

KYUNG NAM DRYER CO., LTD.

NK Reference No.:11320014401RD

Date: 2013. 1. 18

Dear Sirs,

Please be informed that the drawing/document examination has been completed with the following comment(s).

**mitsubishi heavy industries, ltd. nagasaki shipyard & machinery works**  
**Hull No.2295, 2296**

Drawing No.: ---

Drawing Name: Control Air Dryer

No.	Page	Comments	
1	KHDM-500-FA-007	The carbon content not to exceed 0.35% for following parts in accordance with 11.1.2, Part D of NK Rules. •SS400 (NO.2 2:1 ELIP.HEAD) •SS400 (NO.7 LIFTING EYE NUT PAD)	*

\* : Countermeasures to the comment(s) to be verified by attending surveyor.

If you have any question or require further assistance, please do not hesitate to contact our office.

Yours faithfully,



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T. NARISAWA

General Manager of Machinery Department

Certificate No. : **FE13PS01693**

Date : 4 March 2013

**CERTIFICATE**  
**for**  
**Desiccant(Heatless) Type Control Air Dryer**

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

<b>Manufacturer</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Manufacturer</b>	: 306-1 NAEYU-DONG, DEOGYANG-GU, GOYAN-SI, KYONGGI-DO, KOREA
<b>Applicant</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Inspection</b>	: GOYANG-SI, Korea
<b>Intended for</b>	: MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No.2295
<b>First Date of Inspection</b>	: 4 March 2013
<b>Final Date of Inspection</b>	: 4 March 2013
<b>Rules/Standards Applied</b>	: The relevant requirements of the Rules of Nippon Kaiji Kyokai
<b>Approved Drawing Ref. No</b>	: KND13-0103-001
<b>Order No.</b>	: N/A
<b>Total set(s) of Product</b>	: 2

**Particulars:**

Model No.	: KHDM-500
Design pressure	: 1.2 MPa G
Design temperature	: 100 °C
Serial No.	: 130206 / 130207

**Test and Inspection**

Pneumatic Test Pressure (1.8 MPa G)	: Good
Visual Inspection	: Good

**Identification Mark**

For identification, the product(s) was/were stamped:

NR 1299 (P)

  
Surveyor, Jin seob. Park  
Office: Busan Office



KYUNG NAM DRYER CO., LTD.

NK Reference No.:11320014401RD

Date: 2013. 1. 18

Dear Sirs,

Please be informed that the drawing/document examination has been completed with the following comment(s).

**mitsubishi heavy industries, ltd. nagasaki shipyard & machinery works**  
**Hull No.2295, 2296**

Drawing No.: ---

Drawing Name: Control Air Dryer

No.	Page	Comments	
1	KHDM-500-FA-007	The carbon content not to exceed 0.35% for following parts in accordance with 11.1.2, Part D of NK Rules. •SS400 (NO.2 2:1 ELIP.HEAD) •SS400 (NO.7 LIFTING EYE NUT PAD)	*

\* : Countermeasures to the comment(s) to be verified by attending surveyor.

If you have any question or require further assistance, please do not hesitate to contact our office.

Yours faithfully,



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T. NARISAWA

General Manager of Machinery Department

Certificate No. : FE13PS08001

Date : 18 October 2013

**CERTIFICATE**  
**for**  
**Desiccant(Heatless) Type Control Air Dryer**

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

<b>Manufacturer</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Manufacturer</b>	: (NAEYU-DONG), 1283-15, TONGIL-RO, DEOGYANG-GU GOYANG-SI, GYEONGGI-DO, KOREA
<b>Applicant</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Inspection</b>	: GOYANG-SI
<b>Intended for</b>	: MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No. 2296
<b>First Date of Inspection</b>	: 18 October 2013
<b>Final Date of Inspection</b>	: 18 October 2013
<b>Rules/Standards Applied</b>	: The relevant requirements of the Rules of Nippon Kaiji Kyokai
<b>Approved Drawings/Plans</b>	: 113200144
<b>Order No.</b>	: B1AK-II-0001
<b>Total set(s) of Product</b>	: 2

**Particulars:**

Model No.	: KHDM-500
Design pressure	: 1.1 MPa G
Design temperature	: 100 °C
Serial No.	: 130913/ 130914

**Test and Inspection**

Pneumatic Test Pressure (1.8 MPa G)	: Good
Visual Inspection	: Good

**Identification Mark**

For identification, the product(s) was/were stamped:

NK 1299 (P)

Surveyor, Jin seob  
Office: Busan Office





KYUNG NAM DRYER CO., LTD.

NK Reference No.:11420095701RD

Date: 2014 2. 10

Dear Sirs,

Please be informed that the drawing/document examination has been completed with the following comment(s).

