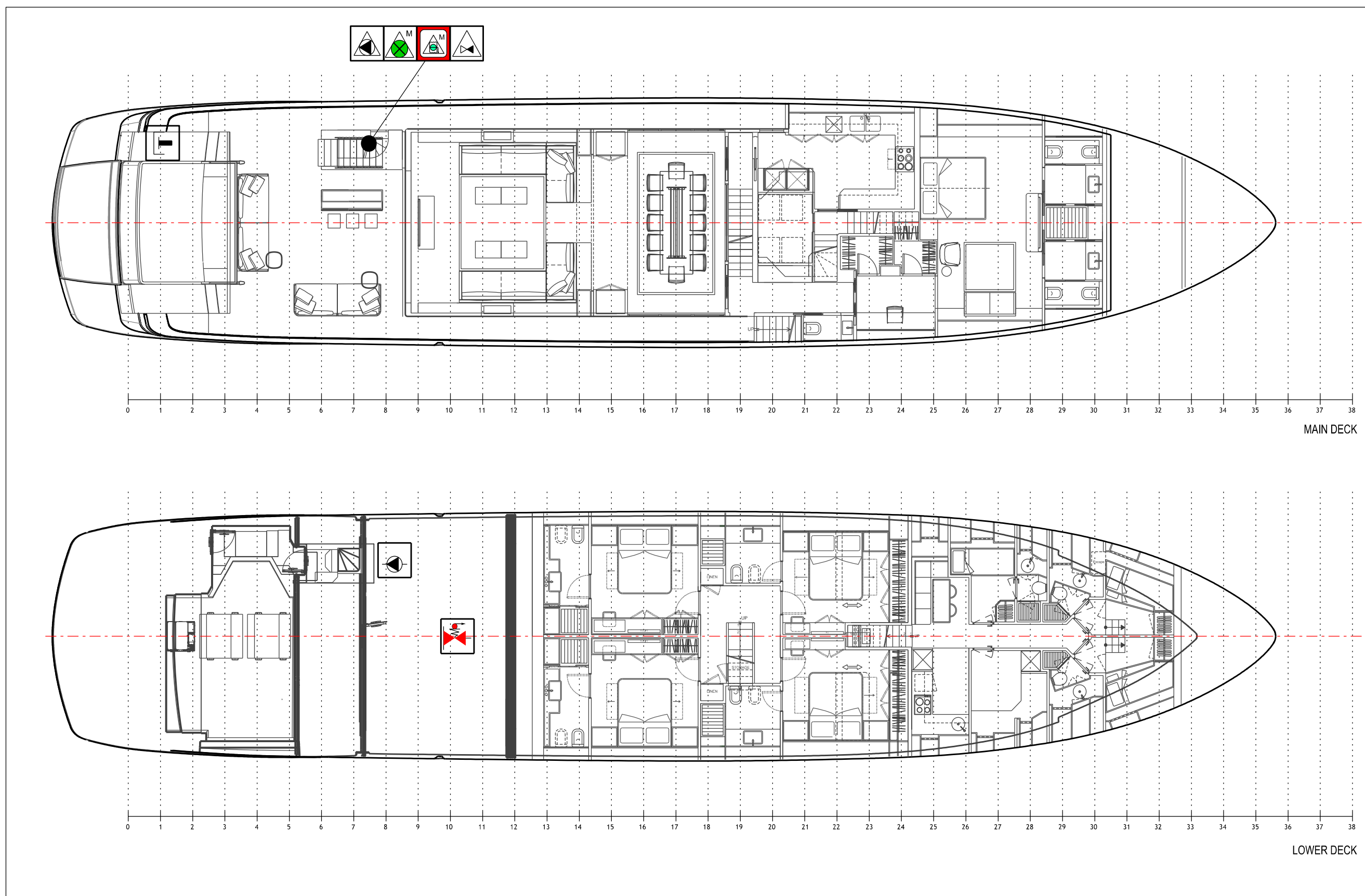
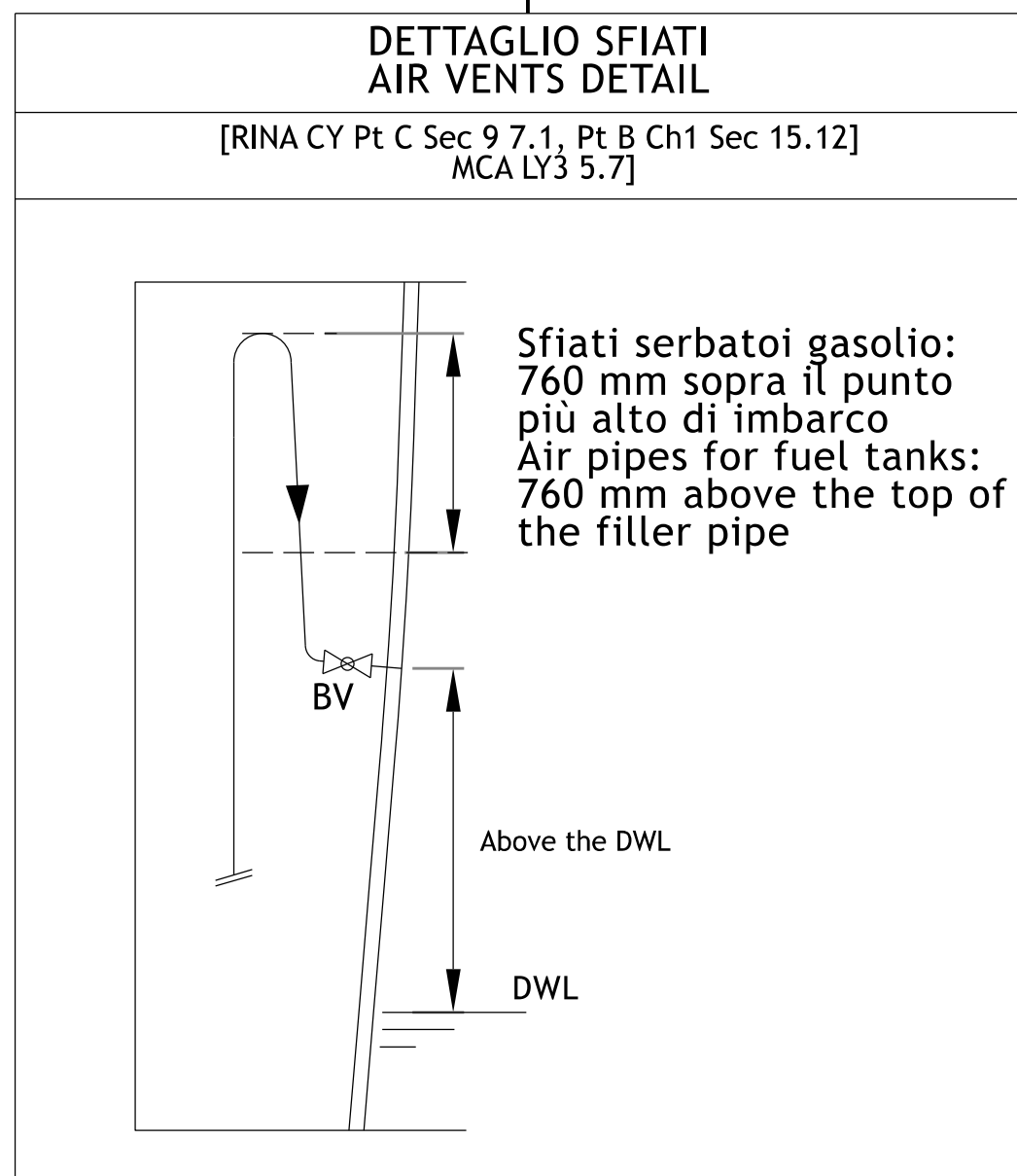
