

TDY 型 油 冷 式 电 动 滚 筒
TDY TYPE OIL-COOLED MOTORIZED DRUM

使 用 说 明 书

(2008 版)

OPERATION MANUAL (VERSION 2008)

特别敬告

Cautions:

1. 本滚筒内无冷却润滑油，用户在滚筒运转前按使用说明书4.2条加注润滑油；
Customers should add oil into the drum according to manual's item 4.2 before operation because there is no cooling oil inside the drum.
2. 配置逆止器的滚筒，在接电源前必须阅读本使用说明书4.4条的内容；
You should read carefully manual's item 4.4 before wiring the power to the stop-reverse drum.
3. 本说明书适用于直径 $\phi 320\sim\phi 800$ 的油冷式电动滚筒。
This manual is suitable for oil-cooled motorized drum of $\phi 400\sim\phi 800$.

桐乡市梧桐东方齿轮厂
TongXiang City WuTong Oriental Gear Factory

目 录

Contents

1.前言	
Preface	1
2.TDY型电动滚筒用途及注意事项	
Purposes and use cautions	1
3.TDY型电动滚筒结构简介	
A brief structure introduction	1
4.TDY型电动滚筒的安装、使用方法	
Installation and directions	2
5.TDY型电动滚筒的维护与修理	
Daily maintenance and services	5
附录1:油冷式电动滚筒系列参数表	
Appendix 1: Parameter list of TDY motorized drum series …	7
附录2:油冷式电动滚筒外形安装尺寸表	
Appendix2:External mounting size table of TDY drums	9
附录3:订货需知	
Appendix3:Order notes	10
附录4:滚动轴承与骨架橡胶油封表	
Appendix4:Bearings and framework oil seal table	12

1 前 言

Preface

TDY型油冷式电动滚筒是胶带输送机的一种新型驱动装置，与电机——减速器形式的传动装置比较有明显的优点，由于电动滚筒是驱动电机与减速器连成一体装入滚筒体内，所以，它的结构紧凑、安装安全、操作方便、外形美观，近年来在输送机械中得到广泛的应用。

TDY model oil-cooled motorized drum is a new type driving equipment for belt conveyer, which contains an integrated unit of motor and reducer. In contrast to the motor & reducer driving system, it has obvious advantages such as compact structure, easy installation, safe operation and good outline, widely used in conveyer mechanics in recent years.

2.TDY型电动滚筒用途及使用注意事项

Purposes and use cautions

2.1 TDY型油冷式电动滚筒系全密封型，可满足露天、室内、各种粉尘及潮湿场合使用，但不适用于有防爆要求的场所。

TDY model hermetic motorized drum can be applied to such occasions as outdoor, indoor, dusty and damp sites except explosion-proof ones.

2.2 TDY型油冷式电动滚筒内部采用特种电动机，为全密封结构。滚筒的使用环境温度为—20^oC~40^oC,使用地点一般不超过1000mm。

TDY motorized drum adopted an interior special motor, wholly sealed. The use environmental temperature ranges from -20 to +40^oC, altitude not exceeding 1000m.

