



14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4
Tel.: 416.734.3300
Fax: 416.231.1626
Toll Free: 1.877.682.8772

www.tssa.org

October 28, 2011

MATT MCNAMARA
ARMSTRONG INTERNATIONAL
816 MAPLE ST
THREE RIVERS MI 49093
US

Service Request Type: BPV-Fitting Registration
Service Request No.: 642870
Your Reference No.: CAT H FITTING- PUMP TRAP-PT-104

Dear MATT MCNAMARA,

Technical Standards and Safety Authority (TSSA) is pleased to inform you that your submission on August 10, 2011 has been reviewed and registered as follows:

CRN No.: 0H14860.5
Reference No.: CAT H FITTING- PUMP TRAP-PT-104
Main Design No.: PT-104 REV B
Expiry Date: 28-Oct-2021

Please be advised that a valid quality control system must be maintained for the fitting registration to remain valid until the expiry date.

CRN Note: See attached "Part of CRN" for the scope.

A stamped copy of the approved registration and invoice for engineering services will be mailed to you shortly. Should you have any questions or require further assistance, however, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail customerservices@tssa.org. We will be happy to assist you. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Charley Dong, P.Eng.

Tel.: 416-734-3436
Fax: 416-231-6183
Email: cdong@tssa.org

Garvey



Technical Standards and Safety Authority
14th Floor - Centre Tower
3300 Bloor Street West
Toronto, Ontario M8X 2X4
Customer Service: 1.877.682.8772
Fax: 416.231.6183
www.tssa.org



**National Design Registration
Application for a CRN**
Technical Standards and Safety Act
Boilers and Pressure Vessels Regulation

INTAKE GROUP	
Date:	<u>642870 (CMT)</u>
SR #:	<u>642870 (CMT)</u>
Agent:	<u>642876 (DISC)</u>

Date of Application (mm/dd/yyyy): 07/29/2011

Expedited Service (please attached request form)

Please indicate the type of design: Boiler Pressure Vessel Fitting

Existing CRN: _____ (if applicable)

Section A: Submitter Company Name: Armstrong International Inc. Address: 816 Maple St City/Town: Three Rivers Province/State: Michigan Postal/Zip Code: 49093 Country: USA Telephone: 269-279-3144 Fax: 269-278-6555 Contact Name: Matt McNamara E-mail: matt@armstronginternational.com Job No./Reference: Drawing/Catalog No.: PT-104	Section B: Invoicee Company Name: Address: City/Town: Province/State: Postal/Zip Code: Country: Telephone: Fax: Contact Name: E-mail: Purchase Order No.: Acct/Cust No.: <u>A20308 C51692</u>	Same as: <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
---	---	---

Section C: Owner of Design/CRN Company Name: Address: City/Town: Province/State: Postal/Zip Code: Country: Telephone: Fax: Contact Name: E-mail: Acct/Cust No.:	Section D: Manufacturer (If more then one please attach list) Company Name: Address: City/Town: Province/State: Postal/Zip Code: Country: Telephone: Fax: Contact Name: E-mail: Acct/Cust No.:	Same as: <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C
--	--	--

Registration required in the following jurisdictions:

<input checked="" type="checkbox"/> Ontario	<input checked="" type="checkbox"/> Saskatchewan	<input checked="" type="checkbox"/> New Brunswick	<input checked="" type="checkbox"/> Newfoundland and Labrador
<input checked="" type="checkbox"/> British Columbia	<input checked="" type="checkbox"/> Manitoba	<input checked="" type="checkbox"/> Nova Scotia	<input checked="" type="checkbox"/> Yukon
<input checked="" type="checkbox"/> Alberta	<input checked="" type="checkbox"/> Quebec	<input checked="" type="checkbox"/> Prince Edward Island	<input checked="" type="checkbox"/> Northwest Territories
			<input checked="" type="checkbox"/> Nunavut

Deposit included: CDN \$600.00 - Ontario and up to 2 additional provinces CDN \$1,200.00 - Ontario and 3 or more additional provinces

Cheque No. 130201 Amount \$ 1,200.00

(Deposit to be applied to the incurred fees when all jurisdictions are complete – any charges over and above deposit amount will be invoiced at that time.)

