



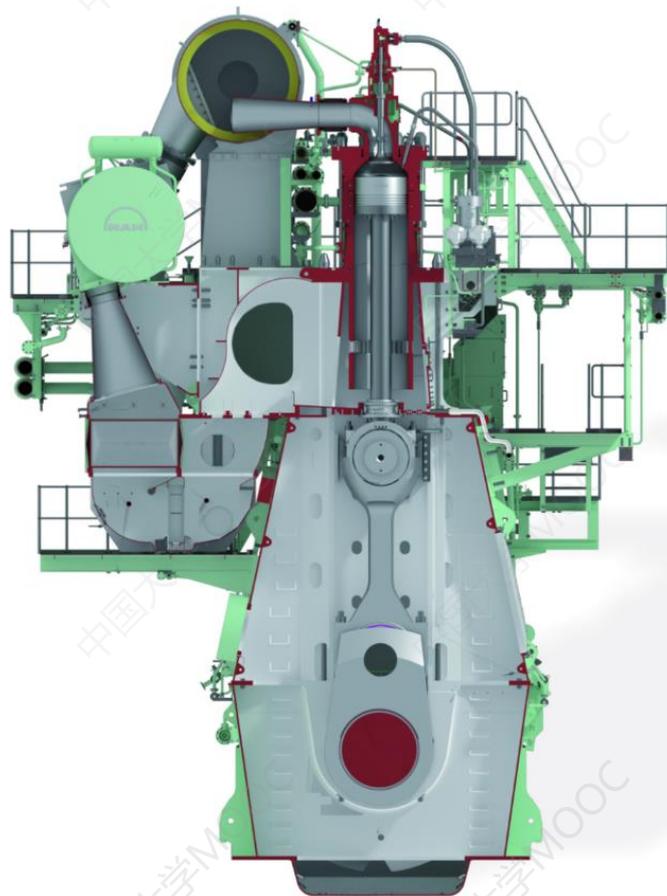
大连海事大学
DALIAN MARITIME UNIVERSITY



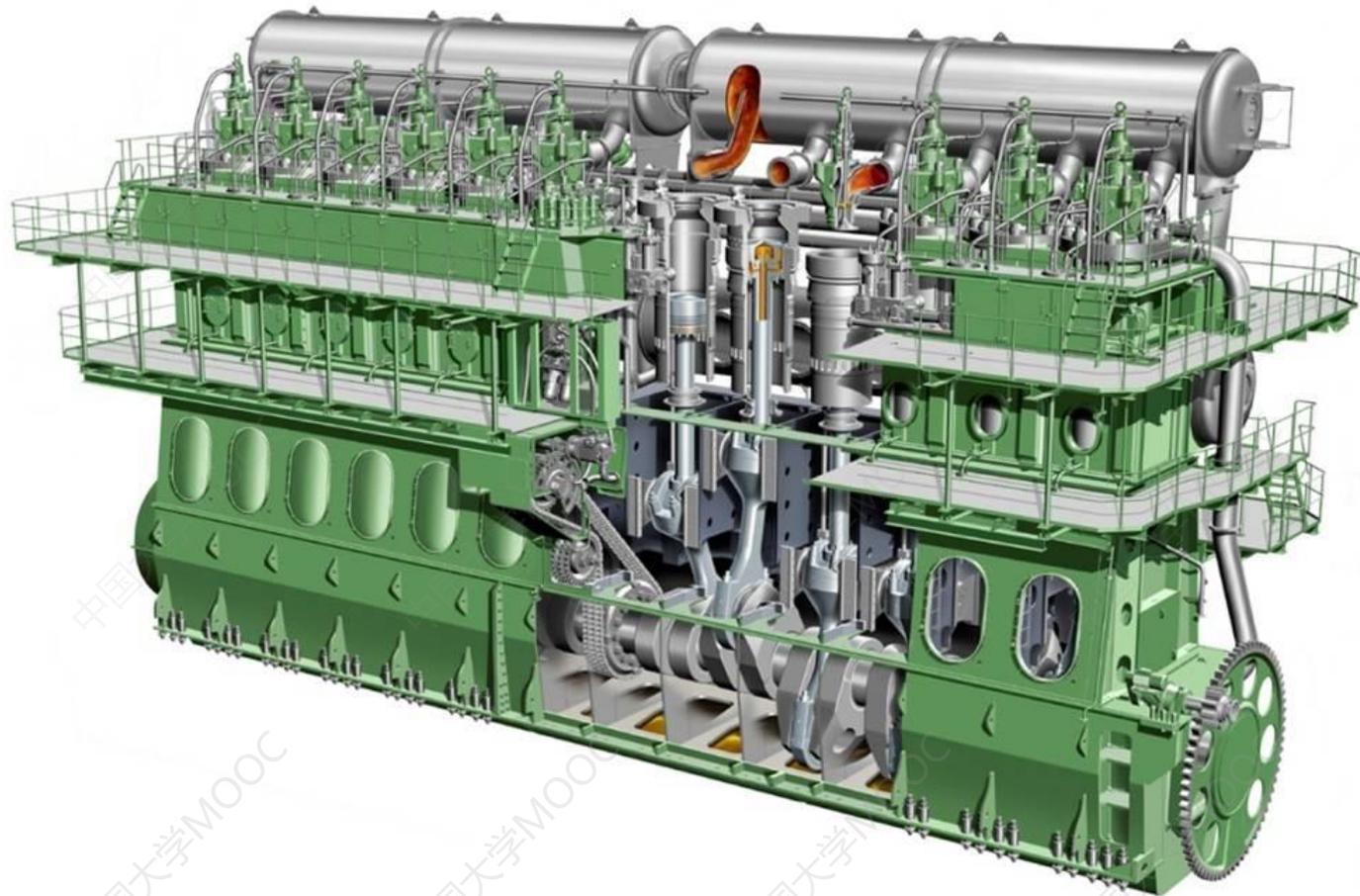
中国大学MOOC

十字头式柴油机

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Contact us: dmumde@163.com



※ 十字头式柴油机总体结构

