



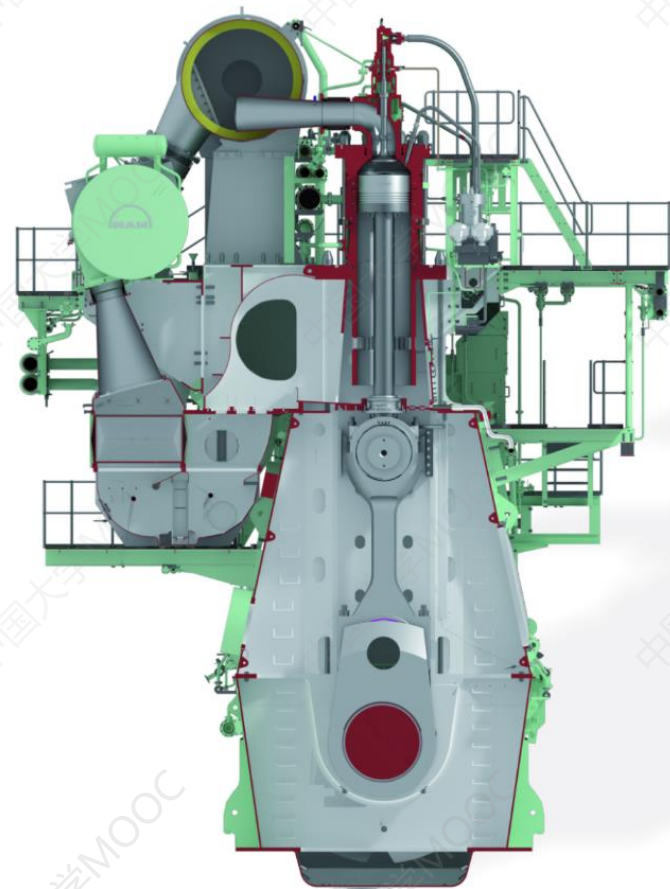
大连海事大学
DALIAN MARITIME UNIVERSITY

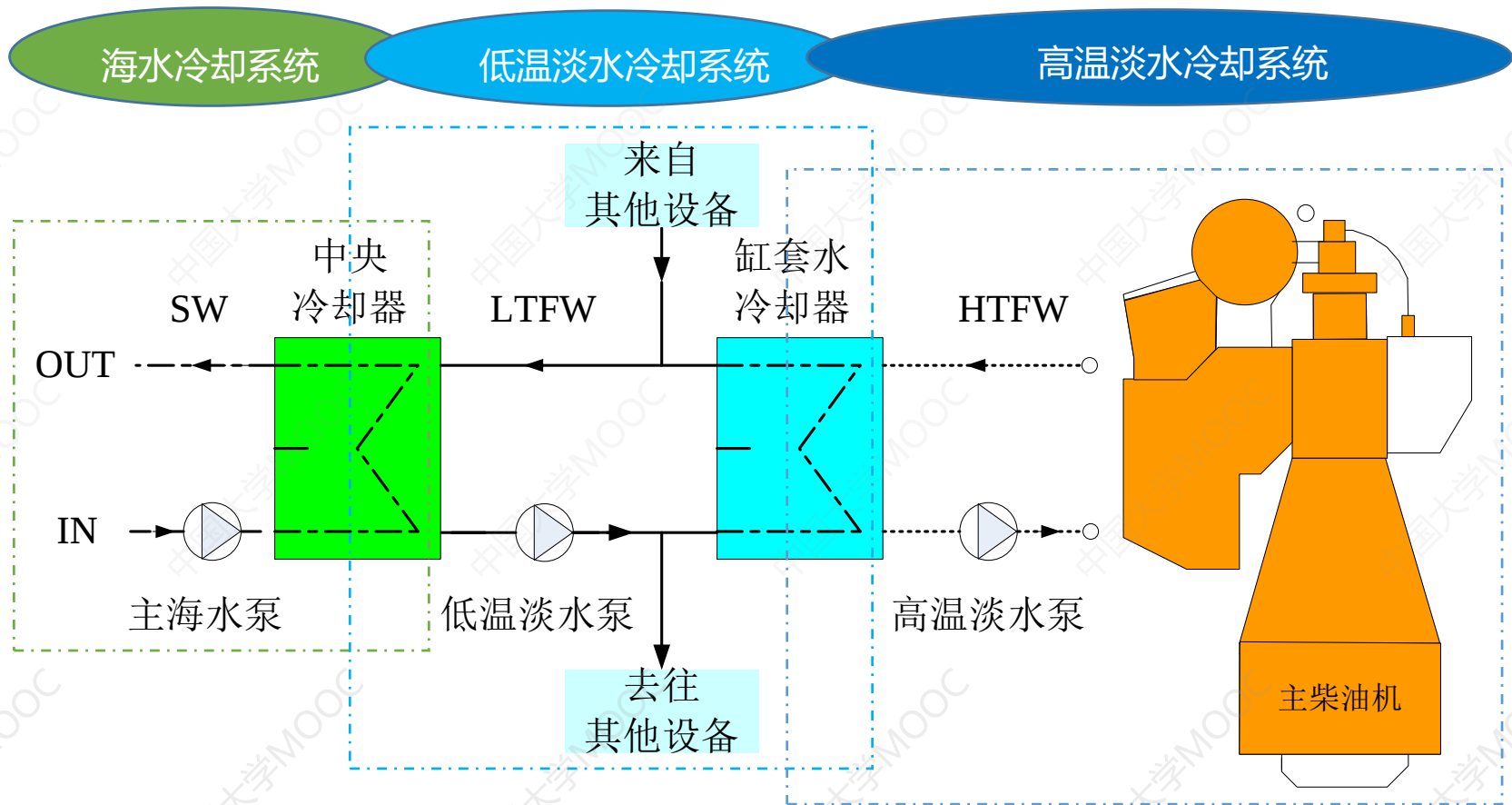
船舶电控发动机
数字课程

#4 柴油机系统

Acknowledgements: The technical contents of this presentation are mainly from the websites and training files of Wärtsilä, Win G&D and MAN Energy Solutions. Many thanks to them.
Contact us: dmumde@163.com

