

AsepticDrive™

Hygienically encapsulated brake and/or encoder

Main features:

- Perfectly smooth exterior case, which prevents accumulation of dirt and makes it easy to clean
- Prevents re-infections in the surrounding area and results in a significant measurable reduction of air-borne contamination, because without the motor fan, turbulence is no longer a problem
- Fully encapsulated attached brake and/or encoder in the production areas
- Motor, brake and/or encoder connections with round plug available as option
- Coating resistant to cleaning agents and disinfectants with special paint coating
- Standard high degree of protection with IP 67 (optional with IP 69K)
- Optional: solid or hollow shaft in stainless steel V4A (1.4571)

Available on request:

- Paint finish according to RAL tables
- Pre-fabricated 6 wire cable, 3 m long

Motor output

Available power ranges in continuous operation (S1):

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

An AsepticDrive™ is an asynchronous motor whose basic design dispenses with a fan and cooling ribs. The result is a motor with a completely smooth outer casing which is sealed by a matching non-drive end shield.

The AsepticDrive™ has as standard a stainless steel round connector which allows a quick and simple electrical connection of the motor. This connector contains not only the motor contacts but also those of the thermistors. The hygienic concept is also guaranteed due to the smooth surface of the connector.

The AsepticDrive™ can be easily fitted onto any gear in the BG, BF, BK or BS series, thereby catering for the majority of design requirements..

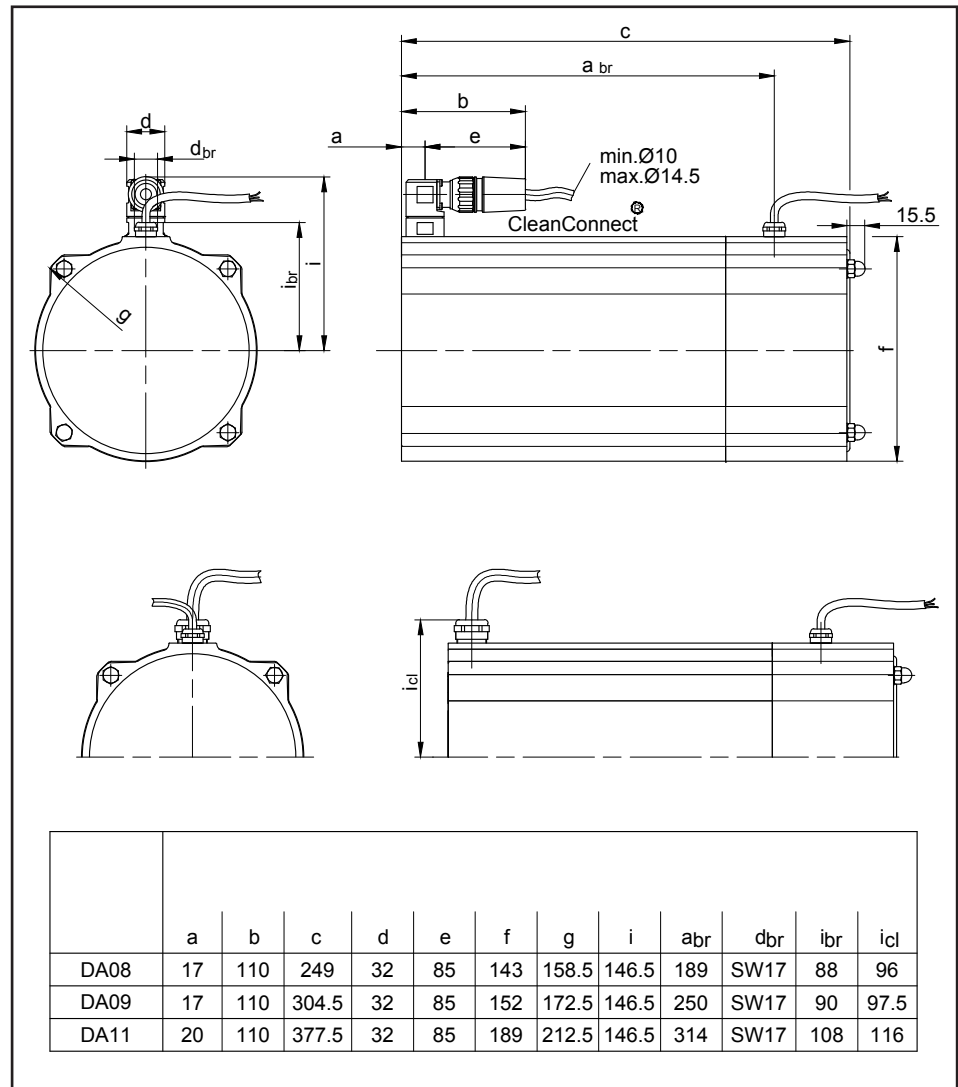
Application criteria

Special requirements regarding hygiene and cleaning are necessary in the production areas of the food and beverage industry. This is due to the sensitivity of the products and their perishable nature.

For this reason, most equipment and production machines are made of stainless steel, permitting thorough cleaning once production has ended. Stainless steel also allows the use of acid or alkali-based cleaning agents which, in combination with disinfectants, ensure that all relevant germs and bacteria are destroyed.

In the case of gear motors, which are generally mounted directly onto the machines, it has not been possible to fulfil these requirements in the past. The reasons for this are the design of the housing structures, the ribs of the motors and the fans used for cooling.

The AsepticDrive™ provides a smooth surface which can be cleaned simply and effectively without allowing any pockets of dirt to accumulate. It is also difficult for deposits to stick. The absence of a fan means above all that an inaccessible source of dirt, which like



the dirt in the cooling ribs led to re-infections of the production machinery, has now been removed.

