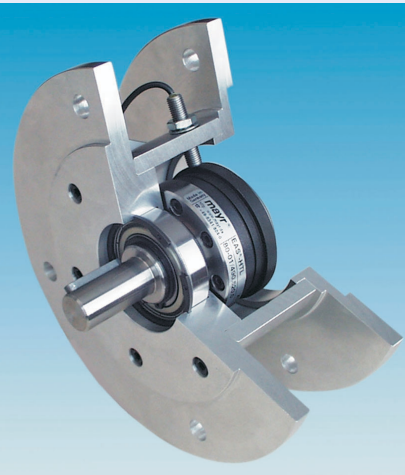


# mayr® ATEX-certified products

**Ex** Marking for operational equipment areas where there is a danger of explosion acc. 94/9 EC (ATEX 95)



**Torque limiting clutch**  
EAS®-element clutch :  
CE Ⓢ II 2 G c T5 -15°C≤Ta≤+80°C D 110°C  
CE Ⓢ II 3 G c T5 -15°C≤Ta≤+80°C D 110°C  
CE Ⓢ I M2 c



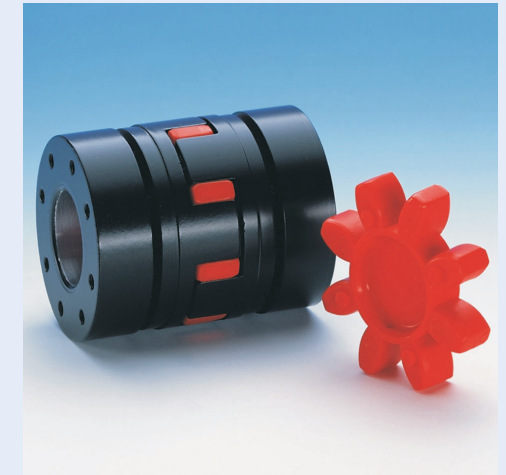
**Torque limiting clutch in enclosed housing**  
EAS®-HTL :  
CE Ⓢ II 2 G c T5 -15°C≤Ta≤+80°C D 110°C