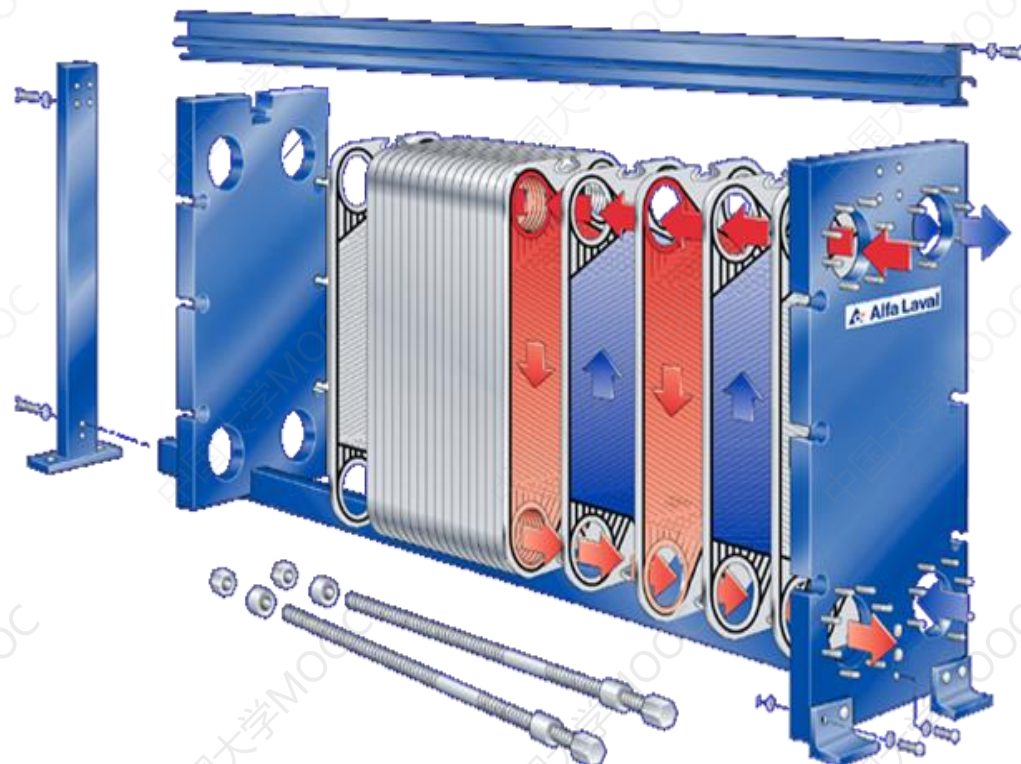
- 燃油系统
- 滑油系统
- 冷却系统



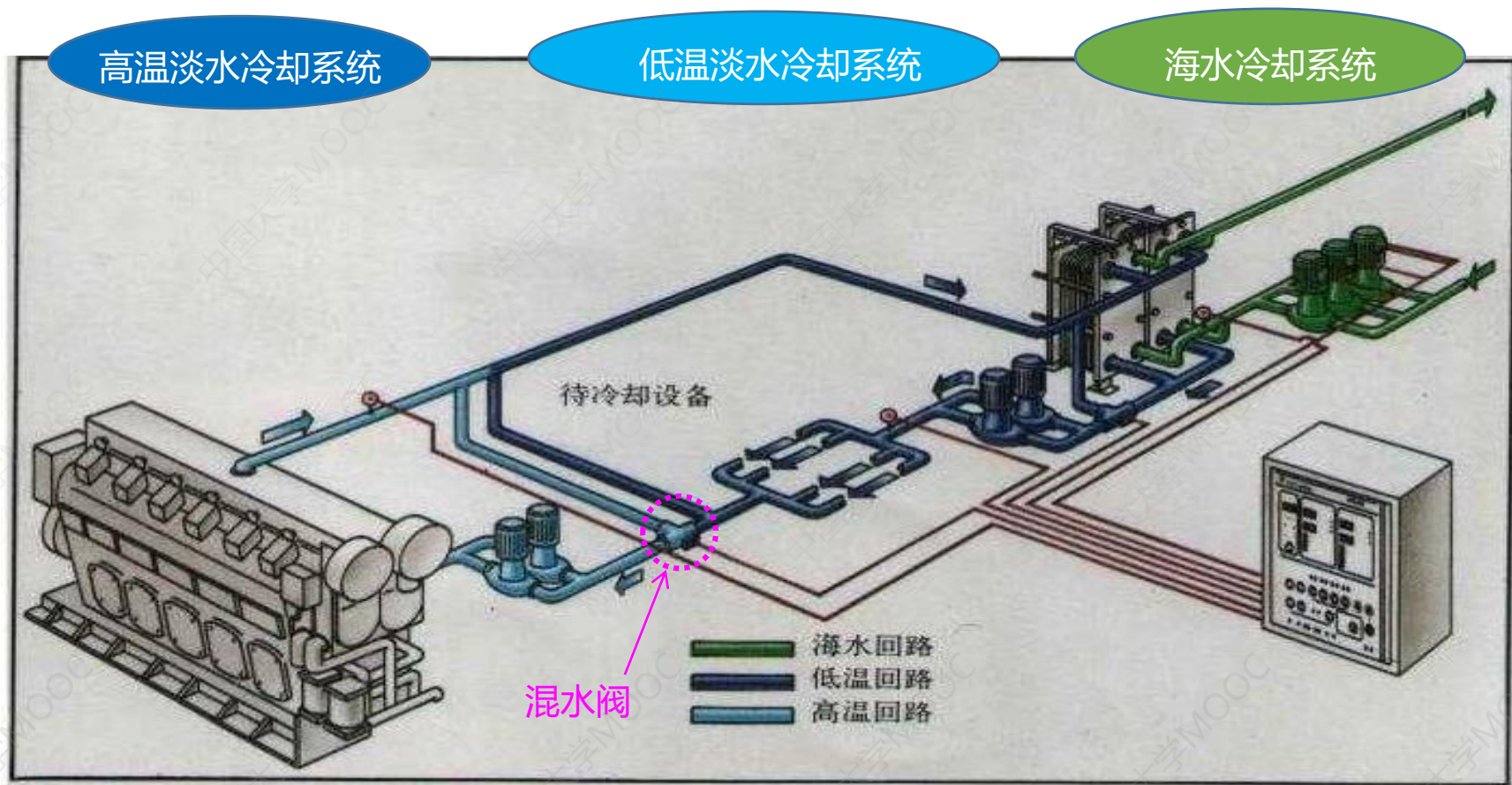


※ Cooling Water System

- Plate-type heat exchanger: Backflushing; Dismantling.



