

February 12, 2020

**Attention:** Tanya Francis  
TECHNICAL STANDARDS & SAFETY AUTHORITY  
345 CARLINGVIEW DRIVE  
TORONTO, ON M9W 6N9

The design submission, tracking number 2020-00562, originally received on January 30, 2020 was surveyed and accepted for registration as follows:

**CRN :** 0G22072.52

**Accepted on:** February 12, 2020.

**Reg Type:** NEW DESIGN

**Expiry Date:** December 18, 2029

**Drawing No. :** SCOPE OF CRN REGISTRATION

**Fitting type:** ASME SAFETY RELIEF VALVES D500 & M5100 SERIES

Design registered in the name of : CIRCOR AEROSPACE INC

**The registration is conditional on your compliance with the following notes:**

*\*\*\* National Board Certification number: 10001, 10012, 10023, 10034, 10056*

*As indicated on AB-41 Statutory Declaration form and submitted documentation, the code of construction is SECTION VIII, DIV. 1.*

- This registration is valid only for fittings fabricated at the location(s) covered by the QC certificate attached to the accepted AB-41 Statutory Declaration form.*
- This registration is valid only until the indicated expiry date and 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.*

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 3337 or fax (780) 437-7787 or e-mail Dick@absa.ca.

Sincerely,



DICK, ASHLING, P. Eng.  
DOP Cert. No. D00007936

**STATUTORY DECLARATION  
Registration of Fittings**

In this space, show facsimile of manufacturer's logo or trademark as it will appear on the fitting.

I, Randall Raley, Product Manager  
(name of applicant) (position title) (must be in a position of authority)  
of CIRCOR AEROSPACE, INC.  
(name of manufacturer)  
located at 2301 Wardlow Circle, Corona, California, 92880, USA  
(plant address)



Circle Seal Controls

do solemnly declare that the fittings listed hereunder, which are subject to the Safety Codes Act (check one)

- comply with the requirements of ASME Section VIII-1 which specifies the dimensions, (title of recognized North American Standard) materials of construction, pressure/temperature ratings and identification marking of the fittings, 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 \_\_\_\_\_ (title of code of construction or other applicable document) data which identifies the dimensions, materials of construction, pressure/temperature ratings and the basis for such ratings, and the marking of the fittings for identification.

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified by the following authority, ASME UV as being suitable for the manufacture of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are CATEGORY G - SAFETY RELIEF VALVES (brief description of fittings)

In support of this application, the following information, calculations and/or test data are attached: SCOPE OF CRN, DRAWINGS, CALCULATIONS, REPORTS

DECLARED before me at \_\_\_\_\_ in the \_\_\_\_\_ of \_\_\_\_\_  
(city) (province or state)  
this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_  
(Month) (Year) **(AV) 11/26/19**

(print) \_\_\_\_\_  
(a Commissioner of Oaths or Notary Public)

(sign) \_\_\_\_\_  
(a Commissioner of Oaths or Notary Public)

Randall Raley  
(signature of applicant)

See Attached Notary Acknowledgment Certificate

**For ABSA Office Use Only:**

NOTES: \*ASME Safety Relief Valves D500 & M5100 Series

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Clause 4.2, and is accepted for registration in Category 'G'

Registration Number: OG 22072.52

T. M. (ASHLING) DICK  
(Signature of the Administrator/SCO)

Date Registered: FEB 12 2020

Expiry Date: Dec 18, 2029

FEB 12 2020

### 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

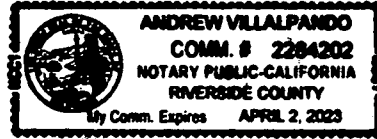
Subscribed and sworn to (or affirmed) before me on this 26 day of November  
20 19, by Randall Raley

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

AV  
\_\_\_\_\_  
(Title of document)  
Number of Pages \_\_\_\_\_  
Document Date \_\_\_\_\_  
\_\_\_\_\_  
(Additional Information)

#### CAPACITY CLAIMED BY SIGNER

AV  
\_\_\_\_\_  
Individual  
\_\_\_\_\_  
Corporate Officer  
\_\_\_\_\_  
Partner  
\_\_\_\_\_  
Attorney-In-Fact  
\_\_\_\_\_  
Trustee  
\_\_\_\_\_  
Other: \_\_\_\_\_

**CIRCOR AEROSPACE, INC.**  
 2301 Wardlow Circle  
 Corona, California  
 92880, USA



**Circle Seal Controls**

15-Nov-19

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**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.

**ABSA**

SAFETY CODES ACT - PROVINCE OF ALBERTA  
 REGISTRATION OF FITTINGS

REGISTRATION NO. 0G 22072.52

DWG. NO. or CAT. No. Scope of CRN Registration

TYPE OF FITTINGS D500 & M5100 Series Safety Relief Valves

INITIALS [Signature]

Date FEB 12 2020

T. M. (ASHLING) DICK, P.ENG  
 DESIGN SURVEY ENGINEER

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

0G 22072 . 52

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

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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

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OG 22072.52

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