



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX PRE 20.0046X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-09-29

Applicant: **Rotex Manufacturers and Engineers Private Limited**  
R-852/853, MIDC, TTC Industrial Area,  
Rabale, Maharashtra.  
Navi Mumbai 400 701  
**India**

Equipment: **Self-Contained Electro-Hydraulic Actuator**

Optional accessory:

Type of Protection: **Ex db, Ex tb**

Marking: **Ex db h IIC T4 Gb**  
**Ex h tb IIIC T135°C Db**  
**Tamb: -20°C to +70°C**

Approved for issue on behalf of the IECEx  
Certification Body:

**Asle Kaastad**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:

**2020-09-29**

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# IECEX Certificate of Conformity

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Date of issue: 2020-09-29

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Manufacturer: **Rotex Manufacturers and Engineers Private Limited**  
R-852/853, MIDC, TTC Industrial Area,  
Rabale, Maharashtra.  
Navi Mumbai 400 701  
**India**

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

**ISO 80079-36:2016** Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements  
Edition:1.0

**ISO 80079-37:2016** Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"  
Edition:1.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[NO/PRE/ExTR20.0050/00](#)

Quality Assessment Report:

[DE/BVS/QAR20.0009/00](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

EHF series self-contained electro-hydraulic actuator mainly consists of EHF housing with integral terminal box for mounting terminals, controller assembly with glass window cover (LCD Cover / LCD Cover V2), limit switch assembly with cover (LED Indication / Mechanical Indication cover) and integral squirrel cage / DC motor. One thermostat of 125°C/ 132°C is installed within the motor windings.

The equipment also contains manifold assembly which is partly a non-flameproof part of the equipment. Oil tank containing hydraulic oil is mounted on manifold assembly. The equipment is made from cast aluminium alloy LM 6, alternate material may be stainless steel grade CF8 / CF8M or carbon steel WCB 216 or SG Iron 520/7.

Terminal box cover is fixed on EHF housing with socket head cap screws of size M8 X 30L (Qty.- 6 nos.) forming a spigot joint. O-ring (Ø3.53mm) made of Nitrile rubber (NBR) is provided on terminal box cover and secured in O-ring groove. Glass window is cemented on controller assembly cover. The controller assembly cover is fixed on EHF housing with socket head cap screws of size M8 X 30L ( Qty.- 8 nos.) forming a spigot joint. O-ring (Ø3.53mm) made of Nitrile rubber (NBR) is provided on controller assembly cover and secured in O-ring groove. Plastic knobs ( Qty.- 02 numbers) are provided on controller assembly cover, the knobs are magnetically latched to the sensor mounted inside the enclosure for local controls.

The limit switch assembly cover is fixed on EHF housing with hex head screws of size M12 X 35L (Qty.- 6 nos.) forming a spigot joint. O-ring (Ø2.62mm) made of Nitrile (NBR) rubber is provided on limit switch assembly cover and secured in O-ring groove. Operating rod pass through the cover. On top of the cover, indicator cover made of Polycarbonate plastic material is provided to indicate position of valve "Open/ Close", alternatively cover may have LED Indication option. Manifold assembly is fixed on EHF housing with hex head screws of size M12 X40L (Qty.- 4 nos.) forming a spigot joint. O-ring (Ø2.62mm) made of Nitrile (NBR) rubber is provided on manifold housing and secured in O-ring groove.

