

CUSTOMER : **mitsubishi hitachi power systems, ltd.**

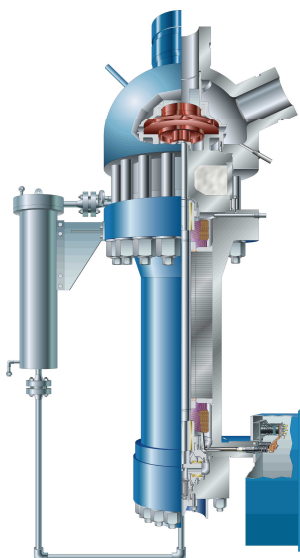
END USER : **TANJUNG JATI B EXPANSION (JAWA-4)
COAL FIRED STEAM POWER PLANT 2 x 1,000MW**

GLANDLESS HOT CIRCULATION PUMP TYPE

HLAV

WET MOTOR TYPE

OPERATION AND MAINTENANCE MANUAL



PRODUCT. NO.
PUMP TYPE

**PU0220302
HLAV250-575/1K**

IMPORTANT !

To assure safe and proper operation, be sure to read this "INSTRUCTION MANUAL" and the annexed "SAFETY PRECAUTIONS" prior to installing and using your pump.

TORISHIMA PUMP MFG. CO., LTD.

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1. Introduction

Cooling Water Quality

Clean, softened water should be provided as low-pressure cooling water. It should be free from suspended matter, should not precipitate matter out of solution at the prevailing operating temperatures, and should not be aggressive. pH value ≥ 8.5

Cooling Water Circuit Arrangement

The cooling water circuit between the motor cooler and the heat barrier, together with the required monitoring devices, must be installed in accordance with the flow sheet attached. During initial pump operation stages, strainer should be provided in front of flow switch to protect flow switch from dirt. Flushing of the circuit thoroughly is also required for the same reason. △1

Life Time of Major Part (for recommendation)

No	Major Part Name	Part No.	Life year
1	Pump Casing compl.	1010	20
2	Motor Casing compl.	8110	
3	Shaft	2100	
4	Impeller	2300	
5	Casing Wearing Ring	5020.1, 2	5-10 (Please refer to table 9.2 "Clearance Measuring Record")
6	Plain Bearing Compl.	3100.1, 2	
7	Thrust Bearing Segment	3870.1, 2	
8	Bearing Sleeve	5290.1, 2	
9	Thrust Bearing Plate	3840	5-10(Shall be replaced with new one in every dismantling time)
10	Gaskets/O-Ring	4113, 4120	
11	Washers	5500	8
12	Stator Coil	8140	
13	Insulation Busing etc.	5202	

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Note

The design life listed above is not guaranteed life but the expected life in case pump would be used in general operating condition with appropriate regularly maintenance.

The actual life of parts should vary depending on each individual environment i.e. start-up frequency, operating time, water quality or surrounding temperature etc.

Table 10. List of Equipment (Table 4) Cold Feed System (Power Plant 2 x 1000 MW)

Item No.	Level 0 (Total Pump)	Equipment 1 (2) (Water Pumps)			Level 2 (Component Code)	Level 3 (Component Code)	Equipment Name	Description of Spine Item	Supplier's name	catalogue or part number	Qty per 2 Units (Power Unit 1)		Qty per 2 Units (Power Unit 2)		Qty included in total Spine Parts	Sketch	Cross Reference Drawing	expected frequency of replacement	Remarks
		F ₁	F ₂	F ₃							F ₄	F ₅	F ₆	F ₇					
addit. RESER	6	0	0	0	0	0	Water Circulation Pump	HEX DUCT	Tochima Pump MFG	part number 2010.1	2	pos	2	pos		T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	> 10 years	to 60° heat exchanger plate	
addit. RESER	6	0	0	0	0	0	Water Circulation Pump	HEX DUCT	Tochima Pump MFG	part number 2010.2	2	pos	2	pos		T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	> 10 years	to 60° heat exchanger plate	
addit. RESER	6	0	0	0	0	0	Water Circulation Pump	CASTET	Tochima Pump MFG	part number 6	2	pos	2	pos		T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	> 5 years or each time when motor cooler BTM flange is dismantled	to motor cooler BTM flange	
addit. RESER	6	0	0	0	0	0	Water Circulation Pump	CASTET	Tochima Pump MFG	part number 11	2	pos	2	pos		T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	> 5 years or each time when motor cooler BTM flange is dismantled	to motor cooler BTM flange	
addit. RESER	6	0	0	0	0	0	Water Circulation Pump	CASTET	Tochima Pump MFG	part number 13	2	pos	2	pos		T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	> 5 years or each time when motor cooler BTM flange is dismantled	to motor cooler BTM flange	
1103							Water Circulation Pump	CASING WELDING	Tochima Pump MFG	part number 2001.1	2	pos					T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	U/A 300M U/A 300M	
1104							Water Circulation Pump	CASING WELDING	Tochima Pump MFG	part number 2001.2	2	pos					T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	U/A 300M U/A 300M	
1105							Water Circulation Pump	PISTON RING	Tochima Pump MFG	part number 2001	4	pos					T18561.2-CF1-LS-H4Q-AN(D)Q-4.001 T18561.2-CF1-LS-H4Q-AN(D)Q-4.001	U/A 100M U/A 300M	