A secondary effect is that ambient and room-air infections are prevented, because any germs which form under the cowl over

the weekend, for example, are not swirled around when the machinery is restarted.

To summarise, the AsepticDrive™ in combination with our new series of gears constitutes a highly effective solution for the food and beverages industry.

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Product Extension HiflexDRIVE

The HiflexDrive range will be extended in the lower torque range by the **BK08**.

Gearbox BK08

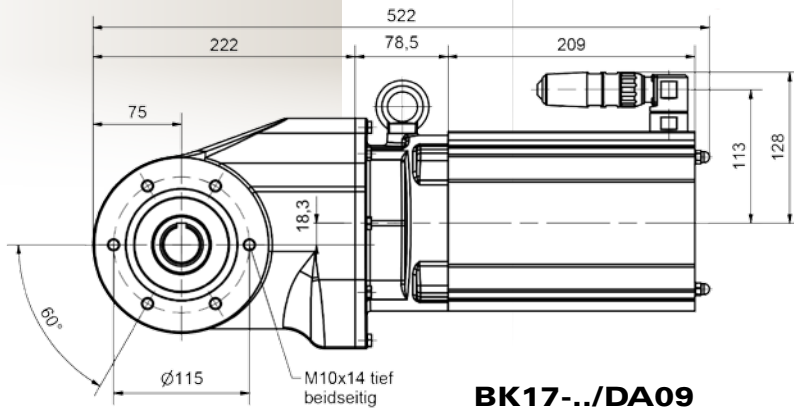
- Torque 200 Nm
- Ratios 4,44 - 102,5

Gearbox BK17

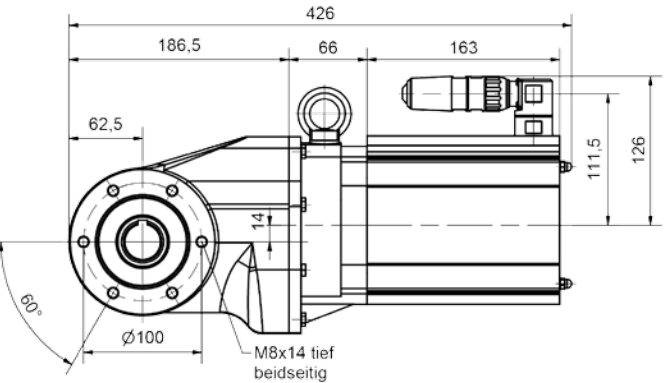
- Torque 330 Nm
- Ratios 4,54 - 108,6

Motors

- Power rating 0,18 kW ... 3,0 kW
- Efficiency Classes w/o, IE1 through IE4
- Mains supply 110 V ... 690 V, 50/60 Hz
- Enclosure IP 65 (Standard), IP 67 / IP 69K (Optional)



BK17-../DA09



BK08-../DA08

HiflexDRIVE

The Concept

Gear Solutions

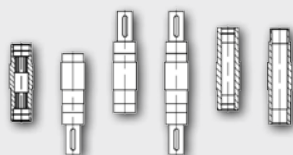
Our Performance

Variance in Materials

- Housing
Aluminium and Stainless Steel
- Shafts
Steel and Stainless Steel

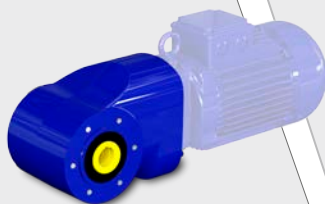
Diversity in Mounting

- Standard design with C-Face
- Optional A-Flange available
- Flexible shaft diameters
- All prevalent shaft types



Well thought-through gear design

- No interference contour
- Form and radius adapted to the logistic industry
- Easy to clean
- Special aseptic coating
- Modular set-up



Flexibility

Adaptability

Motor Solutions

Our Performance

Motor technologies

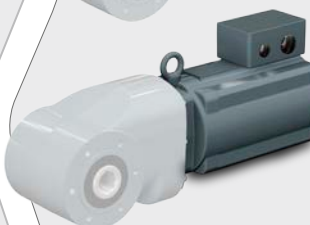
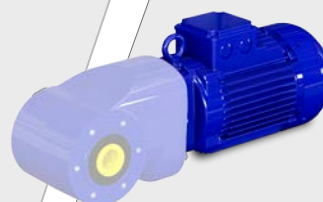
- Asynchronous technology
- Efficiency Class IE1 to IE3
- Permanentmagnet technology (PSM)
- Efficiency class IE4
- Optimised for partial load acc. to EN 50598

Diversity in dimensioning

- Finely graded brake sizes
- Speed feedback
- Duty cycles S1 to S9
- Optimised for inverter duty
- Connection technology
- Cage Clamp
- Terminal Board
- Stainless Steel Connector

Well thought-through motor design

- Variance in housing design
- Easy to clean
- Special aseptic coating
- Modular set-up
- Flexible connection technology
- All enclosures incl. IP 69K



www.famcocorp.com
E-mail: info@famcocorp.com
@famco_group

Tel: +91-48000049
Fax: +91-44994642

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲



Product

Stainless Steel HiflexDRIVE

Application

Cheese Curd Processing Line

Highlights

- Combination of the BK17 HiflexDRIVE gearbox and a permanent magnet synchronous motor (PMSM)
- IE4 Super premium efficiency motor
- Smooth stainless steel aseptic design for easy cleaning in washdown applications
- Ingress protection up to IP69K
- High efficiency through two-stage gear design

Rücker GmbH, one of Europe's leading dairy producers, required an upgraded aseptic geared motor drive solution for a coagulator used for cheese curd processing. The 60 meter long machine features several stirrers that keep milk moving as the whey is removed from the curd. Each stirrer moves along a section of the lane; once it reaches the end of its section, the stirrer is lifted out of the curd and moves back to its starting position.


