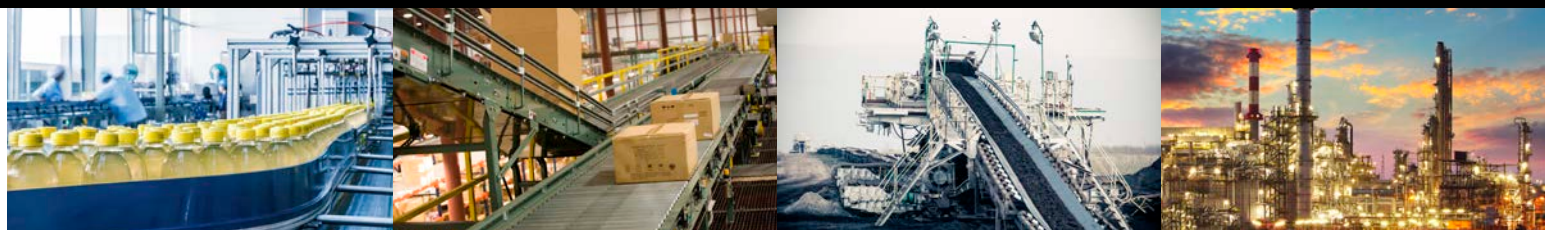




Electro- mechanical Application Solutions

The efficient
and open drive
technology
platform





WORKING MACHINE

TRANSMISSION ELEMENTS

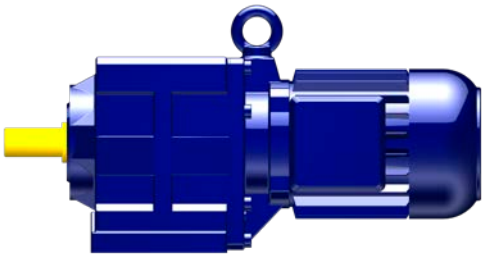
Simple mechanical connection to your machine



Couplings

GEAR TECHNOLOGY

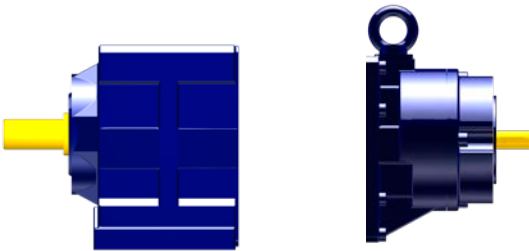
Low complexity through intelligent modular system



Integral motor connection



Flange motor connection (C/IEC, C/NEMA)



Free running input shaft (SN)



Your own solution for series production (SSD)

