



EU – TYPE EXAMINATION CERTIFICATE

[1]

[2] Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU:

[3] EU-Type Examination Certificate Number: **FIDI 21 ATEX 0007** Issue: **1**

[4] Product: **Centrifugal Fan**
Type: **VARSK T.. 160 - 1120**

[5] Manufacturer: **KONČAR - MES Inc.**

[6] Address: **Fallerovo šetalište 22, 10000 Zagreb, Croatia**

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

[8] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 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 of the Directive.

The examination and test results are recorded in confidential Report No: **FIDI 21 CR 007**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN ISO 80079-36:2016	EN ISO 80079-37:2016	EN 14986:2017
EN 60079-0:2012/A11:2013	EN IEC 60079-0:2018	EN 60079-1:2014
EN IEC 60079-7:2015/A1:2018	EN 60079-31:2014	

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU-Type Examination Certificate relates only to the design, examination and test of the specified product in accordance with Annex III. Further requirements of the Directive apply to the manufacturing process and supply of this products. These are not covered by this certificate.

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



II 2G Ex db h IIB+H₂ T5...T3 Gb or **II 2G Ex db eb h IIB+H₂ T5...T3 Gb** or
II 2G Ex db h IIB T3 Gb or **II 2G Ex db eb h IIB T3 Gb** or
II 2G Ex eb h IIB+H₂ T4...T3 Gb or **II 2G Ex eb h IIB T4...T3 Gb** and/or
II 2D Ex h tb IIIC T90°C ...T160°C Db

Our ref.: 21.CRT.009

Date: 18.03.2021.



Fiditas d.o.o.
ZAGREB

FIDITAS Ltd.
Certification department

Approved:

Marino Kelava, M.E.Eng.

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[13] **SCHEDULE**

[14] **EU - TYPE EXAMINATION CERTIFICATE No.:** **FIDI 21 ATEX 0007**

[15] **Description of product**

Fans of VARSK series are centrifugal fans with aerodynamically shaped impeller blades. Fan casing is made of galvanized sheet metal and impellers with blades are made of aluminium or of steel. There are different types of impellers with blades: type C – steel sheet, type T – steel sheet, type A - steel sheet, type TN – galvanised steel sheet and type HN - aluminium. Enclosure contains protective ring made of copper alloy.

Fans with impeller types C, T and A are made for direct drive. Fans with impeller types TN and HN are made for direct drive or belt drive (5 belts max.). Fans with belt drive are intended to be used for gas group IIB.

Inlet and outlet openings are protected with metal grid satisfying IP20 protection. All removable parts of fan are properly interconnected with copper braid.

The following explosion-proof protected electric motors are used to drive the fans:

Manufacturer	Type	Certificate	Ex marking
KONČAR-MES	5AT 71-80-90-100-112	CESI 05 ATEX 110X	II 2G Ex db IIB T3 Gb or II 2G Ex db eb IIB T3 Gb or II 2G Ex db IIC T3, T4, T5 Gb or II 2G Ex db eb IIC T3, T4, T5 Gb and/or II 2D Ex tb IIIC T130°C...T160°C Db
KONČAR-MES	7AT 90-100-112-132-160-180-200-225-250-280-315	CESI 03 ATEX 280X	II 2G Ex db IIB T3 Gb or II 2G Ex db eb IIB T3 Gb or II 2G Ex db IIC T3, T4, T5 Gb or II 2G Ex db eb IIC T3, T4, T5 Gb and/or II 2D Ex tb IIIC T130°C...T160°C Db
KONČAR-MES	7ATL 90-250	EXA 18 ATEX 0001X	II 2G Ex db eb IIB T5...T3 Gb or II 2G Ex db eb IIB T5...T3 Gb
KONČAR-MES	5AZS 63-160, 7AZS 90-160, 5AZST 63-160, 7AZST 90-315	CESI 19 ATEX 010X	II 2G Ex eb IIC T4...T3 Gb or II 2G Ex db eb IIC T4...T3 Gb and/or II 2D Ex tb IIIC T90°C...T135°C Db