Rücker initially approached Bauer when its engineers realized that integrating brakes into the machine's geared motor housing would increase cleanability in the system and therefore reduce HACCP (Hazard Analysis and Critical Control Point) risks.

Shortly after, Rücker began upgrading its geared motors to aseptic drives to take advantage of the improved hygiene ratings. Now, the first of the aseptic drives have been replaced with stainless steel units from Bauer. The stainless steel drives offer the same integrated brake feature from the original unit, but now with the added hygiene performance and mechanical resilience of a stainless steel housing.

Standard Bauer stainless steel HiflexDRIVEs feature a combination BK17 gearbox and a permanent magnet synchronous motor (PMSM). The energy efficient PMS motor provides accurate positioning when used with a high-performance VFD, even without encoder feedback.


The drive's stainless steel design features smooth, water-repellent surfaces that eliminate hygiene risks often associated with painted solutions and allow for easy cleaning. The motor design does not require a fan or cooling ribs, allowing for a completely smooth outer casing.


Europe US

 www.famcocorp.com

 E-mail: info@famcocorp.com

 @famco_group

 Tel: +۹۰۲۱-۴۸۰۰۰۰۴۹

 Fax: +۹۰۲۱-۴۴۹۹۴۶۴۲

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

Warner Electric

Boston Gear

TB Wood's

Formsprag Clutch

Wichita Clutch

Marland Clutch

Industrial Clutch

Bauer Gear Motor

Svendborg Brakes

Nuttall Gear

Warner Linear

Delroyd Worm Gear

Stieber Clutch

Ameridrives Couplings

Inertia Dynamics

Matrix International

Huco Dynatork

Bibby Turboflex

Twiflex Limited

Lamiflex Couplings

Kilian Manufacturing

Guardian Couplings

Ameridrives Power
Transmission

New HiflexDRIVE – The Flexible, Efficient and Clean Solution



As seen in
Machinery & Equipment MRO
Food & Beverage Supplement
September, 2016



 **Bauer**[®]
Gear Motor

An Altra Industrial Motion Company

New HiflexDRIVE –

The Flexible, Efficient and Clean Solution



The HiflexDRIVE range from Bauer is available in a standard, painted configuration or in aseptic and stainless steel versions.

Geared motors have offered solutions to a number of challenges in a variety of industrial sectors for many years, and now, with ever-increasing pressure to improve efficiency and reduce costs, more innovative and flexible solutions are being created. At the forefront is Bauer Gear Motor, which has already created a super premium efficiency (IE4) permanent magnet motor, and is now offering high-efficiency geared solutions that can operate reliably in hygienic environments, where regular washdowns are a necessity.

The latest HiflexDRIVE range from Bauer offers a modular system that combines the excellent efficiency of the IE4 permanent magnet synchronous motor (PMSM) with the compact dimensions of the BK17 gearbox. The package is available in a standard, painted configuration for conventional applications, or in aseptic and stainless steel versions that are specifically designed to operate in hygienic environments.

Ideally suited to conveyor applications, the HiflexDRIVE solution offers many advantages in terms of performance, reliability and flexibility. However, the special hygiene demands of industries such as pharmaceuticals and food & beverage, require specialized components that typically have to be specified to withstand the regular cleaning regimes and provide clean operation without risk of contamination.

Hygienic Quality

The aseptic design caters specifically to applications where regular washdowns involving cleaning chemicals are required to maintain a hygienic environment. The motor is designed so that a fan and cooling ribs are not required, thereby allowing for a completely smooth outer casing with a sealed non-drive end. This eliminates any dirt traps on the motor casing and also prevents re-infection of the local environment caused by air movement from a cooling fan.

In addition, the aseptic drive is painted using an acid- and alkali-resistant formula, which can withstand chemicals with a pH range of 2 – 12. As a result, the new drive system can withstand the cleaning solutions and disinfectants that are used within the food industry without affecting performance.

The stainless steel variant is designed for similar hygienic applications which run the additional risk of mechanical damage. The motor design has a similarly sealed non-drive end and smooth casing to prevent any accumulation of dirt.

Both models have a very high level of ingress protection, up to IP69K, which is a special designation for washdown applications involving high-pressure, high-temperature water. As a result, the new drive system can withstand commonly used cleaning solutions and disinfectants without affecting performance.

Motor Performance

Bauer, which is part of the Altra Industrial Motion group, has invested a considerable amount of design and development time into ensuring that its PMSM and drive packages deliver high-efficiency performance on partial loads, a criticism that has been levelled at other high-efficiency motor designs as the efficiency can drop-off sharply outside the ideal operating speed and load. Bauer's PMSMs maintain high efficiency levels within a wide partial load range, up to a load factor of 1:5.

PMSMs offer considerably improved efficiency when compared to induction motors, especially under partial load conditions, and have the added benefit of maintaining constant speed, independent of the load. This means that the motor speed does not vary – despite overload variations or cases of voltage drop – as long as the main frequency is kept constant.