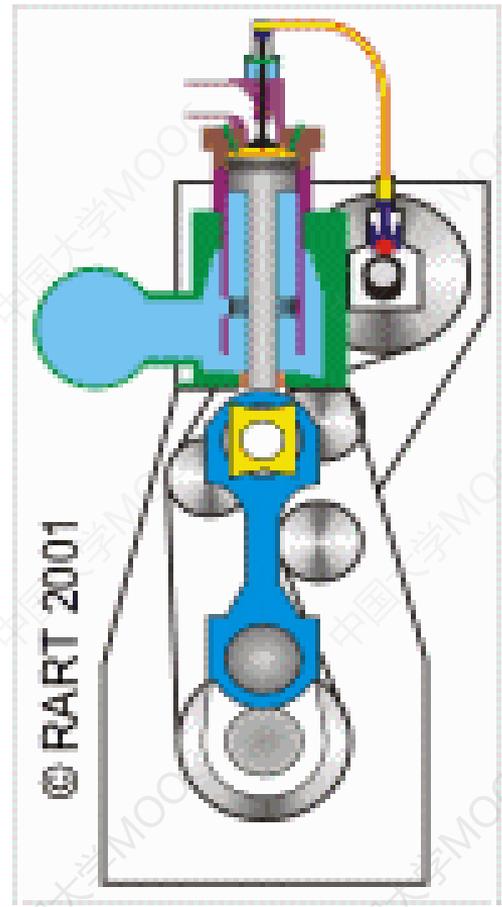


• 摩擦副

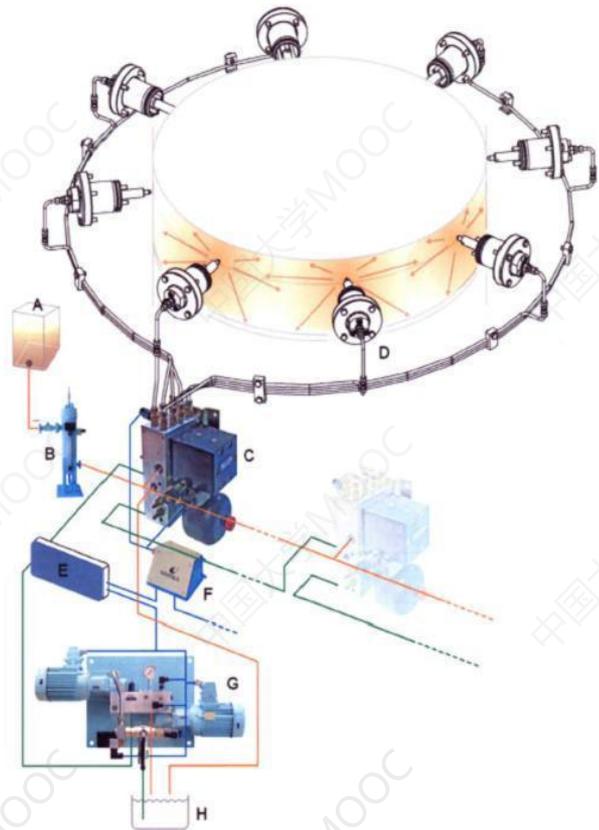
- ①
 - 主轴颈-主轴承
 - 推力环-推力轴承
- ②
 - 曲柄销-连杆大端轴承
 - 十字头销-连杆小端轴承
 - 十字头滑块-十字头导板
 - (Piston Cooling)
- ③
 - 凸轮轴-轴承
 - 增压器转子-轴承
- ④
 - 活塞环-气缸套