Return mail address: A B C Optional: Courier Collect Courier name: _____
Account No.: _____

Signed: *Matt McNamara* Date (mm/dd/yyyy): 08/01/11

Date: <u>08-28-11</u> (mm/dd/yyyy)	Reviewing Engineer: <u><i>Chantel Day</i></u>	CRN Issued: <u>0114360-5</u>
---------------------------------------	---	------------------------------



TECHNICAL STANDARDS &
SAFETY AUTHORITY
14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below



STATUTORY DECLARATION Registration of Fittings

I, Andy Schirk, QA Manager
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of Armstrong International Inc
(Name of Manufacturer)

Located at 816 Maple St., Three Rivers, MI 49093 269-273-1415 269-278-6555
(Plant Address) (Telephone No.) (Fax No.)

do solemnly declare that the fittings listed hereunder, which are subject to the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, comply with all of the requirements of ASME B31.3
(Title of recognized North American Standard)

which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;

or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with _____ as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of ISO9001:2008 which has been verified by the following authority, HSB Registration Services.

The items covered by this declaration, for which I seek registration, are category H type fittings. In support of this application, the following information and/or test data are attached as follows:
drawings pt104, tensile test reports, burst test report, calculation
(drawings, calculations, test reports, etc.)

Declared before me at Three Rivers, MI in the County of St. Joseph
the 1st day of August AD 2011.

Commissioner ROBERTA M. RYAN
Notary Public, St. Joseph County, MI
My Commission Expires Sept. 13, 2011
(Printed name)

Roberta M. Ryan
(Signature)

Andy Schirk
(Signature of Declarant)



FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, and CSA Standard B51 and is accepted for registration in Category H

CRN: 0H14860.5

Registered by: Charley Doug

Dated: Oct. 28/11

NOTE: This registration expires on Oct. 28, 2021

NOTE: SEE ATTACHED
PART OF CRN'S
FOR THE SCOPE.
CXP
TSSA
Oct. 28/11

Technical Standards and Safety Authority

REGISTERED

C.R.N.: 0H14860.5

Signed: Charley Doug

Date: Oct. 28/11



Armstrong Steam and Condensate Group

816 Maple St, Three Rivers, Michigan 49093 – U.S.A. Phone: (269) 273-1415 • Fax: (269) 278-6555

July 7, 2011

Re: Burst Calculation

Product: PT104

Body Material: Cast Iron per ASTM A48 CL 30

Bolting Material: Carbon Steel, SA449

Design conditions: 90 psi at 406 F

$$(P1)(7.5)(AT/MT) = P2$$

P1 = pressure rating of casting

7.5 = safety factor

AT = average tensile strength of test bars

MT = spec tensile strength

Given: castings were hydro-tested to 960 psi

Tensile strength: $41,300 + 40,900 + 40,900 + 39,600 + 42,000 / 5$

Average tensile strength: 40,900 psi

$$(P1)(7.5)(33,869 / 30,000) = 960$$

P1 = 93 psi

Criteria

P1 > 90 satisfied



DIMENSIONS & DATA CERTIFIED FOR:

Representative: _____

Order: _____

Customer: _____

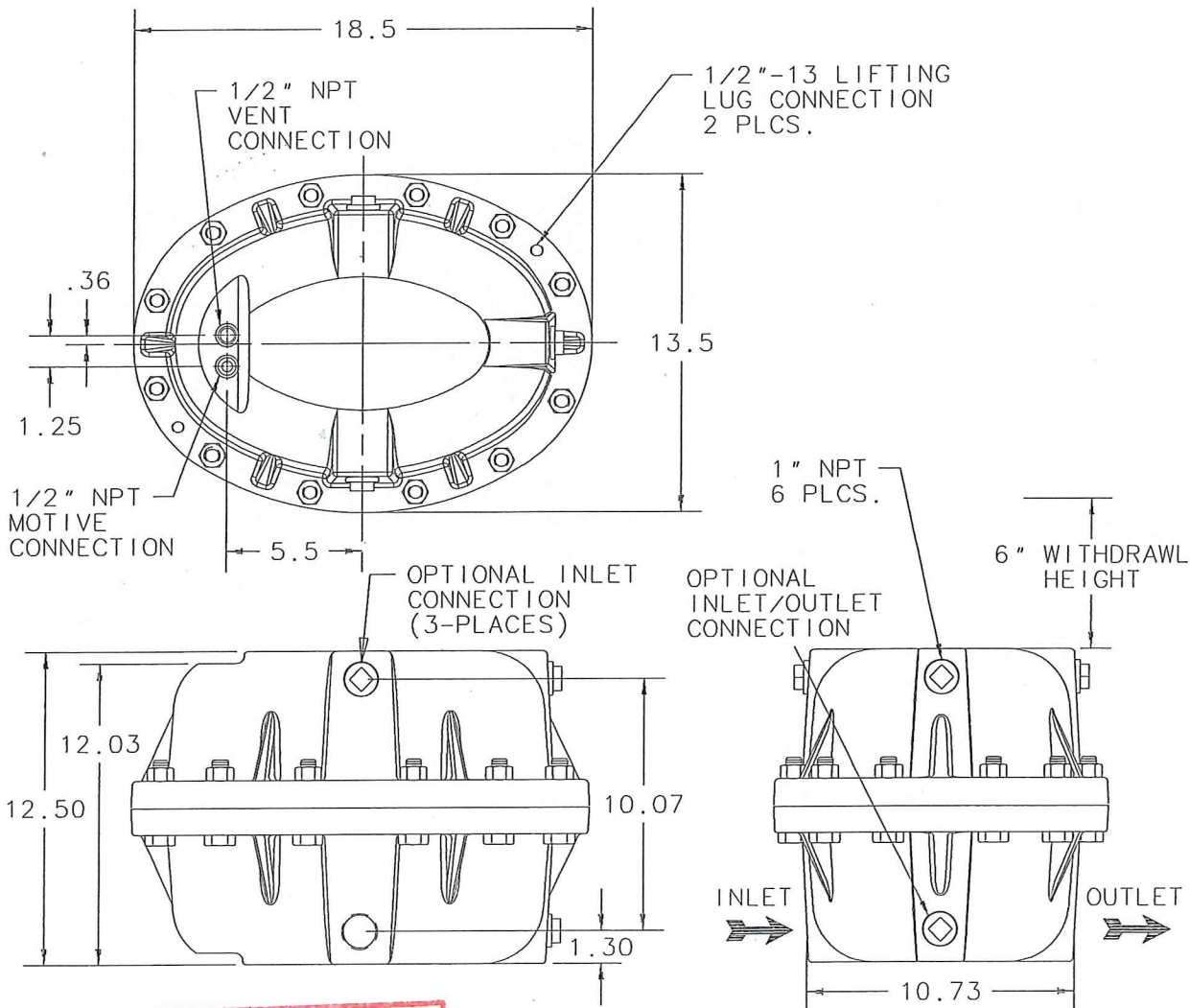
Order: _____

Project: _____

Requirements: _____

By: _____

Date: _____



THIS IS PART OF
CRN 0H14860-5
Technical Standards & Safety Authority
Boilers & Pressure Vessels
Safety Division

Armstrong Fluid Handling, Inc. Three Rivers, MI. 49093 Telephone (269) 278-6500 Fax (269) 279-3150		
Product	CDF No.	Date
PUMP TRAP PT-104	CDF 1028	10/9/02
		Rev. B