



# Metric Motors and Gearmotors

Our metric gearmotors and motors feature metric shafts and mounting configurations. AC metric motors are rated at 230 VAC / 50 Hz. Permanent magnet DC motors are available with voltage ratings of 180 VDC. Custom windings can be provided to match almost any international rating. We also offer a complete line of both AC and DC metric right angle and parallel shaft gearmotors.

## Parallel Shaft Gearmotors—Metric

up to 0.67 Nm | Parallel Shaft Gearmotors—Metric

**A/T**

- Metric mounting threads and shaft dimensions
- Three-wire winding simplifies reversing
- Impedance protected to prevent current overload (gearmotor should not be stalled when powered up)
- See Page 36 for capacitors

### Fixed Speed—AC Gearmotors

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (oz.)	Capacitor (µF/VAC)	Product Type	Model Number
	oz-in.	Nm	HP	Watts									
7	95	0.67	1/300	2.8	230	50	1	0.06	180	20	0.4/440	KCI-26T4	1757
42	75	0.53							30			KCI-26A2	1754
69	45	0.31							18			KCI-26A2	1753
210	15	0.11							6			KCI-26A2	1752

**CAPACITOR IS REQUIRED**



Type K-2A/T

up to 4.5 Nm | Parallel Shaft Gearmotors—Metric

**D**

- Metric mounting threads and shaft dimensions
- Unvented gearhousing for universal horizontal mounting
- Helical primary gear for quietness and hardened steel spur gearing on subsequent stages for high output torque and long life
- See pages 36 and 37 for capacitors and accessories

### Fixed Speed—AC Gearmotors

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	lb-in.	Nm	HP	Watts									
7.8	40	4.5	1/48	15	230	50	1	0.17	180	65	1.3/440	30R1BECI-D4	1562
23	40	4.5	1/41	18				0.21	60			30R2BECI-D3	1574
47	24	2.7	1/41	18				0.21	30			30R2BECI-D3	1573
78	14	1.6	1/41	18				0.21	18			30R2BECI-D3	1572
117	9.7	1.1	1/41	18				0.21	12			30R2BECI-D3	1571

**CAPACITOR IS REQUIRED**



Type 30R-D

### Permanent Magnet DC Gearmotors

Speed (rpm)	Rated Torque		Power		Rated Voltage	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number
	lb-in.	Nm	HP	Watts						
5.8	40	4.5	1/49	15	180	0.13	300	65	24A2BEPM-D5	1398
9.6	40	4.5	1/49	15		0.13	180		24A2BEPM-D4	1397
29	40	4.1	1/32	23		0.18	60		24A4BEPM-D3	1395
58	18	2.0	1/32	23		0.18	30		24A4BEPM-D3	1394
144	7.3	0.8	1/32	23		0.18	12		24A4BEPM-D3	1392



Type 24A-D

- Metric mounting threads and shaft dimensions
- Aluminum center ring and endshields
- Unvented gearhousing
- Industrial lip type seals on motor and output shafts
- Needle bearings on output shaft
- Permanently lubricated with high-performance lubricant
- Helical pinion accurately cut on motor shaft for maximum strength and minimum noise
- 34R-Z: die cast terminal box with terminal block included
- See Page 36 for capacitors

Fixed Speed—AC Gearmotors



Type 34R-Z

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	lb-in.	Nm	HP	Watts									
Permanent Split Capacitor, Non-synchronous (TEFC) <span style="float: right;"><b>CAPACITOR IS REQUIRED</b></span>													
7.8	100	11.3	1/15	50	230	50	1	0.48	180	125	5.0/370	34R4BFCl-Z4	1449
23	100	11.3						0.5	60	125		34R4BFCl-Z3	1455
70	40	4.5						0.5	20	100		34R4BFCl-Z2	1453
233	15	1.7						0.5	6	100		34R4BFCl-Z2	1451