Circulating Oil

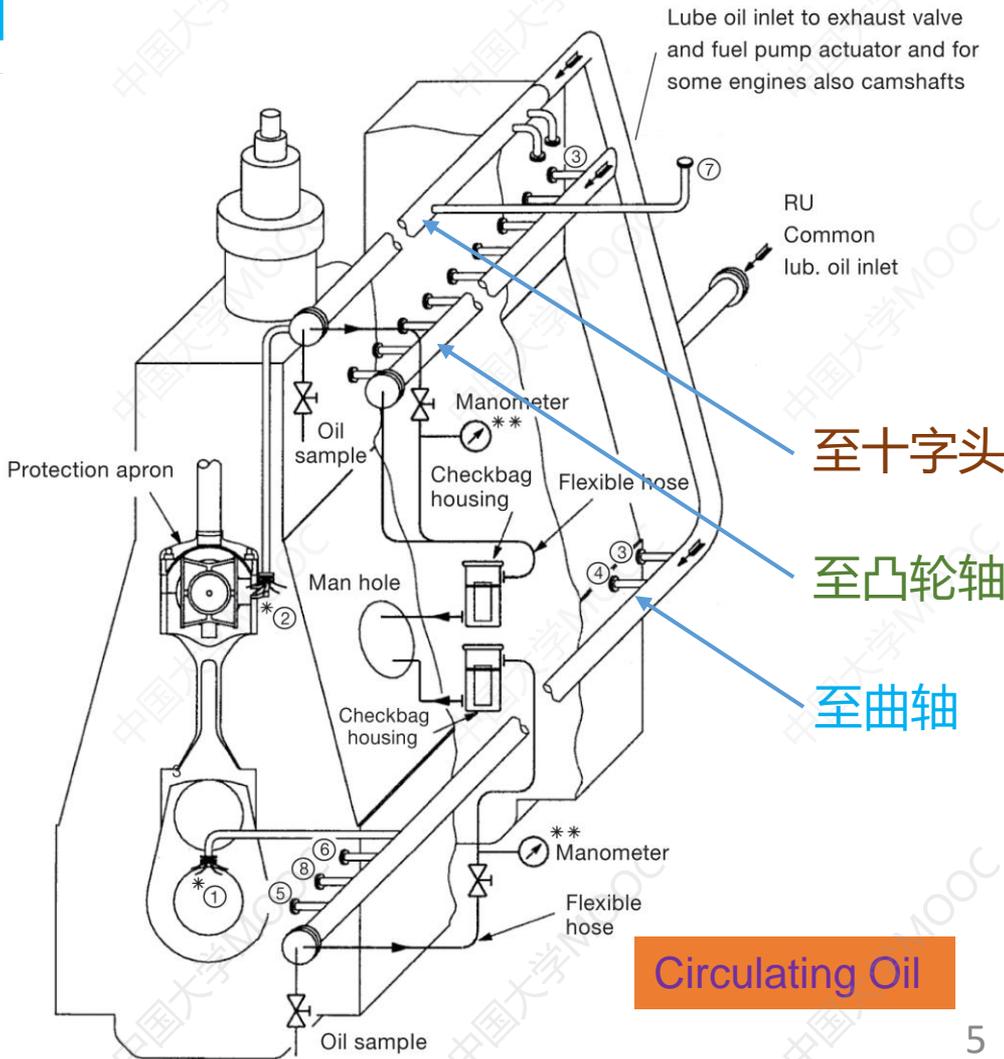
Cylinder Oil



※ Engine Lubrication



Cylinder Oil



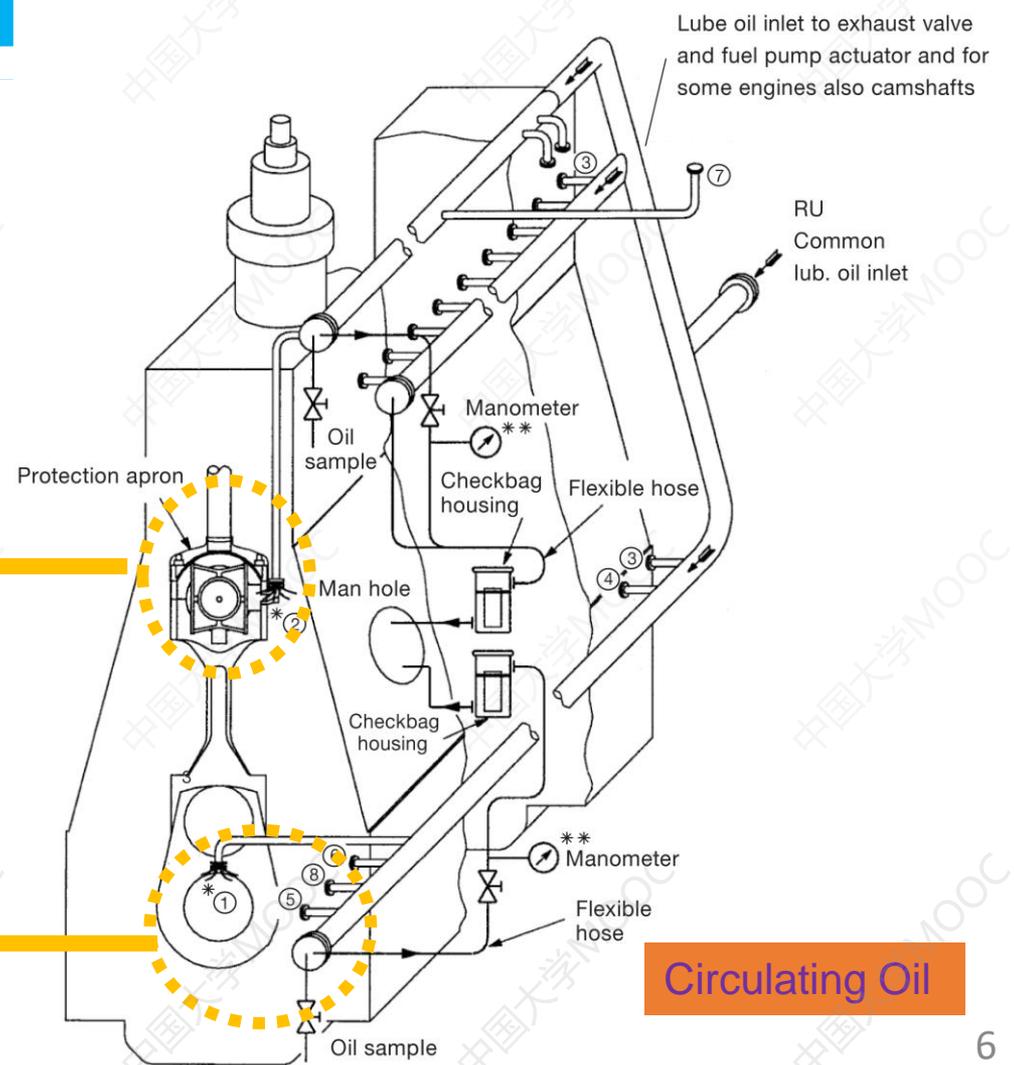
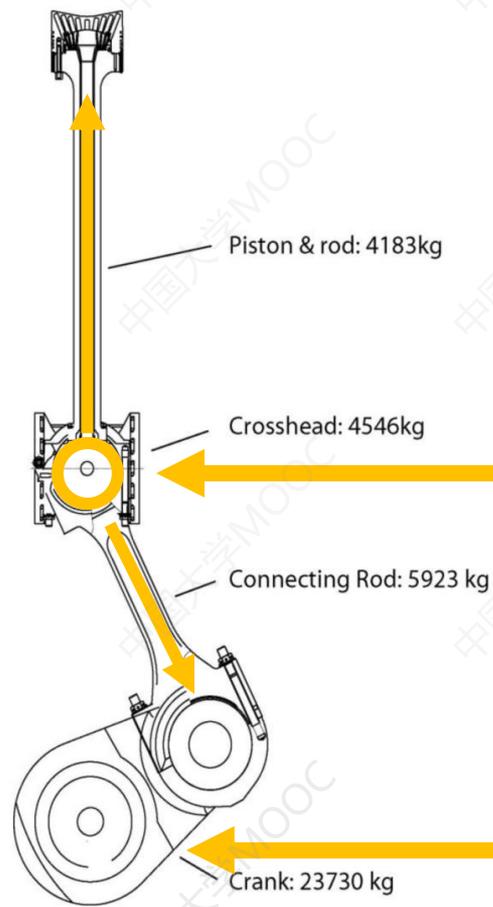
Circulating Oil

