

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or protective System intended for use in potentially
explosive atmospheres Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **DTI 17ATEX0071X -Ver. 01**

4 Product: **Spray Dryer**
Type: **SGA xxx/yy**

5 Manufacturer: **Sanovo Technology A/S**

6 Address: **Datavej 3
DK-5220 Odense SØ
Denmark**

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

8 Danish Technological Institute, Notified Body number 0396, 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 to the Directive.

The examination and test results are recorded in confidential Report No. 17.0071.

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

**EN 80079-36:2016; EN 80079-37:2016;
EN 14460:2018; EN 1127-1:2011.**

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 the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. 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 1/3D Ex h IIIB T150°C ... 250°C**

Danish Technological Institute
Certification & Inspection

Date: 2019-05-24


Jakob Nittegaard
ATEX Manager

13 Schedule

14 Certificate Number DTI 17ATEX0071X- Ver. 01

15 Description of Product

The SANOVO Gentle-Air Spray Drying Chamber is designed for use with egg liquid products or other similar liquid food ingredients.
The spray dryer chamber is of the horizontal type and are generally smaller than other dryers with the same capacity, and can often be installed in an existing building.

Versions: **SGA xxx/yy**

Where:

xxx: 225 or 300, and yy: 09, 12.

Where:

xxx is the size and yy is the number of nozzles.

The T-code is the maximum air / surface temperature in the cabinet and depending of the product the dryer is design for.

T-code may be between T150 °C and T250 °C, and for the actual dryer design the T-code is included in the marking.

Specifications

The dryer may only be used according to manufacturer's specifications for the actual dryer. Each dryer is optimised for the actual explosion safety data for the specified powder.

Safety data in the manual shall include:

Dust group IIIB,

MIE \geq 10 m joule,

MITdc > xxx°C,

MITdl > xxx °C,

Kst \leq xxx bar*meter/sec,

Pmax \leq xx bar,

Pred,max \leq 0,3 bar

Tsi \geq xxx °C,

Burning class 1-3

The number of Q-boxed is determined by the volume of the box and by Kst multiplied by Pmax.

Version	Number of Q-boxes	Kst x Pmax [bar x m·bar/s]
SGA300/12	14	\leq 1287
SGA300/12	15	\leq 1386
SGA300/12	16	\leq 1467
SGA225/9	09	\leq 1251
SGA225/9	11	\leq 1530
SGA225/9	12	\leq 1663

Ambient temperature (outside): $-20\text{ °C} \leq T_{amb} \leq 40\text{ °C}$

Assembly instructions

The manufacturer's instruction manual containing assembly and maintenance instructions should be followed.

16 Report Number

Assessment report reference 17.0071 version 01.

17 Specific Conditions of Use

- All electrical equipment mounted on the spray dryer shall be certified / evaluated in adequacy with the installed zone and according to harmonized standards under the ATEX directive 2014/34/EU.
- The electrical equipment shall be installed according to EN60079-14 and to any local electrical installation requirements.
- When the dryer is equipped with Q-boxes for venting the dryer in case of internal explosion, the free room net volume, where the dryer is installed, shall be maintained during life time. See manufacturer manual.
- When dryer is equipped with relief panels for venting the dryer in case of internal explosion, the relief panels shall be ventilated to the outside. Safety area around the outlet shall be specified.
- The hot air into the dryer shall come from a source where there are no risk of sparks or glowing particles.
- The area around the dryer shall be cleaned regularly, so there is no risk of explosive atmosphere, during normal operation. The procedure for housekeeping shall be good, according to EN/IEC60079-10-2:2015 Annex B, saying that the dust layers shall be kept to a negligible thickness ($\ll 1\text{ mm}$) or non-existent.
- In the classified area around the dryer there may not be installed equipment or other items there can contribute to the zone classification.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report: None

19 Drawings and Documents

Number	Vers..	Date	Description
SGA 225/9			
Z541972	-	14-02-2018	Type examination certificate SGA225/09 – related



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Number	Vers..	Date	Description
Z558668		12-02-2019	Volume and Q-box calculation SGA 225/9 – schedule
SGA 300/12			
Z541944	B	13-02-2018	Type examination certificate SGA300/12 – related
Z548344	A	03-07-2018	Volume and Q-box calculation SGA 300/12 - schedule
20190221 (All dryers)	-	2019-02-21	List of scheduled drawings

Danish Technological Institute
Certification & Inspection

2019-05-24


Jakob Nittegaard
ATEX Manager

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or protective System intended for use in potentially
explosive atmospheres Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **DTI 17ATEX0071X -Ver. 02**

4 Product: **Spray Dryer**
Type: **SGA xxx/yy**

5 Manufacturer: **Sanovo Technology Process A/S**

6 Address: **Datavej 3
DK-5220 Odense SØ
Denmark**

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

8 Danish Technological Institute, Notified Body number 0396, 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 to the Directive.