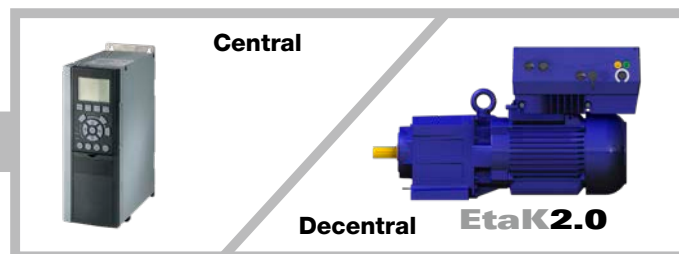


TRANSMISSION ELEMENTS

Simple mechanical connection between motor, machine and gearbox

CONTROL ELECTRONICS

Open systems for your application

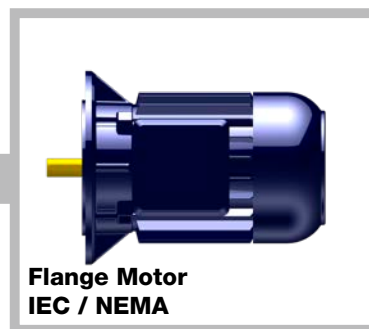


MOTOR TECHNOLOGIES

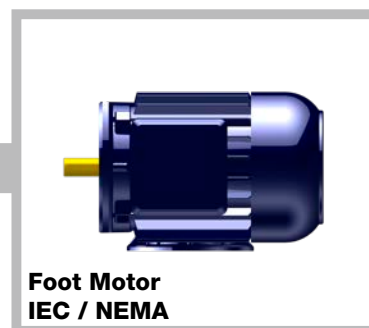
Open systems for your application



Couplings



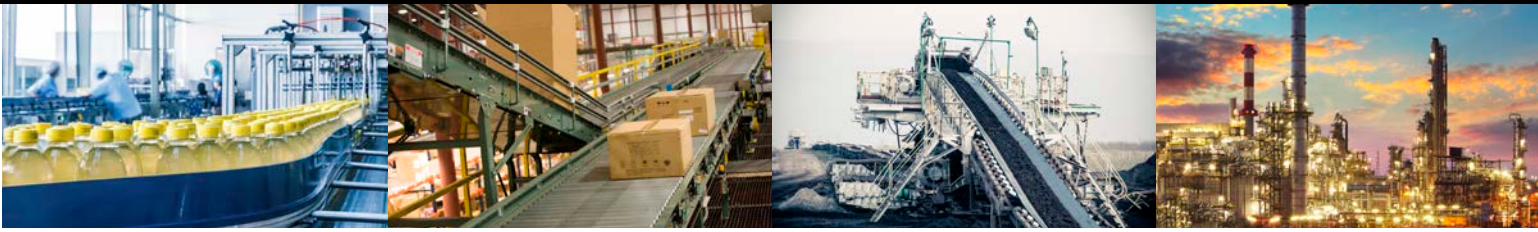
Flange Motor
IEC / NEMA



Foot Motor
IEC / NEMA

MAINS SUPPLY

THE ALTRA-BAUER DRIVETRAIN



BAUER - HOLISTIC OPTIMISATION APPROACH

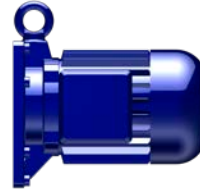
Energy Efficiency and Conservation of Resources in the complete System

- The **optimisation** of the Altra Bauer drivetrain is achieved in the **individual components** (I - III) using the holistic approach, **integrating your machine** and your application.
- Besides achieving greater **energy efficiency of the drivetrain**, the aim is to simplify the system (for example, by way of reducing the components).

