

Certificate for Machinery Equipment

Valves

This is to certify that the undersigned Surveyor to LLOYD'S REGISTER did at the request of the below customer, attend the testing and examination of the product(s) described below in accordance with the relevant Rules and Regulations for the Classification of Ships and found it/them satisfactory.

General information

Customer	Jotron Skipper AS
Purchase Order No	PWO-127126
Manufacturer	Jotron Skipper AS
Intended for	Warehouse
Customer Work Order No	PWO-127126 and PWO-129522
Date of issue	18 March 2024
Quantity	2 Batch

Particulars

Description	2 X SB-60-SA and 3 X SB-100-SB Sea valves with flanges
Size	60mm and 100mm
Valve body material	stainless steel casting
Test pressure body	5 bar
Test pressure seat	5 bar
Design pressure	3
Set pressure if applicable	-
Quantity	5

Identification Marks On Product

I.D number	LR OSL2400212
Surveyors initials	-
Date of inspection	12.03.2024

Remarks

No remarks raised

Johannes Nordtveit
Lloyd's Register EMEA
A subsidiary of Lloyd's Register Group Limited



Page 2 of 2
Certificate No. OSL2400212
First Date of Inspection 12 March 2024
Final Date of Inspection 12 March 2024
Office Oslo

Description	Manufacturer Designation	Serial Number	IMO Number
SB-100-SB-LR		24166, 24167 and 24168	0
SB-60-SA-LR		24169 and 24170	0

PICKING LIST

SKIPPER

SKI-NO: PWO/127126

CASE. 127123



Printed: 11.03.2024 - 11:09

Operation number Operation Manufacturing area Remaining quantity
PRODUCTION **3 stk**

Note

SB-100-SB-LR

Stockloc / Details	Assignment	Quantity	Product
For operation number 200			
1-PALL-01 1-PALL-01	SSA/133235-1 53 stk	✓ 3 stk	DB-2051 <i>2304 x 4</i> Intermediate element for xB-100-xB casted
1-PALL-03 1-PALL-03	SSA/132281-1 1284 stk	24 stk	ZOA-01075 Screw M16x55 mm DIN933 A4-80
For operation number 100			
1-PALL-06 1-PALL-06 LAGER 20	SSA/129101-1 3 stk 10 stk Picking blocked	✓ 3 stk	ZCC-01015 Main element, Ball Valve DN100 PN16/3.1.B
For operation number 200			
1-PALL-06 1-PALL-06	SSA/132947-1 18 stk	✓ 3 stk	SB-2019 <i>569485 x 3 2408</i> Bottom flange for SB-100-xx
1-PALL-07 1-PALL-07	SSA/133098-1 30 stk	3 stk	DB-2031 Top Flange for XB-100/200-XX
1-S-74 1-S-74	SSA/129962-1 54 stk	3 stk	DB-2040 Washer Ø46x2,5 Ø32,5 for XB-60/100/200-XX
1-T-01 1-T-01	SSA/132853-1 246 stk	6 stk	DB-2035 Gasket Ø47/32,5 X 20mm for XB-60/100/200-XX
1-T-02 1-T-02	SSA/132137-1 254 stk	36 stk	ZOA-01035 Spring washer M16 DIN127B A4
1-T-02 1-T-02	SSA/132278-1 1488 stk	36 stk	ZOA-01036 Nut M16 DIN934 A4
1-T-02 1-T-02	SSA/133213-1 50 stk	3 stk	DB-2036 Nut M50 Brass for XB-60/100/200-XX
Varmerom Varmerom	SSA/131679-1 4117 stk	6 stk	ZZA-01127 Metallised polyester label on roll

Additional parts

Product	Stockloc	Quantity
GVA-LR Sea Valve approval from Lloyds Register		3 stk

B // C

S.no. 24166: 2259 / 2259

24167: 2258 / 2258

24168: 2259 / 2259

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SKIPPER
 C.O. reg no: NO-965378847-MVA

INSPECTION & TEST PROTOCOL FOR SEA VALVE

Document No: Q12-TI-0108-02 2023

SKIPPER sea valve Serial No.:	24166
Class certificate no.:	

Class stamp and certificate no. shall be stamped on main element and bottom flange (welding part)

Class: DNV ABS BV LR RINA NK

Sea valve Type:

		<u>-SA</u>	<u>-SB</u>	<u>-LA</u>	<u>-LB</u>	<u>-F1</u>	<u>SLB</u>	<u>SJB</u>
SB-60		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
DB-60		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
SB-100		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
DB-100		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
ETN- 100mm							<input type="checkbox"/>	<input type="checkbox"/>
SB-200-Echo	<input type="checkbox"/>							

Assembly, Items Serial No. / Batch No. / Charge No.:

	<u>Heat no</u> <u>Body</u>	<u>Heat no</u> <u>Cap</u>	<u>Skipper Part</u> <u>No.</u>
Valve Element:	2259	2259	ZCC-01015
Intermediate Element:		2304	DB-2051
Bottom Flange:		569485	SB-2019
Intermediate flange (for DB valves)			

Visual Inspection:

Performed without remarks:

Pressure Test:

Working pressure 2 bar

Tested for 5 minutes with 5 bar pressure,

According to procedure no. 02-Q12_Pressure testing Gate_ball Valve

Performed without remarks:

Date: 11/3-24

Sign.: S.T.

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SKIPPER
 C.O. reg no: NO-965378847-MVA

INSPECTION & TEST PROTOCOL FOR SEA VALVE

Document No: Q12-TI-0108-02 2023

SKIPPER sea valve Serial No.:	24167
Class certificate no.:	

Class stamp and certificate no. shall be stamped on main element and bottom flange (welding part)

Class: DNV ABS BV LR RINA NK

Sea valve Type:

		<u>-SA</u>	<u>-SB</u>	<u>-LA</u>	<u>-LB</u>	<u>-F1</u>	<u>SLB</u>	<u>SJB</u>
<u>SB-60</u>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
<u>DB-60</u>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
<u>SB-100</u>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<u>DB-100</u>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<u>ETN- 100mm</u>							<input type="checkbox"/>	<input type="checkbox"/>
<u>SB-200-Echo</u>	<input type="checkbox"/>							

Assembly, Items Serial No. / Batch No. / Charge No.:

	<u>Heat no</u> <u>Body</u>	<u>Heat no</u> <u>Cap</u>	<u>Skipper Part</u> <u>No.</u>
Valve Element:	2258	2258	ZCC-01015
Intermediate Element:		2304	DB-2051
Bottom Flange:		569485	SB-2019
Intermediate flange (for DB valves)			

Visual Inspection:

Performed without remarks:

Pressure Test:

Working pressure 2 bar
 Tested for 5 minutes with 5 bar pressure,
 According to procedure no. 02-Q12_Pressure testing Gate_ball Valve

Performed without remarks:

Date: 11/3-24

Sign.: S.M

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SKIPPER
 C.O. reg no: NO-965378847-MVA

INSPECTION & TEST PROTOCOL FOR SEA VALVE

Document No: Q12-TI-0108-02 2023

SKIPPER sea valve Serial No.:	24168
Class certificate no.:	

Class stamp and certificate no. shall be stamped on main element and bottom flange (welding part)

Class: DNV ABS BV LR RINA NK

Sea valve Type:

		<u>-SA</u>	<u>-SB</u>	<u>-LA</u>	<u>-LB</u>	<u>-F1</u>	<u>SLB</u>	<u>SJB</u>
<u>SB-60</u>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
<u>DB-60</u>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
<u>SB-100</u>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<u>DB-100</u>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<u>ETN- 100mm</u>							<input type="checkbox"/>	<input type="checkbox"/>
<u>SB-200-Echo</u>	<input type="checkbox"/>							

Assembly, Items Serial No. / Batch No. / Charge No.:

	<u>Heat no</u> <u>Body</u>	<u>Heat no</u> <u>Cap</u>	<u>Skipper Part</u> <u>No.</u>
Valve Element:	2259	2259	ZCC-01015
Intermediate Element:		2304	DB-2051
Bottom Flange:		569485	SB-2019
Intermediate flange (for DB valves)			

Visual Inspection:

Performed without remarks:

Pressure Test:

Working pressure 2 bar
 Tested for 5 minutes with 5 bar pressure,
 According to procedure no. 02-Q12_Pressure testing Gate_ball Valve

Performed without remarks:

Date: 11/3-24

Sign.: 