2.3本电动滚筒不适用于输送>60^oC的高温物料。

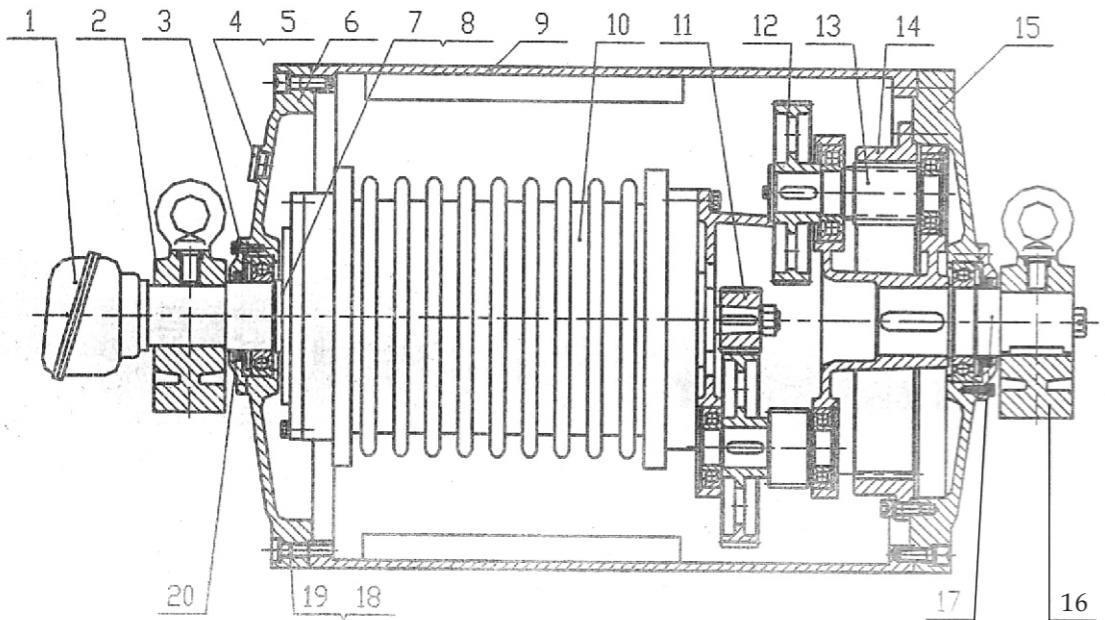
Conveyed material temperature can't be higher than 60^oC.

3 DY型电动滚筒结构简介

A brief structure introduction

滚筒腔内带有环形散热片的电动机用左法兰轴和右支承轴支承在固定的支座上，电动机的主轴带动一对外啮合和一对内啮合齿轮传动，再由内齿圈带动滚筒体转动。详见滚筒结构图。滚筒体内的冷却润滑油可以同时满足电机的冷却和齿轮的润滑。

The drum motor with ring radiators included in the body is seated on fixed brackets by means of the left flange and right support shafts. Its spindle revolves a pair of external, internal engaged gears and then through a ring gear to run drums body. Structure details see the figure below. Lubricant oil meets the need both of the motor and gears.



- 1、接线盒 terminal box 2、左支座 left bracket 3、压盖 gland 4、油塞 inlet plug
- 5、O形圈 ring seal 6、左端盖 left end cover 7、左法兰轴 left flange shaft
- 8、O形圈 ring seal 9、滚筒体 drum body 10、电机 motor 11、韶轮 pinion
- 12、齿轮 gear 13、韶轮轴 pinion shaft 14、齿圈 ring gear
- 15、右端盖 right end cover 16、右支座 right bracket
- 17、右支承轴 right support shaft 18、O形圈 ring seal 19、放油塞 outlet plug
- 20、骨架油封 framework seal

4 DY型电动滚筒的安装、使用方法

Installation and directions

4.1 电动滚筒向主机安装时应符合TD75型通用固定式皮带输送机及移动式皮带输送机产品标准的要求。

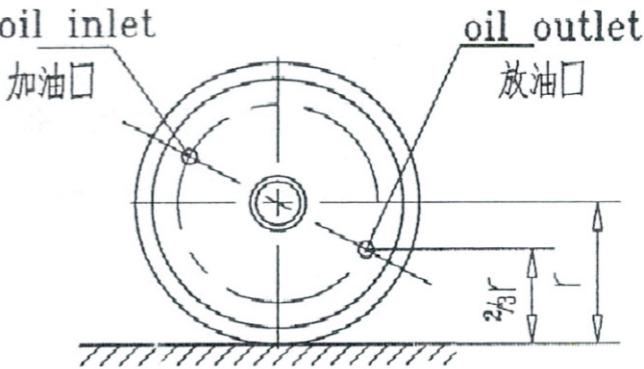
The installation of the motorized drum should conform to the requirements of product standard of TD 75 universal fix and movable belt conveyers.

4.2 电动滚筒在使用前应从端盖的加油口加入L-AN32-46机械油，油质应清洁，无杂质。加油量应使油面达到滚筒半径2/3高度为宜。

Fill the drum body from the cover oil inlet with L-AN32-46 machine oil before use. Note that filled oil is clean and pure and reaches 2/3r level or so.

