

GEARMOTOR K 911

GENERAL CHARACTERISTICS

The wide range of the gearmotors K 911 is available with pole-changing AC motors and with permanent magnet DC motors. The connection between motor and reduction gear is obtained through a helical toothing gear on the motor shaft, which is kept in position through double spherical self-aligning bushings or ball bearings that guarantee movement precision and silent operation. The innovatory project, the production equipments and the tests performed on the production line allow obtaining reliable and highly performing products.

TYPICAL APPLICATIONS

Vending machines
Coffee machine units
Coin changer

Professional spit roasters
Ice-cream machines
Revolving stands

Pellet heaters
Recreation products
Industrial actuators

CONSTRUCTIVE CHARACTERISTICS

- **Reduction gear.**

The reduction gear case is made of Zn + Al + Mg alloy pressure die-casting and it is provided with assembly fasteners. The kinematical gear chain consists of: helical toothing motor shaft, fast gears made of special plastic and slow gears made of sintered steel. This system guarantees high reliability so that the gearmotors K 911 can be used both in cold and warm environments (ex. refrigerators or ovens). The reduction gear case is provided with 6 through fastening holes and 5 threaded fastening holes with max. 4 mm thread depth.

- **AC motors.**

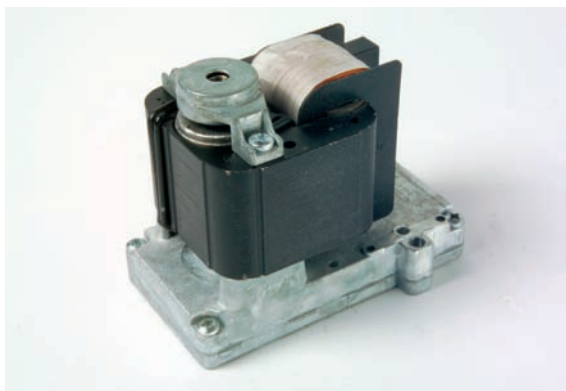
The AC gearmotors K 911 use a wide range of single-phase asynchronous two poles motors with shading coils and pre-set direction of rotation. The motor width and height are fixed (61 x 61 mm) while the thickness is available in 5 sizes: 12 - 16 - 20 - 30 - 40 mm.

The coil windings are produced by an automatic plant, which is provided with a wire-stabilized tensioning control device. 6,3 x 0,8 Faston connectors are used for the electric connections and are applied by means of the innovative insulator perforation weld-less system (Amtronics system, UL approved) to prevent bad contacts. Available voltage and frequency: 24 to 240 V, 50 and 60 Hz.

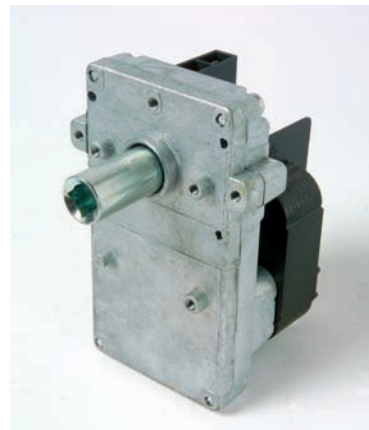
- **DC motors.**

The DC gearmotors K 911 use DC brush permanent magnet and motors for 12 and 24 V power supply and 5 to 30 W absorbed powers. These two-way operation motors can be provided with one Encoder or Hall probe for revolving speed control.

THE OPERATION AC model for "Continuous duty"



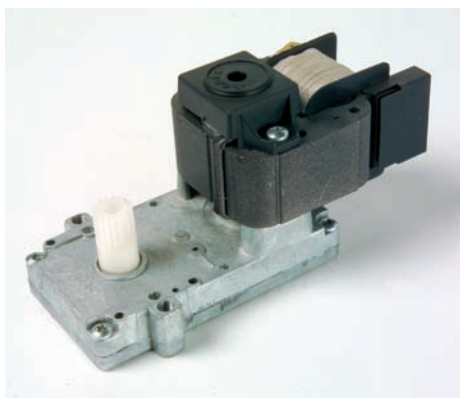
Gearmotor for pellet heaters



Gearmotor for spit roasters

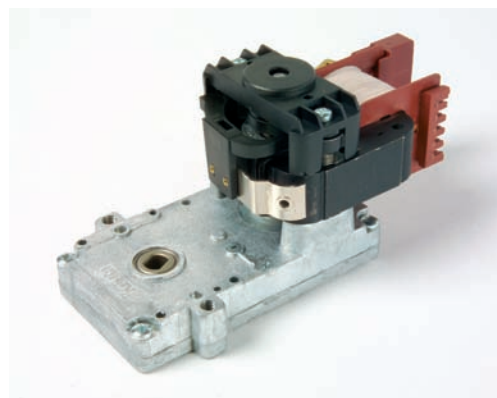
When the gearmotor operates in continuous duty, the motor is provided with an impedance self-protected winding coil; this feature allows the motor to maintain a throughout correct operation without any damage, even in case of jamming (external temperature and the insulation class must be complied with).

