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Installed positions of geared motors

Bauer geared motors can be supplied for any type of fitting position. Vertical installation positions (motor-down) place a particularly severe strain on the shaft seal. It is advisable to avoid this arrangement especially at high motor speeds (e.g. above 1800 r/min) and continuous operation.

Notes on safety

See the notes on safety regarding installation in Operating Instructions.

Guards for rotating parts

The shrink disk (SSV) guards required under the German law relating to technical materials (Law Concerning Industrial Equipment - Equipment safety law GPSG) or by the Accident Prevention Regulations (UVV) are not included in the standard scope of supply because they are fitted by the customer in most cases, or the risk of accident can be eliminated by suitable installation.

See the Operating Instruction.

Touch protection

The fan hoods, via the externally mounted fan wheels, of the entire B2000 motor series fulfil the protection against contact with the standard finger (Ø12 mm).

Operating noise

The typical operating noise levels of BAUER geared motors are within the limits stipulated by VDI directive 2159 for gears and EN 60034-9, Table 2 for motors.

For physical reasons, low-ratio, high-speed gears produce more noise than medium- and high-ratio gears operating at low speeds.

Painting and corrosion protection

BAUER geared motors are spray-painted in RAL 7031 to DIN 1843 as standard. Other RAL colours are available at extra cost.

The output shafts are shipped in protective sleeves or with a protective coating to prevent corrosion.

The prerequisite for achieving a long protection period is the right choice of coating. The coating system from Bauer Gear Motor GmbH, based on DIN EN 12944-5, offers suitable and long-lasting corrosion protection for all areas of application.

Category	Loads	Examples of indoor areas	Examples of outdoor areas	Possible IP-Protection class
Standard	Insignificant	Insulated and heated buildings with neutral atmosphere	—	IP54 IP65
C1	Insignificant	Insulated and heated buildings with neutral atmosphere	—	IP54 IP65
C2	Low	Uninsulated and unheated buildings where condensation can occur, e.g. warehouses, sports halls	Atmosphere with low corrosive load, mostly rural areas	IP54 IP65
C3	Moderate	Production rooms with high relative humidity and some air pollution, e.g. facilities for food production, laundries, breweries, dairies	Urban and industrial atmosphere, moderate pollution by sulphur dioxide. Moderate coastal area with low salt pollution	IP65 IP66
C4	Strong	chemical plants, swimming pools, objects above sea water	Industrial and coastal areas with moderate salt exposure	IP65 IP66
C5-I	Very strong (industry)	areas with almost constant condensation and heavy contamination	Industrial areas with high relative humidity and aggressive atmosphere	IP66
C5-M	Very strong (sea)	areas with almost constant condensation and heavy contamination	Coastal and offshore areas with high salt pollution, buildings with almost constant condensation and heavy air pollution	IP66
IM2	Sea or brackish water	IP68 Underwater Drives	Port areas, lock gates, moles, offshore installations	IP68
Aseptics (proprietary development of Bauer)	Very strong	For indoor and outdoor use with very high environmental pollution and in hygiene-sensitive areas, in each case with high-pressure cleaning with chemical cleaning agents		IP67/IP69K

Duration of protection according to DIN EN ISO 12944-5: medium (M) 5 to 15 years

Product Description

Description of BM geared motors

Five unit sizes to handle every load

The BM (Bauer Monorail) series offers five gear unit sizes which differ in their permissible torques (from 50 to 680 Nm). The gear units are also offered in heavy duty versions for increased permissible radial loads.

Gear unit		F_{RN} in N	d_{AW} in mm	Shaft height in mm	Shaft collar in mm
1	BM09	4400	20	61	30
	BM09X	6500	25	61	30
2	BM10	8000	25	62,5 (60)	34,5
	BM10X	10000	25	62,5 (60)	34,5
3	BM20	10000	30	70,5 (68)	35
	BM20X	12000	30	70,5 (68)	35
4	BM30(Z)	12000	35	94 (90)	45
	BM30(Z)X	15000	35	94 (90)	45
5	BM40(Z)	20000	55	125 (120)	60
	BM40(Z)X	25000	55	125 (120)	60

Type	Allowable torque [Nm]	Allowable wheel load at power application *ML [N]	Gear ratios	Speed (based on wheel [m/min])	Wheel diameter [mm]	Output shaft [mm]
BM09	30 - 100	4400	11.34 - 53.85	10 - 100	125	20 x 35
BM09X	-	6500	-	12.8 - 128	160	25 x 35
BM10	140 - 160	8000	11.68 - 58.18	12 - 128	160	25 x 35
BM10X	-	10000	-	16 - 160	200	25 x 35
BM20	182 - 220	10000	7.66 - 74.76	9 - 69	160	30 x 35
BM20X	-	12000	-	12 - 87	200	30 x 35
BM30	260 - 350	12000	7.91 - 71.09	13 - 186	200	35 x 49
BM30X	-	15000	-	16 - 233	250	35 x 49
BM40	600 - 680	20000	11.17 - 104	11 - 162	250	55 x 110
BM40X	-	25000	-	13 - 194	300	55 x 110

*ML: The position of the power application point „centre of wheel“ can be seen on the applicable dimensional drawings. Significantly higher gear ratios are optional.

The BM09 and BM10 gear units can run on “C1 profiles”. Compliance with the VDI Code of practice 3643 (C1-Standard) and the need to reduce the cost of overhead conveyor drives of this size resulted in a thoroughly tested design which uses a worm-gear set in the first stage and a spur gear set in the second stage. The worm-gear stage with its very small reduction ratios offers particularly high levels of efficiency (greater than 85 %) thanks to the high speeds. The mechanical claw clutch engages the first stage on the BM09 and the final stage on the BM10.

BM20, BM30 and BM40 are heavy-load overhead conveyor drives and have a helical-gear set in the first stage and a bevel-gear set in the final stage. The clutch is mounted in the final stage on these gear units also.

The BM10, BM20, BM30 and BM40 offer additional mounting options. The flange can be located outside on the front of the gear unit, or on the back (“H” side). A version with sturdy securing threads on the underside (“U”) and on top (“O”) of the gear unit can also be supplied. This enables new and easy - to - maintain carriage designs. The use of BM gear units as drive units for floor conveyors is simplified by the version with an output shaft on both sides. Hollow shaft design available on request.