具体操作按以下方法：将滚筒平放，使放油塞（件号19）处于离地面2/3滚筒半径的位置并卸下，然后卸下件号4油塞，在此孔口加入L-AN32-46机械油，当放油口开始向外溢油时即停止加油。

The concrete method: place the drum body on a flat ground, and then turn the body to the position where the outlet is at 2/3 drum radius away from the ground and the inlet above the horizontal centerline shown in the figure below. Remove both of inlet and outlet plugs, and then add L-AN32-46 machine oil from the inlet until oil overflows a little from the outlet.



4.3 新安装和大修后的电动滚筒在使用前应进行如下检查：

Examinations as follows should be conducted to a new or overhauling motorized drum before use.

4.3.1 接线盒内的接线是否正确：

Check whether the wire joint is right or not .

接线方法如下：

Correct connection listed below :

电动机功率KW Motor Power	额定电压V Rated Voltage	接线方法 Joint
1.5~3	380V	Y
4~22	380V	△

4.3.2滚筒内冷却油是否达到规定的滚筒半径的2/3高度；

View if the oil level in the drum body reaches the stated position as the term

4.2 prescribed.

4.3.3用手转动滚筒应运转均匀、平稳。

Run the body manually and make sure the rotation is even and steady.

4.4装有逆止器的TDY型电动滚筒：

TDY motorized drum with a stop-reverse unit.

4.4.1为了防止上运式带式输送机（即带式输送机有升角）在停机或停电时皮带的下滑，TDY型电动滚筒配置了逆止器，可以保证滚筒单向运转，反向逆止。

To prevent gliding down the upward belt conveyer, namely with a slope angle just as it stops or power off, TDY model has installed a stop-reverse unit. It guarantees a single direction run but reverse stop.

4.4.2装有逆止器的TDY型电动滚筒，端盖上有旋转方箭头标识。用户必须按箭头指示的转向使用滚筒，严禁滚筒反向运转。

TDY model drum with stop-reverse unit indicates the running direction with a rotating arrow on the end cover. Please ensure the relation in accordance with the arrow indication, reverse direction forbidden .

4.4.3为了保证做到以上要求，本公司逆止型滚筒配有“相序测试仪”出厂。本公司逆止型滚筒出厂前，电机的接线相序已与允许转向校核好，并在接线端子处用“U”、“V”、“W”标出，用户在接电源前，请用“相序测试仪”校核电源的相序（具体用法见“相序测试仪”说明书），并使之与电机接线端子表示的相序对应接线（即外电源的U相接“U”端子，V相接“V”端子，W相接“W”端子）这样即可保证滚筒的正确运转方向。

In order to practice above mentioned requiremenis, we attach phase-tester on stop-reverse drams. We have checked and identified the phase sequence of all stop-re drams with A, B, C beside wire coonectors before they leave factory. Please make out your power phase using attadied phase-tester while you use our products (more details see operation mamml on phase tester), then linking counterpart connectors conforming to phase (namely power U to connector U, power V to connector V, power W to connector W). Such action can do the job.

We inform you respectable that practicing a random connection before finding out phase sequence will cause damage to stop-reverse unit.

4.5新电动滚筒使用150小时后应把滚筒内的油排放干净，重新加入新油，继续使用。

As far as a new drum is concerned, drain and refill the drum body after 150h and work on.

5 TDY型电动滚筒的维护与修理

Daily maintenance and services

5.1电动滚筒在使用过程中应经常检查有无异常情况或渗漏情况，如发现有异常情况可与本公司联系进行维护或自行检查维修。

Frequently examine if abnormity or leakage occur in the process of use. Inform your seller about drum's faults to require maintenance or you also can repair it by yourself.

5.2检查维修的操作程序 □

Operational procedure:

1.切断电源，打开接线盒，拆下电机引线；

Power off. open the terminal box and remove the lead wire form the motor.

2.松开接线盒座的紧定螺钉，取下接线盒1;

Loosen off the fixing screws on the terminal box, and demount it.

3.退下出左支座2;

Detach the left bracket.

4.拧下端盖上的放油塞19放出滚筒中的冷却油；

Screw off the outlet plug and drain the drum body.

5.使右端盖在下面，把滚筒体竖起垫好放稳；

Erect with right end cover downside, level up the 4mmset k steady.

6.松开滚筒左端盖螺钉，拆下左端盖6;

Unscrew the left end cover, take it down.

