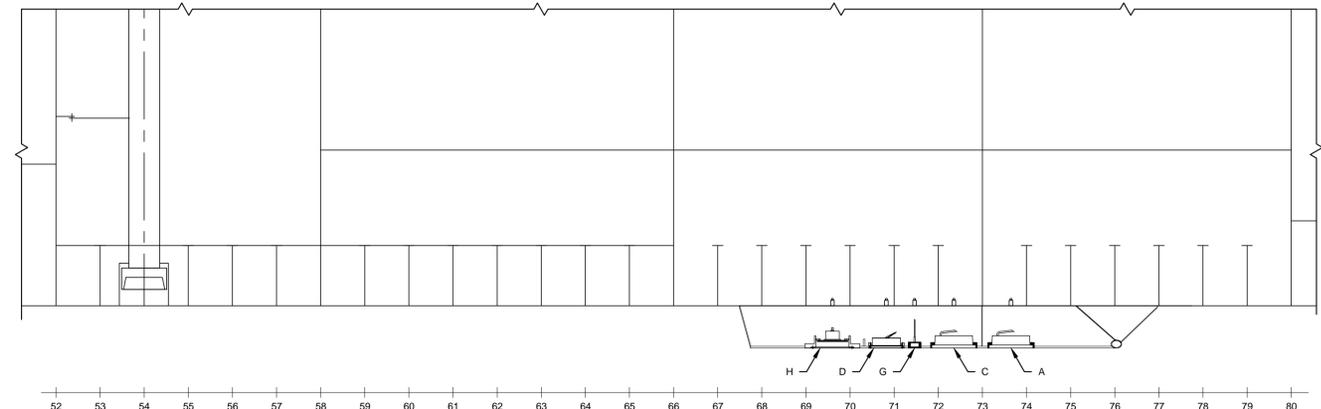


EXISTING TRANSDUCER ARRANGEMENT
BOTTOM SHELL PLAN VIEW

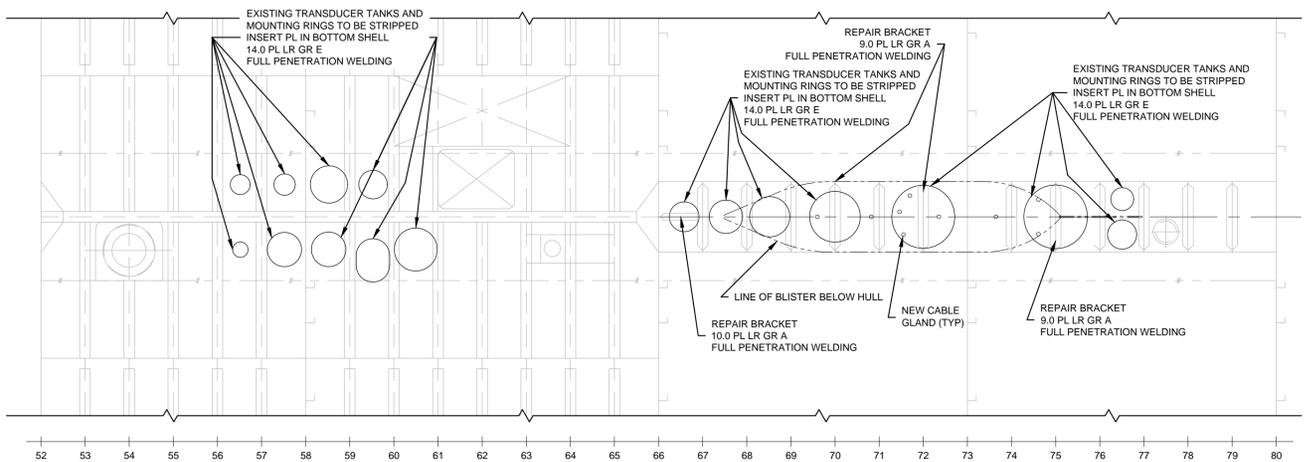
NEW TRANSDUCER ARRANGEMENT			
NO	VENDOR	TRANSDUCER	2017 REFIT ACTION
A	SIMRAD	12-16/60 12 kHz DUAL BEAM (16° & 60°)	RELOCATE TO BLISTER
B	SIMRAD	12 kHz SINGLE BEAM, RETRACTABLE RAM	NO ACTION
C	SIMRAD	ES18 18 kHz SPLIT BEAM (PART OF EK60 SUITE)	RELOCATE TO BLISTER
D	SIMRAD	ES38B 38 kHz SPLIT BEAM (PART OF EK60 SUITE)	RELOCATE TO BLISTER
E	SIMRAD	ES70-7C 70 kHz SPLIT BEAM (PART OF EK60 SUITE)	RELOCATE TO BLISTER
F	SIMRAD	ES120-7C 120 kHz SPLIT BEAM (PART OF EK60 SUITE)	RELOCATE TO BLISTER
G	SIMRAD	ES200-7C 200 kHz SPLIT BEAM (PART OF EK60 SUITE)	RELOCATE TO BLISTER
H	TELEDYNE	OCEAN SURVEYOR 75 kHz A.D.C.P.	RELOCATE TO BLISTER
I	SKIPPER	GDS 101 50 kHz BRIDGE ECHOSOUNDER	RELOCATE TO BLISTER
J	SKIPPER	GDS 101 200 kHz BRIDGE ECHOSOUNDER	RELOCATE TO BLISTER
6		MODEL 7511 100 kHz	REMOVE
7	AIRMAR	MODEL 200TSH 200 kHz	REMOVE
8	AIRMAR	MODEL 7426C 24 kHz	REMOVE
9	AIRMAR	MODEL 2572C 40 kHz	REMOVE
10	ROSS	P. #3342-1C 100 kHz	REMOVE
11	ROSS	P. #DE057 50 kHz	REMOVE
12	JRC	BRIDGE SOUNDER 28/200 kHz	REMOVE
13	ROSS	P. #2214-10 200 kHz (FARUNO)	REMOVE
16	ORE	MODEL TR 109 4x4 ARRAY 3.5 kHz	NO CHANGE
17		DOPPLER SONAR	NO CHANGE

