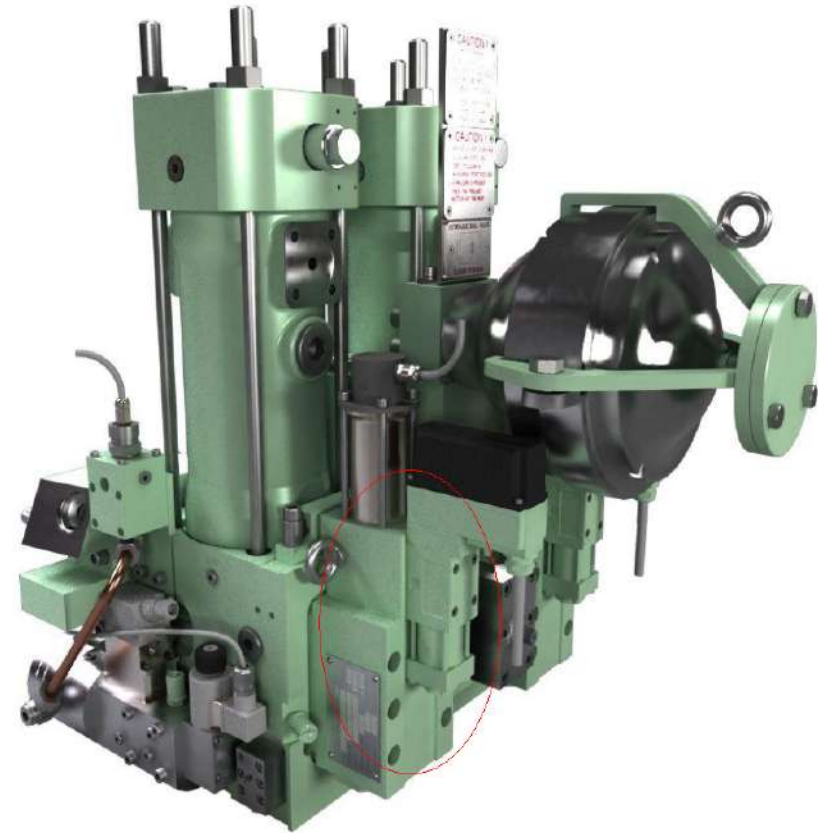
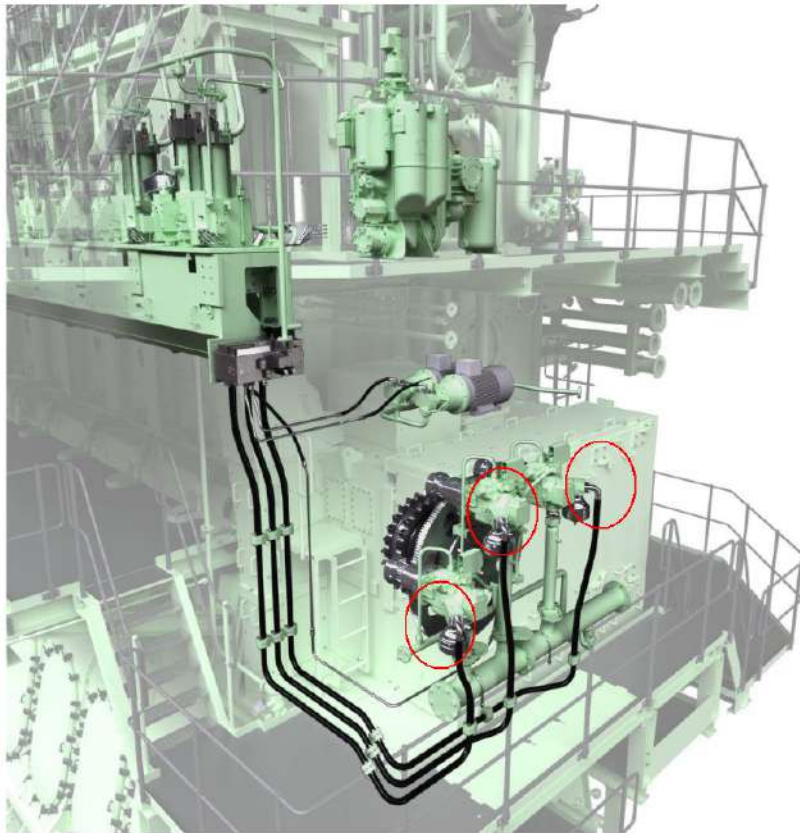


Hydraulic Products Solutions

Junma



HPS Overhaul Program

Background – Reason for initiative

We looking into the Hydraulic Service Business for the following reasons:

- Support our customer the best way
- Assist customers in overcoming the challenges that follows in the wake of the upgrade of the propositional valve.
- Help customers save money
- Create an alternative to buying a new HPS pump
- Make use of this new opportunity
- Only supplier across makers

Junma



Hydraulic Products Solutions

The Product – HPS Pump Overhaul Program



- Most vessels have a set of spare pumps onboard or at a stock:
 - These spare pumps are used in an internal exchange program
 - Between sister vessels or similar.
 - Owners and operators will always get their own pumps back
 - Follow the history of the same pumps.

