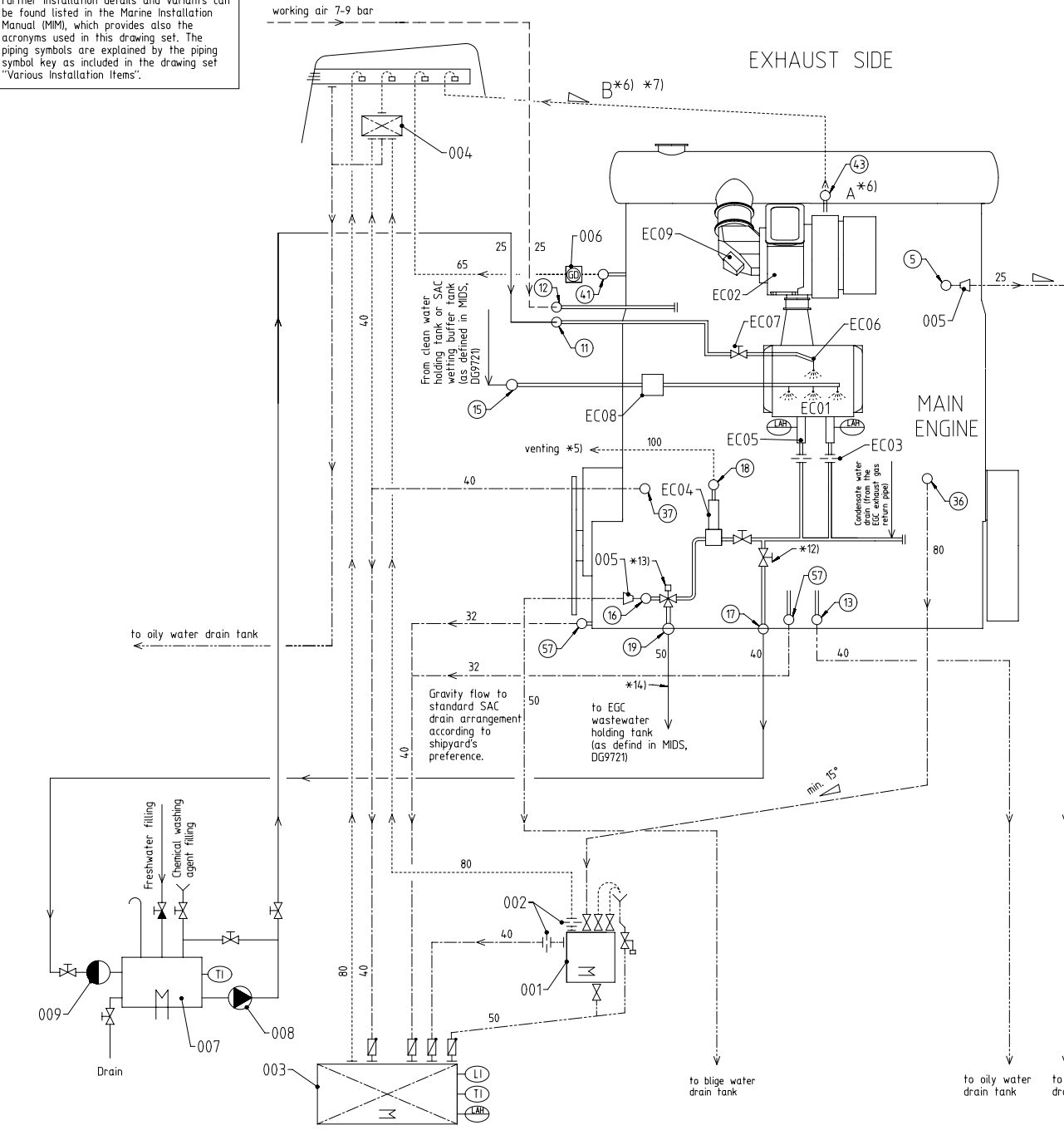


| SEQ NO | QTY | Item ID | Item Name | | Dimension | Standard-ID | Basic Material | | Net Weight | |
|--|--------------------|------------|---------------------------------|---|-----------------|-----------------|--------------------|---------------|--------------|--------------|
| 001 | 1 | PTAA073703 | LEAKAGE COLLECTION/WASHING SYS. | | iCER on-engine | | | | 0.001 | |
| | | | | | | | | | | |
| Prod. | 5,6,7,8 X62DF-S2.0 | | | | | | | | | |
| Change History | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | - | npa101 | mhu019 | 16.02.2024 | CNAA004270 | New MainDesign | | | - - | |
| | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | Approved | Activity Code | E C | |
| <div>WIN GD</div> <div>Winterthur Gas & Diesel</div> | | | | LEAKAGE COLLECTION/WASHING SYS. iCER on-engine | | | | | | |
| Bill Of Material | | | | Dimension iCER on-engine | | | | | | |
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| | | | | | Main Design Yes | | Design Group 9724 | | Q-Code X X M | Standard WDS |
| | | | | | Qty per Engine | A4 | Item ID PTAA073708 | | 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. | X62DF-S2.0 | | | | | | |
| Change History | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | - | npa101 | mhu019 | 16.02.2024 | CNAA004270 | new Design | - |
| | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | Approved |
| | | | | | | Activity Code | E C |
| <div>WIN GD</div> <div>Winterthur Gas & Diesel</div> | | | LEAKAGE COLLECTION/WASHING SYS. iCER on-engine | | | | |
| Bill Of Material | | | Dimension iCER on-engine | | | | |
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| | | | Main Design | | Design Group 9724 Q-Code X X M | | Standard WDS |
| | | | Qty per | | A4 | Item ID PTAA073703 | BOM Page/s 01/01 |

