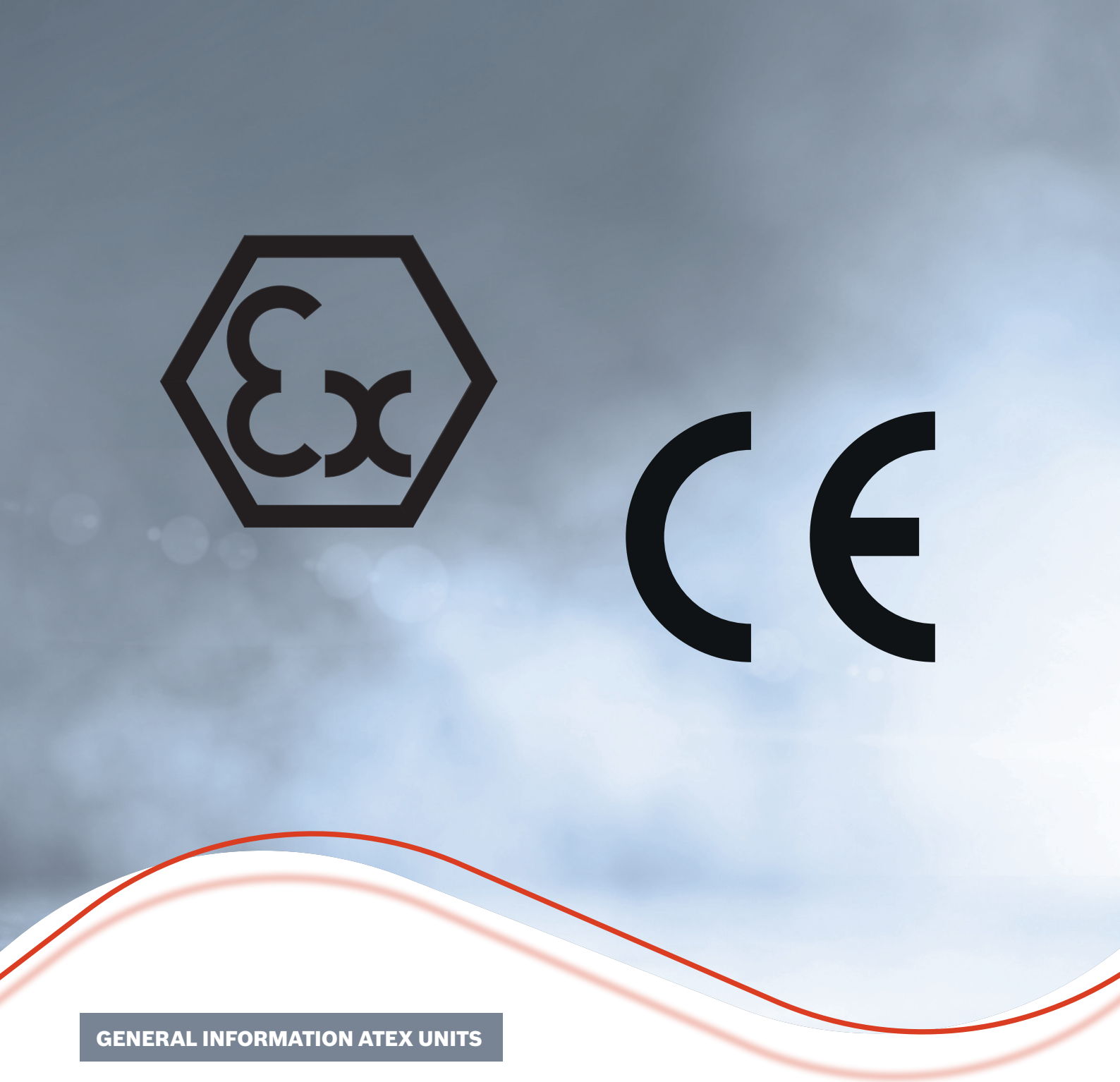

GENERAL INFORMATION ATEX UNITS

Hägglunds products for explosive environments

RE 15417-X-B1 Version:12.2022, Replaces: 10.2015, EN

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The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.