- Vendor Information / Sous-traitant
- NOTES:
- ALL DIMENSIONS IN MM UNO
 - ALL MATERIAL LG GRADE A STEEL (OR EQUAL) UNO
 - ALL WELDING TO BE IN ACCORDANCE WITH CSA CWB W.59 STANDARDS
 - ALL WELDS TO BE GRIND SMOOTH
 - BOTTOM OF TRANSDUCER BLISTER IS TO BE FLAT WITH ZERO CONCAVITY, MAXIMUM 3mm CONVEXITY.
 - ALL TRANSDUCER CABLES TO BE ROUTED IN WATERTIGHT STEEL CONDUIT FROM THE HULL PENETRATION TO ABOVE THE VESSEL WATERLINE. MULTIPLE CABLES MAY BE ROUTED IN A SINGLE CONDUIT. MINIMUM CONDUIT WALL THICKNESS 6mm (4.5mm IF GALVANISED). REFER TO INSTALLATION MANUALS FOR GUIDANCE.
 -

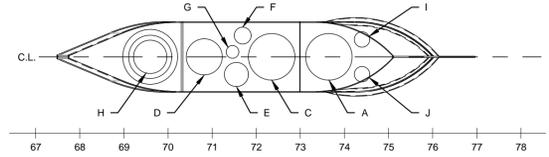


NEW TRANSDUCER ARRANGEMENT
CL ELEVATION

REFERENCE DOCUMENTS				
REF NO	VENDOR	SENSOR	DOCUMENT NUMBER	DOCUMENT TITLE
1	TELEDYNE	H OCEAN SURVEYOR 75KHZ ADCP	963-6004	OUTLINE/INSTALLATION, VM BB REPLACEMENT 75KHZ PHASED ARRAY
2	TELEDYNE	H OCEAN SURVEYOR 75KHZ ADCP	95A-6019-00	OCEAN SURVEYOR/OCEAN OBSERVER INSTALLATION GUIDE
3	SIMRAD	A 12-16/60 12KHZ C ES18 18KHZ D ES38B 38KHZ	820-088759	MOUNTING PROCEDURE - 12, 18 AND 38 KHZ TRANSDUCER IN STEEL BLISTER
4	SIMRAD	A 12-16/60 12KHZ C ES18 18KHZ	499-088814	MOUNTING RING - STEEL BLISTER TRANSDUCER 12 AND 18KHZ
5	SIMRAD	A 12-16/60 12KHZ C ES18 18KHZ	820-088815	MOUNTING ARRANGEMENT OF TRANSDUCER IN STEEL BLISTER
6	SIMRAD	A 12-16/60 12KHZ C ES18 18KHZ	830-107783	OUTLINE DIMENSIONS - TRANSDUCER 12 AND 18KHZ
7	SIMRAD	A 12-16/60 12KHZ C ES18 18KHZ D ES38B 38KHZ E ES70-7C 70KHZ F ES120-7C 120KHZ G ES200-7C 200KHZ	N/A	ECHO SOUNDER TRANSDUCERS - INSTALLATION MANUAL
8	SIMRAD	A 12-16/60 12KHZ	N/A	12KHZ DUAL BEAM TRANSDUCER SPECIFICATION SHEET
9	SIMRAD	A 12-16/60 12KHZ	341962.000	12-16/60 MATERIAL DECLARATION
10	SIMRAD	A 12-16/60 12KHZ	824-089548	TRANSDUCER 12-16/60 CONNECTION EA500
11	SIMRAD	C ES18 18KHZ	N/A	18KHZ DUAL BEAM TRANSDUCER SPECIFICATION SHEET
12	SIMRAD	C ES18 18KHZ	377647.000	ES18 MATERIAL DECLARATION
13	SIMRAD	D ES38B 38KHZ	499-074076	MOUNTING RING TRANSDUCERS 38-7/ES38
14	SIMRAD	D ES38B 38KHZ	820-074544	MOUNTING OF TRANSDUCER 38-7 AND ES 38-B IN STEEL BLISTER
15	SIMRAD	D ES38B 38KHZ	830-074647	OUTLINE DIMENSIONS TRANSDUCER ES38-B AND 38-7-E
