

SURFACE PROTECTION SEE GROUP 0344

TOLERANCING PRINCIPLE ISO8015

### Available executions

Execution No.	Material ID	Attribute 2: TC amount
001	PTAA036947	1
002	PTAA036948	2

## NOTE

The above executions can be configured using the Engine Configurator.

Detailed guidance for the executions is provided within the Marine Installation Manual (MIM). If a specific execution of interest is not shown in the above table, then it may still be under development or not available. For further information or in case of a project-specific request, WinGD must be contacted directly.

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Prod.	X72DF-2.1		X72DF-2.2										
Change History													
	A	mhu019	dst009	22.06.2022	CNAA002075	Drawing Updated						-	-
	-	mhu019	dsl009	12.11.2021	CNAA001002	new Design						-	-
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis					Approved	Activity Code	E



LEAKAGE COLLECTION/WASHING SYS.  
MIDS master drawing

separate BOM available

Dimension

Scale	-			NX
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Main Design

Design  
Group

9724

Q-Code	XXXXXX
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Standard
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WDS

Qty  
per


A4

Item  
ID

PTAA014228

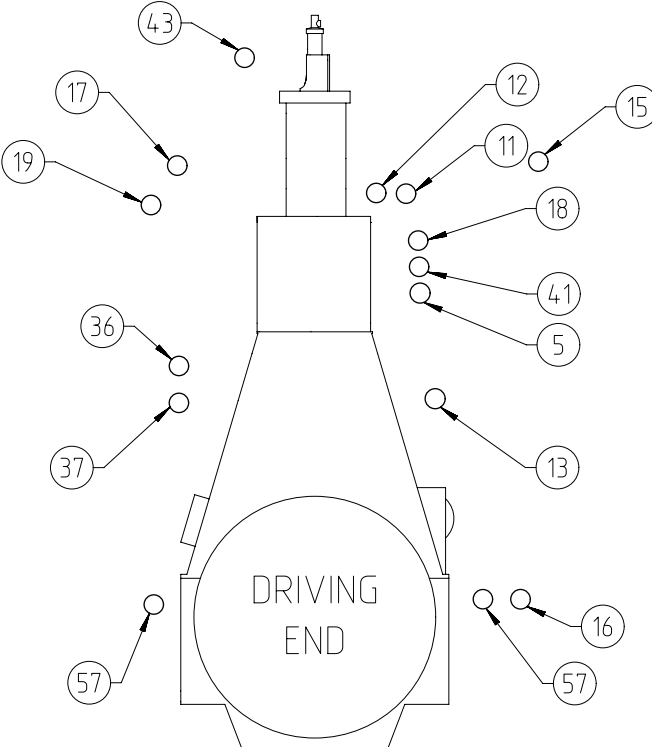
Drawing
Page/s



1/1

SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight
3	1	PTAA036864	LEAKAGE COLLECTION/WASHING SYS. WITH ONE TURBOCHARGER				0
Prod.	5,6,7,8 X72DF-2.1 5,6 X72DF-2.2						
Change History							
	-	dkl021	ds009	21062022	01A002059	Main Design/Drawing Introduced	- -
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved Activity Code E C
			LEAKAGE COLLECTION/WASHING SYS.				
Bill Of Material			Dimension				
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			Main Design Yes		Design Group 9724 Q-Code XXXXX		Standard WDS
			Qty per Engine	A4	Item ID PTAA036947	BOM Page/s 01/01	

SEQ NO	QTY	Item ID		Item Name		Dimension	Standard-ID	Basic Material		Net Weight		
001	1	107.425.369.500		SLUDGE OIL TRAP						0.001		
Prod.	X72DF-2.1 X72DF-2.2											
Change History	C	dkl021	mhu019	19.12.2022	CNAA002848	Drawing Updated				4	3	
	B	rth101	mhu019	22.11.2022	CNAA002751	Drawing Updated				4	3	
	A	mhu019	dst009	23.06.2022	CNAA002091	Drawing Updated				4	3	
	-	dkl021	dst009	21.06.2022	CNAA002059	new Design				-	-	
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved	Activity Code	E	C		
<div>WIN GD</div> <div>Winterthur Gas &amp; Diesel</div>				LEAKAGE COLLECTION/WASHING SYS. WITH ONE TURBOCHARGER								
Bill Of Material				Dimension WITH ONE TURBOCHARGER								
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					Main Design		Design Group 9724		Q-Code XXXXX		Standard WDS	
					Qty per		A4	Item ID PTAA036864		BOM Page/s 01/01		

SPECIFICATION which must be met:


A	①9	OUTLET - SAC condensate water, iCER - To EGC wastewater holding tank during iCER operation - The system components downstream of this connection until the pH-neutralisation dosing unit must be designed for low pH operation.	⑤	OUTLET - Cylinder cooling water drain. - Gravity flow to cooling water drain tank or appropriate tank.	A
	③6	OUTLET - Dirty oil piston underside - Flow with SAC pressure to sludge oil trap or appropriate arrangement. - Min. inclination of drain pipe: 15°	⑪ ③	INLET - SAC wash water - Optional connection. Only necessary if an external SAC washing system is installed. - Wash water supply: From external washing system - Wash water supply pressure: min. 3.0 bar - Wash water circulation rate: min. 4.5 m³/h	
B	③7	OUTLET - Leakage oil gland box - Gravity flow to sludge tank or appropriate tank.	⑫	INLET - Air for cleaning plants TC - Working air, supply pressure: 7-9 bar	B
	④1	OUTLET - Venting crankcase - Venting to funnel - Must not be connected to other venting pipes.	⑬	OUTLET - Oily water from scavenge air receiver - Gravity flow to oily water tank or appropriate tank.	
C	④3	OUTLET - Venting turbocharger - Venting to funnel - Minimum inclination according to TC suppliers specification - Must not be connected to other venting pipes.	⑮	INLET - SAC wetting water - Wetting water supply: From clean water holding tank or SAC wetting buffer tank. - Wetting water supply pressure: max. 10 bar - Wetting water circulation rate: 500-1000 l/h per SAC	C
	⑤7	OUTLET - Various leakages - Gravity flow to sludge tank or appropriate tank.	⑯	OUTLET - SAC condensate water - Gravity flow to bilge water tank or wash water collection tank or to the EGC bleed-off line depending on the operation mode. - The system components downstream of this connection until the pH-neutralisation dosing unit must be designed for low pH operation.	
D			⑰ ③	OUTLET - SAC wash water - Optional connection. Only necessary if an external SAC washing system is installed. - To wash water collection tank during SAC cleaning.	D
			⑱	OUTLET - SAC venting - Free flow outside of engine room	

Prod.	X72DF-2.1														
	X72DF-2.2														
Change History	C	dki021	mhu019	19.12.2022	CNA002848	Drawing Updated							4	3	
	B	rth101	mhu019	22.11.2022	CNA002751	Drawing Updated							4	3	
	A	mhu019	dst009	23.06.2022	CNA002091	Drawing Updated							4	3	
	-	dki021	dst009	21.06.2022	CNA002059	new Design							-	-	
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis							Approved	Activity Code	E
<div></div>					LEAKAGE COLLECTION/WASHING SYS. WITH ONE TURBOCHARGER										
separate BOM available					Dimension					WITH ONE TURBOCHARGER					
Scale	-		NX	Units [mm] [kg]		Basic Material					Net Weight		0.000		
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				Qty per		A3		Item ID		PTAA036864		Drawing Page/s		1/2	

SURFACE PROTECTION SEE GROUP 0344  
TOLERANCING PRINCIPLE ISO8015  
GENERAL TOLERANCES ACCORDING TO ISO2768-mK

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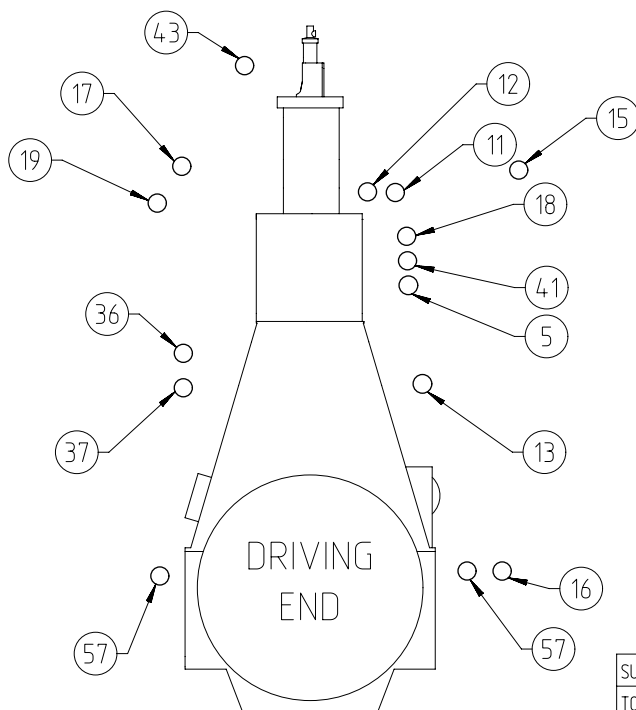


SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight					
3	1	PTAA036927	LEAKAGE COLLECTION/WASHING SYS. WITH TWO TURBOCHARGERS				0					
Prod.	5,6,7,8 X72DF-2.1											
Change History												
	-	dki021	ds009	21062022	01A002059	Main Design/Drawing Introduced	-	-				
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved	Activity Code	E	C		
			LEAKAGE COLLECTION/WASHING SYS.									
Bill Of Material			Dimension									
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			Main Design		Yes	Design Group		9724	Q-Code	XXXXX	Standard	WDS
			Qty per		Engine	A4	Item ID	PTAA036948		BOM Page/s	01/01	

SEQ NO	QTY	Item ID		Item Name		Dimension	Standard-ID	Basic Material		Net Weight
001	1	107.425.369.500		SLUDGE OIL TRAP						0.001



SPECIFICATION which must be met:

19	OUTLET - SAC condensate water, iCER - To EGC wastewater holding tank during iCER operation - The system components downstream of this connection until the pH-neutralisation dosing unit must be designed for low pH operation.
36	OUTLET - Dirty oil piston underside - Flow with SAC pressure to sludge oil trap or appropriate arrangement. - Min. inclination of drain pipe: 15°
37	OUTLET - Leakage oil gland box - Gravity flow to sludge tank or appropriate tank.
41	OUTLET - Venting crankcase - Venting to funnel - Must not be connected to other venting pipes.
43	OUTLET - Venting turbocharger - Venting to funnel - Minimum inclination according to TC suppliers specification - Must not be connected to other venting pipes.
57	OUTLET - Various leakages - Gravity flow to sludge tank or appropriate tank.



