Shipdex

the marine and maritime data exchange protocol

BShipdex

Marco Vatteroni

Shipdex Secretary General and Technical Manager Shipdex Consulting Ltd. Director

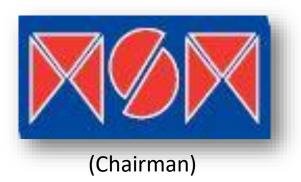
<u>team@shipdex.org</u> <u>technical.manager@shipdex.org</u> <u>mv@shipdexconsulting.com</u>





The non-profit Shipdex organization's executive members







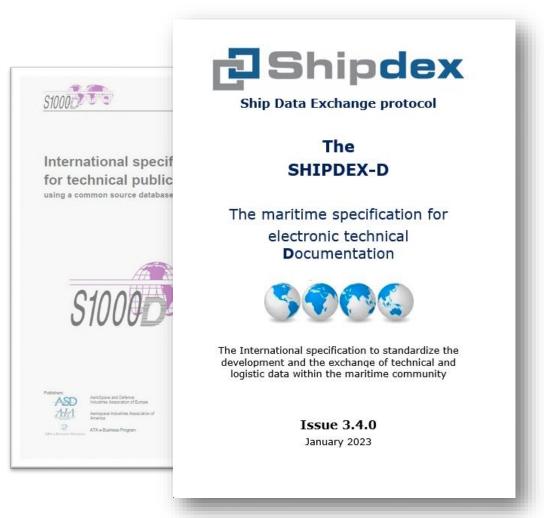




Shipdex Data Exchange protocol focuses to support maritime community in producing, exchanging and using equipment technical data in a structured and standardized electronic format.

Shipdex is based on ASD/AIA/ATA e-Business program S1000D and on ASD/AIA S5000F

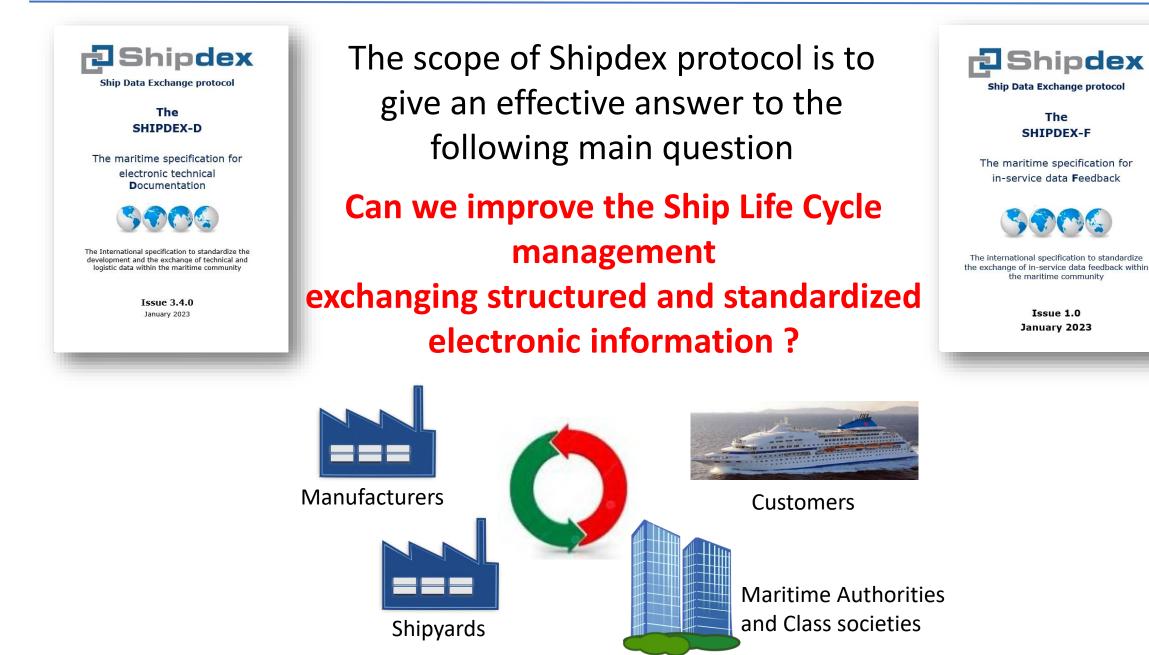
Today, Shipdex protocol is composed of:











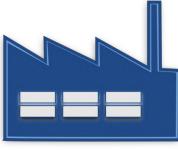




Some of the most important technical data from providers to customers



Manufacturers



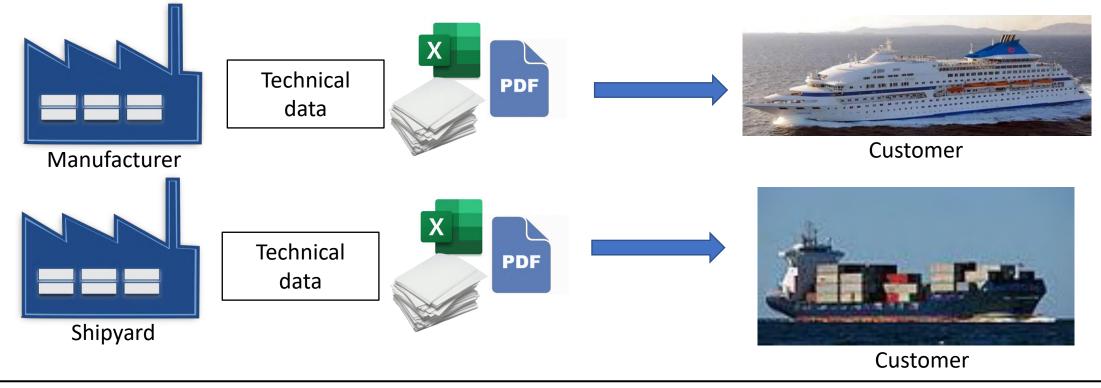
Shipyards

- **D**rawings
- Product (engine, pump, etc) composition (breakdown)
- How to operate the product
- How to maintain the whole product and its physical components:
 - Troubleshooting
 - Preventive maintenance
 - o Corrective maintenance
 - Required resources (personnel, spare parts, consumables, etc.)
 - Spare parts, support equipment and consumables catalogues
- □ Service Letter/Service Bulletin





The current way to provide technical data to customers



Criticalities:

- The data exchange is done providing "unstructured pages of information" instead of "structured electronic information".
- Every provider has different information structure and quality, different layouts and chapter structures
- Every customer cannot reuse or import the data automatically into company repositories/databases/IT systems

This is just DATA DIGITIZATION





Some of the most important technical data from customers to providers (in-service data feedback)



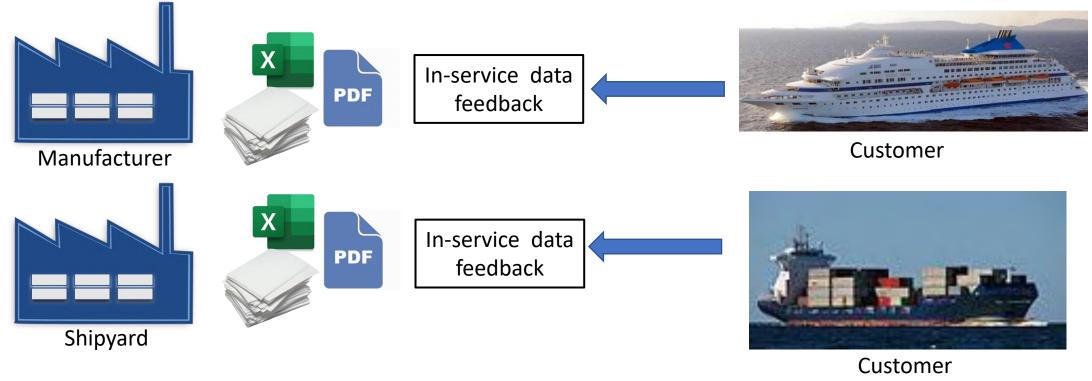


- Product failures
- Maintenance tasks performed
- Spare parts used
- Product performances in different scenarios
- **CO2** emissions
- **Gradients Suggestions to reduce CO2 emissions**





The current way to provide in-service data feedback to providers



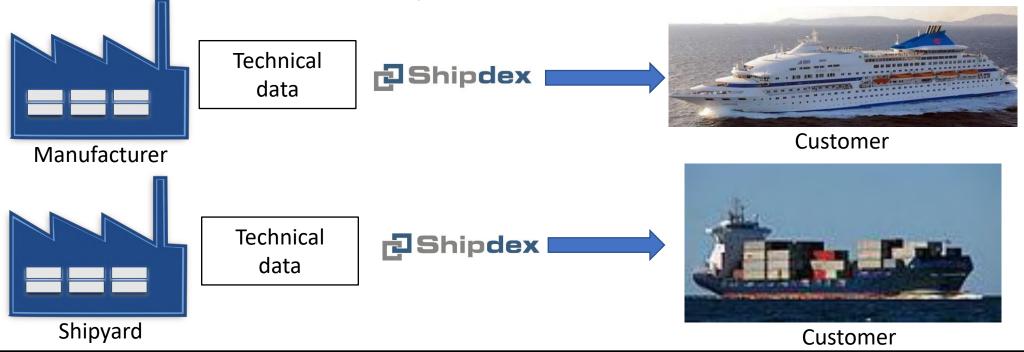
Criticalities:

- The data exchange is done providing "unstructured pages of information" instead of "structured electronic information".
- The data exchange is done using a provider/customer "proprietary" template
- Providers and Customers must develop their own way to produce/export/import data feedback

This is just DATA DIGITIZATION



The Shipdex solution



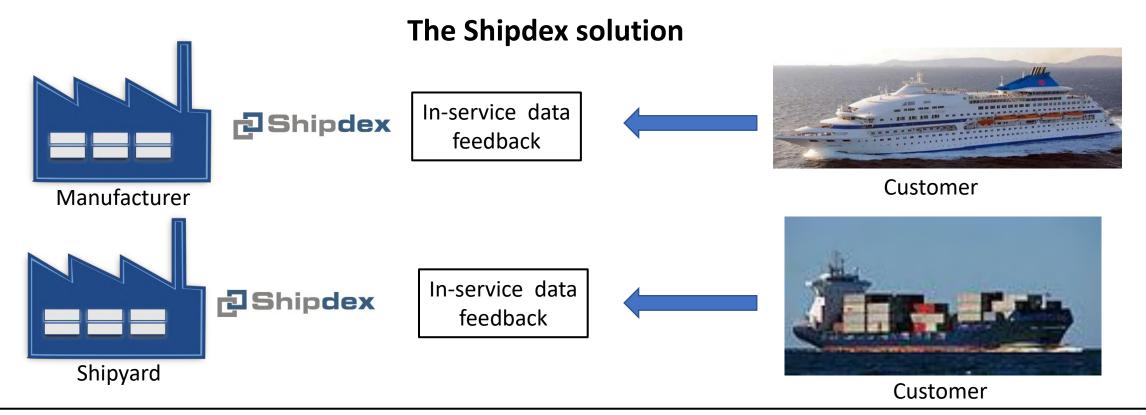
Advantages:

- The data exchange is done providing "<u>structured</u> and <u>standardized</u> electronic information" instead of "unstructured pages of information"
- Information is separated from layout that can be defined/changed later by every single user without affecting the data
- Same data structure and quality.
- NO need to retype the information into IT systems (ERP, CMMS, etc). Structured electronic information can be imported into any IT system instead of retyping the data

This is DATA DIGITALIZATION







Advantages:

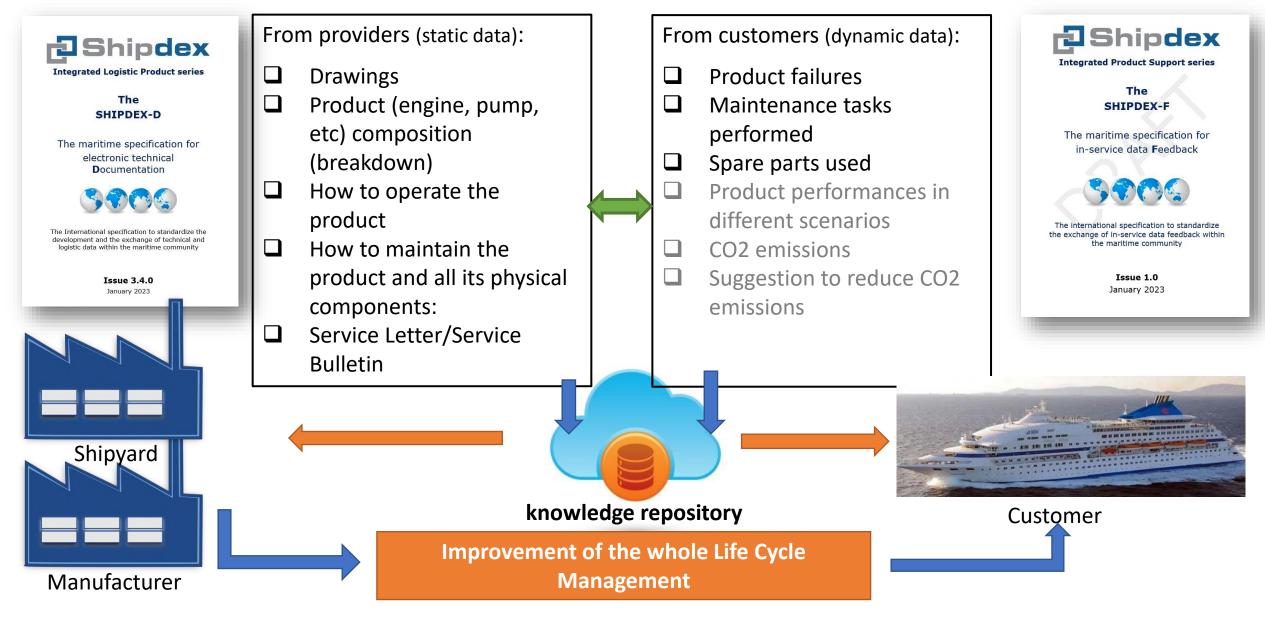
- Every customer provides its manufacturers with in-service data feedback in a <u>structured</u> and <u>standardized</u> electronic format
- Every provider can import in-service data feedback into its own IT systems
- Structured and standardized data can be exported/imported into any kind of IT system instead of retyping activities
- providers can use the information to improve equipment and maintenance plan quality