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 | A** | B** | Min. Inclination |
|-------------------|-----|-----|------------------|
| 1 x A170-L | 65 | 65 | ≥ 5° |
| 1 x A175-L | 65 | 65 | ≥ 5° |
| 1 x A180-L | 80 | 80 | ≥ 5° |
| 1 x A185-L | 80 | 80 | ≥ 5° |
| 1 x A270-L | 65 | 65 | ≥ 5° |
| 1 x A275-L | 65 | 65 | ≥ 5° |
| 1 x A280-L | 80 | 80 | ≥ 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° |
| 1 x MET83MB | 100 | 100 | ≥ 3° |
| 2 x A165-L | 65 | 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° |
| 2 x MET42MB | 50 | 65 | ≥ 3° |
| 2 x MET48MB | 65 | 80 | ≥ 3° |
| 2 x MET53MB | 65 | 80 | ≥ 3° |
| 2 x MET60MB | 80 | 100 | ≥ 3° |

| Pos. | SYSTEM COMPONENTS *1) |
|------|--|
| 001 | Sludge oil trap (according to separate 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 washing water circulation tank *15) |
| 008 | Chemical washing water circulation pump |
| 009 | Chemical washing water strainer (0.5-1.0 mm) |

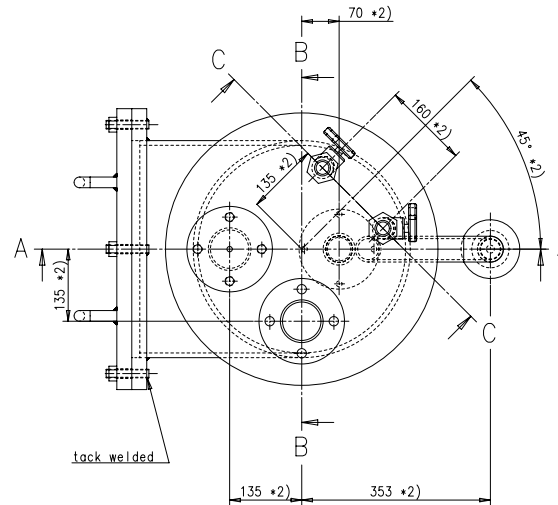
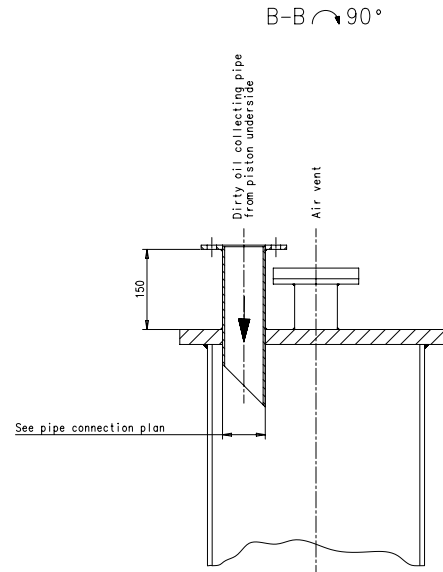
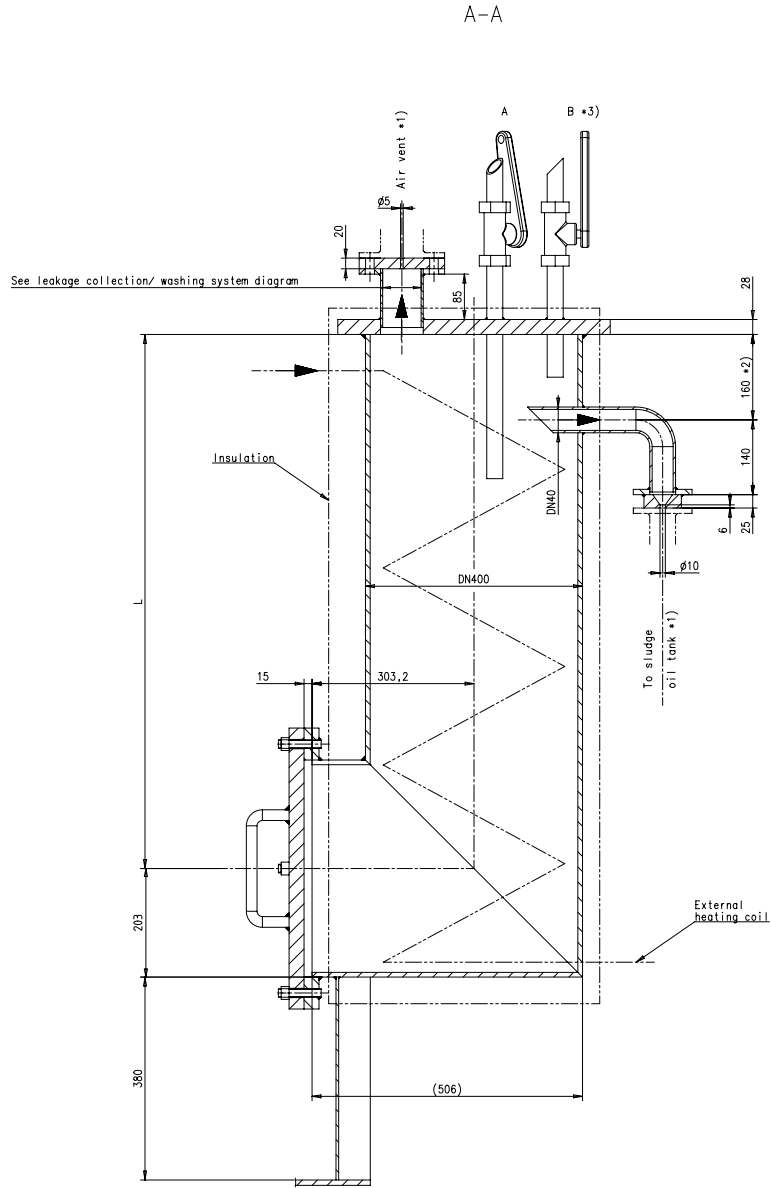
| Pos. | ENGINE CONNECTIONS *2) |
|------|---|
| ⑤ | OUTLET - Cylinder cooling water drain |
| ⑪ | INLET - SAC washing water |
| ⑫ | INLET - Air for turbocharger cleaning |
| ⑬ | OUTLET - Oily water from scavenge air receiver *10) |
| ⑮ | INLET - SAC wetting water |
| ⑯ | OUTLET - SAC condensate water *4) *10) *14) |
| ⑰ | OUTLET - SAC washing water *12) |
| ⑱ | OUTLET - SAC venting *5) |
| ⑲ | OUTLET - SAC condensate water, iCER *13) |
| ⑳ | OUTLET - Dirty oil piston underside |
| ㉓ | OUTLET - Leakage oil gland box |
| ㉔ | OUTLET - Venting crankcase |
| ㉕ | OUTLET - Venting turbocharger |
| ㉖ | OUTLET - Various leakages |

