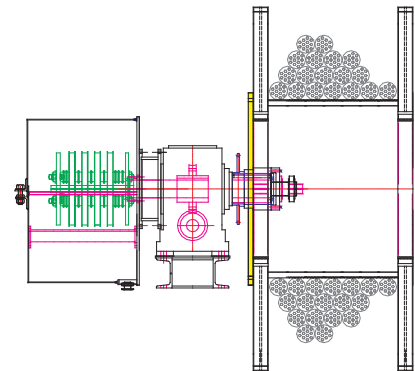
- 1)Contorq Type Motorised Cable Reeling Drums.
- 2)Stall Torque Motor Operated Cable Reeling Drums.
- 3)Motor Operated Cable Reeling Drums With VVVF Control/Logic.

Types of Cable Reeling Drums.

Mainly Cable Reeling Drums are classified on base of cable laying on the drums.

Cable Reel - " R " Random Lay

In this type cable laying on drum is very random type as represented in drawing. While adopting this type Cable Reel care should taken for cable sizing considering Recommended de-rating factor.

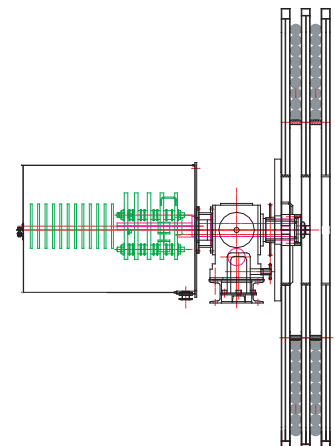


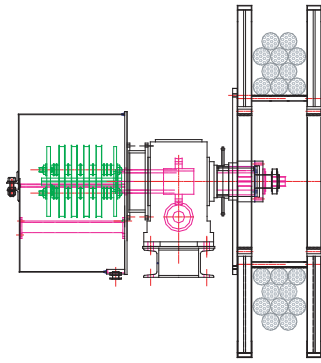
Cable Reel - " M " Monospiral / Radial Lay

This type of Reel having controlled reeling of all types of cable and recommended for the moving equipment having high travel speed and high acceleration. In this type of Reels, Cable having more exposed area in air and hence, having lowest cable de-rating factor for cable sizing selection and allowing consideration of lighter cable construction.

Cable Reel - " DM " Dual Monospiral Lay

This type of Reel having controlled reeling of power and control cables and recommended for the moving equipments having high travel speed and high acceleration. In this type of Reel, Cable having more exposed area in air and hence, having lowest cable de-rating factor for cable sizing selection and allowing consideration of lighter cable construction and more economical.



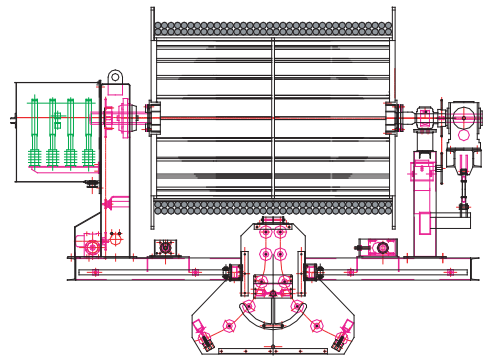


Cable Reel - " S "3/2 Lay

The 3/2 layering method is a compromise between Monospiral and Random lay reels, and exploits a natural phenomenon of cable layering which allows a controlled laying without a separate layering mechanism and hence, having the lowest cable de-rating factor for cable sizing selection and sizing consideration of lighter cable construction.

Cable Reel - " P "Parallel Lay

This type of Reel has advantages in terms of keeping low tension in cables and is recommended for equipment having moderate speed. Although this type is generally more expensive than Monospiral Reel. This type of Reel is normally adopted for longer cable length, where reel inertia could be a problem. There is virtually no limit to the length of cable that can be reeled on this type of Reel. The Drive has an enclosed chain and sprockets driven layering mechanism and hence is also recommended for equipments of coal, bauxite and iron ore industries. These types of Reel will be normally designed for 1, 2 or even 3 layers of winding of cables.



Elecon Contorq Cable Reeling Drum.

Feature:

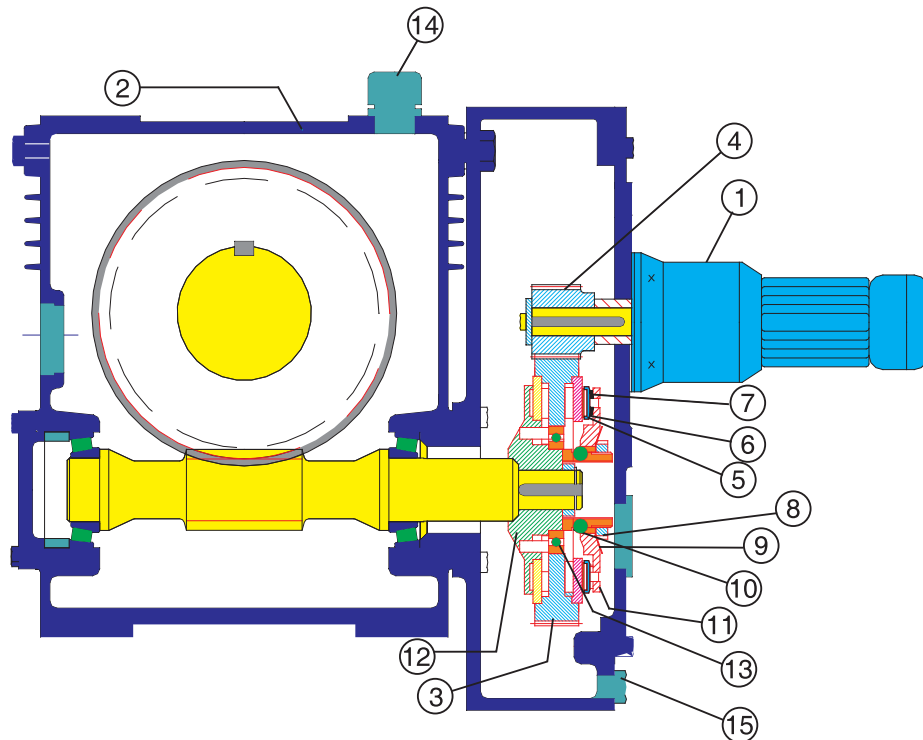
Elecon standard Cable Reeling Drums are provided with Contorq type Drive Unit. It consists of Geared Motor with in-built brake, Contorq Unit and Worm Gear Unit. Contorq type drive unit has been developed after extensive research and design development processes to provide a low cost, maintenance free solution to Cable and Hose reeling application.