Separately certified junction boxes can be used for supply connection:

Manufacturer	Type	Certificate	Ex marking
TEP Ex	SKX 12/E..; SKX 13/E..; SKX 14/E..; SKX 15/E	FIDI 19 ATEX 0056	II 2G Ex eb IIC T6 Gb and/or II 2D Ex tb IIIC T80°C Db
TEP Ex	SKX 16/E.. ; SKX 17/E..; SKX 18/E.. ; SKX 20/E.. ; SKX 16I/E.. ; SKX 18I-1/E.. ; SKX 18I-2/E.. ; SKX 20I/E..	FIDI 19 ATEX 0057	II 2G Ex eb IIC T6 Gb and/or II 2D Ex tb IIIC T80°C Db



Rated data:

Inlet diameter size (mm)	160 to 1120
Air flow (m ³ /s)	up to 25
Maximum speed (r/min)	7000 (depending on motor type)
Pressure (Pa)	10000
Ambient temperature (°C)	-50 / -30/ -20 to +40/+50/+60 (depending on design)
Maximum fluid density (kg/m ³)	< 1,3
Maximum fluid temperature (°C)	+80
Belt velocity (m/s)	≤ 30

Marking:

VARSK	BT	500C	1U-D0°	0315/224X355	D3540	M225 B5 P44
a)	b)	c)	d)	e)	f)	g)

a)	Fan type - VARSK – Centrifugal fan with spiral housing
b)	Version (one letter or combinations of letters) - A – Special construction - B – Marine ship construction - T – ATEX construction
c)	Fan marking by the type and outer diameter of rotor - Diameter of rotor: 160-180-200-220-250-280-315-355-400-450-500-560-630-710-800-900-1000-1120 - Type of impeller: C, T, A, TN or HN
d)	Number of inlet and direction of rotation - 1U – one inlet; 2U – two inlets; 4U – four inlets - Rotation (D- to the right, L – to the left) with position defined in degrees
e)	Inlet diameter in mm / exhaust diameter in mm
f)	Drive designation (D-direct drive; R – belt drive) and rotation speed in r.p.m.
g)	Electric motor data, IEC size (i.e. M225); IEC shape (i.e. B5); electric motor power in kW (i.e. P44)

[16] **Confidential Report No.** FIDI 21 CR 007

[16.1] Routine testing

None.



[17] Specific Conditions of Use

None.

[18] Essential Health and Safety Requirements

Covered by the conformity with harmonized standards listed under item 9.

[19] Drawings and Documents

Title:	Drawing No.:	Rev. level:	Date:
Technical description of centrifugal fans series VARSK ABT 250-1120 C VARSK ABT 355-630 T VARSK ABT 450-560 A VARSK ABT 160-1000 TN VARSK ABT 160-1000 HN	Nr. 1139347/Annex 3	1	26.01.2021.
Centrifugal flow fan, series VARSK, design B3, main dimensions	1139347/A	-	19.01.2021.
Centrifugal flow fan, series VARSK, design B3, main dimensions	1139347/A1	-	25.01.2021.
Centrifugal flow fan, series VARSK, design B5, B14 main dimensions	1139347/B	-	19.01.2021.
Centrifugal flow fan, series VARSK, design B5, B14 main dimensions	1139347/B1	-	25.01.2021.
Centrifugal flow fan, series VARSK, design B3, main dimensions	1139347/C	-	19.01.2021.
Centrifugal flow fan, series VARSK, design B3, main dimensions	1139347/C1	-	25.01.2021.
Centrifugal flow fan, series VARSK, design B5, B14 main dimensions	1139347/D	-	20.01.2021.
Centrifugal flow fan, series VARSK, design B5, B14 main dimensions	1139347/D1	-	25.01.2021.
Centrifugal flow fan, series VARSK, external motor, belt drive, design B3, main dimensions	1139347/E	-	25.01.2021.
Centrifugal flow fan, series VARSK, external motor, belt drive, design B3, main dimensions	1139347/E1	-	25.01.2021.
Centrifugal flow fan, series VARSK, external motor, belt drive, design B3, schematic overview	1139347/F	-	25.01.2021.
Centrifugal flow fan, series VARSK, external motor, belt drive, design B3, schematic overview	1139347/F1	-	25.01.2021.
Centrifugal flow fan, series VARSK, impeller type C	1139347/H	-	25.01.2021.
Centrifugal flow fan, series VARSK, impeller type C	1139347/H1	-	25.01.2021.
Centrifugal flow fan, series VARSK, inlet ring type C	1139347/I	-	25.01.2021.
Centrifugal flow fan, series VARSK, inlet ring type C	1139347/I1	-	25.01.2021.
Centrifugal flow fan, series VARSK, impeller type T	1139347/K	-	25.01.2021.
Centrifugal flow fan, series VARSK, impeller type T	1139347/K1	-	25.01.2021.