SURFACE PROTECTION SEE GROUP 0344  
TOLERANCING PRINCIPLE ISO8015  
GENERAL TOLERANCES ACCORDING TO ISO2768-mK

5	OUTLET - Cylinder cooling water drain. - Gravity flow to cooling water drain tank or appropriate tank.
11	INLET - SAC wash water - Optional connection. Only necessary if an external SAC washing system is installed.
B	- Wash water supply: From external washing system - Wash water supply pressure: min. 3.0 bar - Wash water circulation rate: min. 4.5 m³/h
12	INLET - Air for cleaning plants TC and SAC - Working air, supply pressure: 7-9 bar
13	OUTLET - Oily water from scavenge air receiver - Gravity flow to oily water tank or appropriate tank.
15	INLET - SAC wetting water - Wetting water supply: From clean water holding tank or SAC wetting buffer tank. - Wetting water supply pressure: max. 10 bar - Wetting water circulation rate: 500-1000 l/h per SAC
16	OUTLET - SAC condensate water - Gravity flow to bilge water tank or wash water collection tank or to the EGC bleed-off line depending on the operation mode. - The system components downstream of this connection until the pH-neutralisation dosing unit must be designed for low pH operation.
17	OUTLET - SAC wash water - Optional connection. Only necessary if an external SAC washing system is installed.
B	- To wash water collection tank during SAC cleaning.
18	OUTLET - SAC venting - Free flow outside of engine room

Prod.	X72DF-2.1											
Change History	C	dki021	mhu019	19.12.2022	CNAA002848	Drawing Updated			4	3		
	B	rth101	mhu019	22.11.2022	CNAA002751	Drawing Updated			4	3		
	A	mhu019	dst009	23.06.2022	CNAA001984	Drawing Updated			4	3		
	-	dki021	dst009	21.06.2022	CNAA002059	new Design			-	-		
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis			Approved	Activity Code	E	C
<div> Winterthur Gas &amp; Diesel</div>					LEAKAGE COLLECTION/WASHING SYS. WITH TWO TURBOCHARGERS							
separate BOM available					Dimension WITH TWO TURBOCHARGERS							
Scale	-		NX	Units [mm] [kg]		Basic Material			Net Weight		0.000	
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				Qty per		A3	Item ID	PTAA036927			Drawing Page/s 1/2	

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**SYSTEM PROPOSAL**

NOTE  
Further installation details and variants can be found listed in the Marine Installation Manual (MIM), which provides also the acronyms used in this drawing set. The piping symbols are explained by the piping symbol key as included in the drawing set "Various Installation Items".

**EXHAUST SIDE**

**MAIN ENGINE**

**Legend:**

- Compressed air pipes
- Air vent pipes
- Drain & overflow pipes
- Dirty oil drain pipes
- Wash water pipes
- Pipes on engine
- Pipe connections

**Turbocharger type**

Turbocharger type	A**	B**	Min. Inclination
1 x A175-L	65	65	≥ 5°
1 x A275-L	65	65	≥ 5°
1 x A180-L	80	80	≥ 5°
1 x A280-L	80	80	≥ 5°
1 x A170-L	65	100	≥ 5°
2 x A175-L	65	100	≥ 5°
2 x A265-L	65	80	≥ 5°
2 x A270-L	65	100	≥ 5°
1 x MET53MB	65	65	≥ 3°
1 x MET60MB	80	80	≥ 3°
1 x MET66MB	80	80	≥ 3°
1 x MET71MB	80	80	≥ 3°
2 x MET53MB	65	80	≥ 3°
2 x MET60MB	80	100	≥ 3°
2 x MET66MB	80	100	≥ 3°

**Pos. SYSTEM COMPONENTS \*1)**

Pos.	SYSTEM COMPONENTS *1)
001	Sludge oil trap (link to detail drawing on the partlist of this drawing).
002	Throttling disc (size shown on separate sludge oil trap drawing)
003	Sludge or appropriate tank
004	Air vent manifold
005	Transition piece (adaptor) *9)
006	Gas detector *11)
007	Chemical wash water circulation tank *15)
008	Chemical wash water circulation pump *16)
009	Chemical wash water strainer (0.5-1.0 mm) *16)

**Pos. ENGINE CONNECTIONS \*2)**

Pos.	ENGINE CONNECTIONS *2)
⑤	OUTLET - Cylinder cooling water drain
⑪	INLET - SAC wash water *16)
⑫	INLET - Air for cleaning TC
⑬	OUTLET - Oily water from scavenge air receiver *10)
⑮	INLET - SAC wetting water
⑯	OUTLET - SAC condensate water *4) *10) *12)
⑰	OUTLET - SAC wash water *13) *16)
⑱	OUTLET - SAC venting *5)
⑳	OUTLET - SAC condensate water, iCER *14)
㉔	OUTLET - Dirty oil piston underside
㉕	OUTLET - Leakage oil gland box
㉖	OUTLET - Venting crankcase
㉗	OUTLET - Venting turbocharger
㉘	OUTLET - Various leakages

**Pos. ENGINE COMPONENTS \*3)**

Pos.	ENGINE COMPONENTS *3)
EC01	Scavenge Air Cooler (SAC)
EC02	Dry cleaning device
EC03	Throttling disc
EC04	Venting Unit
EC05	Condensate drain unit
EC06	SAC washing spray nozzle
EC07	SAC washing isolating valve
EC08	SAC wetting valve unit

**Remarks**

- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.
- \*1) 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, i.e. already equipped on engine side.
- \*4) The amount of condensate water drained off after the SAC depends on the relative air humidity and the scavenge air temperature before and after the SAC. During iCER operation, the SAC drain water amount is significantly increased. The specific drain amount is provided by the GTO.
- \*5) Free flow venting outside of engine room.
- \*6) In relation to turbocharger type, see table on the left side.
- \*7) Vent pipe diameter as per turbocharger requirements.
- \*8) Vent pipe diameter of common collection pipe.
- \*9) Installed as required (check with the Pipe Connection Plan).
- \*10) Drain connection 13 and 16 are with air flow from scavenging system. Both drain lines must be kept separated and directed to separate tanks. The tanks must be designed with sufficiently sized vents to prevent excessive pressure in the tanks. The drain amount depends on the ambient conditions.
- \*11) Optional, to be installed if requested by the flag state and/or class to achieve IGC compliance.
- \*12) The system components from the iCER bleed-off water outlet must be designed for low pH operation. After the pH neutralisation the system components can be of standard material.
- \*13) Switching to the separate washing water collection tank must be carried out for SAC cleaning.
- \*14) While the iCER is in operation, drain to the EGC wastewater holding tank. The solenoid valve is actuated by a signal from the "Engine Control System".
- \*15) Wash water is heated to between 50 and 60 °C by a heating coil.
- \*16) Optional, only necessary if an external SAC washing system is installed.

**Change Log**

Change	Author	Date	Description
dk0201	dm0201	10.12.2022	Initial Issue
dk0202	dm0202	10.12.2022	Drawing Updated

**Approval**

Activity Code	Signature	Date
4	[Signature]	10.12.2022
5	[Signature]	10.12.2022

**General Information**

SURFACE PROTECTION SEE GROUP 0344

TOLERANCING PRINCIPLE ISO8015

GENERAL TOLERANCES ACCORDING TO ISO2768-mK

Scale: 1:1

Material: NX

Unit: mm

Sheet: 1 of 1

Project: PTAA036927

Page: 2/2

**SYSTEM PROPOSAL**

NOTE  
Further installation details and variants can be found listed in the Marine Installation Manual (MIM), which provides also the acronyms used in this drawing set. The piping symbols are explained by the piping symbol key as included in the drawing set "Various Installation Items".

**EXHAUST SIDE**

**MAIN ENGINE**

**Turbocharger type**

Turbocharger type	A**	B**	Min. Inclination
1 x A175-L	65	65	≥ 5°
1 x A275-L	65	65	≥ 5°
1 x A180-L	80	80	≥ 5°
1 x A280-L	80	80	≥ 5°
2 x A170-L	65	100	≥ 5°
2 x A175-L	65	100	≥ 5°
2 x A265-L	65	80	≥ 5°
2 x A270-L	65	100	≥ 5°
1 x MET53MB	65	65	≥ 3°
1 x MET60MB	80	80	≥ 3°
1 x MET66MB	80	80	≥ 3°
1 x MET71MB	80	80	≥ 3°
2 x MET53MB	65	80	≥ 3°
2 x MET60MB	80	100	≥ 3°
2 x MET66MB	80	100	≥ 3°

**Pos. SYSTEM COMPONENTS \*1)**

Pos.	SYSTEM COMPONENTS *1)
001	Sludge oil trap (link to detail drawing on the partlist of this drawing).
002	Throttling disc (size shown on separate sludge oil trap drawing)
003	Sludge or appropriate tank
004	Air vent manifold
005	Transition piece (adaptor) *9)
006	Gas detector *11)
007	Chemical wash water circulation tank *15)
008	Chemical wash water circulation pump *16)
009	Chemical wash water strainer (0.5-1.0 mm) *16)

**Pos. ENGINE CONNECTIONS \*2)**

Pos.	ENGINE CONNECTIONS *2)
⑤	OUTLET - Cylinder cooling water drain
⑪	INLET - SAC wash water *16)
⑫	INLET - Air for cleaning TC
⑬	OUTLET - Oily water from scavenge air receiver *10)
⑮	INLET - SAC wetting water
⑯	OUTLET - SAC condensate water *4) *10) *12)
⑰	OUTLET - SAC wash water *13) *16)
⑱	OUTLET - SAC venting *5)
⑳	OUTLET - SAC condensate water, iCER *14)
㉔	OUTLET - Dirty oil piston underside
㉕	OUTLET - Leakage oil gland box
㉖	OUTLET - Venting crankcase
㉗	OUTLET - Venting turbocharger
㉘	OUTLET - Various leakages

**Pos. ENGINE COMPONENTS \*3)**

Pos.	ENGINE COMPONENTS *3)
EC01	Scavenge Air Cooler (SAC)
EC02	Dry cleaning device
EC03	Throttling disc
EC04	Venting Unit
EC05	Condensate drain unit
EC06	SAC washing spray nozzle
EC07	SAC washing isolating valve
EC08	SAC wetting valve unit

**Remarks**

- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.
- \*1) 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, i.e. already equipped on engine side.
- \*4) The amount of condensate water drained off after the SAC depends on the relative air humidity and the scavenge air temperature before and after the SAC. During iCER operation, the SAC drain water amount is significantly increased. The specific drain amount is provided by the GTO.
- \*5) Free flow venting outside of engine room.
- \*6) In relation to turbocharger type, see table on the left side.
- \*7) Vent pipe diameter as per turbocharger requirements.
- \*8) Vent pipe diameter of common collection pipe.
- \*9) Installed as required (check with the Pipe Connection Plan).
- \*10) Drain connection 13 and 16 are with air flow from scavenging system. Both drain lines must be kept separated and directed to separate tanks. The tanks must be designed with sufficiently sized vents to prevent excessive pressure in the tanks. The drain amount depends on the ambient conditions.
- \*11) Optional, to be installed if requested by the flag state and/or class to achieve IGC compliance.
- \*12) The system components from the iCER bleed-off water outlet must be designed for low pH operation. After the pH neutralisation the system components can be of standard material.
- \*13) Switching to the separate washing water collection tank must be carried out for SAC cleaning.
- \*14) While the iCER is in operation, drain to the EGC wastewater holding tank. The solenoid valve is actuated by a signal from the "Engine Control System".
- \*15) Wash water is heated to between 50 and 60 °C by a heating coil.
- \*16) Optional, only necessary if an external SAC washing system is installed.

