



Explosion Proof Wire Rope Hoist



EX-CV SERIES



EXPLOSION PROOF WIRE ROPE HOIST

THAC offers **Explosion-Proof Wire Rope Hoist** to meet all the requirements of ATEX 94/9/EC directive. They are extremely reliable and have a long-than-average service life for hazardous atmospheres in chemical and petrochemical factory, gas power plants, oil refineries, waste water treatment plants, paint shops etc.

Classification of Hazardous Areas

According to the new directive, equipment is classified into five categories, based on the level of risk in the intended area of use.

Classification	Category of equipment	Inflammable Substances	Presence of Explosive atmosphere	Comparison with previous practice and IEC
Group I (mines)	M1	Methane, Dust	Functional with explosive atmosphere present	Group I
	M2	Methane, Dust	De-energised when explosive atmosphere present	Group I
Group II (surface)	1	Gas, vapours, Mist, dust	Constant or for long periods	Group II Zone 0(gas) Zone 20(dust)
	2	Gas, vapours, Mist, dust	Probable during normal operation(occasional)	Group II Zone 1(gas) Zone 21(dust)
	3	Gas, vapours, Mist, dust	Rarely or for short periods	Group II Zone 2(gas) Zone 22(dust)

Groups

Electrical equipment are divided into two groups where Group I covers equipment used in mines and Group II covers all other applications in above ground installation.

Gas divisions or zones

The zone defines the probability of hazardous material being present in an ignitable concentration in the surrounding atmosphere.

- Zone 0: area in which an explosive gas atmosphere is present continuously or for long periods.
- Zone 1: area in which an explosive gas atmosphere is likely to occur in normal operation.
- Zone 2: area in which an explosive gas atmosphere it is not likely to occur in normal operation and, if it does occur, is likely to do so only infrequently and will exist for a short period only.

Dust zones

Flammable dusts when suspended in air can explode.

The zone definitions are:

- Zone 20: A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.
- Zone 21: A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur, occasionally, in normal operation.
- Zone 22: A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.



EXPLOSION PROOF WIRE ROPE HOIST

Protection Types

Protection Types are used to denote the level of safety for the device. Equipment approved receives a temperature code indicating the maximum surface temperature of the equipment.

Different protection techniques are used to address the hazardous zones.

		Zone
Ex d	Flameproof (Explosion proof) Enclosure	1,2
Ex e	Increased Safety	1,2
Ex ia	Intrinsically Safe	0,1,2
Ex ib	Intrinsically Safe	1,2
Ex o	Oil Immersion	2
Ex p	Pressurized Apparatus (Purged Apparatus)	1,2
Ex q	Powder Filling (Sand Filling)	2
Ex m	Encapsulation	1,2
Ex n or Ex N	Non incentive or/and normally no sparking circuits	2

EXPLOSION PROOF WIRE ROPE HOIST

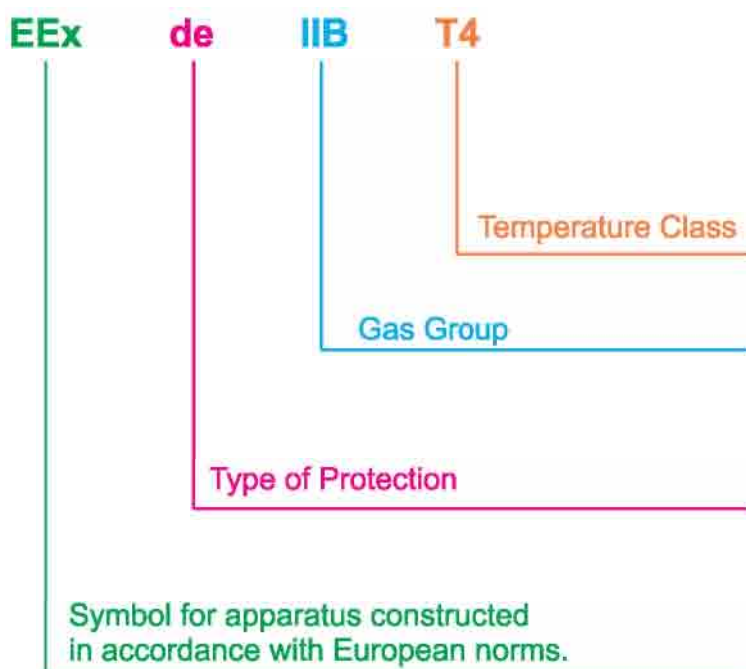
Gas Groups and Temperature Classes

Also the nature of the hazard needs to be identified. The gas group and temperature class are selected according to the amount of energy required to ignite the gas and ignition temperature.