Cable Reeling Drums having Contorq drive are simple in construction and use standard squirrel cage induction motor or D.C, Air or Hydraulic type prime movers. Contorq drive units are also suitable to flame proof or marine specification motor.

These Units are modular design of construction among the various models. The design is such that it produces less tension in cable compared to other types of drives like torque motor or stalled torque motor. Drives have totally enclosed torque transmission and sealed bearings are used. It can easily replace other forms of drives on existing Cable Reels with minimum modification and with lowest cost.

The contorq drive units having slipping interfaces surfaces immersed in oil, which works as coolant and frictional media. The Contorque drive units are rated for continuous duty and have the feature of torque adjustment as per actual requirement. The Lubricant used is a synthesized hydrocarbon type, offering the advantages of low coefficient of friction and suitable for temperature range of (-) 40 to (+) 160 degree Celsius.

CONTORQ DRIVE



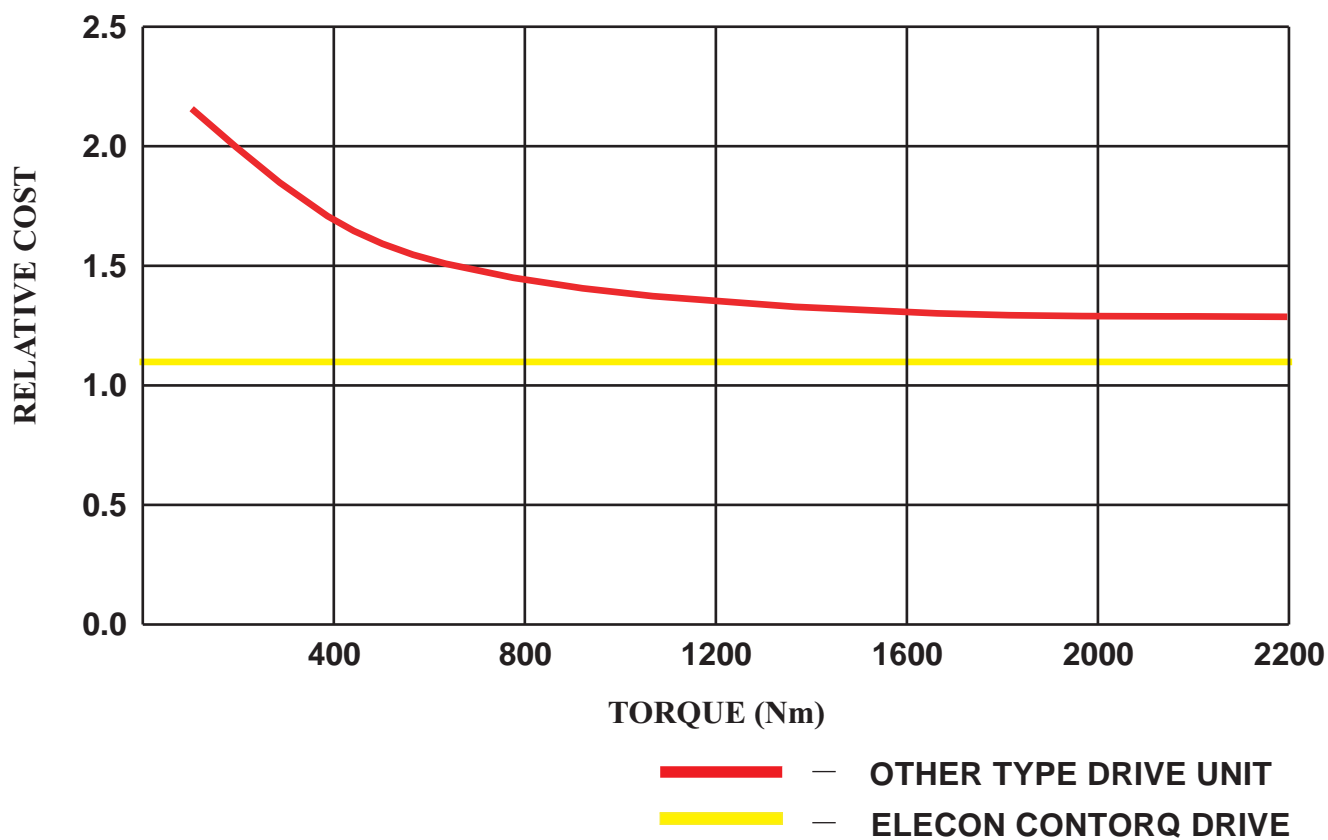
CROSS VIEW OF CONTORQ DRIVE OPERATION

MAIN PARTS OF CONTORQ DRIVE UNIT

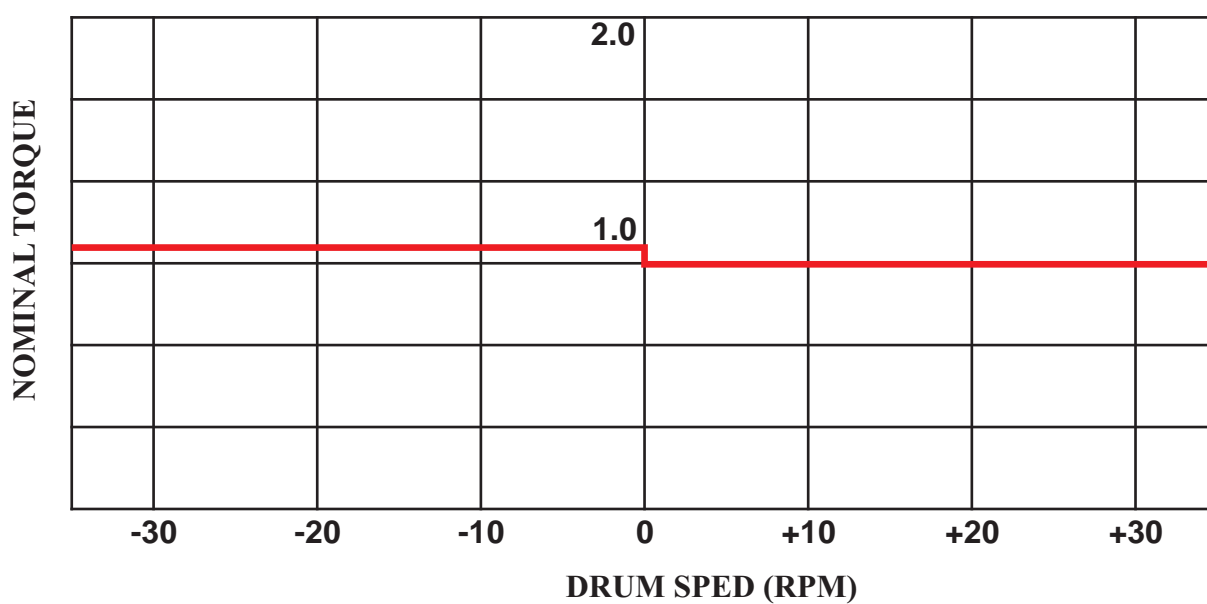
- 1) GEARED MOTOR (SQUIRREL CAGE TYPE MOTOR)
- 2) WORM GEAR UNIT (SPEED REDUCER).
- 3) GEAR WHEEL
- 4) PINION
- 5) FRICTION DISCS
- 6) OUTER THRUST RING
- 7) DISC SPRINGS
- 8) LOCK NUT
- 9) LOCK WASHER
- 10) ROLLER BEARING
- 11) BLOCK
- 12) DRIVE HUB
- 13) BALL BEARING
- 14) BREATHER PLUG
- 15) DRAIN PLUG

In the contorq drive unit, represented in the sectional drawing, the slipping surfaces works as clutch, which allows the constant output torque as per the requirement during winding and unwinding operation of Cable on Reel. Gear Wheel(3) is fitted on worm shaft of Gear Unit. The Pinion(4) is fitted on Geared Motor shaft. The Friction Discs(5) are made of synthetic (plastic) material are mounted in Rings(6) arranged on circumferentially. While Rotating an oil film is created between matching surfaces and slip generated between surfaces and thus transmitting the torque from Wheel to drive hub fitted on worm shaft of Gear Unit.

Cost-efficiency of the Contorq Drive Units.



Slip / torque diagram



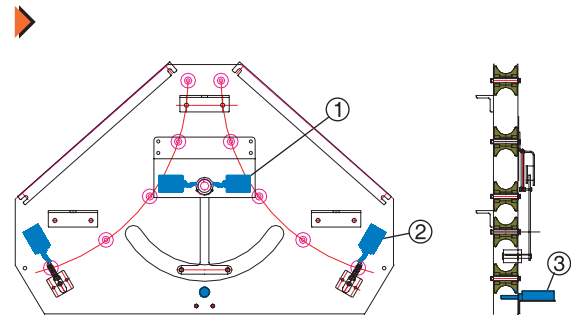
Sizes of Contorq Drives.

Following types of drive units are available to offer the demanding requirement of cable Reeling application of today's material handling equipments.

Drive Name	Torque Rating (Maximum) in Nm	Power consumption in Watts	Maximum Speed in RPM	Permissible Overhung load in Kgs.
CT40BST	170	400	60	1200
CT40BHT	500	400	60	1200
CT60BST	395	800	40	2000
CT60BHT	1185	800	40	2000
CT80BHT	1350	1000	40	3800
CT60BHT DUAL	2370	1600	40	2000
CT80BHT DUAL	2700	2000	40	3800

Cable Reel Accessories.

