

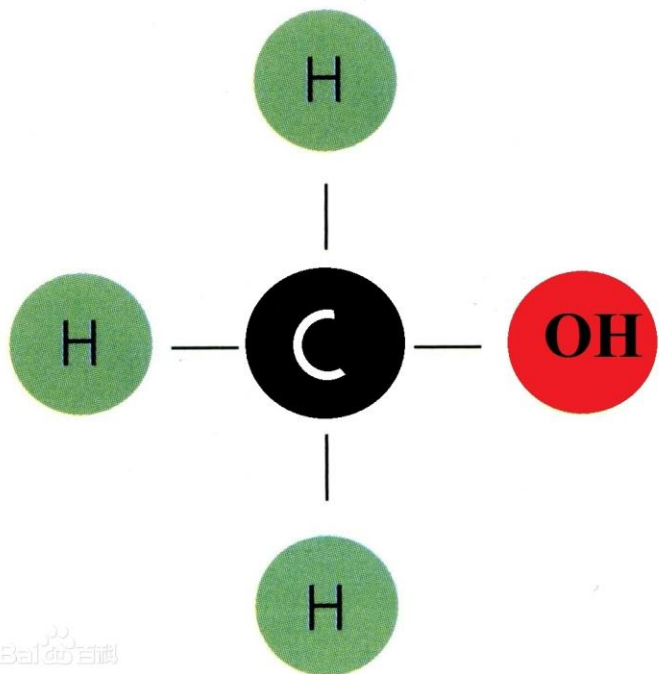


GasLink® 甲醇燃料供应系统

GasLink®甲醇燃料供应系统

甲醇燃料

甲醇 (Methanol) 又称羟基甲烷，是一种有机化合物，有毒。是结构最为简单的饱和一元醇。其化学式为 $\text{CH}_3\text{OH}/\text{CH}_4\text{O}$ ，其中 CH_3OH 是结构简式，能突出甲醇的羟基，CAS号为67-56-1，分子量为32.04，沸点为64.7℃。



环保性	1、降低99%硫氧化物、60%氮氧化物、95%颗粒物排放； 2、使用绿色甲醇前提下，甲醇燃料全生命周期可实现碳排放量降低95%； 3、甲醇主燃料模式下EEDI可比基线减少约40%；
便捷性	1、主机改装简单且费用较低，仅为LNG改装的25%； 2、甲醇燃料在船舶上无需低温储存；

甲醇燃料优势

<http://www.sunrui.com.cn>

GasLink®甲醇燃料供应系统

研发历程及设计依据



使用气体或其他低闪点燃料船舶国际安全规则 (IGF规范)

甲醇/乙醇燃料船舶临时安全导则 (MSC.1/Circ.1621)

CCS船级社规范

曼恩能源公司的低闪点燃料系统指南

国际散装运输液化气体船舶构造和设备规则 (IGC规范)

设计依据

GasLink®甲醇燃料供应系统

青岛双瑞甲醇燃料供应系统

● 取得认证



Lloyd's Register Classification Society
Shanghai Technical Support Office
12th Floor, Cheng Hing Finance Centre
288 Nanjing West Road, Shanghai 200060
People's Republic of China
T +86 21 6215 1066
F +
E china@lloydregister.com
<http://www.lr.org>

Your ref
Our ref STS/STS/QY/SOTS/2022/0104D-506435

16 February 2022

APPROVAL IN PRINCIPLE
Certificate No. 22/80003
Issued to: Sunrui Marine Environment Engineering Co., Ltd.
For: Low-Flashpoint Fuel Supply System (methanol fuelled)

This is to certify that Lloyd's Register Classification Society (China) Co., Ltd has undertaken Design Concept Evaluation of "Low-Flashpoint Fuel Supply System (methanol fuelled)", with a view to awarding an "Approval in Principle". The evaluation included an overall examination of fundamental aspects of the design for compliance with the requirements of the below LR Class Rules and Regulations.

System Parameter

Fuel supply pressure: 10 bar G
Fuel supply temperature: 35±10° C
Fuel supply capacity: Max 8000 kg/h



Tianming Li
General Manager and Principal Specialist
Shanghai Technical Support Office
Lloyd's Register Classification Society (China) Co., Ltd.



Xiaodong Zhang
DOT Manager and Principal Specialist
Shanghai Technical Support Office
Lloyd's Register Classification Society (China) Co., Ltd.

Working together for a safer world

Lloyd's Register Classification Society (China) Co., Ltd., registered number 913100008840210000, registered office: 15th Floor, 354 Yan An Dong Road, Shanghai, PR China, is a member of the Lloyd's Register group.

