

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4410035

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
CIRCOR INTERNATIONAL, INC.	05/11/2017
CIRCOR AEROSPACE, INC.	05/11/2017
CIRCOR INSTRUMENTATION TECHNOLOGIES, INC.	05/11/2017
DELTAVALVE, LLC	05/11/2017
TAPCOENPRO, LLC	05/11/2017
SPENCE ENGINEERING COMPANY, INC.	05/11/2017

RECEIVING PARTY DATA

Name:	SUNTRUST BANK
Street Address:	3333 PEACHTREE ROAD, N.E.
Internal Address:	SOUTH TOWER, 3RD FLOOR
City:	ATLANTA
State/Country:	GEORGIA
Postal Code:	30326

PROPERTY NUMBERS Total: 54

Property Type	Number
Patent Number:	6953048
Patent Number:	7318426
Patent Number:	7299816
Patent Number:	9378909
Patent Number:	9551754
Patent Number:	7686280
Patent Number:	6916008
Patent Number:	6565714
Patent Number:	6660131
Patent Number:	6843889
Patent Number:	6964727
Patent Number:	6989081
Patent Number:	7033460
Patent Number:	7115190

PATENT

Property Type	Number
Patent Number:	7357848
Patent Number:	7399384
Patent Number:	7459063
Patent Number:	7473337
Patent Number:	7578907
Patent Number:	7632381
Patent Number:	7871500
Patent Number:	7931044
Patent Number:	8123197
Patent Number:	8197644
Patent Number:	8282074
Patent Number:	8440057
Patent Number:	8459608
Patent Number:	8512525
Patent Number:	8545680
Patent Number:	8679298
Patent Number:	8679299
Patent Number:	8702911
Patent Number:	8851451
Patent Number:	8936701
Patent Number:	9334447
Patent Number:	9388342
Patent Number:	9482348
Patent Number:	9486762
Patent Number:	9505982
Patent Number:	7819009
Patent Number:	7491035
Patent Number:	8057192
Patent Number:	7201188
Patent Number:	8820342
Patent Number:	5979870
Patent Number:	6109590
Patent Number:	6050288
Patent Number:	8960223
Patent Number:	6892748
Application Number:	14873250
Application Number:	15172744
Application Number:	15238988

Property Type	Number
Application Number:	62330574
Application Number:	15501394

CORRESPONDENCE DATA

Fax Number: (704)444-1111
Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 7044441000
Email: usptomail@alston.com
Correspondent Name: ALSTON & BIRD LLP
Address Line 1: BANK OF AMERICA PLAZA
Address Line 2: 101 SOUTH TRYON STREET, SUITE 4000
Address Line 4: CHARLOTTE, NORTH CAROLINA 28280-4000

ATTORNEY DOCKET NUMBER:	001833/403624
NAME OF SUBMITTER:	DANIEL J. O'CONNOR
SIGNATURE:	/Daniel J. O'Connor/
DATE SIGNED:	05/11/2017

Total Attachments: 7
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Patent Security Agreement

THIS PATENT SECURITY AGREEMENT, dated as of May 11, 2017 (this "Patent Security Agreement"), is made CIRCOR International, Inc., a Delaware corporation (the "Borrower"), and certain Subsidiaries of the Borrower identified on the signature pages hereto (together with the Borrower and any other Subsidiary of the Borrower that becomes a party hereto from time to time after the date hereof, each, a "Grantor" and, collectively, the "Grantors"), in favor of SUNTRUST BANK, as administrative agent (in such capacity, together with its successors and permitted assigns, the "Administrative Agent") for the Secured Parties (as defined in the Security Agreement referred to below).