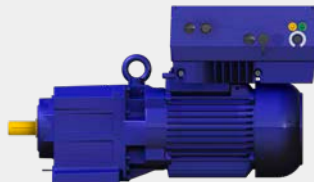
**Working
Machine**

**Drive
Concept**

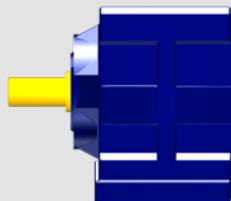
**Driving
Machine**



Motors



Speed Control



Gear Technologies



Optimisation of your Drivetrain





ENERGY SAVING POTENTIAL

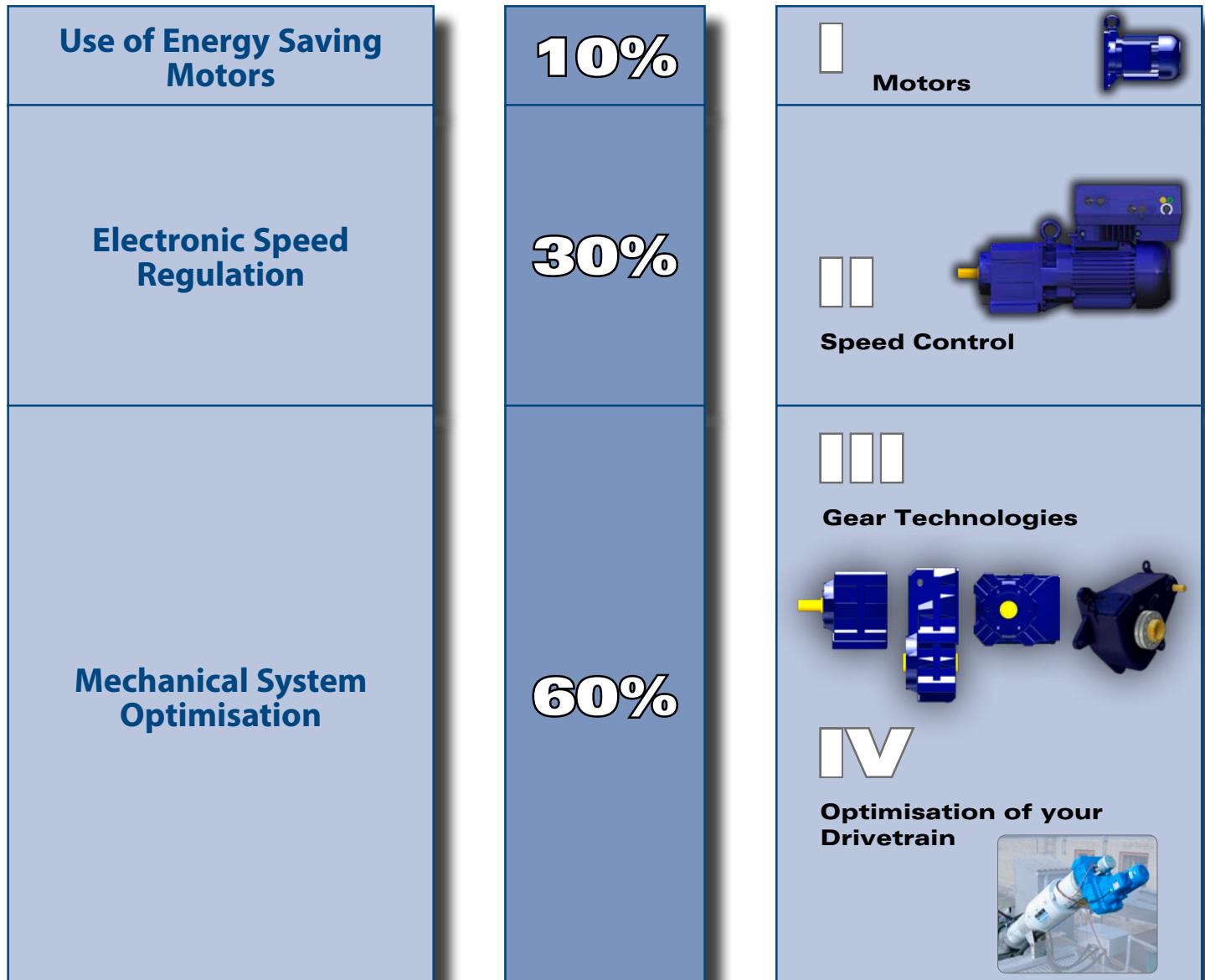
Consideration of the complete Electromechanical Drive System

- The potential energy savings in electro-mechanical drive systems are distributed according to the ZVEI model as shown in the graphic below.
- BAUER provides **products for all areas of the system** and, on the basis of the Pareto Principle, focuses on the **optimisation** of the **mechanical system** as that is where the **greatest saving potential** lies.

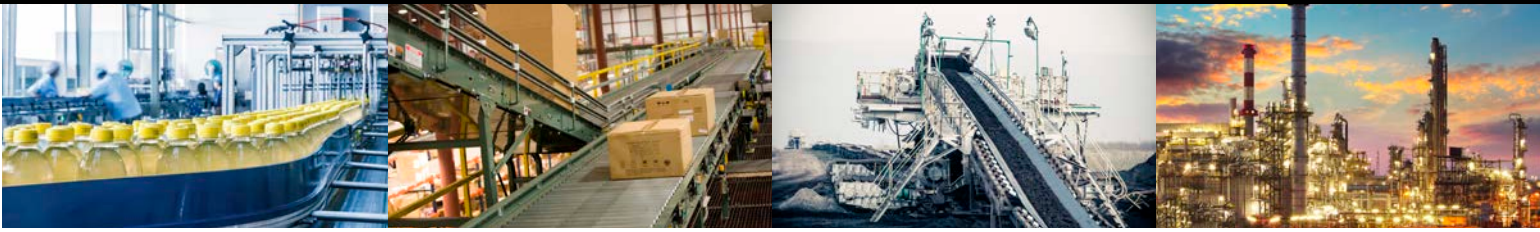
Where do your potential savings lie?