Examples of gas groups and temperature classes.

Gas		Temperature Class				
Group	T1(above 450°C)	T2(300°~450°C)	T3(200°~300°C)	T4(135°~200°C)	T5(100°~135°C)	T6(85°~100°C)
IIA	Acetone Acetic acid Ammonia Ethane Ethyl acetate Methane Methanol Propane Toluene	Amyl acetate Butane Butyl acetate Ethanol	Hexane Kerosene Naphtha Petrol	Acetaldehyde		
IIB	Town gas Carbon monoxide	Ethylene Ethylene oxide		Ethyl ether		
IIC	Hydrogen	Acetylene			Carbon disulphide	

Explosion Proof Classification



Our Explosion-Proof Hoists apply for Group 2 Zone 1 & 2 hazardous areas worldwide and meet the requirements of EEx de IIB T4 as standard, EEx de IIC T4 upon request.

1 HOISTING MOTOR

Motors are classified according to the potentially explosive atmospheres which are present at the place of installation. The rotor brake motors are 3-phase AC squirrel-cage induction motors. The hoist motor are 2/12 poles, the travel motors 2/8 pole. Type of Protection IP66, 40% ED, F class insulation. Thermally protected with dual metal protectors as standard.



2 FLAMEPROOF BRAKE

Our brakes meet the requirement of ATEX Directive ATEX 94/9/CE-ATEX 95, Group II 2GD category, in compliance with the norms norme EN 60079-0:2006, EN60079-1:2004, EN61241-0:2006 and EN61241-0:2004. VIS brake are certificate INERIS 06 ATEX 0047/01

3 LIMIT SWITCH

Compliant with IEC Standard, our explosion-proof limit switches are electro-mechanical devices that consist of an actuator mechanically linked to a set of contacts. When an object comes into contact with the actuator, the device operate the contacts to make or break an electrical connection.



4 TROLLEY WHEELS

The standard wheels on EX trolley meet ATEX requirements. For off-standard applications or if the customers particularly requests for non-sparking area, brass wheels can be provided.



5 BOTTOM BLOCK AND HOOK

The 360 swiveling hook is made of high-strength and high resistance forged steel and is fitted swiveling crossbar. The elegant bottom blocks are equipped with protective edging around the rope opening and are provided with an anti-drop safety latch. Bronze-coated bottom block or load hook on requests to reduce the possibility of sparking in the event the hook strikes steel or other ferrous metal objects.



6 ROPE DRUM & ROPE

The rope drum is designed for high safety and long service life. Fine machining of the drum grooves minimises wear on the rope. Apply the high strength galvanised steel wire rope complying with safety rules.

7 CONTROL PANEL

Explosion-proof control panels are designed to reduce or eliminate the risk of explosion in hazardous environment. Body and ribbed lid are in copper-free aluminium alloy. Neoprene seals to prevent an explosive amounts of hazardous dust.



8 PUSH BUTTON SWITCH (IP65) with EMS

Certificated ATEX II 2 GD, our push button switch is suitable for all kind of industry where an explosive atmosphere may be present. According to IEC 60529, the advanced features of water-proof and dust-prevented meet IP65 standard. With the benefits of ergonomic design, prompt action and simple operation, users make quick and good performance on movement.

9 OVERLOAD PROTECTION

Mechanical overload protection cuts off the power of motor to prevent object lifting in case of excessive over loading.