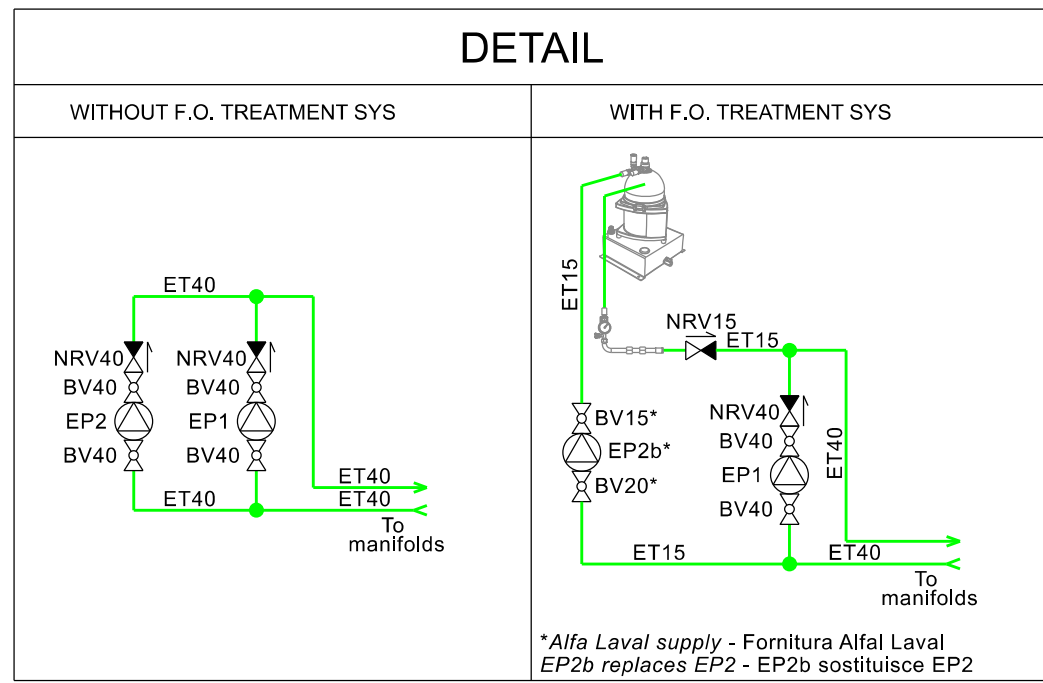