PICKING LIST

SKIPPER

SKI-NO: PWO/129522

CASE. 129520

Printed: 11.03.2024 - 13:25

Operation number Operation Manufacturing area Remaining quantity
PRODUCTION **2 stk**

Note
SB-60-SA-LR

Stockloc / Details	Assignment	Quantity	Product
For operation number 100			
1-PALL-00	SSA/132782-1	✓ 2 stk	ZCC-02001 <i>CNC SB * 2</i>
1-PALL-00	23 stk		Main element DN65 for XB-60-XA
For operation number 200			
1-PALL-06	SSA/132518-1	γ 2 stk	SB-1022 <i>568933 * 2 0324</i>
1-PALL-06	20 stk		Bottom flange for SB-60-XA
1-PALL-07	SSA/132801-1	2 stk	DB-1031
1-PALL-07	13 stk		Top Flange for XB-60-XA
1-S-24	SSA/131168-1	8 stk	ZOA-01023
1-S-24	175 stk		Nut M12 DIN934 A4
1-S-74	SSA/129962-1	2 stk	DB-2040
1-S-74	54 stk		Washer Ø46x2,5 Ø32,5 for XB-60/100/200-XX
1-T-01	SSA/129637-1	8 stk	ZOA-01034
1-T-01	52 stk		Screw M16x40 DIN933 A4-80
1-T-01	SSA/132853-1	4 stk	DB-2035
1-T-01	246 stk		Gasket Ø47/32,5 X 20mm for XB-60/100/200-XX
1-T-02	SSA/127824-1	4 stk	ZOA-01065
1-T-02	39 stk		Screw M12x40 mm DIN933 A4-80
1-T-02	SSA/128786-1	12 stk	ZOA-01066
1-T-02	322 stk		Spring Washer M12,2 DIN 127B A4
1-T-02	SSA/132137-1	8 stk	ZOA-01035
1-T-02	254 stk		Spring washer M16 DIN127B A4
1-T-02	SSA/132139-1	8 stk	ZOA-01048
1-T-02	380 stk		Washer M12 DIN125 A4
1-T-02	SSA/132719-1	2 stk	DB-2036
1-T-02	25 stk		Nut M50 Brass for XB-60/100/200-XX
Varmerom	SSA/131679-1	4 stk	ZZA-01127
Varmerom	4095 stk		Metallised polyester label on roll

Additional parts

Product	Stockloc	Quantity
GVA-LR Sea Valve approval from Lloyds Register		2 stk

1-PALL-? SSA/Unknown? ST 2 stk DiB-1021 Intermed element 60mm

*S.no. 24169.
24170:*

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SKIPPER

C.O. reg no: NO-965378847-MVA

INSPECTION & TEST PROTOCOL FOR SEA VALVE

Document No: Q12-TI-0108-02 2023

SKIPPER sea valve Serial No.:	24169
Class certificate no.:	

Class stamp and certificate no. shall be stamped on main element and bottom flange (welding part)

Class: DNV ABS BV LR RINA NK

Sea valve Type:

		<u>-SA</u>	<u>-SB</u>	<u>-LA</u>	<u>-LB</u>	<u>-F1</u>	<u>SLB</u>	<u>SJB</u>
SB-60		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
DB-60		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
SB-100		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
DB-100		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
ETN- 100mm							<input type="checkbox"/>	<input type="checkbox"/>
SB-200-Echo	<input type="checkbox"/>							

Assembly, Items Serial No. / Batch No. / Charge No.:

	<u>Heat no</u> <u>Body</u>	<u>Heat no</u> <u>Cap</u>	<u>Skipper Part</u> <u>No.</u>
Valve Element:	CNC SB		ZCC-02001
Intermediate Element:			DB-1021
Bottom Flange:		568933	SB-1022
Intermediate flange (for DB valves)			

Visual Inspection:

Performed without remarks:

Pressure Test:

Working pressure 2 bar

Tested for 5 minutes with 5 bar pressure,

According to procedure no. 02-Q12_Pressure testing Gate_ball Valve

Performed without remarks:

Date: 11/3-24

Sign.: 

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SKIPPER
 C.O. reg no: NO-965378847-MVA

INSPECTION & TEST PROTOCOL FOR SEA VALVE

Document No: Q12-TI-0108-02 2023

SKIPPER sea valve Serial No.:	24170
Class certificate no.:	