Application: Marine application is subject to approval when it is intended to be installed on board specific LR classed ships.

The design has been reviewed based on the following Regulations:

- LR Rules and Regulations for the Classification of Ships, July 2021 and relevant Notices.
- Rules and Regulations for the Classification of Ships using Gases or other Low-Flashpoint Fuels, July 2021 and relevant Notices.

Lloyd's Register Classification Society (China) Co., Ltd considers that the proposed design concept is based on satisfactory standards and can be approved in Principle.

The full design appraisal is required when the system is intended to be installed on board LR classed specific ships.

The system is subject to meet the requirements for testing, survey, certification and verification in accordance with LR Rules and Regulations for the Classification of Ships, LR Shiplight Procedures where appropriate, prior to its operation on board ships.

Reference Documentation:

Doc. No.	Description	Rev.
LFSS-ID-001	System Description	1.0
LFSS-IR-001	Technical Requirement	1.0
LFSS-IR-001	P & ID of LFSS	1.0
LFSS-IR-002	P & ID of Solenoid Valve Control Panel	1.0
LFSS-C-001	Calculation Report of Piping Thickness	1.0
LFSS-E-001	Electrical Description	1.0
LFSS-E-002	Alarm List	1.0
LFSS-E-003	Single Line Diagram of System Control Cabinet	1.0

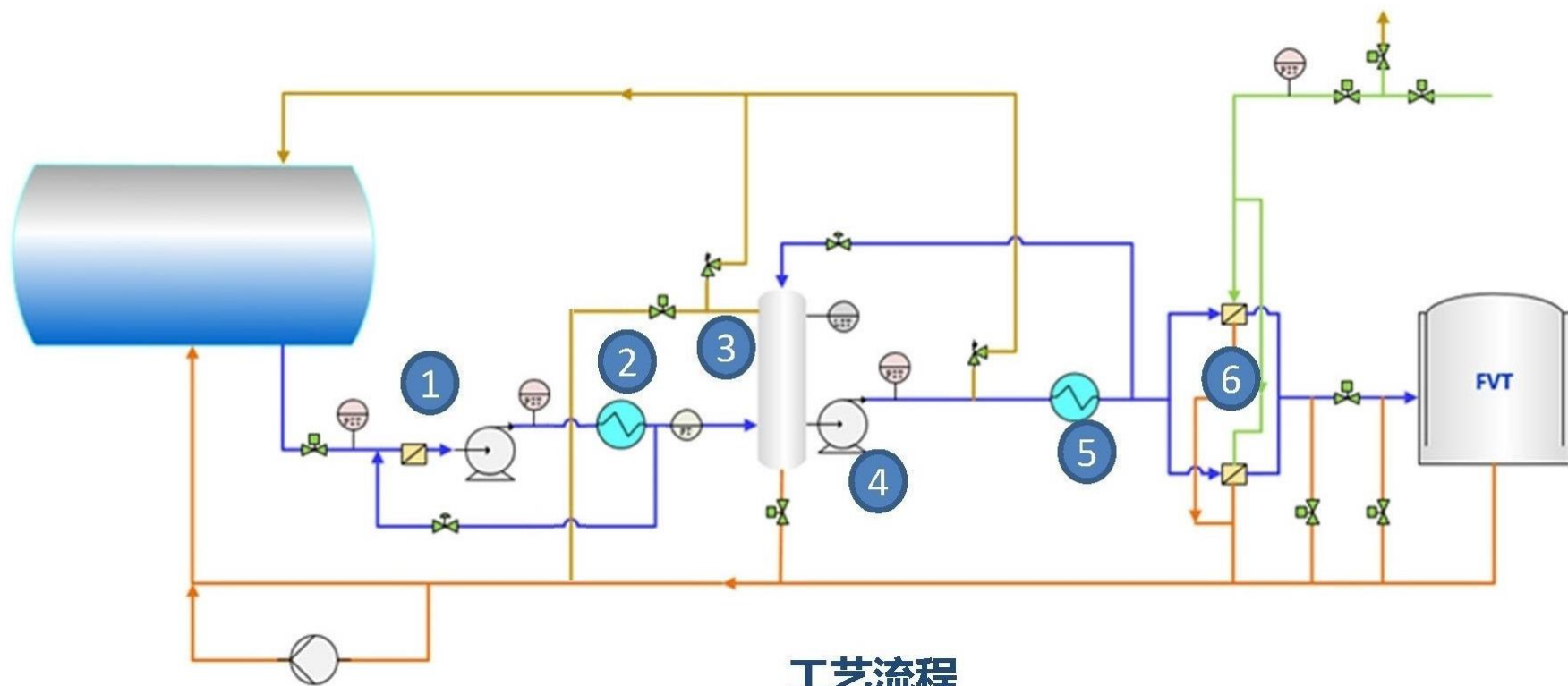
Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as "Lloyd's Register". Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

