

































LEGEND							
	CHECK VALVE		CENTRIFUGAL FILTER		AIR OPERATOR		DUPLEX FINE FILTER
	S.L. GLOBE VALVE		QUICK CLOSING VALVE		PRE-SET VALVE		HOSE CONNECTOR
	S.D.N.R. GLOBE VALVE		PUMP		LOCAL LEVEL INDICATOR		ELECTRIC HEATER
	GATE VALVE		PRESSURE GAUGE		THERMOMETER		LEVEL TRANSDUCER
	PRESSURE RELIEF VALVE		COMPOUND GAUGE		FLEXIBLE CONNECTION		HIGH PRESSURE SENSOR
	THREE WAY VALVE		DUPLEX STRAINER		TANK TOP PENETRATION		QUICK DISCONNECT
	THERMOSTATIC OPERATOR		SIGHTGLASS		FLAME ARRESTOR		DIFFERENTIAL PRESSURE SWITCH
	SIMPLEX STRAINER		REDUCER & SIZE		LOW PRESSURE SENSOR		LOCKED CLOSED

MACHINERY DATA						
ITEM No.	DESCRIPTION	TYPE	CAPACITY	HEAD	MOTOR	
					KILOWATTS	RPM
1	MAIN GENERATOR - STBD - L.O. PUMP	SCREW PUMP VERTICAL	108M³/hr	9 BAR	21	1750
2	MAIN GENERATOR - STBD - L.O. PUMP STANDBY	SCREW PUMP VERTICAL	108M³/hr	9 BAR	21	1750
3	MAIN GENERATOR - CNTR - L.O. PUMP	SCREW PUMP VERTICAL	108M³/hr	9 BAR	21	1750
4	MAIN GENERATOR - CNTR - L.O. PUMP STANDBY	SCREW PUMP VERTICAL	108M³/hr	9 BAR	21	1750
5	MAIN GENERATOR - PORT - L.O. PUMP	SCREW PUMP VERTICAL	108M³/hr	9 BAR	21	1750
6	MAIN GENERATOR - PORT - L.O. PUMP STANDBY	SCREW PUMP VERTICAL	108M³/hr	9 BAR	21	1750
7	MAIN GENERATOR - STBD - PRE LUBE PUMP	SCREW PUMP	108M³/hr	4 BAR	12.5	3500
8	MAIN GENERATOR - CNTR - PRE LUBE PUMP	SCREW PUMP	108M³/hr	4 BAR	12.5	3500
9	MAIN GENERATOR - PORT - PRE LUBE PUMP	SCREW PUMP	108M³/hr	4 BAR	12.5	3500
10	MAIN GENERATOR - PORT PURIFIER		108M³/hr		11.2	1800
11	MAIN GENERATOR - CNTR PURIFIER		108M³/hr		11.2	1800
12	MAIN GENERATOR - STBD PUTIFIER		108M³/hr		11.2	1800
13	STANDBY PURIFIER		108M³/hr		11.2	1800

# GENERAL NOTES

1. FOR TANK VENTS AND SOUNDINGS SEE DIAGRAM - AIR AND SOUNDINGS - DRG No. 22-0733-01.
2. PIPING TO BE ARRANGED TO MAINTAIN THE LUBE OIL COOLERS IN A FLOODED CONDITION.
3. PUMPS AND PURIFIERS TO BE CAPABLE OF REMOTE SHUTDOWN FROM OUTSIDE OF MACHINERY SPACE.
4. TANK BOTTOM FOR GRAVITY AND DRAIN TANKS, WHERE POSSIBLE, TO BE SLOPED AT 9° TOWARDS LOW PUMP SUCTION OR GRAVITY DRAIN, WAVES OR DENTS IN TANK BOTTOM WILL NOT BE ACCEPTED.
5. SAVE ALLS TO BE FITTED AROUND ALL PUMPS, TANKS, STRAINERS, AND PURIFIERS. DRAINS TO BE LED TO OILY BILGE TANK OR WASTE OIL TANK.
6. LOW LEVEL ALARMS IN MAIN ENGINE LUB OIL SUMP TANKS SET 15% BELOW WORKING LEVEL.
7. ALL TANKS SHALL BE DESCALED, CLEANED, AND PROTECTED AGAINST CORROSION.
8. PIPES TO BE FULLY CLEANED AND PROTECTED AGAINST CORROSION.
9. BEFORE STARTUP 50 MESH STRAINER TO BE FITTED AND SYSTEM TO BE FLUSHED.
10. PIPES AND FITTINGS THAT ARE MANUFACTURER SUPPLY ARE NOT NUMBERED. ALL NUMBERED PIPES AND FITTINGS ARE BYC SUPPLY.
11. MACHINERY MARKED \* (ASTERISK) IS SUPPLIED BY "WARTSILA".
12. THIS LEVEL TRANSDUCER INCORPORATES HIGH AND LOW LEVEL ALARMS.

# MATERIAL NOTES

1. STEEL PIPING TO BE A.S.T.M. A53 GRADE A SEAMLESS BLACK PIPE, PIPE 32mm AND UNDER TO BE SCH 80. PIPE 38mm AND OVER TO BE SCH 40.
2. VALVES TO BE Q.S. AND Y. WITH BOLTED BONNET.
3. ALL VALVES TO BE BRONZE AND FLANGED 150LJ. A.S.A. EXCEPT RELIEF VALVES 32mm AND UNDER AND DRAW OFF COCKS WHICH ARE TO BE SCREWED.
4. JOINTS 13mm AND OVER TO BE FLANGED 150LJ. A.S.A. SMALLER BORE PIPING TO HAVE SCREWED JOINT UNIONS.
5. GASKETS TO BE CRANE "HYDROL" RING TYPE 1.58mm THICK OR EQUAL.
6. FLEXIBLE PIPES TO BE LLOYDS APPROVED.

B		DRAWING UPDATED		02/00	E.C.
A		REDRAWN ON CAD		01/99	E.C.
no.	eco no.	revision	date	date	approved
no.	eco no.	revision	date	date	approved
HENRY LARSEN					
LUBRICATING OIL DIAGRAM					
date - date	drawn - dessine	checked - verify	designed - dessin	per	approved
JAN/99	E. CARROLL				
scale - echelle	project no. - projet no.	drawing no. - no du dessin		sheet	
N.T.S.		22-0720-01		feuille	
		A0		1/1	