16	SIMRAD	D ES38B 38KHZ	N/A	SIMRAD ES38B SPECIFICATION SHEET
17	SIMRAD	D ES38B 38KHZ	820-206574	MOUNTING OF SUPPORT CHANNEL ES38-B 38-7
18	SIMRAD	D ES38B 38KHZ	830-206576	DRILLING TEMPLATE ES38-B, 38-7
19	SIMRAD	D ES38B 38KHZ	338462.000	SIMRAD ES38B INSTALLATION MANUAL
20	SIMRAD	D ES38B 38KHZ	N/A	ES38B MATERIAL DECLARATION
21	SIMRAD	E ES70-7C 70KHZ	N/A	ES70-7C SPECIFICATION SHEET
22	SIMRAD	E ES70-7C 70KHZ F ES70-7C 70KHZ	834-204603	OUTLINE DIMENSIONS TRANSDUCER ES70-7C
23	SIMRAD	F ES120-7C 120KHZ G ES200-7C 200KHZ	820-204678	MOUNTING ARRANGEMENT OF TRANSDUCER IN STEEL BLISTER
24	SIMRAD	E ES70-7C 70KHZ	871-204718	CLAMPING RING TRANSDUCER ES70-7C
25	SIMRAD	E ES70-7C 70KHZ	871-204716	MOUNTING RING TRANSDUCER ES70-7C
26	SIMRAD	E ES70-7C 70KHZ	307324.000	SIMRAD ES70-7C INSTALLATION MANUAL
27	SIMRAD	E ES70-7C 70KHZ	N/A	ES70-7C MATERIAL DECLARATION
28	SIMRAD	F ES120-7C 120KHZ	N/A	ES120-7C SPECIFICATION SHEET
29	SIMRAD	F ES120-7C 120KHZ	834-204579	OUTLINE DIMENSIONS TRANSDUCER ES120-7C
30	SIMRAD	F ES120-7C 120KHZ	871-204675	MOUNTING RING TRANSDUCER ES120-7C
31	SIMRAD	F ES120-7C 120KHZ	871-204677	CLAMPING RING TRANSDUCER ES120-7C
32	SIMRAD	F ES120-7C 120KHZ	330254.000	SIMRAD ES120-7C INSTALLATION MANUAL
33	SIMRAD	F ES120-7C 120KHZ	N/A	ES120-7C MATERIAL DECLARATION
34	SIMRAD	G ES200-7C 200KHZ	871-204449	MOUNTING RING TRANSDUCER ES200-7C
35	SIMRAD	G ES200-7C 200KHZ	871-204451	CLAMPING RING TRANSDUCER ES200-7C
36	SIMRAD	G ES200-7C 200KHZ	N/A	ES200-7C SPECIFICATION SHEET
37	SIMRAD	G ES200-7C 200KHZ	834-204671	OUTLINE DRAWING TRANSDUCER ES200-7C
38	SIMRAD	G ES200-7C 200KHZ	307120.000	SIMRAD ES200-7C INSTALLATION MANUAL
39	SIMRAD	G ES200-7C 200KHZ	N/A	ES200-7C MATERIAL DECLARATION
40	SKIPPER	I SKIPPER 50 KHZ J SKIPPER 200 KHZ	DM-BETNST-SA	STANDARD STEEL TANK ETNST INSTALLATION MANUAL
41	SKIPPER	I SKIPPER 50 KHZ J SKIPPER 200 KHZ	TC 2002	ETNST TRANSDUCER TANK COMBO
42	SKIPPER	I SKIPPER 50 KHZ J SKIPPER 200 KHZ	12042013.000	MATERIAL DECLARATION SKIPPER TANK ETNSTXX/ETNSTCXX 12042013
43	SKIPPER	I SKIPPER 50 KHZ J SKIPPER 200 KHZ	DM-G001-SB	GDS101 OPERATION AND INSTALLATION MANUAL