%

Which solutions does Bauer provide?

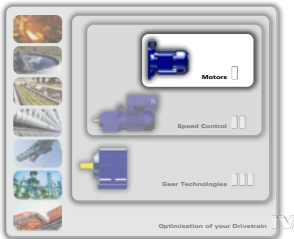


Source: ZVEI - Energiesparen mit Elektrische Antrieben

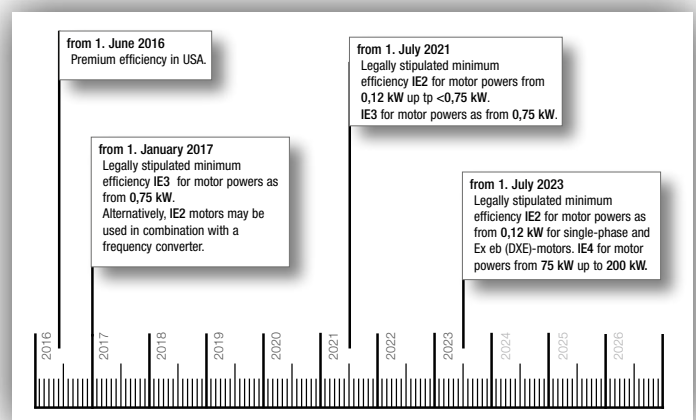
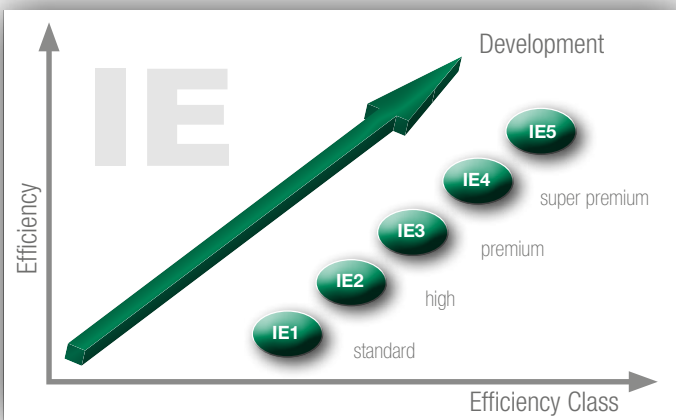


BAUER MOTORS - AHEAD OF THE TIMES

The first step to success -
Motor Competence in-House



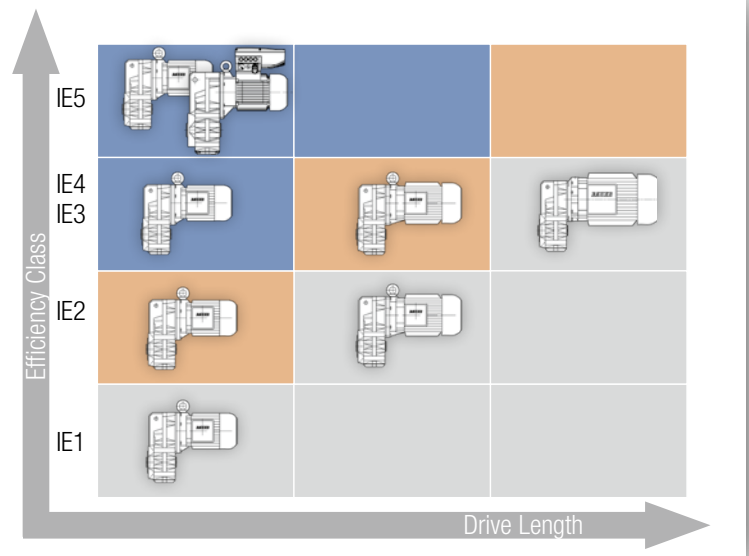
- Bauer's development of the **Permanent Magnet Synchronous Motor** – which meets the requirements up to energy efficiency class IE5 according to IEC TS 60034-30-2 – means Bauer is far **ahead of schedule** regarding the timeline for the **statutory regulations**.
- Bauer supplies a **full modular range of motors for all energy efficiency classes (IE1 to IE5)** to ensure the optimal motor choice can be made for each application.



