

Note: This is a translation of the original German document issued on 31st March 2005 and signed by Mr. Günter Kämper of ExGuide Technology.

(1) **EC Declaration of Conformity**

(2) **Directive 94/9/EC**

Equipment and protective systems intended for use in potentially explosive atmospheres

- (3) Number: ExGuide 05 ATEX 007
- (4) Equipment: Type CB ***, BC *** and SF *** Geared Motors and Gear Boxes with mechanically constant ratios, up to 3 gear stages.
- (5) Manufacturer: Bockwoldt Getriebemotorenwerk GmbH & Co. KG
- (6) Address: Sehmsdorfer Straße 43-53, D-23843 Bad Oldesloe, Germany
- (7) The construction type of this equipment or protection system and any permitted versions thereof are defined in the appendices to this declaration of conformity.
- (8) ExGuide Technology - Günter Kämper VDI hereby certifies that this equipment conforms to the basic health and safety requirements for Category 2 and Category 3 equipment and protective system for use in potentially explosive atmospheres as per Annex II of the Directive. The ISO 9001 Quality Assurance System of the company ExGuide Technology – Günter Kämper VDI is certificated by KEMA under the registration number 52648. The results of a safety audit are given in the confidential document no. D043050115.
- (9) The equipment conforms with the health and safety requirements of the following standards:
- EN 1127-1:1997
 - EN 13463-1:2001
 - EN 13463-5:2003
 - EN 13463-8:2003
 - BGR 132:2003

- (10) The character "X" written after the number indicated in (3) above, indicates that special conditions to ensure safe use apply to this equipment or protection system; the special conditions are defined in the appendix to the safety report.
- (11) This declaration of conformity refers solely to the design and construction of the equipment and protection system as per Directive 94/9/EC. Manufacture and marketing of the same are covered by other requirements in this directive.
- (12) The equipment and protection system must carry the following markings:

Ex II 2BD ck IIB T4/T3 IP64 T130°C / T160°C

or the two-line marking

Ex II 2G ck IIB T4/T3

Ex II 2D ck IP 64 T130°C / T160°C

or

Ex II 3G ck IIC T4/T3

Ex II 3D ck IP54 T130°C / T160°C

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Castrop-Rauxel, 31st March 2005

Günter Kämper, Proprietor

This declaration of conformity must be signed and is invalid without a signature. In the original version of this declaration some parts (lines 1, 3, 14 and the logo) are printed in green.

Appendices

(13) Appendix to

(14) **EC Declaration of Conformity**
Ex Guide 05 ATEX 007

(15) Description of the equipment

(15a) The CB, BC and SF Gear Box ranges with constant ratios are designed for use as drive units in a wide range of industrial applications.

(15b) Machines with Category 2 markings can be used as follows.

- a. In Zone 1 (Gas-Ex, Category 2G) in Groups IIA and IIB
- b. In Zone 2 (Gas-Ex, Category 3G) in Groups IIA, IIB and IIC
- c. In Zone 21 (Dust-Ex, Category 2D) for dusts with minimum ignition energy (MIE) of > 3mJ
- d. In Zone 22 (Dust-Ex, Category 3D) for dusts with a minimum ignition energy (MIE) of > 3mJ

For the purposes of qualification, the temperature classes T4 and T3 refer to permitted maximum surface temperatures of 135°C and 200°C, respectively. The geared units are not ignition sources for any gases, vapours and mists with ignition temperatures above 135°C and above 200°C respectively.

In Dust-Ex zones, 130 °C resp. 160 °C are the reference temperatures for deciding if further measures are necessary for ensuring safe distances from smouldering temperatures; the measures necessary are to be decided by the operator.

Gear Boxes with Category 3 markings only are approved for operation in Zones 2 and 22.

(15c) Helical Gear Boxes (CB, BC) and Shaft-Mounted Helical Gear Boxes (SF) are divided into sub-groups as described in the operating instructions and the manufacturer's documentation. The type designation is indicated on the name plate. The permitted loads are written on the name plate.

(15d) Mechanical data and performance:	as per manufacturer's specifications, up to 1,800 rpm
Max. heating in standard operation:	up to 80 K in T4, up to 110 K in T3
Cooling:	radiant air cooling
Equipment degree of protection:	IP 64 for Cat. 2, IP 54 (min.) for Cat. 54
Ambient temperature range	-20°C to 40°C to 60°C
The temperature class for each machine is specified in the operating manual and marked on the name plate:	up to 26 kW usually T4 up to 55 kW usually T3

Incomplete or modified declarations of conformity are invalid.

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(15e) Minimum markings on Geared Motors and Gear Boxes
Manufacturer's name and address
Type: **** (as per type code) (serial number) CE (year of manufacture)
TFR: ATEX 05.01
EX II 2GD ck II B T4/T3 IP64 T130°C/T160°C (or alternative marking on line 12)
-20°C ≤ Ta ≤ 60°C (only after individual testing by Bockwoldt)
(Amendments are permitted)

(15f) Type code A B C D E F

A = Gear Box Type

CB = Bockwoldt Helical Gear Box, standard version

BC = Bockwoldt Compact Gear Box

SF = Shaft-Mounted Helical Gear Box

B = Gear Box Size

ID code for sizes, e.g. 00 to 11 for CB

C = Supplementary Equipment

No code = no supplementary equipment fitted

R = agitator design

N = with assembled IEC Norm motor

Gear wheel stages: 1 to 3 for CB

D = Drive

K = two free shaft ends

F = Helical Gear Box for fitting to Bockwoldt motors

NF... = NF 63 ... 250

IEC standard adaptor for standard motors or motor key as per special operating manual

BC Casings

A = foot-mounted version

B = flange-mounted version

C = foot- and flange-mounted version

D = agitator design

E = CB resp. SF Casings

No code = foot-mounted version for CB, hollow shaft for SF

F = flange-mounted version

+F = foot- and flange-mounted version

V = driving shaft on opposite side to drive side

R = driving shaft on drive side

V+R = driving shaft both sides

K = two free shaft ends

F = Helical Gear Box for fitting to Bockwoldt motors

IEC standard adaptor for IEC standard motors

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F = Bearings	Not necessary for SF
SL	= heavy bearings
No marking	= standard bearings

This list only shows the standard versions. For more details of versions, see the operating manual and the catalogue.

- (16) The test certificates are attached to the internal document D043050115. A hazard analysis was performed in collaboration with the manufacturer. The hazard analysis report is PL43050120. The confidential test documentation in Tech. File Ref. ATEX 05.01 was inspected and is deposited with the BVS office responsible (EXAM, BBG, Bochum).

Technical safety note:

1. Motors must be approved by the manufacturer for operation with frequency inverters.
2. In applications using frequency inverters, special care should be taken to deal with equipotential bonding. It must not be possible for stray currents to propagate over the Gear Boxes.
3. Whenever the motor-sided end housing A gets into direct contact with the oil within the Gear Box, such way of assembly is subject to prior approval by the manufacturer of the motor.
4. Users must follow the manufacturer's instructions given in the operating manual accompanying each unit.
5. For the purposes of maintenance the Gear Boxes are divided into 3 groups:
X: Detailed inspection after 8,000 operating hours
Y: Detailed inspection after 16,000 operating hours
Z: Detailed inspection after 20,000 operating hours
6. A technical file is compiled for each new Gear Box type before the unit is put onto the market. The technical file describes the operating conditions (e.g. temperature class, bearing life) and compliance with explosion protection requirements. Ignition protection specifications are given in the operating manual and on the rating plate.

- (17) Special conditions:

None