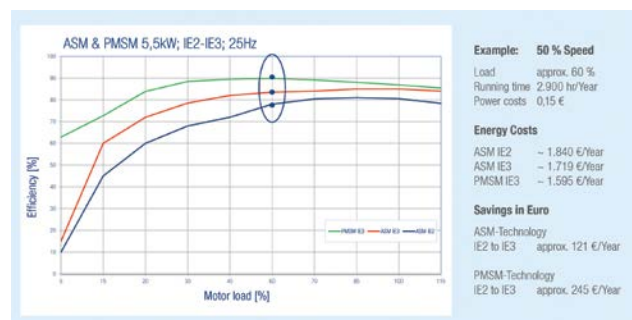
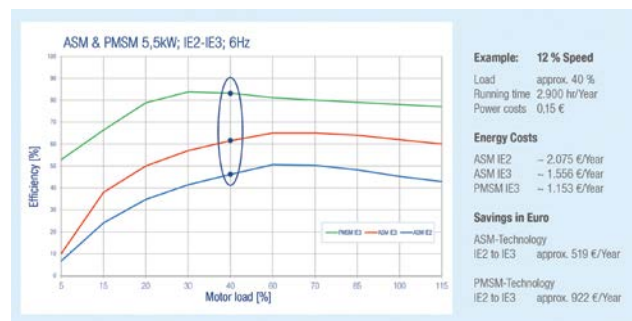
In order to save energy, permanent magnet motors are the most suitable drives in the following circumstances: Where a genuine need exists for speed control. Where there is considerable potential for reducing electricity consumption through lengthy operating times of motors, especially under partial load operation. Where the saved energy quickly offsets the investments for speed regulation mechanisms. Where a standard asynchronous motor also requires an inverter (resulting in additional costs) for speed regulation.

Bauer Gear Motor's range of PMSMs already fulfill the requirements of the soon-to-be-implemented IE4 (Super Premium Efficiency) classification. This is evidenced by their potential to achieve energy savings of up to 40% compared to an IE2 inverter-driven squirrel cage motor.

The PMSM series is an environmentally-friendly range of motors, employing a highly efficient rotor design that offers a number of key benefits. It reduces heat losses from the rotor by 100%, total losses by approximately 25%, and increases total efficiency by 10% or more – a significant advantage for stainless steel drives which dissipate heat less efficiently than aluminium or cast iron. For the PMSM user, this improved performance

translates into lower total cost of ownership, a reduction in CO₂ emissions, and ongoing savings that buffer against future increases in energy costs.

The HiflexDRIVE range brings together Bauer's design and manufacturing expertise in both IE4 motors and high-performance gearboxes to deliver a highly efficient, constant speed drive capable of performing in a wide range of commercial environments.



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, Svendborg Brakes, Stieber Clutch, Twiflex Limited, Bibby Turboflex, Matrix International, Inertia Dynamics, Huco Dynatork, Lamiflex Couplings, Ameridrives Power



An Altra Industrial Motion Company

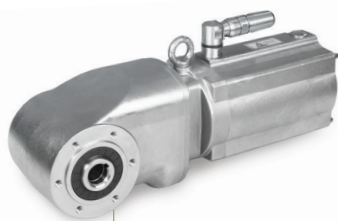
Europe

+49 711 3518-0

US

1-732-469-8770

Asia Pacific



Product

Stainless Steel HiflexDRIVE

Application

Cabbage Coring Machine

Highlights

- Combination of the BK17 HiflexDRIVE gearbox and a permanent magnet synchronous motor (PMSM)
- IE4 Super premium efficiency motor
- Smooth stainless steel aseptic design for easy cleaning in washdown applications
- Ingress protection up to IP69K
- High efficiency through two-stage gear design
- 108.6:1 gear ratio
- Precise positioning without servo motor or encoder feedback

A leading manufacturer of food processing equipment needed a robust drive solution that could withstand frequent washdowns for use on a cabbage coring machine. The machine features a 48" diameter, 275 lb. stainless steel indexing table that rotates 60 degrees in 2 seconds to position a head of cabbage under the coring fixture, pauses for 5 seconds for the coring operation, then repeats. Accuracy of 1 degree or less at 5 RPM was required. Accuracy is important to ensure the coring fixture and the cabbage head are aligned to reduce spoilage. There was also a concern about needing to keep the large rotating mass stable, so a strong gear drive and support bearings were required.

Based on previous successful collaborations, the OEM contacted Bauer Gear Motor to see if it could provide a stainless steel servo motor and gear drive to rotate the machine's table. To meet the accuracy and speed requirements, Bauer supplied a stainless steel HiflexDRIVE combination of the BK17 gearbox and a permanent magnet synchronous motor (PMSM). The PMS motor provides accurate positioning when used with a high-performance VFD, even without encoder feedback. Additionally, the PMS motor offers significant energy savings by eliminating the large starting currents that would otherwise be needed to start the motor with each cycle, motor simply held at 0 RPM for each stop – no brake or power-off required.

The gearbox utilizes a 35 mm bore with a shrink disc to support the table axially, optimize accuracy, and prevent key wear due to the high switching frequency and inertia. A round plug connector are used to prevent water ingress at the motor connection. The drive's stainless steel design features smooth water-repellent surfaces that eliminate hygiene risks usually associated with painted solutions and allow for easy cleaning. The motor is designed so that a fan and cooling ribs are not required, allowing for a completely smooth outer casing.

Europe
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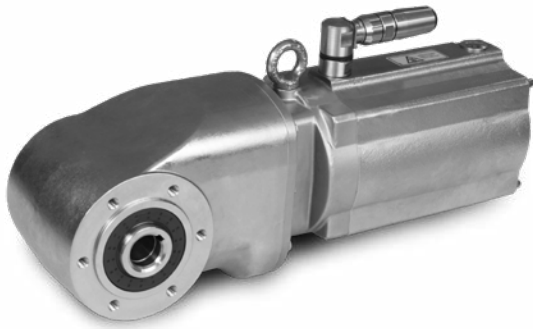
Bauer
Stainless Steel
HiflexDRIVE