Hydraulic Products Solutions

The Product – HPS Pump Overhaul Program

Junma



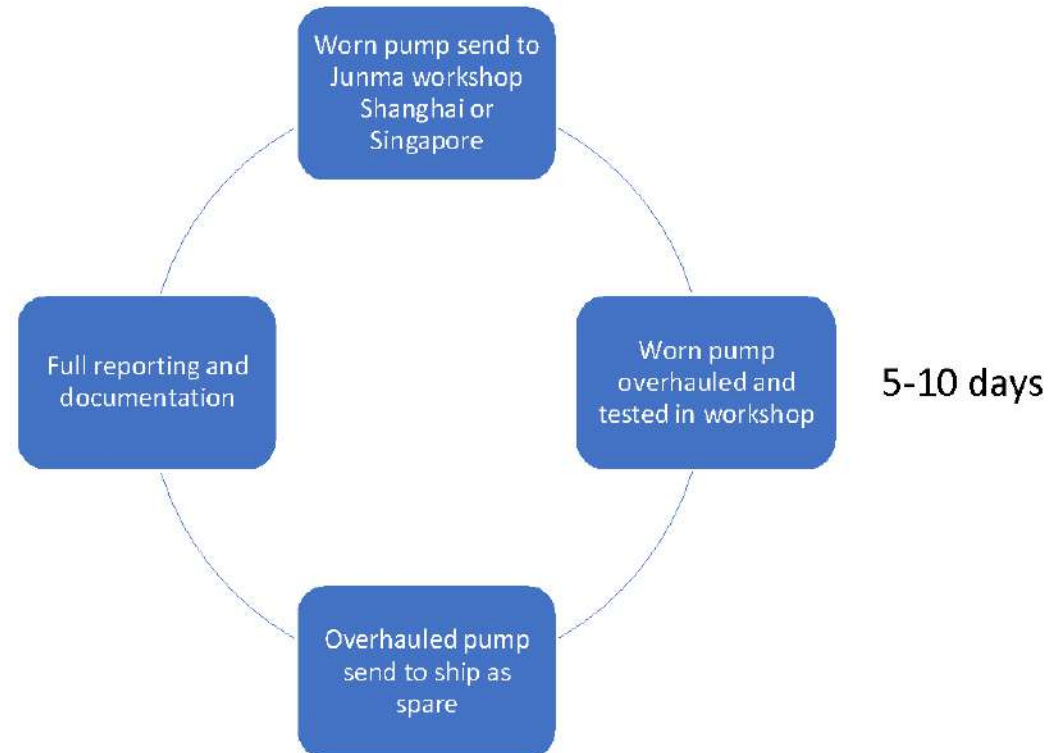
We now offers a solution in which the HPS pump can be overhauled instead of buying a new.

→ Basically, the program entails that the old HPS pump is overhauled by our experienced personnel and returned in its original design and quality but at a lower cost.

HPS Overhaul Program

Four steps to go

Junma

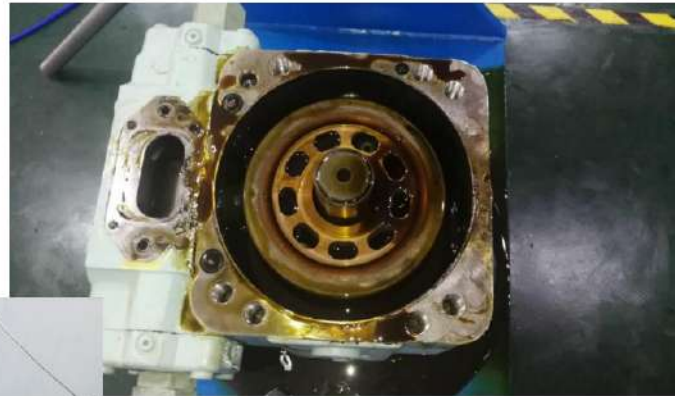


HPS Overhaul Program

Overhaul of pumps – Step by Step

Juuma

Disassembly



Cleaning



Inspection



HPS Overhaul Program

Overhaul of pumps – Step by Step

Overhaul and Exchange of Parts



- Gasket set
- Sliding bearings
- Roller bearings
- Bearing shells
- Springs
- Vari gasket



