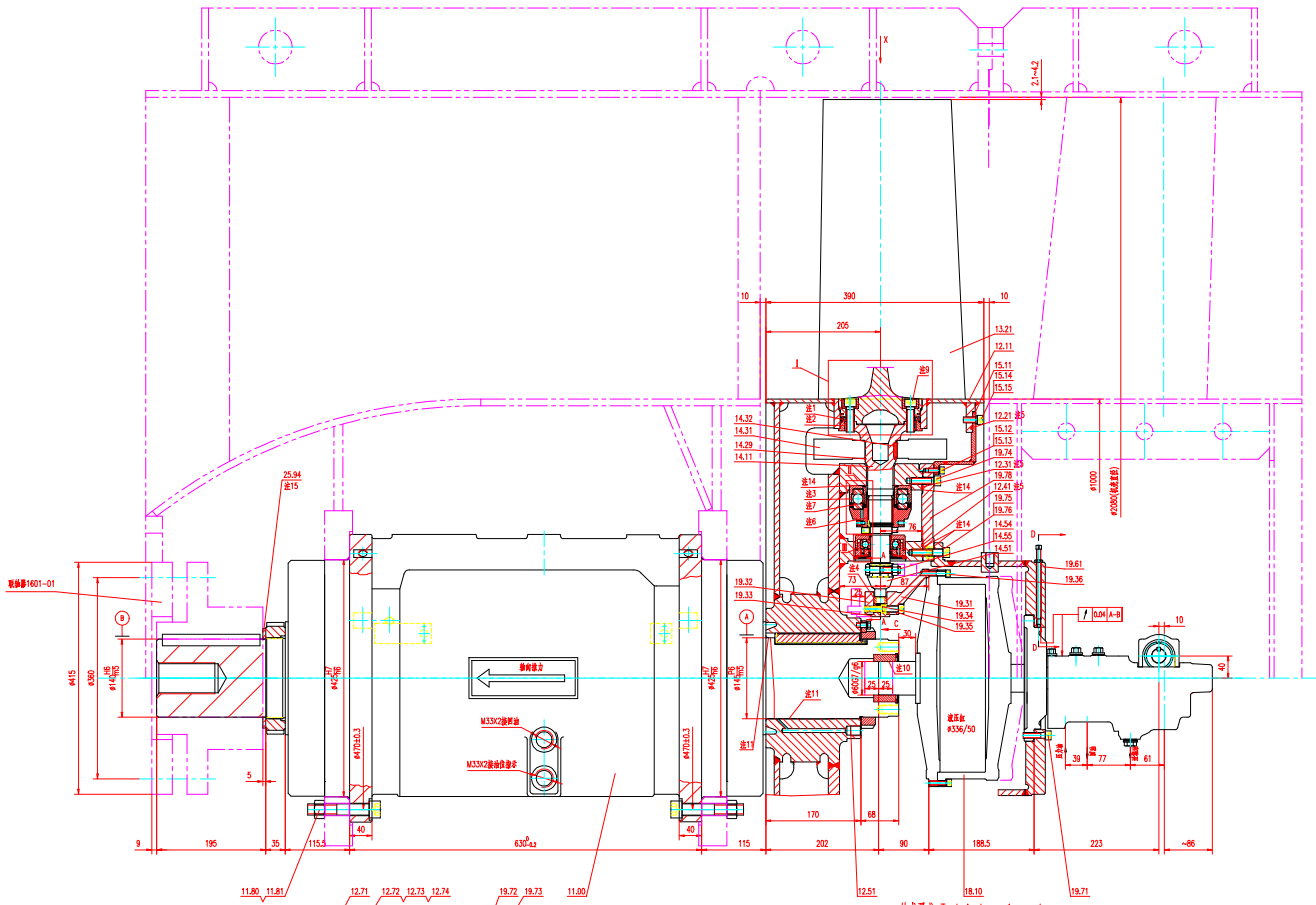

零件12.71,12.72,12.73, 12.74为锁紧圆螺母用
其在圆螺母锁紧就位后配合键条就其定螺钉之
螺孔。

技术要求 Technical requirements

一．转子装配说明：（注）Description rotor assembly (Note):

注1：用润滑脂，牌号为"7014"铁路通用脂 .
Note 1: Fill labyrinth seal with lubricating grease 7014

注2：在叶轮轴衬和叶轮盘之间配合面上喷一层抗咬剂 "G-Rapid".
Note 2 ; Spray coat anti seize grease G-Rapid on the mating surfaces between blade shaft bearing segment and blade shaft disc

注3：叶轮导向轴承(14.81)充满润滑脂(7014)。
Note 3: Fill lube grease 7014 on blade shaft guide bearing (14.81)

注4：在螺状及与之配合面喷一层抗咬剂 "G-Rapid".
Note 4: Spray coat anti seize grease G-Rapid on slide blocks ad its mating surface.

注5：件5 ，6镶皮条应预按实际尺寸粘接成O形圈.
Note 5: Part 5 , 6 shall be bonded into O rings according actual sizes.

注6.叶轮螺母螺纹加润滑脂(7014)螺母拧至合适预紧力后锁紧.
Note 6: Add the lubricating grease 7014 to blade shaft nut and screw thread, the nuts to be tightened to suitable pre-tightening force and then locked.

注7：叶轮轴承加润滑脂后，加油孔用螺塞并涂609密封膏密封.
Note 7: After adding lubricating grease to blade shaft bearings , filling aperture should be sealed using plug screw coated with 609 sealing cream .