NON MODIFICARE MANUALMENTE



SYMBOL	DESCRIPTION
	DIESEL FILTRATION SYSTEM (OPT)
	REMOTE CONTROL FOR DIESEL FILTR. SYS.(OPT)
	ALARM SIREN
	MACHINERY SPACE EMERGENCY VENT. SHUT OFF
	ENGINE ROOM FIRE DAMPER EMERGENCY SHUT OFF
	REMOTE FUEL CUTOFF VALVE
	REMOTE CONTROL FOR FUEL CUT OFF VALVE
	INTERNATIONAL SHORE CONNECTION



DESIGN HEADS FOR WATERTIGHT BULKHEADS

[RINA CY Pt B Ch.1 Sec.5]

5.14 Tanks

5.14.1 (1/1/2016)

"Tanks" means the structural tanks that are part of the hull and intended to contain liquids (water, fuel oil or tube oil). In order to contain fuel oil with a flashpoint $\leq 55^{\circ}\text{C}$, the use of non structural tanks is required. As far as non-structural fuel tanks see Sec 4. Tanks, complete with all pipe connections, are to be subjected to a hydraulic pressure test with a head above the tank top equal to h , as defined in Sec 5, or to the overflow height, whichever is the greater.

At the discretion of RINA, leak testing with an air pressure of 0.015 MPa may be accepted as an alternative, provided that it is possible, using liquid solutions of proven effectiveness in the detection of air leaks, to carry out a visual inspection of all parts of the tanks with particular reference to pipe connections.