Permanent Magnet DC Gearmotors



Type 24A-Z



Type 33A-Z

Speed (rpm)	Rated Torque		Power		Rated Voltage	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number
	lb-in.	Nm	HP	Watts						
<b>24A-Z PMDC Gearmotor</b>										
9.6	100	11.3	1/32	23	180	0.18	180	125	24A4BEPm-Z4	1163
29	36	4.1					60	125	24A4BEPm-Z3	1161
58	18	2.0					30	125	24A4BEPm-Z3	1160
288	4	0.44					6	100	24A4BEPm-Z2	1157
<b>33A-Z PMDC Gearmotor</b>										
29	69	7.8	1/23	32	180	0.33	60	125	33A3BEPm-Z3	6269
58	35	3.9					30	125	33A3BEPm-Z3	6268
144	15	1.7					12	100	33A3BEPm-Z2	6266

Our metric PMDC motors and gearmotors are rated for operation with an unfiltered SCR speed control and a Form Factor (F.F.) of 1.6"

- Metric mounting threads and shaft dimensions
- Lubricated for life
- Synthetic lubricant improves performance, and allows these gearmotors to operate in a wide temperature range
- Models with accessory shafts are ideal for mounting encoders or brakes
- 34R-W: Die cast terminal box with terminal block included
- Adaptor plate, model 0995, allows for 3-hole mounting configuration. See Page 36.

Fixed Speed—AC Gearmotors



Type 34R-W

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	lb-in.	Nm	HP	Watts									
Permanent Split Capacitor, Non-synchronous <span style="float: right;"><b>CAPACITOR IS REQUIRED</b></span>													
4.5	175	19.8	1/10	75	230	50	1	0.6	312.4	130	7.5/370	34R6BFCl-W4	1477
21	146	16.5							65.5	130		34R6BFCl-W3	1484
69	53	6							20.4	65		34R6BFCl-W2	1481
255	14	1.6							5.5	65		34R6BFCl-W2	1478

Permanent Magnet DC Gearmotors



Type 33A-W

Speed (rpm)	Rated Torque		Power		Rated Voltage	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number
	lb-in.	Nm	HP	Watts						
5.5	175	19.8	1/23	32	180	0.33	312.4	130	33A3BEPm-W4	6247
18	151	17.0	1/14	54		0.41	97.5	130	33A5BEPm-W4	6256
39	78	8.8	1/14			0.41	43.9	130	33A5BEPm-W3	6254
85	39	4.4	1/14			0.41	20.4	65	33A5BEPm-W2	6252
125	27	3.0	1/14			0.41	13.8	65	33A5BEPm-W2	6251
315	11	1.2	1/14			0.41	5.48	65	33A5BEPm-W2	6249

Control models 1865 (see page 25) and 0865, 0866 (see page 27) are available for metric gearmotors and motors.

- Metric mounting threads and shaft dimensions
- Unvented gearhousing
- All steel gearing
- Industrial lip type seals on motor and output shafts
- Needle bearings throughout for increased radial load capacity and long life
- Permanently lubricated
- *42R-E*: Die cast terminal box with terminal block included
- *F-type only*: Hardened helical gearing for quietness and high output to size ratio
- Dual voltage (230/460V) models are also available

Fixed Speed—AC Gearmotors

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	lb-in.	Nm	HP	Watts									

Three-phase, Non-synchronous

140	50	5.6	1/5	140	230/400	50	3	1.1/.61	10	300		42R5BFPP-E2	1665
-----	----	-----	-----	-----	---------	----	---	---------	----	-----	--	-------------	------

Permanent Split Capacitor, Non-synchronous

CAPACITOR IS REQUIRED

4.7	310	35									7.5/370	42R5BFCI-E4	1671
7.8	341	38.5							300	200		42R5BFCI-E4	1669
23	297	33.6							180	200		42R5BFCI-E3	1685
47	148	16.7	1/7.5	100	230	50	1	0.78	60	200		42R5BFCI-E3	1683
70	99	11.2							30	300		42R5BFCI-E3	1681
140	50	5.6							20	300		42R5BFCI-E2	1680
280	26	2.9							10	300		42R5BFCI-E1	1679
									5	300			

Split phase Non-synchronous (with centrifugal switch)

47	148	16.7	1/7.5	100	230	50	1	0.78	30	300		42R5BFSI-E3	N1653
----	-----	------	-------	-----	-----	----	---	------	----	-----	--	-------------	-------