NEW TRANSDUCER ARRANGEMENT
BOTTOM SHELL PLAN VIEW



NEW TRANSDUCER ARRANGEMENT
BLISTER BOTTOM PLAN VIEW

rev	description	IGM	date
0	INITIAL ISSUE		2016-12-23
1	Asset - Actif		

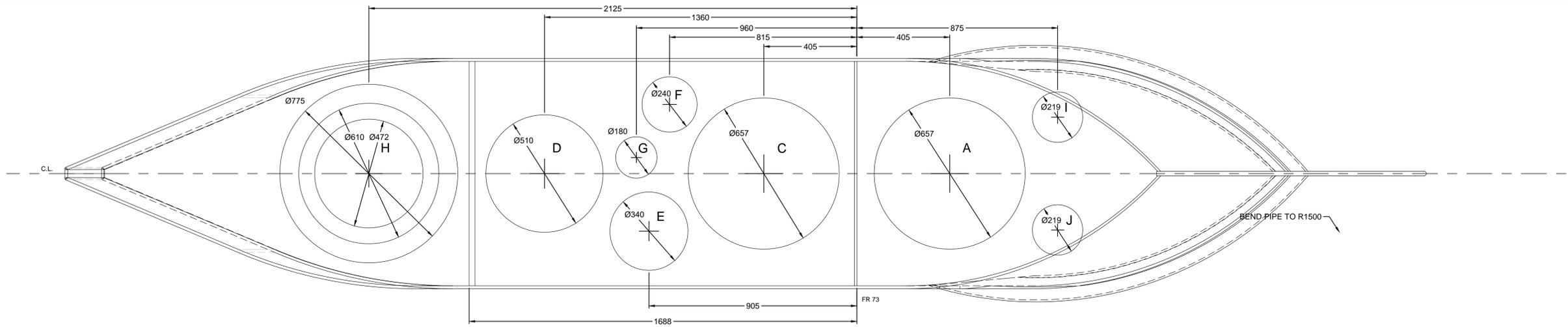
CCGS JOHN P. TULLY

TRANSDUCER BLISTER

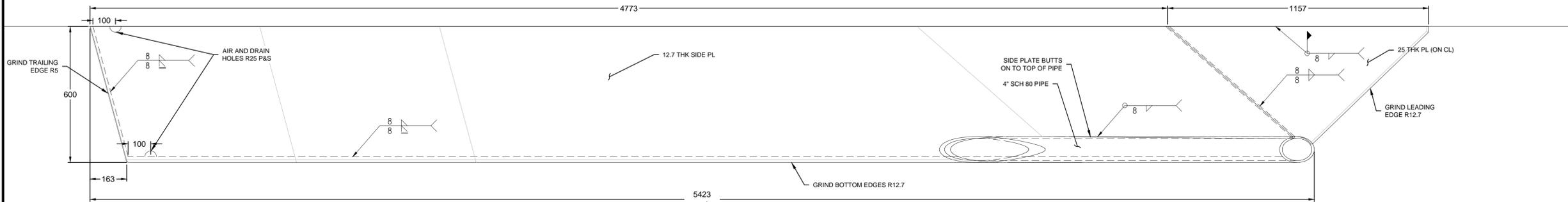
Drawing - Dessin

OVERVIEW OF MODIFICATIONS

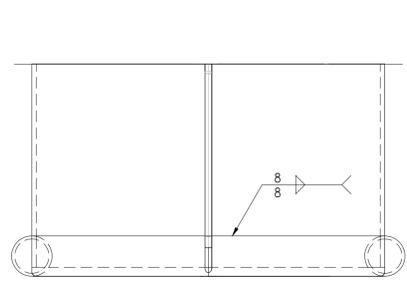
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3GA MARINE LTD	2016-12-23	
drawn - dessin	date	
IGM	2016-12-23	
checked - vérifié	date	
DM	2016-12-23	
approved - approuvé	date	
DM	2016-12-23	
CCG ref. no. - no. réf. GCC	scale - échelle	
F7049-160273	1:50 UNO	
drawing no. - no. dessin	sheet-feuille	rev-rév
J12-15-68M-428-01	01/03	0