5.8.2 Tank structures

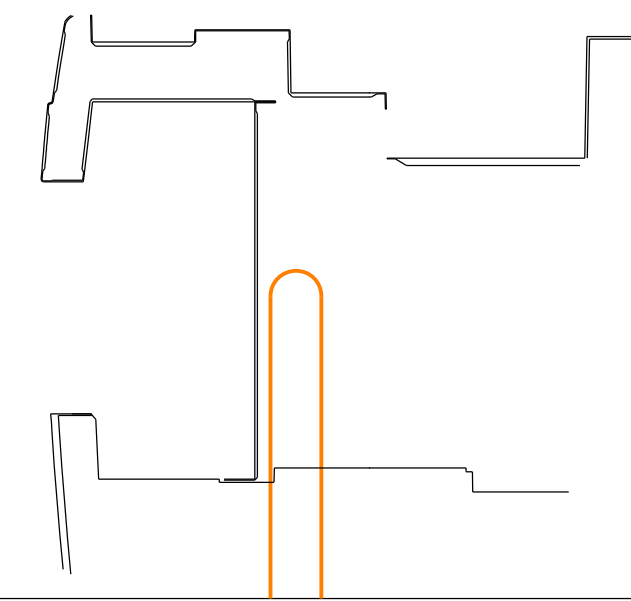
The scantlings of tank bulkheads, plating and associated stiffeners are to be verified assuming as h_b , in m, the greater of the following values:

- vertical distance from the pdr to a point located at a height h , in m, above the highest point of the tank given by:
 $h_b = [1 + 0.05(L - 50)]$
where the value of L is to be taken no less than 50 m and no greater than 80 m
- 2/3 of the vertical distance from the pdr to the top of the overflow pipe.

$$h_{\text{Tank}} = 2/3 * (4815) = 3210 \text{ mm}$$
$$h_{\text{Overflow}} = 3610 \text{ mm}$$

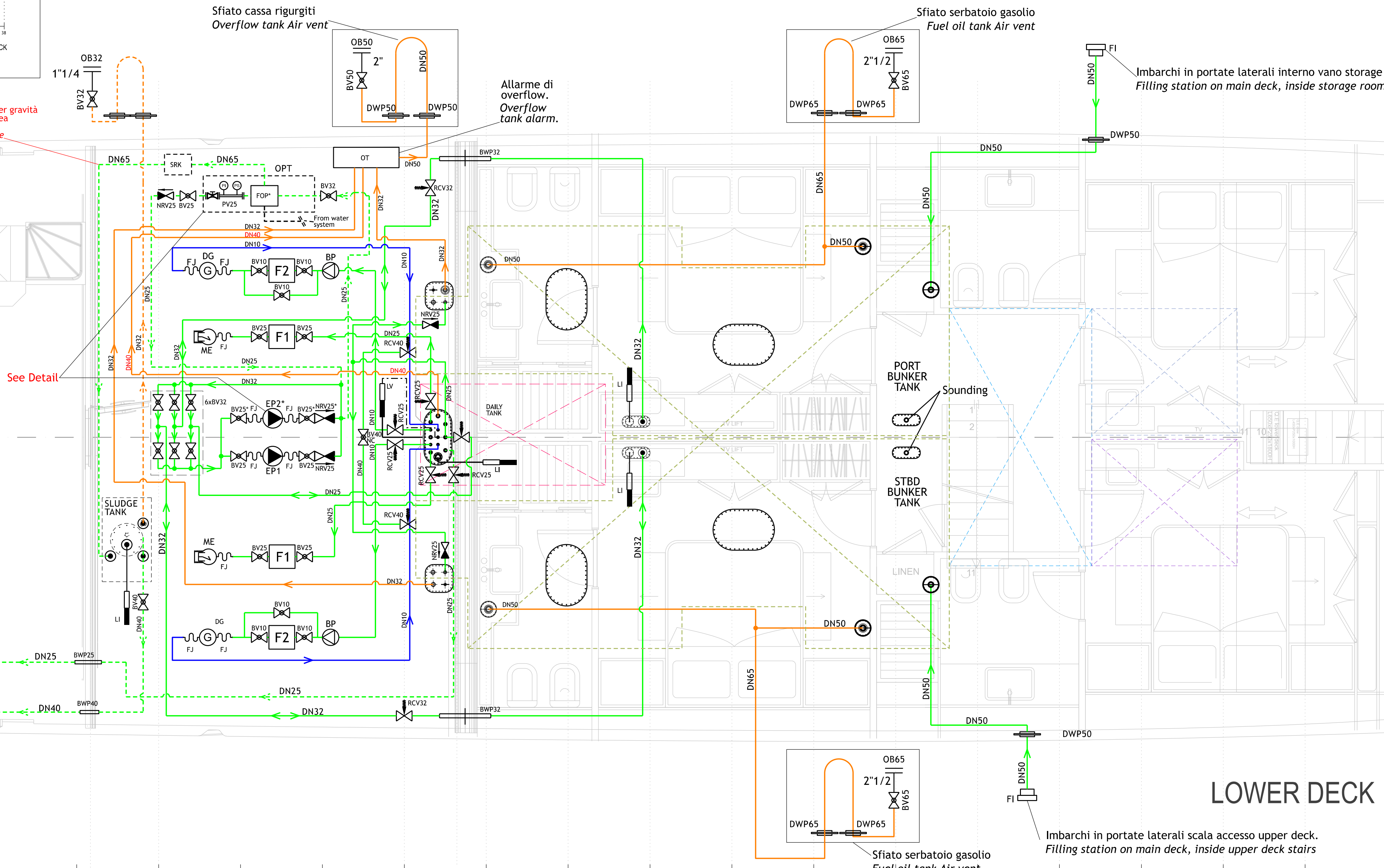
MATERIALE TUBAZIONI / PIPING MATERIALS	
TUTTE LE TUBAZIONI SARANNO IN ACCIAIO INOX 316L ALL PIPES WILL BE IN AISI 316L	
I TRATTI DI TUBAZIONI FLESSIBILI SARANNO IN EASYFLEX/7 540. PURCHÉ LA LUNGHEZZA DEL TRATTO NON SUPERI GLI 800mm PART OF FLEXIBLE PIPES WILL BE IN EASYFLEX/7 540 PROVIDED THAT PIPE LENGTH WON'T EXCEED 800mm	
	Tubazione gasolio / Fuel oil pipe
	Tubazione gasolio - linea di ritorno / Fuel oil pipe - return line
	Sfiati / Air vent
	Optional