 **Bauer Gear Motor**[®]
Altra Industrial Motion



FEATURES AND BENEFITS



HiflexDRIVE

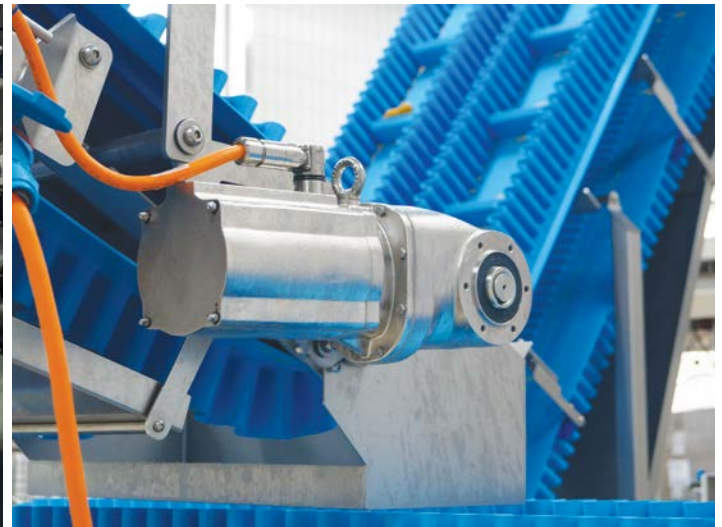
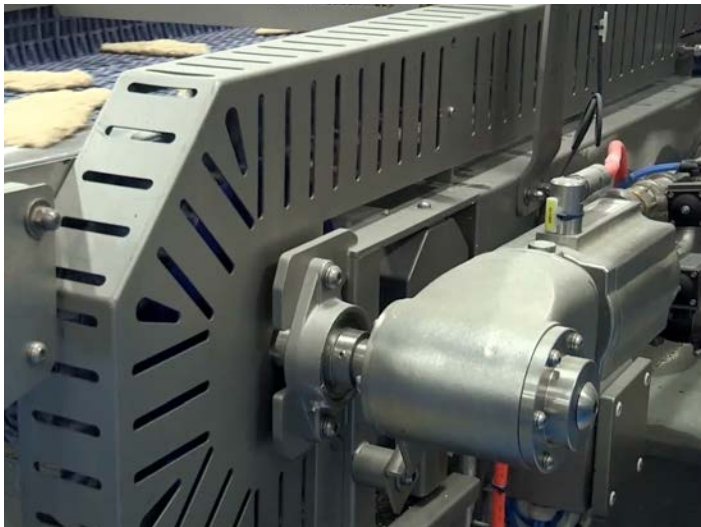


Scan to visit our website
for more information and
demonstration videos!

Features and Benefits

- AISI 316-grade (CF8) stainless gearbox and motor housing
- CIP (Clean-In-Place) compatible ; Washdown-Ready; IP67/IP69K certified
- Smooth, non-ventilated motor for optimum hygienic design
- 316L stainless output shaft (solid or hollow)
- Face mounting standard; other options available
- Inverter-duty motor
- Fully encapsulated brakes or encoders are available upon request
- Stainless watertight cable connection for motor power
- Chemical-resistant and watertight cable included (10 ft standard length)
- Thermistor temperature safeguard

3 GEARBOX SIZES WITH 7 POSSIBLE MOTOR DESIGNS AVAILABLE TO OPTIMIZE YOUR APPLICATION



HIFLEX DRIVE ORDERING INFORMATION

GEARING OPTIONS				MOTOR OPTIONS		SHAFT OPTIONS						
BK	08	-	7	4	/	DAPE09XA4	-	TF	/	AV	/	VA
Type	Size	Mounting		Shaft Style		Type (see Chart 1)	Feature		Shaft Options		Stainless Exterior	
BK - Helical Bevel	04 08 17	7 - Shaft mount machined face		1 - Solid 4 - Hollow		DAPE08YA4-2 DAPE09XA4 DA09XA4 SA5E08MA4 SA5E09SA4 SA5E09XA4 SA09XA4	Blank - none TF (thermistors)		AV - Inch AM - Metric			

Customer must provide selected OUTPUT RPM from Selection Table on pages 4-5, along with SUPPLY VOLTAGE at time of order.

Part Number Examples:

BK04-74/DAPE08YA4-2/AV/VA
BK17-71/SA5E09SA4-TF/AV/VA

Gearbox Specifications

Model	Torque Rating (lbf-in)	Solid Shaft Sizes	
		Inch AV Option	Metric AM Option
BK04-71 (Solid)	700	1"	25mm
BK08-71 (Solid)	1770	1.25"	30mm
BK17-71 (Solid)	2920	1.375"	35mm

Model	Torque Rating (lbf-in)	Hollow Bore Sizes	
		Inch AV Option	Metric AM Option
BK04-74 (Hollow)	700	0.75"	20mm
BK08-74 (Hollow)	1770	1.375"	35mm*
BK17-74 (Hollow)	2920	1.50"	40mm*

* Indicates max value shown

Chart 1

Motor Type	Gearing Size			Description
	BK04	BK08	BK17	
DAPE08YA4-2	X	X		ASM Asynchronous
DAPE09XA4		X	X	ASM Asynchronous
DA09XA4		X	X	ASM Asynchronous
SA5E08MA4	X	X		PMSM Permanent Magnet
SA5E09SA4		X	X	PMSM Permanent Magnet
SA5E09XA4		X	X	PMSM Permanent Magnet
SA09XA4		X	X	PMSM Permanent Magnet