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Changes in the equipment may occur. We therefore reserve the right to introduce amendments in the manual as we deem necessary without notice or obligations.

This General information is valid for Hägglunds products

The original instructions were prepared in English.

Contents

1 This documentation

1.1 Validity of the documentation

This documentation is valid for Hägglunds products for potentially explosive areas. This is an addition to the Installation & Maintenance manual and forms an integrated and required part of the complete documentation for a Hägglunds product used in explosive atmospheres.

2 Responsibilities

2.1 User responsibilities

The user is responsible for ensuring that

- the hydraulic product is used only in accordance with the proper use as defined in the Installation and Maintenance manual, Data Sheet and Order specific documentation.
- the hydraulic product is used only in accordance with the technical data, as well as the ambient and operating conditions indicated in these General Information, and in particular that the limiting values given in the Installation and Maintenance manual, Data Sheet and Order specific documentation are not exceeded;
- the applicable rules, regulations, and directives on explosion protection are complied with.

3 Use in areas endangered by explosion

The hydraulic product is only to be used in an area where the needed protection level corresponds to the equipment group and category indicated in the Declaration of Conformity and on the Product identification plate, or in an area with lower requirements.

3.1 Zones, equipment groups, and categories

The user must divide areas endangered by explosion into zones in accordance with EU Directive 1999/92/ EC. The following tables shows the equipment groups and categories alongside the zones.
The hydraulic product is to be used in the area and zone corresponding to the appropriate equipment group and category. Use of the product must also comply with other requirements for explosion protection in the product documentation.

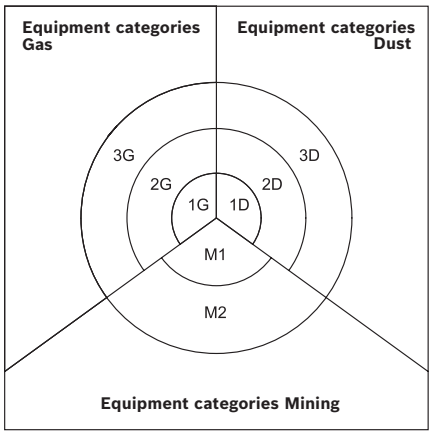

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Table 1 contains the equipment groups/categories per 2014/34/EU and the corresponding zones per 1999/92/EC, the equipment group and the equipment protection level according to EN ISO 80079-36.

Table 1: Comparison of equipment groups/categories and zones

Usable in zone per 1999/92/EC	Equipment group per Directive 2014/34/EU	Category per 2014/34/EU	Application/characteristics (excerpt from the directives)	Equipment group according to EN ISO 80079-36	Equipment protection level (EPL) according to EN ISO 80079-36
–	I	M1	Areas with firedamp atmospheres (Equipment Group I), i.e., underground mines and their surface installations. Continued operation is possible in the event of an explosive atmosphere. Very high level of safety	I	Ma
–		M2	Areas with firedamp atmospheres (Equipment Group I), i.e., underground mines and their surface installations. In the event of an explosive atmosphere, it must be possible to switch off the device. High level of safety	I	Mb
0, 1, 2	II	1G	Potentially explosive areas in which explosive gases, mists or vapors (Equipment Group II) occur constantly or for long periods or frequently. Corresponds to Zone 0 per Directive 1999/92/EC. Very high level of safety	II	Ga
1, 2		2G	Potentially explosive areas in which explosive gases, mists or vapors (Equipment Group II) occur occasionally. Corresponds to Zone 1 per Directive 1999/92/EC. High level of safety	II	Gb
2		3G	Potentially explosive areas in which combustible gases, mists or vapors (Equipment Group II) do not normally occur or occur only infrequently or briefly. Corresponds to Zone 2 per Directive 1999/92/EC. Normal level of safety	II	Gc
20, 21, 22		1D	Potentially explosive areas in which combustible dust/air mixtures (Equipment Group II) occur constantly or for long periods or frequently.Corresponds to Zone 20 per Directive 1999/92/EC. Very high level of safety	III	Da
21, 22		2D	Potentially explosive areas in which combustible dust/air mixtures (Equipment Group II) occur occasionally. Corresponds to Zone 21 per Directive 1999/92/EC. High level of safety	III	Db
22		3D	Potentially explosive areas in which an explosive atmosphere caused by dust in the air (Equipment Group II) does not normally occur or occurs only infrequently or briefly. Corresponds to Zone 22 per Directive 1999/92/EC. Normal level of safety	III	Dc