Permanent Magnet DC Gearmotors

Speed (rpm)	Rated Torque		Power		Rated Voltage	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number
	lb-in.	Nm	HP	Watts						
5.8	310	35			180	0.85	300	200	42A5BEPM-E4	4275
29	310	35				1	60	200	42A7BEPM-E3	4285
43	180	20				1	40	200	42A7BEPM-E3	4284
85	120	13.6	1/5	153		1	20	300	42A7BEPM-E3	4282
170	60	6.8				1	10	300	42A7BEPM-E2	4280
170	68	7.7				1	10	300	42A7BEPM-F2	4290
345	32	3.7				1	5	300	42A7BEPM-E1	4279



Type 42R-E



Type 42A-E/F

up to 16.7 Nm | Right Angle Gearmotors—Metric

- Metric mounting threads and shaft dimensions
- Industrial lip seals on motor and output shafts
- Needle bearings on output shaft for increased radial load capacity and long life
- Permanently lubricated with high-performance lubricant
- Bronze gear for high shock load capability
- Hardened and ground worm for high strength and long life
- *34R-3F*: Die cast terminal box (IP-44) with terminal block included

Fixed Speed—AC Gearmotors

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	lb-in.	Nm	HP	Watts									

Permanent Split Capacitor, Non-synchronous

CAPACITOR IS REQUIRED

35	37	4.2			230	50	1	0.5		40	5.0/370	34R4BFCI-3F	1491
47	34	3.8							40	1487			
70	30	3.4	1/15	50					20	1490			
									40				
140	19	2.1							10	5			1488



Type 34R-3F

Permanent Magnet DC Gearmotors

Speed (rpm)	Rated Torque		Power		Rated Voltage	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number		
	lb-in.	Nm	HP	Watts								
43	16	1.8			180	0.18	20	40	24A4BEPM-3F	1098		
86	9.7	1.1	1/32	23						10	40	1096
172	5.3	0.6										1094



Type 24A-3F

# Metric—Right Angle Gearmotors

## 5N/5F Metric—Right Angle Gearmotors | up to 12.8 Nm

- Metric mounting threads and shaft dimensions
- Unvented gearhousing for universal horizontal mounting
- Bronze worm gear for high shock load capability
- Hardened and ground worm for strength and long life
- Models with accessory shafts are ideal for mounting encoders or brakes
- *AC Gearmotors:* Die cast terminal box with terminal block included
- See page 42 for capacitors and terminal boxes

### Fixed Speed—AC Gearmotors



Type 34R-5F



Type 42R-5F and 42R-5N

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	lb-in.	Nm	HP	Watts									
<b>34R-5F Gearmotor</b>													
<i>Permanent Split Capacitor, Non-synchronous</i>													
<b>CAPACITOR IS REQUIRED</b>													
23	72	8.1	1/15	50	230	50	1	0.5	60	50	5.0/370	34R4BFCI-5F	1469
35	60	6.8	1/15						40	50			1468
70	39	4.4	1/15						20	50			1466
140	21	2.4	1/15						10	30			1465
<b>42R-5F Gearmotor</b>													
<i>Permanent Split Capacitor, Non-synchronous</i>													
<b>CAPACITOR IS REQUIRED</b>													
35	93	10.5	1/9	83	230	50	1	0.63	40	80	7.5/370	42R4BFCI-5F	1627
70	60	6.8	1/9						20	80			1624
140	32	3.6	1/9						10	10			1623
<b>42R-5N Gearmotor</b>													
<i>Three-phase, Non-synchronous</i>													
47	109	12.3	1/5	140	230/400	50	3	1/1.61	30	180	—	42R5BFPP-5N	1633
<i>Permanent Split Capacitor, Non-synchronous</i>													
<b>CAPACITOR IS REQUIRED</b>													
35	113	12.8	1/7.5	100	230	50	1	0.78	40	180	7.5/370	42R5BFCI-5N	1678
70	74	8.4							20				1677