WHEREAS, the Borrower, each Domestic Subsidiary of the Borrower, as Subsidiary Guarantors, the Lenders from time to time parties thereto and SunTrust Bank, as Administrative Agent, have entered into that certain Credit Agreement, dated as of May 11, 2017 (as amended, restated, amended and restated, supplemented, replaced, increased, refinanced or otherwise modified from time to time, the "Credit Agreement");

WHEREAS, in connection with the Credit Agreement, the Grantors have entered into the Security Agreement, dated as of May 11, 2017 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement"), in favor of the Administrative Agent for the benefit of the Secured Parties; and

WHEREAS, the Security Agreement requires the Grantors to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and in order to ensure compliance with the Credit Agreement, the Grantors hereby agree as follows:

SECTION 1. Defined Terms. Capitalized terms used herein without definition are used as defined in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. The Grantors, as collateral security for the prompt and complete payment and performance when due (whether at stated maturity, by acceleration or otherwise) of the Secured Obligations of the Grantors, hereby mortgage, pledge and hypothecate to the Administrative Agent for the benefit of the Secured Parties, and grant to the Administrative Agent for the benefit of the Secured Parties a Lien on and security interest in, all of its right, title and interest in, to and under the following Collateral (the "Patent Collateral"):

(i) all of its Patents and all Patent Licenses providing for the grant by or to the Grantors of any right under any Patent, including, without limitation, those referred to on Schedule I hereto;

(ii) all reissues, reexaminations, continuations, continuations-in-part, divisions, renewals and extensions of the foregoing; and

(iii) all income, royalties, proceeds and liabilities at any time due or payable or asserted under and with respect to any of the foregoing, including, without limitation, all rights to sue and recover at law or in equity for any past, present and future infringement, misappropriation, dilution, violation or other impairment thereof.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Administrative Agent pursuant to the Security Agreement, and the Grantors hereby acknowledge and agree that the rights and remedies of the Administrative Agent with respect to the security interest in the Patent Collateral made and

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granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein.

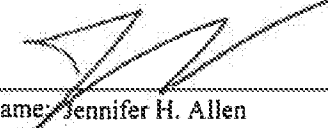
SECTION 4. Grantors Remain Liable. The Grantors hereby agree that, anything herein to the contrary notwithstanding, the Grantors shall assume full and complete responsibility for the prosecution, defense, enforcement or any other necessary or desirable actions in connection with its Patents and Patent Licenses subject to a security interest hereunder.

SECTION 5. Counterparts. This Patent Security Agreement may be executed in any number of counterparts and by different parties in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Signature pages may be detached from multiple separate counterparts and attached to a single counterpart.

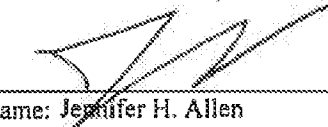
SECTION 6. Governing Law. This Patent Security Agreement and the rights and obligations of the parties hereto shall be governed by, and construed and interpreted in accordance with, the law of the State of New York.

IN WITNESS WHEREOF, the Grantors have caused this Patent Security Agreement to be executed and delivered by their duly authorized officers as of the date first set forth above.

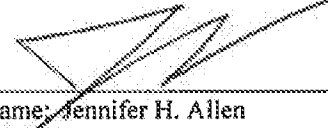
CIRCOR INTERNATIONAL, INC.

By: 
Name: Jennifer H. Allen
Title: Senior Vice President, General Counsel and Secretary

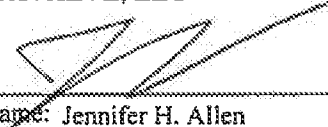
CIRCOR AEROSPACE, INC.

By: 
Name: Jennifer H. Allen
Title: Vice President and Secretary

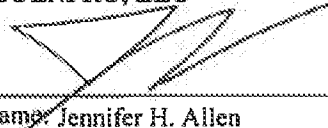
CIRCOR INSTRUMENTATION TECHNOLOGIES, INC.

By: 
Name: Jennifer H. Allen
Title: Vice President and Secretary

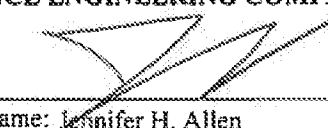
DELTAVALVE, LLC

By: 
Name: Jennifer H. Allen
Title: Vice President and Secretary

TAPCOENPRO, LLC

By: 
Name: Jennifer H. Allen
Title: Vice President and Secretary

SPENCE ENGINEERING COMPANY, INC.