**Legend:**

- Compressed air pipes
- Air vent pipes
- Drain & overflow pipes
- Dirty oil drain pipes
- Wash water pipes
- ===== Pipes on engine
- Pipe connections

**Flow Diagram Details:**

- Working air 7-9 bar
- From clean water holding tank or SAC wetting buffer tank
- To oily water drain tank
- Gravity flow to standard SAC drain arrangement according to shipyard's preference.
- To EGC wastewater holding tank (as defined in MDS, DG9721)
- min. 15°
- To oily water drain tank
- To water drain tank

**Change Log:**

Change	Author	Date	Description
dk0201	dm	10.12.2022	Drawing Updated

**General Information:**

SURFACE PROTECTION SEE GROUP 0344

TOLERANCING PRINCIPLE ISO8015

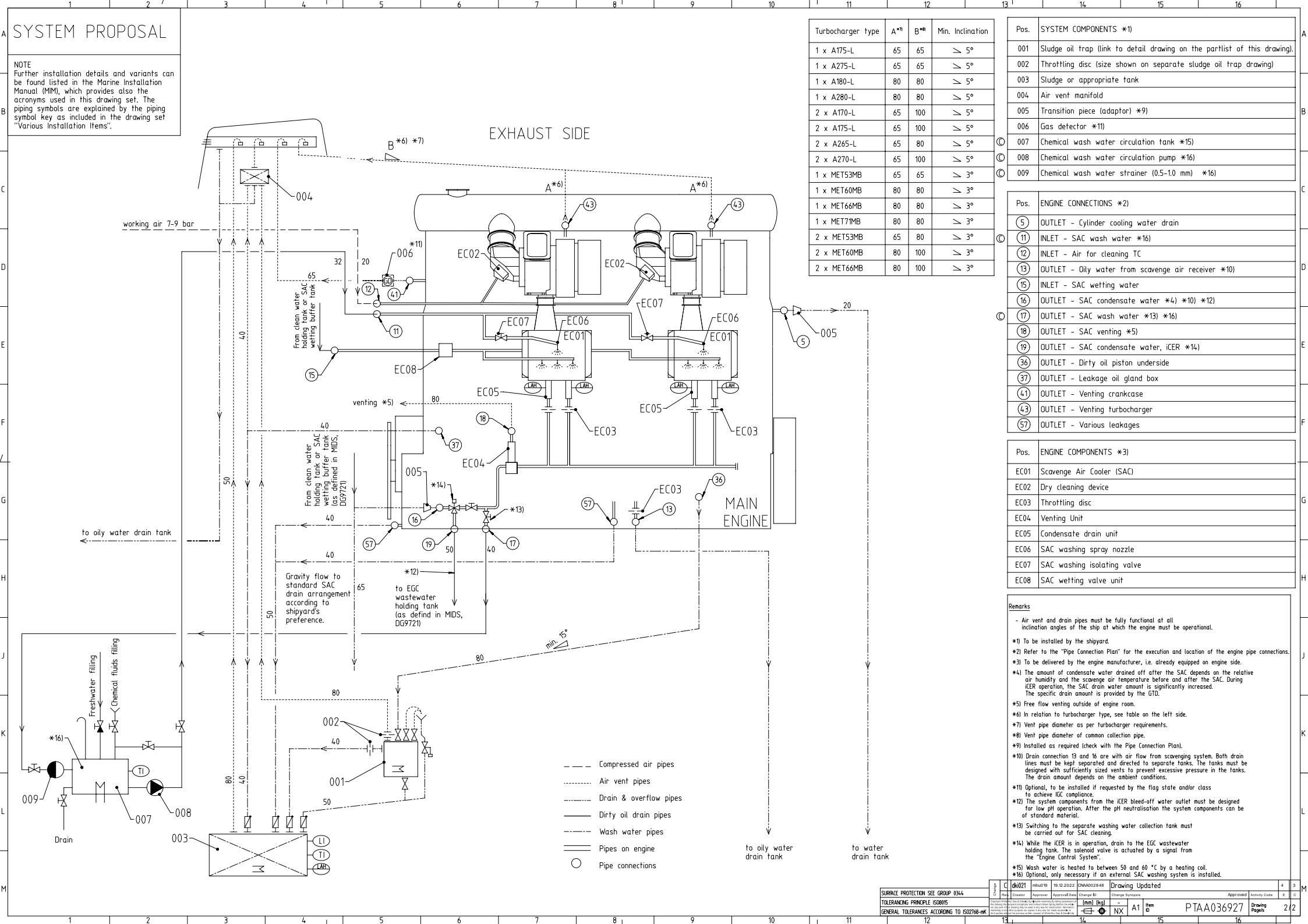
GENERAL TOLERANCES ACCORDING TO ISO2768-mK

**Piping Symbols:**

- LI: Liquid Inlet
- TI: Turbine Inlet
- LH: Lubrication Oil

**Scale:** 1:1

**Page:** 2/2

[illegible]

**SYSTEM PROPOSAL**

NOTE  
Further installation details and variants can be found listed in the Marine Installation Manual (MIM), which provides also the acronyms used in this drawing set. The piping symbols are explained by the piping symbol key as included in the drawing set "Various Installation Items".

The diagram illustrates the exhaust side of a main engine, detailing the scavenging air system, cooling, and cleaning processes. Key components include two turbochargers (A\*6) at the top, followed by dry cleaning devices (EC02) and throttling discs (EC03). Below these are scavange air coolers (EC01) and various wash water spray nozzles (EC06) and isolating valves (EC07). The system includes multiple air vents (A\*6) and connections for compressed air, drain pipes, dirty oil, wash water, and engine pipes. A complex network of pipes leads from the engine area down to several holding tanks: a sludge oil trap (001), a transition piece (009), a chemical wash water circulation tank (007), a chemical wash water strainer (008), and a gravity flow tank (003). Various other components like a gas detector (006), chemical wash water pump (005), and a vent pipe (004) are also shown. The diagram uses different line styles to represent various types of pipes and connections.

Turbocharger type	A**	B**	Min. Inclination
1 x A175-L	65	65	≥ 5°
1 x A275-L	65	65	≥ 5°
1 x A180-L	80	80	≥ 5°
1 x A280-L	80	80	≥ 5°
1 x A170-L	65	100	≥ 5°
2 x A175-L	65	100	≥ 5°
2 x A265-L	65	80	≥ 5°
2 x A270-L	65	100	≥ 5°
1 x MET53MB	65	65	≥ 3°
1 x MET60MB	80	80	≥ 3°
1 x MET66MB	80	80	≥ 3°
1 x MET71MB	80	80	≥ 3°
2 x MET53MB	65	80	≥ 3°
2 x MET60MB	80	100	≥ 3°
2 x MET66MB	80	100	≥ 3°

Pos.	SYSTEM COMPONENTS *1)
001	Sludge oil trap (link to detail drawing on the partlist of this drawing).
002	Throttling disc (size shown on separate sludge oil trap drawing)
003	Sludge or appropriate tank
004	Air vent manifold
005	Transition piece (adaptor) *9)
006	Gas detector *11)
007	Chemical wash water circulation tank *15)
008	Chemical wash water circulation pump *16)
009	Chemical wash water strainer (0.5-1.0 mm) *16)

Pos.	ENGINE CONNECTIONS *2)
⑤	OUTLET - Cylinder cooling water drain
⑪	INLET - SAC wash water *16)
⑫	INLET - Air for cleaning TC
⑬	OUTLET - Oily water from scavenge air receiver *10)
⑮	INLET - SAC wetting water
⑯	OUTLET - SAC condensate water *4) *10) *12)
⑰	OUTLET - SAC wash water *13) *16)
⑱	OUTLET - SAC venting *5)
⑳	OUTLET - SAC condensate water, iCER *14)
㉔	OUTLET - Dirty oil piston underside
㉕	OUTLET - Leakage oil gland box
㉖	OUTLET - Venting crankcase
㉗	OUTLET - Venting turbocharger
㉘	OUTLET - Various leakages

Pos.	ENGINE COMPONENTS *3)
EC01	Scavenge Air Cooler (SAC)
EC02	Dry cleaning device
EC03	Throttling disc
EC04	Venting Unit
EC05	Condensate drain unit
EC06	SAC washing spray nozzle
EC07	SAC washing isolating valve
EC08	SAC wetting valve unit

**Remarks**

- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.
- \*1) 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, i.e. already equipped on engine side.
- \*4) The amount of condensate water drained off after the SAC depends on the relative air humidity and the scavenge air temperature before and after the SAC. During iCER operation, the SAC drain water amount is significantly increased. The specific drain amount is provided by the GTO.
- \*5) Free flow venting outside of engine room.
- \*6) In relation to turbocharger type, see table on the left side.
- \*7) Vent pipe diameter as per turbocharger requirements.
- \*8) Vent pipe diameter of common collection pipe.
- \*9) Installed as required (check with the Pipe Connection Plan).
- \*10) Drain connection 13 and 16 are with air flow from scavenging system. Both drain lines must be kept separated and directed to separate tanks. The tanks must be designed with sufficiently sized vents to prevent excessive pressure in the tanks. The drain amount depends on the ambient conditions.
- \*11) Optional, to be installed if requested by the flag state and/or class to achieve IGC compliance.
- \*12) The system components from the iCER bleed-off water outlet must be designed for low pH operation. After the pH neutralisation the system components can be of standard material.
- \*13) Switching to the separate washing water collection tank must be carried out for SAC cleaning.
- \*14) While the iCER is in operation, drain to the EGC wastewater holding tank. The solenoid valve is actuated by a signal from the "Engine Control System".
- \*15) Wash water is heated to between 50 and 60 °C by a heating coil.
- \*16) Optional, only necessary if an external SAC washing system is installed.

