

**cemp**<sup>®</sup>

Flameproof  
Motors



## **ATEX - IECEx**

MOTORS FOR HAZARDOUS LOCATIONS

**REGAL**<sup>®</sup>

# A COMPREHENSIVE RANGE OF

## TYPE OF MOTOR



### FLAMEPROOF ELECTRIC MOTOR

#### E3.../E4A... Series - IE3/IE4 Gas & Dust Version

- According to standards:
  - IEC®/EN 600079-0, 1, 7, 31
  - IEC 60034-1, 2, 5, 6, 7, 8, 9, 12, 14, 30
  - IEC 60072
- Ex db, Ex db eb, Ex tb, Ex tc
  - Terminal box Ex db or Ex eb available
  - Continuous duty or intermittent duty
- ATEX® category I M2, II2G, II2D, II2GD
- Gas group I, IIB, IIC
- Dust group IIIB, IIIC
- Temperature classes T3, T4, T5, T6
- Surface temperature classes (Dust) T150°C - T135°C - T125°C - T100°C - T85°C
- Protection IP55, IP56, IP65, IP66
- Frame size from 80 to 355 (IEC)
- Power 0,75 - 375 kW
- 400V, 50Hz (multi voltage 380-400- 415V/50Hz and 460V/60Hz) Pole 2, 4, 6, 8 Self-cooling (IC411); Forced cooling (IC416); Not ventilated (IC410); Totally enclosed air over (IC418)
- Premium efficiency IE3;
- Super-premium efficiency IE4 available, as well as IE1/IE2
- Certified ATEX and IECEx®\*
- Certified GMEE®\*



### TerraMAX® DUST AND NON-SPARKING ELECTRIC MOTORS

#### TCN/TCT/TCE Series Gas & Dust Version

- According to standards:
  - IEC/EN 600079-0, 15, 31
  - IEC 60034-1, 2, 5, 6, 7, 8, 9, 12, 14, 30
  - IEC 60072
- Ex ec, Ex tb, Ex tc, Ex eb
- ATEX category II2G, II3G, II3G/II2D, II3GD
- Gas group IIB, IIC
- Dust group IIIB, IIIC
- Temperature classes T3
- Surface temperature classes (Dust) T150°C - T135°C - T125°C - T100°C - T85°C
- Protection IP55, IP56, IP65, IP66
- Frame size from 80 to 355 (IEC)
- Power 0,75 - 375 kW
- 400V, 50Hz and 460V/60Hz
- Pole 2, 4, 6, 8
- Self-cooling (IC411); Forced cooling (IC416); Not ventilated (IC410); Totally enclosed air over (IC418)
- Premium efficiency IE3;
- Super-premium efficiency IE4 available
- Certified ATEX and IECEx
- Certified GMEE



### FLAMEPROOF ELECTRIC MOTORS WITH BRAKE

#### E3...H/D-E4...H/D Series - IE3/IE4 Gas & Dust Version

- According to standards:
  - IEC/EN 600079-0, 1, 7, 31
  - IEC 60034-1, 2, 5, 6, 7, 8, 9, 12, 14, 30
  - IEC 60072
- Motor enclosure Ex db (flameproof) and brake in separate Ex db enclosure
- Terminal box Ex db or Ex eb available
- Multiple choice for brake torque available
- \*Continuous duty or intermittent duty
- Ex db, Ex db eb, Ex tb, Ex tc
- ATEX category II2G, II2D, II2GD
- Gas group IIB, IIC
- Dust group IIIB, IIIC
- Temperature classes T3, T4, T5, T6
- Surface temperature classes (Dust) T150°C - T135°C - T125°C - T100°C - T85°C
- Protection IP55, IP56, IP65, IP66
- Protection IP55, IP56, IP65, IP66
- Frame size from 80 to 315 (IEC)
- Power 0,75 - 200 kW
- 400V, 50Hz (multi voltage 380-400- 420V/50Hz and 460V/60Hz)
- Pole 2, 4, 6, 8 and dual speed motor (separate windings or Dahlander)
- Self-cooling (IC411); Forced cooling (IC416); Not ventilated (IC410); Totally enclosed air over (IC418)
- Premium efficiency IE3;
- Super-premium efficiency IE4 available, as well as IE1/IE2
- Certified ATEX and IECEx
- Certified GMEE



### ALUMINUM FRAME 56

#### AAB30/AAC30 Series Gas & Dust Version

- According to standards:
  - IEC/EN 600079-0, 1, 31
  - IEC 60034-1, 2, 5, 6, 7, 8, 9, 12, 14, 30
  - IEC 60072
- Ex db, Ex tb
- ATEX category II2G, II2GD
- Gas group IIB, IIC
- Dust group IIIB, IIIC
- Temperature classes T3, T4, T5, T6
- Surface temperature classes (Dust) T150°C - T135°C - T125°C - T100°C - T85°C
- Protection IP55, IP56, IP65, IP66
- Frame size 56 (IEC)
- Mounting B3, B14, B34, B5, B35, PAD mounted
- Power 0,06 - 0,12 kW
- Three phase
- 400V, 50Hz (multi voltage 380-400-415V/50Hz and 460V/60Hz)
- Pole 2, 4, 6
- Not ventilated (IC410) / Terminal box on the back side
- PTC for inverter use
- Certified ATEX and IECEx

# MOTORS FOR HAZARDOUS AREAS

## MAIN OPTIONS

### MECHANICAL

- Special flanges and shafts
- Plate with cables gland, or seal joints and conduit (terminal box not included)
- Locked bearings, roller bearings or special bearings
- Terminal box on side
- SPM probe (vibration measurement)
- Double ended shafts
- Cable gland fitted to terminal box
- Condensation drain valve
- Grade A or B vibration levels
- Rain cap, sun shield or water shredding disk
- Low noise
- Auxiliary terminal box
- Low (-60°C) temperature motors

### ACCESSORIES

- Forced ventilation (IC416)
- Encoders (100 – 10000 ppr)
- Bearing sensors
- Bimetallic thermal protection (NC, NO), thermistors (PTC), platinum resistor (PT100)
- Anti-condensation heaters

### ELECTRICAL

- Special voltage and frequency
- Three phase 2 speeds
- Single phase with permanent capacitor
- Motors for tropical climates
- Electrical special designs
- Class H insulation
- Suitable for frequency converter drives

### BRAKE

- AC disc brakes
- DC disc brakes
- Brake hand release
- Braking when not energized
- Micro switch available from frame 90 and above

### ENGINEERING SERVICES

- Start-up behavior analysis
- Superimposed curve (Motor-driven machine)
- Load test and thermal test as per IEC 60034-2-1
- Torque speed curve measurement (Dynamic method)
- Insulation test
- ATEX, IEC Ex and UL approved for thermal test
- Bureau Veritas and Korean Register approved

### Ex eb increased safety stainless steel terminal box



### Totally enclosed fan ventilated



### Oversized terminal box



### Brake enclosure





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#### APPLICATION CONSIDERATIONS

The proper selection and application of motors and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Regal Beloit Corporation and its affiliates with respect to the use of products and components is given in good faith and without charge, and Regal assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

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