

1	2	3	4	5	6	7	8	
A								A
B								B
C								C
D								D
E								E
F								F

Net Weight

0,001

1	004	107.246.880.500	CONCEPT GUIDANCE	107.246.880		0,001
1	003	107.428.377.500	DISTILLATE FUELS	107.428.377		0,001
1	002	107.341.454.500	INSTRUCTION FOR FLUSHING	107.341.454		0,001
1	001	PAAD294077	FUEL OIL SYSTEM HFO&MDO&MGO	DAAD100063		0,001

Quantity PER ENGINE

SEQ NO

Material ID

Material Name

Dimension, Occ

Standard or Drawing

Basic Material Material Standard

Weight GR./NET

PAAD294092	Free space for lic.							Q-Code XXXXXX	Main Drw. H
								Standard ISO; JIS	
	Modif.								
Material ID		Number	Drawn date		Number	Drawn date		Number	Drawn date

Winterthur Gas & Diesel

Product
W5-8X62-B

FUEL OIL SYSTEM

Brennstoffsystem

Units

mm kg

NX

Basic Material

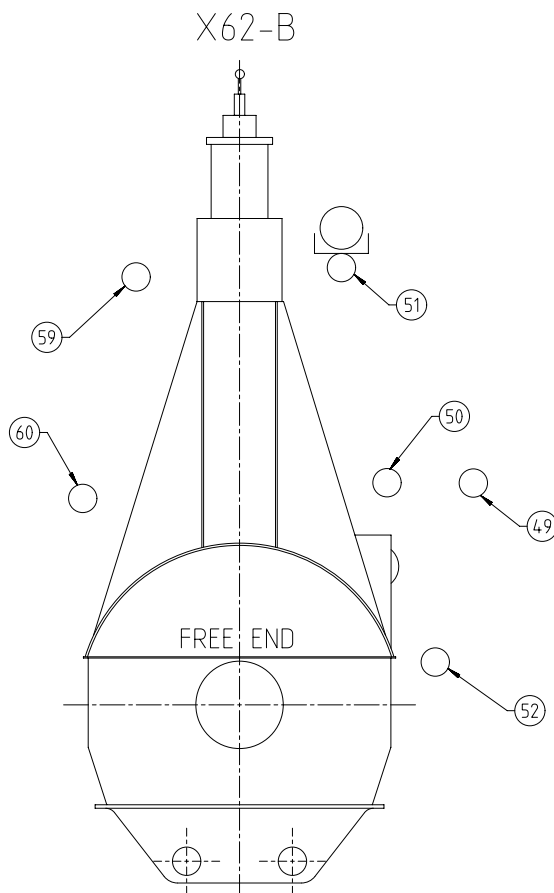
Net Weight

SURFACE PROTECTION SEE GROUP 0344	Made	28.04.2018 Sachin Tripathi	Scale	-	Size	A3	Page	1/1	Material ID		
TOLERANCING PRINCIPLE ISO8015	Chkd	11.06.2018 mhu019 Hug	Design Group		9723	Drawing ID	DAAD100082			Rev.	—
GENERAL TOLERANCES ACCORDING TO ISO2768-mK	Appd	11.06.2018 dst009 Strödecke									

Approved

DID - DIMENSIONAL DRAWING - Confidential

SPECIFICATION which must be met



- (49) INLET - Fuel oil
- (B) Fuel oil quality at engine inlet: according to specification in Marine Installation Manual (MIM)
- Pressure at engine inlet: stopped engine: 10 bar
running engine: 7-10 bar
- Volume flow: according to GTD
- Viscosity:
- Viscosity for HFO: 10-20 cSt (recommendation: 13-17 cSt)
 - Viscosity MDO/MGO: 2-20 cSt
- Filtration:
- At least one filter unit close to the engine inlet.
 - One filter unit with max. 10 micron (absolute, sphere passing mesh) in the fuel system (either in feed- or booster circuit)
 - Bypass filter in parallel to the main fuel oil filter with max. 25 micron (absolute, sphere passing mesh)
- Fuel change-over:
- Max. temperature gradient during fuel change-over: 2 °C/min
 - Fuel amount on engine side: mentioned in table 1 on page 2.
 - Fuel amount on system side: according to project specific system layout.

- (50) OUTLET - Fuel return
- (B) - Normal operation condition: Returning to mixing unit.
- During fuel change-over while engine is not in service: returning to service tank.