DETTAGLIO POSIZIONAMENTO TRASVERSALE SFIATO/ AIR VENT TRANSVERSAL POSITION DETAIL



MACHINERY TABLE				DESCRIZIONE DESCRIPTION
ME	2	/		MOTORI PRINCIPALI - MTU 16V/2000/M96L MAIN ENGINES - MTU 16V/2000/M96L
DG	2	/		GRUPPI ELETTROGENI - ZENORO 55kW DIESEL GENERATORS - ZENORO 55kW
TF	1	/		STAZIONE RIFORNIMENTO TENDER G&R PE 50 TENDER FUELING G&R PE 50 (OPTIONAL)
EP1	1	/		POMPA LIVERANI EP20 MP 24V EP20 MP 24V LIVERANI PUMP
EP2	1/0	/		POMPA LIVERANI EP 25TF 380/3/50 EP 25TF LIVERANI PUMP
EP2b	0/1	/		POMPA TRASFERIMENTO DEPURATORE (OPT) - fornitura alfalval FUEL OIL PURIFIER FILLING PUMP (OPT) - Alfalaval supply
OT	1	/		CASSA RIGURGITI - OVERFLOW TANK
F1	2	DN25		Prefiltri Gasolio Parker MTU 12V-16V EPA Tier-III - Kit MTU (Filtri metallici) FUEL OIL MMEE Parker MTU 12V-16V EPA Tier-III KIT MTU (MTU) (Metal Bowl)
F2	2	DN10		PREFILTRO GASOLIO SUPPLEMENTARE CON SENSORE ACQUA RACOR 500 MAM (OPT)(Filtri metallici) FUEL OIL DDGG STRAINER RACOR 500 MAM (OPT) (Metal Bowl)
BP	2	/		POMPA BOOSTER GASOLIO GENERATORI GENERATORS FUEL OIL BOOSTER PUMP
BV65	1	DN65		VALVOLA A SFERA BALL VALVE
BV50	1	DN50		
BV40	3	DN40		
BV32	8	DN32		
BV25	15	DN25		
BV10	8	DN10		
NRV25	4	DN25		VALVOLA DI NON RITORNO A CLAPET NO RETURN VALVE
RCV40	2	DN40		VALVOLA A SCATTO APPROVATA RINA PER INTERCETTAZIONE COMBUSTIBILE AZIONABILE IN REMOTO REMOTE CONTROLLED VALVE
RCV32	2	DN32		
RCV25	4+1	DN25		
OB32	1	DN32		SCARICO FUORIBORDO OVERBOARD DISCHARGE
OB50	1	DN50		
OB65	1	DN65		
NRV40	1	DN40		VALVOLA DI NON RITORNO A CLAPET NO RETURN VALVE
BWP	5	/		PASSAPARATIA ACCIAIO INOX STAINLESS STEEL BULKHEAD PENETRATION
DWP	10	/		PASSAGGIO A PONTE CROSSING THROUGH DECK
FI	2	DN50		BOCCHETTONE IMBARCO COMBUSTIBILE FILLING PIPE
LI	4	/		LIVELLOSTATO LEVEL SWITCH
LV	1	/		LIVELLO VISIVO VISUAL LEVEL
/	/	/		CONNESSIONE DI MANDATA E/O PRELIEVO DOTATA DI PESCANTE TANK CONNECTION
/	/	/		CONNESSIONE DI SFIATO SU CIELO CASSA AIR VENT CONNECTION
/	/	/		RIDUZIONE REDUCTION
FOP	FOP*	1	/	DEPURATORE GASOLIO (OPT) - ALFALAVAL MMB304 FUEL OIL PURIFIER (OPT) - ALFALAVAL MMB304
PV25	1	DN25		VALVOLA RIDUTTRICE DI PRESSIONE (OPT) - fornitura alfalval PRESSURE REDUCING VALVE (OPT) - Alfalaval supply
IF	1	/		FLANGIA INTERNAZIONALE MARPOL I INTERNATIONAL FLANGE DISCHARGE
SRK	SRK	1	/	SLUDGE REMOVAL KIT - Alfalaval supply
FJ	10	/		GIUNTO FLESSIBILE / FLEXIBLE JOINT

Drenaggio morchie Alfa Laval per gravità
- evitare colli d'oca lungo la linea
Alfa Laval sludge gravity drain
- avoid gooseneck along the line