Legend:

- Compressed air pipes
- Air vent pipes
- ..... Drain & overflow pipes
- Dirty oil drain pipes
- Wash water pipes
- == Pipes on engine
- Pipe connections

Scale: 1:100

Drawing Title: SYSTEM PROPOSAL

Project No.: PTAA036927

Revision: 1

Date: 10.12.2022

Author: dkk021

Checker: dkk021

Approver: dkk021

Change Description: Drawing Updated

Surfactant Protection See GROUP 0344

TOLERANCING PRINCIPLE ISO8015

GENERAL TOLERANCES ACCORDING TO ISO2768-mK

Unit: mm

Material: NX

Standard: A1

Page: 2/2

**SYSTEM PROPOSAL**

NOTE  
Further installation details and variants can be found listed in the Marine Installation Manual (MIM), which provides also the acronyms used in this drawing set. The piping symbols are explained by the piping symbol key as included in the drawing set "Various Installation Items".

The diagram illustrates the exhaust side of a main engine, detailing the scavenging air system, cooling, and cleaning processes. Key components include two turbochargers (A\*6) at the top, followed by dry cleaning devices (EC02) and throttling discs (EC03). Below these are scavange air coolers (EC01) and various wash water spray nozzles (EC06) and isolating valves (EC07). The system includes multiple air vents (A\*6) and connections for compressed air, drain pipes, dirty oil, wash water, and engine pipes. A complex network of pipes leads from the engine area down to several holding tanks: a sludge oil trap (001), a transition piece (009), a chemical wash water circulation tank (007), a standard SAC drain arrangement (008), and a gravity flow tank (003). Various other components like a gas detector (006), chemical wash water pump (008), and strainer (009) are shown. The diagram also indicates connections to clean water holding tanks, oily water drain tanks, and EGC wastewater holding tanks.

Turbocharger type	A**	B**	Min. Inclination
1 x A175-L	65	65	≥ 5°
1 x A275-L	65	65	≥ 5°
1 x A180-L	80	80	≥ 5°
1 x A280-L	80	80	≥ 5°
1 x A170-L	65	100	≥ 5°
2 x A175-L	65	100	≥ 5°
2 x A265-L	65	80	≥ 5°
2 x A270-L	65	100	≥ 5°
1 x MET53MB	65	65	≥ 3°
1 x MET60MB	80	80	≥ 3°
1 x MET66MB	80	80	≥ 3°
1 x MET71MB	80	80	≥ 3°
2 x MET53MB	65	80	≥ 3°
2 x MET60MB	80	100	≥ 3°
2 x MET66MB	80	100	≥ 3°

Pos.	SYSTEM COMPONENTS *1)
001	Sludge oil trap (link to detail drawing on the partlist of this drawing).
002	Throttling disc (size shown on separate sludge oil trap drawing)
003	Sludge or appropriate tank
004	Air vent manifold
005	Transition piece (adaptor) *9)
006	Gas detector *11)
007	Chemical wash water circulation tank *15)
008	Chemical wash water circulation pump *16)
009	Chemical wash water strainer (0.5-1.0 mm) *16)

Pos.	ENGINE CONNECTIONS *2)
⑤	OUTLET - Cylinder cooling water drain
⑪	INLET - SAC wash water *16)
⑫	INLET - Air for cleaning TC
⑬	OUTLET - Oily water from scavenge air receiver *10)
⑮	INLET - SAC wetting water
⑯	OUTLET - SAC condensate water *4) *10) *12)
⑰	OUTLET - SAC wash water *13) *16)
⑱	OUTLET - SAC venting *5)
⑳	OUTLET - SAC condensate water, iCER *14)
㉓	OUTLET - Dirty oil piston underside
㉔	OUTLET - Leakage oil gland box
㉕	OUTLET - Venting crankcase
㉖	OUTLET - Venting turbocharger
㉗	OUTLET - Various leakages

Pos.	ENGINE COMPONENTS *3)
EC01	Scavenge Air Cooler (SAC)
EC02	Dry cleaning device
EC03	Throttling disc
EC04	Venting Unit
EC05	Condensate drain unit
EC06	SAC washing spray nozzle
EC07	SAC washing isolating valve
EC08	SAC wetting valve unit

**Remarks**

- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.
- \*1) 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, i.e. already equipped on engine side.
- \*4) The amount of condensate water drained off after the SAC depends on the relative air humidity and the scavenge air temperature before and after the SAC. During iCER operation, the SAC drain water amount is significantly increased. The specific drain amount is provided by the GTO.
- \*5) Free flow venting outside of engine room.
- \*6) In relation to turbocharger type, see table on the left side.
- \*7) Vent pipe diameter as per turbocharger requirements.
- \*8) Vent pipe diameter of common collection pipe.
- \*9) Installed as required (check with the Pipe Connection Plan).
- \*10) Drain connection 13 and 16 are with air flow from scavenging system. Both drain lines must be kept separated and directed to separate tanks. The tanks must be designed with sufficiently sized vents to prevent excessive pressure in the tanks. The drain amount depends on the ambient conditions.
- \*11) Optional, to be installed if requested by the flag state and/or class to achieve IGC compliance.
- \*12) The system components from the iCER bleed-off water outlet must be designed for low pH operation. After the pH neutralisation the system components can be of standard material.
- \*13) Switching to the separate washing water collection tank must be carried out for SAC cleaning.
- \*14) While the iCER is in operation, drain to the EGC wastewater holding tank. The solenoid valve is actuated by a signal from the "Engine Control System".
- \*15) Wash water is heated to between 50 and 60 °C by a heating coil.
- \*16) Optional, only necessary if an external SAC washing system is installed.

Legend:

- Compressed air pipes
- ..... Air vent pipes
- Drain & overflow pipes
- Dirty oil drain pipes
- Wash water pipes
- ===== Pipes on engine
- Pipe connections

Scale: 1:100

Drawing Title: SYSTEM PROPOSAL

Project No.: PTAA036927

Revision: 1

Date: 10.12.2022

Author: dkk021

Checker: dkk021

Approved: dkk021

Change History:

No.	Description	By	Date
1	Initial Issue	dkk021	10.12.2022

General Tolerances According to ISO 2768-MK

Surface Protection See Group 0344

Tolerancing Principle ISO 8015

Material: Steel

Heat Treatment: N/A

Finishing: N/A

Assembly: N/A

Storage: N/A

Transportation: N/A

Installation: N/A

Maintenance: N/A

Disposal: N/A

Notes:

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**SYSTEM PROPOSAL**

NOTE  
Further installation details and variants can be found listed in the Marine Installation Manual (MIM), which provides also the acronyms used in this drawing set. The piping symbols are explained by the piping symbol key as included in the drawing set "Various Installation Items".

The diagram illustrates the exhaust side of a main engine, detailing the scavenging air system, cooling, and cleaning processes. Key components include two turbochargers (A\*6) at the top, followed by dry cleaning devices (EC02) and throttling discs (EC03). Below these are scavange air coolers (EC01) and various wash water spray nozzles (EC06) and isolating valves (EC07). The system includes multiple air vents (A\*6) and connections for compressed air, drain pipes, and wash water. A complex network of pipes leads from the engine area down to several holding tanks: a sludge oil trap (001), a transition piece (009), a chemical wash water circulation tank (007), and a chemical wash water strainer (008). There are also connections for clean water, oily water, and wastewater drainage, all leading to designated tanks or overboard discharge points. Pipe diameters are indicated throughout the system.

Turbocharger type	A**	B**	Min. Inclination
1 x A175-L	65	65	≥ 5°
1 x A275-L	65	65	≥ 5°
1 x A180-L	80	80	≥ 5°
1 x A280-L	80	80	≥ 5°
1 x A170-L	65	100	≥ 5°
2 x A175-L	65	100	≥ 5°
2 x A265-L	65	80	≥ 5°
2 x A270-L	65	100	≥ 5°
1 x MET53MB	65	65	≥ 3°
1 x MET60MB	80	80	≥ 3°
1 x MET66MB	80	80	≥ 3°
1 x MET71MB	80	80	≥ 3°
2 x MET53MB	65	80	≥ 3°
2 x MET60MB	80	100	≥ 3°
2 x MET66MB	80	100	≥ 3°

Pos.	SYSTEM COMPONENTS *1)
001	Sludge oil trap (link to detail drawing on the partlist of this drawing).
002	Throttling disc (size shown on separate sludge oil trap drawing)
003	Sludge or appropriate tank
004	Air vent manifold
005	Transition piece (adaptor) *9)
006	Gas detector *11)
007	Chemical wash water circulation tank *15)
008	Chemical wash water circulation pump *16)
009	Chemical wash water strainer (0.5-1.0 mm) *16)

Pos.	ENGINE CONNECTIONS *2)
⑤	OUTLET - Cylinder cooling water drain
⑪	INLET - SAC wash water *16)
⑫	INLET - Air for cleaning TC
⑬	OUTLET - Oily water from scavenge air receiver *10)
⑮	INLET - SAC wetting water
⑯	OUTLET - SAC condensate water *4) *10) *12)
⑰	OUTLET - SAC wash water *13) *16)
⑱	OUTLET - SAC venting *5)
⑳	OUTLET - SAC condensate water, iCER *14)
㉔	OUTLET - Dirty oil piston underside
㉕	OUTLET - Leakage oil gland box
㉖	OUTLET - Venting crankcase
㉗	OUTLET - Venting turbocharger
㉘	OUTLET - Various leakages

Pos.	ENGINE COMPONENTS *3)
EC01	Scavenge Air Cooler (SAC)
EC02	Dry cleaning device
EC03	Throttling disc
EC04	Venting Unit
EC05	Condensate drain unit
EC06	SAC washing spray nozzle
EC07	SAC washing isolating valve
EC08	SAC wetting valve unit

**Remarks**

- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.
- \*1) 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, i.e. already equipped on engine side.
- \*4) The amount of condensate water drained off after the SAC depends on the relative air humidity and the scavenge air temperature before and after the SAC. During iCER operation, the SAC drain water amount is significantly increased. The specific drain amount is provided by the GTO.
- \*5) Free flow venting outside of engine room.
- \*6) In relation to turbocharger type, see table on the left side.
- \*7) Vent pipe diameter as per turbocharger requirements.
- \*8) Vent pipe diameter of common collection pipe.
- \*9) Installed as required (check with the Pipe Connection Plan).
- \*10) Drain connection 13 and 16 are with air flow from scavenging system. Both drain lines must be kept separated and directed to separate tanks. The tanks must be designed with sufficiently sized vents to prevent excessive pressure in the tanks. The drain amount depends on the ambient conditions.
- \*11) Optional, to be installed if requested by the flag state and/or class to achieve IGC compliance.
- \*12) The system components from the iCER bleed-off water outlet must be designed for low pH operation. After the pH neutralisation the system components can be of standard material.
- \*13) Switching to the separate washing water collection tank must be carried out for SAC cleaning.
- \*14) While the iCER is in operation, drain to the EGC wastewater holding tank. The solenoid valve is actuated by a signal from the "Engine Control System".
- \*15) Wash water is heated to between 50 and 60 °C by a heating coil.
- \*16) Optional, only necessary if an external SAC washing system is installed.

