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Toronto, Ontario M9W 6N9
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Fax: 416.231.1626
Toll Free: 1.877.682.8772

www.tssa.org

December 18, 2019

SCOTT ISLIP
ROUND ENGINEERING INC
10 SEGWUN RD
WATERDOWN ON L8B 0K6
CA

Service Request Type: BPV-Fitting Registration
Service Request No.: 2734836
Your Reference No.: R-1186
Registered to: CIRCOR AEROSPACE INC

Dear SCOTT ISLIP,

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

CRN No.: 0G22072.5
Main Design No.: ASME Safety Relief Valves D500 & M5100 Series - NB-18 Cert. No.: 10001, 10012, 10023, 10034 & 10056 - See Scope of CRN Registration
Expiry Date: 18-Dec-2029

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

The stamped copy of the approved registration and the invoice are mailed separately. Should you have any questions or require further assistance, 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,

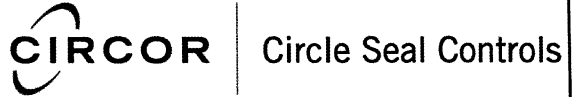
A handwritten signature in black ink, appearing to read 'Wendy Du'.

Wendy Du, P.Eng.
Technical Standards & Safety Authority
Boilers & Pressure Vessels Safety Program
Tel.: 416-734-3566
Fax: 416-231-6183
Email: wdu@tssa.org



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, RANDALL RALEY, PRODUCT MANAGER
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of CIRCOR AEROSPACE, INC.
(Name of Manufacturer)

Located at 2301 Wardlow Circle, Corona, California, 92880, USA 951-270-6462
(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 SECTION VIII-1

(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 ASME UV which has been verified by the following authority, ASME

The items covered by this declaration, for which I seek registration, are category G - Safety Relief Valves type fittings. In support of this application, the following information and/or test data are attached as follows:
SCOPE OF CRN, DRAWINGS, CALCULATIONS, REPORTS

(drawings, calculations, test reports, etc.)

Declared before me at _____ in the _____ of _____

the _____ day of _____ AD 20 11/26/19

See Attached Notary Acknowledgment Certificate

Commissioner for Oaths:

AV

(Printed name)

(Signature)

Randall Raley
(Signature of Declarer)

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 G

CRN: OG 22072.5

Registered by: Wendy J...

Dated: Dec. 18, 2019

NOTE: This registration expires on Dec. 18, 2029

Technical Standards and Safety Authority

Boilers and Pressure Vessels Safety Program

REGISTERED

C.R.N.: OG 22072.5

Signed: Wendy J...

Date: Dec. 18, 2019

PV 09553 (06/04)

ASME SRVs D500 & M510D Series - NB Cont # : 10001, 10012, 10023, 10034, 10056

- See Scope of CRN Registration. 109 12/18/2019

CALIFORNIA JURAT CERTIFICATE

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

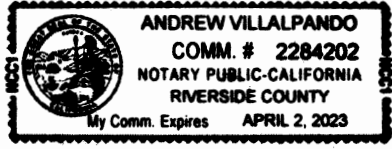
County of Riverside

Subscribed and sworn to (or affirmed) before me on this 26 day of November
2019, by Randall Paley

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

WITNESS MY HAND AND OFFICIAL SEAL.

[Handwritten Signature]



Signature of Notary Public

(Notary Seal)

OPTIONAL INFORMATION

The jurat contained within this document is in accordance with California law. Any affidavit subscribed and sworn to before a notary shall use the preceding wording or substantially similar wording pursuant to Civil Code sections 1189 and 8202. A jurat certificate cannot be affixed to a document sent by mail or otherwise delivered to a notary public, including electronic means, whereby the signer did not personally appear before the notary public, even if the signer is known by the notary public. The seal and signature cannot be affixed to a document without the correct notarial wording. As an additional option an affiant can produce an affidavit on the same document as the notarial certificate wording to eliminate the use of additional documentation.

DESCRIPTION OF ATTACHED DOCUMENT

(Title of document)

Number of Pages _____

Document Date _____

(Additional Information)

AU

CAPACITY CLAIMED BY SIGNER

AU

Individual

Corporate Officer

Partner

Attorney-In-Fact

Trustee

Other: _____



SCOPE OF CRN REGISTRATION

Product Description	Model	Design Code	Code Stamp	Material Specifications	Size Range	End Connection	MAWP at MAWT (Note 1,2,3)	Report Number
ASME Safety Relief Valves	Series D500	ASME Section VIII Division 1	ASME UV	Stainless Steel ASME SA479-316,	1/4"	NPT	150 psig at 400°F	R-1186
ASME Safety Relief Valves	Series D500	ASME Section VIII Division 1	ASME UV	Naval Brass ASTM B21 Alloy 464 (Note 4)	1/4"	NPT	150 psig at 350°F	R-1186
ASME Safety Relief Valves	Series M5100	ASME Section VIII Division 1	ASME UV	Stainless Steel ASME SA479-316,	1/8", 1/4", 3/8", 1/2", 3/4", 1"	NPT	1200 psig at 400°F	R-1186
ASME Safety Relief Valves	Series M5100	ASME Section VIII Division 1	ASME UV	Naval Brass ASTM B21 Alloy 464 (Note 4)	1/8", 1/4", 3/8", 1/2", 3/4", 1"	NPT	1200 psig at 350°F	R-1186

Note 1: MAWP = Maximum Allowable Working Pressure, MAWT = Maximum Allowable Working Temperature.

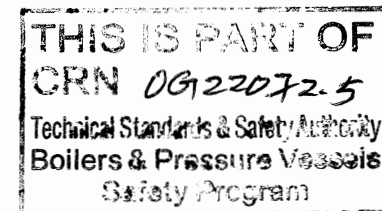
Note 2: The pressure-temperature ratings shown are the maximum CRN pressure-temperature ratings. In all cases the pressure-temperature ratings may be limited by the seat and seal materials. Please consult Circle Aerospace, Inc.