The examination and test results are recorded in confidential Report No. 17.0071.

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

**EN 80079-36:2016; EN 80079-37:2016;
EN 14460:2018; EN 1127-1:2011.**

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 the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. 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 1/3D
Ex h IIIB T150°C ... 250°C Da/Dc**

Danish Technological Institute
Certification & Inspection

Date: 2019-07-16


Jakob Nittegaard
ATEX Manager

13 Schedule

14 Certificate Number DTI 17ATEX0071X - Ver. 02

15 Description of Product

The SANOVO Gentle-Air Spray Drying Chamber is designed for use with egg liquid products or other similar liquid food ingredients.
The spray dryer chamber is of the horizontal type and are generally smaller than other dryers with the same capacity and can often be installed in an existing building.

Versions: **SGA xxx/yy**

Where:

xxx: 50, 180, 225 or 300, and

yy: 02, 09 or 12.

Where:

xxx is the size and yy is the number of nozzles.

The T-code is the maximum air / surface temperature in the cabinet and depending of the product the dryer is design for.

T-code may be between T150 °C and T250 °C, and for the actual dryer design the T-code is included in the marking.

Specifications

The dryer may only be used according to manufacturer's specifications for the actual dryer. Each dryer is optimised for the actual explosion safety data for the specified powder.

Safety data in the manual shall include:

Dust group IIIB,

MIE ≥ 10 m joule,

MITdc > xxx°C,

MITdl > xxx °C,

Kst ≤ xxx bar*meter/sec,

Pmax ≤ xx bar,

Pred,max ≤ 0,3 bar

Tsi ≥ xxx °C,

Burning class 1-3

The number of Q-boxed is determined by the volume of the box and by Kst multiplied by Pmax.

Version	Number of Q-boxes	Kst x Pmax [bar x m·bar/s]
SGA300/12	14	≤ 1287
SGA300/12	15	≤ 1386
SGA300/12	16	≤ 1467
SGA225/9	09	≤ 1251
SGA225/9	11	≤ 1530
SGA225/9	12	≤ 1663
SGA180/9	8	≤ 1089
SGA180/9	11	≤ 1494



SGA180/9	12	≤ 1629
SGA50/2	3	≤ 0792
SGA50/2	5	≤ 1332
SGA50/2	6	≤ 1593

Ambient temperature (outside): $-20\text{ °C} \leq T_{amb} \leq +40\text{ °C}$

Assembly instructions

The manufacturer's instruction manual containing assembly and maintenance instructions should be followed.

16 Report Number

Assessment report reference 17.0071 version 02.

17 Specific Conditions of Use

- All electrical equipment mounted on the spray dryer shall be certified / evaluated in adequacy with the installed zone and according to harmonized standards under the ATEX directive 2014/34/EU.
- The electrical equipment shall be installed according to EN60079-14 and to any local electrical installation requirements.
- When the dryer is equipped with Q-boxes for venting the dryer in case of internal explosion, the free room net volume, where the dryer is installed, shall be maintained during lifetime. See manufacturer manual.
- When dryer is equipped with relief panels for venting the dryer in case of internal explosion, the relief panels shall be ventilated to the outside. Safety area around the outlet shall be specified.
- The hot air into the dryer shall come from a source where there are no risk of sparks or glowing particles.
- The area around the dryer shall be cleaned regularly, so there is no risk of explosive atmosphere, during normal operation. The procedure for housekeeping shall be good, according to EN/IEC60079-10-2:2015 Annex B, saying that the dust layers shall be kept to a negligible thickness ($\ll 1\text{ mm}$) or non-existent.
- In the classified area around the dryer there may not be installed equipment or other items there can contribute to the zone classification.

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In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report: None



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19 Drawings and Documents

Number	Vers..	Date	Description
SGA 50/			
Z557744	A	29-01-2019	Type examination certificate SGA 50/2 – related
Z561565	A	03-04-2019	Volume and Q-box calculation for eggs SGA 50/9 – schedule
SGA 180/9			
Z560053	A	12-06-2019	Type examination certificate SGA180/09 – related
Z566013	A	18-06-2019	Volume and Q-box calculation for eggs SGA 180/9 – schedule
SGA 225/9			
Z541972	A	14-02-2018	Type examination certificate SGA225/09 – related
Z558668	A	12-02-2019	Volume and Q-box calculation SGA 225/9 – schedule
SGA 300/12			
Z541944	D	24-06-2019	Type examination certificate SGA300/12 – related
Z548344	B	21-06-2019	Volume and Q-box calculation SGA 300/12 - schedule
20190625 (All dryers)	-	2019-06-25	List of scheduled drawings

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2019-07-16


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