Ac model for "Intermittent duty"



Gearmotor for soluble products

Ac model whit Radial Hook (GR) for "Intermittent duty"



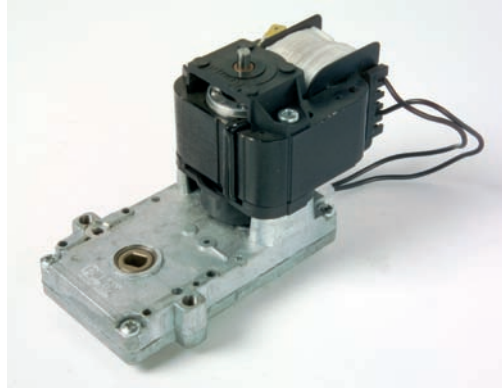
Gearmotor for coffee units

When the gearmotor is used for short time operations, it is possible to use a motor having the same thickness as the continuous duty motor but a more than double performance.

The operating times of these motors must be complied with: for standard models the maximum operation time (*) (ON) is 6-10 seconds and the minimum pause time (OFF) is 14-10 seconds.

This gearmotor, which has identical electric characteristics (*), is provided with a mechanical brake that instantly stops the movement when the power supply is switched off and it allows stopping the reduction gear torque, if any. This system is proof against bad environmental conditions such as dusty and humid places and its design assures a large number of operations.

AC model with "Mechanical brake (FM) for intermittent duty"



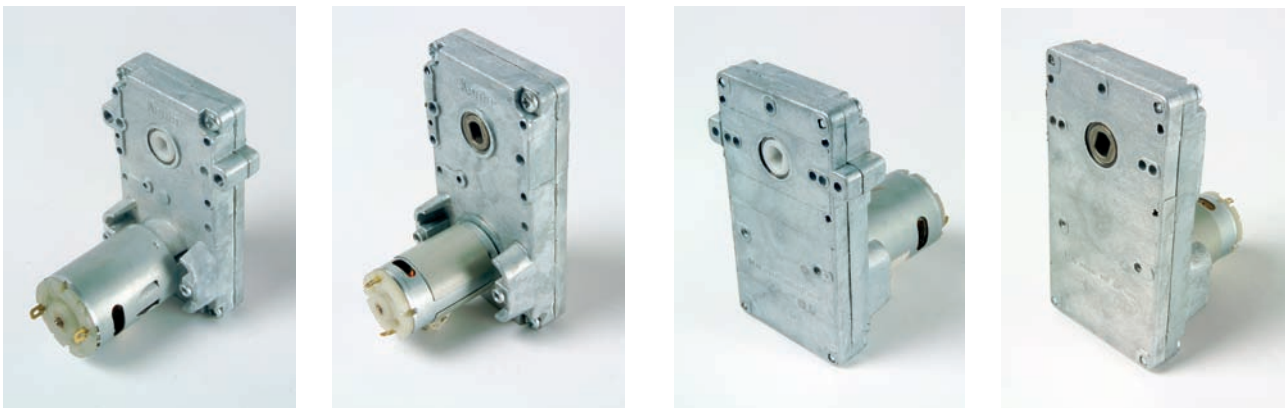
Gearmotor for coffee units

This gearmotor, which has identical electric characteristics (*), is provided with a mechanical brake that instantly stops the movement when the power supply is switched off as well as the reduction gear torque, if any. This system is proof against bad environmental conditions, such as dusty and humid places and its design assures a high number of operations. For a correct operation of the FM gearmotor it is necessary to exactly position it. See useful information.

AC model with "rotor release (SG) for intermittent duty"

This gearmotor has identical electric characteristics as the above mentioned one but is provided with a simple system that unhooks the rotor from the reduction gear, thus keeping the reduction gear inertia within precision movements. For a correct operation of the SG gearmotor it is necessary to exactly position it. See useful information.