### Permanent Magnet DC Gearmotors



Type 33A-5F



Type 42A-5N

Speed (rpm)	Rated Torque		Power		Peak Torque (lb-in.)	Rated Voltage	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number
	lb-in.	Nm	HP	Watts							
<b>33A-5F Gearmotor</b>											
43	45	5.1	1/14	54	118	180	0.41	40	80	33A5BEPM-5F	6244
86	29	3.3			100			20			6242
173	17	1.9			54			10			6241
345	8.9	1			28			5			6240
<b>42A-5N Gearmotor</b>											
43	81	9.1	1/6	121	177	180	0.85	40	120	42A5BEPM-5N	4238
85	55	6.2						20			4236
172	31	3.5						10			4235

## 5H Metric—Right Angle Gearmotors | up to 14.2 Nm

### Permanent Magnet DC Gearmotors



Type 42A-5H

Speed (rpm)	Rated Torque		Power		Peak Torque (lb-in.)	Rated Voltage	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number
	lb-in.	Nm	HP	Watts							
36	126	14.2	1/5	141	340	180	1	48	150	42A7BEPM-5H	4299
96	81	9.2			247			18			4296

- Metric mounting threads and shaft dimensions
- Unvented gearhousing for universal horizontal mounting
- Hardened helical output gearing
- Bronze worm gear for high shock load capability
- Hardened and ground worm hobbled on the motor shaft for high strength and long life
- Models with accessory shafts are ideal for mounting encoders or brakes
- See pages 34 and 35 for capacitors and terminal boxes
- **42R-GB:** Die cast terminal box with terminal block included

**Fixed Speed—AC Gearmotors**

Speed (rpm)	Rated Torque		Power		Rated Voltage	Freq. (Hz)	Ph	Current (Amps)	Gear Ratio	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	lb-in.	Nm	HP	Watts									
5	380	43	1/7.5	100	230	50	1	0.78	280	200	7.5/370	42R5BFCI-GB	1266
7.4	375	42							190				1264
12	290	33							120				1262
23	204	23							60				1260



Type 42R-GB

**Permanent Magnet DC Gearmotors**

Speed (rpm)	Rated Torque		Power		Rated Voltage	Current (Amps)	FF	Gear Ratio	Radial Load (lbs.)	Product Type	Model Number
	lb-in.	Nm	HP	Watts							
6.2	380	42.8	1/6	121 / 129	180	0.85 / 0.87	1.6 / 1.0	280	200	42A5BEPM-GB	1366
9	358	40.4						190			1364
14.4	250	28.3						120			1362
28.8	150	17						60			1360



Type 42A-GB

## Metric Motors Without Gearing

- Die cast terminal box with terminal block included with 34R and 42R motors
- See Page 36 for capacitors and terminal boxes

up to 140 Watts | Fixed Speed AC Induction Motors—Metric

Speed (rpm)	Rated Torque		Power		Rated Voltage	Frequency (Hz)	Ph	Current (Amps)	Radial Load (lbs.)	Capacitor (µF/VAC)	Product Type	Model Number
	(oz-in.)	(Nm)	(HP)	(Watts)								
<b>KCI-26</b>												
1250	3	0.02	1/300	2.8	230	50	1	0.06	5.7	0.4/440	KCI-26	1713
<b>30R</b>												
2850	9	0.06	1/39	19	230	50	1	0.38	18	1.3/440	30R2BECI	1319
1400	18	0.13	1/41	18				0.21				1340
<b>34R</b>												
1400	97	0.69	1/7.5	100	230/400	50	3	.78/.45	42	No Capacitor	34R6BFPP	1295
1400	72	0.51	1/10	75	230		1	0.6		7.5/370	34R6BFCI	1291
<b>42R</b>												
1400	135	0.95	1/5	140	230/400	50	3	1.1/0.61	50	No Capacitor	42R5BFPP	1273
1400	97	0.68	1/7.5	100	230		1	0.78		7.5/370	42R5BFCI	1358