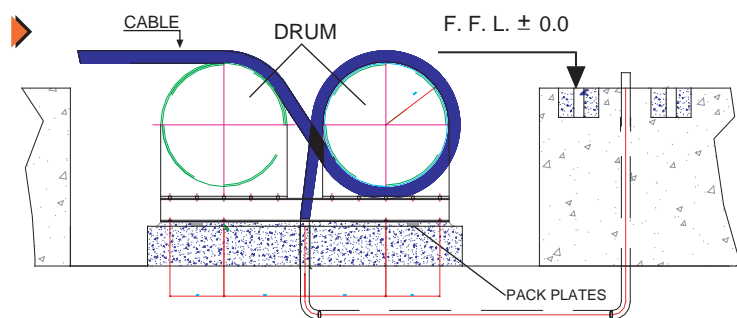
1- Cable Guides and Control Switches.



Elecon Cable Reeling Drums are supplied with Cable Guide of radius R600, R800 and R1000 of fixed type for Monospiral Reels and Moving type for Parallel Cable Reel.

The Roller Guides are equipped with Directional sensor switches(1), Over tension switches (2) and Under tension switch(3). Geared Rotary switch is provided on Reels for sensing travel ends, central position of machine during travels.

2- Cable Anchoring Device.



Elecon Cable Reeling Drums are also supplied with Cable Anchoring Device, If specifically mentioned in the order. This device is to be installed in pit at supply feed point. This device, anchor the cable as per design requirement considering cable safety.

Advantages

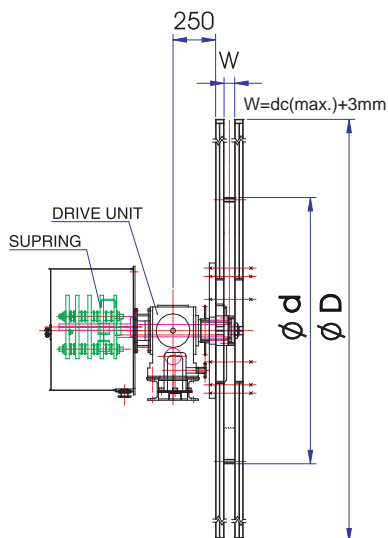
- ✎ Highest quality product & prompt services.
- ✎ Use of Standard AC, DC, Air or Hydraulic motor as prime mover.
- ✎ Elecon contorq drive unit is specifically designed for cable reeling application. It provides required torque at reel and it slips when specific torque requirement exceed during operation.
- ✎ Slip/Clutch unit is removable or adjustable without disturbing slipping or cable.
- ✎ The design substantially reduces tension in the reeled cable compared with other forms of drives.
- ✎ Simple constructions.
- ✎ Totally enclosed transmission drives & fully sealed antifriction bearings with seals are used for reels.
- ✎ Modular constructions and only 4 types contorq drive units used in our reels & mostly CT-60 BST is suitable for majority of applications.
- ✎ Our reels are designed to accommodate any range of slippings and brush gears.
- ✎ Can replace other form of reel including stall torque drive unit.

Benefits

- ✎ Satisfactory performance and our service available to our customer everywhere.
- ✎ Low cost immediate delivery, No replacement problem.
- ✎ Power consumption is very less & normally 0.55 kw to 1.1 kw motors are used. This drive unit needs power in winding operation only. Cable reel with a stall torque drive required prime mover of 3.7 kw to 7.5 kw & torque adjustment is achieved by variation of resistance in resistance box.
- ✎ Easy access for maintenance & torque adjustment.
- ✎ Smaller cable and longer cable life resulting further cost saving.
- ✎ Serviced or torque adjustment can be done by semi skilled labour if required.
- ✎ Suitable for use in any processing plant including iron ore & chemical industries or in hazardous area and on ship board.
- ✎ Very less spare requirement.
- ✎ Combination of cores sizes and quantities can be readily accommodated, in standard reels.
- ✎ Standardization of contorq on any site with other benefits guaranteed in our drives.

Monospiral Power Cable Reeling Drums.

Contorq Drive Unit Type-CT-60 BST / CT-60 BHT / CT-80 BHT
Drive : Geared Motors-0.55 KW/0.75 KW / 1.1 KW

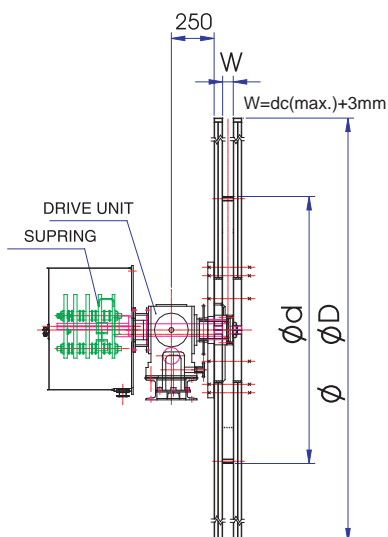


Drum Dimensions mm			Monospiral (Radial) Reel							
d	D	Designation of Reel	Capacity(metres)							
800	1600	0816M-P	55							
800	2200	0822M-P	140							
800	2500	0825M-P	195							
1200	2800	1228M-P		86			86			
1200	3100	1231M-P		111			103			
1200	3500	1235M-P		153			151			
1500	3500	1535M-P			107	114				
1500	3800	1538M-P			139	145				
2000	3800	2038M-P						98	98	93
2000	4300	2043M-P						143	143	138
2000	4700	2047M-P						183	183	173
2000	5000	2050M-P						213	213	208

Power cable Specification.										
These tables only give an indication of general capacity and size. Always ask Elecon for specific design recommendation and quotation on base of actual application.	Cable size	mm^2	3Cx	3.5Cx	4Cx	3.5Cx	3.5Cx	4Cx	3.5Cx	3.5Cx
			6	50	16	95	70	25	120	150
	Outer dia	mm	18	46	58.5	54	46.5	65	65	68
	*Amperage rating	Amp	50	190	93	282	234	123	329	378
	Weight	kg/m	0.6	3.7	4.5	6.5	3.9	5.6	6.9	9.2
POWER SLIPRING SPECIFICATION										
	Slip Ring Type		3P+E	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E
	Amperage rating	Amp	400	400	400	400	400	400	400	400
	Cable amperage indicated are at 40 degree celsius									
	Drive Motors and Contorg Drives are adopted on base of torque requirement.									

