



Pressure Vessel Engineering Ltd.

120 Randall Drive Suite B, Waterloo, Ontario, Canada, N2V 1C6
Phone: 519-880-9808 • Fax: 519-880-9810 • Web: www.pveng.com

Pressure Vessel Engineering
120 Randall Drive, Suite B
Waterloo, Ontario
N2V 1C6

Oct 21, 2020

Caloris Engineering
8649 Commerce Drive
Easton, MD
21601, USA

Drawing #: M877-8469
PVEng Reference #: PVEng 15912
Dear Mullhausen, David

Please find enclosed the following documentation in regards to your CRN application.

1. CRN acceptance letter
2. CRN stamped paperwork

If you have any questions regarding this project, please contact me.

Best Regards,

Catherine Diplock

Catherine Diplock
519-880-9808 x226
cmd@pveng.com

A decorative graphic at the bottom of the page consisting of a thick diagonal bar. The upper portion of the bar is black, and the lower portion is a vibrant red, creating a modern, abstract look.



Inspection and Technical Services Manitoba
Municipal Relations

Winnipeg Manitoba R3C 0P8
T (204) 945-3373
F (204) 948-2309
firecomm.gov.mb.ca/itsm_steam_pressure.html

October 8, 2020

Pressure Vessel Engineering Ltd.
120 Randal Drive, Suite B
Waterloo, ON
N2V 1C6

Attention: Catherine Diplock

REGISTRATION OF DESIGN

Manufacturer: Seitz Stainless

The design(s) for the following Valves/Fittings has been received by us and has been examined and accepted for registration in the Province of Manitoba as follows.

| MAIN DRAWING | REVISION | CRN | PRESSURE | TEMPERATURE | FILE |
|--------------|----------|----------|----------|-------------|-------|
| M877-8469 | B | 0H7066.4 | 50 PSIG | 300 °F | 40518 |

An invoice covering survey and registration fees is enclosed.

NOTE:

1. This registration expires Oct 08, 2030.
2. Items PI44, PI45, PI46, STR02, & ST01 shall have a valid CRN with the province of Manitoba.
3. The approved weld sizes are validated in calculation package 15912c-1 R0

This registration is valid until the indicated expiry date only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date. Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

The registration of this design does not relieve the manufacturer, the owner or his agent of the responsibility for the design or construction of a fitting in accordance with the applicable Acts, Codes and Standards. Inspection and Technical Services assumes no responsibility by registering designs, examining plans and/or inspecting equipment or facility.