Specification

EXPLOSION PROOF WIRE ROPE HOIST



50HZ

MODEL	Cap (ton)	Lift (m)	Duty (ISO)	Lift Speed (M/Min)	Hoist Motor (KW)	Trolley Speed (M/Min)	Trolley Motor	Rail		Rope		
								V	W	Fall	Dia.(mm)	
EX-CV03C5A050D-V18D	3	6	M5	0.8 / 5	0.53 / 3.2	4.5 / 18	0.75	v	v	4 / 1	8	
EX-CV03C5B050D-V18D		9										
EX-CV03C5C050D-V18D		12										
EX-CV03B5A050D-V18D		6	M5	0.8 / 5	0.53 / 3.2	4.5 / 18	0.75	v	v	4 / 2	8	
EX-CV03B5B050D-V18D		9										
EX-CV03B5C050D-V18D		12										
EX-CV03A5A050D-V18D		6	M5	0.8 / 5	0.53 / 3.2	4.5 / 18	0.75	v	v	2 / 1	11.2	
EX-CV03A5B050D-V18D		9										
EX-CV03A5C050D-V18D		12										
EX-CV05C5A050D-V18D	5	6	M5	0.8 / 5	0.8 / 4.9	4.5/18	0.75	v	v	4 / 1	11.2	
EX-CV05C5B050D-V18D		9										
EX-CV05C5C050D-V18D		12										
EX-CV05B5A050D-V18D		6	M5	0.8 / 5	0.8 / 4.9	4.5/18	0.75	v	v	4 / 2	11.2	
EX-CV05B5B050D-V18D		9										
EX-CV05B5C050D-V18D		12										
EX-CV05A5A050D-V18D		6	M5	0.8 / 5	0.8 / 4.9	4.5/18	0.75	v	v	2 / 1	14	
EX-CV05A5B050D-V18D		9										
EX-CV05A5C050D-V18D		12										
EX-CV05A5A099D-V18D		6	M5	1.65 / 9.9	1.6 / 9.8	4.5/18	0.75	v	v	2 / 1	14	
EX-CV05A5B099D-V18D		9										
EX-CV05A5C099D-V18D		12										
EX-CV05B5A099D-V18D		6	M5	1.65 / 9.9	1.6 / 9.8	4.5/18	0.75	v	v	4 / 2	11.2	
EX-CV05B5B099D-V18D		9										
EX-CV05B5C099D-V18D		12										
EX-CV07D4A017D-V18D		7.5	6	M4	0.28 / 1.7	0.53 / 3.2	4.5 / 18	0.75	v	v	6 / 1	11.2
EX-CV07D4B017D-V18D			9									
EX-CV07D4C017D-V18D			12									
EX-CV07D4A033D-V18D	6		M4	0.55 / 3.3	0.8 / 4.9	4.5 / 18	0.75	v	v	6 / 1	11.2	
EX-CV07D4B033D-V18D	9											
EX-CV07D4C033D-V18D	12											
EX-CV10C5A050D-V18D	10	6	M5	0.8 / 5	1.6 / 9.8	4.5 / 18	1.5	v	v	4 / 1	14	
EX-CV10C5B050D-V18D		9										
EX-CV10C5C050D-V18D		12										
EX-CV10B5A050D-V18D		6	M5	0.8 / 5	1.6 / 9.8	4.5 / 18	1.5	v	v	4 / 2	14	
EX-CV10B5B050D-V18D		9										
EX-CV10B5C050D-V18D		12										
EX-CV10C5A025D-V18D		6	M5	0.42 / 2.5	0.8 / 4.9	4.5 / 18	1.5	v	v	4 / 1	14	
EX-CV10C5B025D-V18D		9										
EX-CV10C5C025D-V18D		12										
EX-CV15D4A017D-V18D	15	6	M4	0.28 / 1.7	0.8 / 4.9	4.5 / 18	1.5	v	v	6 / 1	14	
EX-CV15D4B017D-V18D		9										
EX-CV15D4C017D-V18D		12										
EX-CV15D4A033D-V18D		6	M4	0.55 / 3.3	1.6 / 9.8	4.5 / 18	1.5	v	v	6 / 1	14	
EX-CV15D4B033D-V18D		9										
EX-CV15D4C033D-V18D		12										
EX-CV20F4A023D-V18D	20	6	M4	0.38 / 2.3	1.6 / 9.8	4.5 / 18	1.5	v	v	8 / 1	14	
EX-CV20F4B023D-V18D		9										
EX-CV20F4C023D-V18D		12										
EX-CV20G4A025D-V18D		6	M4	0.42 / 2.5	1.6 / 9.8	4.5 / 18	1.5	v	v	8 / 2	14	
EX-CV20G4B025D-V18D		9										
EX-CV20G4C025D-V18D		12										