| Pos. | ENGINE COMPONENTS *3) |
|------|-----------------------------------|
| EC01 | Scavenge Air Cooler (SAC) |
| EC02 | Turbocharger (TC) |
| EC03 | Throttling disc |
| EC04 | Venting Unit |
| EC05 | Condensate drain unit |
| EC06 | SAC washing water spray nozzle |
| EC07 | SAC washing water isolating valve |
| EC08 | SAC wetting valve unit |
| EC09 | TC dry cleaning device |

Remarks

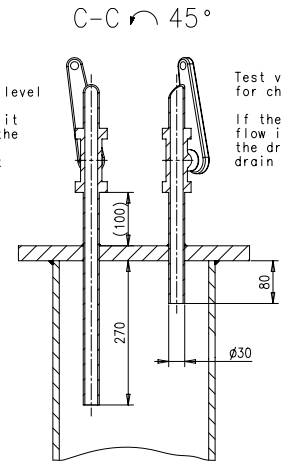
- *1) To be installed by the shipyard.
- *2) Refer to the "Pipe Connection Plan" for the execution and location of the engine pipe connections.
- *3) To be delivered by the engine manufacturer, i.e. already equipped on engine side.
- *4) The amount of condensate water drained off after the SAC depends 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 GTD.
- *5) Free flow venting outside of engine room.
- *6) Depends on 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) Switching to the separate washing water collection tank must be carried out for SAC cleaning.
- *13) While the ICER is in operation, drain to the EGC waste water holding tank. The solenoid valve is actuated by a signal from the "Engine Control System".
- *14) 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.
- *15) Wash water is heated to between 50 and 60 °C by a heating coil.

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



①
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.



①
Test valve B:
for checking the liquids level

If there is oil instead of air flow it is the indication that the drain line is blocked. The drain line must be cleaned.

Remarks:

*1) Orifice to be as shown

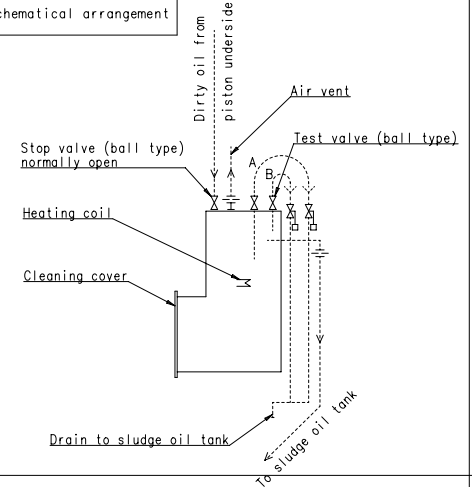
*2) Observe location of pipes with regard to each other

*3) Optional - Alternatives, such as level sensors, are possible

Details:

| | | |
|---------------------|----------|---------|
| | L = 1000 | L = 550 |
| Cylinder bore size: | 55-96 | 35-54 |
| Capacity: | 150 l | 100 l |
| Working pressure: | 4 bar | |
| Testing pressure: | 6 bar | |
| Temperature: | 80°C | |