This is DATA DIGITALIZATION





Data exchange within maritime community in Shipdex format

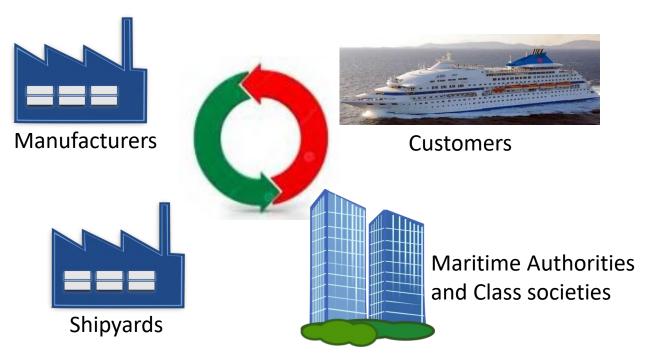






Improvement of the whole Life Cycle Management

- Improvement of the product by modifications and retrofit activities
- Enhancement of the maintenance and support concept
- Cheaper products and services
- Improved safety
- Environmental benefits
- Maritime Authorities wider involvement



PRODUCT LONGER AND CHEAPER LIFE



DOWNLOAD (from <u>www.shipdex.org</u>) the free-of-charge **Shipdex Viewer**

| ile • Content • Comments • Utility • Window • Help • | | | | | | | | | | | | |
|--|---|--|---|---|---|------------------|--|------|------|-----|--|-----|
| 4, 4, 4 + + 9 11 12 - 14 12 0 11 12 - 14 12 0 11 12 - 14 12 0 12 12 12 12 12 12 | | | | | | | | | | | | |
| | | Ballast/bi | ilge Pump - Illust | trated parts | | | | | | | | a . |
| A0984#ATST#MUpumps#2-0 INFOSET_DESCRIPTION_OPERATION INFOSET_IPD | | | | 3017 | | 300 | | | | | | |
| 🗄 👳 PGARBARINO-AAA0 | | | | 6577 | | 225 | | | | | | |
| 👷 👷 PGARBARINO-AAAD | | | | 2540 | | 576.1 | | | | | | |
| MU 150-250 LE Emergency Bilge Pump - Illustrated parts | | | | 6576.2 | | 835.2 | | | | | | |
| MU 200-315 LE Ballast/bilge Pump - Illustrated parts | | | | 5855 3 | | 5.16.3 | | | | | | |
| - MU 300-300 LDS LT Cooling FW Pump - Illustrated parts | | | | 3201939 | | E. | | | | | | |
| - MU 350-315 LDSH Main cooling SW Pump - Illustrated parts | | | | 6510 | | 609 | | | | | | |
| MU 80-250 LP Emergency Fire Pump - Illustrated parts | | | | 1521 - | | 510 | | | | | | |
| MU 125-250 L HT Cooling FW Pump - Illustrated parts | | | | 4200 | Hannan Hannan | 579 | | | | | | |
| MU 80-250 LE Main Fire/General service Pump - Illustrated p | | | | 6700.1 | The state of the s | 510 | | | | | | |
| INFOSET_MAINTENANCE_PROCEDURE | | | | | | | | | | | | |
| & PGARBARINO-AAAD | | | | 1122 | A A A A A A A A A A A A A A A A A A A | 200 | | | | | | |
| MU Pump - Grease | | | | 1510 | | 579 | | | | | | |
| MU Pump - Checks | | | | 6855.1 | 1330152SZ07A - BALLAST / BILSE PJMP | 581 | | | | | | |
| MU Pump - Checking Operation | | | | 6510 | | 100 | | | | | | |
| MU Pump - Handling | | | | | 200 | 49980-0-1 | | | | | | |
| MU 150-250 LE Emergency Bilge Pump - Lubrication | | | | 3170 | SAREARIZO | an antertana Se | | | | | | |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi | | | | | AcquiTerre ITA 7 ma 105 states | 24 | | | | | | |
| mo 100-200 LE Effergency blige Fullip - mo fort - Flevenu | | | | DITACK FART (| | | | | | | | |
| | | | | n nasa saan n towitsed | Pospearum tal at 70 Pospe MU200-21SL con Tenuresc -Pied in carbon fields and concernent of tubilities and Pospearum Pump MU200-31SL with Med Sea - Carbonity foots and | 日本家 | | | | | | |
| - MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi | | | | n mere sen oberseo u. ee steas | noveReamINT 1x3 in 75x If Light too, in 75e Pump MU200-315L con Tenunesc -Pied in Large 1 and puse Pump MU200-315L with Nec Sex - Carpentry foots asso Sexime Longitudinate - Longitudinat Section as the first section of the sect | | | | | | | |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi | | | | n make sam i objective sciences | noveReamINT 1x3 in 75x If Light too, in 75e Pump MU200-315L con Tenunesc -Pied in Large 1 and puse Pump MU200-315L with Nec Sex - Carpentry foots asso Sexime Longitudinate - Longitudinat Section as the first section of the sect | 1= 4 2 | | | | | | ,, |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive | | | | Indentification | noveReamINT 1x3 in 75x If Light too, in 75e Pump MU200-315L con Tenunesc -Pied in Large 1 and puse Pump MU200-315L with Nec Sex - Carpentry foots asso Sexime Longitudinate - Longitudinat Section as the first section of the sect | 1= 4 2 | | | | | | |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive | Pos | | | u as imat | owanam to