7. 松开取下右端盖螺钉；

Loosen and remove the screws on the right end cover.

8. 用起重设备吊起滚筒体，此时可检查内部零件；

Crane up the body, set it aside and then check the components inside.

9. 松开左法兰轴和减速机壳上的螺钉，可以拆下左法兰轴和电机；

Unscrew the left flange shaft and reducer housing and disassemble the left flange shaft and the motor.

10. 退下右支座 (16)；

Remove the right bracket.

11. 拆下减速机壳和右支承轴 (17)。

Demount the reducer housing and right support shaft.

5.3 装配时可按相反程序组装。

Assemble the drum following the reverse procedure.

5.4 如果发现滚筒中的轴承或油封损坏可按附录4中给出的规格更换。

Ending breakage of bearings or oil seals in the drum body, replace them in term of speciricaiions in the Appendix 4.

5.5 滚筒使用时间满3000小时后，应按上述程序进行拆检、换油，维修后再继续使用。

Check, refill and repair the drum in light of the procedure mentioned above after running 3000Oh; then put into application.

TDY油冷式电动滚筒系列对数表

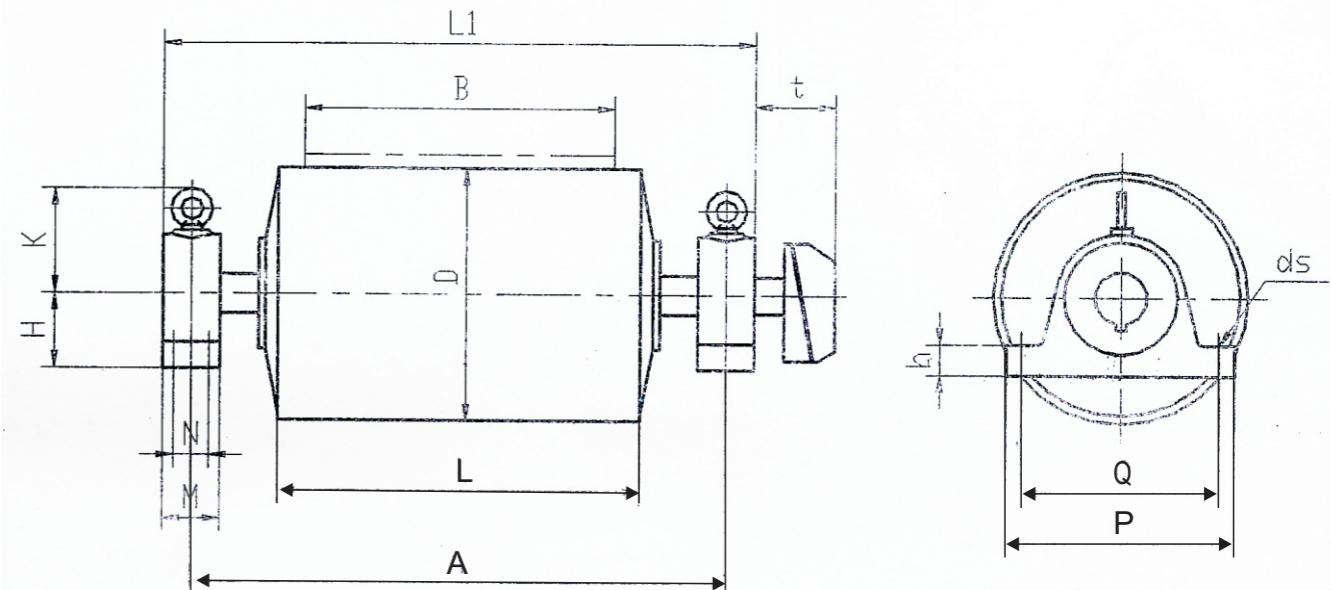
Paramoter List of TDY Moterized Drum Series