Through the flexible implementation of three available rotor systems - aluminium, copper, and permanent magnet - highly efficient drive solutions in efficiency classes IE1 to IE5 can be attained without additional space requirements.

	ALU	COPPER	PMSM*
IE5			x
IE4	x	x	x
IE3	x	x	x
IE2	x	x	
IE1	x		

*according to IEC TS 60034-30-2

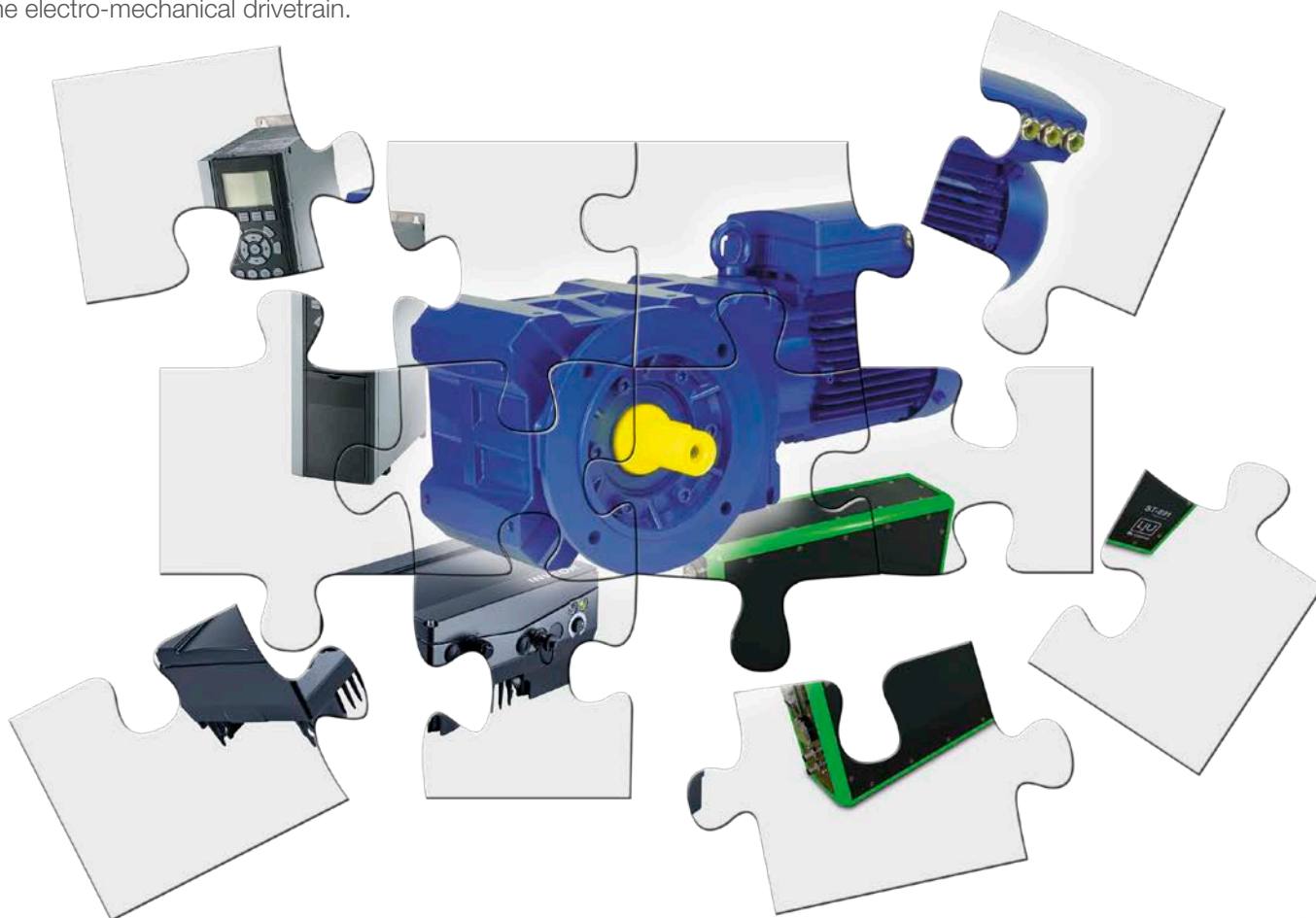
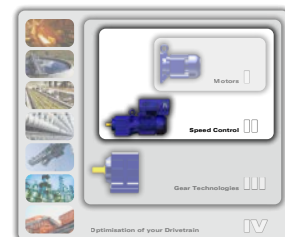


