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## AMD's CERTIFICATES

### 1. GENERAL

As mentioned in the MDD Exd-03000, AMD machines are provided with "Ex certificates" that allow world-wide installation. In this document are listed all the certifications available and the standards that they refer.

Copy of the motor certificates are available in the ABB Library.

Copy of other certificates (T.B., accessories, special executions...) can be required to the factory.

### 2. EUROPEAN Standard

#### Certifications according to Directive 94/9/EC (ATEX), in force since July 01, 2003

The EN standards are applicable for machines, which have installed in hazardous areas inside of the European Union (EU). After 30<sup>th</sup> of June 2003 all the Ex-machines, which are installed in EU, have to fulfil the requirements of the ATEX directive (94/9/EC).

The technical demands for hazardous areas are mainly based on EN-standards. One of the most remarkable is the content of EN standards is direct copies from IEC standards. All ABB machines, which follow requirements of IEC-standards, fulfil also the requirements of EN-standards.

Machine Designation	Size	Protection	Bearings Execution	Certificate Number	Reference Standards
AMD...R	355 cast iron	II 2G Ex d/de IIB T3/T4 II 2D Ex tD A22 IP5X	Antifriction & Sleeve	LCIE 03 ATEX 6056	EN 60079-0 EN 60079-1 EN 60079-7 EN 61241-0 EN 61241-1
		II 2G Ex d/de IIC T3/T4 II 2D Ex tD A21 IP6X	Antifriction		
	400 cast iron	II 2G Ex d/de IIB T3/T4 II 2D Ex tD A22 IP5X	Antifriction & Sleeve	LCIE 05 ATEX 6161	
		II 2G Ex d/de IIC T3/T4 II 2D Ex tD A21 IP6X	Antifriction		
	450 500	II 2G Ex d/de IIB T3/T4	Antifriction & Sleeve	CESI 00 ATEX 057	
		II 2G Ex d/de IIC T3/T4	Antifriction	CESI 03 ATEX 028	
AMD...T	500 ÷ 710	II 2G Ex d/de IIB T3/T4	Antifriction & Sleeve	CESI 01 ATEX 048	

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### 3. IEC Standard

IEC standards for “Ex” equipments are perhaps the most commonly standards used in COG (Chemical, Oil and Gas) business environments, all over the world. If not differently specified, IEC standards are usually recognized in the most countries in the world.

Machine Designation	Size	Protection	Bearings Execution	Certificate Number	Reference Standards
AMD...R	355 cast iron	Ex d/de IIB T3/T4 Ex tD A22 IP5X	Antifriction & Sleeve	LCIE Ex-04.005	IEC 60079-0 IEC 60079-1 IEC 60079-7 IEC 61241-0 IEC 61241-1
		Ex d/de IIC T3/T4 Ex tD A21 IP6X	Antifriction		
	400 cast iron	Ex d/de IIB T3/T4 Ex tD A22 IP5X	Antifriction & Sleeve	LCIE Ex-05.009	
		Ex d/de IIC T3/T4 Ex tD A21 IP6X	Antifriction		
	450 500	Ex d/de IIB T3/T4	Antifriction & Sleeve	CESI Ex-04.009	
		Ex d/de IIC T3/T4	Antifriction	CESI Ex-04.007	
AMD...T	500 ÷ 710	Ex d/de IIB T3/T4	Antifriction & Sleeve	CESI Ex-04.008	

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#### 4. GOST-R Standard

Motors for hazardous area applications in the Russian Federation have to be certified according to the Russian GOST-R system. The certification system requires:

- 1) Certificate of Conformity to the GOSSTANDARD (GOST R), issued by CCVE (Center of Certification of Explosion proof and Mining Electrical Equipment). Required for customs clearance.
- 2) Permit for Use issued by the Federal Ecological, Technological and Atomic Supervision Service of Russia (ROSTEHNADZOR or RTN). Required for start-up.

GOST R Certificates and Permit for Use are valid for three years. On expiry the certificates are not renewed, but new certificates with new numbers are issued. CCVE, the certification agency used by ABB, states that GOST R Certificates and Permits for Use have to be valid at the time of manufacturing of the motor.