Note 3: For low temperature operation the products shall conform to the rules of the applicable codes under which they are used.

Note 4: Brass ASTM B21 Alloy 464 may be used under the conditions specified in ASME Code Case 1750-25 as follows:

- A representative finished model of each product size and design having a bonnet, body, or yoke of pressure relief valves, housings for breaking or buckling pin devices, and holders for rupture disks constructed of ASTM B21 Alloy 464 shall be tested to determine the presence of residual stresses that might result in failure of individual parts due to stress corrosion cracking. Tests shall be conducted in accordance with ASTM B154 or ASTM B858M.
- Material conforming to ASTM B21 Alloy 464 shall be used only in the soft and half-hard tempers.

Note 5: See attached copy of National Board Listing.



Circor Aerospace, Inc. (CSC)

NB#: 10001

Location: 2301 Wardlow Circle, Corona, CA 92880 United States

Acceptable Abbrev.: Circle Seal

Circor Aerospace, Inc. (CSC)

Location: 2301 Wardlow Circle, Corona, CA 92880 United States

Acceptable Abbrev.: Circle Seal

Certification Number: 10001 Design Series or catalog number: D-500-2M

Type Classification: Safety Relief Valve
 Capacity Tests: Sec. VIII Div. 1 at Phillips Petroleum on November 16, 1966
 Method of Establishing Relieving Capacity: Flow Capacity, Slope
 Certified Value: .359 SCFM/PSIA
 Test Medium: Gas
 Certified Medium: Air/Gas
 Set Pressure Definition: Pop
 Blowdown: Fixed

Scope of Nominal Size and Set Pressure Ranges:

Inlet Size	Outlet Size	Flow Area	Orifice [designator] diameter	Lift	Set Pressure Range	Media	Code Section
0.25 NPS		0.059 sq in	0.275 in	0.069 in	15 - 150 psi	Air	VIII

Certification Number: 10012 Design Series or catalog number: M5100-1M

Type Classification: Safety Relief Valve
 Capacity Tests: Sec. VIII Div. 1 at Phillips Petroleum on November 06, 1966
 Method of Establishing Relieving Capacity: Flow Capacity, Slope
 Certified Value: .286 SCFM/PSIA
 Test Medium: Gas
 Certified Medium: Air/Gas
 Set Pressure Definition: Pop
 Blowdown: Fixed

Scope of Nominal Size and Set Pressure Ranges:

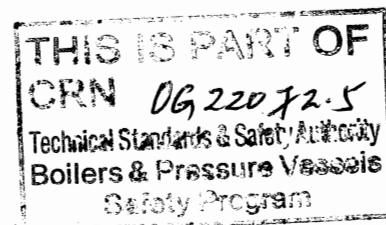
Inlet Size	Outlet Size	Flow Area	Orifice [designator] diameter	Lift	Set Pressure Range	Media	Code Section
0.125 NPS		0.049 sq in	0.25 in	0.06 in	100 - 1200 psi	Air	VIII

Certification Number: 10023 Design Series or catalog number: M5100-2M & 3M

Type Classification: Safety Relief Valve
 Capacity Tests: Sec. VIII Div. 1 at Phillips Petroleum on November 16, 1966
 Method of Establishing Relieving Capacity: Flow Capacity, Slope
 Certified Value: .667 SCFM/PSIA
 Test Medium: Gas
 Certified Medium: Air/Gas
 Set Pressure Definition: Pop
 Blowdown: Fixed

Scope of Nominal Size and Set Pressure Ranges:

Inlet Size	Outlet Size	Flow Area	Orifice [designator] diameter	Lift	Set Pressure Range	Media	Code Section
0.25 - 0.375 NPS		0.1 sq in	0.358 in	0.08 in	15 - 1200 psi	Air	VIII



Circor Aerospace, Inc. (CSC)

NB#: 10034

Location: 2301 Wardlow Circle, Corona, CA 92880 United States

Acceptable Abbrev.: Circle Seal

Certification Number: **10034** Design Series or catalog number: **M5100-4M**

Type Classification: Safety Relief Valve

Capacity Tests: Sec. VIII Div. 1 at Phillips Petroleum on November 16, 1966

Method of Establishing Relieving Capacity: Flow Capacity, Slope

Certified Value: 1.310 SCFM/PSIA

Test Medium: Gas

Certified Medium: Air/Gas

Set Pressure Definition: Pop

Blowdown: Fixed

Scope of Nominal Size and Set Pressure Ranges:

Inlet Size	Outlet Size	Flow Area	Orifice [designator] diameter	Lift	Set Pressure Range	Media	Code Section
0.5 NPS		0.209 sq in	0.516 in	0.1 in	15 - 1200 psi	Air	VIII

Certification Number: **10056** Design Series or catalog number: **M5100-6M & 8M 100 - 1200**

Type Classification: Safety Relief Valve

Capacity Tests: Sec. VIII Div. 1 at Phillips Petroleum on November 16, 1966

Method of Establishing Relieving Capacity: Flow Capacity, Slope

Certified Value: 3.453 SCFM/PSIA

Test Medium: Gas

Certified Medium: Air/Gas

Set Pressure Definition: Pop

Blowdown: Fixed

Scope of Nominal Size and Set Pressure Ranges:

Inlet Size	Outlet Size	Flow Area	Orifice [designator] diameter	Lift	Set Pressure Range	Media	Code Section
0.75 - 1 NPS		0.428 sq in	0.738 in	0.25 in	100 - 1200 psi	Air	VIII