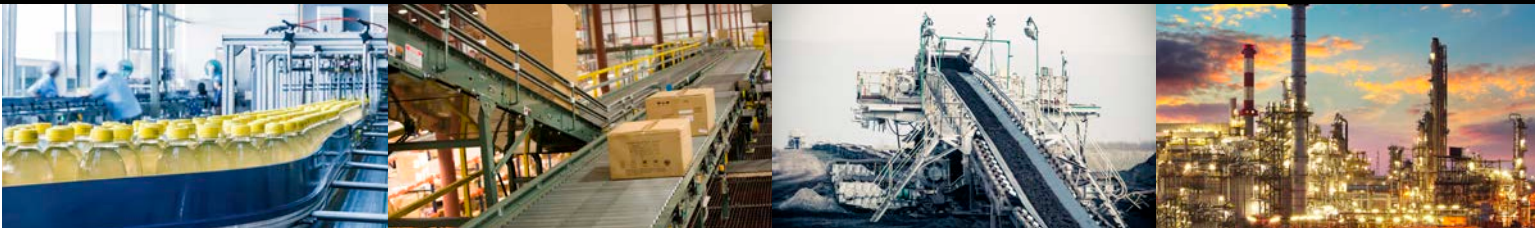


SPEED CONTROL

The second step to success -
System experts through strong partnerships

- The use of a speed control device generally leads to an increase in the efficiency of the drive system.
- Various control and monitoring concepts have established themselves for optimal use in several application areas.
- Based on the particular application, Bauer works with **experts who understand the monitoring and control tasks for the application environment the best**. There are different challenges, for example, in the automobile industry, in iron and metallurgical engineering or in the food processing industry.
- The application experts at Bauer work hand-in-hand with our system partners to further optimise the electro-mechanical drivetrain.





GEAR TECHNOLOGIES

The third step to success -
The Gear Motor Specialist since 1927



- Bauer supplies a **standard modular gear programme** and develops **special gearboxes**.
- Supported by the **Bauer Pilot Plant**, the application experts optimise gears in relation to energy efficiency, smoothness of running, noise characteristics, impact resistance and much more.
- Through the use of a rapid prototyping process, Bauer achieves the **shortest time to market for special gearing solutions**.
- Bauer provides **small industrial gear motors** in a torque range of **less than 100Nm** in all four ranges BG, BF, BK, and BS. This means that you can find exactly the right drive for your application and avoid unnecessary oversizing. **That saves money!**



Modular

The "All-Rounder" for multiple applications.

- Conveying
- Material Handling



Helical BG-Range

Power	0,03 ... 75	kW
Torque	20 ... 18.500	Nm
Your Benefit	Robust design leads to long service intervals.	



Parallel Shaft BF-Range

Power	0,03 ... 75	kW
Torque	90 ... 18.500	Nm
Your Benefit	Compact mounting and multiple possibilities for attachment reduce the space requirements.	



Bevel BK-Range

Power	0,03 ... 75	kW
Torque	80 ... 18.500	Nm
Your Benefit	Energy efficient due to the highly efficient two-stage base design.	



Worm BS-Range

Power	0,03 ... 5,5	kW
Torque	25 ... 1.000	Nm
Your Benefit	Compact and resilient through high quality worm gearing. Thus long lifetime and low servicing costs.	



Application Specific

The "Application Master" - the perfect fit for your application.

- Basic Metal
- Food & Beverage
- Crane Technologies
- Bulk Material Handling
- Water / Waste Water
- Textile
- Chemical Industry
- Automotive



Customer Specific

The "Integration Expert" - optimally integrated in your machine.

