



EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 EC - Type Examination Certificate Number: **Baseefa11ATEX0127X**
- 4 Equipment or Protective System: **RV Range of Rotary Valves Sizes 85mm to 600mm – Protective System**
- 5 Manufacturer: **Rotolok Ltd**
- 6 Address: **1 Millennium Place, Tiverton, Devon, EX16 6SB**
- 7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems 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. **10(C)0189**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 15089: 2009
EN 14460: 2006
- 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 equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- 11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- 12 The marking of the equipment or protective system shall include the following :

Ex II D

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **6385**

Project File No. **10/0189**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa11ATEX0127X

15

Description of Equipment or Protective System

The RV Range of Rotary Valves consists of sizes 85, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500 and 600.

The rotary valves comprise a metal body with either round or square flanged inlet and outlet process connections. A metal rotor is situated centrally within the body. The rotor used on the size 85 to 500 valves can be fitted with 8 to 16 equi-spaced vanes. The size 600 rotor can have 10 to 20 equi-spaced vanes. The vanes are precisely machined to create a controlled clearance with the internal diameter of the casing/body and at the vane tips. The rotors on valves sizes 300 upwards include vane stiffeners to aid the mechanical strength of the rotor.

The rotor shaft has gland packing seals and is bearing supported externally at each end. The drive end is provided with a coupling for attachment to a suitable drive assembly which is not included within the scope of this certificate.

The casing/body on the valves is fitted with an earth connection facility.

The shaft gland seal may be fitted with 1/8" BSP connection for air purging.

The rotor may be supplied with scalloped rotor pockets, staggered pockets and reduced capacity pockets.

The internal surface of the valves may have the following coatings; Nickel, Tungsten Carbide, PTFE or Hard Facing.

16

Report Number

Baseefa Certification Report 10(C)0189

17

Special Conditions for Safe Use

1

When the valves are connected to a drive unit the rotational speed of the valves must not exceed the following maximum rpm.

Valve Size	Speed (r/min)
85	224
100	150
125	152
150	127
200	95
250	76
300	63
350	54
400	47
450	42
500	38
600	31

2.

The valves may only be used as a barrier for St1 and St2 dusts.

3.

The installation must be fitted with a suitable detection system to ensure that the rotation of the valve is stopped automatically if an explosion is detected in the process stream. The valve is to be examined in accordance with the manufacturer's instructions and returned for repair or refurbishment as necessary.



4. It is the user's responsibility to ensure that the level of safety integrity applied to the measures taken to meet 1 and 3 above are appropriate to the level of risk associated with the installation.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
F0005	A	23/05/2011	Round Flange Motorised Arrangement ATEX ST2 Rotary Valve
F0006	A	23/05/2011	Square Flange Motorised Arrangement ATEX ST2 Rotary Valve
F0007	A	23/05/2011	Cross Sections ATEX Rotary Valve Range
F0008	A	23/05/2011	Component Details ATEX ST2 Round RV Range
F0009	A	23/05/2011	Component Details ATEX ST2 Square RV Range

1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **Baseefa11ATEX0127X/1**

4 Equipment or Protective System: **RV Range of Rotary Valves Sizes 85mm to 600mm – Protective System**

5 Manufacturer: **Rotolok Ltd**

6 Address: **1 Millennium Place, Tiverton, Devon, EX16 6SB**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa11ATEX0127X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. 6385

Project File No. 13/0086

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R S Sinclair
R S SINCLAIR

GENERAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa11ATEX0127X/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To permit an alternative marking arrangement which includes separate details of the Non-Electrical equipment certificate Baseefa09ATEX0266X on the same nameplate.

Variation 1.2

To include additional design features which include open/closed combination rotor and quick release rotor.