Class stamp and certificate no. shall be stamped on main element and bottom flange (welding part)

Class: DNV ABS BV LR RINA NK

Sea valve Type:

		<u>-SA</u>	<u>-SB</u>	<u>-LA</u>	<u>-LB</u>	<u>-F1</u>	<u>SLB</u>	<u>SJB</u>
<u>SB-60</u>		<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
<u>DB-60</u>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		
<u>SB-100</u>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<u>DB-100</u>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<u>ETN- 100mm</u>							<input type="checkbox"/>	<input type="checkbox"/>
<u>SB-200-Echo</u>	<input type="checkbox"/>							

Assembly, Items Serial No. / Batch No. / Charge No.:

	<u>Heat no</u> <u>Body</u>	<u>Heat no</u> <u>Cap</u>	<u>Skipper Part</u> <u>No.</u>
Valve Element:	CNCSB		ZCC-02001
Intermediate Element:			DB-1021
Bottom Flange:		568933	SB-1022
Intermediate flange (for DB valves)			

Visual Inspection:

Performed without remarks:

Pressure Test:

Working pressure 2 bar

Tested for 5 minutes with 5 bar pressure,

According to procedure no. 02-Q12_Pressure testing Gate_ball Valve

Performed without remarks:

Date: 11/3-24

Sign.: *SR*

Sertifika No / Number of Cert.: :2023/019

Tarih/Date

2.03.2023

Firma Adı / Customer Name : :LANGTHON AS/ SKIPPER - PO 452463

Malzeme Kalitesi / Material Standard : CF8M / Stainless Steel Casting

Sıra Pos	Döküm No/Heat Number	Malzeme Adı / Material Name	Parça Adeti / Material Quantity	Kimyasal Kompozisyon / Chemical Composition									
				% C	% Si	% Mn	% P	% S	% Cr	%Mo	%Ni		
				0.08 Max	1.5 Max.	1.5 Max.	0.040 Max	0.030 Max.	17.0-21.0	2.0-3.0	9.0-12.0		
1	2256	DN100 PN16 2 PCS BALL VALVE BODY	50	0.051	0.715	0.863	0.018	0.023	17.2	2.09	9.22		
2	2257	DN100 PN16 2 PCS BALL VALVE BODY	50	0.055	0.81	0.955	0.017	0.016	17.4	2.12	9.11		
3	2258	DN100 PN16 2 PCS BALL VALVE BODY	50	0.059	0.94	0.789	0.023	0.019	17.5	2.17	9.19		
4	2259	DN100 PN16 2 PCS BALL VALVE BODY	50	0.055	0.88	0.815	0.019	0.025	17.4	2.05	9.26		
5	2260	DN100 PN16 2 PCS BALL VALVE BODY	50	0.053	0.95	0.896	0.025	0.019	17.3	2.14	9.18		

Mekanik Özellikler / Mechanical Properties

Döküm No / Heat Number.	Akma Dayanımı N/mm ² Yield Strength	Çekme Dayanımı N/mm ² Tensile Strength	Uzama / Elongation %	Kesit Daralması / Reduction of Area %	Darbe Testi / Charpy Impact test J/0°C	Sertlik / Hardness HB
	180 Min.	440	30 Min.	-	-	-
2256	286.5	504.8	44	-	-	-
2257	292.2	508.6	47			
2258	299.6	516.6	49			
2259	285.2	498.3	43			
2260	295.7	514.6	49			

Tahratsız Testler / Non Destructive Tests

Döküm No / Heat Number.	Parça Adeti / Material Quantity	MT	PT	UT	RT	VT	Microstructure Ranges
2256	50	-	-	-	-	OK	-
2257	50	-	-	-	-	OK	-
2258	50	-	-	-	-	OK	-
2259	50	-	-	-	-	OK	-
2260	50	-	-	-	-	OK	-

Uygulanan Isıl İşlemler / Heat Treatment Applied

Döküm No / Heat Number.	Parça Adeti / Material Quantity	Normalizing °C	Annealing °C	Stress Relieving °C	Quenching °C	Tempering °C
2256	50	1100°C/ 2 Hours	-	-	-	-
2257	50	1100°C/ 2 Hours	-	-	-	-
2258	50	1100°C/ 2 Hours	-	-	-	-
2259	50	1100°C/ 2 Hours	-	-	-	-
2260	50	1100°C/ 2 Hours	-	-	-	-

We hereby certify that the material has been made by an approval process and satisfactorily tested in accordance with the rules of BV,LR and DNV-GL.