For accessories which are included in the motor certificates, like PT100 in windings or bearings, a deviation has to be given, that accessories are usually certified ATEX rather than GOST certified.

Machine Designation	Size	Protection	Bearings Execution	Certificate Number	Reference Standards
AMD...R	355 cast iron	1 Ex d IIB T3/T4 2 Ex de IIB T3/T4	Antifriction & Sleeve	POCC IT.ME92.B00453	ГОСТ P 51330.0-99 ГОСТ P 51330.1-99 ГОСТ P 51330.8-99
		1 Ex d IIC T3/T4 2 Ex de IIC T3/T4	Antifriction		
	400 cast iron	1 Ex d IIB T3/T4 2 Ex de IIB T3/T4	Antifriction & Sleeve	POCC IT.ГБ05.B01866	ГОСТ P 51330.0-99 ГОСТ P 51330.1-99 ГОСТ P 51330.8-99 ГОСТ P 61241-1-1-99
		1 Ex d IIC T3/T4 2 Ex de IIC T3/T4 DIP A21	Antifriction		
	450 500	1Ex d IIB T4 2Ex de IIB T4	Antifriction & Sleeve	POCC IT.ГБ05.B01116	ГОСТ P 51330.0-99 ГОСТ P 51330.1-99 ГОСТ P 51330.8-99
		1Ex d IIC T4 2Ex de IIC T4	Antifriction		
AMD...T	500 ÷ 710	1Ex d IIB T4 2Ex de IIB T4	Antifriction & Sleeve		

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## 5. CQST Certification

CQST (China National Quality Supervision and Test Centre for Explosion Protected Electrical Products) is one of the China famous professional testing and certification authorities and engages in safety test, examination and evaluation of Ex electrical products.

CQST is authorized to issue the certificates for the china market, according to local GB standards.

Machine Designation	Size	Protection	Bearings Execution	Certificate Number	Reference Standards
AMD...R	355	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1105X	GB 3836.1-2000 GB 3836.2-2000 GB 3836.3-2000
		Ex d IIC T3/T4 Ex de IIC T3/T4	Antifriction	CNEx06.1109X	
	400	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1106X	
		Ex d IIC T3/T4 Ex de IIC T3/T4	Antifriction	CNEx06.1110X	
	450	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1107X	
		Ex d IIC T3/T4 Ex de IIC T3/T4	Antifriction	CNEx06.1111X	
	500	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1108X	
		Ex d IIC T3/T4 Ex de IIC T3/T4	Antifriction	CNEx06.1112X	
AMD...T	500	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1113X	
	560	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1114X	
	630	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1115X	
	710	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	CNEx06.1116X	

**Remark:** the CQST certificates are based on the ATEX certificates. The number of the reference ATEX certificates will be indicated on the motor nameplate.

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## 6. KOREAN Approval

The Korean Approval is a local approval, which is necessary for the final installation of the motor in South Korean market and/or in the areas in which this can be requested. The approval is always necessary for the importation and use of the equipment in South Korea. The "Korean Approval" has to be issued by locally authorized Notify Bodies, as Kosha, KGS, or any other authorized body.

The Certificate has to be required by the "applicant" of the approval. The "applicant", usually, is the importer of the motor in the local market but it can also be either the local ABB, or its customer or the end user or other.

ABB Vittone Factory has an agreement with the Korean Notify Body "KGS", for issuing this document related to AMD machines. This procedure has been reviewed and approved by KGS.

### 6.3. Procedure and responsibility

#### 6.3.1. Request for Koran Approval

The Korean Approval can be required by ABB's customer in addition to the standard Ex certificate issued for the machines; this have to defined clearly in the order. The responsibility of the request of the Korean Approval belongs to the "applicant" and the Certificate will be issued by KGS directly to him. It will be issued one certificate for each type of motor included in the order, and it is valid for that motor type only.