- (51) OUTLET - Drain rail-unit (dirty)
- (B) - Dirty fuel: Mixed drain (LO,F0) from rail-unit, not for re-use
- Free flow by gravity to sludge oil tank or appropriate tank.
- Pipe insulated and heated up (50-95 °C)

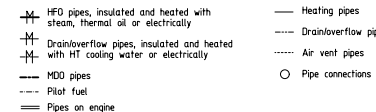
- (52) OUTLET - Fuel return, pressureless (clean)
- (B) - This pressureless fuel return consists of the following 2 types of clean fuel, namely:
- 'Normal drainage'
Expected (design) fuel return from the fuel pump and injection control side during normal operation.
 - 'Leakage'
Unexpected fuel return from an emergency situation only (e.g. high pressure pipe damage).
- Clean fuel must be collected in a drain tank (or appropriate tank) by gravity free flow
 - Piping must be insulated and heated (50-95°C)

- (59) INLET - Heating medium for fuel oil trace heating
- Connected to steam or thermal oil supply

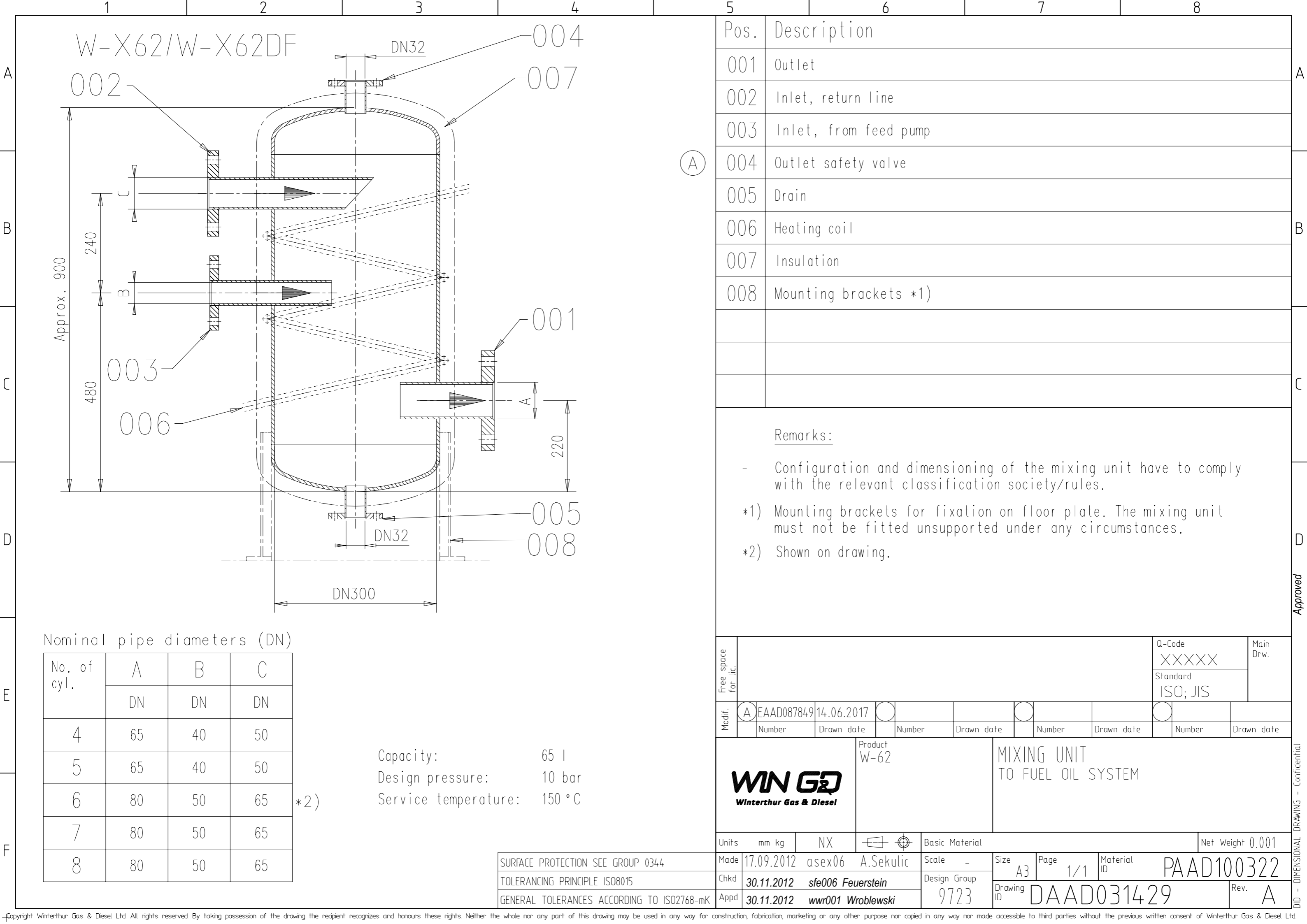
1	008	PAAD100322	MIXING UNIT	DAAD031429		0,001	
QTY	SEQ NO	Material ID	Material Name	Dimension, Occ	Standard or Drawing	Basic Material Material Standard	Weight GR./NET
Free space for lic				Q-Code XXXXX		Main Drw.	
Standard ISO; JIS							
Modif.	A	EAAD089659	03.10.2018	B	EAAD091789	03.12.2019	
Number	Drawn date	Number	Drawn date	Number	Drawn date	Number	Drawn date
WIN GD		Product 5-8X62-B		FUEL OIL SYSTEM		Net Weight 0,001	
Winterthur Gas & Diesel				HFO&MDO&MGO			
				Brennstoffsystem			
Units	mm kg	NX	Basic Material	Scale	Size	Page	Material ID
SURFACE PROTECTION SEE GROUP 0344		Made	28.04.2018 Sachin Tripathi	Scale	Size	Page	Material ID
TOLERANCING PRINCIPLE ISO8015		Chkd	11.06.2018 mhu019 Hug	Design Group	723	1/2	PAAD294077
GENERAL TOLERANCES ACCORDING TO ISO2768-mK		Appd	11.06.2018 dst009 Strödecke	Drawing ID	DAAD100063	Rev.	B

