

# FINAL DWG.

JUL, 21, 2011

PURCHASER: TSUNEISHI HOLDINGS CORPORATION

CUSTOMER: TSUNEISHI HOLDINGS CORPORATION

PURCHASE ORDER NO. : SS102

⊙ HISAKA WORKS, LTD.

HEAT EXCHANGER DIV.  
2-1-48, Higashi Konoikecho,  
Higashi-Osaka City  
Osaka 578-0973 JAPAN  
TEL 072-966-9601  
FAX 072-966-8923

SHIP NO. : SS102

EQPT. NAME: M/E F. W. PREHEATER

ITEM NO. :

MFG NO. : 24-7455/24-7459/24-7463/24-7467/24-7471

MODEL: HISAKA PLATE HEAT EXCHANGER

LX-026B-TNHJMR-6

QUANTITY: 1 UNIT(S)/SHIP

No.	DWG. NAME	DWG. NO.	REV	REMARKS
1	PRINCIPAL ITEMS	M247455	1	
2	ASSEMBLY DRAWING	B247455		
3	PARTS LIST	PAR247455		
4	ACCESSORIES LIST	ACT247455		
5	TOOL LIST	TOL247455		
6				
7				
8				
9				
10				

1	MAR, 03, 2011	N. MURATA
REV	DATE	REVIEWED BY

HEADS VER. 200306

PRINCIPAL ITEMS OF PLATE TYPE HEAT EXCHANGER		DOC. No.	M247455
MFG. No. 24-7455/24-7459/ 24-7463/24-7467/ 24-7471	MODEL LX-026B-TNHJMR-6 EQPT. NAME M/E F.W.PREHEATER	QUANTITY	1 UNIT(S) /SHIP

1.

APPLICABLE CODE	NK	
SHIP No.	SS102	
HEAT TRANSFER AREA [m <sup>2</sup> ]	0.48	
HEAT EXCHANGED [kW]	116	
MASS [kg]	DRY	156
	WET	159

## 2. PARTICULAR SHEET OF BASIC PLAN

FLUID NAME	F. W.	STEAM
INLET TEMP [°C]	50.00	160.00
OUTLET TEMP [°C]	60.00	—
FLOW RATE	10.00 [m <sup>3</sup> /h]	200.57 [kg/h]
PRESSURE DROP [MPa]	0.031	—
DESIGN PRESS [MPaG]	0.47	0.69
DESIGN TEMP. [°C]	170.00	170.00
TEST PRESS (HYDR.) [MPaG]	0.71	1.04
HOLDING VOLUME [lit]	1.4	0.9

## 3. TOOL (PER UNIT)

NAME	No. REQ'D
SPANNER	1
BRUSH FOR CLEANING	1
GAUGE PLATE	1
CHAIN	—

## 4. ATTACHMENT (PER UNIT)

NAME	NO. REQ'D	
AIR VENT	—	
DRAIN BLOW	—	
NAME PLATE	1	
THERMOMETER	L type	—
	I type	—
STRAINER	—	
DUPLEX GAUGE	—	

## 5. PAINTING

SHIP No.	COLOR
SS099/SS104/SS105/SS101/SS102	MUNSELL No. 7.5BG7/2
SS100/SS103/SS106/SS107/SS108	SILVER (HEAT RESISTANCE PAINT)



APPROVED BY	J. NAKAMURA	APR, 06, 2010
REVIEWED BY	T. INOUE	APR, 06, 2010
PREPARED BY	K. SHIMODAN	APR, 06, 2010

REV. 1 MAR, 03, 2011 N. MURATA

SHEET No. 4

NOZZLE ORIENTATION		CONNECTION	
S3	F.W. INLET	JIS10K-50A	INCLUDE STUD B&N
S1	F.W. OUTLET	JIS10K-50A	INCLUDE STUD B&N
S2	STEAM INLET	JIS10K-50A	INCLUDE STUD B&N
S4	DRAIN OUTLET	JIS10K-50A	INCLUDE STUD B&N
MASS(EMPTY) 156 kg		MASS(FILLED) 159 kg	
ATTACHMENT RATCHET SPANNER M24		C.S. M24	1 PC
SET BOLT & NUT SS400		M20x80L	3 SETS
SHIP NO. SS099/SS104/SS105/SS101/SS102/SS100/SS103/SS106/SS107/SS108			
EQUIP. NAME M/E F.W.PREHEATER			
ITEM NO.			
APPLICABLE CODE NIK			

PART 7 FINISH: COATING OF ZINC & TIGHTENING BOLT WITH COVER

NO.	PART NAME	REQ'D	MATERIALS	REMARKS
11	S.NOZZLE	1	SUS316	
10	S.NOZZLE	1	SUS316	
9	S.NOZZLE	1	SUS316	
8	S.NOZZLE	1	SUS316	
7	TIGHTENING BOLT & NUT	8 SETS	SNB7/S45C M24x280L	
6	FRAME SUPPORT	1	SS400	
5	LOWER GUIDE BAR	1	SUS304	
4	UPPER GUIDE BAR	1	SUS304	
3	PLATE	6	SUS316	
2	E.FRAME	1	SS400	
1	S.FRAME	1	SS400	