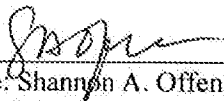
By: 
Name: Jennifer H. Allen
Title: Vice President and Secretary

[Signature Page to Patent Security Agreement]

Acknowledged and Agreed to as of the date hereof:

ADMINISTRATIVE AGENT:

SUNTRUST BANK

By: 
Name: Shannon A. Offen
Title: Director

[Signature Page to Patent Security Agreement]

Patents and Patent Licenses

U.S. PATENTS - REGISTERED

Patent / Title	Status	Patent No.	Issue Date	Owner
Modular Surface-Mount Fluid-Flow System	Granted	6,953,048	10/11/2005	Circor Aerospace, Inc.
Fuel-Control Manifold with Broad-Range Temperature and Pressure Capability	Granted	7,318,426	1/15/2008	Circor Aerospace, Inc.
Inflation Valve Assembly	Granted	7,299,816	11/27/2007	Circor Aerospace, Inc.
Spring Contact, Inertia Switch, and Method of Manufacturing an Inertia Switch	Granted	9,378,909	6/28/2016	Circor Aerospace, Inc.
Test Device for Kinetic Switches and Method of Testing Kinetic Switches	Granted	9,551,754	1/24/2017	Circor Aerospace, Inc.
Retained and Removable Valve Seat Member for Diaphragm Valve Technology	Granted	7,686,280	5/30/2010	Circor Instrumentation Technologies, Inc.
Universal Safety Coupler	Granted	6,916,008	7/12/2005	Circor Instrumentation Technologies, Inc.
Coke Drum Bottom De-Heading System	Granted	6,565,714	5/20/2003	Deltavalve, LLC
Coke Drum Bottom De-Heading System	Granted	6,660,131	12/9/2003	Deltavalve, LLC
Coke Drum Bottom Throttling Valve And System	Granted	6,843,889	1/18/2005	Deltavalve, LLC
Coke Drum Bottom De-Heading System	Granted	6,964,727	11/15/2005	Deltavalve, LLC
Valve System And Method For Unheading A Coke Drum	Granted	6,989,081	1/24/2006	Deltavalve, LLC
Coke Drum Bottom Throttling Valve And System	Granted	7,033,460	4/25/2006	Deltavalve, LLC
Tangential Dispenser And System For Use Within A Delayed Coking System	Granted	7,115,190	10/3/2006	Deltavalve, LLC
Deheader Valve Installation System And Method	Granted	7,357,848	4/15/2008	Deltavalve, LLC
Coke Drum Bottom Throttling Valve And System	Granted	7,399,384	7/15/2008	Deltavalve, LLC
Systems And Methods For Deheading A Coke Drum	Granted	7,459,063	12/2/2008	Deltavalve, LLC
Remotely Controlled Decoking Tool Used In Coke Cutting Operations	Granted	7,473,337	1/6/2009	Deltavalve, LLC
Valve System For Unheading A Coke Drum	Granted	7,578,907	8/25/2009	Deltavalve, LLC

