

**Drive solutions
for the
pharmaceutical
industry
sterile and
explosion proof**



Bauer®
Gear Motor

An Altra Industrial Motion Company



Requirements for drive systems

Pharmaceutical production processes impose specific requirements on drive systems. No risks with regard to hygiene can be tolerated, which means that the motor design must conform to the highest demands for sterility.

Fully smooth enclosures with extremely low surface roughness, non-ventilated motors, surface finishes that conform to FDA regulations and are resistant to cleaning products, and very high enclosure ratings (IP 67 and IP 69K) are just a few of the features that help make the Bauer Aseptic concept an ideal solution.

In addition, pharmaceutical processing often involves working with fine powders or even gases, which can easily be ignited and therefore pose a risk to the surrounding area. To prevent the occurrence of this risk, explosion-proof motor designs are often required in these areas.

For the first time, Bauer has now combined these two aspects – hygiene and explosion protection – in a redesigned version of its well-known Aseptic series to create a product that is ideally suited to the pharmaceutical industry. Thanks to the futuristic and virtually sterile design of the motor and its suitability for problem-free use in areas with potentially explosive atmospheres, this new concept delivers the highest possible level of safety in pharmaceutical production.



CleanDrive™



AsepticDrive™

Explosion protection

The term ATEX is derived from the French designation „atmosphères explosibles“. The designations 95 and 137 are based on the revised article numbering of the first European Convention.

ATEX 95: Directive 94/9/EC on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres; mandatory for products put on the market from 1 July 2003 onward.

ATEX 137: Directive 1999/92/EC on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres; mandatory for the operation of new equipment from 1 July 2003 onward and mandatory for the revision of the operating rules for existing equipment from 1 July 2006 onward.



Motor ignition protection type*	Zone	Temperature class T3	max. surface temperature <160°C	Availability
II 2 G Ex e II T3	1	X		on request
II 3 G Ex nA II T3	2	X		on request
II 2 D Ex tD A21 IP65 T<160°C	21		X	✓
II 3 D Ex tD T<160°C	22		X	✓

* Detailed information on motor power ratings and ignition protection types is available from the factory on request.



Surfaces

- Special geared motor design with fully smooth surfaces (roughness value $R \leq 0.8 \mu\text{m}$) to ensure fast and complete cleaning.
- All surfaces slope by at least 3° to prevent the formation of dirt deposits and allow run off of cleaning products.
- The outer surfaces of the drives are coated with a paint that causes water to drip off the surface („lotus effect“). This yields better hygiene properties than stainless steel, which is hydrophilic.
- Bauer aseptic paint is FDA and NSF listed.

Energy Efficiency

- All motors are designed to comply with the new IE2 energy efficiency class. Most of them already comply with the IE3 energy efficiency class, which will come into force in 2015.

Degree of Protection

- The drives have the degree of protection IP 67 (resistant to short-term immersion) as standard; IP 69K (resistant to high-pressure cleaning) is optionally available.

Cleaning

- The drives can be cleaned with all commercially available products having pH values of 2 to 12. This makes it considerably easier for plant engineering firms to comply with the new Machinery Directive (2006/42/EC).
- The use of non-ventilated motors eliminates the distribution of micro-organisms in production facilities by air streams generated by motor fans.

Mounting

- Full encapsulation of brakes and encoders is possible.
- Hollow and keyed shafts are available in V4A steel.
- All connections are implemented using stainless steel plug-and-socket connectors or cable glands. Explosion protection units are available with cable glands or terminal boxes.
- The smooth case design eliminates the need for stainless steel covers, so hygiene problems due to contamination under these covers are eliminated. Removing these protective covers also enables further cost optimisation.

FDA

The Food and Drug Administration (FDA) is responsible for protecting public health in the USA. The FDA issues guidelines for the composition and production of drugs and food, which are mandatory regulations for products manufactured in the USA or exported to the USA. They are also used as guidelines for products manufactured and used in the EU.