PURCHASER	TSUNEISHI HOLDINGS CORPORATION	
CUSTOMER	TSUNEISHI HOLDINGS CORPORATION	
MFG. NO.	24-7455/24-7459/24-7463/24-7467/24-7471	
DESIGNED	K.SHIMODAN APR.06.2010	
DRAWN	K.SHIMODAN APR.06.2010	
CHECKED	T.INOUE APR.06.2010	
APPROVED	J.NAKAMURA APR.06.2010	
REV.	DATE	REVIEWED BY

QUANTITY	1	SHEET NO.	2
SCALE	NONE	THIRD ANGLE PROJ.	
NAME	LX-026B-TNH-JMR-6		
ASSEMBLY DWG. OF PLATE TYPE HEAT EXCHANGER	DWG. NO. B247455		

図面番号: SAKUBAN/247455/B247455\_R00  
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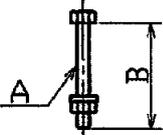
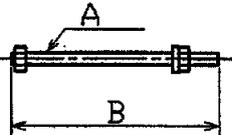
MFG.No.		PARTS LIST		Doc No.		PAR247455	
HISAKA PLATE HEAT EXCHANGER				SHIP No.		SS109/SS104/SS105/SS101/SS102/SS100/SS103/SS106/SS107/SS108	
MODEL LX-026B-TNHJMR-6				1UNIT(S)/SHIP		ITEM No.	
No.	PARTS NAME	SKETCH (DIMENSION SHOWS CENTER OF DIAMETER.)	MATERIAL	QUANTITY		REMARKS	
				WORK- ING PER 1 UNIT	SPARE PER 1 UNIT		
1	PLATE GASKET		A-EPDM	5	-		
2	D.PLATE GASKET (D-A)		EPDM	1	-	SET ON D.PLATE	
	E.PLATE GASKET (D-A)		-	-	-	SET ON E.PLATE BACK SIDE	
3	D.PLATE GASKET (D-B)		EPDM	1	-	SET ON D.PLATE	
	E.PLATE GASKET (D-B)		-	-	-	SET ON E.PLATE BACK SIDE	
4	E.PLATE GASKET (E)		NBR	4	-	SET ON E.PLATE BACK SIDE	
5	D.DISTANCE PIECE		NBR	1	-	SET ON D.PLATE	
	E.DISTANCE PIECE			1	-	SET ON E.PLATE BACK SIDE	
6	PLATE		SUS316	6	-	(LX-026A)	WITH GASKET
				-	-	(-)	
				-	-	(LX-026A)	WITHOUT GASKET
				-	-	(-)	
7							
8							

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APPROVED BY J.NAKAMURA APR,06,2010  
 PREPARED BY T.OHNOKI APR,06,2010

HISAKA WORKS, LTD.  
 OSAKA, JAPAN

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MFG.No.	24-7455/24-7459/ 24-7463/24-7467/ 24-7471	ACCESSORIES LIST			Doc No.	ACT247455
HISAKA PLATE HEAT EXCHANGER					SHIP No.	SS099/SS104/SS105/SS101/SS102/ SS100/SS103/SS106/SS107/SS108
MODEL LX-026B-TNHJMR-6			1UNIT(S)/SHIP		ITEM No.	
No.	PARTS NAME	SKETCH (Ø DIMENSION SHOWS CENTER OF DIAMETER)	MATERIAL	QUANTITY		REMARKS
				WORK- ING PER 1 UNIT	SPARE PER 1UNIT	
1	SET BOLT,NUT & WASHER		SS400	3 SET	-	A=M20 B=80
2	TIGHTENING BOLT & NUT		SNB7/S45C	8	-	A= M24 B= 300
3						
4						
5						
6						
7						
8						
APPROVED BY		J.NAKAMURA	APR,06,2010	HISAKA WORKS,LTD.		
PREPARED BY		T.OHNOKI	APR,06,2010	OSAKA,JAPAN		

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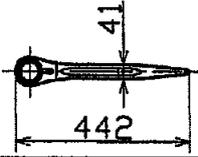
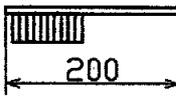
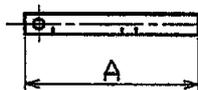
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MFG.No.	24-7455/24-7459/ 24-7463/24-7467/ 24-7471	TOOL LIST	Doc No.	TOL247455
HISAKA PLATE HEAT EXCHANGER			SHIP No.	SS109/SS104/SS105/SS101/SS102/ SS100/SS103/SS106/SS107/SS108
MODEL LX-026B-TNHJMR-6			ITEM No.	
			1UNIT(S)/SHIP	

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No.	PARTS NAME	SKETCH (Ø DIMENSION SHOWS CENTER OF DIAMETER.)	MATERIAL	QUANTITY		REMARKS
				WORK- ING PER 1 UNIT	SPARE PER 1 UNIT	
1	RATCHET SPANNER		C.S.	1	—	FOR M24  MASS 1.35kg
2	BRUSH FOR CLEANING		FIBER	1	—	
3	GAUGE PLATE		S.S.	1	—	A=170
4						
5						
6						
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PREPARED BY	T.OHNOKI	APR,06,2010	