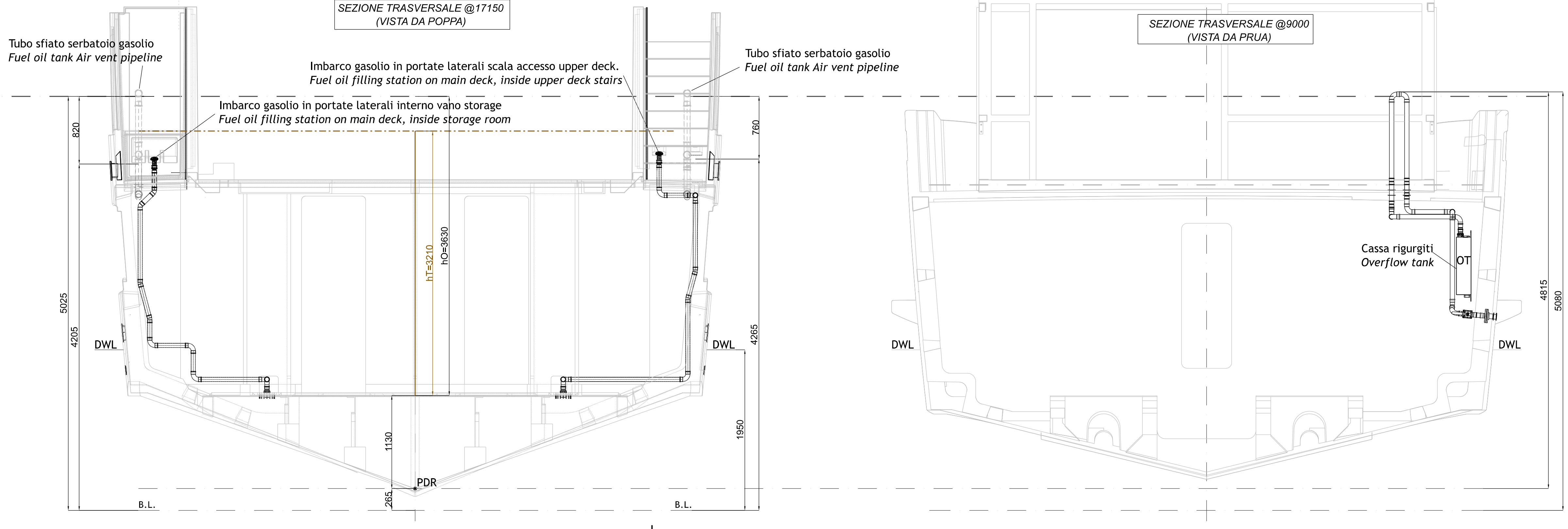