Motor ratings

Available ratings for continuous duty (S1):

Motor type	Rating	Feature
DA05LA4	0,06 kW	
DA05LA4	0,09 kW	
DA05LA4	0,12 kW	
DA08LA4	0,25 kW	
DA08LA4	0,37 kW	IE3 compl.
DA09LA4	0,55 kW	IE3 compl.
DA09XA4	0,75 kW	IE3
DA09XA4	1,1 kW	IE2
DA11LA4	1,5 kW	IE3
DA11LA4	2,2 kW	IE2

Couplings

Ameridrives Couplings

Mill Spindles, Ameriflex, Ameridisc

Erie, PA - USA
1-814-480-5000

Gear Couplings

San Marcos, TX - USA
1-800-458-0887

Bibby Turboxflex

Disc, Gear, Grid Couplings, Overload Clutches

Dewsbury, England
+44 (0) 1924 460801

Boksburg, South Africa
+27 11 918 4270

TB Wood's

Elastomeric Couplings

Chambersburg, PA - USA
1-888-829-6637 – Press #5

*For application assistance:
1-888-829-6637 – Press #7*

*General Purpose
Disc Couplings*

San Marcos, TX - USA
1-888-449-9439

Ameridrives Power Transmission

Universal Joints, Drive Shafts, Mill Gear Couplings

Green Bay, WI - USA
1-920-593-2444

Huco Dynatork

Precision Couplings and Air Motors

Hertford, England
+44 (0) 1992 501900

Chambersburg, PA - USA
1-800-829-6637

Linear Products

Warner Linear

Linear Actuators

Belvidere, IL - USA
1-800-825-6544

*For application assistance:
1-800-825-9050*

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Electromagnetic Clutches and Brakes

Warner Electric

Electromagnetic Clutches and Brakes

New Hartford, CT - USA
1-800-825-6544

*For application assistance:
1-800-825-9050*

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Precision Electric Coils and Electromagnetic Clutches and Brakes

Columbia City, IN - USA
1-260-244-6183

Matrix International

Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes

Brechin, Scotland
+44 (0) 1356 602000

New Hartford, CT - USA
1-800-825-6544

Inertia Dynamics

Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes

New Hartford, CT - USA
1-800-800-6445

Overrunning Clutches

Formsprag Clutch

Overrunning Clutches and Holdbacks

Warren, MI - USA
1-800-348-0881 – Press #1

*For application assistance:
1-800-348-0881 – Press #2*

Marland Clutch

Roller Ramp and Sprag Type Overrunning Clutches and Backstops

South Beloit, IL - USA
1-800-216-3515

Stieber Clutch

Overrunning Clutches and Holdbacks

Heidelberg, Germany
+49 (0) 6221 30 47 0

Heavy Duty Clutches and Brakes

Wichita Clutch

Pneumatic Clutches and Brakes

Wichita Falls, TX - USA
1-800-964-3262

Bedford, England
+44 (0) 1234 350311

Twiflex Limited

Caliper Brakes and Thrusters

Twickenham, England
+44 (0) 20 8894 1161

Industrial Clutch

Pneumatic and Oil Immersed Clutches and Brakes

Waukesha, WI - USA
1-262-547-3357

Gearing

Boston Gear

Enclosed and Open Gearing, Electrical and Mechanical P.T. Components

Charlotte, NC - USA
1-800-825-6544

*For application assistance:
1-800-816-5608*

Bauer Gear Motor

Gearred Motors

Esslingen, Germany
+49 (711) 3518-0

Nuttall Gear and Delroyd Worm Gear

Worm Gear and Helical Speed Reducers

Niagara Falls, NY - USA
1-716-298-4100

Belted Drives and Sheaves

TB Wood's

Belted Drives

Chambersburg, PA - USA
1-888-829-6637 – Press #5

*For application assistance:
1-888-829-6637 – Press #7*

Engineered Bearing Assemblies

Kilian Manufacturing

Engineered Bearing Assemblies

Syracuse, NY - USA
1-315-432-0700

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