滚筒直径 Body Dia D (mm)	功率 Power N (kw)	带宽 Belt Width B (mm)	滚筒表面线速度 Drum surface velocity(m/s)											
			0.25	0.32	0.4	0.5	0.63	0.8	1	1.25	1.6	2	2.5	3.15
320	1.5	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.2	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
400	2.2	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
500	2.2	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3	500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	500		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		800		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	5.5	500		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		6050		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		800		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	7.5	650		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		800		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		650			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
630	11	800			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		15	800			✓	✓	✓	✓	✓	✓	✓	✓	✓
		18.5	800				✓	✓	✓	✓	✓	✓	✓	✓
	22	800					✓	✓	✓	✓	✓	✓	✓	✓
		3	1000				✓	✓	✓	✓	✓	✓	✓	✓
		4	1000					✓	✓	✓	✓	✓	✓	✓
	5.5	1200						✓	✓	✓	✓	✓	✓	✓
		800						✓	✓	✓	✓	✓	✓	✓
		1000						✓	✓	✓	✓	✓	✓	✓
	7.5	1200						✓	✓	✓	✓	✓	✓	✓
		800						✓	✓	✓	✓	✓	✓	✓
		1000						✓	✓	✓	✓	✓	✓	✓
	11	1200						✓	✓	✓	✓	✓	✓	✓
		650						✓	✓	✓	✓	✓	✓	✓
		800						✓	✓	✓	✓	✓	✓	✓
	15	1000						✓	✓	✓	✓	✓	✓	✓
		1200						✓	✓	✓	✓	✓	✓	✓
		800						✓	✓	✓	✓	✓	✓	✓
	18.5	1000						✓	✓	✓	✓	✓	✓	✓
		1200						✓	✓	✓	✓	✓	✓	✓
		800							✓	✓	✓	✓	✓	✓
		1400							✓	✓	✓	✓	✓	✓

附录：2
Appendix2:

TDY油冷式电动滚筒系列对数表
Paramoter List of TDY Moterized Drum Series

滚筒直径 Body Dia D (mm)	功率 Power N (kw)	带宽 Belt Width B (mm)	滚筒表面线速度 Drum surface velocity(m/s)										
			0.25	0.32	0.4	0.5	0.63	0.8	1	1.25	1.6	2	2.5
630	22	800								✓	✓	✓	✓
		1000								✓	✓	✓	✓
		1200								✓	✓	✓	✓
		1400								✓	✓	✓	✓
800	5.5	1400								✓	✓	✓	✓
	7.5	1400					✓	✓	✓	✓	✓	✓	✓
	11	1400				✓	✓	✓	✓	✓	✓	✓	✓
	15	1400			✓	✓	✓	✓	✓	✓	✓	✓	✓
	18.5	1400			✓	✓	✓	✓	✓	✓	✓	✓	✓
	22	1400								✓	✓	✓	✓



D	B	A	L	L1	t	H	K	M	N	P	Q	h	ds
320	500	850	600	900	950	120	125	70	—	340	280	35	2-Φ27
	650	1000	750						—	340	280	35	
400	500	850	600	940	950	120	125	90	—	340	280	35	2-Φ27
	650	1000	750	1090		120		90	—	340	280	35	
500	500	850	620	960	115	100	145	70	—	340	280	35	2-Φ27
	650	1000	750	1120		120		90	—	340	280	35	
	800	1300	950	1420		120		90	—	340	280	35	
630	650	1000	750	1120	115	120	175	90	—	340	280	35	2-Φ27
	800	1300	950	1430		140		130	80	400	330	35	4-Φ27
	1000	1500	1150	1630		140		130	80	400	330	35	
	1200	1750	1400	1900		160	180	160	90	440	360	50	4-Φ34
	1400	2000	1600	2150		115	160	180	160	90	440	360	50
800	1400	2000	1600	2150		160							

订 货 须 知

Order Notes

1. 本系列油冷式电动滚筒安装尺寸与TD75型通用固定式带式输送机系列完全相同，也与TDII型固定式带式输送机中的YII型电动滚筒相一致。

The mounting sizes of this series motorized drum are the same as that of Td75 universal fix belt conveyer, also identical with YII mode of DTII fix ones.

2. 用户订购油冷式电动滚筒时，需提供以下四个参数：功率N、胶带速度V、胶带宽度B、滚筒直径D。

When ordered, customer should offer four parameters: power P, belt speed V, belt width B, and drum diameter D.

3. 用户如需配置逆止器的电动滚筒，订货时还需在型号后加N，在滚筒直径后加旋向“S”或“N”。

If a stop-reverse unit needed, please add the character N behind the model, and the rotating symbol S or N after the drum diameter.