※ Cooling Water System



• 海水冷却系统

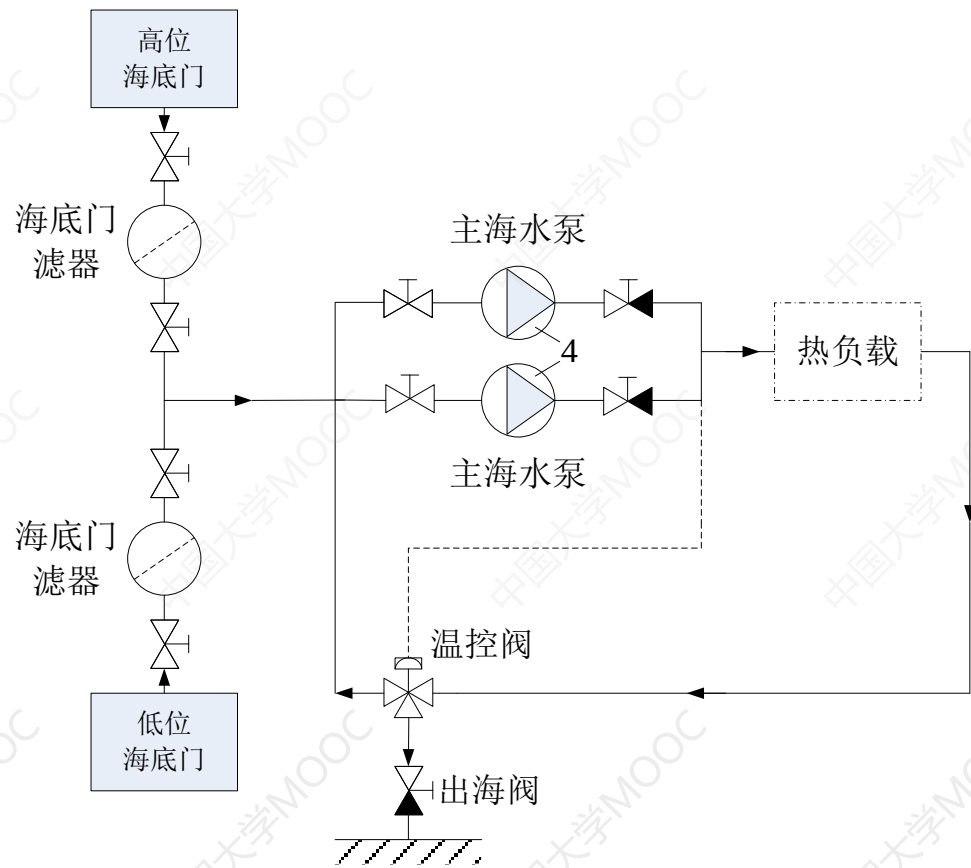
○ Sea Chest change-over

➤ In port - 高位

➤ At sea - 低位

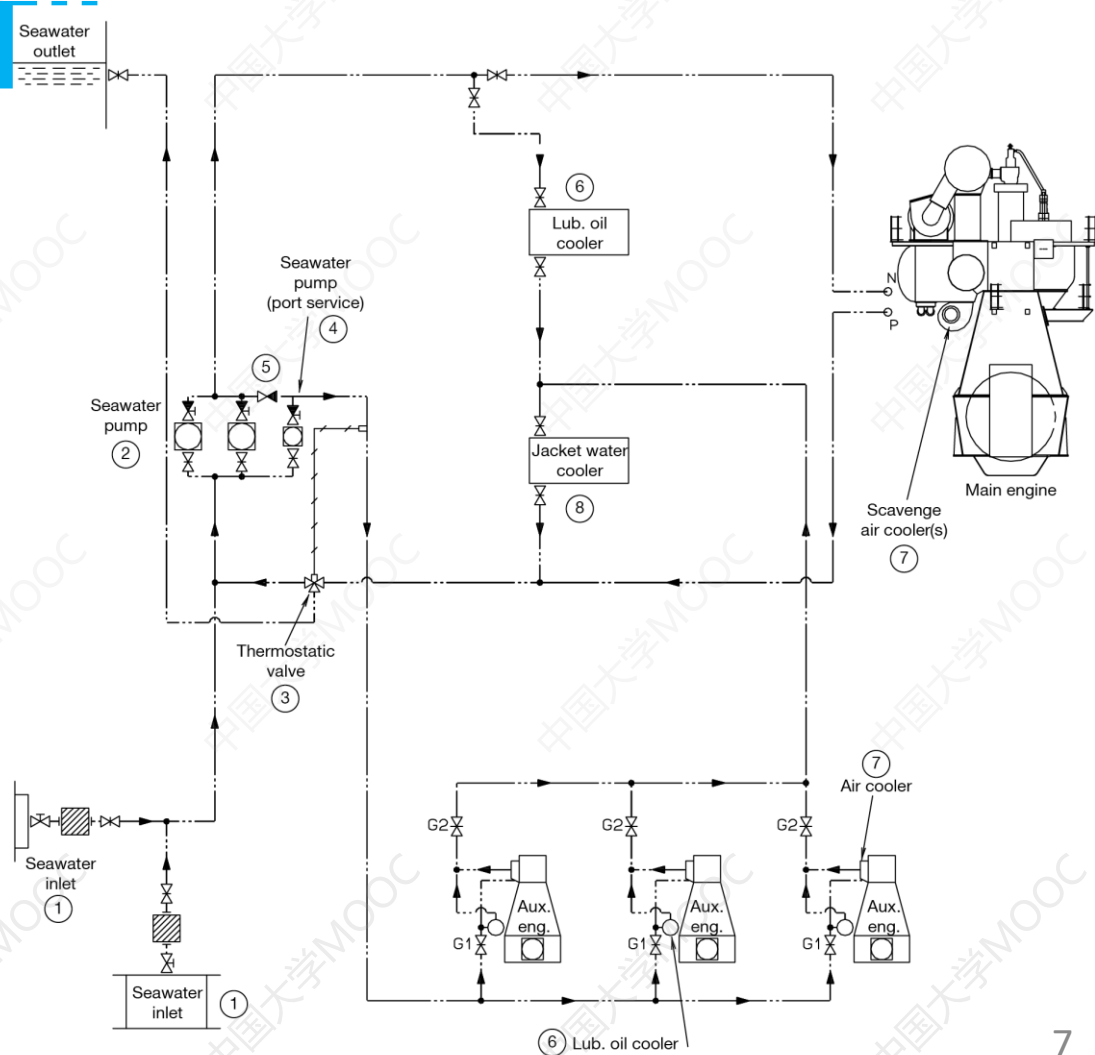