Monospiral power + control cable reeling drum

Contorq Drive Unit Type-CT-60 BST / CT-60 BHT / CT-80 BHT
Drive : Geared Motors-0.55 KW/0.75 KW / 1.1 KW

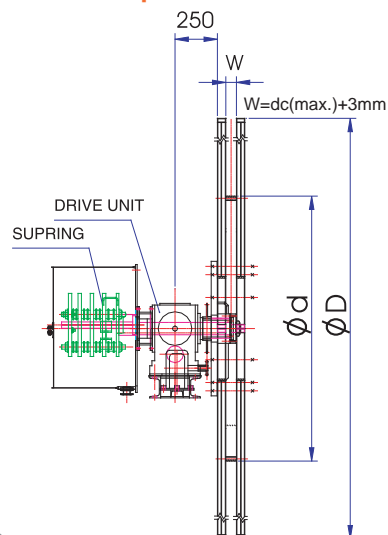


Drum Dimension mm			Monospiral (Radial) Reel							
d	D	Designation of Reel	Capacity(metres)							
800	1600	0816M-PC	30							
800	2200	0822M-PC	70							
800	2500	0825M-PC	100							
1200	2800	1228M-PC	112	98	83					
1200	3100	1231M-PC	157	123	108					
1200	3500	1235M-PC	207	163	158					
1500	3500	1535M-PC				105				
1500	3800	1538M-PC				130				
2000	3800	2038M-PC				108				
2000	4300	2043M-PC				153	143	133	133	118
2000	4700	2047M-PC				193	188	163	163	128
2000	5000	2050M-PC				223	213	193	193	133

Power + Control cable										
These tables only give an indication of general capacity and size. Always ask Elecon for specific design recommendation and quotation on base of actual application.	Cable size	mm ²	4Cx4+ 12Cx2.5	4Cx10+ 15Cx1.5	4Cx10+ 12Cx2.5	3.5Cx70+ 12Cx2.5+	3.5Cx70+ 12Cx2.5+	3.5Cx120+ 16Cx2.5+	3Cx185+ 2Cx95+	3.5Cx120+ 12Cx1.5+
	Outer dia	mm	34	42.5	46	62	66	70.5	71.3	77
	*Amperage rating	Amp	38/25	69/25	69/25	234/25	234/25	329/25	432/25	329/25
	Weight	kg/m	1.42	2.31	2.4	8.3	9	8.2	10.16	9.6
	POWER + CONTROL SLIPRING SPECIFICATION									
	Power Slip Ring Type		3P+E	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E
	Control Slip Ring Type		12P	15P	12P	12P+4P	12P+6P	16P+4P	6P	12P+4P
	Amperage(power)	Amp	400	400	400	400	400	400	400	400
	Amperage(control)	Amp	25	25	25	25+25	25+25	25+25	25	25+25
* Cable amperage indicated are at 40 degree celsius										
** Contorq Drive and its combinations are adopted on base of torque requirement.										

