

[1]

EU-TYPE EXAMINATION CERTIFICATE

[2] Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014

[3] EU-Type Examination Certificate Number: **DNV 22 ATEX 64478X** **Issue 1**

[4] Product: **Model FT891 and FD891 Compressor**

[5] Manufacturer: **Advanced Flow Solutions, Inc. d/b/a Corken**

[6] Address: **9201 N I- 35 Service Rd,
Oklahoma City, OK 73131
USA**

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] DNV Product Assurance AS, notified body number 2460, in accordance with Article 17 and Article 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in confidential reports listed in item 16.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: **EN IEC 60079-0:2018, EN 80079-36:2016 and EN 80079-37:2016**

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

 **II 1/2 G Ex h IIB+H2 T4 Ga/Gb , T_{amb} = -29°C to +50°C**

Date of issue:
2024-07-12



Bjørn Spongsveen
For DNV Product Assurance AS
The Certificate has been digitally signed.
See www.dnv.com/digitalsignatures for info



[13]

Schedule

[14] **EU-Type Examination Certificate No:** DNV 22 ATEX 64478X Issue 0

[15] **Description of Product**

This equipment is a compressor for use in transferring flammable fluids. The inside of the compression cylinder is Zone 0, the rest of the assembly is Zone 1

Type designation

FT891 and FD891

Electrical Data

None-Mechanical Equipment, 450 PSI, 400-800 RPM

Ambient temperature:

-29 °C to +50 °C

Routine tests

None

[16] **Report No.:** 2022-0729, Issue 01

Project No.: PRJN-251710-2021-PA-USA

[17] **Specific Conditions of Use**

1. Compressor must be installed and operated in accordance with the operating manual.
2. The compressor must shut down when pressure or temperature limits are outside of safe operating ranges detailed below.
3. Belts are not allowed. Motor coupling shall be marked per the ATEX Directive: II 2G Ex h IIB + H2 T4 Gb or better.
4. Maximum RPM of the compressor is 700.
5. A sieve or filter with 400 micron (40 mesh) or better is required upstream of the compressor to prevent debris from entering the compressor.
6. Crankcase oil shall be full synthetic with minimum flashpoint of 220 °C and meant for heavy service applications. It is the operator's responsibility to ensure that the oil selected has the operating temperature range that meets or exceeds the maximum ambient temperature +50 °C.
7. Bearing evaluation interval: Every 400 hours.
8. Bearing replacement interval: Every 4000 hours.
9. Compressor includes Endress+Hauser SE+CO. KG PMP51B Pressure Transducer (or Rosemount 3051C) safety device to control discharge pressure. This device must be configured for a set point of maximum 3100 kPag pressure. If pressure exceeds 3100 kPag, the compressor must be shut down.
10. Compressor includes RTD safety device to control discharge temperature. The RTD set point is maximum 107 °C. If temperature exceeds 107 °C, the compressor must be shut down.
11. The RTD shall be connected to the control system via suitably intrinsically safe "ia" barrier installed in accordance with EN 60079-14.
12. Compressor includes Endress+Hauser SE+CO KG PMP51B Pressure Transducer (or Rosemount 3051C) safety device to control oil pressure. This device must be configured for a set point of minimum 138 kPa pressure. If pressure drops below 138 kPa, the compressor must be shut down.

13. The controller, RTD and pressure transducers must undergo a function check prior to each operation of the compressor. If failed, compressor must not be operated until the functional check is conducted successfully.
14. The installer is required for the for the controller/system to meet the Safety Integrity Level rating of SIL2 in accordance with IEC 61508.

[18] **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

[19] **Drawings and documents**

Number	Title	Rev.	Date
Zone 0 – Illustration 1	Nameplates	C	2024-01-19
Zone 0 – Illustration 9	Cylinder and Crossheads	A	2022-06-01
Zone 0 – Illustration 12	Bearing Cones	A	2023-01-04
Zone 0 – Illustration 13	Valve General Assembly	A	2023-05-15
-	Ignition Hazard Assessment	B	2024-06-14
IJ111D	Installation, Operation and Maintenance Manual	D	2024-06-17
Zone 0 – Illustration 2	Crankcase Oil filter Screen Components	-	2022-05-25
Zone 0 – Illustration 3	Oil Pressure Relief Valve Components	-	2022-05-25
Zone 0 – Illustration 4	Bearing Carrier	-	2022-05-26
Zone 0 – Illustration 5	Crankshaft Assembly Components	-	2022-05-26
Zone 0 – Illustration 6	Bearing Cap Assembly Components	-	2022-05-31
Zone 0 – Illustration 7	Crankcase	-	2022-05-31
Zone 0 – Illustration 8	Oil Filter Assembly Components	-	2022-05-31
Zone 0 – Illustration 10	Head and Valve Components	-	2022-06-01
Zone 0 – Illustration 11	Air Release Valve Components	-	2022-05-26
891 Bearing Information	-	-	2023-12-05

[20] **Certificate History**

Issue	Description	Issue date	Report no.
0	Original issue	2023-10-17	2022-0729, Issue 00
1	Update includes T-code change to T4, alternative pressure transducer, bearing maintenance intervals, and instructions update.	2024-07-12	2022-0729, Issue 01

END OF CERTIFICATE