至十字头

至凸轮轴

至曲轴

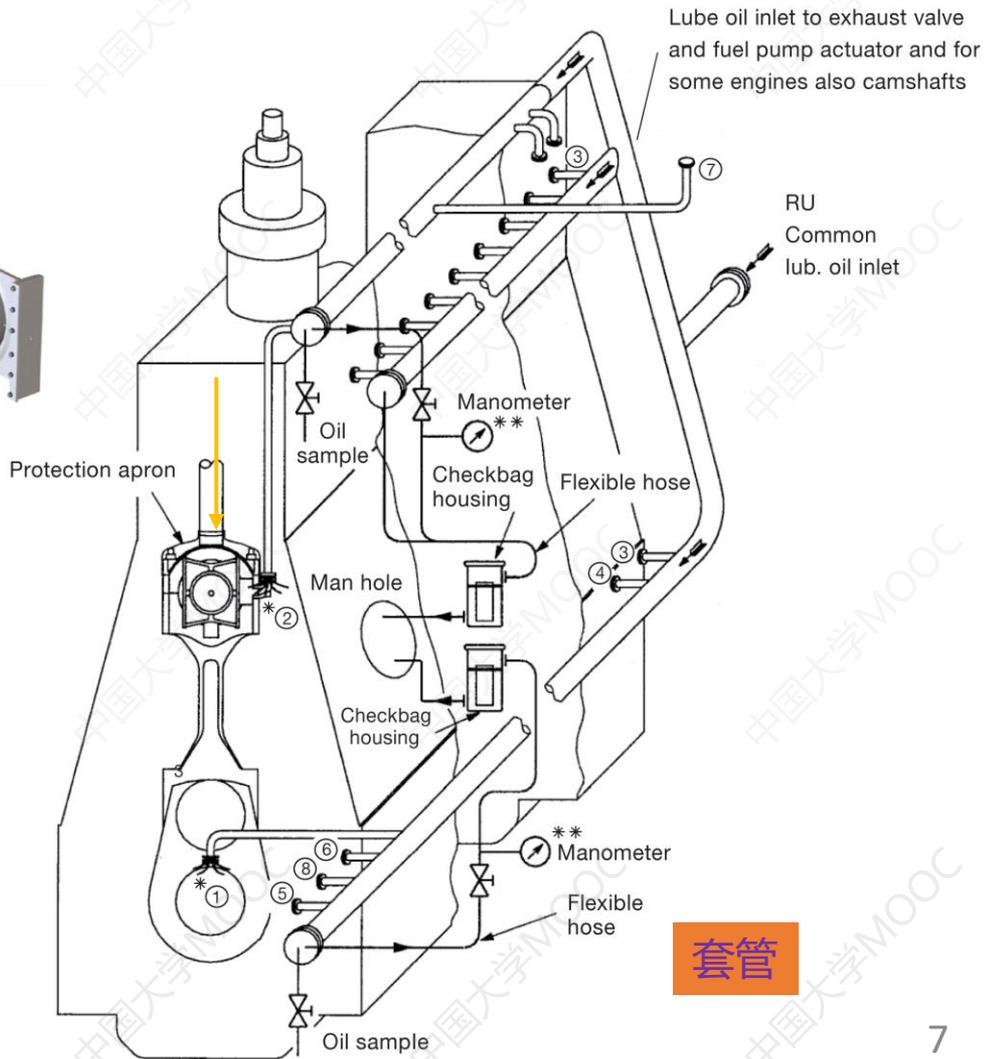
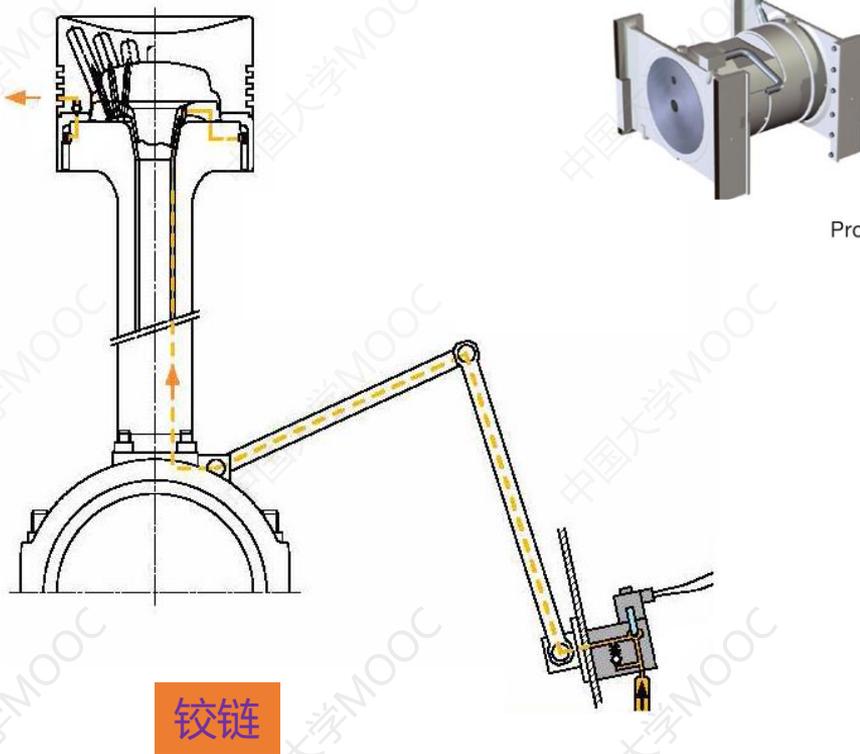
※ Engine Lubrication



