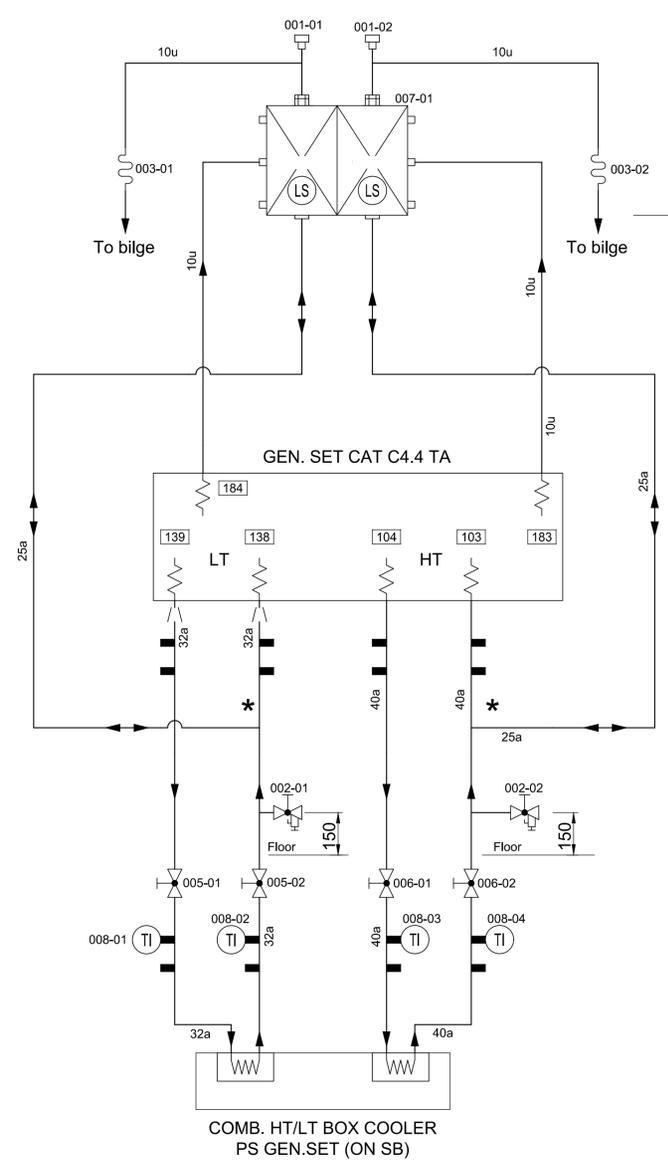
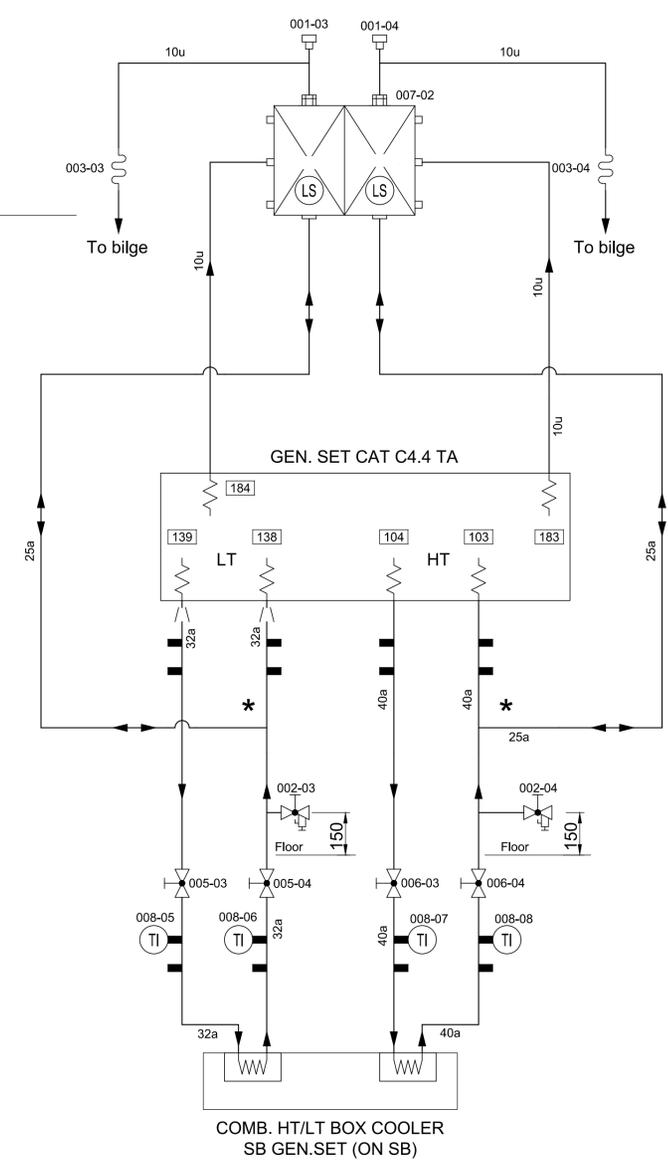


NOMENCLATURE ADDITIONAL PIPE TREATMENT: H = HOT DIP GALVANIZED; P = PICKLED and NEUTRALIZED; T = TRACING; I = INSULATED			
PIPE CODE	SPECIFICATIONS	MATERIAL	DOCUMENT
10u	OD=10, DN 8, soft	Copper	1011053
25a	OD=33.7, DN 25, Normal	Steel	1010971
32a	OD 42.4, DN 32, Normal	Steel	1010971
40a	OD=48.3, DN 40, Normal	Steel	1010971