Schematic arrangement



| | | | | | | | | | |
|---|----------|-------------|------------------|---------------|--|-------------|---------------|-----|-------|
| Proj. | CX40DF | RT-flex50-D | RT-flex50-T-D V1 | RT-flex50-T-E | RT-flex50-L | RT-flex50-D | RT-flex50-D | X35 | X35-B |
| Change history | D sde101 | mhu018 | 10.01.2022 | 0A400373 | drawing updated | | | 4 | 3 |
| | C sde101 | mhu019 | 10.09.2018 | EAA0089439 | Legacy information. See corresponding ChangeNotice | | | 4 | - |
| | B dki021 | mhu019 | 16.07.2017 | EAA0087849 | Legacy information. See corresponding ChangeNotice | | | 4 | - |
| | Rev | WingD | jba029 | 13.11.2009 | - | | | - | - |
| Rev | Creator | Approved | Approved Date | Change ID | Change Synopsis | Approved | Activity Code | E | C |
| WINGD Winterthur Gas & Diesel | | | | | | | | | |
| SLUDGE OIL TRAP | | | | | | | | | |
| Scale: 1:5 Units: [mm] [kg] Basic Material: NX Main Design: Design Group 9724 Q-Code: XXXXX Standard: WDS Item ID: A1 Item ID: 107.425.369.500 Drawing Page: 9/11 | | | | | | | | | |

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

| | 1 | 2 | 3 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------|----------------------------------|-----------------|--------------------|----------------|---------------|----------------------------------|-----------------|----------------|------------|-------|--|-----|---|--|-------------|-------------------|--------------|--------------|---------|---|--|--|----|--------------------|----------------|-----|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--------|--|--|--|--|------------|--|--|--|------|---------|----------|---------------|-----------|-----------------|--|---------------|---|---|---|
| A | <div>Available executions</div> <table><thead><tr><th rowspan="2">Execution No.</th><th rowspan="2">Material ID</th><th rowspan="2">Cylinder No.</th><th colspan="2">Attribute 1: Turbocharger amount</th></tr><tr><th>1 TC</th><th>2 TC</th></tr></thead><tbody><tr><td>001</td><td>PTAA023579</td><td>5-7</td><td>X</td><td></td></tr><tr><td>002</td><td>PTAA028607</td><td>7-8</td><td></td><td>X</td></tr></tbody></table> | | | | Execution No. | Material ID | Cylinder No. | Attribute 1: Turbocharger amount | | 1 TC | 2 TC | 001 | PTAA023579 | 5-7 | X | | 002 | PTAA028607 | 7-8 | | X | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Execution No. | Material ID | Cylinder No. | Attribute 1: Turbocharger amount | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 1 TC | 2 TC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 001 | PTAA023579 | 5-7 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 002 | PTAA028607 | 7-8 | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | <div><div>SURFACE PROTECTION SEE GROUP 03/44</div><div>TOLERANCING PRINCIPLE ISO8015</div><div>GENERAL TOLERANCES ACCORDING TO ISO2768-mK</div></div> | | | | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | <div>NOTE</div> <p>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.</p> <p>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.</p> | | | | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | <div>Prod.</div> <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> <div>Change History</div> <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>-</td><td>sna102</td><td></td><td></td><td></td><td></td><td>new Design</td><td></td><td></td><td></td></tr><tr><td>Rev.</td><td>Creator</td><td>Approver</td><td>Approval Date</td><td>Change ID</td><td>Change Synopsis</td><td></td><td>Activity Code</td><td>E</td><td>C</td></tr></table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | - | sna102 | | | | | new Design | | | | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | | Activity Code | E | C | D |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | sna102 | | | | | new Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | | Activity Code | E | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | <div><div>WIN GD</div><div>Winterthur Gas & Diesel</div></div> <div>LEAKAGE COLLECTION/WASHING SYS.</div> <div>MIDS master drawing</div> | | | | E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | <div>separate BOM available</div> <div>Dimension</div> <table><tr><td>Scale</td><td>-</td><td></td><td>NX</td><td>Units [mm] [kg]</td><td>Basic Material</td><td>Net Weight</td><td>0.001</td></tr><tr><td colspan="4">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.</td><td>Main Design</td><td>Design Group 9724</td><td>Q-Code XXXXX</td><td>Standard WDS</td></tr><tr><td colspan="4">Qty per</td><td>A4</td><td>Item ID PTAA023578</td><td>Drawing Page/s</td><td>1/1</td></tr></table> | | | | Scale | - | | NX | Units [mm] [kg] | Basic Material | Net Weight | 0.001 | 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 PTAA023578 | Drawing Page/s | 1/1 | F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Scale | - | | NX | Units [mm] [kg] | Basic Material | Net Weight | 0.001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Qty per | | | | A4 | Item ID PTAA023578 | Drawing Page/s | 1/1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| SEQ NO | QTY | Item ID | Item Name | Dimension | Standard-ID | Basic Material | Net Weight |
|--------|-----|------------|---------------------------------|-----------|-------------|----------------|------------|
| 1 | 1 | PTAA023184 | LEAKAGE COLLECTION/WASHING SYS. | | | | 0.001 |