Specification EXPLOSION PROOF WIRE ROPE HOIST



60HZ

MODEL	Cap (ton)	Lift (m)	Duty (ISO)	Lift Speed (M/Min)	Hoist Motor (KW)	Trolley Speed (M/Min)	Trolley Motor	Rail		Rope	
								V	W	Fall	Dia.(mm)
EX-CV03C5A060D-V20D	3	6	M5	1 / 6	0.64 / 3.84	5 / 20	0.9	v	v	4 / 1	8
EX-CV03C5B060D-V20D		9						v	v		
EX-CV03C5C060D-V20D		12						v	v		
EX-CV03B5A060D-V20D		6	M5	1 / 6	0.64 / 3.84			v	v	4 / 2	8
EX-CV03B5B060D-V20D		9						v	v		
EX-CV03B5C060D-V20D		12						v	v		
EX-CV03A5A060D-V20D		6	M5	1 / 6	0.64 / 3.84			v	v	2 / 1	11.2
EX-CV03A5B060D-V20D		9						v	v		
EX-CV03A5C060D-V20D		12						v	v		
EX-CV05C5A060D-V20D	5	6	M5	1 / 6	0.96 / 5.88	5 / 20	0.9	v	v	4 / 1	11.2
EX-CV05C5B060D-V20D		9						v	v		
EX-CV05C5C060D-V20D		12						v	v		
EX-CV05B5A060D-V20D		6	M5	1 / 6	0.96 / 5.88			v	v	4 / 2	11.2
EX-CV05B5B060D-V20D		9						v	v		
EX-CV05B5C060D-V20D		12						v	v		
EX-CV05A5A060D-V20D		6	M5	1 / 6	0.96 / 5.88			v	v	2 / 1	14
EX-CV05A5B060D-V20D		9						v	v		
EX-CV05A5C060D-V20D		12						v	v		
EX-CV05A5A118D-V20D		6	M5	1.98 / 11.88	1.92/11.76			v	v	2 / 1	14
EX-CV05A5B118D-V20D		9						v	v		
EX-CV05A5C118D-V20D		12						v	v		
EX-CV05B5A118D-V20D	6	M5	1.98 / 11.88	1.92/11.76	v	v	4 / 2	11.2			
EX-CV05B5B118D-V20D	9				v	v					
EX-CV05B5C118D-V20D	12				v	v					
EX-CV07D4A020D-V20D	7.5	6	M4	0.336 / 2.04	0.48 / 3.84	5 / 20	0.9	v	v	6 / 1	11.2
EX-CV07D4B020D-V20D		9						v	v		
EX-CV07D4C020D-V20D		12						v	v		
EX-CV07D4A039D-V20D		6	M4	0.66 / 3.96	0.96 / 5.88			v	v	6 / 1	11.2
EX-CV07D4B039D-V20D		9						v	v		
EX-CV07D4C039D-V20D		12						v	v		
EX-CV10C5A060D-V20D	10	6	M5	1 / 6	1.92/11.76	5 / 20	1.8	v	v	4 / 1	14
EX-CV10C5B060D-V20D		9						v	v		
EX-CV10C5C060D-V20D		12						v	v		
EX-CV10B5A060D-V20D		6	M5	1 / 6	1.92/11.76			v	v	4 / 2	14
EX-CV10B5B060D-V20D		9						v	v		
EX-CV10B5C060D-V20D		12						v	v		
EX-CV10C5A030D-V20D		6	M5	0.504 / 3	0.96 / 5.88			v	v	4 / 1	14
EX-CV10C5B030D-V20D		9						v	v		
EX-CV10C5C030D-V20D		12						v	v		
EX-CV15D4A020D-V20D	15	6	M4	0.336 / 2.04	0.96 / 5.88	5 / 20	1.8	v	v	6 / 1	14
EX-CV15D4B020D-V20D		9						v	v		
EX-CV15D4C020D-V20D		12						v	v		
EX-CV15D4A039D-V20D		6	M4	0.66 / 3.96	1.92/11.76			v	v	6 / 1	14
EX-CV15D4B039D-V20D		9						v	v		
EX-CV15D4C039D-V20D		12						v	v		
EX-CV20F4A028D-V20D	20	6	M4	0.45 / 2.8	1.92/11.76	5 / 20	1.8	v	v	8 / 1	14
EX-CV20F4B028D-V20D		9						v	v		
EX-CV20F4C028D-V20D		12						v	v		
EX-CV20G4A030D-V20D		6	M4	0.504 / 3	1.92/11.76			v	v	8 / 2	14
EX-CV20G4B030D-V20D		9						v	v		
EX-CV20G4C030D-V20D		12						v	v		