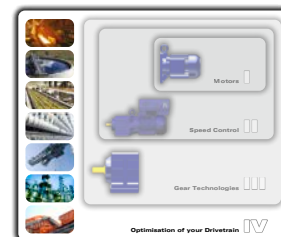
- Textile Industry
 - Flat bed knitting machine
 - Circular knitting machine
 - Weaving machine
- Printing Industry
 - Offset printing machine:
 - Web and sheet offset
- Packaging Industry
 - Band strapping devices
 - Pallet packing presses
 - Rotary arm winder



IV WORKING MACHINE

The fourth step to success - Application Consultancy and Integration

- The aim of optimising the drivetrain in several dimensions (energy efficiency, dynamic, static, vibrations, etc.) requires a systemic view including the machine and the customer application.
- Bauer has built up an **organisation with application experts** who consider in great detail the requirements of the respective application and develop an appropriate solution.
- Application solutions are characterised, for example, by gearing that takes over the bearing functions from the machine, thereby **reducing the components in the entire electro-mechanical drivetrain**.



Automotive

Application

- Monorail
- Points
- Heat Exchanger

Basic Metal

Application

- Roller Table
- Chain Conveyor
- Swedish Lever

Logistics

Application

- Monorail
- Floor transport
- Automatic Stocking

Food & Beverage

Application

- Chain Conveyor
- Turning Drive
- Guidance Rollers

Packaging

Application

- Plastic
- Box
- Automatic Arm Winder

Crane Technologies

Application

- Drive
- Hoist
- Turn

Wood Processing

Application

- Chain Conveyor
- Needle Roller
- Guidance Rollers

Bulk Material Handling

Application

- Bucket Conveyor
- Conveyors
- Separator

Machine Tooling

Application

- Tube Processing
- Swarf Conveyor
- Pallet Changer

Water / Waste Water

Application

- Clarifier
- Disk Thickener
- Agitator / Aerator

Pumps

Application

- Centrifuge
- Spinning
- Screw

Textile

Application

- Pumps
- Carding
- Weaving

Printing Industry

Application

- Offset
- Digital
- Cutting and Folding

Chemical Industry

Application

- Agitator
- Mixer
- Centrifuge



ELECTROMECHANICAL APPLICATION SOLUTIONS

- In addition to motor and transmission components, electro-mechanical drivetrains usually include joining elements such as clutches or belt drives.
- Within the Altra Group, application experts from various product areas work together to ensure the optimal combination of these drive components.
- An example of a vibration optimised drive system for a roller table in a steel plant, is the combination of the Bauer helical gear motor from the BG series and the highly elastic DURA-FLEX couplings.
- Bauer application experts select the **best suited gear-clutch combination** for every application from the comprehensive range of **Altra couplings**, ensuring the optimal electro-mechanical system in terms of energy efficiency and conservation of resources.
- However, should couplings not be desired due to design or space considerations, Bauer engineers will **integrate** the entire gear motor **directly into the machine**.



Source: Hans Huber AG

BG-Range

Helical Geared Motors

- Motor power from 0.03 kW to 75 kW
- 13 gearbox sizes for torques from 20 Nm to 18500 Nm
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard
- New attachment possibilities with low design height



BF-Range

Parallel Shaft Geared Motors

- Motor power from 0.03 kW to 75 kW
- 10 gearbox sizes for torques from 90 Nm to 18500 Nm
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard
- Gearbox housing with integral torque arm



BK-Range

Bevel Geared Motors

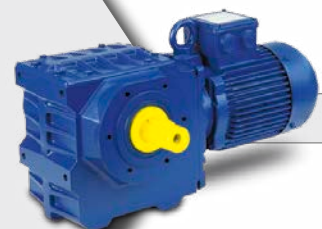
- Motor power from 0.03 kW to 75 kW
- 10 gearbox sizes for torques from 80 Nm to 18500 Nm
- High efficiency through 2 stage base design
- Enclosure IP 65 as standard
- The right angle gearbox with universal attachment