Circulating Oil

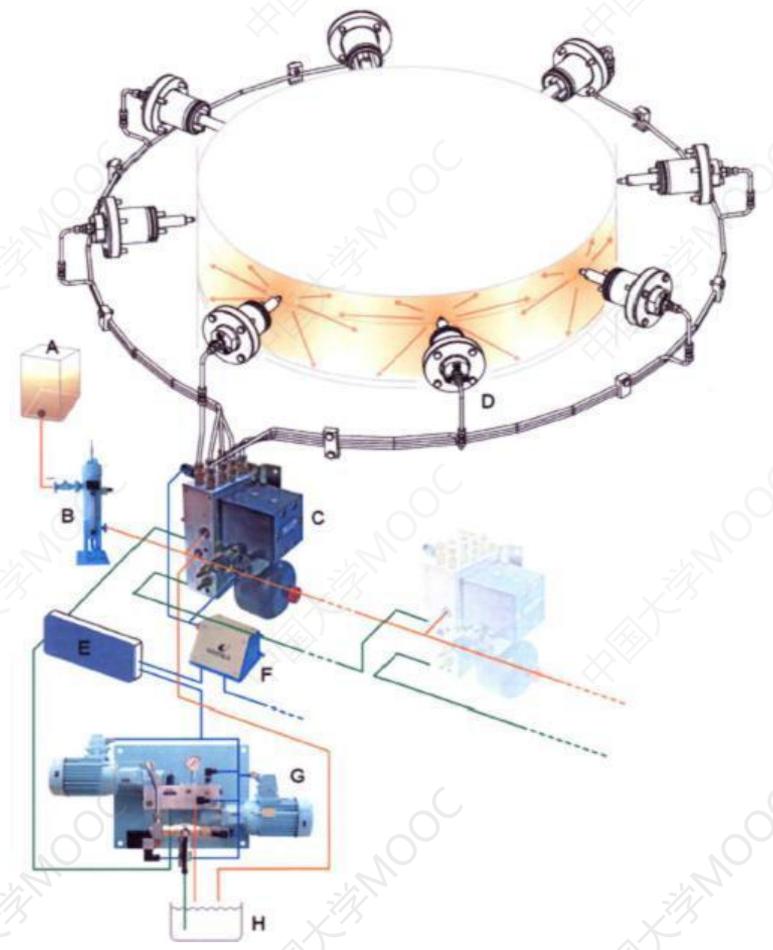
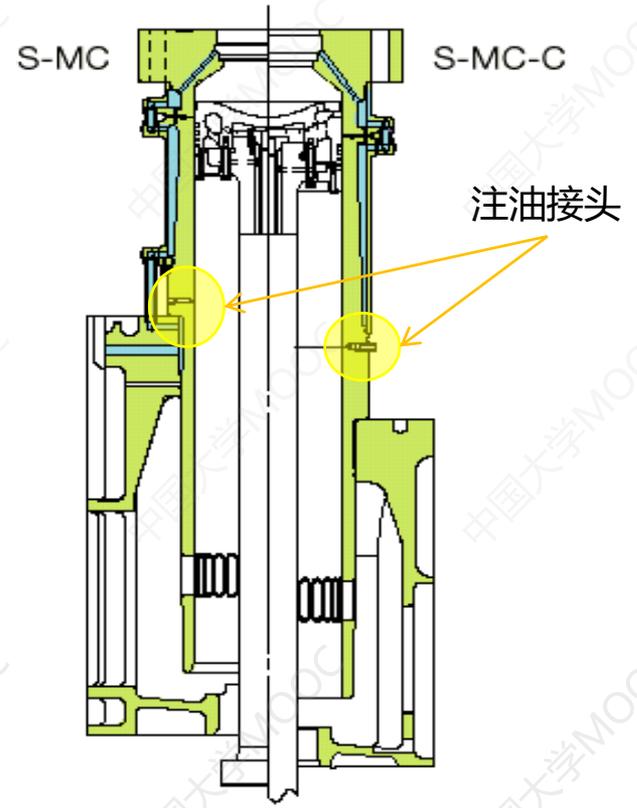
※ Engine Lubrication