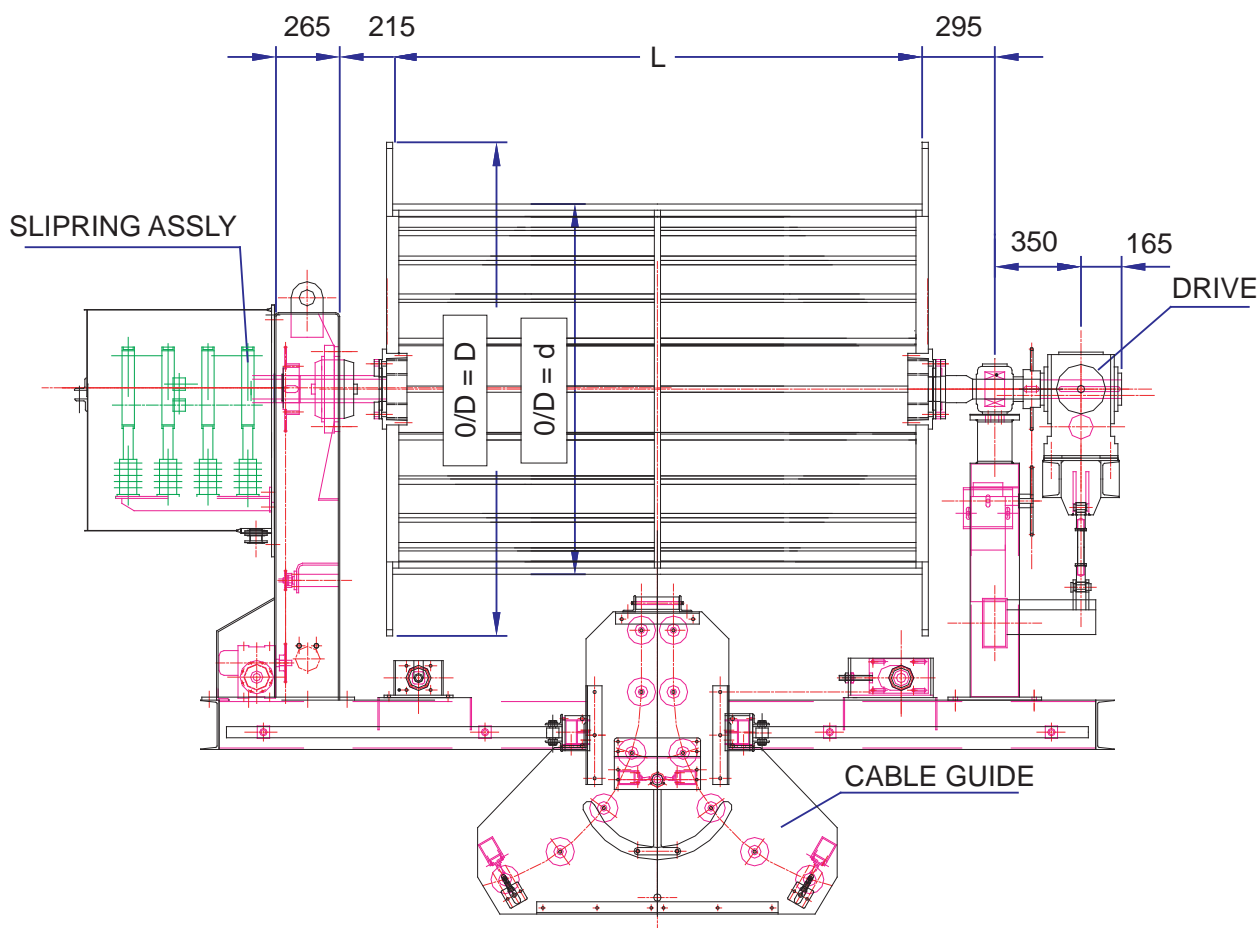
Monospiral control cable reeling drum

Contorq Drive Unit Type-CT-60 BST / CT-60 BHT / CT-80 BHT
Drive : Geared Motors-0.55 KW/0.75 KW / 1.1 KW



Drum Dimension mm			Monospiral (Radial) Reel							
d	D	Designation of Reel	Capacity(metres)							
800	1600	0816M-C	40							
800	2200	0822M-C	105	75	75	75	75			
800	2500	0825M-C	140	105	105	105	105			
1200	2800	1228M-C	157	107	107	107	107	103	78	78
1200	3100	1231M-C	198	147	147	147	147	138	98	98
1200	3500	1235M-C	272	197	197	197	197	188	143	143
1500	3500	1535M-C						169	129	129
1500	3800	1538M-C						209	159	159

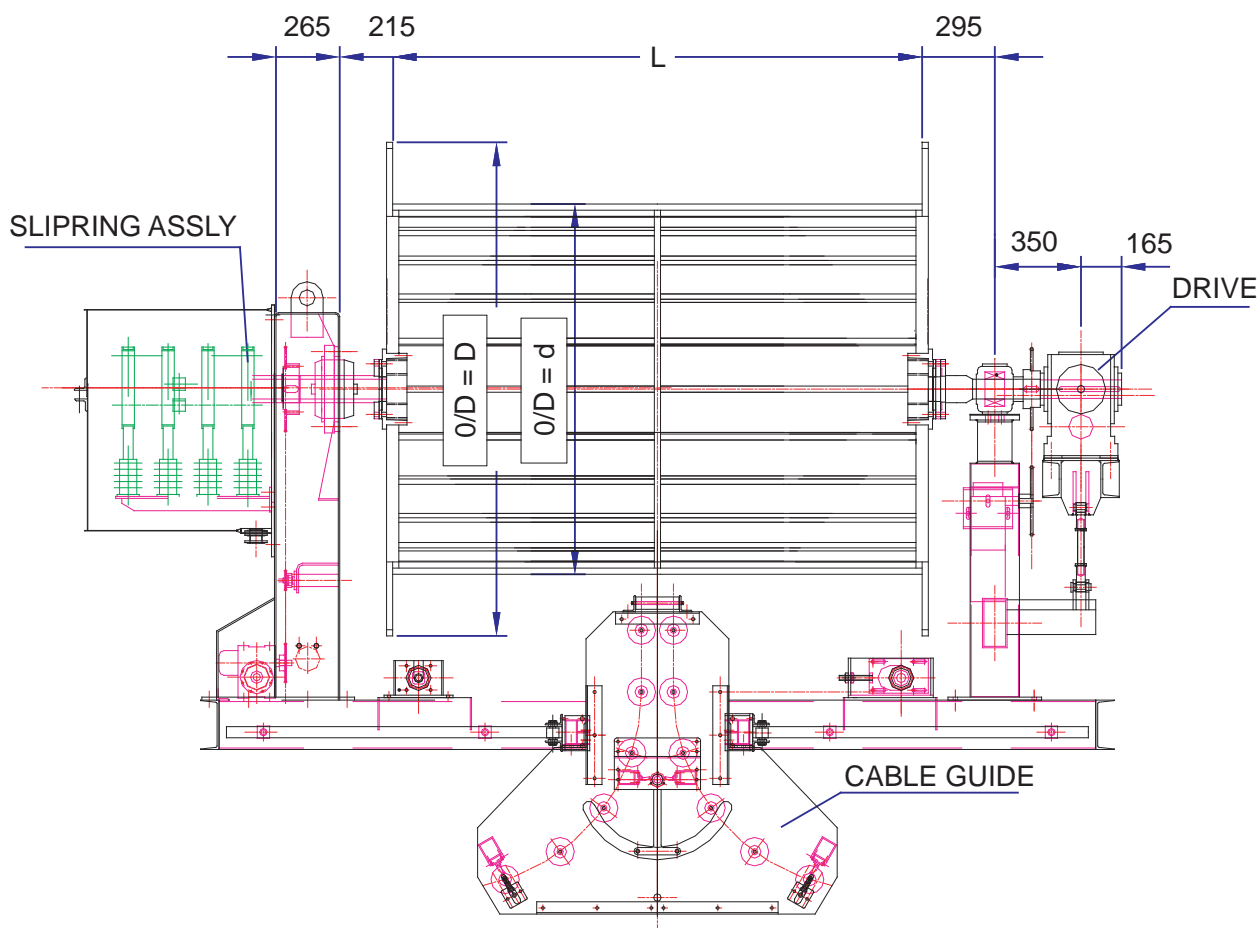
Control cable										
These tables only give an indication of general capacity and size. Always ask Elecon for specific design recommendation and actual application.	Cable size	mm ²	12Cx2.5	18Cx1.5+ 4Cx1.5	12Cx2.5+ 4Cx1.5	12Cx2.5+ 4Cx2.5	12Cx2.5+ 6Cx1.5	16Cx2.5+ 12Cx1.5	12Cx2.5+ 8Cx1.5	19Cx2.5+ 16Px1.5
	Outer dia	mm	26	35	35	35.5	35	39	50	50
	Amperage rating	Amp	25	25	25	25	25	25	25	25
	Weight	kg/m	0.85	1.64	1.42	1.6	1.6	2	2.33	2.33
	CONTROL SLIPRING SPECIFICATION									
	Slip Ring Type		12P	18P+4P	12P+4P	12P+4P	12P+6P	16P+12P	12P+8P	18P+E+16P
	*Amperage rating	Amp	25	25	25	25	25	25	25	25
* Cable amperage indicated are at 40 degree celsius										
** Contorq Drive and its combinations are adopted on base of torque requirement.										