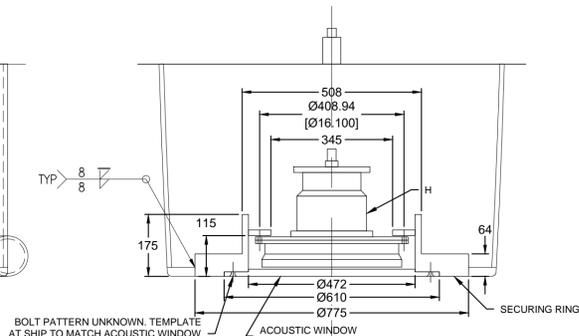
TRANSDUCER BLISTER
PLAN VIEW



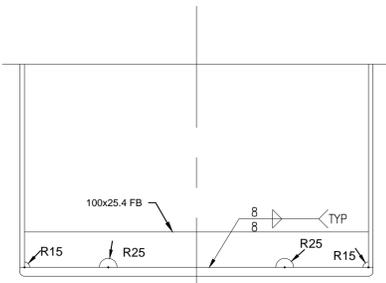
TRANSDUCER BLISTER
ELEVATION VIEW



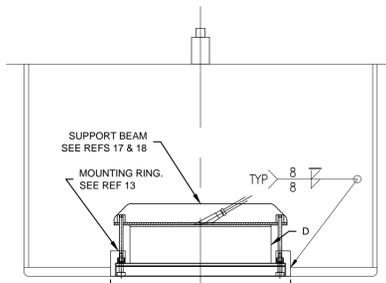
TRANSDUCER BLISTER
LOOKING AFT



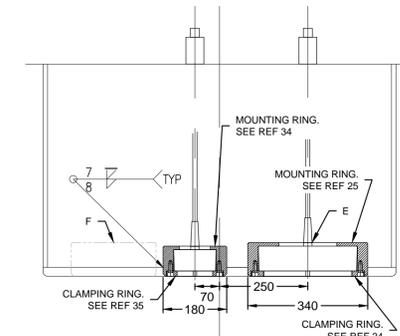
TRANSDUCER H
LOOKING FORWARD
SEE REF 2 FOR INSTALLATION



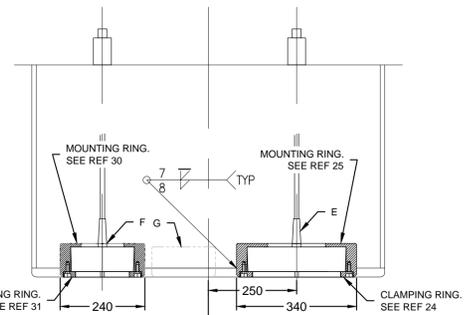
SECTION 1688 AFT FR 73
LOOKING FORWARD



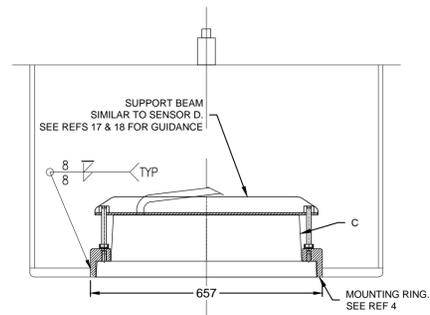
TRANSDUCER D
LOOKING FORWARD
SEE REFS 3, 7, 14, 17, 18, 19 FOR INSTALLATION



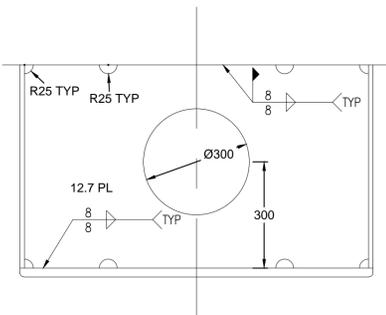
TRANSDUCERS E AND G
LOOKING FORWARD
SEE REFS 7, 23, 26, 38 FOR INSTALLATION



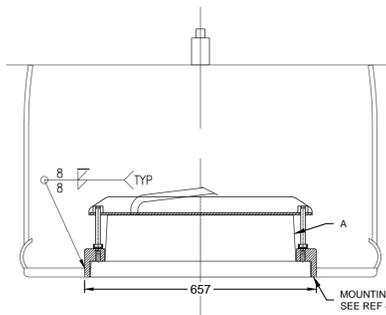
TRANSDUCERS E AND F