16 Report Number

13(C)0086

17 Specific Conditions of Use

5. The rotary valve can be dual marked with the Equipment certificate marking when the individual valve arrangement complies with both certificates.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
F0005	1 of 1	B	02/05/2013	Round Flange Bareshaft Arrangement ATEX ST2 Rotary Valve
F0006	1 of 1	B	02/05/2013	Square Flange Bareshaft Arrangement ATEX ST2 Rotary Valve
F0013	1 of 1	A	07/03/2014	Additional Features ATEX ST2 RV Range

EU - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

EU - Type Examination Certificate **Baseefa11ATEX0127X – Issue 3**
Number:

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

Product: **RV Range of Rotary Valves Sizes 85mm to 600mm – Protective System**

Manufacturer: **Rotolok Ltd.**

Address: **1 Millennium Place, Tiverton, Devon, EX16 6SB, United Kingdom**

This re-issued certificate extends EC Type Examination Certificate No. **Baseefa11ATEX0127X** to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

SGS Fimko Oy, Notified Body number 0598, 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 original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. **See Certificate History.**

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

EN 15089:2009 EN 14460:2018

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

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.

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.

The marking of the product shall include the following:

 **II D**

SGS Fimko Oy Customer Reference No. **6385**

Project File No. **21/0789**

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Mikko Välimäki
SGS Fimko Oy

13 **Schedule**

14 **Certificate Number Baseefa11ATEX0127X – Issue 3**

15 **Description of Product**

The RV Range of Rotary Valves consists of sizes 85, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500 and 600.

The rotary valves comprise a metal body with either round or square flanged inlet and outlet process connections. A metal rotor is situated centrally within the body. The rotor used on the size 85 to 500 valves can be fitted with 8 to 16 equi-spaced vanes. The size 600 rotor can have 10 to 20 equi-spaced vanes. The vanes are precisely machined to create a controlled clearance with the internal diameter of the casing/body and at the vane tips. The rotors on valves sizes 300 upwards include vane stiffeners to aid the mechanical strength of the rotor.

The rotor may be provided in open form or closed form. The closed form rotor is provided with endplates to contain the transported product rather than allow it to pass directly against the side panels of the valve body.

The rotor may be supplied with scalloped rotor pockets, staggered pockets and reduced capacity pockets.

The rotor shaft has gland packing seals and is bearing supported externally at each end. The drive end is provided with a coupling for attachment to a suitable drive assembly which is not included within the scope of this certificate. The drive end arrangement, outside the containment of the valve, may be fitted with a “quick release” facility to enable easy withdrawal of the rotor from the non-drive end of the valve

The casing/body on the valves is fitted with an earth connection facility.

The shaft gland seal may be fitted with 1/8”BSP connection for air purging.

The internal surface of the valves may have the following coatings; Nickel, Tungsten Carbide or Hard Facing, depending on the intended use of the valve.

The valves are rated to prevent transmission of an explosion pressure up to 10 bar with both St 1 and St 2 dusts.

The valves also comply with the appropriate requirements for ATEX Equipment and this is covered by certificate Baseefa09ATEX0266X and the valves are dual marked accordingly.

Note: Baseefa09ATEX0266X also includes valves which do not meet the requirements for use as protective systems and are therefore not covered by this certificate.

Variation 2.1

Provision of a version of the rotor with “sacrificial” blade tips or blade extensions, for use when passing abrasive materials.

The blade diameter is reduced for each rotor size and additional blade tips or blade extensions securely fastened to each blade such that the original clearance dimensions between blade and housing is achieved. On larger diameter rotors, where blade stiffeners are fitted between adjacent blades, the blade extension is shaped to fit around the stiffeners.

A “Blade Tip” is only protecting the outer diameter of the rotor from excessive wear. A “Blade Extension” also provides protection at the side of the blade, for open rotors.

Fastening of the blade tip or blade extension to the blade is achieved by screw fasteners passing through the blade tip or extension into a mating threaded hole in the blade. Anti-vibration screw locking compound secures the blade tip or extension in place.

With the blade tips or blade extensions in place, the rotor is machined to the correct diameter. The user instructions include information on identifying blade wear and the appropriate limit after which the rotor must be returned to the manufacturer for servicing. It is not permitted for the user of the equipment to cause the rotor to be serviced other than by the manufacturer.