3.2 Temperature classes in equipment group II

In potentially explosive atmospheres where a risk of explosion from explosive gases, mists, vapours or dust exists (zones 0, 1, 2, 20, 21, 22 applicable devices: equipment group II, categories 1G/D, 2G/D and 3G/D), the maximum surface temperature of the hydraulic product must, in addition, be below the ignition temperature of the surrounding potentially explosive gases, mists, vapours or dust.

These hydraulic products are divided in accordance with EN ISO 80079-36 into the temperature classes T1 to T6, in line with their maximum surface temperature.

Table 2: Temperature classes

Temperatureclass according to EN ISO 80079-36	Highest permissible surface temperature	Permissible ignition temperature of the gas, mist, or vapour
T1	450 °C	> 450 °C
T2	300 °C	> 300 °C
T3	200 °C	> 200 °C
T4	135 °C	> 135 °C
T5	100 °C	> 100 °C
T6	85 °C	> 85 °C

3.3 Gas groups

Gases, mists and vapors are classified into the explosion subgroups IIA, IIB and IIC according to their ignition energy or the maximum experimental safe gap (in respect of flameproof protection). Gas group IIA includes gases and vapors that require the highest energy levels for ignition; Group IIC is the group with most easily ignited gases and therefore requiring the most attention. Consequently, equipment marked for Group IIC can also be used for IIB and IIA gases, and equipment marked for Group IIB is also suitable for IIA, but not for IIC.

Table 3: Classification of gases, mists and vapors in explosion groups

Explosion group	Examples of gases, mists and vapors	Danger
IIA	Acetone, ammonia, gasoline, benzene, methane, propane, butane	medium
IIB	Ethylene, city gas, ethyl ether	high
IIC	Hydrogen, carbon disulfide, acetylene	very high

Refer to the technical literature for further material classifications as needed.

3.4 Dust groups

Dusts are classified by the type and conductivity of the material that make up the dust.

Table 4: Classification of dust types in explosion groups

Dust group	Type	Examples
IIIA	Combustible fibres and flyings	Rayon, cotton, hemp, cocoa fibre
IIIB	Non-conductive combustible dust	Sugar, flour, grain, wood
IIIC	Conductive combustible dust	Aluminium, Zinc, Magnesium