○ SC strainer cleaning

○ 出海温控阀



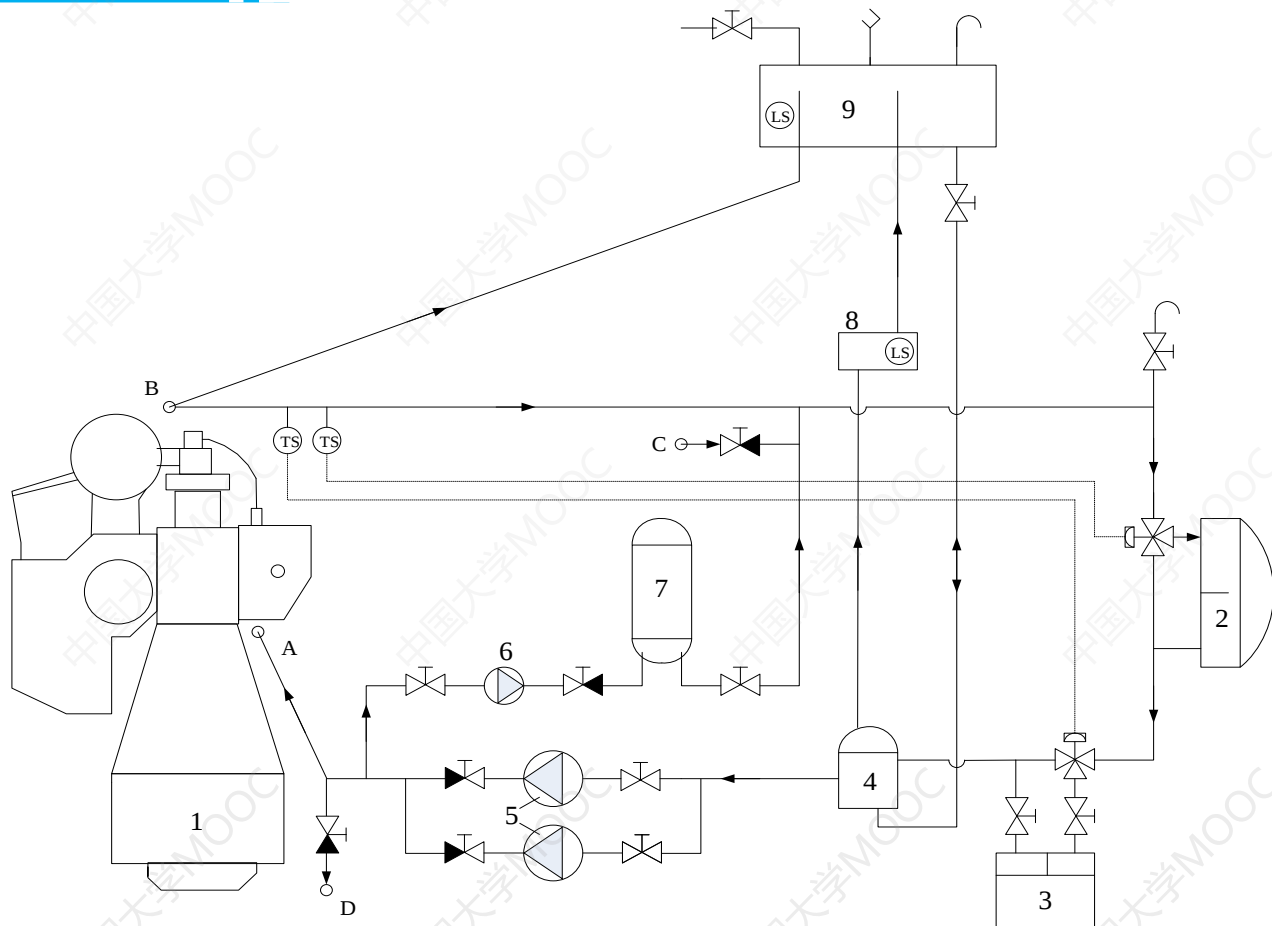
※ Seawater Cooling System

- MAN G50ME-C9.5-TII



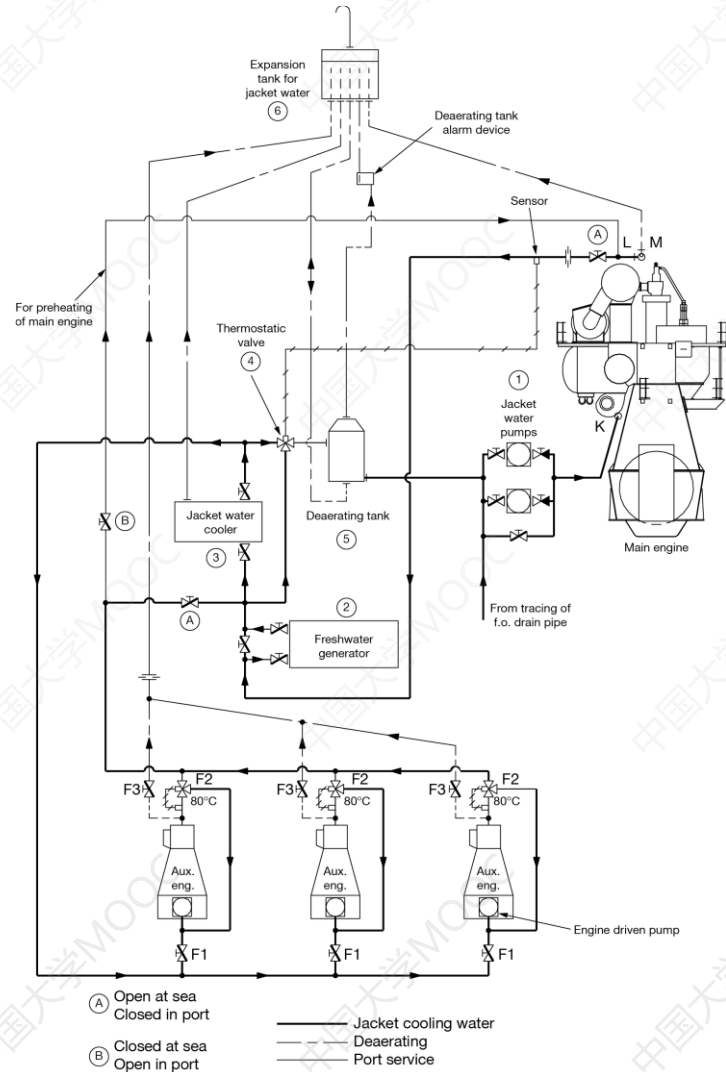
※ Jacket Cooling Water System

- 1-主机
- 2-造水机
- 3-缸套水冷却器
- 4-除气箱
- 5-缸套水泵
- 6-缸套水预热器
- 7-缸套水预热器
- 8-报警装置箱
- 9-缸套水膨胀水箱
- A-主机缸套水进口
- B-主机缸套水出口
- C-来自副机缸套水
- D-去往副机缸套水