The actuator may have following cover options:

- Controller assembly cover- LCD Cover V2 ( Glass Window - 105 X 65 mm)
- Controller assembly cover- LCD Cover ( Glass Window - Ø 65 mm)
- Limit Switch assembly cover – LED Indication ( Glass Window - Ø 47 mm)
- Limit Switch assembly cover – Mechanical Indication
- Terminal Box Cover- Blind cover

## SPECIFIC CONDITIONS OF USE: YES as shown below:

1. It is the responsibility of the installation engineer to ensure that suitably IECEx/ATEX equipment certified Ex db, Ex tb, IIC cable glands and blanking plug are installed in accordance with IEC60079-14 to ensure that the IP rating of IP67 is maintain on the enclosure.
2. It is the responsibility of the installation engineer to ensure that suitably rated cable and cable glands are used to install this equipment. see product label and instruction "Use Cable and Cable Glands suitable for 75°C."
3. Dust layers shall be prevented from building up on the outside surface of the enclosure, and the enclosure shall be routinely cleaned.
4. The equipment presents a potential electrostatic charging hazard. See instructions.
5. The fastening screws shall be stainless steel socket head cap screws of property class A2-70 and yield stress 450 MPa.
6. Repairs of the flameproof joints must be made in accordance with structural specifications provided by the manufacturer. Repairs must not be made on the basis of the values provided in IEC 60079-1

## Annex:

[Annex to certificate IECEx PRE 20.0046X corr.pdf](#)

**Annex to certificate: IECEx PRE 20.0046X**

**Electrical Data**

EHF series self-contained electro-hydraulic actuator mainly can be provided with following types of motors:

Motor Description	Voltage	Phase	Frequency in Hz	Speed RPM	In	Power in kW
Motor 1	400 VAC	3	50	3000		0.50
Motor 2	440 VAC	3	60	3600		0.50
Motor 3	480 VAC	3	60	3600		0.60
Motor 4	230 VAC	1	50	3000		0.40
Motor 5	230 VAC	1	60	3600		0.40
Motor 6	230 VAC	1	50	3000		0.40
Motor 7	230 VAC	1	50	3000		0.40
Motor 8	230 VAC	1	60	3600		0.40
Motor 9	400 VAC	3	50	3000		1.50
Motor 10	400 VAC	3	60	3600		1.25
Motor 11	440 VAC	3	50	3000		1.50
Motor 12	440 VAC	3	60	3600		1.25
Motor 13	480 VAC	3	60	3600		0.90
Motor 14	400 VAC	3	50	1500		0.50
Motor 15	440 VAC	3	60	1800		0.50
Motor 16	480 VAC	3	60	1800		0.60
Motor 17	110 VAC	1	50	1500		0.20
Motor 18	110 VAC	1	50	1500		0.30
Motor 19	110 VAC	1	60	1800		0.20
Motor 20	120 VAC	1	60	1800		0.20
Motor 21	230 VAC	1	50	1500		1.00
Motor 22	230 VAC	1	50	1500		1.00
Motor 23	415 VAC	3	50	1500		1.62
Motor 24	480 VAC	3	60	1800		2.24
Motor 25	400 VAC	3	50	1500		2.12
Motor 26	230 VAC	1	50	1500		2.24
Motor 27	230 VAC	1	60	1800		2.24
Motor 28	230 VAC	1	60	1800		2.24
Motor 29	230 VAC	1	60	1800		2.24
Motor 30	230 VAC	1	50	1500		2.49
Motor 31	230 VAC	1	60	1800		2.49
Motor 32	440 VAC	3	50	1500		2.12
Motor 33	230 VAC	3	50	3000		1.87
Motor 34	230 VAC	3	50	750		1.87
Motor 35	230 VAC	3	50	1500		1.87
Motor 36	230 VAC	3	60	3600		2.12
Motor 37	230 VAC	3	60	1800		2.12
Motor 38	230 VAC	3	50	3000		1.50
Motor 39	230 VAC	3	50	1500		0.90
Motor 40	440 VAC	3	50	1500		0.50
Motor 41	480 VAC	3	60	1800		0.50
Motor 42	400 VAC	3	50	1500		0.10
Motor 43	415 VAC	3	50	1500		0.10
Motor 44	110 VAC	1	60	1800		0.10
Motor 45	120 VAC	1	60	1800		0.10
Motor 46	415 VAC	3	50	1500		0.40
Motor 47	415 VAC	3	50	1500		0.80

