

Warner Electric

Boston Gear

TB Wood's

Formsprag Clutch

Wichita Clutch

Marland Clutch

Industrial Clutch

Bauer Gear Motor

Nuttall Gear

Warner Linear

Delroyd Worm Gear

Stieber Clutch

Ameridrives Couplings

Inertia Dynamics

Matrix International

Huco Dynatork

Bibby Turboflex

Twiflex Limited

Kilian Manufacturing

Lamiflex Couplings

Ameridrives Power
Transmission

Geared Motors For Waste Water Engineering



 **Bauer**[®]
Gear Motor

An Altra Industrial Motion Company

Geared Motors for Waste Water Engineering

The fact that we now have the technology to convert waste water back into drinking water lends a new significance to the term “water circulation”. This cycle of regeneration begins in sewage treatment plants and is maintained with the help of sturdy geared motors.



RoDisc® features filter discs arranged horizontally and rotate on central shafts powered by Bauer BF Series gear motors.



Beijing wastewater pre-cleaning and fine screening operation is powered by Bauer BF Series gear motors.

In 2003, the Year of Water, the UN declared March 22 World Water Day. The purpose was not to add yet another day of commemoration to an already bursting calendar, but to draw attention to the impending catastrophe. The figures cannot be repeated often enough: Today, 1.2 million people are without access to clean drinking water. Every year, 3 million people die of diseases contracted through contaminated water, and UN statistics show that worldwide, 2.4 billion people lack appropriate sanitary facilities.

These figures shed a totally different light on the situation at the Sharjah Golf & Shooting Club in the United Arab Emirates, where there have been complaints about the quality of the recycled waste water used to spray the greens. The reason for the wrinkled noses on the 18-hole golf course was the fact that the sewage treatment plant was subjected to a load twice that for which it was designed.

The solution to the problem was a microfiltering process from the Hans Huber AG. The machines, sold under the trade name RoDisc®, are equipped with disc filters which can be retrofitted to deal with increased waste water loads. The filter discs are arranged horizontally and can rotate on central shafts powered by Bauer geared motors. The motors used are BF Series shaft-mounted geared motors (Type BF40-74/D09SA4), with integrated torque support and hollow shafts even in the smallest sizes. Geared motors of this series can also be mounted in any position. They comply with international standards, including NEMA, IEC, CSA and CE, and are therefore licensed for use worldwide. A hardened wearing bushing and a spray ring on the rotor seal mean that the oil sump can be smaller and ensure reliable lubrication and performance over many years and without leakage, an important aspect in sewage plants.

Rowing in China

One of the special challenges facing China as it prepared for the Olympics was the statutory requirement that it must clean 100% of the waste water produced. This was done with the aid of two large-scale sewage treatment plants in the Beijing area, and the equipment at these plants includes 22 Huber machines for mechanical pre-cleaning and fine screening of the waste water and the world's largest membrane bio-reactor. The water leaving these plants is of bathing quality and is fed into the Olympic rowing and canoeing lake.

The fine screeners are multi-functional machines which mechanically retain undesirable substances, remove and transport off the screenings, wash, dewater and compact them. And once again, it is BF drives from Bauer which keep things moving. The shaft-mounted geared motors described previously - in this case, BF70Z-44/D09LA4-S/ + brake are flange-mounted in the fine screen - are available in 10 gear sizes for torques from 200 to 16,800 Nm. The protection classes range from IP65 to IEC 529, which means that the BF Series motors are protected against water spray and thus suitable for use outdoors or in humid environments.

Screen with a length of 23 metres

With a length of 23 metres, the screening plant in operation in Filderstadt-Bonlanden with its perforated plate screens for the treatment of water from combined sewers and rainwater is probably the longest screening plant in Europe. It was installed in an existing rain overflow basin to clean combined sewer overflow of floating and suspended substances.

The plant is driven by a compact bevel-gear motor from Bauer with right-angled gear output. The motor has protection of class IP 68 (Type BK70Z-34VW/DXEU13LA4) and can operate underwater in channels. Its specific advantages over hydraulic systems are maximum availability and low maintenance requirements, while its outstanding general features include long service life and low running costs.

Active against bacteria and germs

Huber was looking for a powerful and durable drive motor for its membrane filtration processes and selected BG helical-gear motors with straight gear configuration, made by Bauer. The robust gearing, compact cast housing and above all, the high efficiency of these motors also made them the ideal choice. Huber, specialists for waste water treatment, describe their system as “A cleaning procedure for the highest quality”. And indeed, it not only removes solid materials from the water, but also helps to reduce contamination with bacteria and germs. These ultra-filter plants are designed to allow the recycling of liquid waste to provide service water.

And thus the wheel comes full circle. To provide people with clean water, it is necessary to make the best possible use of existing reserves of drinking water and recycle waste water to provide service water which can be reused, for example, in agriculture. This could help to counteract the process known as “Desertification”, that is, the expansion of desert areas.

And while geared motors are not the technology with which this change is achieved, they are the components which keep running costs at an acceptable level and ensure reliable performance.



A variety of Bauer gearmotors is utilized in wastewater treatment facilities worldwide.



23 metre long screening plant, driven by Bauer BK Series gear motors, is installed in rain overflow basin.



BG Series gear motors are utilized in membrane filtration process.

About Altra Industrial Motion

Altra Industrial Motion (NASDAQ:AIMC) is a leading multi-national designer, producer and marketer of a wide range of electromechanical power transmission products. The company brings together strong brands covering over 40 product lines with production facilities in nine countries.

Altra's leading brands include Boston Gear, Warner Electric, TB Wood's, Formsprag Clutch, Wichita Clutch, Industrial Clutch, Ameridrives Couplings, Kilian Manufacturing, Marland Clutch, Nuttall Gear, Bauer Gear Motor, Stieber Clutch, Twiflex Limited, Bibby Transmissions, Matrix International, Inertia Dynamics, Huco Dynatork, Lamiflex Couplings, Ameridrives Power Transmission, Delroyd Worm Gear and Warner Linear. For information on any of these technology leaders, visit www.AltraMotion.com or call 815-389-3771.



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