Legend:

- Compressed air pipes
- ..... Air vent pipes
- Drain & overflow pipes
- Dirty oil drain pipes
- Wash water pipes
- ===== Pipes on engine
- Pipe connections

Scale: 1:100

Drawing Title: SYSTEM PROPOSAL

Project No.: PTAA036927

Revision: 1

Date: 10.12.2022

Author: dkk021

Checker: dkk021

Approver: dkk021

Change Description: Drawing Updated

Surfactant Protection See GROUP 0344

TOLERANCING PRINCIPLE ISO8015

GENERAL TOLERANCES ACCORDING TO ISO2768-mK

Unit: mm

Material: NX

Quantity: 1

Weight: 1

Volume: 1

Area: 1

Perimeter: 1

Length: 1

Width: 1

Height: 1

Depth: 1

Radius: 1

Diameter: 1

Angle: 1

Surface Finish: 1

Thread: 1

Fit: 1

Clearance: 1

Interference: 1

Allowance: 1

Deviation: 1

Tolerance: 1

Accuracy: 1

Precision: 1

Repeatability: 1

Stability: 1

Reliability: 1

Performance: 1

Efficiency: 1

Effectiveness: 1

Usefulness: 1

Value: 1

Cost: 1

Time: 1

Quality: 1

Service: 1

Support: 1

Warranty: 1

Risk: 1

Impact: 1

Consequence: 1

Severity: 1

Frequency: 1

Probability: 1

Exposure: 1

Vulnerability: 1

Resilience: 1

Robustness: 1

Flexibility: 1

Adaptability: 1

Innovation: 1

Leadership: 1

Collaboration: 1

Communication: 1

Teamwork: 1

Motivation: 1

Engagement: 1

Commitment: 1

Accountability: 1

Transparency: 1

Integrity: 1

Honesty: 1

Courage: 1

Compassion: 1

Kindness: 1

Generosity: 1

Humility: 1

Graphtext

**SYSTEM PROPOSAL**

NOTE  
Further installation details and variants can be found listed in the Marine Installation Manual (MIM), which provides also the acronyms used in this drawing set. The piping symbols are explained by the piping symbol key as included in the drawing set "Various Installation Items".

The diagram illustrates the exhaust side of a main engine, detailing the scavenging air system, cooling, and cleaning processes. Key components include two turbochargers (A\*6) at the top, followed by dry cleaning devices (EC02) and throttling discs (EC03). Below these are scavange air coolers (EC01) and various wash water spray nozzles (EC06) and isolating valves (EC07). The system includes multiple air vents (A\*6) and connections for compressed air, drain pipes, dirty oil, wash water, and engine pipes. Various tanks are shown, including sludge oil traps (001, 002), holding tanks for clean water (004), oily water (003), and wastewater (005). Piping is color-coded and labeled with numbers and letters according to the legend.

Turbocharger type	A**	B**	Min. Inclination
1 x A175-L	65	65	≥ 5°
1 x A275-L	65	65	≥ 5°
1 x A180-L	80	80	≥ 5°
1 x A280-L	80	80	≥ 5°
1 x A170-L	65	100	≥ 5°
2 x A175-L	65	100	≥ 5°
2 x A265-L	65	80	≥ 5°
2 x A270-L	65	100	≥ 5°
1 x MET53MB	65	65	≥ 3°
1 x MET60MB	80	80	≥ 3°
1 x MET66MB	80	80	≥ 3°
1 x MET71MB	80	80	≥ 3°
2 x MET53MB	65	80	≥ 3°
2 x MET60MB	80	100	≥ 3°
2 x MET66MB	80	100	≥ 3°

Pos.	SYSTEM COMPONENTS *1)
001	Sludge oil trap (link to detail drawing on the partlist of this drawing).
002	Throttling disc (size shown on separate sludge oil trap drawing)
003	Sludge or appropriate tank
004	Air vent manifold
005	Transition piece (adaptor) *9)
006	Gas detector *11)
007	Chemical wash water circulation tank *15)
008	Chemical wash water circulation pump *16)
009	Chemical wash water strainer (0.5-1.0 mm) *16)

Pos.	ENGINE CONNECTIONS *2)
⑤	OUTLET - Cylinder cooling water drain
⑪	INLET - SAC wash water *16)
⑫	INLET - Air for cleaning TC
⑬	OUTLET - Oily water from scavenge air receiver *10)
⑮	INLET - SAC wetting water
⑯	OUTLET - SAC condensate water *4) *10) *12)
⑰	OUTLET - SAC wash water *13) *16)
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⑳	OUTLET - SAC condensate water, iCER *14)
㉔	OUTLET - Dirty oil piston underside
㉕	OUTLET - Leakage oil gland box
㉖	OUTLET - Venting crankcase
㉗	OUTLET - Venting turbocharger
㉘	OUTLET - Various leakages

Pos.	ENGINE COMPONENTS *3)
EC01	Scavenge Air Cooler (SAC)
EC02	Dry cleaning device
EC03	Throttling disc
EC04	Venting Unit
EC05	Condensate drain unit
EC06	SAC washing spray nozzle
EC07	SAC washing isolating valve
EC08	SAC wetting valve unit

**Remarks**

- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.
- \*1) 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, i.e. already equipped on engine side.
- \*4) The amount of condensate water drained off after the SAC depends on the relative air humidity and the scavenge air temperature before and after the SAC. During iCER operation, the SAC drain water amount is significantly increased. The specific drain amount is provided by the GTO.
- \*5) Free flow venting outside of engine room.
- \*6) In relation to turbocharger type, see table on the left side.
- \*7) Vent pipe diameter as per turbocharger requirements.
- \*8) Vent pipe diameter of common collection pipe.
- \*9) Installed as required (check with the Pipe Connection Plan).
- \*10) Drain connection 13 and 16 are with air flow from scavenging system. Both drain lines must be kept separated and directed to separate tanks. The tanks must be designed with sufficiently sized vents to prevent excessive pressure in the tanks. The drain amount depends on the ambient conditions.
- \*11) Optional, to be installed if requested by the flag state and/or class to achieve IGC compliance.
- \*12) The system components from the iCER bleed-off water outlet must be designed for low pH operation. After the pH neutralisation the system components can be of standard material.
- \*13) Switching to the separate washing water collection tank must be carried out for SAC cleaning.
- \*14) While the iCER is in operation, drain to the EGC wastewater holding tank. The solenoid valve is actuated by a signal from the "Engine Control System".
- \*15) Wash water is heated to between 50 and 60 °C by a heating coil.
- \*16) Optional, only necessary if an external SAC washing system is installed.

**Legend:**

- Compressed air pipes
- ... Air vent pipes
- Drain & overflow pipes
- Dirty oil drain pipes
- Wash water pipes
- Pipes on engine
- Pipe connections

**General Tolerances:** SURFACE PROTECTION SEE GROUP 0344, TOLERANCING PRINCIPLE ISO8015, GENERAL TOLERANCES ACCORDING TO ISO2768-mK

**Change Log:**

No.	Change	Date	Description
1	Initial	10.12.2022	Initial Design
2	Revised	10.12.2022	Design Update