Systems For Providing Continuous Containment Of Delayed Coker Unit Operations	Granted	7,632,381	12/15/2009	Deltavalve, LLC
Coke Drum Skirt	Granted	7,871,500	1/18/2011	Deltavalve, LLC
Valve Body And Condensate Holding Tank Flushing Systems And Methods	Granted	7,931,044	4/26/2011	Deltavalve, LLC
Ethylene Production Isolation Valve Systems	Granted	8,123,197	2/28/2012	Deltavalve, LLC
Remotely Controlled Decoking Tool Used In Coke Cutting Operations	Granted	8,197,644	6/12/2012	Deltavalve, LLC
Delayed Coker Isolation Valve Systems	Granted	8,282,074	10/9/2012	Deltavalve, LLC
Linked Coke Drum Support	Granted	8,440,057	5/14/2013	Deltavalve, LLC
Seat And Valve Systems For Use In Delayed Coker System	Granted	8,459,608	6/11/2013	Deltavalve, LLC
Valve System And Method For Unheading A Coke Drum	Granted	8,512,525	8/20/2013	Deltavalve, LLC
Center Feed System	Granted	8,545,680	10/1/2013	Deltavalve, LLC
Remotely Controlled Decoking Tool Used In Coke Cutting Operations	Granted	8,679,298	3/25/2014	Deltavalve, LLC
Coke Drum Bottom De-Heading System	Granted	8,679,299	3/25/2014	Deltavalve, LLC
Center Feed System	Granted	8,702,911	4/22/2014	Deltavalve, LLC
Non-Rising Electric Actuated Valve Operator	Granted	8,851,451	10/7/2014	Deltavalve, LLC
Coke Drum Bottom De-Heading System	Granted	8,936,701	1/20/2015	Deltavalve, LLC
Flushing System for Use in Delayed Coking Systems	Granted	9,334,447	5/10/2016	Deltavalve, LLC
Electric Actuator for Coke Drum Unheading Valve	Granted	9,388,342	7/12/2016	Deltavalve, LLC
Cycle Valve for Use in Hydromethanation Process	Granted	9,482,348	11/1/2016	Deltavalve, LLC
Center Feed System Employing Removable Inserts In A Retractable Injection Nozzle	Granted	9,486,762	11/8/2016	Deltavalve, LLC
Seat System For Coke Drum Deheading Valve	Granted	9,505,982	11/29/2016	Deltavalve, LLC
Vibration Monitoring System	Granted	7,819,009	10/26/2010	Deltavalve, LLC
Cyclic Condensate Pump Having a Three-Way Valve	Granted	7,491,035	2/17/2009	Spence Engineering Company, Inc.
Cyclic Condensate Pump Having a Three-Way Valve	Granted	8,057,192	11/15/2011	Spence Engineering Company, Inc.
Fluid Reciprocating Ball Valve	Granted	7,201,188	4/10/2007	Spence Engineering Company, Inc.

Actuator Control Device And Method	Granted	8,820,342	9/2/2014	Tapcoenpro, LLC
Butterfly Valve With Offset Stem	Granted	5,979,870	11/9/1999	Tapcoenpro, LLC
Iron Ore Slide Valve With Internal Support Clamp	Granted	6,109,590	8/29/2000	Tapcoenpro, LLC
Slide Valve With Welded Internals	Granted	6,050,288	4/18/2000	Tapcoenpro, LLC
Plug Valve With An Internal Check Valve	Granted	8,960,223	2/24/2015	Tapcoenpro, LLC
Plug Valve	Granted	6,892,748	5/17/2005	Tapcoenpro, LLC

US PATENT APPLICATIONS

Patent / Title	Status	Application No.	Date	Owner
Aspirator and Method of Fabricating	Published	14/873,250	10/2/2015	Circor Aerospace, Inc.
Miniature SMT Housing for Electronic Package	Published	15/172,744	6/3/2016	Circor Aerospace, Inc.
Miniature Hermetic Acceleration Detection Device	Published	15/238,988	8/17/2016	Circor Aerospace, Inc.
Portable Pneumatic Aerial Vehicle Launcher	Pending	62/330,574	5/2/2016	Circor Aerospace, Inc.
Control Valve	Pending	15/501,394	2/2/2017	Circor Aerospace, Inc.
Aspirator and Method of Fabricating	Published	14/873,250	10/2/2015	Circor Aerospace, Inc.

PATENT LICENCES

Joint Development and Commercialization Agreement between DeltaValve USA and ChevronTexaco Products Company re Coker Top Deheading Technology, dated as of August, 2005 (as amended by the First Amendment to Joint Development and Commercialization Agreement (JDCA) RE Coker Top Deheading Technology, dated as of November, 2008).

Settlement and License Agreement, dated as of August 20, 2007, by and between Curtiss-Wright Flow Control Corporation and Z&J Technologies GmbH and Zimmermann and Jansen, Inc.