| | | | | | | | |
|---|--|--|--|--|--|--|--|
| <div> <div>NOT VALID FOR NEW PROJECTS!</div> <div>Provided only as reference for projects contracted before April 2022</div> </div> | | | | | | | |
|---|--|--|--|--|--|--|--|

| | | | | | | | |
|----------------|------------------|---------|----------|---------------|------------|--------------------------------|---------------|
| Prod. | 5,6,7 X62DF-S2.0 | | | | | | |
| Change History | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | - | sna102 | mhu019 | 16.03.2022 | CNAA001361 | Main Design/Drawing Introduced | - |
| | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | Activity Code |
| | | | | | | | E C |

| | |
|---|---------------------------------|
| <div> <div>WIN GD</div> <div>Winterthur Gas & Diesel</div> </div> | 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 | PTAA023579 | | 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>Provided only as reference for projects contracted before April 2022</div> </div> | | | | | | | |
|---|--|--|--|--|--|--|--|

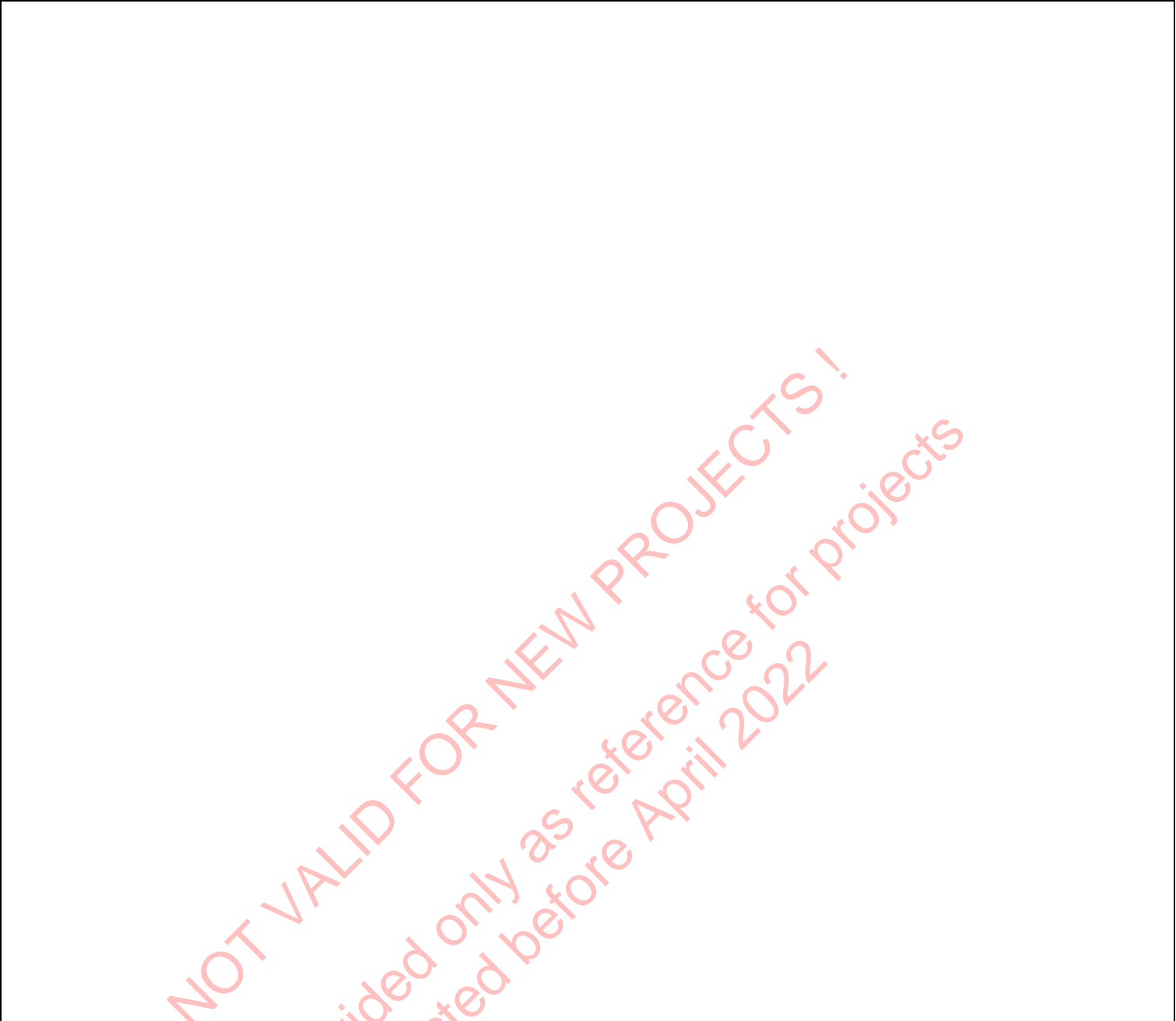
| | | | | | | | | | |
|----------------|------------|---------|----------|---------------|------------|-----------------|----------|---------------|-----|
| Prod. | X62DF-S2.0 | | | | | | | | |
| Change History | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | - | sde101 | mhu019 | 16.03.2022 | CNAA001361 | new Design | | - | - |
| | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | Approved | Activity Code | E C |