u 1720 11 u01 30. N 201 Service Tongludinate - Tongludinat Service - Read in screen State Service Tongludinate - Tongludinat Service - Read Servic | 1= 4 2 | HQTY | RQTY | MAVI | ICY | Add Info | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive | Pos | Ind | CAGE | u as imat | noveReamINT 1x3 in 75x If Light too, in 75e Pump MU200-315L con Tenunesc -Pied in Large 1 and puse Pump MU200-315L with Nec Sex - Carpentry foots asso Sexime Longitudinate - Longitudinat Section as the first section of the sect | 1 = \$ 6097-5 | HQTY | RQTY | MAVI | ICY | Add Info | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive | | - | | Indentification Part Number / NSN | Consider to a 720 to 00 20, 01 201 Prove 4020-215 can Express Field in screen India account Prove 1020-201 201 accounts from the screen From the screen India account Source Longitudius - Longitudius Socials (Socials | 1 = \$ 6097-5 | | RQTY | MAVI | ICY | Add Info | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive | Pos | 1 | A0984 | Indentification | owanam to u 1720 11 u01 30. N 201 Service Tongludinate - Tongludinat Service - Read in screen State Service Tongludinate - Tongludinat Service - Read Servic | 1 = \$ 6097-5 | HQTY 1 Piece | RQTY | MAVI | ICY | Add Info | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive | | - | | Indentification Part Number / NSN | Consider to a 720 to 00 20, 01 201 Prove 4020-215 can Express Field in screen India account Prove 1020-201 201 accounts from the screen From the screen India account Source Longitudius - Longitudius Socials (Socials | 1 = \$ 6097-5 | | RQTY | MAVI | | Add Info | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive | 000 | 1 | A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 | Conserve to a train of the server of th | 1 = \$ 6097-5 | 1 Piece | RQTY | MAVI | | Add Info | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive M: | 000 001 | 1 2 | A0984 A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 | Booken to it 72 Prove W020-255 cm Transec -Fed in core intel accord Pag RU223-253 cm Transec -Fed in core intel accord Pag RU223-253 cm Transec - Fed in core intel accord Pag RU22-253-254 cm Transec - Fed in core intel accord Pag RU22-254-254 cm Transec - Fed in core intel accord Pag RU22-254-254 cm Transec - Fed in core intel accord Pag RU22-254-254 cm Transec - Fed in core intel accord Pag RU22-254-254 cm Transec - Fed in core intel accord Pag RU22-254-254 cm Transec - Fed in core intel accord Pag RU22-254-254 cm Transec - Fed in core intel accord Pag RU22-254-254-254 cm Transec - Fed in | 1 = \$ 6097-5 | 1 Piece 1 Piece | RQTY | MAVI | | | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi | 000 001 002 | 1 2 3 | A0984 A0984 A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A | Consider to it 72 Compared W020-255 cm Transfer Fed in consistent index | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece | RQTY | MAVI | | 1122 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi | 000 001 002 003 | 1 2 3 3 | A0984 A0984 A0984 A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA0601A | Consider to it 72 Compared W020-25% on Transfer Fed in consistent table on the first of | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece 1 Piece | RQTY | MAVI | | 1122 1225 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair | 000 001 002 003 004 | 1 2 3 3 3 3 | A0984 A0984 A0984 A0984 A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA0601A 1521LBA8P8P01A | Consider to it 72 Constraint to it 72 Con | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece | RQTY | MAVI | | 1122 1225 1510 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair | 000 001 002 003 004 005 | 1 2 3 3 3 3 3 | A0984 A0984 A0984 A0984 A0984 A0984 A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA6QA1A 1521LBA8P8P01A 1521LBA8P8P01A 1521LBA060601A | Consider to a 726 Constant