• 十字头滑油输送 – 铰链/套管



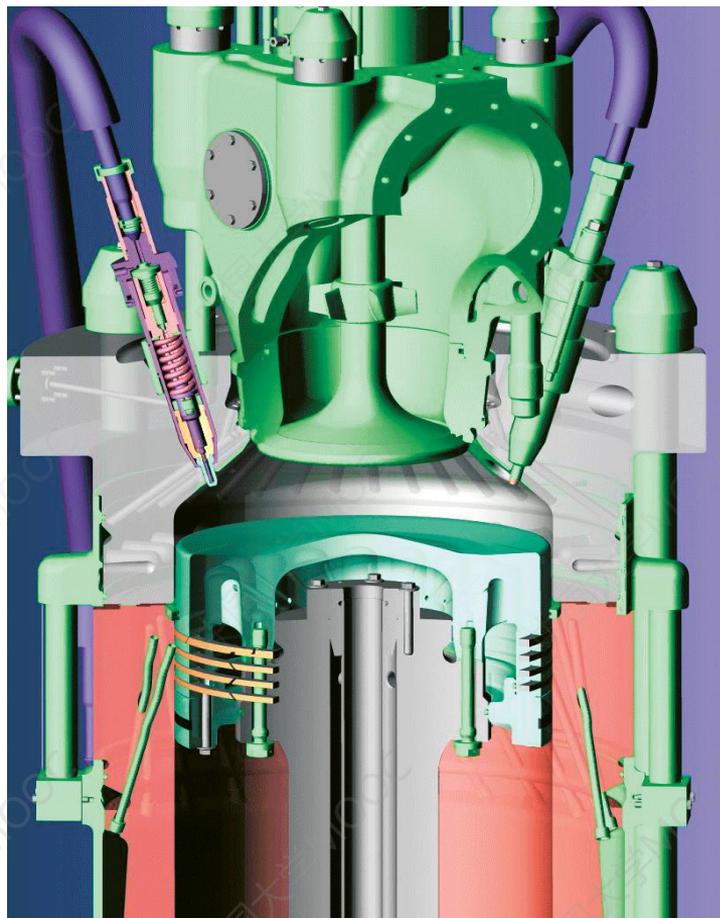
套管

• 气缸润滑

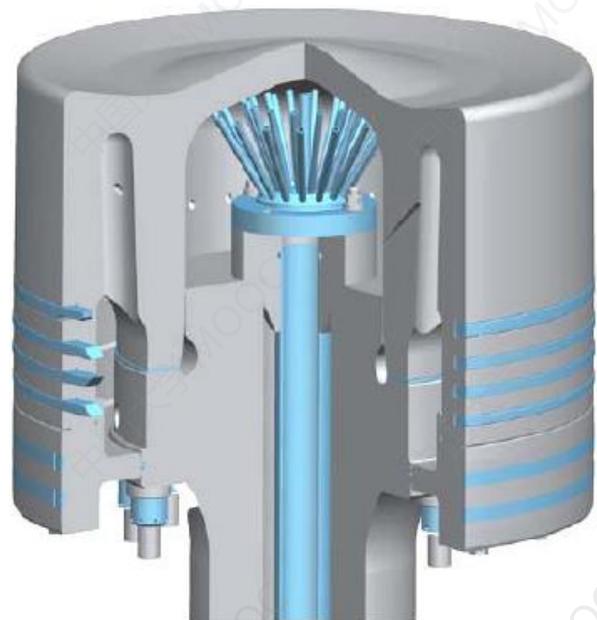


- 润滑油

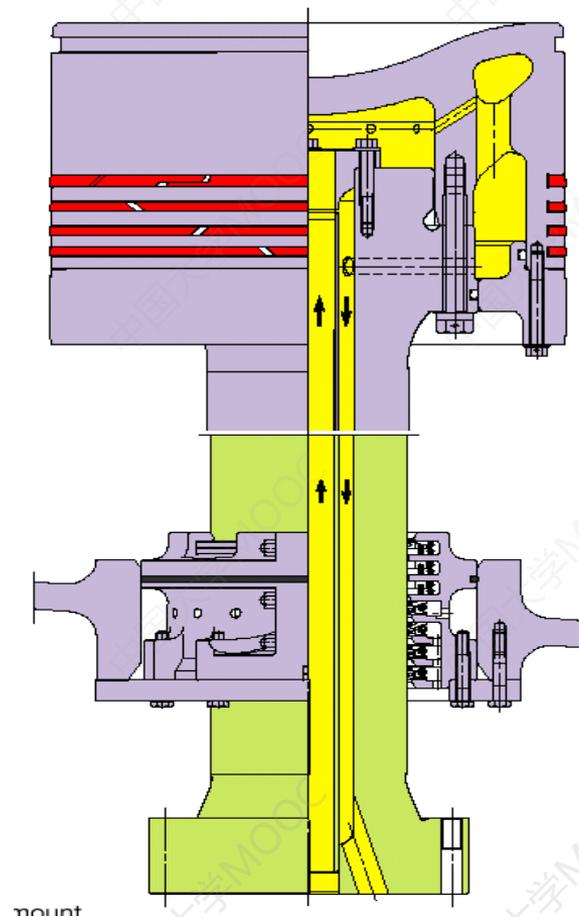
- 燃烧室部件
 - 活塞
 - 气缸套
 - 气缸盖
- 柴油机冷却
 - 限制部件工作温度不超过材料允许极限
 - 限制部件内外壁面温差, 减少热应力
 - 保证运动部件的适当间隙
 - 保持部件表面滑油油膜正常工作状态