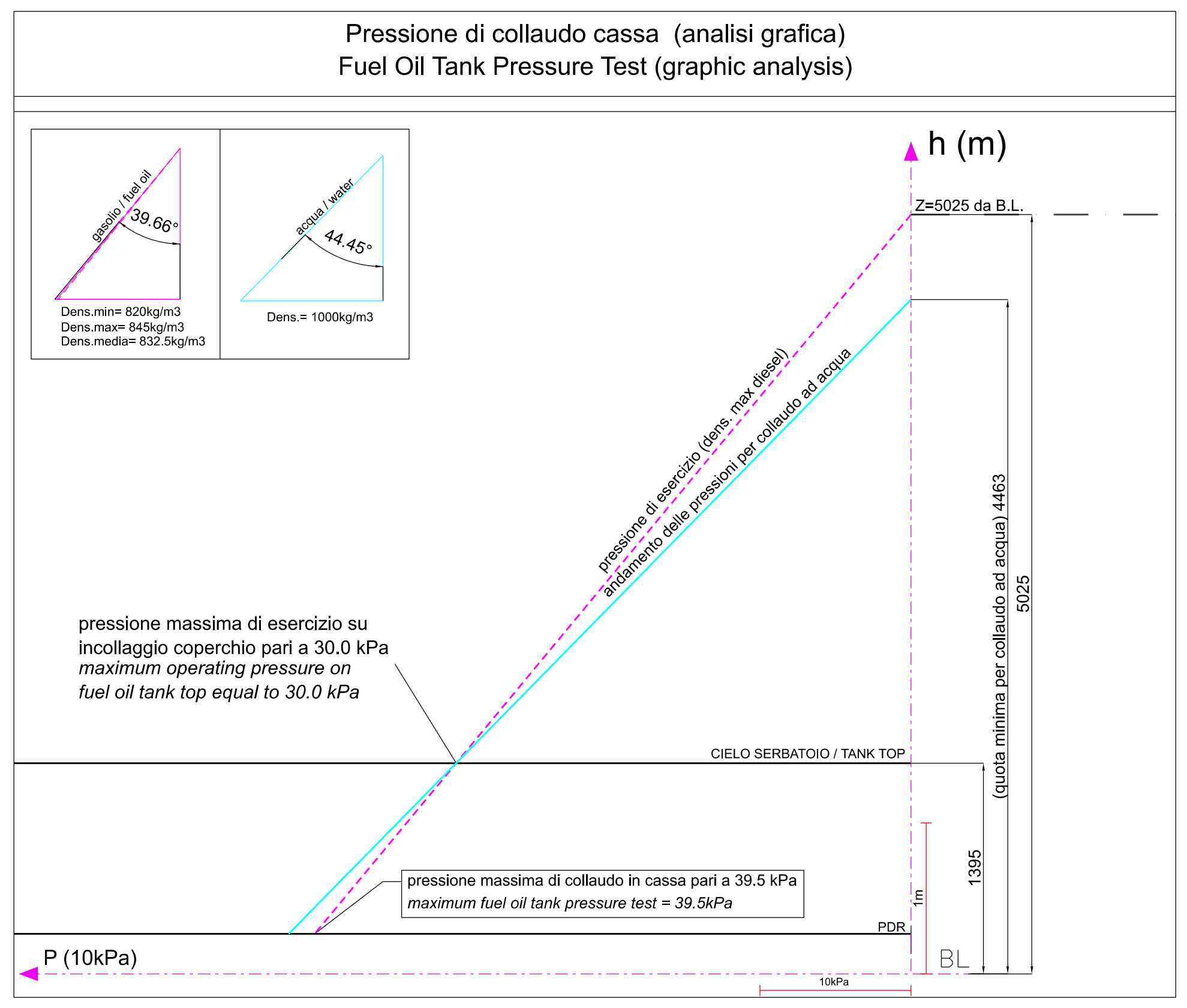