Motor 48	440 VAC	3	50	1500	0.90
Motor 49	400 VAC	3	50	1000	0.20
Motor 50	440 VAC	3	60	1200	0.20
Motor 51	400 VAC	3	50	750	0.10
Motor 52	440 VAC	3	60	900	0.10
Motor 53	230 VAC	1	50	750	0.10
Motor 54	230 VAC	1	50	750	0.10
Motor 55	230 VAC	1	60	3600	0.40
Motor 56	240 VAC	1	50	750	0.10
Motor 57	110 VAC	1	50	1500	0.10
Motor 58	240 VAC	1	50	1500	0.30
Motor 59	230 VAC	3	50	3000	0.40
Motor 60	230 VAC	3	50	3000	0.50
Motor 61	380 VAC	3	60	3600	0.30
Motor 62	400 VAC	3	50	3000	0.40
Motor 63	440 VAC	3	60	3600	0.40
Motor 64	400 VAC	3	50	3000	0.50
Motor 65	440 VAC	3	60	3600	0.50
Motor 66	480 VAC	3	60	3600	0.60
Motor 67	230 VAC	3	50	3000	1.50
Motor 68	230 VAC	3	60	3600	1.25
Motor 69	230 VAC	3	50	3000	2.50
Motor 70	480 VAC	3	60	3600	3.00
Motor 71	415 VAC	3	50	1500	0.80
Motor 72	400 VAC	3	50	3000	1.50
Motor 73	400 VAC	3	60	3600	1.25
Motor 74	440 VAC	3	50	1500	0.70
Motor 75	230 VAC	3	50	1500	0.20
Motor 76	230 VAC	3	50	1500	0.40
Motor 77	230 VAC	3	50	1500	0.80
Motor 78	400 VAC	3	50	1500	0.20
Motor 79	440 VAC	3	60	1800	0.20
Motor 80	380 VAC	3	60	1800	0.30
Motor 81	400 VAC	3	50	1500	0.40
Motor 82	440 VAC	3	60	1800	0.40
Motor 83	380 VAC	3	60	1800	0.60
Motor 84	400 VAC	3	50	1500	0.80
Motor 85	230 VAC	3	60	1800	1.00
Motor 86	230 VAC	3	50	1500	2.00
Motor 87	400 VAC	3	60	1800	1.00
Motor 88	400 VAC	3	60	3600	1.25
Motor 89	380 VAC	3	60	1800	0.90
Motor 90	230 VAC	1	50	3000	0.50
Motor 91	230 VAC	1	50	3000	3.00
Motor 92	230 VAC	1	50	1500	0.10
Motor 93	230 VAC	1	50	1500	0.30
Motor 94	230 VAC	1	50	1500	0.70
Motor 95	440 VAC	3	60	1800	0.10
Motor 96	110 VAC	1	50	1500	0.70
Motor 97	110 VAC	1	50	1500	0.30
Motor 98	110 VAC	1	50	3000	3.00
Motor 99	110 VAC	1	50	3000	0.50
Motor 100	380 VAC	3	60	1800	1.50
Motor 101	400 VAC	3	50	1500	2.00
Motor 102	400 VAC	3	50	3000	2.50
Motor 103	110 VAC	1	50	1500	0.10
Motor 104	230 VAC	1	60	3600	0.50
Motor 105	230 VAC	1	60	3600	3.00

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Motor 106	230 VAC	1	60	1800	0.10
Motor 107	230 VAC	1	60	1800	0.30
Motor 108	230 VAC	1	60	1800	0.70
Motor 109	24 VDC	N.A.	N.A.	3000	3.10
Motor 110	24 VDC	N.A.	N.A.	1500	0.90
Motor 111	24 VDC	N.A.	N.A.	3000	2.92
Motor 112	460 VAC	3	50	1500	4.40

**Degrees of protection (IP Code)**

IP 67

**Ambient temperature:**

-20°C to +70°C