Motor Specifications

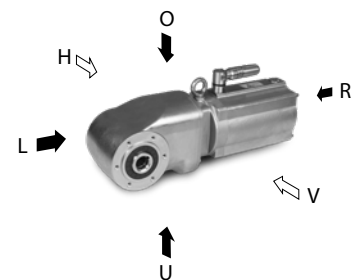
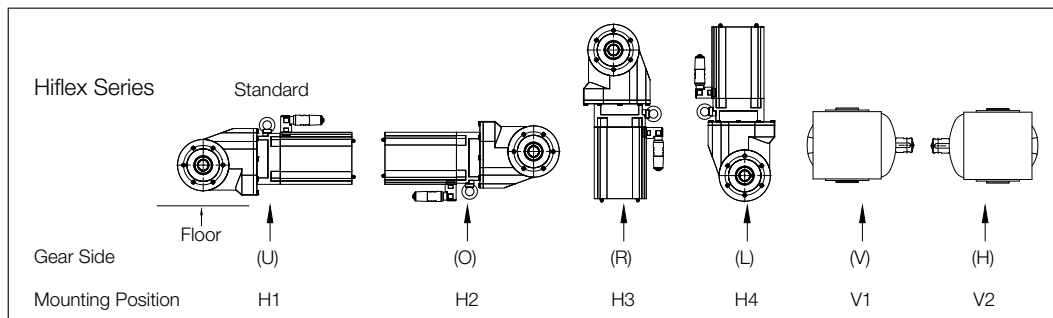
Type	Voltage	Nominal Motor Speed	Frequency	Enclosure	Turndown (for short durations)
ASM Asynchronous	230V or 460V**	1800rpm	50/60Hz	TENV	up to 20:1
PMSM Permanent Magnet*	460V** (380-500V)	1800rpm (0-3000rpm)	50/60Hz (0-120Hz)	TENV	full torque at virtually zero speed

* Requires use of VFD Variable Frequency Drive suitable for use with Permanent Magnet Motors.
** Contact factory for voltages not shown

Important Ordering Comments:

- Additional Output Shaft options are also available (contact factory for more info)
- Additional Motor Options (contact factory for more info): Brakes; encoders; special voltages; Non-std cable exits; variable cable lengths
- Supplied with H1 food grade synthetic oil
- Unless advised, Right-Angle Gearmotors are specified for standard H1 mounting position (see table below)

Right-Angle Mounting Positions



ASM ASYNCHRONOUS MOTOR SELECTION TABLES

0.5HP

S1 Continuous Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model
395	4.44	73	BK08 / DAPE08YA4-2
290	6.02	99	
240	7.25	119	BK04 / DAPE08YA4-2
180	9.71	159	
150	11.67	190	
114	15.29	248	
97	18.00	288	
81	21.54	345	
67	26.36	416	
53	33.33	531	
46	38.18	611	
36.5	47.78	761	
36	48.96	770	BK08 / DAPE08YA4-2
28.5	61.68	974	
24.5	72.31	1115	
20	89.30	1389	

1.5HP

S3 40% - Intermittent Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model
395	4.44	199	BK08 / DA09XA4
290	6.02	270	
230	7.68	344	
186	9.40	421	
164	10.70	217	
147	11.93	534	
121	14.50	635	
104	16.92	741	
95	18.52	811	
78	22.65	992	
61	28.76	1260	
51	34.25	1500	
43	40.79	1787	
41	42.70	1871	
34.5	51.22	2219	
29	61.30	2656	
23	76.79	3289	

0.75HP

S1 Continuous Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model	
395	4.44	108	BK08 / DAPE09XA4	
290	6.02	146		
230	7.68	186		
186	9.40	226		
164	10.70	257		
147	11.93	292		
121	14.50	345		
104	16.92	403		
95	18.52	443		
78	22.65	540		
61	28.76	681		
51	34.25	814		
43	40.79	965		
36	48.96	1142		
28.5	61.68	1451		
24.5	72.31	1664		
23	76.79	1770		BK17 / DAPE09XA4
20	88.12	1991		
16.5	108.60	2390		

2.0HP

S3 20% - Intermittent Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model	
395	4.44	296	BK08 / DA09XA4	
290	6.02	402		
230	7.68	513		
186	9.40	628		
164	10.70	699		
147	11.93	796		
121	14.50	947		
104	16.92	1105		
95	18.52	1210		
78	22.65	1479		
73	24.29	1586		BK17 / DA09XA4
62	28.66	1872		
48	36.69	2396		
41	42.70	2789		
34.5	51.22	3308		

1.0HP

S3 60% - Intermittent Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model	
395	4.44	148	BK08 / DA09XA4	
290	6.02	201		
230	7.68	256		
186	9.40	314		
164	10.70	349		
147	11.93	398		
121	14.50	474		
104	16.92	553		
95	18.52	605		
78	22.65	740		
61	28.76	939		
51	34.25	1118		
43	40.79	1332		
36	48.96	1581		
34.5	51.22	1654		BK17 / DA09XA4
29	61.30	1980		
23	76.79	2452		
20	88.12	2782		
16.5	108.60	3389		

Above tables based on 60Hz supply and ambient temperature of up to 40°C (104°F).

Ratings are thermally limited based on the duty cycle noted in accordance with EN 60034-1.

All continuous duty rated gearmotors have an efficiency rating of IE3

Intermittent duty defines the percentage of time over a 10 minute cycle that the gearmotor can be operating at full rated torque with the remainder of the cycle at dwell.

For operating conditions not listed above, please contact the factory.

Service factor > 1.0 for all values except those in italics font.