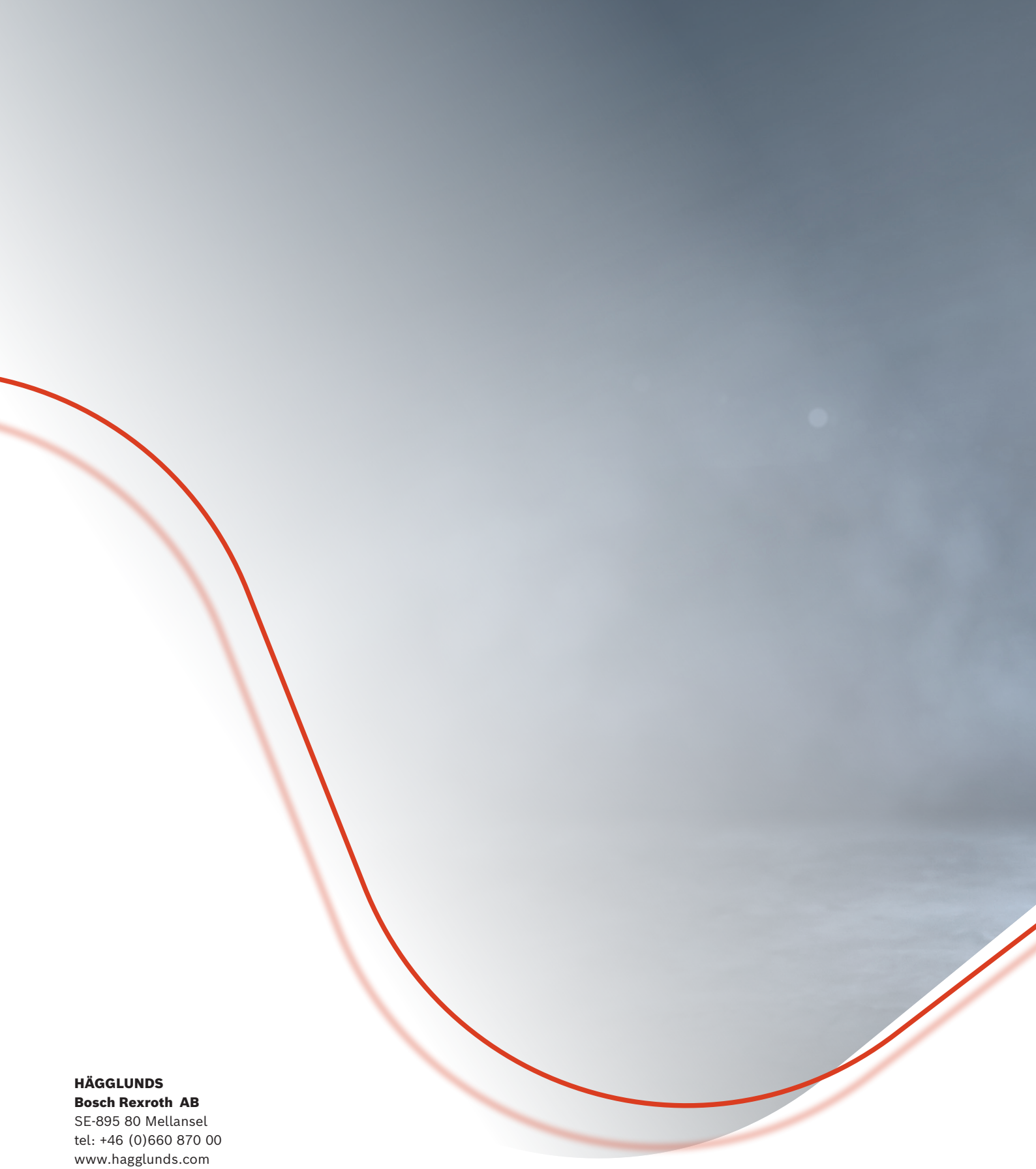
Refer to the technical literature for further material classifications as needed.

3.5 Type of ignition protection

The type of ignition protection describes the type of measure taken to prevent the ignition of a surrounding explosive atmosphere.

Table 5: Type of ignition protection

Type of ignition protection	Meaning	Non-electrical equipment	Electrical equipment
h	Constructional safety (“c”)	X	
h	Control of ignition source (“b”)	X	
h	Liquid immersion (“k”)	X	
d	Flameproof enclosure	X	X
p	Pressurized enclosure	X	X
e	Increased safety		X
i	Intrinsic safety		X
q	Powder/sand filling		X
m	Encapsulation		X
o	Oil immersion		X
n	Non-sparking		X
t	Protection by enclosure		X



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Hägglunds is a brand of Rexroth, a leading global supplier of drive and control technologies. Hägglunds solutions enrich a comprehensive Rexroth portfolio.

We reserve the right to make changes, these could pertain to this document and/or the product

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