Parallel Power Cable Reel.

PARALLEL POWER CABLE REELING DRUM
 CONTORO DRIVE CT-60 BST / CT-60 BHT / CT-80 BHT
 Drive: Geared Motors-0.55 KW/0.75 KW / 1.1 KW

Reel Dimension mm			Parallel Cable Reeling Drum.									
d	D	L	Designation of Reel	Capacity(metres)								
1500	2000	1000	152010P-P	180	170	166	139	138	134	127		
1500	2000	1250	152012P-P	232	215	211	177	176	171	162		
1500	2000	1500	152015P-P	280	260	255	215	214	208	196		
1500	2000	1750	152017P-P	330	305	301	253	252	245	231		
1500	2000	2000	152020P-P	380	352	346	292	289	281	266		
1500	2000	2250	152022P-P	429	398	391	330	327	318	301		
1500	2000	2500	152025P-P	478	442	435	368	365	355	336		
2000	2500	1500	202515P-P	370	342	336	280	280	272	257	234	230
2000	2500	1750	202517P-P	434	402	395	329	329	320	302	276	271
2000	2500	2000	202520P-P	499	462	454	379	379	368	348	318	312
2000	2500	2500	202525P-P	628	582	571	477	477	464	439	401	394
2000	2500	3000	202530P-P	758	702	689	576	576	560	529	484	475
These tables only general capacity and size. Always ask Elecon for specific design recommendation and quotation on base of actual application.			cable specification									
			Cable size mm ²	3Cx35+	3Cx16	3.5C	4Cx16	3Cx70+	4Cx25	4Cx50	3.5C	3Cx95
			Outer dia mm	3Cx35/3	3Cx16/3	70		3Cx35/3			185	1Cx50
				46	50	51	61.5	62	64	68	75	76.5
			*Amperage rating Amp	152	93	234	93	234	123	190	432	282/190
			Weight kg/m	2.8	3	4.33	4.9	6	5.34	5.5	6.94	8.75
			slipring specification									
			Slip Ring Type	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E	3P+E
			Amperage rating Amp	400	400	400	400	400	400	400	400	400
* Cable amperage indicated are at 40 degree celsius												
** Contorq Drive and its combinations are adopted on base of torque requirement.												



Parallel Power + Control Cable Reel.