Quinna

HPS Overhaul Program

Overhaul of pumps – Step by Step

Gamma



Assembly & Test



HPS Overhaul Program

Overhaul - Proportional Valves

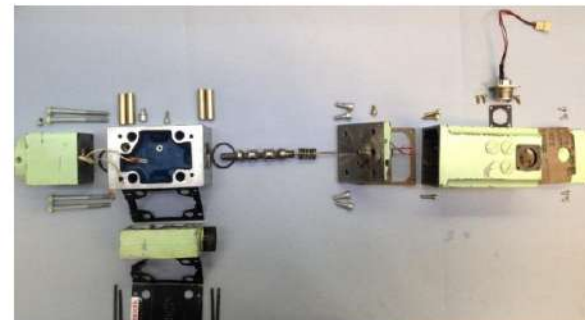
Junma

- Disassembly
- Ultrasonic cleaning
- Replacement of gaskets and O-rings
- Reassembly
- Test including report

Before cleaning



After cleaning – prior to testing



HPS Overhaul Program

Overview



Pump

- Complete Overhaul and Testing

Prop. Valve

- Overhaul and Testing

Reporting

- Overhaul documented including testing report

HPS Overhaul Program

Overview – what is possible with each valve type



Option	HS3	HS4
New Pump		
New Proportional Valve		
Overhaul Service	 *	
Exchange Service		
Overhaul of Prop Valve		
Upgrade HS3 → HS4		N/A

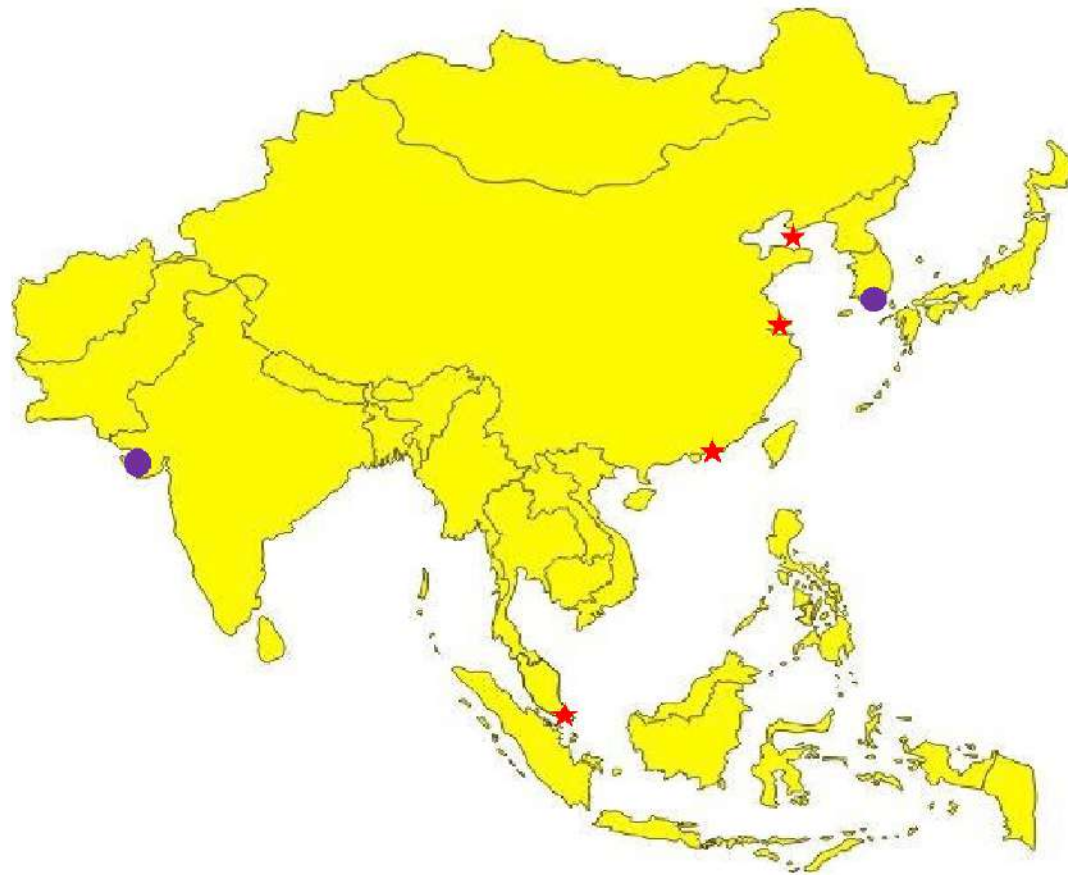
* Replacement valve must be available for HS3, otherwise Upgrade HS3 → HS4 is required.

Our Clients

Junna



Our Promise



Junma Services provides warranty for its product, and it's secured by service network in Asia.

- 3 months warranty for technical service
- 6 months warranty for spares