#### 6.3.2. ABB factory responsibility

ABB Vittuone factory has defined an agreement with KGS for issuing of the Korean Approval for the motor series AMD. Korean Approval issued by other authorized have to be avoided since the process would have to be repeated from the very beginning with resulting additional costs and possible approval delivery delay.

This agreement means that KGS has already audited ABB Vittuone Factory (PRU for AMD machines) and it has collected all information and preliminary documentations necessary to declare that all motors belonging to AMD series with "Ex d / Ex de" protection mode are in compliance with the requirements of the local regulation.

ABB Factory has the responsibility to supply to KGS possible additional documentations required for the Certificate's issuing. ABB Factory has no responsibility in requiring the certificate to the Notify Body (if not direct importer).

#### 6.3.3. Applicant responsibility

The applicant has the responsibility to define in his order if the Korean Approval is required. According to this request, ABB Factory will supply all the information necessary for the completing of the certification process.

The applicant has the responsibility to require to KGS for issuing of the Certificate and he will have in charge the costs for that. He will be the owner of the certificate.

Document set to be supplied to KGS features:

- Motor Data Sheet
- Motor drawings set
- Motor test reports.

## 6.4. Contacts

### **KGS - KOREAN GAS SAFETY CORPORATION**

332-1, Daeya-Dong, Shihung-Shi  
Kyunggi-Do, 429-712, KOREA

#### Reference person

**Mr. Changwoo Lee**

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## 7. CCE/DGFASLI Approval

The CCE/DGFASLI Approval is a local approval, which can be required for the final installation of the motor in Indian market and/or in the areas in which this can be requested. The approval can be required for use of the equipment in India.

The Approval Letter is issued by the notify body CCE (Chief Controller of Explosives)

Machine Designation	Size	Protection	Bearings Execution	Approval Letter Number	Reference Standards
AMD...R	355	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve	A/P/HQ/MH/104/618 (P75087)	Petroleum Rules, 2002
	400	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve		
	450	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve		
	500	Ex d IIB T3/T4 Ex de IIB T3/T4	Antifriction & Sleeve		
AMD...T	500	Ex d IIA T3/T4 Ex de IIA T3/T4	Antifriction & Sleeve	A/P/HQ/MH/104/1128 (P168122)	
	560	Ex d IIA T3/T4 Ex de IIA T3/T4	Antifriction & Sleeve		
	630	Ex d IIA T3/T4 Ex de IIA T3/T4	Antifriction & Sleeve		
	710	Ex d IIA T3/T4 Ex de IIA T3/T4	Antifriction & Sleeve		

Petroleum has been defined under the Act and Rules as liquid hydrocarbon or a mixture of liquid hydrocarbons and any inflammable mixture containing liquid hydrocarbons. As example, these Rules covers approval of Refineries, Petrochemicals/Oil/Gas Processing Plants, transport of petroleum by water, land and pipeline, Flameproof and other safety equipments for use in areas laden with flammable gases and licensing of storage installations.

**REMARK:** The Petroleum Rules defines recognise gas group IIA and IIC. The AMDT are approved for gas group IIA, but the std design cover in any case gas group IIB.

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## 8. American Standards - Certifications suitable for US and Canadian Market

These machines intended for US and Canadian markets can have the main mechanical and electrical design of the machine that fulfils NEMA or CSA general motor and generator standards.

When the main design completes North American standards, the Ex-protection and area classification can be nowadays made according to two different systems: traditional Division system or the new Zone system, which refers to IEC standards. Both systems have similar main classification arrangements, which are based on the explosive substance.

The certification for AMDR machines is according to new Zone system (NEC 505)

Machine Designation	Size	Protection	Bearings Execution	Certificate Number	Reference Standards
AMD...R	355 ÷ 500	Class I Zone 1  AEx d IIB T4 Ex d IIB T4	Antifriction & Sleeve	CSA 1092735	CSA Std C22.2 No.E79-0-95 CSA Std C22.2 No.E79-0-95 CAN/CSA-C22.2 No. 1-98 CAN/CSA-C22.2 No. 0-M91 UL Std No. 2279 NFPA 70 CAN/CSA-C22.2 No. 100-95 UL 1004