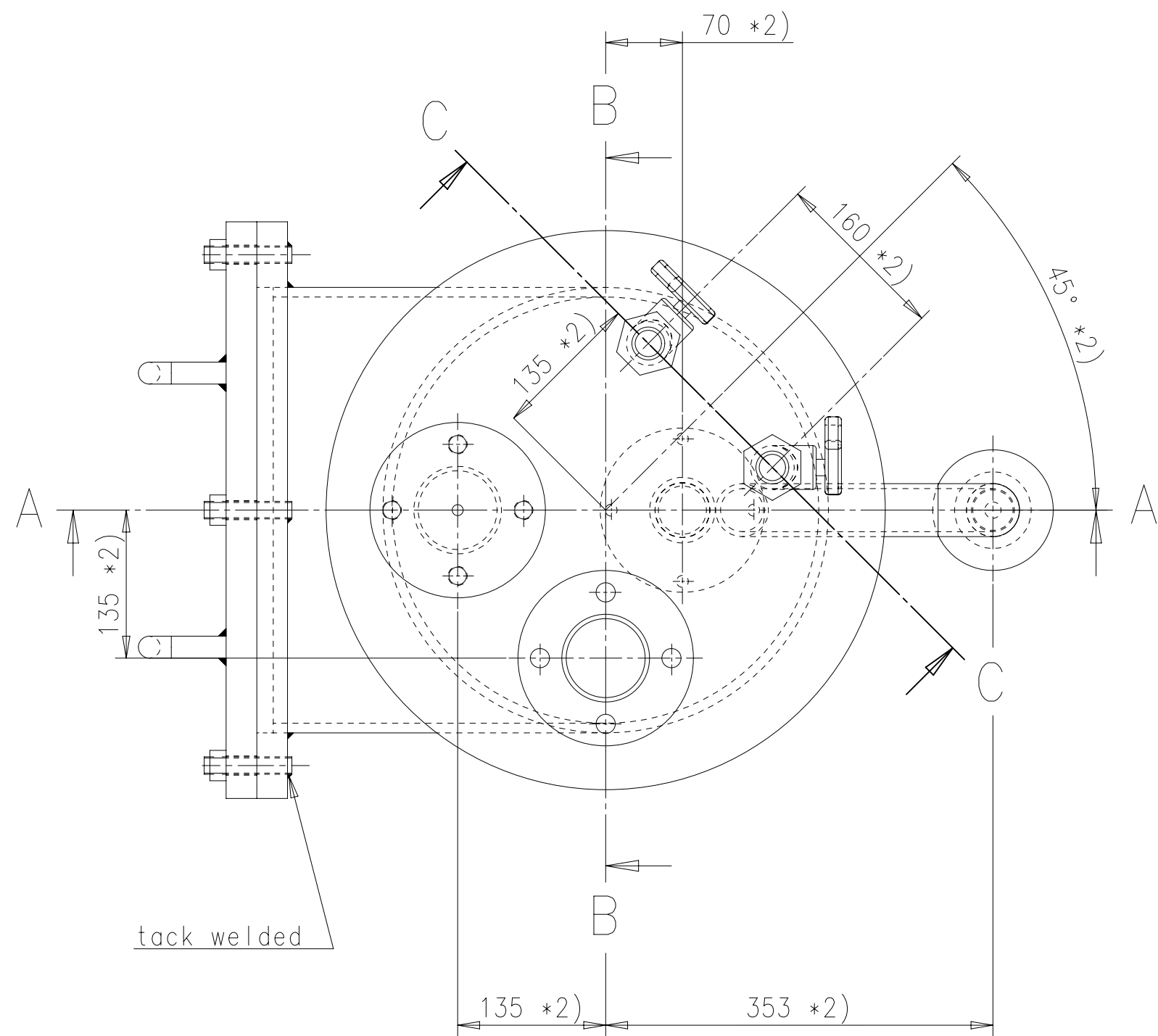
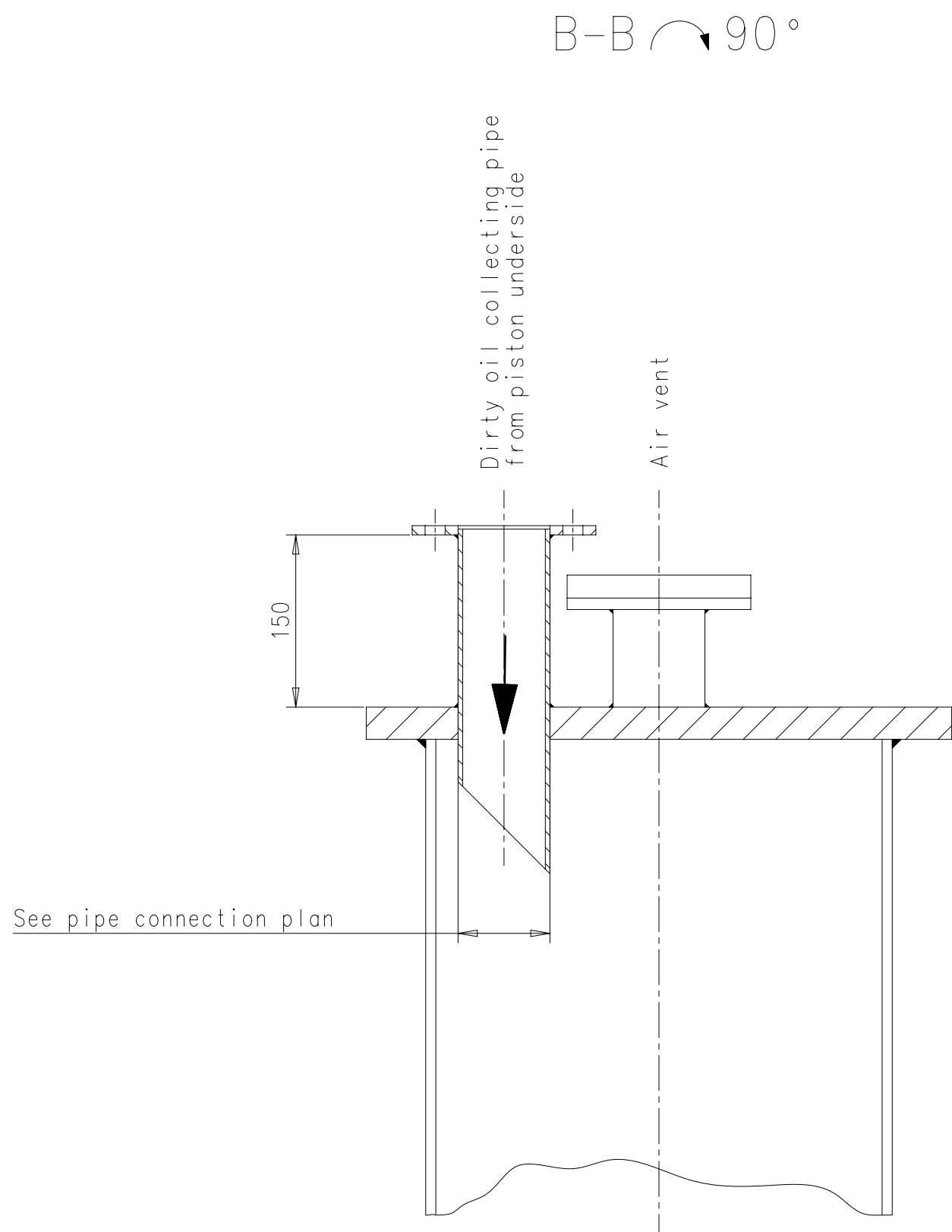
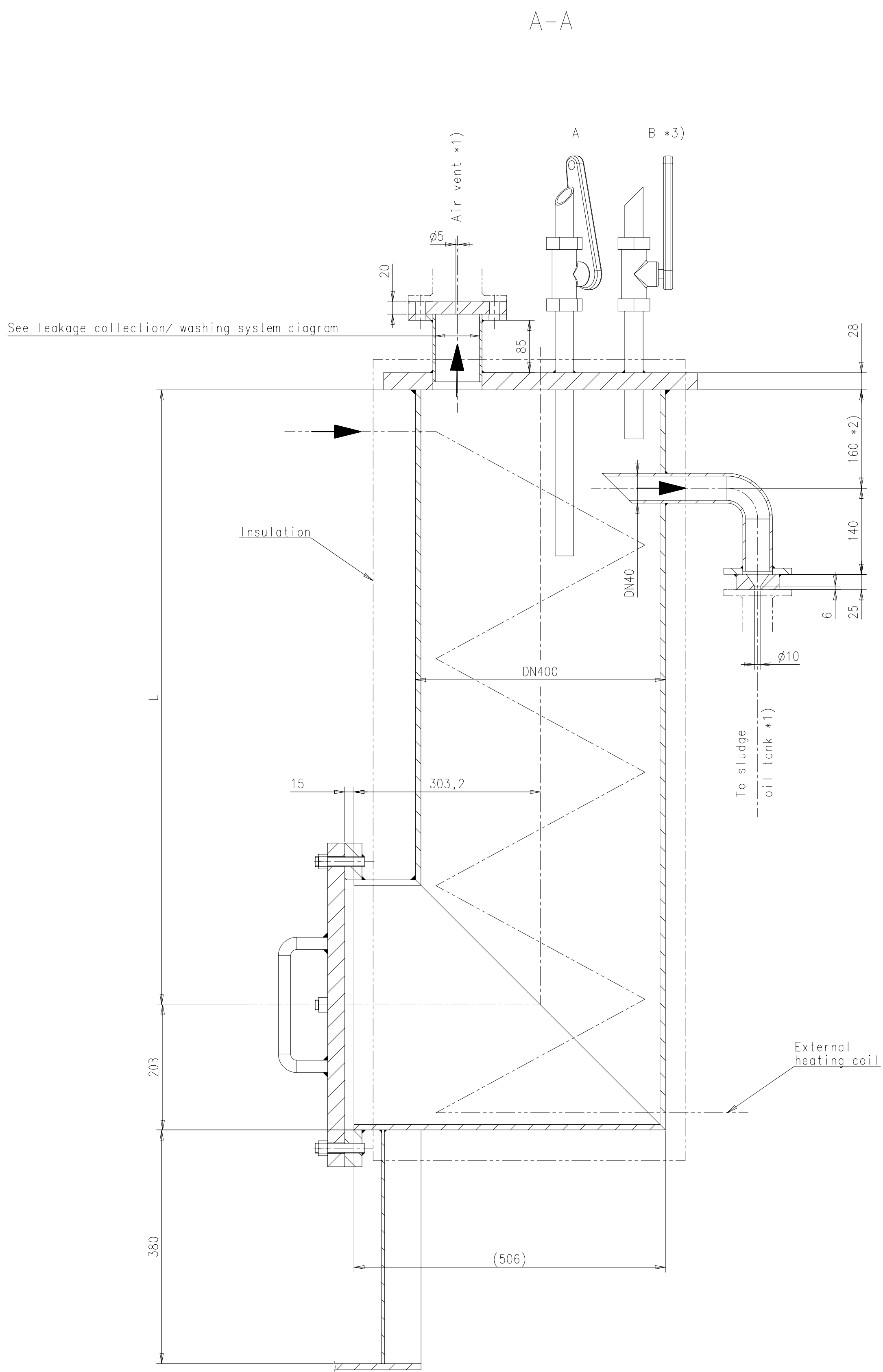
**Approval:**

Signature	Name	Position
[Signature]	J. Müller	Project Manager
[Signature]	K. Schmidt	Technical Director