LOOKING FORWARD
SEE REFS 7, 23, 26, 32 FOR INSTALLATION



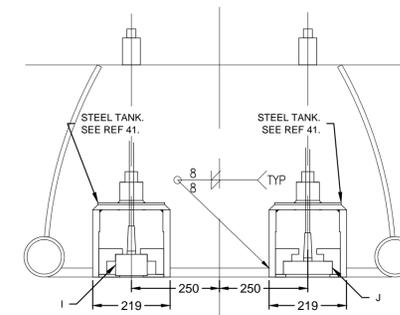
TRANSDUCER C
LOOKING FORWARD
SEE REFS 3, 5, 7 FOR INSTALLATION



SECTION AT FR 73
LOOKING FORWARD



TRANSDUCER A
LOOKING FORWARD
SEE REFS 3, 5, 7, 10 FOR INSTALLATION



TRANSDUCERS I AND J
LOOKING FORWARD
SEE REFS 40 AND 43 FOR INSTALLATION

0	INITIAL ISSUE	IGM	2016-12-23
rev	description	by	date

Asset - Actif
CCGS JOHN P. TULLY
TRANSDUCER BLISTER

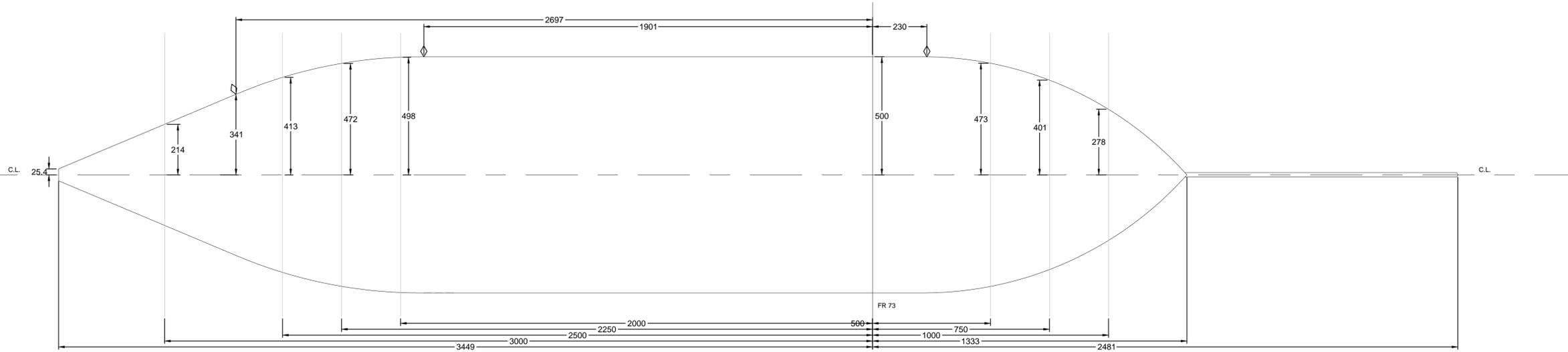
Drawing - Dessin
TRANSDUCER BLISTER
ARRANGEMENT DETAILS

designed - conception	date
3GA MARINE LTD	2016-12-23
drawn - dessiné	date
IGM	2016-12-23
checked - vérifié	date
DM	2016-12-23
approved - approuvé	date
DM	2016-12-23