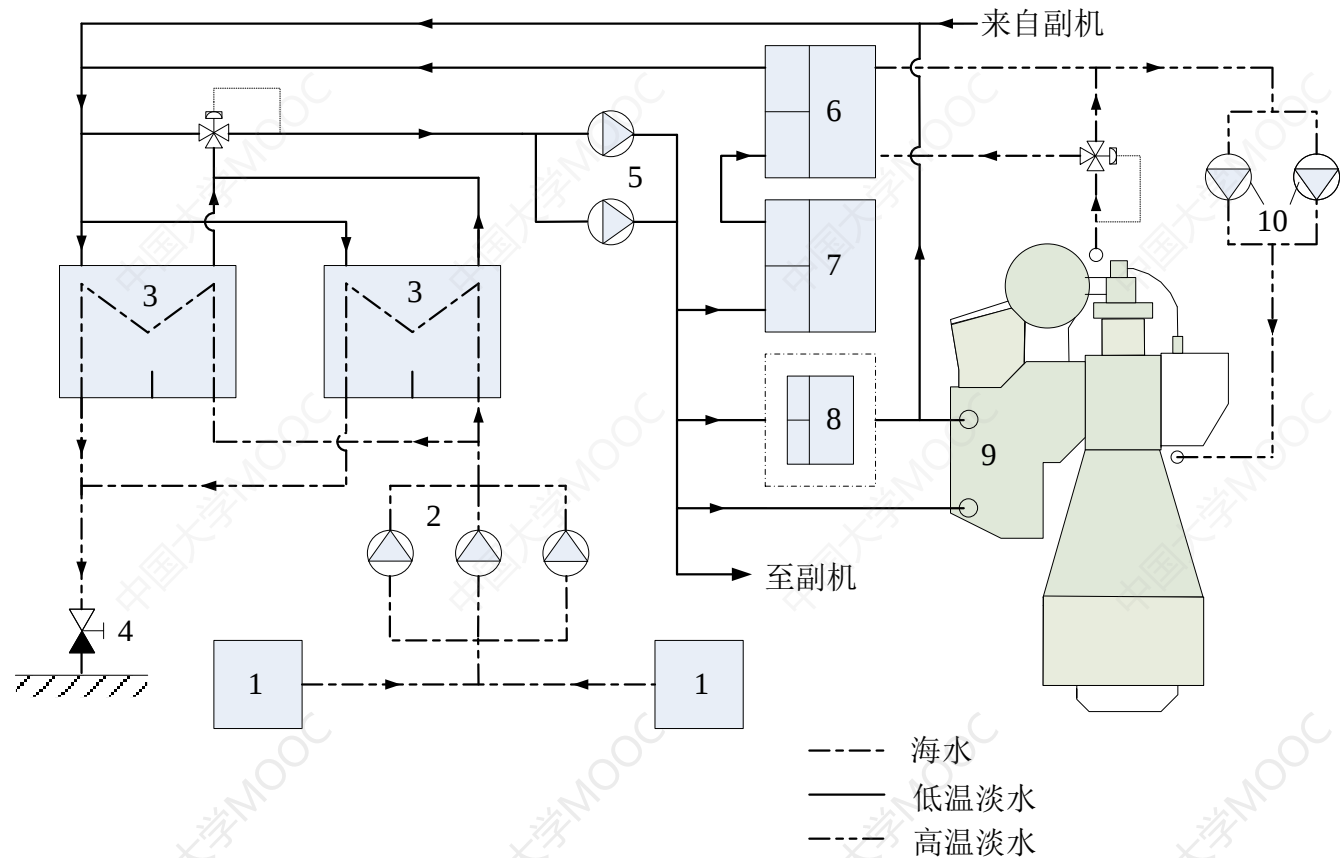
※ Jacket Cooling Water System

- MAN G50ME-C9.5-TII
- Expansion Tank for JCW:
 - 投药
 - 补水
 - 放气
 - 提供热膨胀的余地
 - 为淡水泵提供足够的吸入压头



※ Central Cooling System

- 1-海底门
- 2-主海水泵
- 3-中央冷却器
- 4-出海阀
- 5-低温淡水泵
- 6-缸套水冷却器
- 7-滑油冷却器
- 8-各种辅助机械
- 9-主机空冷器
- 10-高温淡水泵