to 726 Constant to 726 Constant to a 726 | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece | RQTY | MAVI | | 1122 1225 1510 1521 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair | 000 001 002 003 004 005 006 | 1 2 3 3 3 3 3 3 3 3 | A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA0601A 1521LBA8P8P01A 1521LBA060601A 2111UAS0601A 2111UAS0601A | Consider to a 17 20 Constraint of the c | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece | RQTY | MAVI | | 1122 1225 1510 1521 2111 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-316 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-316 LE Ballast/bilge Pump - PUMP - Preventive M: MU 200-316 LE Ballast/bilge Pump - PUMP - Preventive M: | 000 001 002 003 004 005 006 007 008 | 1 2 3 3 3 3 3 3 3 3 3 3 3 | A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA0601A 1521LBA8P8P01A 1521LBA060601A 2111UAS0601A 2200UBA6Q2950A | Consider to it 72 Construct - Top Add is not a table or top and top a | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece | RQTY | MAVI | | 1122 1225 1510 1521 2111 2200 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballastbilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mi MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballastbilge Pump - PUMP - Preventive Mair MU 200-300 LDS LT Cooling FW Pump - Lubrication MU 300-300 LDS LT Cooling FW Pump - MOTOR - Preventi | 000 001 002 003 004 005 006 007 008 009 | 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 | A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA0601A 1521LBA8P8P01A 1521LBA060601A 2111UAS0601A 2111UAS0601A 2200UBA6Q2950A 3011-6313-2RS 3017-3313 | Consider to a 72 Cons | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece | RQTY | MAVI | | 1122 1225 1510 1521 2111 2200 3011 3017 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Mi MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mi MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mi MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mi MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mi MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mi MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mi MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-300 LDS LT Cooling FW Pump - Lubrication MU 300-300 LDS LT Cooling FW Pump - MOTOR - Preventive | 000 001 002 003 004 005 006 007 008 009 010 | 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 | A0984 A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA0601A 1521LBA060601A 1521LBA060601A 2111UAS0601A 2200UBA6Q2950A 3011-6313-2RS 3017-3313 3130UGH0601A | Consider to it 72 Consider to it 72 Consider to its 7 | 1 = \$ 6097-5 | 1 Piece 1 Piece | RQTY | | | 1122 1225 1510 1521 2111 2200 3011 3017 3130 | CN |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventi MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive M: MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mir MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mir MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mir MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mir MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mir MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Mair MU 300-300 LDS LT Cooling FW Pump - Lubrication MU 300-300 LDS LT Cooling FW Pump - MOTOR - Preventi MU 300-300 LDS LT Cooling FW Pump - MOTOR - Preventi | 000 001 002 003 004 005 006 007 008 009 | 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 | A0984 | Indentification Part Number / NSN 044-20031PBJ8ZXXX13015207 020-20031PBJ3XXXX13015207 1122LBA6QA01A 1225UBA0601A 1521LBA8P8P01A 1521LBA060601A 2111UAS0601A 2111UAS0601A 2200UBA6Q2950A 3011-6313-2RS 3017-3313 | Consider to a 72 Cons | 1 = \$ 6097-5 | 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece 1 Piece | RQTY | | | 1122 1225 1510 1521 2111 2200 3011 3017 | |