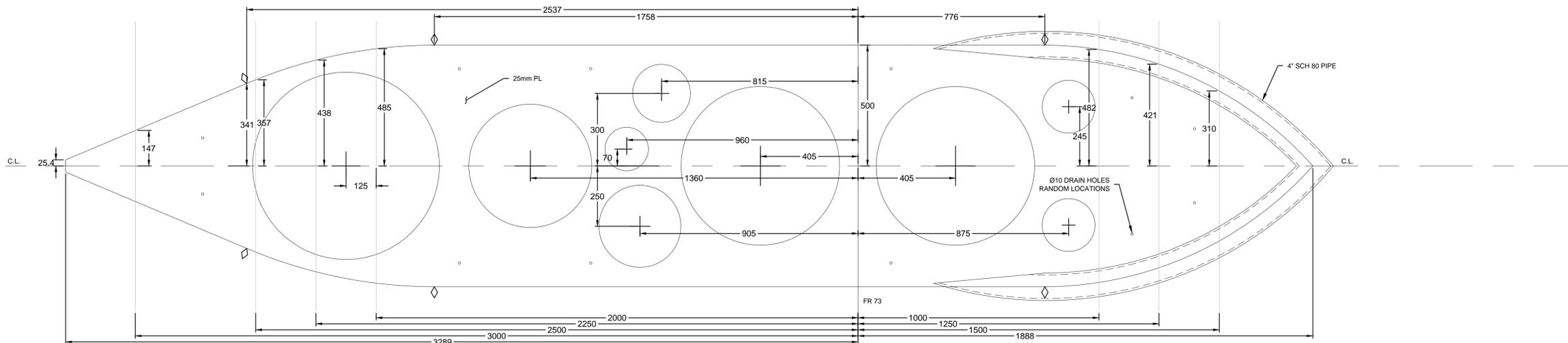
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J12-15-68M-428-01	02/03

Vendor Information / Sous-traitant

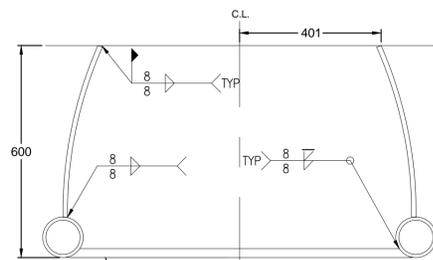
J12-15-68M-428-01



TRANSDUCER BLISTER
PLAN VIEW AT TOP OF BLISTER
(AT SHIPS KEEL)



TRANSDUCER BLISTER
PLAN VIEW AT BOTTOM OF BLISTER
(600 BELOW SHIP'S KEEL)



TRANSDUCER BLISTER
SECTION VIEW
750 FWD FR 73

BOTTOM PLATE TO BE COMPLETELY FLAT WITH ZERO CONCAVITY. MAXIMUM 3mm CONVEXITY. SMALL HOLLOWES (MAXIMUM 1mm) ARE ACCEPTABLE. ALL WELDS TO BE GRIND SMOOTH. ALL WELD SPATTER TO BE REMOVED. ALL BOLT HOLES TO BE FILLED WITH REMOVABLE PUTTY. PUTTY TO BE EVEN AND SMOOTH AS POSSIBLE

0	INITIAL ISSUE	IGM	2016-12-23
rev	description	by	date
Asset - Actif			
CCGS JOHN P. TULLY			
TRANSDUCER BLISTER			
Drawing - Dessin			
TRANSDUCER BLISTER FABRICATION DETAILS			
designed - conception		date	
3GA MARINE LTD		2016-12-23	
drawn - dessiné		date	
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drawing no. - no. dessin		sheet-feuille	rev-rév
J12-15-68M-428-01		03/03	0

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