





# FOR USE IN HAZARDOUS AREAS PRECISION COUPLINGS

## MARKING EXAMPLE

Based on the ATEX markings the product can be certified for suitability under certain conditions.

 	II	2G	Ex h	IIA T6	Gb	X
	II	2D	Ex h	IIIA T85°C	DB	X
	Equipment group	Category	Protection type	Explosion subgroup / Temperature class / max. surface temperature	Equipment protection level (EPL)	Additional features c

Equipment group	Approval type
I	Approved for underground operation
II	Approved for all other applications

Category	Approved for zone	Zone description
1G	0	Area in which an explosive atmosphere consisting of a mixture of air and flammable gases, vapors, or mists is present continuously, frequently or for long periods of time.
2G	1	Area in which the potential exists for an explosive mixture of air and flammable gases, vapors or mists to occur.
3G	2	Area in which the potential for an explosive mixture of air and flammable gases, vapors, or mists to occur is unlikely and only for a brief duration.
1D	20	Area with the same conditions as zone 0, with powder or dust.
2D	21	Area with the same conditions as zone 1, with powder or dust.
3D	22	Area with the same conditions as zone 2, with powder or dust.

Protection type	Definition
Ex h	Design safety level: ignition hazard is avoided by the product design.

### Example classification by occurring gases, mists and vapors according to temperature class and explosion group

Temperature class / max. surface temperature	IIA	IIB (includes IIA)	IIC (includes IIA + IIB)
T1 / 450°C	Acetone, ammonia, methane, ...	City gas (gas lamp)	Hydrogen
T2 / 300°C	Ethyl alcohol, n-butane, cyclohexane, ...	Ethylene, ethylene oxide	Ethine (acetylene)
T3 / 200°C	Gasoline, diesel, heating oil, ...	Eethylene glycol, hydrogen sulfide	
T4 / 135°C	Acetaldehyde	Ethyl ether	
T5 / 100°C			
T6 / 85°C			Carbon disulphide

Equipment protection level according to IEC 60079	Importance
Ga	Very high protection level
Gb	High protection level
Gc	Extended protection level
Da	Very high protection level
Db	High protection level
Dc	Extended protection level

Additional mark	Importance
X	Special operating conditions (from description)
U	Part is a component. Conformity must be declared after installation in a device.

## ATEX METAL BELLOW COUPLINGS

### CONSTRUCTION

Dimensions and materials of the standard models remain largely intact.

### PERFORMANCE RATINGS

The rated torque of the standard models must be reduced by 30 %.

### OPERATION

According to the Machinery Directive, ATEX metal bellow couplings must only be operated inside a sealed housing. Both the input and output shafts must be monitored to guarantee shut down in the case of coupling failure.

### SAMPLE IDENTIFICATION

Bellow Coupling

Type: BK2/1500/166/75/80/Ex-XX



II 2 G Ex h IIB T4 Gb

II 2 D Ex h IIIC T135°C Db

-20°C ≤ Tamb ≤ 100°C

Ident No. XXXXXX.X



Bellow Coupling

Type: BK4/150/94/35/37/Ex-XX



II 2 G Ex h IIB T4 Gb

II 2 D Ex h IIIC T135°C Db

-20°C ≤ Tamb ≤ 100°C

Ident No. XXXXXX.X



## ATEX ELASTOMER COUPLINGS

### CONSTRUCTION

Dimensions and materials of the standard models remain largely intact.

### PERFORMANCE RATINGS

All permitted misalignments, speed and torque ratings of the standard models.

### OPERATION

According to the Machinery Directive, ATEX elastomer couplings must only be operated inside a sealed housing. Both the input and output shafts must be monitored to guarantee shut down in the case of coupling failure.

### SAMPLE IDENTIFICATION

Elastomer Coupling

Type: EK2/800/D/70/75/Ex-XX



II 2 G Ex h IIC T4 Gb

II 2 D Ex h IIIC T135°C Db

-10°C ≤ Tamb ≤ 70°C

Ident No. XXXXXX.X



Elastomer Coupling

Type: A 14.06.04 3



II 2 G Ex h IIA T6 Gb

II 2 D Ex h IIIA T85°C Db

-10°C ≤ Tamb ≤ 70°C

Ident No. XXXXXX.X





# FOR USE IN HAZARDOUS AREAS PRECISION COUPLINGS

## ATEX TORQUE LIMITERS

### CONSTRUCTION

Dimensions and materials of the standard models remain largely intact.