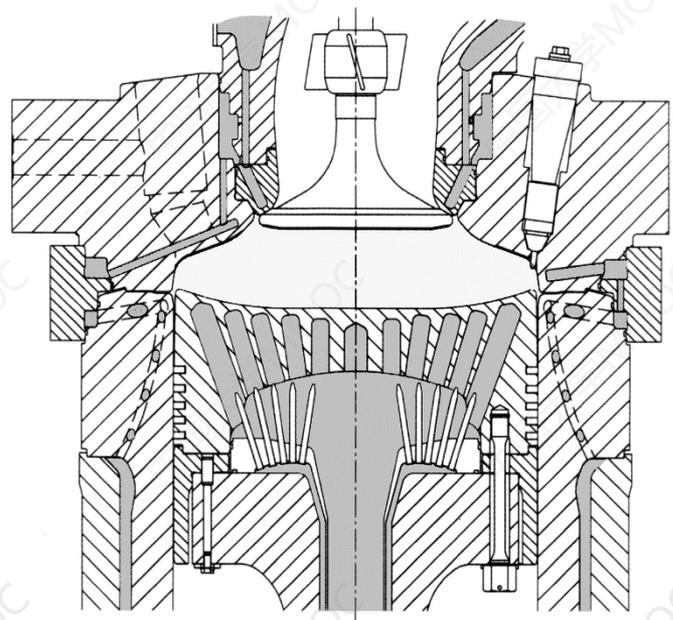
- 喷射-振荡冷却



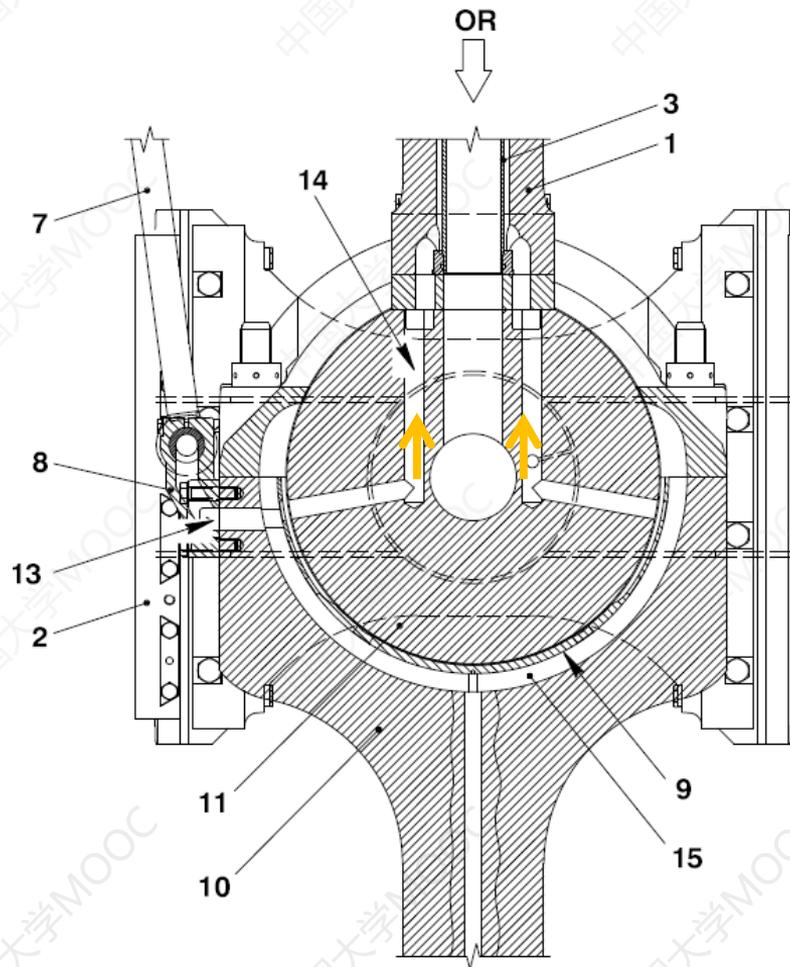
先中央后四周



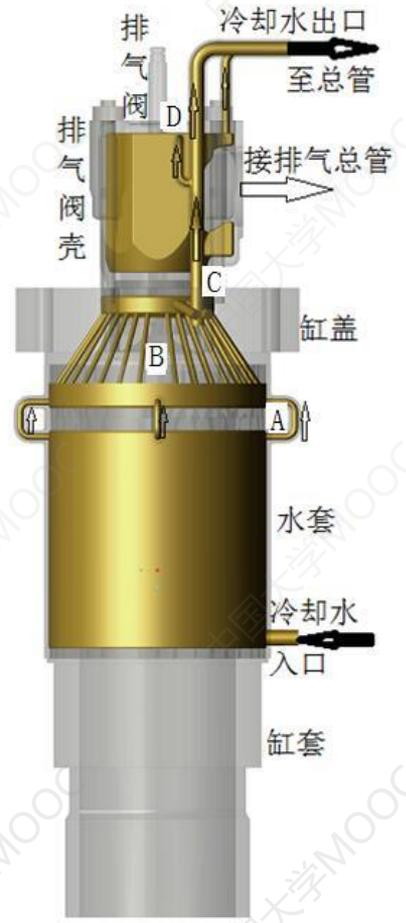
