TÜVRheinland®
Precisely Right.

Stellungnahme zur Anwendbarkeit der RL 94/9/EG (ATEX)

Für Geräte und Komponenten zur Verwendung in explosionsgefährdeten Bereichen

Declaration for application of directive 94/9/EC

For Equipment and Components Intended for Use in Potentially Explosive Atmospheres

Gegenstand: Gerät/Komponente, Typ Subject: Equipment/Component type	**Diaphragm Pneumatic Actuator series MSD II Type 290/340/400DA; 290/340/400RA; 290/340DT; 290/340RT; 500/650DA; 500/650RA; 400/500/650DM and 400/500/650RM**
Hergestellt und zur Prüfung vorgelegt Manufactured and submitted for examination	**CCI Ltd.**
Anschrift Address	**26-17 , Pungmu-Dong Klimpo City Kyunggi-Do , 415-070 South Korea**
Prüfgrundlage Basis for examination	**Anhang II der Richtlinie 94/9/EG Annex II of Directive 94/9/EC**
Verwendete Normen Standard basis	**EN 1127- 1 EN 13463- 1**
Prüfgrundlage für Sicherheits- und Gesundheitsanforderungen, die nicht von den verwendeten Normen abgedeckt werden Basis for those health and safety requirements not covered by the standard basis	**Entfällt Not relevant**
Schutzartkennzeichen Code for type of protection	**II 2 G c IIC T6**
Prüfergebnis: Examination result	**Die Stellglieder fallen unter den Anwendungsbereich der Richtlinie94/9/EG. Sie haben eigenen Zündquellen. The actuators are in the guilty of the directive 94/9/EC. They have own ignition sources.**
Prüfbericht-Nr: Assessment report number	**194/EX668.00.08**

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1) Typ

Diaphragm Pneumatic Actuator series MSD II Type

290/340/400DA; 290/340/400RA; 290/340DT; 290/340RT; 500/650DA; 500/650RA; 400/500/650DM and 400/500/650RM

2) Description

The function of the diaphragm actuator is to regulate the valve position using compressed air as a media. The actuator produces linear movement in response to a given signal output from a feedback device, such as a positioner. The actuators under test are single acting actuators, which hold springs in one chamber and compressed air in the other. While supported by guide bushing, the actuator stems slides axially to transfer the linear motion to the rigid coupling. The actuator stem is connected to the diaphragm, which separates the upper and lower chambers.

3) Technical Data

Technische Daten

-20°C ≤Ta≤75°C

MSD – II Pneumatic Actuator models:

290/340/400 DA	290/340/400 RA
290/340 DT	290/340 RT
500/650 DA	500/650 RA
400/500/650 DM	400/500/650 RM

Size ΦA (mm)	Assembly No.	Air Fail Mode	Stroke (mm)	Max. Thrust Force (Kgf)	Set Press. (Kgf)
290	9012DN0614020B	Open	20	612	3.2
	9012DN0614020B		30	476	
	9012DN0614020B	Close	20	340	
	9012DN0614020B		30	204	
340	9013DN0412020A	Open	20	1060	
	9013DN0416030B		30	848	
	9013DN0420040B		40	636	
	9013RN1220020B	Close	20	636	
	9013RN0919030B		30	477	
	9013RN0820030B		30	424	
	9013RN0420040B		40	212	
	9013RN0619040B		40	318	

Size ΦA (mm)	Assembly No.	Air Fail Mode	Stroke (mm)	Max. Thrust Force (Kgf)	Set Press. (Kgf)
400	9014DN0416030B	Open	30	1425	3.5
	9014DN0419040C		40	1200	
	9014DN0618050D		50	1275	
	9014RN0718030B	Close	30	525	
	9014RN0419040B		40	300	
	9014RN1429040B		40	1050	
	9014RN0818040C		40	600	
	9014RN0618050B		50	450	
	9014RN1129050B		50	825	
500	9015DN0419040B	Open	40	2000	
	9015DN0422050B		50	1625	
	9015DN0622070B		70	1625	
	9015DN0525100B		100	1250	
	9015RN1429040C	Close	40	1750	
	9015RN1022050B		50	1250	
	9015RN1929050B		50	2375	
	9015RN0622070D		70	750	
	9015RN1125070B		70	1375	
	9015RN0525100B		100	625	
650	9016DN0820050A	Open	50	2520	3.2
	9016DN0824070A		70	1680	
	9016DN0413070A		70	3990	
	9016DN0416100A		100	3360	
	9016DN0420130B		130	2520	
	9016RN1224050A	Close	50	2520	
	9016RN0824070A		70	1680	
	9016RN1120070A		70	2310	
	9016RN0820100B		100	1680	
	9016RN0420130B		130	840	

4) **Assessment result:.**
The actuators, listed in pos. 1 are in the scope of the directive 94/9/EC. They have ignition source.

5) **ATEX marking**
with following marking:
Name and address of manufacturer
Type
Year of manufacturing
serial number
II 2 G c IIC T6

6. Special Limitations
Conditions for save usage or save application

- The actuator disassembly is prohibited in the Ex-region. Ignition can be occurring even under normal disassembly under consideration of all applicable safety aspects.

- The actuator can be subjected to hazardous voltage levels and a disassembly of the device can lead to fatalities or death. Therefore precautions have to be taken into account to prevent hazardous voltages.
- - The actuator is only to be used under suitable ambient conditions.
- - The required air pressure of the connection circuit and the quality of the air has to be specified. Regulation of the pressure has to be ensured by suitable pressure valves or other suitable means.
- - The device has to be connected to the ground and bonding system.
- - Screws and connections have to be checked for fastness.
- - Instructions for the user how to test the correct operation of the actuator parts.
- - Instructions which parts have to be replaced after disassembly and which parts are to be replaced depending on their conditions and live time.
- - Only original replacement parts as listed by the manufacturer have to be used. Otherwise the warranty or safety may be impaired.
- - List for spare parts should be provided by manufacturer.
- - Data listing limits of parts due to normal wear and tear should be provided by manufacturer.
- - Important assembly instructions (e.g. tightening torque for screws) should be provided by manufacturer.
- - Instructions for the user in regards to the fact that the live cycle of the actuator assembly is limited to 500,000 switching cycles. The complete device or at least parts of it have to be exchanged by the manufacturer or an authorized service expert when this number has been reached should be provided by manufacturer.
- The result of this assessment and ignition analysis is, that there is a risk of ignition by known / seldom failures. Due to this fact the Directive 94/9/EG is applicable.

6) Relevant informations- for health and safety

The actuators have to be connected to the grounding system of the pipe or plant. The temperature of the actuator is determined considerably from the temperature of the medium.

The user has to be informed of this in the manual.