Generally full disengagement style torque limiters are used in ATEX environments in order to avoid high temperatures from excess friction after disengagement.

For ES2 torque limiters the inserts come in version "D" (Sh65D) which is electrically conductive to provide continuity for any potential electrostatic charges.

### PERFORMANCE RATINGS

All permitted misalignments, speed and torque ratings of the standard models.

### BETRIEB

ATEX safety couplings must be used with an ATEX proximity switch. The emergency stop function in conjunction with activation of the switch must be fully tested for proper function prior to commissioning of the machine.

When bellow couplings are incorporated they must only be operated inside a sealed housing. Both the input and output shafts must be monitored to guarantee shut down in the case of bellows failure.

### SAMPLE IDENTIFICATION

#### Torque Limiter

Type: SK2/1500/F/W/75/80/Ex-XX



II 2 G Ex h IIC T3 Gb

II 2 D Ex h IIIC T200°C Db

-20°C ≤ T<sub>amb</sub> ≤ 100°C

Ident No. XXXXXX.X



#### Torque Limiter

Type: ES2/1500/F/W/85/78/Ex-XX



II 2 G Ex h IIC T3 Gb

II 2 D Ex h IIIC T200°C Db

-20°C ≤ T<sub>amb</sub> ≤ 70°C

Ident No. XXXXXX.X



## ATEX LINE SHAFTS

### CONSTRUCTION

Dimensions and materials of the standard models remain largely intact.

For EZ type line shafts the inserts come in version "D" (Sh65D) which is electrically conductive to provide continuity for any potential electrostatic charges.

### PERFORMANCE RATINGS

For EZ2 type line shafts all permitted misalignments, speed and torque ratings of the standard models. For ZA and ZAE type line shafts the rated torque must be reduced by 30 %. The allowable operating speed depends on the overall length of the line shaft and is available upon request.

### OPERATION

When bellow couplings are incorporated they must only be operated inside a sealed housing. Both the input and output shafts must be monitored to guarantee shut down in the case of bellow failure.

### SAMPLE IDENTIFICATION

#### Elastomer Line Shafts

Type: EZ2/9500/1200/D/130/120/Ex-XX



II 2 G Ex h IIB T4 Gb

II 2 D Ex h IIIC T135°C Db

-20°C ≤ T<sub>amb</sub> ≤ 70°C

Ident No. XXXXXX.X



#### Bellow Line Shafts

Type: ZA/4000/1200/100/100/Ex-XX



II 2 G Ex h IIB T4 Gb

II 2 D Ex h IIIC T135°C Db

-20°C ≤ T<sub>amb</sub> ≤ 100°C

Ident No. XXXXXX.X



## GENERAL INFORMATION

---

**Prior to deviating from any of the previous safety instructions please contact R+W.**

The use of devices and components in potentially explosive atmospheres areas is governed by the European directives 2014/34/EU (ATEX). According to this they are with CE and receive an EU declaration of conformity as a device. The presented products are non-electrical equipment of category 2.

According to directive 2014/34/EU each delivery of an ATEX coupling requires the inclusion of special installation and operating manuals and the EU declaration of conformity issued by the manufacturer. All necessary values and specifications for installation and operation can be found in these documents.

In accordance with the Machinery Directive 2006/42/EC and the guideline for the application of the Machinery Directive 2006/42/EC of the European Commission For Enterprise and Industry, 2nd edition June 2010, editor Ian Fraser, R+W couplings are components and therefore not a machine or an incomplete machine. As a component within the meaning of the Machinery Directive, R+W couplings are not to be marked with a CE marking, receive neither CE declaration of conformity nor installation and no serial number, and is therefore not covered by the Machinery Directive.

All statements made about ATEX conforming products are based on our present knowledge and experience. R+W reserves the right to change technical specifications.