DOWNLOAD (from <u>www.shipdex.org</u>) the free-of-charge **Shipdex Viewer**

| Shipdex Viewer 3.1 - Licensed to Shipdex Consulting | | | | | - 0 | \times |
|--|--------------------------|--|---|-----------------|--------|----------|
| File · Content · Comments · Utility · Window · Help · | | | | | | |
| \$ - 3, 3, 2 + 4 + 3 ≤ 5 5 5 - 3 2 5 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | |
| Table of Content | MU 300-300 LDS LT Coolin | g FW Pump - PUMP - Preventive Maintenance (5000) | | | a | |
| | Periodicity | | | | | ^ |
| B PGARBARINO-AAA0 | Description | | | | | * |
| PGARBARINO-AAAD | Working hours | 5000 | | | | £0 |
| INFOSET_MAINTENANCE_PROCEDURE | WORKING HOURS | | | | | 40 |
| BARBARINO-AAAD | | | | | | |
| MU Pump - Grease | Support Equipmen | t | | | | |
| MU Pump - Checks | | | | | | |
| MU Pump - Checking Operation | Description | | CAGE | Part Number/CSN | QTY | |
| MU Pump - Handling | None | | | | | 70 |
| MU 150-250 LE Emergency Bilge Pump - Lubrication | Itolic | | | | | |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive Mainten | C | | | | | |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive Mainten | Supplies | | | | | |
| MU 150-250 LE Emergency Bilge Pump - MOTOR - Preventive Mainten | | | | | | 2 |
| MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive Maintenan | Description | | CAGE | Part Number/CSN | QTY | |
| MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive Maintenan | Grease | | A0984 | 00001 | pc AR | ~ |
| MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive Maintenan | orease | | ///// | 00001 | portat | 71 |
| MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive Maintenan | Creare Dorte | | | | | |
| - MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive Maintenan | Spare Parts | | | | | |
| MU 150-250 LE Emergency Bilge Pump - PUMP - Preventive Maintenan | | | | | | |
| → MU 200-315 LE Ballast/bilge Pump - Lubrication | Description | | CAGE | Part Number/CSN | QTY | |
| MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Maintenance | None | | | | 1072 | - |
| MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Maintenance | | | | | | |
| MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Maintenance | SAFETY PRECAU | TIONS | | | | |
| MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Maintenance (5 | SAFETTFRECAU | TIONS | | | | |
| MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Maintenance (2 | | | Services Alterative Addition of the lat | | | |
| MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Maintenance (3 | | | WARNING | | | |
| MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Maintenance (5 | | | • | | | |
| MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Maintenance (1 | | | | | | |
| MU 200-315 LE Ballast/bilge Pump - PUMP - Preventive Maintenance (2 | | | | | | |
| MU 300-300 LDS LT Cooling FW Pump - Lubrication | | | | | | |
| MU 300-300 LDS LT Cooling FW Pump - MOTOR - Preventive Maintena | | | | | | |
| MU 300-300 LDS LT Cooling FW Pump - MOTOR - Preventive Maintena | | | | | | |
| → MU 300-300 LDS LT Cooling FW Pump - MOTOR - Preventive Mainten: | | | | | | |
| MU 300-300 LDS LT Cooling FW Pump - PUMP - Preventive Maintenan | | AVOID GREASE CONTACT WITH SKIN AND EYES. | | | | |
| → MU 300-300 LDS LT Cooling FW Pump - PUMP - Preventive Maintenan | | | | | | |
| MU 300-300 LDS LT Cooling FW Pump - PUMP - Preventive Maintenan | | | | | | |
| MU 300-300 LDS LT Cooling FW Pump - PUMP - Preventive Maintenan | | | CAUTION | | | |
| MU 300-300 LDS LT Cooling FW Pump - PUMP - Preventive Maintenan | | | | | | |
| MU 300-300 LDS LT Cooling FW Pump - PUMP - Preventive Maintenan | | If bearing temperature is below 50 °C. | | | | |
| | | n boaring temperature is below ou o. | | | | |
| MU 350-315 LDSH Main cooling SW Pump - Lubrication MU 350-315 LDSH Main cooling SW Pump - MOTOR - Preventive Maint | | L. | | | | |
| MUI 350-315 LDSH Main cooling SW Pump - MOTOR - Preventive Maint MUI 350-315 LDSH Main cooling SW Pump - MOTOR - Preventive Maint | ~ | | | | | |
| | PRELIMINARY OP | ERATIONS | | | | ~ |
| 🚳 Table of Content 👒 Search 🔞 Planning 🛛 🔹 🕸 | | | | | | > |