Certification

EXPLOSION PROOF WIRE ROPE HOIST

IECEx Certificate of Conformity. INTERNATIONAL ELECTROTECHNICAL COMMISSION. IEC Certification Scheme for Explosive Atmospheres. Certificate No: IECEx IMA 11-0037X. Status: Current. Date of issue: 2012-02-24. Applicant: COEL MOTORI S.r.l. Electrical Apparatus: Electromagnetic brake type VIS II... Type of Protection: d and Ib. Marking: Ex d IB or IIC T5, T4 or T3 Gb. Approved for issue on behalf of the IECEx Certification Body: TIRIPI IIC/IEC.

IECEx Certificate of Conformity CESI. Annex to certificate: IECEx CES 10.0023X Issue No 0 of 2011-03-15. Applicant: Euromotori S.r.l. Electrical Apparatus: Three-phase and single-phase asynchronous motors supplied by inverters or inverter, series MAK 56, MAK 63, MAK 71, MAK 80, MAK 90, MAK 100, MAK 112, MAK 132, MAK 150, MAK 160. Description of equipment: Three-phase and single-phase asynchronous motors series MAK 56, MAK 63, MAK 71, MAK 80, MAK 90, MAK 100, MAK 112, MAK 132 and MAK 150. Electrical characteristics: Maximum voltage: 1000 V (three-phase), 250 V (single-phase). Maximum rated power: 0.25 - 37 kW. Rated frequency: 50 / 60 Hz. Insulation class: F, B, F for T3 and T 155 °C.

CESI EXTENSION n. 04/07 to EC-Type Examination Certificate CE04CT13036U. Component: Empty enclosures series CCE... and EHL... for control and signalling equipment. Manufacturer: CORTEM S.p.A. Address: Via Aquilina, 16 - Villone (Cremona), Italy. Identified Variation: Conformity to EN 60335-4 (2006), EN 60335-1 (2004), EN 61341-0 (2006), EN 61341-1 (2004) Standards. Identification and description of the component: The marking of the equipment shall include the following: II 2G Ex d IIB, II 2G Ex d IIB H2, II 2GD Ex d IIB; Ex d A21 IP65 + IP66/07, II 2GD Ex d IIB+H2; Ex d A21 IP65 + IP66/07, I M2 Ex d I.

中国国家强制性产品认证证书. 证书编号: 2011010401487953. 委托人名称、地址: COEL MOTORI SRL, Via Caspasia, 40 - 20090 Pizzanasco di Pieve Emanuele (MI) ITALY. 生产者(制造商)名称、地址: COEL MOTORI SRL, Via Caspasia, 40 - 20090 Pizzanasco di Pieve Emanuele (MI) ITALY. 生产企业名称、地址: COEL MOTORI SRL, Via Caspasia, 40 - 20090 Pizzanasco di Pieve Emanuele (MI) ITALY. 产品名称和系列、规格、型号: 三相异步电动机, 见附件, 产品标准和技术要求: GB12350-2009. 发证日期: 2011年08月03日, 有效期至: 2015年08月03日. 主任: 中国质量认证中心, 中国·北京·海润国际大厦18B号9层 100070, http://www.cqc.com.cn.

THAC FACTORY

EXPLOSION PROOF WIRE ROPE HOIST



PROJECT





WARNING:

The equipment shown in this catalogue is intended for industrial use only and should not be used to lift, support, or otherwise transport people, or to suspend loads over people.



Distributed By:

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