Title:	Drawing No.:	Rev. level:	Date:
Centrifugal flow fan, series VARSK, inlet ring type T	1139347/L	-	25.01.2021.
Centrifugal flow fan, series VARSK, inlet ring type T	1139347/L1	-	25.01.2021.
Centrifugal flow fan, series VARSK, impeller type A and inlet ring, main dimensions - schematic overview	1139347/M	-	25.01.2021.
Centrifugal flow fan, series VARSK, flanges rectangular, type C	1139347/N	-	25.01.2021.
Centrifugal flow fan, series VARSK, protection wire net	1139347/O	-	25.01.2021.
Axial and centrifugal flow fans, inspection door, schematic overview	1128388/R	-	25.01.2021.
Centrifugal flow fans, series VARSK ABT 200-1000 design B3, impeller type HN, TN main dimensions	1139347/S	-	20.01.2021.
Centrifugal flow fans, series VARSK A design B3, impeller type HN, TN main dimensions	1139347/S1	-	25.01.2021.
Centrifugal flow fans, series VARSK ABT 160-450 design B5, impeller type HN, TN main dimensions	1139347/T	-	20.01.2021.
Centrifugal flow fans, series VARSK A design B5, impeller type HN, TN main dimensions	1139347/T1	-	25.01.2021.
Centrifugal flow fan series VARSK ABT 160-1000 impeller and inlet type HN	1139347/U	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type HN – 2p=2	1139347/U char. 2.	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type HN – 2p=4	1139347/U char. 4.	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type HN – 2p=6	1139347/U char. 6.	-	25.01.2021.
Centrifugal flow fan series VARSK ABT 160-1000 impeller and inlet type TN	1139347/V	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type TN – 2p=2	1139347/V char. 2.	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type TN – 2p=4	1139347/V char. 4.	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type TN – 2p=6	1139347/V char. 6.	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type TN – 2p=8	1139347/V char. 8.	-	25.01.2021.
Centrifugal flow fans series VARSK characteristic type TN – 2p=12	1139347/V char. 12.	-	25.01.2021.
Centrifugal flow fans, series VARSK A design B3 belt drive, impeller type HN main dimensions	1139347/Z	-	25.01.2021.
Centrifugal flow fans, series VARSK A design B3 belt drive, impeller type HN main dimensions	1139347/Z1	-	25.01.2021.
Casing VARSK 160-1120	KIP-012	-	03.2008.
Casing VARSK 160-710	KIP-012	-	03.2008.
List of certified equipment	Appendix 1	-	26.06.2020.
Ignition and assessment acc. ISO 80079-36	Annex 3	3	25.01.2021.
Installation, operation and maintenance instructions – centrifugal and axial fans	1136712	-	01.2021.

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