**mitsubishi heavy industries, ltd. nagasaki shipyard & machinery works**  
**Hull No.2299**

Drawing No.: ---

Drawing Name: Desiccant (Heatless) Type CONTROL AIR DRYER

No.	Page	Comments	
1	KHDM-500FA-007	The carbon content not to exceed 0.35% for following parts in accordance with 11.1.2, Part D of NK Rules. •SS400 (NO.2 2:1 ELIP.HEAD)	*
2	3	Hydrostatic test of the safety valve to be carried out at 2.4MPa in accordance with 10.9.1-2.(2), Part D of NK Rules.	*

\* : Countermeasures to the comment(s) to be verified by attending surveyor.

If you have any question or require further assistance, please do not hesitate to contact our office.

Yours faithfully,



Y. SHIBATA

General Manager of Machinery Department

Certificate No. : FE14PS01949

Date : 10 March 2014

**CERTIFICATE**  
**for**  
**Chamber for Control Air Dryer**

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

**Manufacturer** : KYUNG NAM DRYER CO., LTD.  
**Place of Manufacturer** : 120-2, JANGGOK-RO, JORI-EUP, PAJU-SI, GYEONGGI-DO, KOREA  
**Applicant** : KYUNG NAM DRYER CO., LTD.  
**Place of Inspection** : Paju, Korea  
**Intended for** : MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No.2299  
**First Date of Inspection** : 10 March 2014  
**Final Date of Inspection** : 10 March 2014  
**Rules/Standards Applied** : The relevant requirements of the Rules of Nippon Kaiji Kyokai  
:  
**Order No.** : B1AK-NS-0025-0  
**Total set(s) of Product** : 4 pcs.

**Particulars:**

Model No. : KHDM-500  
Design pressure : 1.2 MPa  
Design temperature : 100 °C  
Serial No. : 140111/ 140112

**Test and Inspection**

Hydrostatic Test (1.8 MPa) : Good  
Visual Inspection : Good  
Review of material mill certificate : Good

**Identification Mark**

For identification, the product(s) was/were stamped:

MR 970 (P)


Surveyor, Y. H. SONG  
Office: Busan Office

KYUNG NAM DRYER CO., LTD.

NK Reference No.:11420095801RD

Date: 2014. 2. 5

Dear Sirs,

Please be informed that the drawing/document examination has been completed with the following comment(s).

**mitsubishi heavy industries, ltd. nagasaki shipyard & machinery works**  
**Hull No.2311**

Drawing No.: ---

Drawing Name: CONTROL AIR DRYER

No.	Page	Comments	
1	3/8	The Safety Valve of pressure vessels of Group II are to be subjected to hydrostatic test at 2.4 MPa. [10.9.1-2(2), Part D of NK Rules]	*

\* : Countermeasures to the comment(s) to be verified by attending surveyor.

If you have any question or require further assistance, please do not hesitate to contact our office.

Yours faithfully,



**Y. SHIBATA**

General Manager of Machinery Department

Certificate No. : FE14PS03224

Date : 28 April 2014

## CERTIFICATE for Chamber for Control Air Dryer

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

<b>Manufacturer</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Manufacturer</b>	: 120-2, JANGGOK-RO, JORI-EUP, PAJU-SI, GYEONGGI-DO, KOREA
<b>Applicant</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Inspection</b>	: Paju, Korea
<b>Intended for</b>	: MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No.2311
<b>First Date of Inspection</b>	: 28 April 2014
<b>Final Date of Inspection</b>	: 28 April 2014
<b>Rules/Standards Applied</b>	: The relevant requirements of the Rules of Nippon Kaiji Kyokai
<b>Order No.</b>	: MA5-PE6601-Rev1
<b>Total set(s) of Product</b>	: 4 pcs.

### Particulars:

Model No.	: KHDM-500
Design pressure	: 1.2 MPa
Design temperature	: 100 °C
Serial No.	: 140406/ 140407

### Test and Inspection

Hydrostatic Test (1.8 MPa)	: Good
Visual Inspection	: Good
Review of material mill certificate	: Good

### Identification Mark

For identification, the product(s) was/were stamped:

MR 1299 (P)

  
  
 Surveyor, Jin seob. Park  
 Office: Busan Office



Certificate No. : FE15PS04618

Date : 9 June 2015

## CERTIFICATE for Chamber for Control Air Dryer

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

<b>Manufacturer</b>	:	KYUNG NAM DRYER CO., LTD.
<b>Place of Manufacturer</b>	:	120-2, JANGGOK-RO, JORI-EUP, PAJU-SI, GYEONGGI-DO, KOREA
<b>Applicant</b>	:	KYUNG NAM DRYER CO., LTD.
<b>Place of Inspection</b>	:	Paju, Korea
<b>Intended for</b>	:	MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No.2310
<b>First Date of Inspection</b>	:	9 June 2015
<b>Final Date of Inspection</b>	:	9 June 2015
<b>Rules/Standards Applied</b>	:	The relevant requirements of the Rules of Nippon Kaiji Kyokai
<b>Order No.</b>	:	MA5-PE6601-Rev2
<b>Total set(s) of Product</b>	:	4 pcs.