**Drawing Information:**

Page No.	Total Pages	Scale	Version
1	1	1:1	1.0

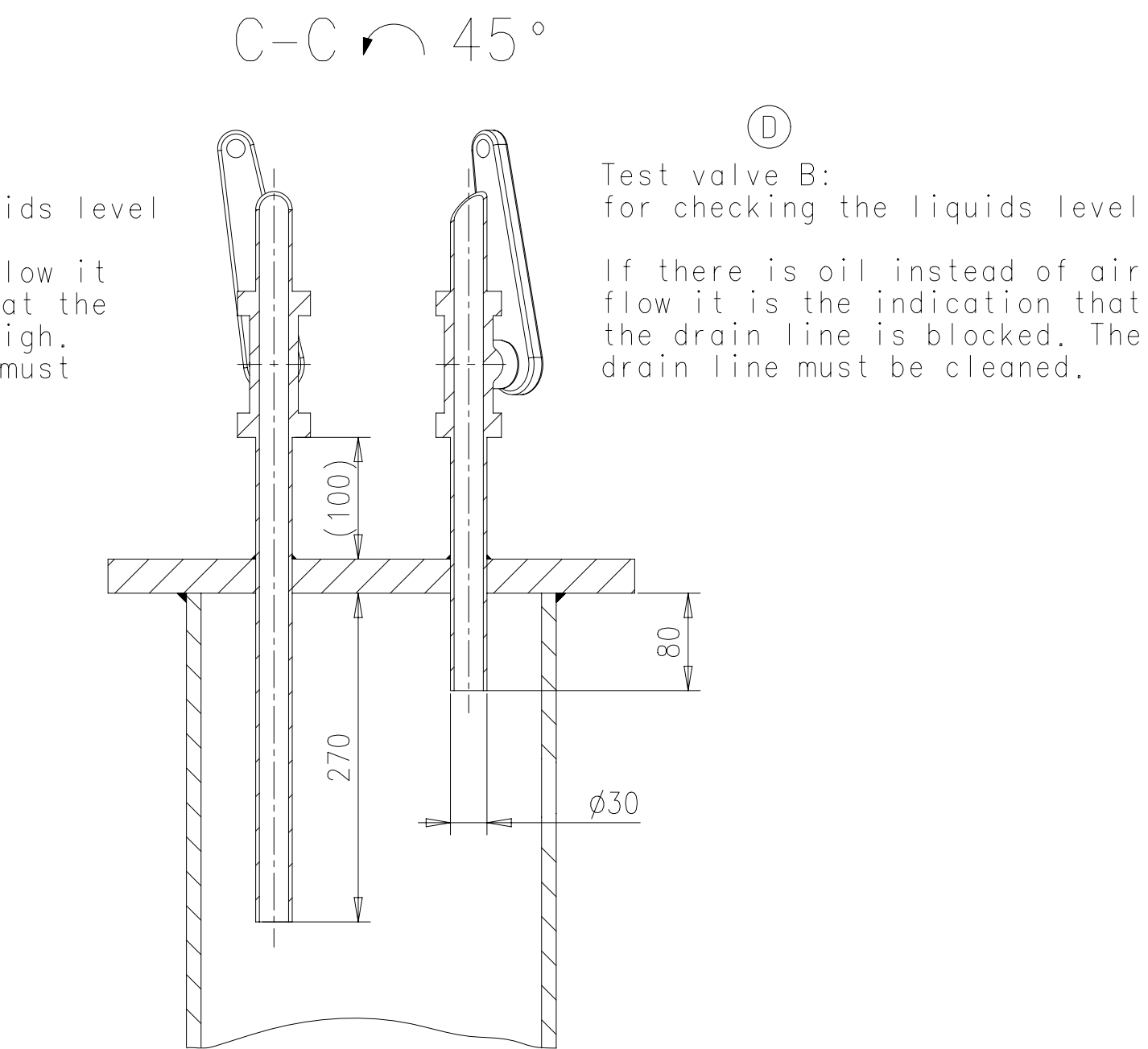
**Customer Reference:** PTAA036927

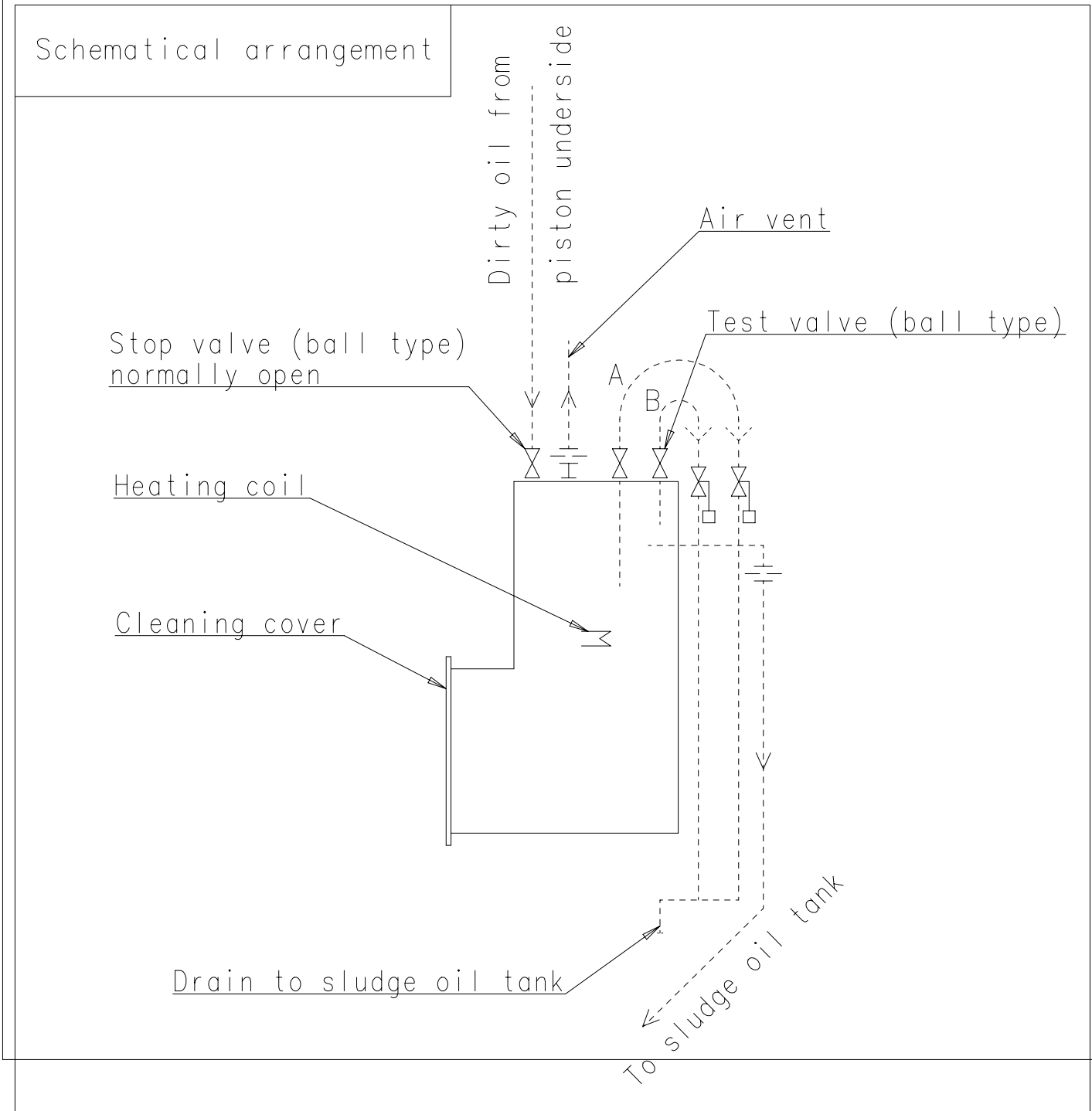


Ⓓ

Test valve A:  
for checking the solids level

If there is no oil flow it  
is the indication that the  
solid level is too high.  
The sludge oil trap must  
be cleaned.



Remarks:			
*1) Orifice to be as shown			
*2) Observe location of pipes with regard to each other			
*3) Optional – Alternatives, such as level sensors, are possible			
Details:	Cylinder bore size:	L = 1000	L = 550
	Capacity:	55-96	35-54
	Working pressure:	150 l	100 l
	Testing pressure:	4 bar	6 bar
	Temperatur:	6 bar	80°C
Schematical arrangement			
			

SURFACE PROTECTION SEE GROUP 034.4				Copyright Winterthur Gas & Diesel Ltd. All rights reserved. By using possession of the drawing the recipient recognizes and honours those rights. Neither the whole nor any part of this drawing may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of Winterthur Gas & Diesel Ltd.			
TOLERANCING PRINCIPLE ISO8015				Main Design			
GENERAL TOLERANCES ACCORDING TO ISO2768-mK				Qty per			
				A1			
				Item ID			
				107.425.369.500			
				Drawing Page/s			
				1/1			



1

2

3

4

**Available executions**

Execution No.	Material ID	Attribute 1: Cylinder No.	Attribute 2: TC amount
001	PAAD359824	5-7	1
002	PTAA028070	8	2

**NOTE**

The above executions can be configured using the Engine Configurator. Detailed guidance for the executions is provided within the Marine Installation Manual (MIM). If a specific execution of interest is not shown in the above table, then it may still be under development or not available. For further information or in case of a project-specific request, WinGD must be contacted directly.

This publication is designed to provide accurate and authoritative information with regard to the subject-matter covered as it was available at the time of printing. However, the publication deals with complicated technical matters suited only for specialists in the area, and the design of the subject-products is subject to regular improvements, modifications and changes. Consequently, the publisher and copyright owner of this publication cannot accept any responsibility or liability for any eventual errors or omissions in this document or for discrepancies arising from the features of any actual item in the respective product being different from those shown in this publication. The publisher and copyright owner shall under no circumstances be held liable for any financial consequential damages or other loss, or any other damage or injury, suffered by any party making use of this publication or the information contained herein.

Prod.	X72DF-2.1 X72DF-2.2								
Change History									
	-	mhu019				new Design			
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Activity Code	E	C

**WIN GD**  
Winterthur Gas & Diesel

LEAKAGE COLLECTION/WASHING SYS.  
MIDS master drawing

separate BOM available

Dimension

Scale	-		NX	Units [mm] [kg]	Basic Material	Net Weight	0.006
Copyright Winterthur Gas & Diesel Ltd. All rights reserved. By taking possession of the drawing the recipient recognizes and honours these rights. Neither the whole nor any part of this drawing may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of Winterthur Gas & Diesel Ltd.				Main Design	Design Group 9724	Q-Code XXXXX	Standard WDS
Qty per				A4	Item ID PTAA014228	Drawing Page/s	1/1

1

2

3

4

SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight
3	1	PAAD359687	LEAKAGE COLLECTION/WASHING SYS.				0.001

<div> <div>NOT VALID for new projects</div> <div>The following pages are provided only as reference for projects which had been contracted before April 2022</div> <div>NOT VALID for new projects</div> </div>							
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Prod.	5,6,7 X72DF-2.1 5,6 X72DF-2.2						
Change History							
	-	dki021	mhu019	04.12.2020		-	-
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Activity Code
							E C
<div> <div>WIN GD</div> <div>Winterthur Gas &amp; Diesel</div> </div>				LEAKAGE COLLECTION/WASHING SYS.			
Bill Of Material				Dimension			
Copyright <b>Winterthur Gas &amp; Diesel Ltd.</b> All rights reserved. By taking possession of the document the recipient recognizes and honours these rights. Neither the whole nor any part of this document may be used in any way for construction, fabrication, marketing or any other purpose nor copied in any way nor made accessible to third parties without the previous written consent of <b>Winterthur Gas &amp; Diesel Ltd.</b>				Units	[m] [kg]	Basic Material	Net Weight
				Main Design	Yes	Design Group	9724 Q-Code XXXXX Standard WDS
				Qty per	Engine	A4 Item ID	PAAD359824 BOM Page/s 01/01

SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight
001	1	107.425.369.500	SLUDGE OIL TRAP				0.001

<div> <div>NOT VALID for new projects</div> <div>The following pages are provided only as reference for projects which had been contracted before April 2022</div> <div>NOT VALID for new projects</div> </div>							
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Prod.	X72DF-2.1 X72DF-2.2								
Change History									
	B	sde101	mhu019	08.03.2022	CNA001599	Drawing Updated			4 3
	A	mhu019	dst009	20.12.2021	CNA001054	Drawing Updated			4 3
	-	dk1021	mhu019	04.12.2020		-			- -
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved	Activity Code	E C
<div> <div>WIN GD</div> <div>Winterthur Gas &amp; Diesel</div> </div>				LEAKAGE COLLECTION/WASHING SYS.					
Bill Of Material				Dimension					
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				[m] [kg]				0.001	
				Main Design		Design Group		Standard	
						9724		Q-Code XXXXX	
				Qty per		A4		Item ID	
						PAAD359687		BOM Page/s	
								01/01	







SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight
1	1	PTAA028071	LEAKAGE COLLECTION/WASHING SYS.				0

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Prod.	8 X72DF-2.1						
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Change History								
	-	mhu019	dst009	08.03.2022	CNAA001600	Main Design/Drawing Introduced	-	-
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Activity Code	E C

	LEAKAGE COLLECTION/WASHING SYS.
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Bill Of Material		Dimension							
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	Main Design	Yes	Design Group		9724	Q-Code	XXXXX	Standard	WDS
	Qty per	Engine	A4	Item ID	PTAA028070			BOM Page/s	01/01

SEQ NO	QTY	Item ID	Item Name	Dimension	Standard-ID	Basic Material	Net Weight
001	1	107.425.369.500	SLUDGE OIL TRAP				0.001

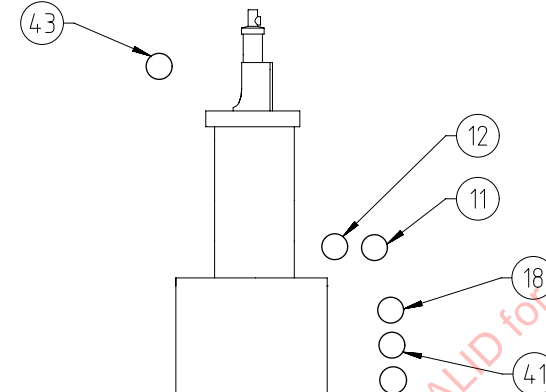
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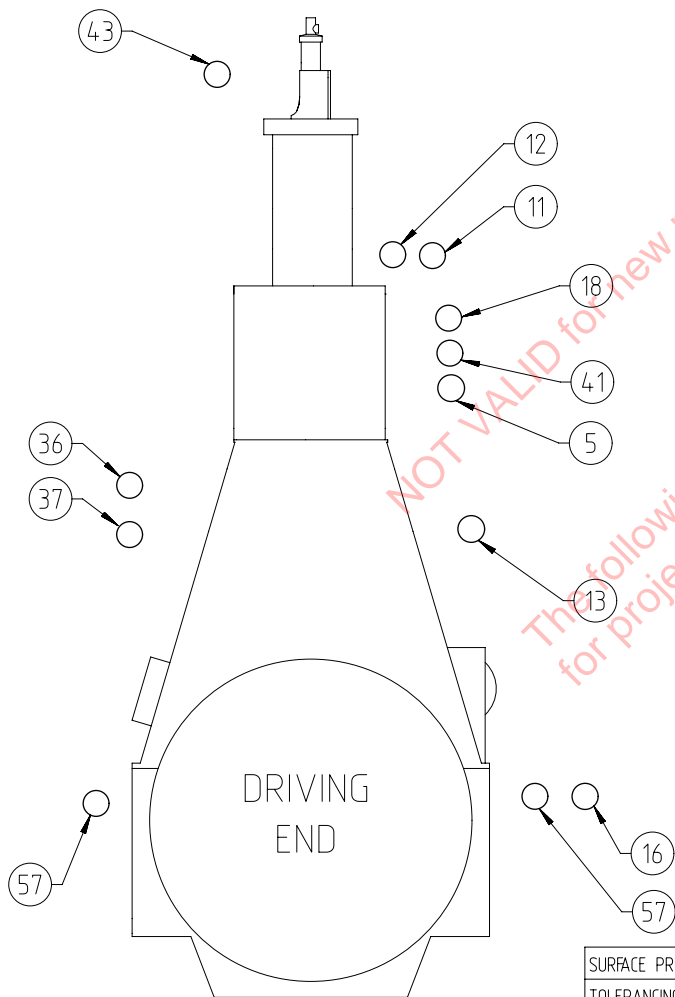
Prod.	X72DF-2.1								
Change History									
	-	mhu019	08.03.2022	08.03.2022	new Design		-	-	
	Rev.	Creator	Approver	Approval Date	Change ID	Change Synopsis	Approved	Activity Code	E C

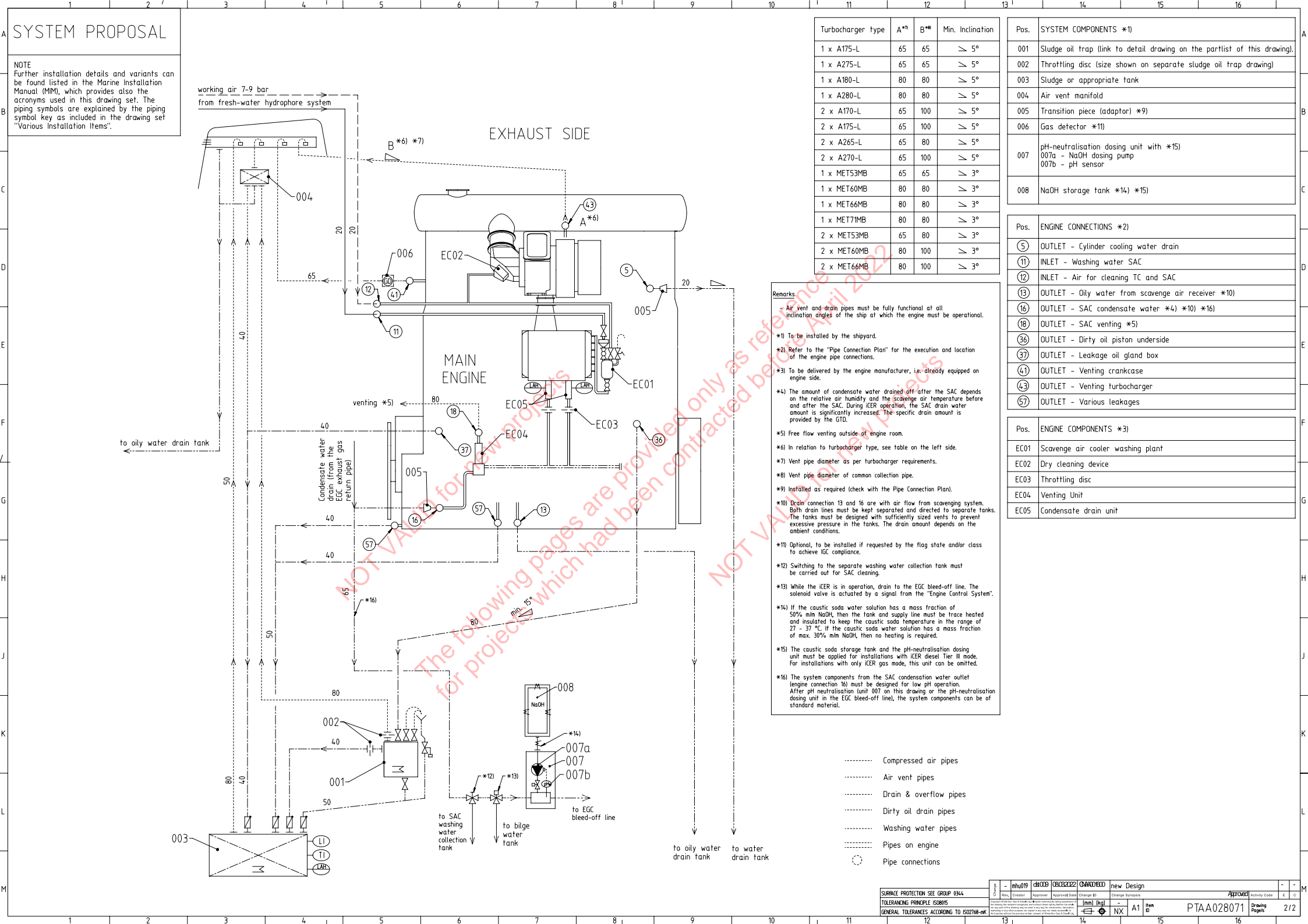
<div>WIN GD</div> <div>Winterthur Gas &amp; Diesel</div>	LEAKAGE COLLECTION/WASHING SYS.
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Bill Of Material		Dimension					
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		Main Design		Design Group 9724		Q-Code XXXXX	Standard WDS
		Qty per		A4	Item ID PTAA028071		BOM Page/s 01/01

SPECIFICATION which must be met:

<p>(43) OUTLET - Venting turbocharger          - Venting to funnel          - Minimum inclination according to TC suppliers specification          - Must not be connected to other venting pipes.</p>	<p>(5) OUTLET - Cylinder cooling water drain.          - Gravity flow to cooling water drain tank or appropriate tank.</p>
<p>(57) OUTLET - Various leakages          - Gravity flow to sludge tank or appropriate tank.</p>	<p>(11) INLET - Washing water SAC          - From freshwater hydrophore system</p>
	<p>(12) INLET - Air for cleaning plants TC and SAC          - Working air, supply pressure: 7-9 bar</p>
	<p>(13) OUTLET - Oily water from scavenge air receiver          - Gravity flow to oily water tank or appropriate tank.</p>
	<p>(16) OUTLET - SAC condensate water          - Gravity flow to bilge water tank or washing water collection tank or to the EGC bleed-off line depending on the operation mode.          - The system components downstream of this connection until the pH-neutralisation dosing unit must be designed for low pH operation.</p>
	<p>(18) OUTLET - SAC venting          - Free flow outside of engine room</p>
	<p>(36) OUTLET - Dirty oil piston underside          - Flow with SAC pressure to sludge oil trap or appropriate arrangement.          - Min. inclination of drain pipe: 15°</p>
	<p>(37) OUTLET - Leakage oil gland box          - Gravity flow to sludge tank or appropriate tank.</p>
	<p>(41) OUTLET - Venting crankcase          - Venting to funnel          - Must not be connected to other venting pipes.</p>

[illegible]



## MIDS - WinGD X72DF/-2.1/-2.2 – Leakage Collection & Washing System (DG9724)

### TRACK CHANGES

DATE	SUBJECT	DESCRIPTION
2020-12-10	DRAWING SET	First web upload
2021-12-21	PAAD359687	System drg – new revision
2022-03-10	PAAD359687 107.425.369.500 PTAA028070 PTAA028071	System and main drgs – new revision/new drg
2022-06-23	PTAA036947 PTAA036948 PTAA036947 PTAA036864 PTAA036948 PTAA036927	New main and system drgs. as replacement for the previous drawing set added
2022-12-01	PTAA036864 PTAA036927	System drgs. – new revision
2022-12-20	PTAA036864 PTAA036927	System drgs. – new revision

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