Surface quality is suitable with eye examination of MSS SP55 Standard.

KONTROL / CONTROLLED BY		ONAY / APPROVED BY		GÖZETİM / WITNESS BODY (If necessary)	
Adı /Name	Tuncay SARAÇ	Hakan ÇALIŞKAN			
Ünvanı/ Title	Quality Control Engineer	Quality Manager			
İmza/ Signature					
Tarih/ Date	2.03.2023	2.03.2023			

CERTIFICATES:(Validities:DD/MM/..YY)

Naviga Certification ISO 9001:2015 Cert No:2140003(10.01.2023-06.01.2024)

DNV-GL : Certificate No:AMMM00002YE (05.04.2022-04.04.2025)

Bureau Veritas-Mode II Survey Scheme- Marine Division Cert No:SMS.W.II./57463/A.0 (09.11.2022-27.02.2026)

Lloyd's Register-Certificate No:LR2004266WA (03.07.2020-02.07.2023)



HAITIMA CORPORATION

MATERIAL TEST CERTIFICATE

8F, No. 201, Tiding Blvd. Sec. 2,

Neihu Area Taipei 114 Taiwan

Page: 3

Date: Jun. 19, 2023

Messrs. MESON AB

Contract No.		P.O. IK20378								Invoice No.		HIV063023					
Description		VALVES & FITTINGS								Specification		ACC. TO EN 10204 3.1		Type		EN 1.4408	
Item No.		Size						Quantity			Heat No.		Pressure Test		Finish		
													Shell	Seat			
11		#2052A DN50						40 PC			NBA2		60 BAR	7 BAR	GOOD		
12											N944		60 BAR	7 BAR	GOOD		
13		DN65						140 PC			CP2F2		24 BAR	7 BAR	GOOD		
14											CNCN4		24 BAR	7 BAR	GOOD		
15											CP16M		24 BAR	7 BAR	GOOD		
16											CP3PF		24 BAR	7 BAR	GOOD		
17											CP3K9		24 BAR	7 BAR	GOOD		
18											CP2C1		24 BAR	7 BAR	GOOD		
19											CP3PC		24 BAR	7 BAR	GOOD		
20											CNC SB		24 BAR	7 BAR	GOOD		
Item No.		Chemical Composition (%)									Mechanical Properties				Solution Heat Treatment		
		Spec.	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Y.S. Mpa	T.S. Mpa	Elongation %		Impact Test	
		Max.	0.070	1.500	1.500	0.040	0.030	20.00	2.50	12.00	0.50	-	640	-		-	1150 C
		Min.	-	-	-	-	18.00	2.00	9.00	-	210	440	L: 30	60 J	1080 C		
11		0.047	1.082	0.979	0.030	0.005	18.192	2.123	9.190	0.223	299	526	53	194	1080		
12		0.055	1.088	1.064	0.023	0.008	18.077	2.133	9.231	0.210	297	582	53	199	1080		
13		0.049	1.079	0.994	0.031	0.004	18.414	2.251	9.213	0.217	328	567	51	195	1080		
14		0.047	0.934	0.977	0.029	0.006	18.106	2.258	9.054	0.228	306	524	53	195	1080		
15		0.050	0.842	0.949	0.024	0.006	18.184	2.226	9.167	0.220	315	558	47	195	1080		
16		0.060	0.969	0.838	0.031	0.009	18.474	2.043	9.265	0.198	294	513	58	195	1080		
17		0.056	1.035	0.893	0.025	0.005	18.183	2.127	9.094	0.240	297	560	51	204	1080		
18		0.061	0.957	1.054	0.031	0.007	18.084	2.202	9.098	0.219	321	595	52	204	1080		
19		0.055	0.854	0.986	0.022	0.006	18.182	2.225	9.095	0.187	317	562	48	200	1080		
20		0.059	0.891	0.877	0.025	0.005	18.140	2.244	9.198	0.237	326	568	47	196	1080		
Remarks: WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS.												Inspector		Q C Manager			
												<i>Louis Liu</i>		<i>Hanson Chen</i>			