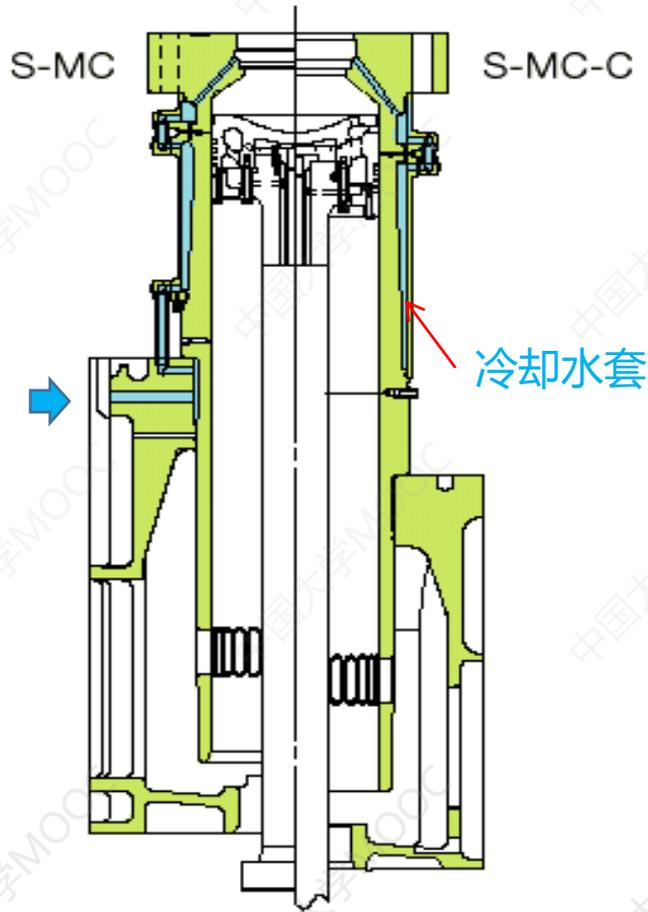
• 喷射-振荡冷却



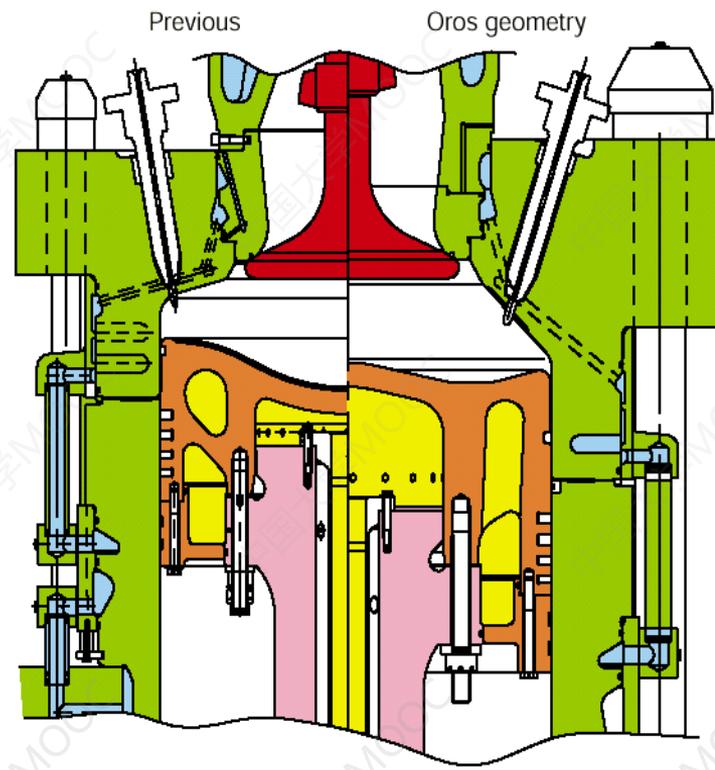
先四周后中央



※ Engine Cooling, Cylinder



※ Engine Cooling, Cylinder



冷却水三维模型