### Particulars:

Model No.	:	KHDM-500
Design pressure	:	1.2 MPa
Design temperature	:	100 °C
Serial No.	:	150502/ 150503

### Test and Inspection

Hydrostatic Test (1.8 MPa)	:	Good
Visual Inspection	:	Good
Review of material mill certificate	:	Good

### Identification Mark

For identification, the product(s) was/were stamped:

MR 970 (P)


Surveyor, Y. H. SONG  
 Office: Busan Office

Certificate No. : FE15PS04618

Date : 9 June 2015

**CERTIFICATE**  
**for**  
**Chamber for Control Air Dryer**

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

**Manufacturer** : KYUNG NAM DRYER CO., LTD.  
**Place of Manufacturer** : 120-2, JANGGOK-RO, JORI-EUP, PAJU-SI, GYEONGGI-DO, KOREA  
**Applicant** : KYUNG NAM DRYER CO., LTD.  
**Place of Inspection** : Paju, Korea  
**Intended for** : MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No.2310  
**First Date of Inspection** : 9 June 2015  
**Final Date of Inspection** : 9 June 2015  
**Rules/Standards Applied** : The relevant requirements of the Rules of Nippon Kaiji Kyokai  
:  
**Order No.** : MA5-PE6601-Rev2  
**Total set(s) of Product** : 4 pcs.

**Particulars:**

Model No. : KHDM-500  
Design pressure : 1.2 MPa  
Design temperature : 100 °C  
Serial No. : 150502/ 150503

**Test and Inspection**

Hydrostatic Test (1.8 MPa) : Good  
Visual Inspection : Good  
Review of material mill certificate : Good

**Identification Mark**

For identification, the product(s) was/were stamped:

NR 970 (P)


Surveyor, Y. H. SONG  
Office: Busan Office

Certificate No. : FE15PS08871

Date : 28 December 2015

**CERTIFICATE**  
**for**  
**Chamber for Control Air Dryer**

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

<b>Manufacturer</b>	:	KYUNG NAM DRYER CO., LTD.
<b>Place of Manufacturer</b>	:	120-2, JANGGOK-RO, JORI-EUP, PAJU-SI, GYEONGGI-DO, KOREA
<b>Applicant</b>	:	KYUNG NAM DRYER CO., LTD.
<b>Place of Inspection</b>	:	Paju, Korea
<b>Intended for</b>	:	MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No.2316
<b>First Date of Inspection</b>	:	28 December 2015
<b>Final Date of Inspection</b>	:	28 December 2015
<b>Rules/Standards Applied</b>	:	The relevant requirements of the Rules of Nippon Kaiji Kyokai
<b>Approved Drawings/Plans</b>	:	115213160
<b>Order No.</b>	:	12316-PE66-001-REV.1
<b>Total set(s) of Product</b>	:	4

**Particulars**

Model No.	:	KHDM-500
Design Pressure	:	1.2 MPa
Design Temperature	:	100 °C
Serial No.	:	151237 / 151238

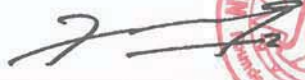
**Test and Inspection**

Hydraulic Test (1.8 MPa)	:	Good
Visual Inspection	:	Good
Review of Material mill certificate	:	Good

**Identification Mark**

For identification, the product(s) was/were stamped:

NR 1364 (P)

  
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Surveyor, NAM-HYUK IM  
Office: Busan Office





Certificate No. : **FE15PS08871**

Date : 28 December 2015

**CERTIFICATE**  
**for**  
**Chamber for Control Air Dryer**

THIS IS TO CERTIFY that the undersigned Surveyor to Nippon Kaiji Kyokai did at the request of the applicant, attend the testing and examination of the product(s) described below in accordance with the applicable rules/standards and found it/them satisfactory.

<b>Manufacturer</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Manufacturer</b>	: 120-2, JANGGOK-RO, JORI-EUP, PAJU-SI, GYEONGGI-DO, KOREA
<b>Applicant</b>	: KYUNG NAM DRYER CO., LTD.
<b>Place of Inspection</b>	: Paju, Korea
<b>Intended for</b>	: MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS, Ship No.2316
<b>First Date of Inspection</b>	: 28 December 2015
<b>Final Date of Inspection</b>	: 28 December 2015
<b>Rules/Standards Applied</b>	: The relevant requirements of the Rules of Nippon Kaiji Kyokai
<b>Approved Drawings/Plans</b>	: 115213160
<b>Order No.</b>	: 12316-PE66-001-REV.1
<b>Total set(s) of Product</b>	: 4

**Particulars**

Model No.	: KHDM-500
Design Pressure	: 1.2 MPa
Design Temperature	: 100 °C
Serial No.	: 151237 / 151238

**Test and Inspection**

Hydraulic Test (1.8 MPa)	: Good
Visual Inspection	: Good
Review of Material mill certificate	: Good

**Identification Mark**

For identification, the product(s) was/were stamped:

*NK* 1364 (P)

Surveyor, **NAM-HYUN**  
Office: **Busan Office**