| | |
|---|---------------------------------|
| <div> <div>WIN GD</div> <div>Winterthur Gas & Diesel</div> </div> | LEAKAGE COLLECTION/WASHING SYS. |
|---|---------------------------------|

| | | | | | | | | | |
|---|-------------|-----------|----------------|---------|------------|--------|------------|----------|-----|
| Bill Of Material | | Dimension | | | | | | | |
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| | Main Design | | Design Group | | 9724 | Q-Code | XXXXX | Standard | WDS |
| | Qty per | | A4 | Item ID | PTAA023184 | | BOM Page/s | 01/01 | |

| | |
|---|--|
| 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 | pH-neutralisation dosing unit with *15) 007a - NaOH dosing pump 007b - pH sensor |
| 008 | NaOH storage tank *14) *15) |
| Pos. | ENGINE CONNECTIONS *2) |
| (5) | OUTLET - Cylinder cooling water drain |
| (11) | INLET - Washing water SAC |
| (12) | INLET - Air for cleaning TC and SAC |
| (13) | OUTLET - Oily water from scavenge air receiver *10) |
| (16) | OUTLET - SAC condensate water *4) *10) *16) |
| (18) | OUTLET - SAC venting *5) |
| (36) | OUTLET - Dirty oil piston underside |
| (37) | OUTLET - Leakage oil gland box |
| (41) | OUTLET - Venting crankcase |
| (43) | OUTLET - Venting turbocharger |
| (57) | OUTLET - Various leakages |
| Pos. | ENGINE COMPONENTS *3) |
| EC01 | Scavenge air cooler washing plant |
| EC02 | Dry cleaning device |
| EC03 | Throttling disc |
| EC04 | Venting Unit |
| EC05 | Condensate drain unit |
| <p>— — — Compressed air pipes</p> <p>..... Air vent pipes</p> <p>- - - - - Drain & overflow pipes</p> <p>———— Dirty oil drain pipes</p> <p>- . - . - Washing water pipes</p> <p>===== Pipes on engine</p> <p>○ Pipe connections</p> | |
| <div style="display: flex; justify-content: space-between;"> new Design PTAA023184 </div> | |

| SEQ NO | QTY | Item ID | Item Name | Dimension | Standard-ID | Basic Material | Net Weight |
|--------|-----|------------|---------------------------------|-----------|-------------|----------------|------------|
| 1 | 1 | PTAA028569 | LEAKAGE COLLECTION/WASHING SYS. | | | | 0.001 |



| | | | | | | | |
|-------|----------------|--|--|--|--|--|--|
| Prod. | 7,8 X62DF-S2.0 | | | | | | |
|-------|----------------|--|--|--|--|--|--|

| | | | | | | | | |
|----------------|------|---------|----------|---------------|------------|--------------------------------|---------------|-----|
| Change History | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | - | sde101 | mhu019 | 16.03.2022 | CNAA001361 | Main Design/Drawing Introduced | | - - |
| | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | 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 | PTAA028607 | | | BOM Page/s | 01/01 |

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

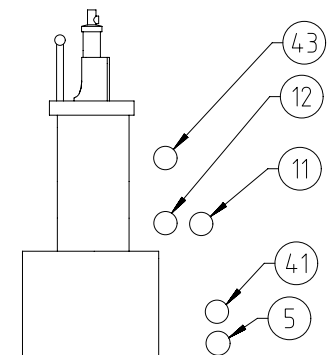
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|---|--|--|--|--|--|--|--|--|--|
| <div> <div>NOT VALID FOR NEW PROJECTS!</div> <div>Provided only as reference for projects contracted before April 2022</div> </div> | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|

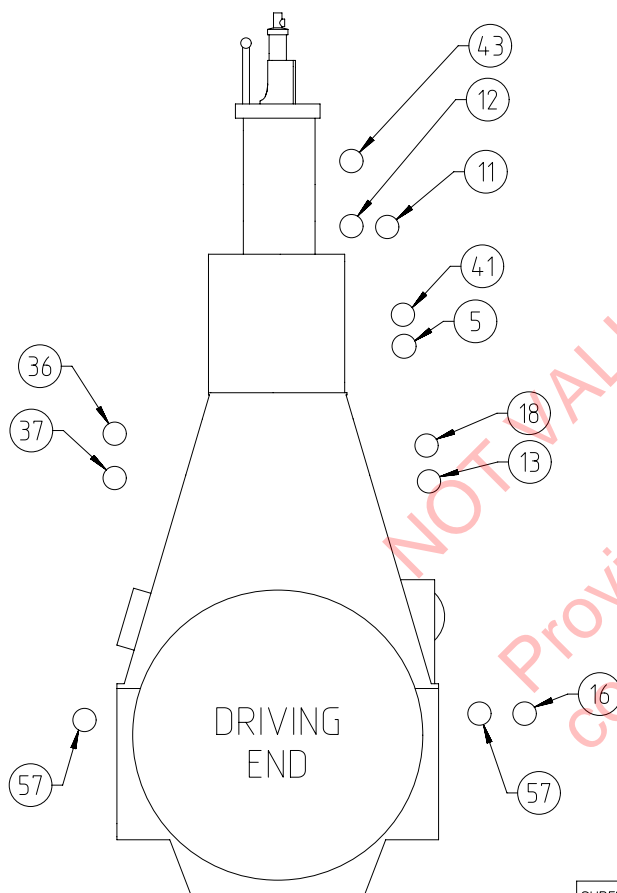
| | | | | | | | | | |
|----------------|------------|---------|----------|---------------|------------|-----------------|----------|---------------|-----|
| Prod. | X62DF-S2.0 | | | | | | | | |
| Change History | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | - | sde101 | mhu019 | 16.03.2022 | CNAA001361 | new Design | | | - - |
| | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | Approved | Activity Code | E C |