Bottom tanks above highest position of cooling water pipes



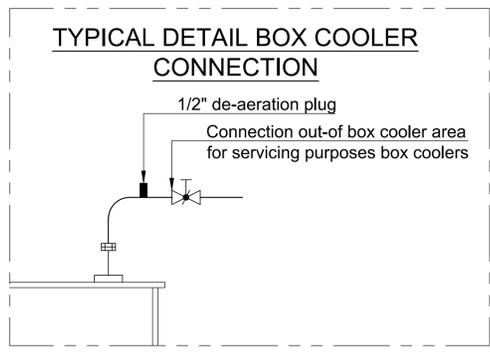
Bureau Veritas Marine & Offshore
 Section 471581.....
REVIEWED
 only for parts concerning Classification,
 and as per contract.
 Rotterdam, 13-May-2024
 [Electronic document]
 The plan approval office

NOTE

- 1/2" drain plugs must be installed at lowest points of all lines;
- 1/2" measure plugs must be installed at places where necessary;
- Install de-aeration plugs on highest points of pipes, position to be determined on board;
- * - Connection to and from expansion tanks as high as possible;
- Bellows in cooling water pipes to engines to be placed at approximately the same level as engine mounting pads;
- Threaded pipes must be applied pipe class b.

REFERENCE DOCUMENTS

Function	Doc.nr	Class	Title
391	1209712	INS-EXT	Notes for piping drawings
Function	Func.seq.	Class	Title
333	001	DRAW-2D	Arrangement box coolers



COOLING WATER CONTENTS						
CONTENT PER PROPULSION LINE (PS OR SB)					CONTENT PER SHIP (PS AND SB)	
CIRCUIT	ENGINE	EXP. TANK	BOXCOOLERS	PIPELINES	TOTAL	REMARKS
HT-CIRCUIT	16.5 ltr	15 ltr	9 ltr	20 ltr	121 ltr	
LT-CIRCUIT	3.5 ltr	15 ltr	13 ltr	15 ltr	93 ltr	
TOTAL CONTENT PER SHIP					214 ltr	

ISO 5457 - ISO 7200 A1 TransNo. TE-513233-00012-01 / Issue: For Approval / Date: 22-01-2024

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BILL OF MATERIAL

Cooling water system				Top Part	M333
Project No.	513233	Function	333	Drawn	QKON01
Yard No.	Section/Compartment			Check	CPAD01
COPYRIGHT DAMEN SHIPYARDS GROUP				Document number	5502660
				Date	10-11-2023
				Sheet	1
				Revision	A01

POS	PART		DESCRIPTION	DOC NO
	QT.	UNITS		SHT
001	1004968		ASSY, Filler Cap, for Cat. engines, complete, for expansion tank	1143420
	4	pcs	coolingwater, Steel	1
002	1000814		Fill and drain valve, 447, 1/2" (15), BSPP male, Hose pillar, Button,	
	4	pcs	PN16, Brass	
003-01	1009005		Hose, Water, di=10mm, OD=16mm, s=3mm, WP=18bar, PM=54bar, Tmin=-5Cel,	
	1	m	Tmax=60Cel, Inlay=1x, Synthetic inlay, Transparent, PVC	
003-02	1009005		Hose, Water, di=10mm, OD=16mm, s=3mm, WP=18bar, PM=54bar, Tmin=-5Cel,	
	1	m	Tmax=60Cel, Inlay=1x, Synthetic inlay, Transparent, PVC	
003-03	1009005		Hose, Water, di=10mm, OD=16mm, s=3mm, WP=18bar, PM=54bar, Tmin=-5Cel,	
	1	m	Tmax=60Cel, Inlay=1x, Synthetic inlay, Transparent, PVC	
003-04	1009005		Hose, Water, di=10mm, OD=16mm, s=3mm, WP=18bar, PM=54bar, Tmin=-5Cel,	
	1	m	Tmax=60Cel, Inlay=1x, Synthetic inlay, Transparent, PVC	
004	1011083		ASSY, Level Switch, Cooling water with accessories, EL150K1/ZA,	1055911
	4	pcs	For water & oil, with gasket and fastners, Back case (red color p	1
005	1000450		Globe valve, 241, Straight, Fixed disc, DN32, Flange, Hand wheel,	1063480
	4	pcs	PN16, FL:PN16, Cast iron GG 25 (EN-JL 1040), EN 558-1	1
006	1000451		Globe valve, 241, Straight, Fixed disc, DN40, Flange, Hand wheel,	1063480
	4	pcs	PN16, FL:PN16, Cast iron GG 25 (EN-JL 1040), EN 558-1	1
007	1140088		Tank, 30l, Double, L=515mm, W=250mm, H=330mm, Cooling water	1454473
	2	pcs	expansion, Expansion, Steel S235JR (1.0038), 2x15l	1
008	1011146		Glass thermometer, 1645, 0/120Cel, L=40mm, 1/2", BSPP male,	1337361
	8	pcs	Connection:Brass, Straight, Pmax=16bar, Aluminium, DIN 16195	1
009	1008301		De-Aeration Plug, G 1/4 inch, including steel socket and copper ring,	1143315
	8	pcs	Stainless steel	1

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