Regards,

Mohamed Elsayed, P.Eng, PMP, LSSGB

Inspector & Design Surveyor

Inspection and Technical Services

Municipal Relations

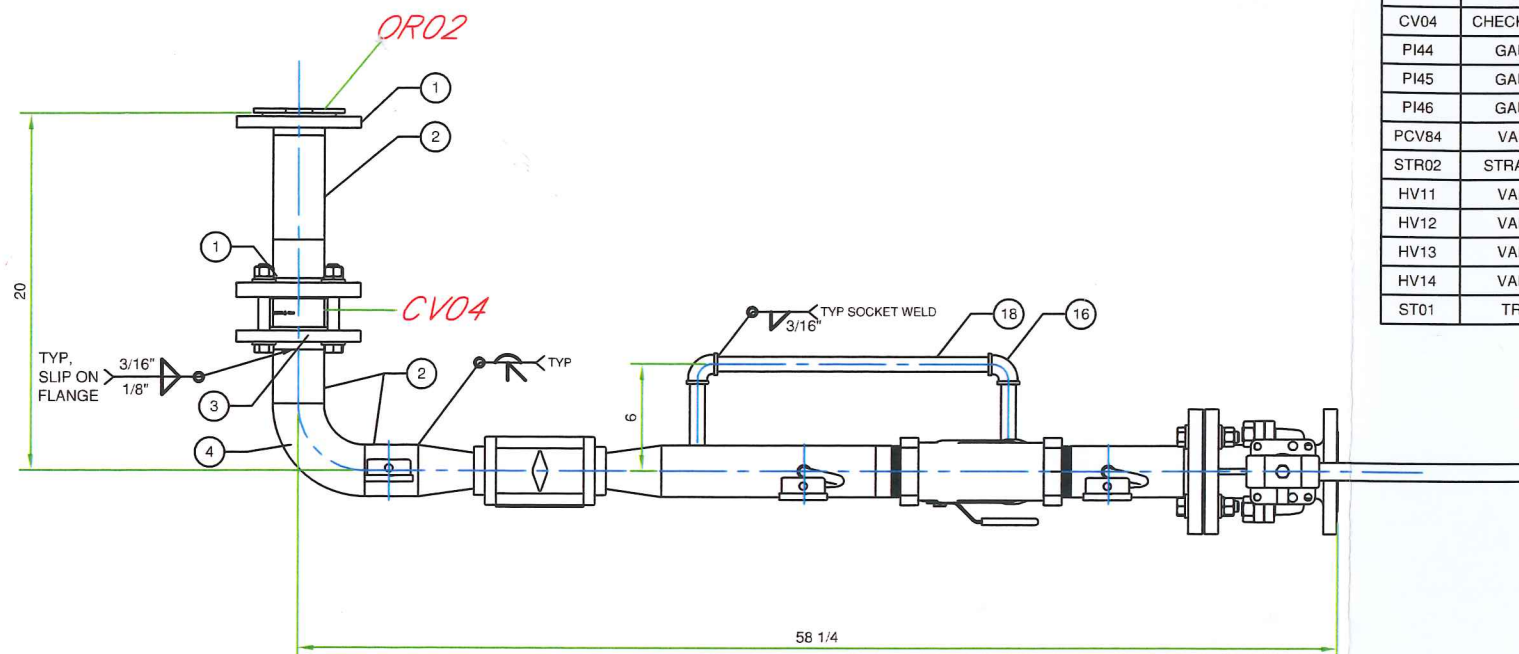
508 - 401 York Avenue

Winnipeg, Manitoba, R3C 0P8

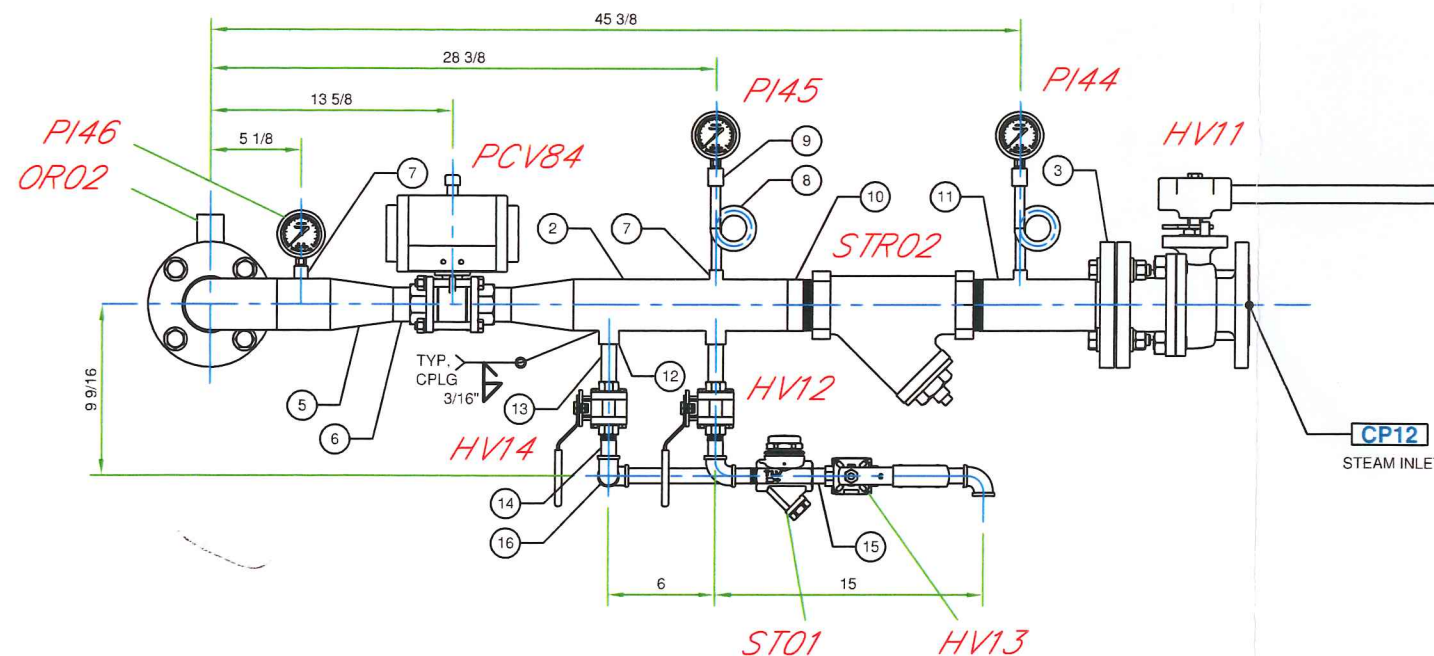
Email: Mohamed.Elsayed@gov.mb.ca

Cell: (204) 794-3534

Website: http://www.firecomm.gov.mb.ca/itsm_steam_pressure.html

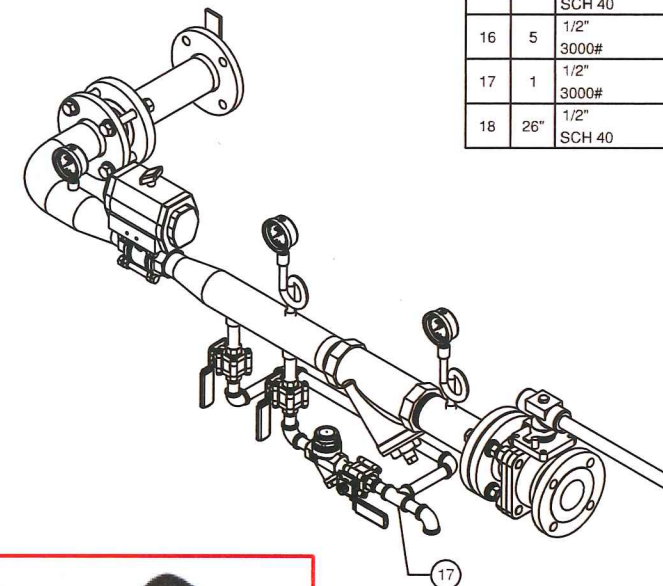


PLAN VIEW



ELEVATION

| COMPONENTS | | | | | |
|------------|-------------|-----------------|------------------|-------------|-----------------|
| TAG | DESCRIPTION | MANUFACTURE | PART NUMBER | CRN / ASME | PRESSURE / TEMP |
| OR02 | ORIFICE | SEITZ STAINLESS | M877-3643C | CALCULATED | N/A |
| CV04 | CHECK VALVE | TLV | CKF3MG | ASME B16.34 | N/A |
| PI44 | GAUGE | REOTEMP | PR25S1A4P04 | 0F7377.54 | 78 PSI @ 400°F |
| PI45 | GAUGE | REOTEMP | PR25S1A4P04 | 0F7377.54 | 78 PSI @ 400°F |
| PI46 | GAUGE | REOTEMP | PR25S1A4P04 | 0F7377.54 | 78 PSI @ 400°F |
| PCV84 | VALVE | TRIAC | V8-TS-150/2R5S | ASME B16.34 | N/A |
| STR02 | STRAINER | APOLLO | 59-009-01 | 0E8959.54 | 125 PSI @ 350°F |
| HV11 | VALVE | ANIX | FBV42R6F/150/250 | ASME B16.34 | N/A |
| HV12 | VALVE | ANIX | BVH13R6N/1000/50 | ASME B16.34 | N/A |
| HV13 | VALVE | ANIX | BVH13R6N/1000/50 | ASME B16.34 | N/A |
| HV14 | VALVE | ANIX | BVH13R6N/1000/50 | ASME B16.34 | N/A |
| ST01 | TRAP | TLV | P46SRN | 0E20629.54 | 46 barg @ 550°C |