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|---|---------------------------------|
| <div> <div>WIN GD</div> <div>Winterthur Gas & Diesel</div> </div> | LEAKAGE COLLECTION/WASHING SYS. |
|---|---------------------------------|

| | | | | | | | | | |
|--|--|-------------|--|--------------|---------|------|----------------|------------|------------------|
| Bill Of Material | | Dimension | | | | | | | |
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| | | Main Design | | Design Group | | 9724 | Q-Code | XXXXX | Standard WDS |
| | | Qty per | | A4 | Item ID | | | PTAA028569 | BOM Page/s 01/01 |

SPECIFICATION which must be met:

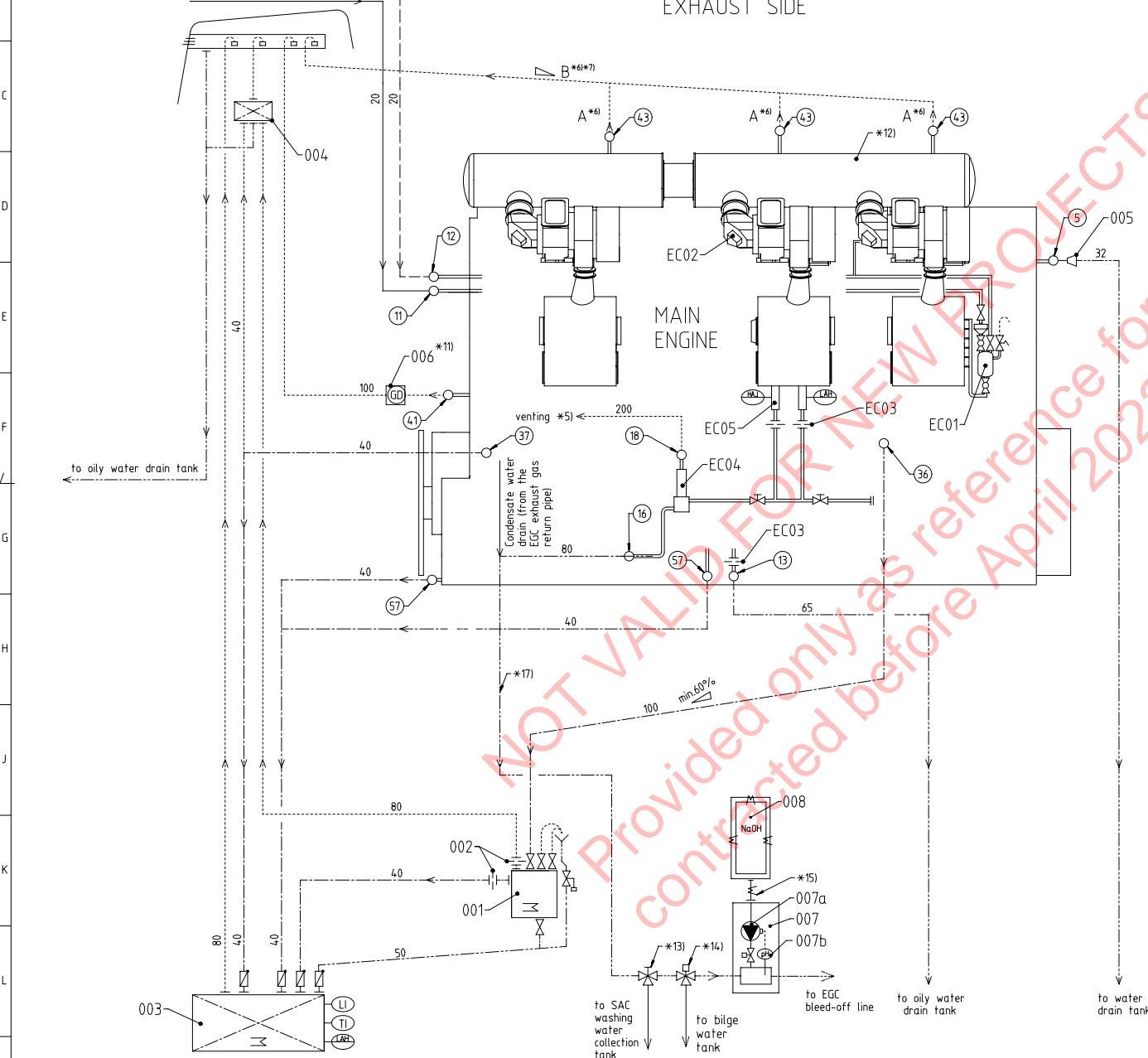
| | |
|---|--|
| <p>④3 OUTLET - Venting turbocharger - Venting to funnel - Minimum inclination according to TC suppliers specification - Must not be connected to other venting pipes.</p> | <p>⑤ OUTLET - Cylinder cooling water drain. - Gravity flow to cooling water drain tank or appropriate tank.</p> |
| <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>③6</p> | <p>④1 OUTLET - Venting crankcase - Venting to funnel - Must not be connected to other venting pipes.</p> |



