





SZW PLANETARY REDUCER – RW SERIES PRODUCT

Overview

The hard surface wheel gear and nitride inside gear ring processing make it low noise. Consistent high standard manufacture confirms its load-carrying capacity and working reliability. The wheel gear was optimized by computer design, which has a high safety margin and mechanical efficiency.

Product Feature

- Structure compact, space saving, two or three planetary gear transmission
- = high load capacity shaft bearing system , may withstand the wire rope traction
- simple installation
- refuel convenient
- high efficiency , long life span

Appilicable Scope

Planetary reducer is suitable for all known windlass mechanism of cranes like car or crawler crane, railway crane, bridge crane, crown crane, ship deck and wharf crane. Because it can be installed in the inner of the roller very compactly, so it is easy to fix and space saving.

Working Condition

Planetary reducer was design work at the temperature -20° C to $+40^{\circ}$ C. Some environmental factor will affect the product function like salt water, salty air, sand, super pressure and heavy vibration, severe impact and environment temperature, foreign sundries and so on. To confirm the safety of planetary reducer, these working conditions must be informed to the manufacturer.

PRODUCT MODELS

Tonnages	Speed Ratios	Gear box Torques	gearmotor speeds	Drum Diameters	Product Models	Weights	
3T	76	3000		232	RW0376-3-3000-232	50.5kg	
5T	56	5000	1400	273	RW0356-5-5000-273	- 62kg	
51	78	3000			RW0378-5-5000-273		
10T -	81	10000		351	RW0381-10-10000-351	125kg	
	110	10000			RW03110-10-10000-351		
20T -	81	26000		510	RW0381-20-26000-510	- 157.19kg	
	131				RW03131-20-26000-510		
100T	140	42500			RW03140-100-42500	302kg	



Install

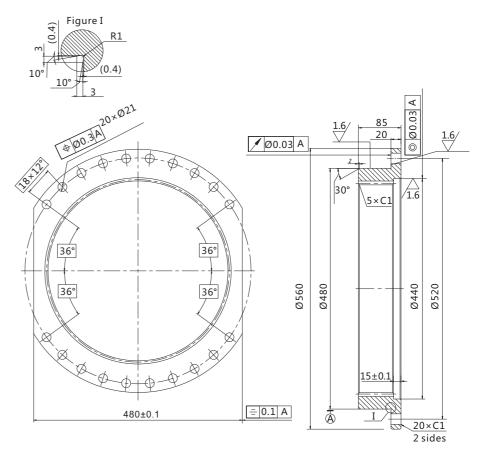
Planetary reducer was added middle load industrial gear lubricants ISO VG 220 before they leave the factory.

Before installation, the connection of reducer must be cleaned up. The spline was welded in the roller to confirm the spline and roller connector coaxial. And then put the reducer into roller and connect with the rack stably. The M12 screw should be more than 10.9 grade

which are used for Lock reducer and rack. And screw the screws according to the torque of corresponding screw performance grade.

(10.9 grade screw tightening force torque is $100{\sim}110N{\cdot}m$)

The rack used to fix planetary reducer must be fastness, support surface clean and perpendicular to the axis of the drive so that it can guarantee the rack and ruin vertical. Finally, the screw at the vent cap changed to vent cap. Vent cap was afford by the user. (the vent cap should be upward to avoid oil leakage)



external splines 78.2-1995 Flat root				
module	m	6		
number of teeth	Z	70		
pressure angle	а	30°		
modification coefficient	х	0		
dimension over two balls in same plane	M	406.27		
measure bar	dp	⊕Ø10		
large diameter	di	Ø429		
reference circle	d	Ø420		
minor diameter	da	Ø414.2		
Involute circle diameter	dFa	Ø427.2min		
Tooth profile tolerance	Fa	0.035		
Helix total tolerance	Fβ	0.035		
radial runout of tooth ring	Fr	0.05		
surface roughness	others ∛			
heat treatment	tempering 24-28HRC			
Surface treatment	blueing			

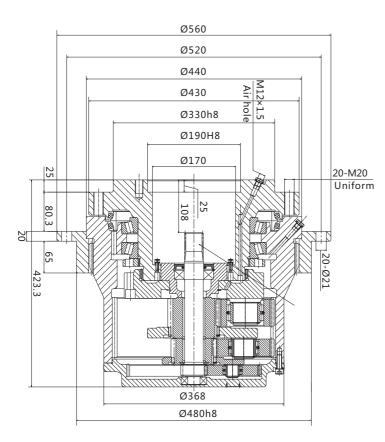
Technical requirement

1. Blanks must be forged and the category of forging isCB/T12363-1990;

2.Undeclared chamfer 1x45°;

3. Parts are noiermentt due burr and sharp edges;

4. Unmarked Tolerance GB/T 1804-m.



Involute external spline parameter			Involute internal spline parameter		
spline standard	GB/	Г 3478.2-1995	spline standard	GB/1	T 3478.2-1995
large diameter	D	38-8.1	large diameter	D	39+8.3
minor diameter	Di	33-8.3	minor diameter	Di	34.26+8.3
module	m	2	module	m	2
number of teeth	Z	18	number of teeth	z	18
Tooth profile angle	а	30°	Tooth profile angle	а	30°
addendum modification	Z	0	addendum modification	Z	0
measure bar diameter	dp	4	measure bar diameter	dp	3.5
measurement and deviation between pins	М	42.35-0.12/0.20	measurement and deviation between pins	М	30.81+0.22/0.12

Use and maintenance

1. Reducer can not be store and work in corrosive gas environment such as acid and alkali gas. The work temperature is $-20^{\circ}C\sim40^{\circ}C$.

2. We suggest that in the use processing, the using torque value don' t exceed 70% of the max output torque value to lengthen the reduce life span. The max output torque value of this reducer is 3000N·m. The max output torque value must not be exceeded.

3. Reducer should change the gear lubricant after 2000-2500 hours use, or once a year. The gear lubricant change should be taken at reducer on high temperature, so it is easy to flow out. And please use the lubricating oil producers recommend liquid to clean the reducer inside. To improve the adding oil efficiency, please keep a certain number of oil pressure when add oil.

(keep one oilhole adown and add to overflow from it; or add fix quantify about 0.29Kg)

4. Please don't disassemble the inner of the reducer by yourself, and it should be disassemble by specialized persons from the manufacture to change parts. Otherwise we do not undertake any responsibility.

Common failures and related measures

Abnormal	Possible Cause	Measures	
Seal part oil	Seal failure after long store	Clean related area and turn a few laps then check the oil leakage again	
leakage	Seal damage or abnormal	Inform the manufactures to manage	
Overheating	Oil starvation	Add gear specified lubrication oil	
Excessive vibration Excessive noise	Inner exception	Inform the manufactures to manage	