认证船级社：LR

取证时间：2022.2.16

GasLink®甲醇燃料供应系统

系统组成



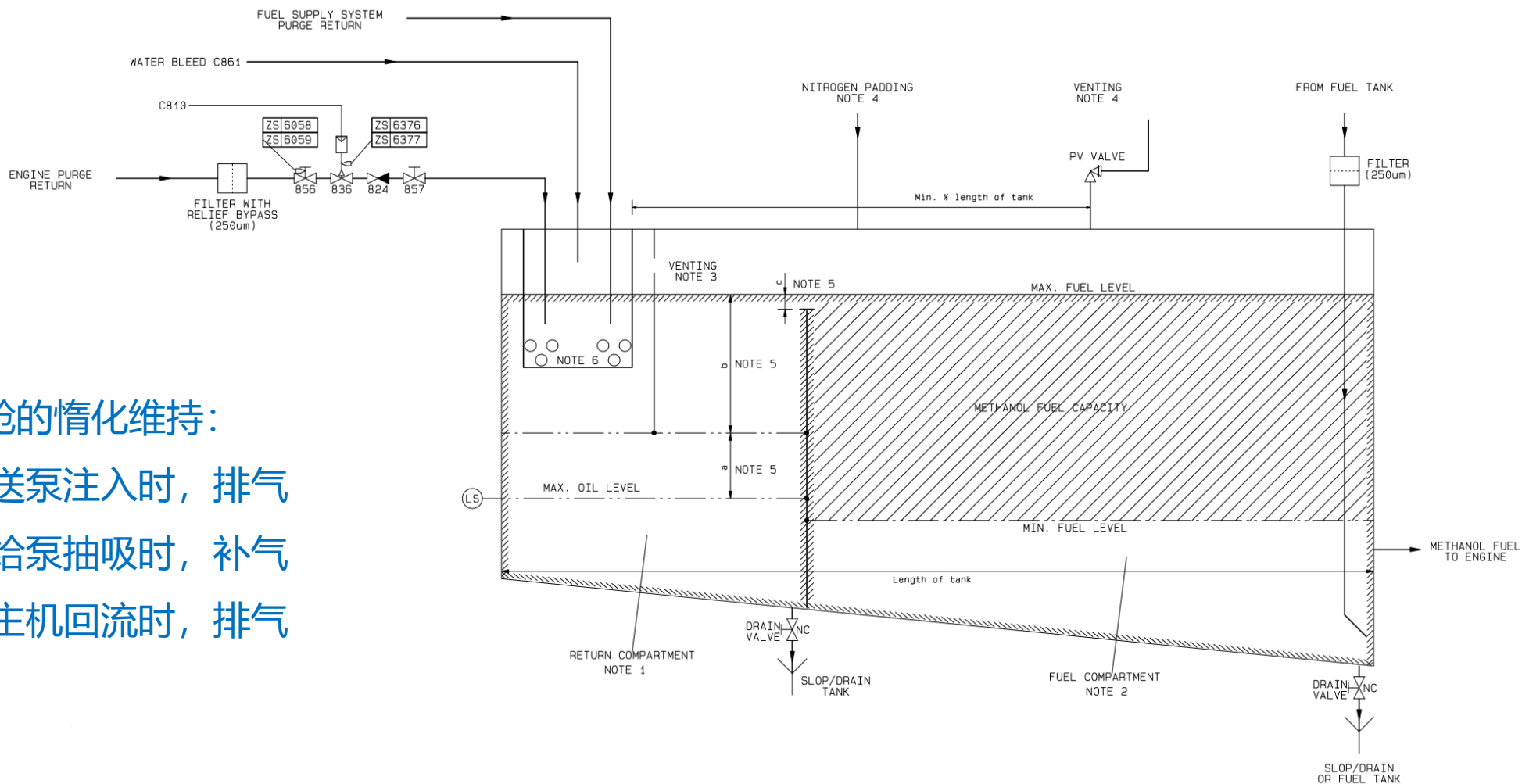
- ◆ 1——甲醇供应泵
- ◆ 2——低压换热器
- ◆ 3——混油除气罐
- ◆ 4——甲醇循环泵
- ◆ 5——高压换热器
- ◆ 6——带DBB双联滤器

