

機械控制系統

2X60MW 機組熱工控制集散型控制系統工程採用 MACS 系統進行自動化工程監控後，可通過 CRT 及軌跡跟蹤球/鍵盤並輔以少量的重要常規監控儀錶完成對整台機組啟動、聯鎖保護、正常監控及緊急停機的全部監控功能，並在機組控制室內能滿足各種工況運行要求。控制室內控制盤、台分開佈置，DCS 操作員站佈置在機組控制臺上，印表機佈置在控制室內印表機臺上。DCS 工程師站佈置在控制室內設置的工程師站室內。

After automatic monitoring through MACS system, 2X60MW Assembling Thermal-control Terminal Control Systematic Engineering can fulfill all the monitoring functions such as starting the whole sets of assembly, interlock protecting, regular monitoring and emergent shutdown through CRT and tracking ball / keyboard with less important conventional monitoring instruments. It also can meet the requirements under various kinds of operating modes in the control room of the assembly. In the console cabinet, control panel and platform are decorated separately; operator's station of DCS is decorated on the assembly 's control platform; the printer is fixed up on printer platform and engineer station of DCS is assigned in the engineer room.

採用 MACS 分散控制系統 (DCS) 實現：

- a. 資料獲取和處理系統 (DAS)
- b. 類比量控制系統 (MCS)
- c. 順序控制系統 (SCS) 等控制功能。

Adopt the MACS decentralized control system(DCS)

- a. Data Acquisition & Process System (DAS)
- b. Analog Control System (MCS)
- c. Sequential Control System(SCS) and other control functions

1.1.1 活塞杆

該汽缸活塞杆由碳鋼製成，外著一層防護塗層，以增強其運轉性能並使其具有防腐功能。此種表面防護層的應用，使得活塞杆具有相當的耐腐蝕性。

要確定活塞杆的直徑，設計時要考慮如下因素：

- 抗彎曲，基於球形的軸承引起的，設計力以及任何橫向力或者摩擦力矩。
- 由於外加電壓和張力引起的壓力。
- 有關活塞安裝及驅動結構的附件的螺旋狀要求。

1.1.1 PISTON ROD

The cylinder piston rod is made of carbon steel and is provided with a surface coating to improve the running characteristics and to prevent corrosion. The type of surface finish applied to the rod determines to a great extent the corrosion resistance of the piston rod.

In determining the diameter, a number of aspects are taken into account in the design. These aspects are:

- The resistance to bending, based on the design force and on any transverse forces or frictional moments from spherical bearings

操作簡便

所有控制、檢測、監視和保護信號均送到現地 PLC，並可通過人機操作面板（觸摸屏）和電腦監控系統進行監控。液壓系統和電控系統中所有元器件標識清楚，部分元器件還帶有燈光指示，操作一目了然。

- Stresses occurring as a result of the applied pressure and tensile force
- Geometric requirements relating to the mounting of the piston and the attachment to the driven construction

Convenient operation

All the signals of control, measure, monitoring and protecting are sent to PLC filed, and can be monitored through the touch-sensitive screen and computer monitoring system. All components and parts in the hydraulic pressure and electric control systems are identified clearly, even some of them with light instruction, which makes operation is very convenient.

易於維護

液壓系統所有控制閥件均集中安裝於閥塊上，檢修和更換方便。
液壓系統和電控系統所有元件均具有通用性、互換性，更換方便。
液壓系統管路上設有手動隔離閥，方便檢修。

Easy Maintenance

All control valves in the hydraulic pressure system are installed on the collectively. It is apt to safeguard to control the valve one to install on the valve block, which makes maintenance and renewal conveniently. All components in hydraulic pressure and electric-control system have common-ability and interchangeability. It makes the replacement easily. Manual isolated valve on the pipeline of hydraulic pressure system makes the maintenance convenient.