PMSM PERMANENT MAGNET MOTOR SELECTION TABLES

(Requires use of VFD Variable Frequency Drive suitable for use with Permanent Magnet Motors)

0.5HP

S1 Continuous Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model
395	4.44	87	BK08 / SA5E08MA4
290	6.02	117	
240	7.25	142	BK04 / SA5E08MA4
180	9.71	186	
150	11.67	226	
114	15.29	292	
97	18.00	341	
81	21.54	412	
67	26.36	496	
53	33.33	628	
46	38.18	726	
36.5	47.78	903	
36	48.96	920	BK08 / SA5E08MA4
28.5	61.68	1159	
24.5	72.31	1345	
20	89.30	1646	

1.5HP

S1 Continuous Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model
395	4.44	252	BK08 / SA5E09XA4
290	6.02	341	
230	7.68	434	
186	9.40	531	
164	10.70	593	
147	11.93	673	
121	14.50	805	
104	16.92	938	
95	18.52	1027	
78	22.65	1257	
61	28.76	1602	BK17 / SA5E09XA4
48	36.69	2036	
41	42.70	2345	
34.5	51.22	2788	
29	61.30	3363	
23	76.79	4160	

0.75HP

S1 Continuous Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model
395	4.44	126	BK08 / SA5E08MA4
290	6.02	171	
240	7.25	204	BK04 / SA5E08MA4
180	9.71	274	
150	11.67	332	
114	15.29	429	
97	18.00	496	
81	21.54	593	
67	26.36	735	
61	28.76	797	
51	34.25	947	
43	40.79	1133	
36	48.96	1345	BK08 / SA5E08MA4
28.5	61.68	1699	
23	76.79	2080	
20	88.12	2345	BK17 / SA5E09SA4
16.5	108.60	2876	

2.0HP

S3 60% - Intermittent Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model
395	4.44	345	BK08 / SA09XA4
290	6.02	468	
230	7.68	597	
186	9.40	731	
164	10.70	814	
147	11.93	928	
121	14.50	1103	
104	16.92	1287	
95	18.52	1409	
78	22.65	1723	
73	24.29	1848	BK17 / SA09XA4
62	28.66	2180	
48	36.69	2791	
41	42.70	3248	
34.5	51.22	3853	

1.0HP

S1 Continuous Duty

Output RPM	Ratio	Output Torque (in-lbs)	Model
395	4.44	173	BK08 / SA5E09SA4
290	6.02	235	
230	7.68	296	
186	9.40	367	
164	10.70	407	
147	11.93	460	
121	14.50	549	
104	16.92	646	
95	18.52	708	
78	22.65	858	
61	28.76	1097	
51	34.25	1301	
43	40.79	1558	
41	42.70	1628	
34.5	51.22	1903	
29	61.30	2301	
23	76.79	2832	
20	88.12	3230	
16.5	108.60	3938	
			BK17 / SA5E09SA4

Above tables based on 60Hz supply and ambient temperature of up to 40°C (104°F).

Ratings are thermally limited based on the duty cycle noted in accordance with EN 60034-2.

All continuous duty rated gearmotors have an efficiency rating of IE5.

Intermittent duty defines the percentage of time over a 10 minute cycle that the gearmotor can be operating at full rated torque with the remainder of the cycle at dwell.

For operating conditions not listed above, please contact the factory.

Service factor > 1.0 for all values except those in italics font.

Contact the factory for recommendations of VFD Variable Frequency Drives suitable for use with permanent magnet motors.

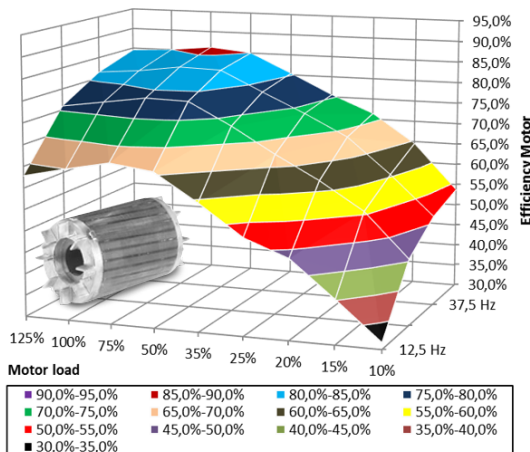
MOTOR OPTIONS

Sustainable Performance Motor Design

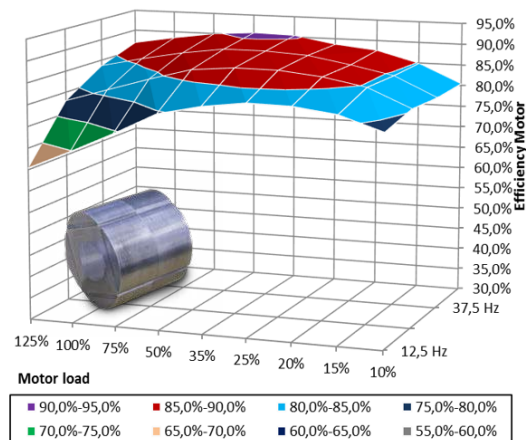
- Smooth motor housing and graded surfaces promote water runoff and easy cleaning.
- Non-ventilated motor avoids contaminant dispersion common to fan-cooled models.
- ASM Asynchronous motor offer simple install and start-up for a wide range of applications, providing reliable, high efficiency operation.
- PMSM Permanent Magnet motors require a VFD but offer savings of up to 40% on energy consumption based on variation of loading common in many applications. By using its turndown capability, the PMSM motor allows the user to consolidate a wide range of ratios into one stocked gearmotor and maintain high efficiency across the expanded RPM range.



Efficiency ASM; 1.5HP; IE3



Efficiency PMSM; 1.5HP; IE3



CleanConnect™ Plug Connector

- The CleanConnect™ stainless steel plug meets the toughest requirements for corrosion protection and allows rapid installation of the drive in a few easy steps.
- The stainless steel connector maintains the ingress protection of the drive. It ensures reliable connection without accidental detachment, along with a high IP67/IP69K protection rating.
- The associated power cable, as counterpart to the stainless steel plug, resists cleaning agents from pH2 to pH12 and can be assembled in any desired length.