DOWNLOAD (from <u>www.shipdex.org</u>) the free-of-charge **Shipdex Viewer**

| Shipdex Viewer 3.1 - Licensed to Shipdex Consulting | | | | | – 0 × |
|--|--------------|--|----------------------|------------------------|---------------------------------|
| File · Content · Comments · Utility · Window · Help · | | | | | |
| | - nall | | | | |
| \$• • • • • • • • • • • • • • • • • • • | | | | | |
| Table of Content | | MU 200-315 LE Ballast/bilge Pump - MOTOR - Preventive Maintenance (2500) | | | oca + × |
| ₽ 🖾 🗃 🖛 = 🔍 | | Shipdex | | | / |
| Selection | | | | | |
| Tasks Operations | | | | | |
| th01 Working hours; th03 Months; th98 One Time - after fin | st worki ~ | MU 200-315 LE Ballast/k | bilge Pump - MOTOR - | Preventive Maintenance | (2500) |
| Task Frequency | | | | Data Module Issu | e:001, Type:new,Date:28-08-2013 |
| 500 Working hours | | | | | |
| Component Name Task Name MU 150-250 LE Emergency Bilge Purn Preventive Maintenance (500) | Type Task | Periodicity | | | |
| MU 150-250 LE Emergency Bilge Pum Preventive Maintenance (500) | Task | 1 onounity | | | |
| MU 200-315 LE Ballast/bilge Pump - M Preventive Maintenance (500) | Task | | | | |
| MU 200-315 LE Ballast/bilge Pump - P Preventive Maintenance (500) | Task | Description | | | |
| MU 300-300 LDS LT Cooling FW Pump Preventive Maintenance (500) MU 300-300 LDS LT Cooling FW Pump Preventive Maintenance (500) | Task Task | Working hours 2500 | | | |
| MU 350-315 LDSH Main cooling SW Pu Preventive Maintenance (500) | Task | | | | |
| MU 350-315 LDSH Main cooling SW Pu Preventive Maintenance (500) | Task | Support Equipment | | | |
| MU 80-250 LP Emergency Fire Pump Preventive Maintenance (500) | Task | oupport Equipment | | | |
| MU 80-250 LP Emergency Fire Pump - Preventive Maintenance (500) | Task | | | | |
| MU 125-250 L HT Cooling FW Pump Preventive Maintenance (500) MU 125-250 L HT Cooling FW Pump Preventive Maintenance (500) | Task Task | Description | CAGE | Part Number/CSN | QTY |
| MU 80-250 LE Main Fire/General servic Preventive Maintenance (500) | Task | Ohmmeter | | 00009 | pc 1 |
| MU 80-250 LE Main Fire/General servic Preventive Maintenance (500) | Task | | | | |
| 2500 Working hours | | Supplies | | | |
| Component Name Task Name | Type | adhhura | | | |
| MU 150-250 LE Emergency Bilge Pum Preventive Maintenance (2500) MU 150-250 LE Emergency Bilge Pum Preventive Maintenance (2500) | Task Task | | | | |
| MU 200-315 LE Ballas/bilge Pump - M. Preventive Maintenance (2500) | Task | Description | CAGE | Part Number/CSN | QTY |
| MU 200-315 LE Ballast/bilge Pump - P Preventive Maintenance (2500) | Task | None | | | |
| MU 300-300 LDS LT Cooling FW Pump Preventive Maintenance (2500) | Task | | | | |
| MU 300-300 LDS LT Cooling FW Pump Preventive Maintenance (2500) MU 350-315 LDSH Main cooling SW Pu Preventive Maintenance (2500) | Task Task | Spare Parts | | | |
| MU 350-315 LDSH Main cooling SW Pu Preventive Maintenance (2500) MU 350-315 LDSH Main cooling SW Pu Preventive Maintenance (2500) | Task | oparo r alto | | | |
| MU 80-250 LP Emergency Fire Pump Preventive Maintenance (2500) | Task | | 0105 | B. (N. J. (CON) | 071 |
| MU 80-250 LP Emergency Fire Pump Preventive Maintenance (2500) | Task | Description | CAGE | Part Number/CSN | QTY |
| MU 125-250 L HT Cooling FW Pump Preventive Maintenance (2500) | Task | None | | | |
| MU 125-250 L HT Cooling FW Pump Preventive Maintenance (2500) MU 80-250 LE Main Fire/General servic Preventive Maintenance (2500) | Task Task | | | | |
| MU 80-250 LE Main Fire/General servic Preventive Maintenance (2500) | Task | SAFETY PRECAUTIONS | | | |
| 1 3000 Working hours | | | | | |
| 1 5000 Working hours | | | CALIFICAL. | | |
| 10000 Working hours | | | CAUTION | | |
| 1 20000 Working hours | | | | | |
| 1 6 Months | | | | | |
| 12 Months | | | | | |
| One Time - after first working hours 300 | | | | | |
| 1 0 Unscheduled | | | | | |
| | | | | | |
| | | Stop the pump, switch off automatic start, inte | errunt motor feeding | | |
| | | Stop the pump, switch on automatic start, lite | shupt motor recoing. | | |
| | | | | | |
| < | > | BBELINIUABY OBERATIONS | | | |
| 🚳 Table of Content 👒 Search 😡 Planning | 4 0 00 | < | | | > |







For any other question contact me at <u>team@shipdex.org</u>