| | | | | | | | | | | | | | | |
|---|------------|---------|---|---------------|---------------------------------|-----------------|--|----------------|----------|---------------|------------|--------|----------------|-----|
| Prod. | X62DF-S2.0 | | | | | | | | | | | | | |
| Change History | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | - | sde101 | mhu019 | 16.03.2022 | CNAA001361 | new Design | | | - | - | | | | |
| | Rev. | Creator | Approver | Approval Date | Change ID | Change Synopsis | | | Approved | Activity Code | E | C | | |
| <div><div><div>WIN GD</div><div>Winterthur Gas & Diesel</div></div></div> | | | | | LEAKAGE COLLECTION/WASHING SYS. | | | | | | | | | |
| separate BOM available | | | | | Dimension | | | | | | | | | |
| Scale | | - |  | | NX | Units [mm] [kg] | | Basic Material | | Net Weight | | 0.001 | | |
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| | | | | | | Qty per | | A3 | Item ID | | PTAA028569 | | Drawing Page/s | |

| | | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| A | SYSTEM PROPOSAL | | |
| | <p>NOTE</p> <p>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".</p> | | |

| | |
|---|---|
| B | working air 7-9 bar from fresh-water hydrophore system |
|---|---|



| Turbocharger type | A** | B** | Min. Inclination |
|-------------------|-----|-----|------------------|
| 2x A165-L | 65 | 80 | ≥ 5° |
| 2x A170-L | 65 | 100 | ≥ 5° |
| 2x A265-L | 65 | 80 | ≥ 5° |
| 2x A270-L | 65 | 100 | ≥ 5° |
| 2x MET42MB | 50 | 65 | ≥ 3° |
| 2x MET48MB | 65 | 80 | ≥ 3° |
| 2x MET53MB | 65 | 80 | ≥ 3° |
| 2x MET37MBII | 50 | 65 | ≥ 3° |
| 2x MET42MBII | 50 | 65 | ≥ 3° |
| 2x MET48MBII | 65 | 80 | ≥ 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 | pH-neutralisation dosing unit with *16) 007a - NaOH dosing pump 007b - pH sensor |
| 008 | NaOH storage tank *15) *16) |

| Pos. | ENGINE CONNECTIONS *2) |
|------|---|
| 5 | OUTLET - Cylinder cooling water drain |
| 11 | INLET - Washing water SAC |
| 12 | INLET - Air for cleaning TC and SAC |
| 13 | OUTLET - Oily water from scavenge air receiver *10) |
| 16 | OUTLET - SAC condensate water *4) *10) *17) |
| 18 | OUTLET - SAC venting *5) |
| 36 | OUTLET - Dirty oil piston underside |
| 37 | OUTLET - Leakage oil gland box |
| 41 | OUTLET - Venting crankcase |
| 43 | OUTLET - Venting turbocharger |
| 57 | OUTLET - Various leakages |

| | |
|------|-----------------------------------|
| Pos. | ENGINE COMPONENTS *3) |
| EC01 | Scavenge air cooler washing plant |
| EC02 | Dry cleaning device |
| EC03 | Throttling disc |
| EC04 | Venting Unit |
| EC05 | Condensate drain unit |

- Air vent and drain pipes must be fully functional at all inclination angles of the ship at which the engine must be operational.

- *2) 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 GTD.
- *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 depends on the ambient conditions.
- *11) Optional, to be installed if requested by flag state and/or class to achieve IGC compliance.
- *12) Manifold pipe for 2 TC
- *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 bleed-off line. Selenated water is actuated by a signal from the "Engine Control System".
- *15) If the caustic soda water solution has a mass fraction of 50% mm NaOH, then the tank and supply line must be trace heated and insulated to keep the caustic soda temperature in the range of 27 - 37 °C. If the caustic soda water solution has a mass fraction of max. 30% mm NaOH, then no heating is required.
- *16) The caustic soda storage tank and the pH-neutralisation dosing unit must be applied for installations with ICER diesel Tier II mode. For installations with only ICER gas mode, this unit can be omitted.
- *17) The system components from the SAC condensate water outlet (engine connection 16) must be designed for low pH operation. After pH neutralisation (unit 067 on this drawing or the pH-neutralisation dosing unit in the EGC bleed-off line), the system components can be of standard material.

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

MIDS – Leakage Collection & Washing System (DG9724)

WinGD X62DF-S2.0

TRACK CHANGES

| DATE | SUBJECT | DESCRIPTION |
|------------|-----------------------------|---|
| 2022-03-16 | DRAWING SET | First web upload |
| 2022-06-30 | PTAA037458 PTAA037107 | System and main drgs – new drgs as replacement for the previous drawing set added |
| 2022-12-02 | PTAA037107 | New revision |
| 2022-12-20 | PTAA037107 | New revision |
| 2024-04-22 | PTAA073703— PTAA073708-- | New drawings |

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