Variation 2.2

An alternative “blow through” casting for each valve body.

As an alternative to a free dropping arrangement from the outlet on the lower side of the valve, this version is provided with ports in the side plates of the valve to allow for air to blow through the valve at a lower level to transport the product horizontally.

The dimensions of the ports are such that the same number of blades exist between the inlet and the ports as between the inlet and gravity outlet. The air system does not form part of this certificate.

Note; whereas the gravity outlet version protects against explosions from either side of the valve, the blow-through version has not been tested for the effect of an explosion in the blow-through duct. It should, therefore, only be considered as providing protection against transmission of an explosion from above the valve into the blow-through ducting

16 Report Number

See certificate history.

17 Specific Conditions of Use

1. When the valves are connected to a drive unit, the rotational speed of the valves must not exceed the following maximum rpm.

Valve Size	Speed (r/min)
85	224
100	150
125	152
150	127
200	95
250	76
300	63
350	54
400	47
450	42
500	38
600	31

2. The valves may only be used as a barrier for St1 and St2 dusts, with an explosion pressure less than 10 bar.
3. The installation must be fitted with a suitable detection system to ensure that the rotation of the valve is stopped automatically if an explosion is detected in the process stream. If subjected to an explosion, the valve is to be examined in accordance with the manufacturer's instructions and returned for repair or refurbishment as necessary.
4. It is the user's responsibility to ensure that the level of safety integrity applied to the measures taken to meet 1 and 3 above are appropriate to the level of risk associated with the installation.
5. Rotors shall be inspected for wear on a regular basis in accordance with the maintenance instructions and, where necessary, returned to the manufacturer for refurbishment or replacement.

18 Essential Health and Safety Requirements

This certificate is concerned only with the performance of the rotary valves as a Protective System. All other Essential Health and Safety Requirements are dealt with in Certificate Baseefa09ATEX0266X which includes these valves in respect of their consideration as ATEX Equipment. Note, the reference to EN 14460:2018 (at 9 Above) should not be taken to imply that the rotary valves comply with that standard. It is used solely as a reference to justify the prescribed routine overpressure tests on the body castings prior to assembly of each valve.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
F0005#	1 of 1	C	22/11/2022	Round Flange, Bareshaft Arrangement ATEX ST2 Rotary Valve
F0006#	1 of 1	C	22/11/2022	Square Flange, Bareshaft Arrangement ATEX ST2 Rotary Valve

Number	Sheet	Issue	Date	Description
F0007	1 of 1	B	17/07/2022	Cross Sections ATEX ST2 Rotary Valve Range
F0008	1 of 1	B	22/11/2022	Component Details ATEX ST2 Round RV Range
F0009	1 of 1	B	22/11/2022	Component Details ATEX ST2 Square RV Range

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
F0011	1 of 1	B	02/06/2020	Additional Features ATEX ST2 RV Range (includes Blade Tips and Blow-Through outlet body castings)
F0013	1 of 1	A	17/03/2014	Additional Features ATEX ST2 Rotary Valve (includes closed rotor constructions and quick release rotor arrangement)
F0016	1 of 1	A	12/06/2020	Tip and Blade Details, ATEX Barrier Valve Range

#These drawings are common to BAS22UKEX0051X.

20 Certificate History

Certificate No.	Date	Comments
Baseefa11ATEX0127X	1 st June 2011	Release of original Certificate. Certification Report 10(C)0189 applies
Baseefa11ATEX0127X Issue 1	22 nd August 2014	To permit marking additionally with the certificate number as ATEX Equipment. To include closed rotors and quick release rotors. Certification Report 13(C)0086 applies
Baseefa11ATEX0127X Issue 2	2 July 2020	Clarification of text and addition of: Rotor blade extensions and sacrificial tips Blow through casting and end plates Certification Report 20(C)0068 applies
Baseefa11ATEX0127X Issue 3	16 August 2024	Minor drawing amendments not affecting certification to include UKEX marking on drawings. Certification report 21(C)0789/02 applies.
For drawings applicable to each issue, see original of that issue.		