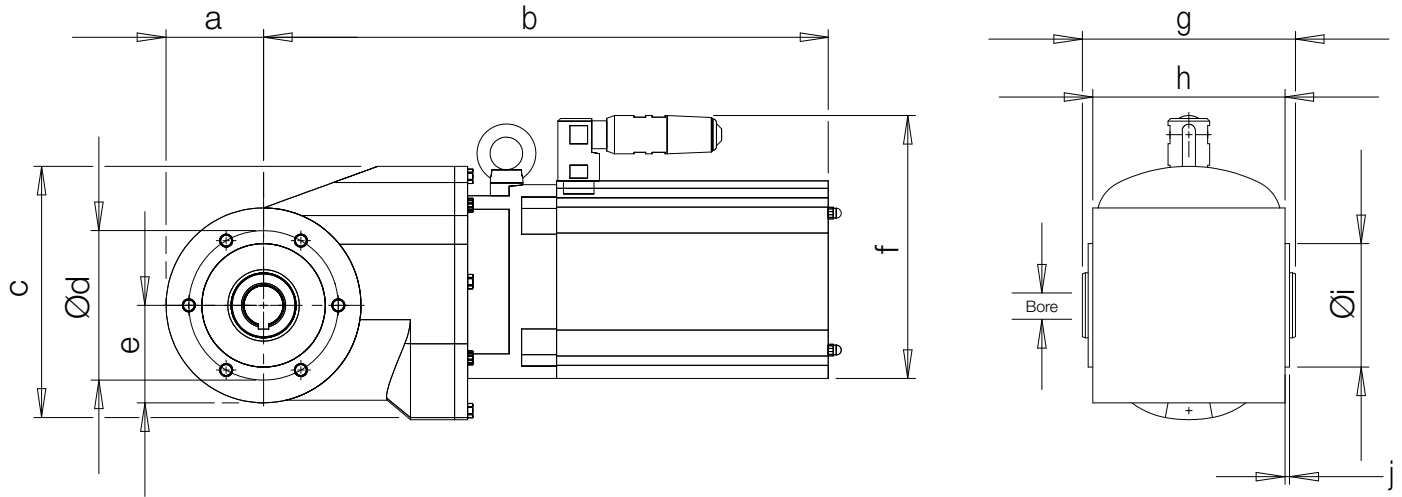


Brake or Encoder Options

- Brake design is spring set and electro-mechanically released. Types include holding or dynamic. Spring-loaded pressure plate instantaneously releases when power is removed to lock the rotor shaft. Pressure plate automatically resets when power is restored.
- Encoder design is optical incremental. There are various options depending on the desired signal waveform and required resolution.
- Brakes or encoders are completely integrated into the motor housing, i.e. the high protection rating IP67/IP69K and the aseptic design are completely retained.
- Contact factory to add brake or encoder options. Customer must provide application details for review to reduce the risk of exceeding thermal limits.



DIMENSIONS



Hollow output shaft option shown

All Dimensions in millimeters (mm).

Type	a	b	c	d	e	f	g	h	i	j
BK04... / DAPE08YA4-2	59	356	152	85	59	205.5	131	122	70	2.5
BK04... / SA5E08MA4	59	356	152	85	59	205.5	131	122	70	2.5
BK08... / DAPE08YA4-2	62.5	374	167	100	62.5	205.5	150	134	80	3.5
BK08... / SA5E08MA4	62.5	374	167	100	62.5	205.5	150	134	80	3.5
BK08... / DAPE09SA4	62.5	413.5	167	100	62.5	216	150	134	80	3.5
BK08... / SA5E09SA4	62.5	413.5	167	100	62.5	216	150	134	80	3.5
BK08... / SA5E09XA4	62.5	413.5	167	100	62.5	216	150	134	80	3.5
BK17... / DAPE09XA4	75	434.5	195	115	75	216	164	148	95	3.5
BK17... / SA5E09SA4	75	434.5	195	115	75	216	164	148	95	3.5
BK17... / SA5E09XA4	75	434.5	195	115	75	216	164	148	95	3.5

Brake or Encoder option will add 100mm of additional length to "b" dimension. Contact factory for these options.

Metric Shaft Options (mm)

Gearbox	Hollow Bore	Solid	
		Diameter	Length
	H7 Tolerance	k6 Tolerance	
BK04	20	25	50
BK08	35	30	60
BK17	40	35	70

Inch Shaft Options (inches)

Gearbox	Hollow Bore	Solid	
		Diameter	Length
BK04	0.75	1.00	1.97
BK08	1.375	1.25	2.36
BK17	1.50	1.375	2.76

Bauer Gear Motor Facilities

Europe

Germany

Eberhard-Bauer-Strasse 37
73734 Esslingen - Germany
+49 711 3518 0

Slovakia

Tovarenská 49
953 01 Zlate Moravce - Slovakia
+421 37 6926100

United Kingdom

Nat Lane Business Park
Winsford, Cheshire
CW7 3BS - United Kingdom
+44 1606 868600

North America

Charlotte, NC

701 Carrier Drive
Charlotte, NC 28216 - USA
+800-387-0130

Asia Pacific

China

18 Huan Zhen Road Dabo
Industrial Zone - BoGoang Village
ShaJing Town - BaoAn District
Guangdong Province
518104 Shenzhen City - China
+86 755 27246308

Customer Service

Belgium

1702 Groot-Bijgaarden
+32 2 89372080

Finland

01510 Vantaa
+358 207 189700

France

1702 Groot-Bijgaarden
+32 2 89372080

Italy

35020 Padova (PD)
+39 049 8792327

Russia

Volokolamskoye sh., 142, bldg 6
Business Center „Irbis“
125464 Moscow - Russia
+7 495 6420468

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 www.famcocorp.com

 E-mail: info@famcocorp.com

 [@famco_group](https://www.instagram.com/famco_group)

 Tel: +91 - 48 0000 49

 Fax: +91 - 44 9946 42

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