4. 逆止型滚筒旋向的规定：从接线盒一端看，顺时针方向转动为“S”，逆时针方向转动为“N”。

Rotating direction on stop-reverse drum stipulated: Viewing from the side of terminal box, clockwise is S and counter clockwise is N.

如订购功率N=7.5千瓦、胶带速度V=1.25米/秒，胶带宽度B=650毫米、滚筒直径D=500毫米，配置逆止器，顺时针方向转动的油冷式电动滚筒，其订货代号为：

For example:

Order an oil-cool motorized drum, a clockwise stop-reverse unit installed with P=7.5KW, V=1.25m/s, B=650mm, D=500mm. Order symbols describe as follows:

TDY N 7.5-1.25-650 500 S

					滚筒旋向
					Rotating direction
					滚筒直径 D (mm)
					Drum diameter
					带宽 B (mm)
					Belt width
					滚筒表面线速度 V (m/s)
					Belt speed
					电动机功率 P (kW)
					Power
					配置逆止器
					With stop-reverse unit
					油冷式电动滚筒型号
					Model

注：不配逆止器时，型号后的N及旋向S省略

Notes: No stop-reverse unit, N or S omits.

附录：4

Appendix4:

滚动轴承与骨架橡胶油封表
Bearings and Framework Oil Seal Table

滚筒直径D Drum Dia	功率P Power	胶带速度 Belt Velocity	滚动轴承 Rolling Bearings		骨架油封 Framework Seal					
			端盖用 in end cover GB/T276-1994	韶轮轴用 on pinion GB/T283-1994						
320	(mm)	(KW)	V(m/s)	NJ305 NJ307	60X80X12	滚筒直径 diameter (mm)	功率范围 Power (kw)	带宽 Width (mm)	参考加油量 Oil (kg)	
				端盖用 in end cover GB/T276-1994	韶轮轴用 on pinion GB/T283-1994			500	11	
				端盖用 in end cover GB/T276-1994	韶轮轴用 on pinion GB/T283-1994			650	15	
				端盖用 in end cover GB/T276-1994	韶轮轴用 on pinion GB/T283-1994			800	19	
				端盖用 in end cover GB/T276-1994	韶轮轴用 on pinion GB/T283-1994			500	12	
400		2.2 3 4 5.5 7.5	0.25~2.0	6212	NJ305 NJ307	60X80X12	320	1~4KW	500	11 15 19 12 17
500	2.2 3 4 5.5 7.5	0.25~2.0	0.25~2.0	6213	NJ305 NJ307	65X90X12	400	2.2~4KW	650	17 23 18 24 32
	2.2 3 4 5.5 7.5	0.32~2.5	0.32~2.5	6214	NJ305 NJ307	70X90X12	500	2.2~15KW	800	18 24 32 42 47
630	2.2 3 4 5.5 7.5	0.63~3.15	0.63~3.15	6214	NJ307	70X90X12	600	3~15KW	1000	62 86 102 1200 1400
	11 15 18.5 22	0.63~3.15	0.63~3.15	6215	NJ307 NJ309	75X100X12	630	3~15KW	1200 1400 1600 1800 2000	31 47 62 86 102
800	3 4 5.5 7.5 11	0.32~2.5	0.32~2.5	6216	NJ307 NJ309	80X105X12	630	18.5~45KW	800 1000 1200 1400 1600	38 54 78 94 110
	15 18.5 22	0.8~3.15	0.8~3.15	6216	NJ311	80X105X12	800	5.5~45KW	800 1000 1200 1400 1600	60 100 130 150
630	5.5 7.5 11 15 18.5 22	0.63~3.15	0.63~3.15	6217	NJ307 NJ309	85X110X12	800	5.5~45KW	800 1000 1200 1400 1600	150
800	5.5 7.5 11 15 18.5 22	0.8~3.15	0.8~3.15	6217	NJ307 NJ309	85X110X12	800	5.5~45KW	800 1000 1200 1400 1600	150

产品加油计量(TDY型油冷式滚筒)

筒径 diameter (mm)	功率范围 Power (kw)	带宽 Width (mm)	参考加油量 Oil (kg)
320	1~4KW	500	11
		650	15
		800</td	