BS-Range

Worm Geared Motors

- Motor power from 0.03 kW to 5.5 kW
- 8 gearbox sizes for torques from 25 Nm to 1000 Nm
- Hollow shaft version already available from 25 Nm
- High loadable worm gearing for long lifetime
- Enclosure IP 65 as standard





Energy Efficiency and Conservation of Resources in the complete System



DURA-FLEX

up to 4.500 Nm

- Easy to assemble/replace
- High misalignment ratings
- No maintenance/lubrication
- Part-for-part interchangeable with industry standard design
- In-stock versatile spacer design can accommodate many configurations with few parts

Typical Applications

- Pumps
- Fans/Blowers
- Compressors
- Electric Motors
- Conveyors



FORM-FLEX

up to 270.000 Nm

- No maintenance
- Zero backlash
- Close couple, spacer and floating shaft designs available
- Easy interchangeability

Typical Applications

- Engine Driven Equipment
- Printing Presses
- Machine Tools
- Positioning Systems
- Food Processing Equipment
- Reciprocating compressors



III Series

up to 147.000 Nm

- Models available for use on vertical and/or horizontal shafts
- Bore capacity up to 510 mm
- High torque to weight ratio
- Half per half interchangeability

Typical Applications

- Steam Turbines
- Printing Presses
- High Torque Motors



SURE-FLEX

up to 8.200 Nm

- Easy assembly
- Spacer, bushed hub, and clamping hub designs in stock
- Flexible design accommodates misalignment and protects equipment
- No maintenance/lubrication

Typical Applications

- Pumps
- Fans/Blowers
- Compressors
- Electric Motors
- Mixers
- Conveyors



L-JAW

up to 700 Nm

- No maintenance/lubrication
- Part-for-part interchangeable with industry standard design
- Fail-safe design – equipment will continue to drive if elastomer fails
- Wide range of in-stock inch and metric bore sizes

Typical Applications

- Pumps
- Fans/Blowers
- Electric Motors
- Compressors



TORSIFLEX

up to 60.000 Nm

- No maintenance
- Zero backlash
- Custom designs including close coupled, long spacer arrangements available
- Easy interchangeability
- Standard sizes available from stock

Typical Applications

- API610 Pumps
- Screw Compressors
- Turbo Compressors
- Electric Motors

Bauer Gear Motor Facilities

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+358 207 189700

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+32 2 89372080

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+39 049 8792327

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Business Center „Irbis“
125464 Moscow - Russia
+7 495 6420468

The Brands of Altra Motion

Couplings

Ameridrives
www.ameridrives.com

Bibby Turboflex
www.bibbyturboflex.com

Guardian Couplings
www.guardiancouplings.com

Huco
www.huco.com

Lamiflex Couplings
www.lamiflexcouplings.com

Stromag
www.stromag.com

TB Wood's
www.tbwoods.com

Linear Systems

Thomson
www.thomsonlinear.com

Geared Cam Limit Switches

Stromag
www.stromag.com

Engineered Bearing Assemblies

Kilian
www.kilianbearings.com

Electric Clutches & Brakes

Matrix
www.matrix-international.com

Stromag
www.stromag.com

Warner Electric
www.warnerelectric.com

Belted Drives

TB Wood's
www.tbwoods.com

Heavy Duty Clutches & Brakes

Twiflex
www.twiflex.com

Stromag
www.stromag.com

Svendborg Brakes
www.svendborg-brakes.com

Wichita Clutch
www.wichitaclutch.com

Gearing & Specialty Components

Bauer Gear Motor
www.bauergears.com

Boston Gear
www.bostongear.com

Delevan
www.delevan.com

Delroyd Worm Gear
www.delroyd.com

Nuttall Gear
www.nuttallgear.com

Engine Braking Systems

Jacobs Vehicle Systems
www.jacobsvehiclesystems.com

Precision Motors & Automation

Kollmorgen
www.kollmorgen.com

Miniature Motors

Portescap
www.portescap.com

Overrunning Clutches

Formsprag Clutch
www.formsprag.com

Marland Clutch
www.marland.com

Stieber
www.stieberclutch.com

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