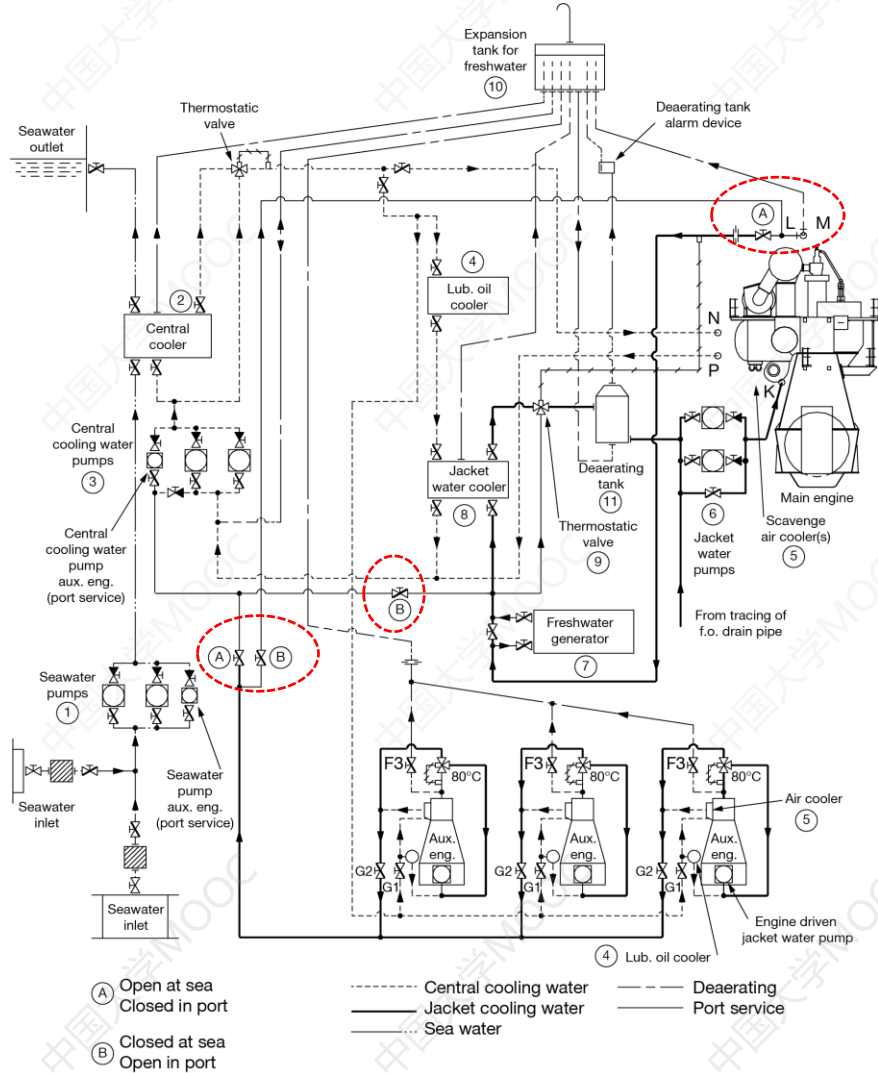


※ Central Cooling System

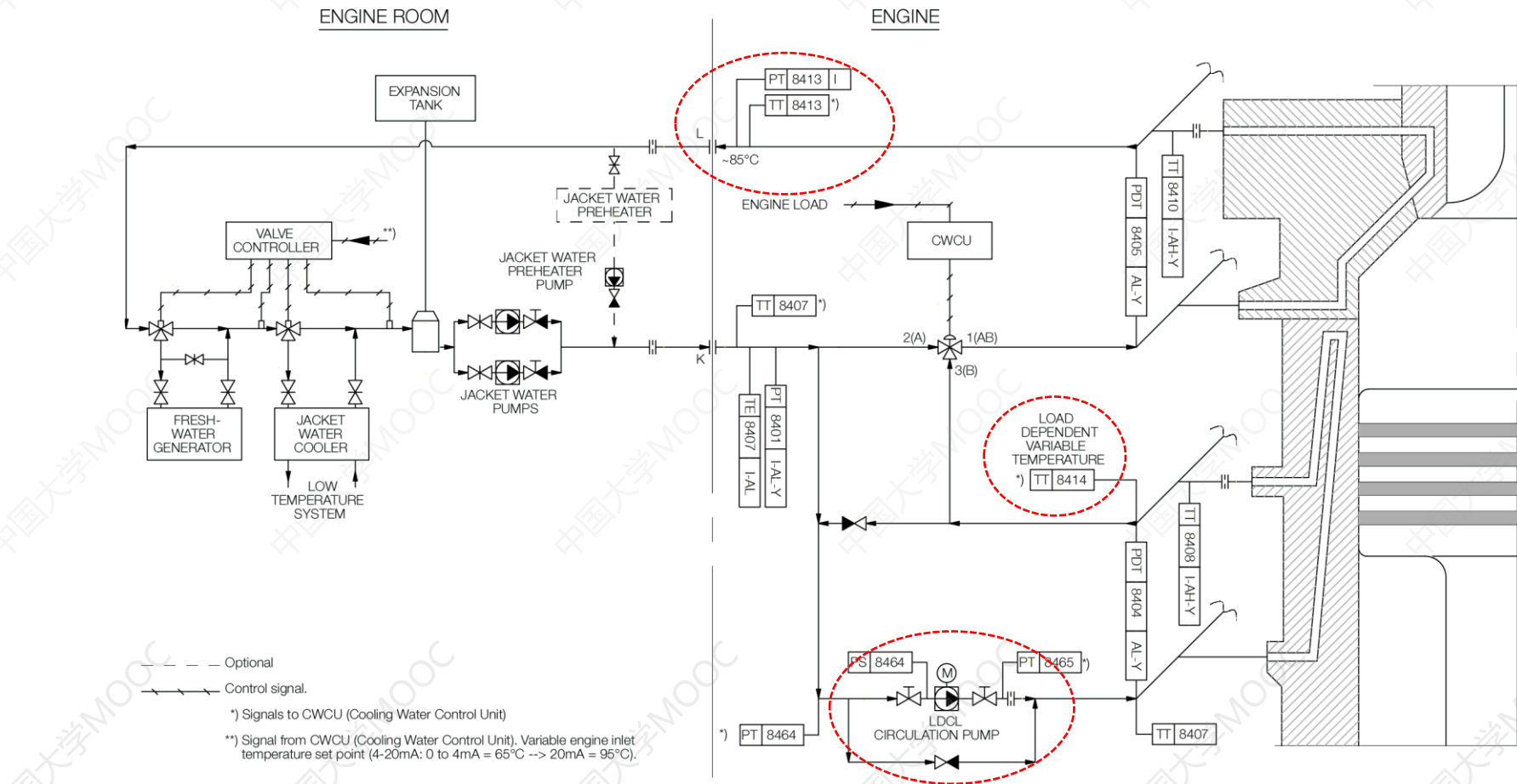
• MAN G50ME-C9.5-TII

❖ Cooling at sea - A open, B closed

❖ Preheating in port - A closed, B open



※ Load Dependent Cylinder Liner



※ Load Dependent Cylinder Liner

LDCL PRINCIPLE
Temperatures vs. Engine Load