**Torque limiting clutch**  
EAS®-Compact®-overload :  
CE Ⓢ II 2 G c T5 -15°C≤Ta≤+80°C D 110°C



**Shaft coupling**  
ROBA® DS :  
CE Ⓢ II 2 G c T5 -30°C≤Ta≤+80°C D 110°C  
CE Ⓢ I M2 c -30°C≤Ta≤+80°C



**Shaft coupling**  
ROBA® ES :  
CE Ⓢ II 2 G c T4/T5/T6 -30°C≤Ta≤+80/60/45°C D 110°C  
CE Ⓢ I M2 c -30°C≤Ta≤+80°C



**Safety brake**  
ROBA-stop®-M-Brake :  
CE Ⓢ II 3 G Ex nA II T3 / Ex tD A22 IP65 T120°C X  
IP54

Ignition Protection Types						
a) Standards for electrical equipment in areas where there is a high danger of explosion						
Ignition Protection Type	Marking	Symbol	Protective Principle	Zone	IEC	CENELEC
General regulations	-	-	-	-	60079-0	EN 50014
Pressure-resistant Encapsulation	Ex d		Prevents further transmission of explosion	1 / 2	60079-1	EN 50018
Increased safety	Ex e		Prevents sparks and high temperatures	1 / 2	60079-7	EN 50019
Inherent safety	Ex i		Limits sparks and high temperatures	0 / 1 / 2	60079-11	EN 50020 EN 50039
Pressurizing	Ex p		Separates explosive atmosphere from ignition source	1 / 2	60079-2	EN 50016
Encapsulation	Ex m		Separates explosive atmosphere from ignition source	0 / 1 / 2	60079-18	EN 50028
Oil immersion	Ex o		Separates explosive atmosphere from ignition source	1 / 2	60079-6	EN 50015
Powder filling	Ex q		Prevents further transmission of explosion	1 / 2	60079-5	EN 50017
Ignition protection type "n"	Ex n	-	Different protective principles for Zone 2	2	60079-15	EN 50021
Protection by housing	Ex tD	-	Separates explosive atmosphere from ignition source	21 / 22	61241-1	EN 61241-1
Inherent safety	Ex iD	-	Limits sparks and high temperatures	20 / 21 / 22	61241-11	EN 61241-11
Pressurizing	Ex pD	-	Separates explosive atmosphere from ignition source	21 / 22	61241-4	EN 61241-4
Encapsulation	Ex mD	-	Separates explosive atmosphere from ignition source	21 / 22	61241-18	EN 61241-18
b) Standards for non-electrical equipment in areas where there is a high danger of explosion						
Ignition Protection Type	Marking	Symbol	Protective Principle	Zone	IEC	CENELEC
Basic principles and requirements	-	-	-	0 / 1 / 2	-	EN 13463-1
Protection by smoke-reducing encapsulation	fr	-	Prevents further transmission of explosion	2 / 22	-	EN 13463-2
Pressure resistant encapsulation	d	-	Prevents further transmission of explosion	1 / 2 / 21 / 22	-	EN 13463-3
Inherent safety	g	-	Limits sparks and high temperatures	1 / 2 / 21 / 22	-	EN 13463-4
Structural safety	c	-	Danger of ignition is prevented by equipment design	1 / 2 / 21 / 22	-	EN 13463-5
Ignition source monitoring	b	-	Monitoring of potential ignition sources	1 / 2 / 21 / 22	-	EN 13463-6
Pressurizing	p	-	Separates explosive atmosphere from ignition source	1 / 2 / 21 / 22	-	EN 13463-7
Liquid filling	k	-	Separates explosive atmosphere from ignition source	1 / 2	-	EN 13463-8

Examples of Gas, Haze and Steam Classification and Differentiation (Please Observe for Different Ignition Types)								
Classification of Gases and Steams	Explosives Group				Temperature Class and Max. Surface Temperature			
	I	IIA	IIB	IIC				
Methane	Acetone Ammoniac Ethane Acetic acid Methane Propane	Acrylonitrile Urban gas	Hydrogen	T1 450 °C				
					Cyclohexane Ethanol N-Butane i-amyl acetate	Ethylene Ethylen oxide	Acetylene	T2 300 °C
					Acetaldehyde	Ethyl ether	T4 135 °C	
			Carbon disulphide	T5 100 °C				
				T6 85 °C				

If no particular ambient temperature range Ta is specified, the standard range of -20°C≤Ta≤+40°C applies. For this, no special marking is necessary. Other ambient temperature ranges must be included in the marking, e. g. -15°C≤Ta≤+80°C.

**CE** ..... **Ex** **II 2 G c IIC T5** ..... **D 120°C** ..... **X**

CE-marking certifies conformity of product with the existing guidelines

Our experts are happy to assist with an application-specific evaluation

Marking Explosion-proof Design

Official Inspection Authorities in Germany (If Certified by a Laboratory)

Code	Laboratory
0032	TÜV Hannover/ Sachsen-Anhalt e.V.
0102	PTB
0123	TÜV Süd
0158	EXAM
0297	DQS
0588	FSA
0589	BAM
0637	IBEXU

Classification and Marking of Explosive Areas

Com-bustible materials	Time-related behaviour of combustible materials in explosive areas	Classification of areas where there is a high danger of explosion	Marking for equipment		
			Device class	Device category G = Gas D = Dust	
Gas, Fog, Steam	are constantly / often present or present over longer time periods	Zone 0	II	1G	
	are occasionally present	Zone 1	II	1G	2G
	are probably not present; and, if present, only rarely or temporarily	Zone 2	II	1G	2G
Dust	are constantly / often present or present over longer time periods	Zone 20	II	1D	
	are occasionally present	Zone 21	II	1D	2D
	are probably not present even in whirled dust, or are rarely or temporarily present	Zone 22	II	1D	2D
Methane, Dust	-	Mines	I	M1	
	-	Mines	I	M1	M2

Actual Maximum Surface Temperatures of Operational Range Dust in °C

If Tested by Laboratory:  
Laboratory (abbreviation), Certification year, ATEX test, Serial test number

Additional Conditions

Condition	Marking
Operational equipment can be used without restriction	-
Observe special operational conditions	X
EX-endangered equipment, partly certified, not suitable for use alone. CE-conformity is certified after installation into the complete equipment	U