| BILL OF MATERIAL | | | | |
|------------------|-----|---------------------------|---|---------------------|
| ITEM | QTY | SIZE TYPE | DESCRIPTION DIMENSIONS | PART NO MATERIAL |
| 1 | 2 | 2 1/2" IPS | 150# STUB END / BACK UP FLANGE ASME B16.5 STANDARD | A-182 F 304 |
| 2 | 28" | 2 1/2" SCH 10 | PIPE, CUT AS REQUIRED ASME B36.19 STANDARD | A-312 TP 304 |
| 3 | 2 | 2 1/2" IPS | 150# SLIP ON FLANGE ASME B16.5 STANDARD | A-182 F 304 |
| 4 | 1 | 2 1/2" SCH 10 | 90 DEGREE ELBOW ASME B16.9 STANDARD | A403-WP304 |
| 5 | 2 | 2 1/2" X 1 1/2" SCH 10 | CONCENTRIC REDUCER ASME B16.9 STANDARD | A403-WP304 |
| 6 | 2 | 1 1/2" SCH 40 | HALF NIPPLE, 2" LG ASME B1.20.1 STANDARD | A-312 TP 304 |
| 7 | 3 | 1/4" NPT | 3000# HALF COUPLING | A182 F304 |
| 8 | 2 | 1/4" NPT | STEAM PIGTAIL, SCH 40 PIPE ASTM A312 STANDARD | A-312 TP 304 |
| 9 | 2 | 1/4" NPT | 3000# FULL COUPLING | A182 F304 |
| 10 | 1 | 2 1/2" SCH 40 | HALF NIPPLE, 2 1/2" LG ASME B1.20.1 STANDARD | A-312 TP 304 |
| 11 | 1 | 2 1/2" SCH 40 | HALF NIPPLE, 9" LG ASME B1.20.1 STANDARD | A-312 TP 304 |
| 12 | 2 | 1/2" NPT | 3000# HALF COUPLING | A182 F304 |
| 13 | 2 | 1/2" SCH 40 | FULL NIPPLE, 3" LG ASME B1.20.1 STANDARD | A-312 TP 304 |
| 14 | 4 | 1/2" SCH 40 | HALF NIPPLE, 2" LG ASME B1.20.1 STANDARD | A-312 TP 304 |
| 15 | 1 | 1/2" SCH 40 | FULL NIPPLE, 1 1/2" LG ASME B1.20.1 STANDARD | A-312 TP 304 |
| 16 | 5 | 1/2" 3000# | 90° SOCKET WELD ELBOW | A403-WP304 |
| 17 | 1 | 1/2" 3000# | 90° SOCKET WELD TEE | A403-WP304 |
| 18 | 26" | 1/2" SCH 40 | PIPE, CUT AS REQUIRED ASME B36.19 STANDARD | A-312 TP 304 |

Manitoba Inspection & Technical Services

Inspection & Technical Services

REGISTERED

CRN : 0H7066.4

Signature:

Digitally signed by Mohamed Elayed
Date: 2020.10.08 15:01:53 -0500

Date: Oct 08, 2020

DESIGN CODE: ASME B31.3, 2018 EDITION
DESIGN PRESSURE: 50 PSIG
DESIGN TEMPERATURE: 300°F
MDMT: ROOM TEMPERATURE
HYDROTEST PRESSURE: 75 PSI
CORROSION ALLOWANCE: NON CORROSIVE SERVICE
RT: 5%
PWHT: NONE
IMPACT TEST: EXEMPTED PER 323.2.2

| TYP | FINISH SPECIFICATIONS |
|-----|---|
| | ALL SURFACES MILL FINISH OR FACTORY PART FINISH |
| | FREE OF WELD SPATTER & CREVICES. |
| | REMOVE DISCOLORATION WHERE INSPECTABLE |
| | BREAK ALL EDGES |

| | | | | | |
|---|--------------------------|---------|-----------------|-------------------------------|--|
| D | FINAL PER REVIEW | BY: DGM | SCALE: 1/8" | FOR MERIT | STEAM FITTING FOR CAT H REGISTRATION IN MANITOBA |
| C | NOTATION FURTHER REVISED | BY: JSH | DRAWN: 07-13-20 | FUNCTIONAL FOODS WINNIPEG, MB | |
| E | NOTATION REVISED | BY: DGM | CHECK: 06-10-20 | | |
| A | RELEASE FOR REGISTRATION | BY: DGM | APPR: 06-10-20 | | |

CALORIS
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www.caloris.com (410) 822-6900

SHT 1 OF 1
M877-8469