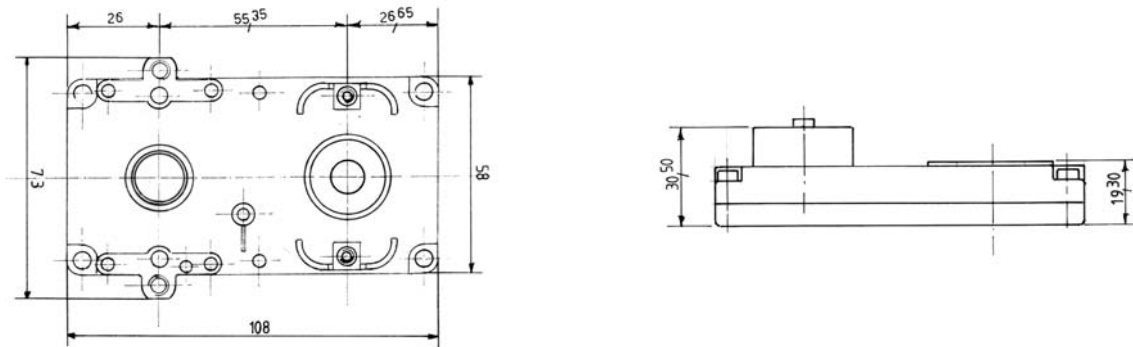
DC models for "intermittent duty"



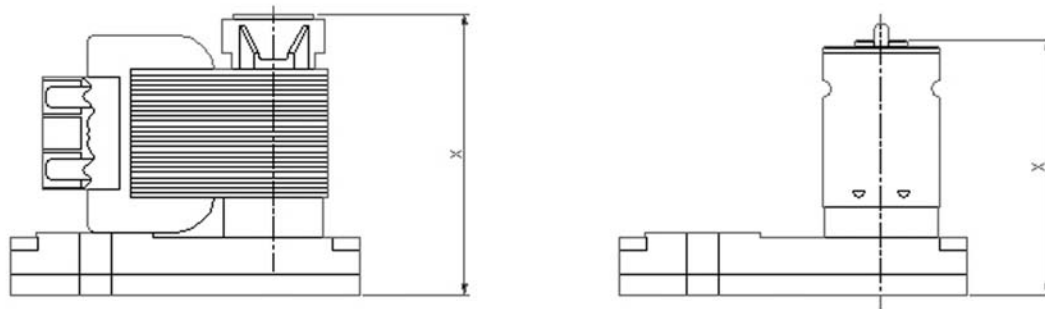
The DC gearmotors K 911 use DC brush and permanent magnet motors for 12 and 24 V power supply and 5 to 30 W absorbed powers. These motors are of two-way operation type.

DESIGN AND OVERALL DIMENSIONS

- Widths



- Heights and depths

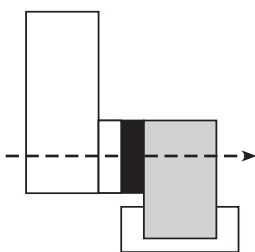


- The AC gearmotor height X depends on the used stator and varies between 57 mm and 98 mm for the tallest radial hook model.
- The DC gearmotor height X depends on the used stator and varies between 55 mm and 91 mm.

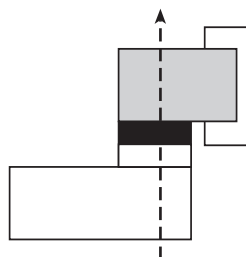
USEFUL INFORMATION

- Operation position of gearmotors with brake (**Mechanical brake = FM – Unhook = SG – Radial Hook = GR**)

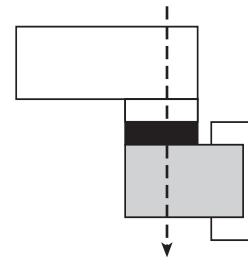
HORIZONTAL POSITION
FM and SG models
GR model