PARALLEL CONTROL AND POWER+CONTROL CABLE REELING DRUM

CONTORQ DRIVE CT-60 BST / CT-60 BHT / CT-80 BHT

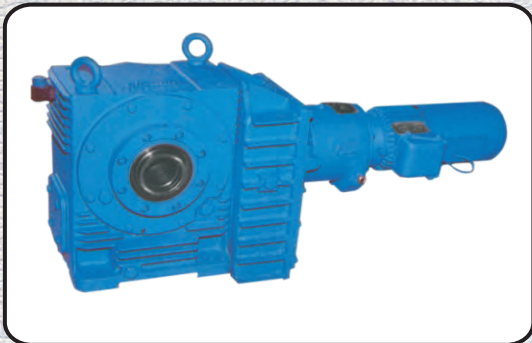
Drive: Geared Motors-0.55 KW/0.75 KW / 1.1 KW

Reel Dimension mm			Parallel Cable Reeling Drum.									
d	D	L	Designation of Reel	Capacity in Metres.								
1500	2000	1000	152010P-C	235	213	201	190	169	157			
1500	2000	1250	152012P-P	298	270	255	241	215	200			
1500	2000	1500	152015P-C	360	327	309	293	260	243			
1500	2000	1750	152017P-C	423	384	363	344	306	285			
1500	2000	2000	152020P-C	486	441	417	395	352	328			
1500	2000	2250	152022P-C			471	446	398	371			
1500	2000	2500	152025P-C			525	498	443	413			
2000	2500	1500	202515P-P+C							232	226	
2000	2500	1750	202517P-P+C							273	266	
2000	2500	2000	202520P-P+C							314	306	
2000	2500	2500	202525P-P+C							396	387	
2000	2500	3000	202530P-P+C							478	467	
Cable Specification.												
Cable size mm ²		12Cx2.5+4Cx1.5	14Cx1.5+6Cx1.5	16Cx2.5+6Cx1.5	16Cx2.5+4Cx1.5	16Cx2.5+12Cx1.5	19Cx2.5+16Cx1.5	30Cx2.5+6Cx2.5	3.5Cx150+12Cx1.5+4Cx1.5	3.5Cx185+12Cx2.5+4Cx2		
Outer dia mm		35	37	39	41.5	44	50	52	76	78		
*Amperage rating Amp		25	25	25	25	25	25	25	400/25	400/25		
Weight kg/m		1.42	1.8	2	2.26	2.43	2.71	3.66	3.66	3.66		
Slip Ring Specification.												
Slip Ring Type		12P+4P	14P+6P	19P+12P	19P+4P	16P+12P	19P+16P	30P+6P	30P+6P	30P+6P		
Amperage rating Amp		25	25	25	25	25	25	25	400/25	400/25		
* Cable amperage indicated are at 40 degree celsius												
** Contorq Drive and its combinations are adopted on base of torque requirement.												

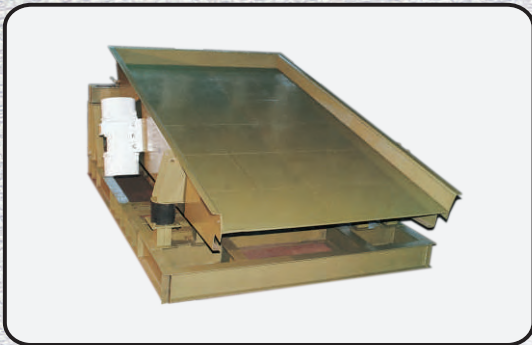
DESIGN DATA FOR CABLE REELING DRUMS

1	CUSTOMER'S NAME AND ADDRESS	:	
2	CONTACT NO. AND EMAIL ID	:	
3	MACHINE DESCRIPTION.	:	
4	TRAVEL LENGTH OF M/C. (MTRS.)		MTRS.
5	LOCATION OF FEED POINT (I.E. AT CENTRE OR AT THE END)	:	
6	TRAVEL SPEED OF M/C. (MTR./MIN)	:	(a) M/MIN – MINIMUM (Operational) (b) M/MIN - MAXIMUM (Idle)
7	ACCELERATION OF M/C. (M/Sec ²)	:	TIME FROM REST TO MAXM. SPEED
8	CABLE PAYOUT LOOKING FROM SLIPRING SIDE (R.H./L.H.) FOR PARALLEL CABLE REELING DRUM	:	
9	MOUNTING HEIGHT OF CRD (I.E. CENTRE OF REEL TO CABLE TRAY OR GROUND) (MM)	:	
10	CABLE DETAILS A. CABLE SIZE (NO. OF CORES AND AREA OF CORES) B. GRADE OF CABLE C. CABLE DIAMETER (MM) D. WEIGHT OF CABLE (KG/MTR) E. BENDING RADIUS OF CABLE F. SAFE PULLING TENSION OF CABLE (NM) G. LENGTH OF CABLE ON DRUM (WITHOUT DEAD TURNS) H. NO. OF DEAD TURNS OR EXTRA LENGTH.	:	
11	NO. OF LAYERS ON DRUM FOR PARALLEL CABLE REELING DRUM	:	
12	AMBIENT TEMP. (DEG. CEL.)	:	
13	DUTY CYCLE MAXIMUM REELING TIMES IN 12 HOURS.	:	
14	TYPE OF CRD (PARALLEL / MONO SPIRAL)	:	
15	NOTES/ SPECIAL REQUIREMENT OR SPECIFICATIONS.	:	

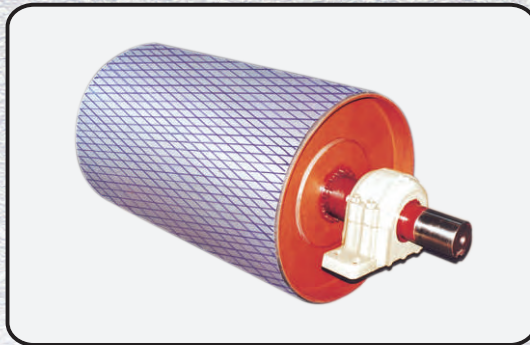
6 nup/nur nud contorq gear unit



Idlers



Vibrating Feeder



Pulley

MARKETING & SERVICING COMPANY



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