注8：调节杆与叶轮轴配合面及齿轮油用前须彻底以保证夹紧力.
Note 8: The mating surface between adjusting levers and blade shaft shall be removed of oil & grease, and cleaned by use of propanone, so as to ensure the clamping force.

注9：叶轮螺钉去除油脂，涂一层抗咬丝纱脂"Molykote1000",注意不能加7014润滑脂，装配叶片时，均匀静去叶盘上部状之 光滑过渡到轮毂.
Note 9: Remove oil and grease from blade screws, then coat molykote 1000, pay attention not to added lube grease 7014. While mounting blades, the top of blade disc shall be ground evenly to be form a smooth transition to the hub.

注10：静端内衬套涂油脂，液压缸外伸端喷一层抗咬剂 "G-Rapid".
Note 10: Remove the grease from the mating bush, coat the shaft extension of the hydraulic device with anti seize grease G-Rapid.

注11：装叶轮前，在与叶轮配合的轴颈及两组螺纹处涂工艺规定铜锡.
Note 11: Before fitting the impeller, coat cuprum on main bearing location and screw thread according to process stipulation .

注12：各处按表例数据拧紧相应的螺钉，螺母，自锁螺母至多只能拧紧二次.
Note 12; Tighten all the screw and nut according to the list we supplied . NOTE : the self-locking nut could be tightened no more than twice.

注13：对第1号叶片，将叶片角度刻度值及刻度线打在叶轮壳上 和机壳下半部环中分面处，每隔5°一条.
Note 13: For blade No. 1, the blade angle and calibration tails should be chiseled on impellers 5 degree per grill .

注14：轴承盖与承载环之间、承载环与连接环之间、导向环与连接环之间分别涂乐泰515平面密封胶.
Note 14; The flat surface sealant 515 shall be applied between bearing cover and load ring, between load ring and connect ring, and between guide ring and connect ring.

注15：推杆装入后从推杆液压缸侧油孔向推杆轴衬之间的空隙注满7014润滑脂.
Note 15: After the push bar is fit in, fill lube grease 7014 in the gap between push bar and shaft bush.

二．叶轮装拆说明：（注）Description of dismounting and assembling of impeller (note)

1：锥锁轴孔扩孔时的拉力为32.2T. Stretching force during bearizing hub axle hole is 32.2 tons.

2：扩孔油压110M Pa（表压）.
Oil pressure during bearizing is 110MPa （gage pressure)

3：装配时叶轮的温度（在扩孔膨胀）~113.5℃. Impeller temperature during assembly: ~113.5℃.

4：轴径Shaft dia. Φ145m5(+0.033 +0.015) 锥锁孔径 Hub bore dia.Φ145P6(−0.036 −0.061)

三．转子在厂内动平衡需要按VDI2060，具体步骤如下:
The rotor balance in the factory requests the VDI2060,specific steps are as follows:

(1).最高转速为1490r/min.Max. operating speed 1490r/min.

(2)平衡块厚度不大于10mm。Counter balance is no more than 10mm.

(3)按如下步骤共进行三次动平衡; According to the steps , a total of three times of balance tests.

三.工厂动平衡(采用双面平衡)

		最高转速 1490r/min			
		平衡等级 Qual. class	重量 Kg Weight	允许偏心距e (μm)	允许剩余不平衡量U (gmm) per plane
1	叶轮总成时 impeller, welded condition	Q1.6	433	10	2165
2	转子不带叶片 impeller assembled without blades	Q1.6	896	10	4480
3	转子总成时 impeller, with blades	Q2.5	983	16	7864

四．叶轮在工地现场动平衡 要求按VDI2060.
The impeller dynamic balance at the work site requests the VDI2060,specific steps are as follows:
1. 最高工作转速n=1490r/min.Max. operating speed 1490r/min.
2.平衡等级G4级,允许偏心距(或余不平衡力矩/叶轮重量)e=25μ.
Balancing quality G4,permissible eccentricity(residual unbalance torque/impeller weight) e=38μ.
3.允许平衡重厚度t=10mm. The thickness of counter balance is 10mm.
4.在更换叶片时，先将对于旧叶片组的平衡重除去
换装新叶片组后，重新平衡重，并在新平衡重上用醒目颜色标上叶片图字
When remove the blades,cut the counter balance.After assemble the new blades,make balance test again,and set new counter balance at suitable position.

五．拧紧力矩表screw tighten force: 注12

件号	11.80	13.81	14.54	15.12	15.14	19.34
Bolting System Item. No.	455	148	129	27	38	27
件号	19.35	19.36	19.71	19.74	19.75	19.76
Bolting System Item. No.	54	27	54	94	94	94

FOR CONSTRUCTION

REV.	DESCRIPTION	DATE	DESIGNED BY	CHECKED BY	REVIEWED BY	APPROVED BY
0	ISSUED FOR CONSTRUCTION	Feb.2014				

OWNER	POWER GENERATION CORPORATION 1 THERMAL POWER PROJECT MANAGEMENT BOARD 3
CONSULTANT	POWER ENGINEERING CONSULTING JOINT STOCK COMPANY 3
CONTRACTOR	THE CONSORTIUM OF CHENGDA-DEC-SWEPDI-ZEPC
SUBCONTRACTOR	SHANGHAI BLOWER WORKS CO., LTD. (SBW)
PROJECT :	DUYEN HAI 3 THERMAL POWER PLANT PROJECT
CONTRACT NO:	DH3-05082011
DRAWING NAME:	ROTOR ASSEMBLY 转子
PROJECT CONTROL NO:	DH3-31(32)HLA-M-PSG-0001
DRAWING NO :	SOGA4380
REV:	0