Pos.	SYSTEM COMPONENTS #1)
001	Three-way valve, manually or remotely operated
002	Automatic fuel change-over unit
003	Suction strainer (mesh size acc. to pump suppliers requirement)
004	Low pressure feed pump
005	Pressure regulating valve
006	Automatic self-cleaning filter, 10 micron, heated (trace heating acceptable)

- #1 To be delivered by external suppliers and to be installed by the shipyard.
- #2 Refer to the "Pipe Connection Plan" for the execution and location of the engine pipe connections.
- #3 To be delivered by the engine manufacturer, it already equipped on engine side.
- #4 All capacities and the given dimensions are valid for the mentioned engine rating and serve just as an example. The given tank capacities are based on 8 h setting tank change-over-interval. To make the layout for the project specific rating please refer to design group 9750. Fuel velocities and the recommended values for pipework of diesel plants: Rating specific flow rates are provided by GTO.
- #5 Valve to be kept closed during normal engine operation. For draining only.
- #6 Separator capacity related to viscosity: layout according to certified flow rate (CFR) recommended.
- #7 The return line must be fully exposed to air without any insulation and equipped with cooling ribs or other type of radiative cooler.
- #8 Recommended position for fuel oil sampling to check fuel oil quality.
- #9 Just to be applied if in addition to the fuel drain tank a separate tank for collection of clean HDGMO is installed to enable the switching between the different tanks depending on the fuel in use.
- #10 Installed as required check with "Pipe Connection Plan".
- #11 The normal drainage rate of HDGMO is significantly higher than the normal drainage rate of HFO. Therefore during long-term operation an HDGMO tank collection of clean HDGMO in a separate drain is highly recommended. Regarding the tank size we recommend a volume which is approx. 10% of the volume of the HDGMO service tank. The design volume of the HDGMO drain tank is a combination of normal drainage rate and expected emergency leakage.
- #12 The tank size only to be equipped with a swing check valve to avoid inadmissible backpressure.
- #13 Close during normal engine operation.
- #14 A heating coil in the MDG tank is required when DMB is used. Target heating temperature: 40 °C.
- #15 The location of pump's installation must comply with the supplier's requirements by considering the relative height between the pump and the service tank, in combination with the pressure head.



The space between the two boxes is the date							8-Code XXXXXX		Main Driv.
							Standard ISO: JIS		
	Serial A: EAAC0069109	03.12.2018		B: EAAC00709	03.12.2019				
	Number	Drain date	Number	Drain date	Number	Drain date	Number	Drain date	
5-X-862-B				FUEL OIL SYSTEM HF40MDO&MGO Brennstoffsystem					



MIDS WinGD X62-B FUEL-OIL-SYSTEM

TRACK CHANGES

DATE	SUBJECT	DESCRIPTION
2018-06-15	DRAWING SET	First web upload
2018-10-02	DAAD100063	System drg - new revision
2020-09-30	DAAD100063	System drg – new revision

DISCLAIMER

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