LOWER DECK

IL DISEGNO E' DA CONSIDERARSI VALIDO UNICAMENTE PER QUANTO CONCERNE
L'IMPIANTO INDICATO NEL CARTIGLIO
(Drawing valid only for the system indicated in the drawing title)

GENERAL NOTES

- TUTTE LE MACCHINE ROTANTI SARANNO MONTATE SU ANTIVIBRANTI E CONNESSE ELASTICAMENTE ALLE TUBAZIONI RIGIDE
- ALL ROTATING MACHINERY WILL BE ON RESILIENT MOUNTING AND CONNECTED WITH ELASTIC JOINT TO RIGID PIPE SYSTEM
- TUTTE LE TUBAZIONI SARANNO PRESSATE 1.5 VOLTE LA PRESSIONE DI ESERCIZIO
- PIPE PRESSURE TEST AT 1.5 TIMES THE PIPE PRESSURE
- PER LE TUBAZIONI PREFITTING UTILIZZARE SOLO O-RING tipo FKM-VITON
- FOR PREFITTING PIPE SYSTEM USE ONLY FKM-VITON O-RING
- LE TUBAZIONI FLESSIBILI CONNESSE AI MOTORI ED AI GENERATORI SONO FORNITE ASSEMBLATE CON RACCORDI PRESSATI
- FLEXIBLE HOSES CONNECTED FROM AND TO MMEE AND DDGG ARE SUPPLIED ASSEMBLED WITH PRESSED TYPE FITTING
- LA CONNESSIONE ALLA FLANGIA MARPOL ANNEX I DELL'IMPIANTO DI SENTINA E TRATTAMENTO COMBUSTIBILE (OPT) DEVE ESSERE SU UNA LINEA SEPARATA RISPETTO A QUELLA DELLA FLANGIA ANNEX IV (LIQUAMI)
- THE CONNECTION TO THE MARPOL ANNEX I FLANGE OF THE BILGE AND FUEL TREATMENT SYSTEM (OPT) MUST BE ON A SEPARATE LINE FROM THAT OF THE ANNEX IV FLANGE (SEWAGE).
- DURANTE LE OPERAZIONI DI IMBARCO GASOLIO LA PRESSIONE NELLE LINEE DEVE RIMANERE SEMPRE INFERIORE A 0.3bar
- FILLING LINES PRESSURE MUST BE KEPT CONSTANTLY UNDER 0.3bar DURING BUNKERING OPERATIONS



A	28/01/2018	Trasmissione disegno 130000	EPIC-2000	EPIC-2000	D.N.
D	28/06/2018	Primo iter di progettazione	EPIC-2000	EPIC-2000	D.N.
REV.	DATE	DESCRIPTION	REV.	DESCRIPTION	REV. BY

ENGINEERING DEPT.

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SCALE: 1 / 30

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