GasLink®甲醇燃料供应系统

日用舱

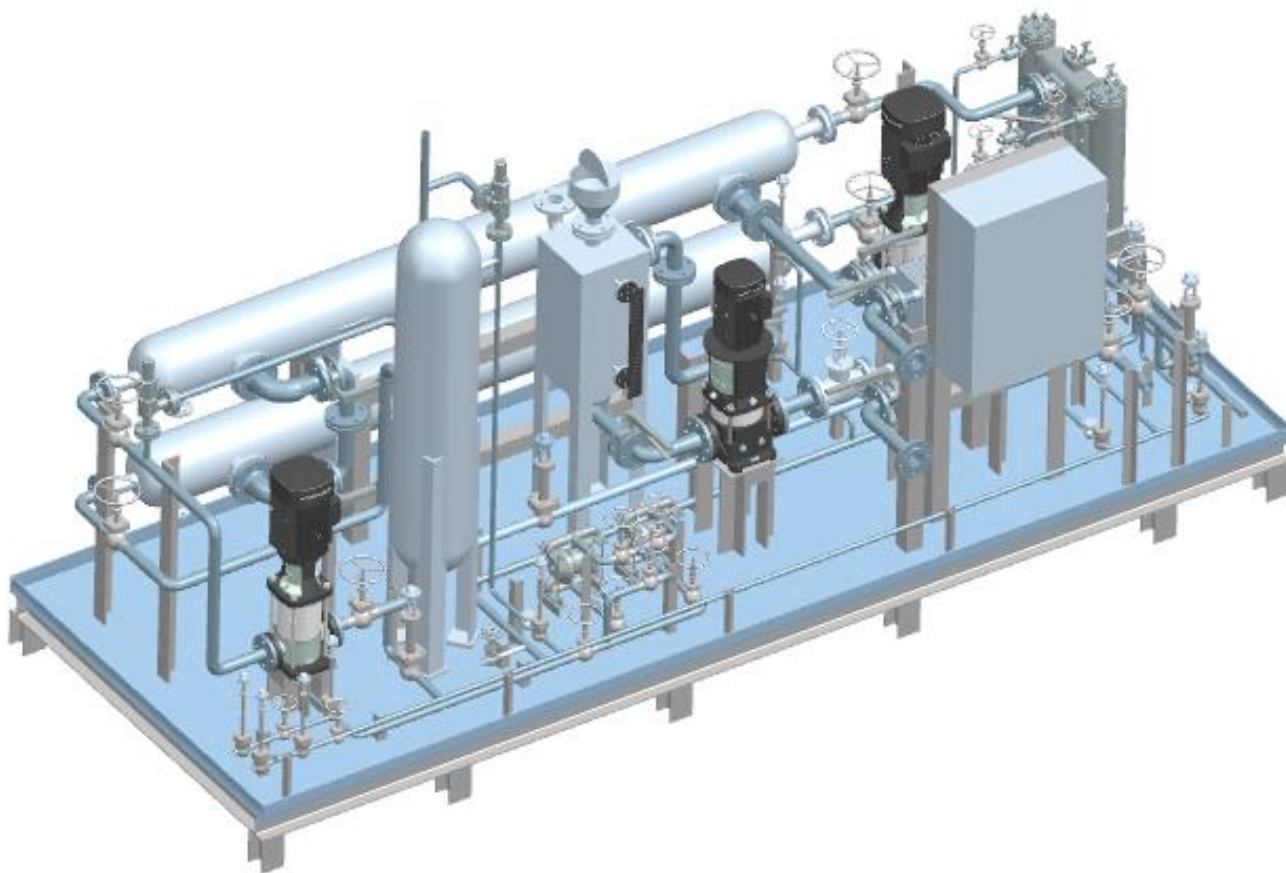
甲醇日用舱的惰化维持：

- 甲醇输送泵注入时，排气
- 甲醇供给泵抽吸时，补气
- 甲醇从主机回流时，排气



GasLink®甲醇燃料供应系统

系统布置



类别	参数
L×W×H	4.65m×1.75m×2.5m
适用机型	6G50ME-C9.6 6S50ME-C9.6
供应量	4m³/h
供应压力	10barG

GasLink®甲醇燃料供应系统

供货范围

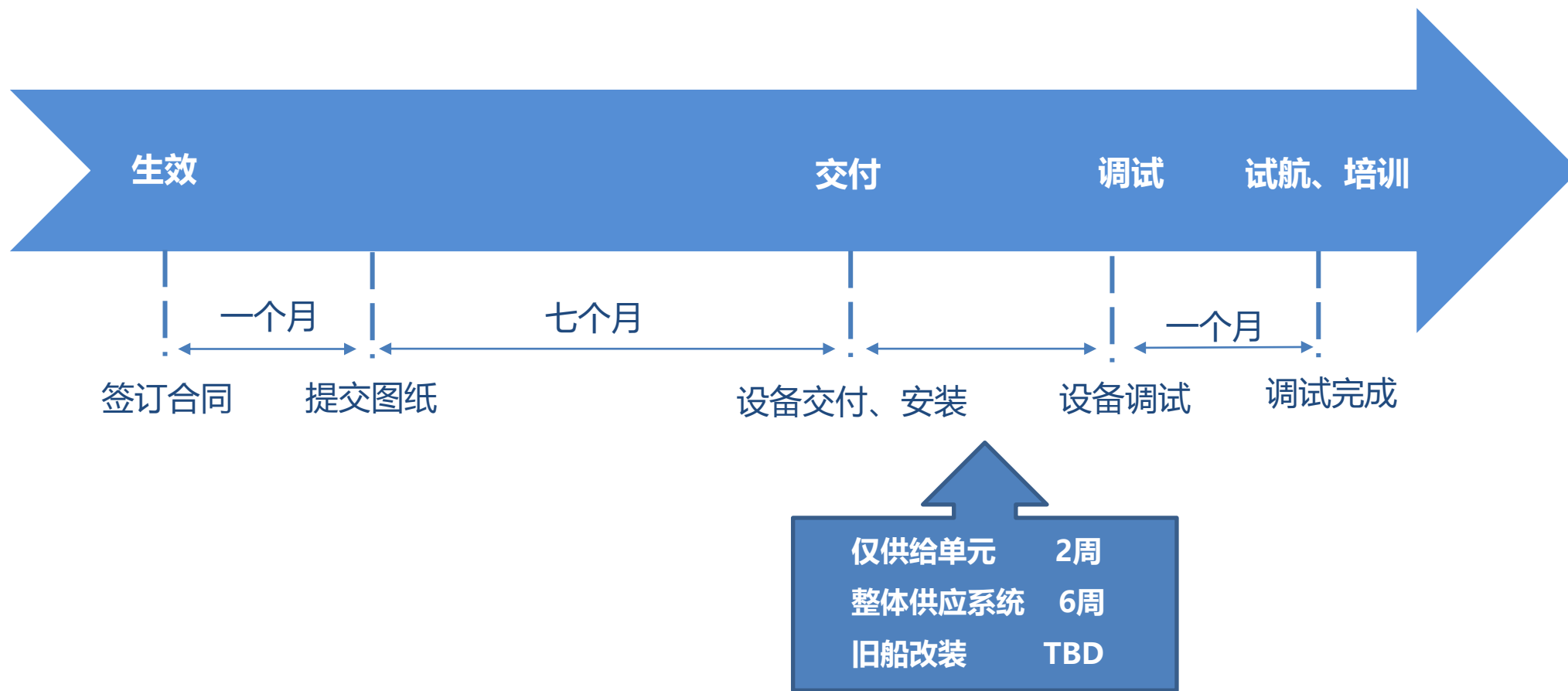
双瑞	集成式甲醇燃料供给单元	可选项	散装供货
➤ 甲醇燃料供应泵 ➤ 甲醇燃料循环泵 ➤ 带除气混油桶 ➤ 质量流量计 ➤ 带DBB双联滤器	➤ 低压换热器 ➤ 高压换热器 ➤ 水乙二醇换热器系统 ➤ 控制箱	➤ 甲醇日用舱 ➤ 安全系统 ➤ 甲醇潜液泵 ➤ ESD系统	➤ 双壁通风系统 ➤ 气体探测系统 ➤ 氮气吹扫系统
客户	➤ 甲醇燃料舱 ➤ 火焰探测系统 ➤ FVT (甲醇燃料阀组单元)		

双瑞可为客户提供旧船改装整体解决方案

<http://www.sunrui.com.cn>

GasLink®甲醇燃料供应系统

供货周期



GasLink®甲醇燃料供应系统

系统优势

- 甲醇供应稳定，供应压力维持在 $10\pm0.5\text{barG}$ ，供应温度维持在 $35\pm10^{\circ}\text{C}$ ；
- 通过自动控制燃料调节过程，简化安全程序，并提高设备安全性；
- 系统采取全自动操作设计，能自动处理所有必要的燃料程序；
- 控制系统位于安全区域，大大降低轮机员无意接触危险燃料风险；
- 可针对不同主、辅机快速提供设计方案，并可针对客户要求系统进行定制；
- 模块的双重关断和排放隔断设计，可防止任何意外的燃料泄露；

合作创造未来

cooperation for a better future

这就是双瑞 双赢发展
瑞泽五洲