TOP POSITION
 -
only GR model



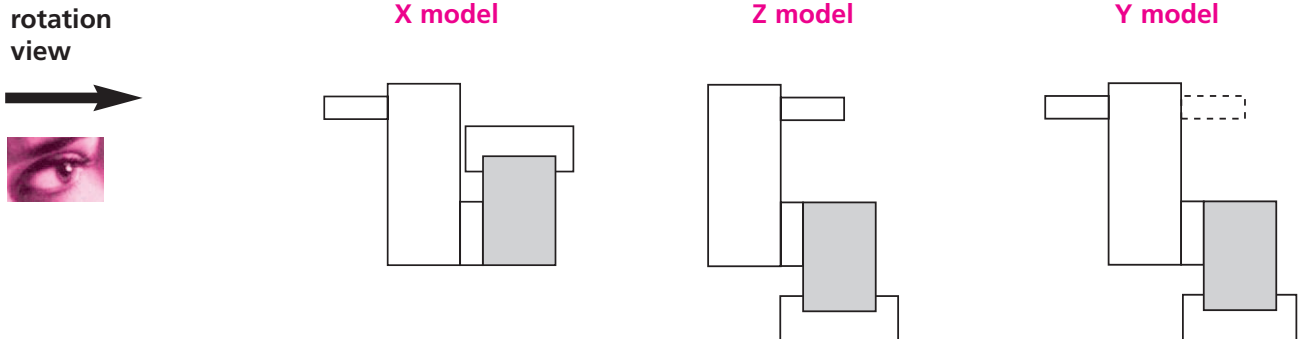
BOTTOM POSITION
 -
only GR model



- **Drive shafts.**

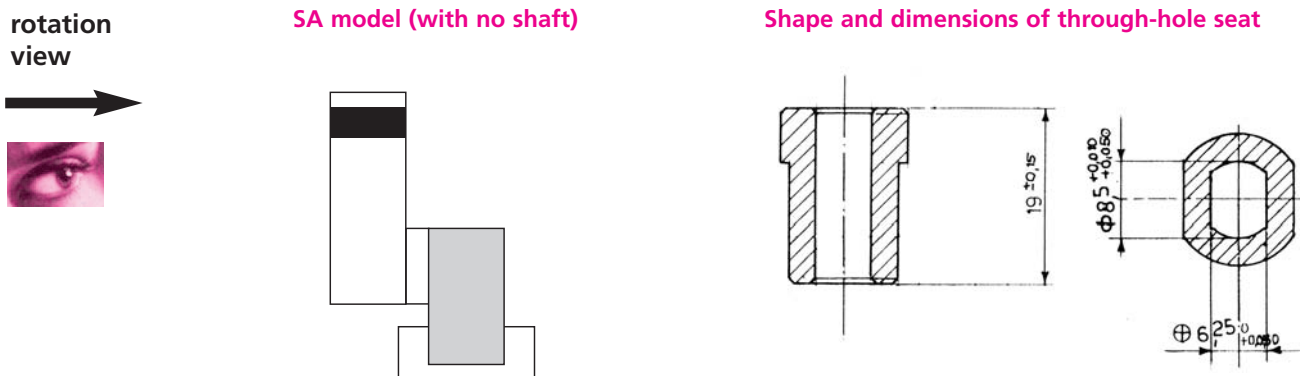
Thanks to the available wide range of drive shafts, it is possible to choose the more suitable one according to the different requirements, also for double application. See below the positioning diagram and the corresponding useful initials for element identification.

N.B. The shaft direction of rotation must always be considered by looking the reduction gear from the opposite motor side.



- **Drive system with no shaft.**

Our standard product range includes one model without drive shaft (SA) provided with a through hole that allows the direct connection to your attachment. See picture below.



- **Room temperature.**

Our gearmotors and components lubricating system allows the most different applications because our standard motors can operate at room temperatures between - 5° and +80° C. Choose the right motor type to prevent over-temperature.

- **Available on request:**

AC models are available with double motor on the same axis for two-way operation.
 Motor with temperature protecting device (in special seat between flow generator, fillet and coil)
 Model with reduction gear provided with ball bearing to improve sealing action by external loads.
 High temperature models – Low-noise models - Power supply cables
 Coils manufactured with UL approved insulation system - Motors with cooling fan

- **Customized models**

Customized models can be produced by special quantity orders

TABLE OF PERFORMANCES

The data given in the table below are only indications expressed in Nm and they refer to the standard models maximum torque.

RPM	AC MODEL								RPM 24 VDC	intermittent 30%
	H12 Motor	H16 Motor	H20 Motor		H30 Motor		H40 Motor			
	continuous	intermit. 30%	cont.	intermit. 30%	cont.	intermit. 30%	cont.	intermit. 50%		
1,2	8	n.a	33	n.a	n.a	n.a	n.a	n.a	3,5	25
1,5	5	n.a	15	n.a	26	n.a	n.a	n.a	4	23
2	4	28	8,5	35	31	n.a	33	n.a	8,5	17
2,5	3,5	20	16	30	28	n.a	30	n.a	12	15
5	2,3	n.a	5	15	8	29	20	27	14	12
8,5	1,5	n.a	3	10	9	20	15	20	20	8
12	1,2	n.a	2,2	8	6	11	10	16	35	5,0
20	0,9	n.a	1,5	6	4	6,5	5	10	55	3,0
33	0,4	n.a	0,9	4	2	6	3	6,2	85	2,1
50	0,2	n.a	0,5	2,5	1,6	3,8	2	5	95	2
60	n.d.	n.a	0,2	2	1,2	3,5	1,8	4,4	100	1,8
75	n.a	n.a	0,1	1,5	0,9	3,2	1,5	3,8	120	1,2
85	n.a	n.a	n.a	0,7	0,6	2,8	1,4	3,2	140	1,0
105	n.a	n.a	n.a	n.a	0,38	2	1,1	2,4	170	0,25
150	n.a	n.a	n.a	n.a	0,3	1,2	0,7	1,6	225	0,18
175	n.a	n.a	n.a	n.a	0,25	0,9	0,4	1	290	0,15

Legend: n.a. = Not available or available on request.

Other models with different RPMs are available on request.