up to 200 Watts | Permanent Magnet DC Motors—Metric

Speed (rpm)	Rated Torque		Power		Rated Voltage	FF	Current (Amps)	Radial Load (lbs.)	Product Type	Model Number
	(oz-in.)	(Nm)	(HP)	(Watts)						
<b>33A (Face Mount, Base Optional)</b>										
1725	25	0.18	1/23	32	180	1.6 / 1.0	55		33A3BEPM	6216
1725	55	0.39	1/11	70					33A5BEPM	6227
1725	95	0.67	1/6	121					33A7BEPM	6237
3000	55	0.39	1/6	122					33A5BEPM	6230
3000	80	0.57	1/4	178					33A7BEPM	6231
<b>42A (Face or Base Mount, Base Installed)</b>										
1725	95	0.68	1/6	121	180	1.6 / 1.0	90		42A5BEPM	4227
3000	70	0.49	1/5	155					42A5BEPM	4230
1725	120	0.85	1/5	153					42A7BEPM	4237
3000	90	0.63	1/4	200					42A7BEPM	4231





**Shaft Kits** for type 3F/H, 5L/H and GB/H hollow shaft gearmotors

Model No.	Description
0910	Shaft kit for type 3F/H gearmotors, 1/2 inch diameter, single shaft
0920	Shaft kit for type 3F/H gearmotors, 1/2 inch diameter, double shaft
0912	Shaft kit for type 5L/H gearmotors, 5/8 inch diameter, single shaft
0922	Shaft kit for type 5L/H gearmotors, 5/8 inch diameter, double shaft
0917	Shaft kit for type GB/H gearmotors, 3/4 inch diameter, single shaft
0927	Shaft kit for type GB/H gearmotors, 3/4 inch diameter, double shaft
0928	Shaft Kit for type 5L/H gearmotors, 5/8 inch to 3/4-inch diameter, single shaft
0950	Cover kit for type 3F/H gearmotors
0951	Cover kit for type 5L/H and GB/H gearmotors
0955	Flange mount kit for 3F/H gearmotors
0956	Flange mount kit for 5L/H and GB/H gearmotors

**Encoder Shaft Kit** for type 22B4-60P planetary gearmotors

0964	Encoder Shaft Kit, 3/8 inch diameter
------	--------------------------------------



**Cover kits** type 3F/H (left), types 5L/H and GB/H (right)

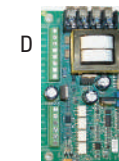


**Flange mount kits** type 3F/H (left), types 5L/H and GB/H (right)



**Encoder Shaft Kit**

Item	Model No.	Description
—	0888	<b>Analog Interface Board</b> for use with model 0810, 0830, and 0850 controls. Allows control to accept a variable voltage or current signal from user's host controller to automatically control motor speed. Inputs are optically isolated.
—	0890	<b>Electronic Direction and Braking Board, F-B-R Kit</b> , for use with model 0810, 0830, and 0850 controls. Allows user to change motor direction and to dynamically brake motor to a quick stop. Inputs are not optically isolated. This kit includes one F-B-R board, one cable and connector, mounting hardware, and two additional braking resistors.
—	0893	<b>Local/Remote Switch</b> for use with model 0810, 0830, and 0850 controls when used with accessory model 0888. Allows user to switch between automatic and manual operation.
—	0895	<b>Switch Sealing Kit</b> upgrades NEMA-12 brushless DC and PMDC enclosed controls to IP-44 rating.
A	3981	<b>Cable Kit</b> for stock 34B/FV INTEGRAMotors. Length: six feet (3 cables: power, logic and encoder).
B	3982	<b>Extension Cable</b> for model 3910, 3911, 3921 and 3912 controls. Extends the cable between the motor and control by six feet. Both ends are equipped with circular connections for easy connection between model 3983 cable assembly or encased control and the motor. Length: six feet.
C	3983	<b>Connection Cable Assembly</b> for connecting model 3910, 3921 and 3911 chassis controls to stock 130 V motors. One end of the cable is equipped with a circular connector, the other end is equipped with quick disconnects for phase leads, and a molded connector for the commutation leads. Length: 6 feet.
D	3984	<b>Analog Interface And Isolation Module</b> for model 3910, 3911, 3921 and 3912 controls. Provides Analog interface and isolates controls from system controller input signals which may be at different potentials.
—	43300260	<b>Speed Potentiometer Kit</b> for use with FPM controls. Contains 10k Ohm potentiometer, hardware, wire and connector for manually regulating motor speed.
—	43300270	<b>Fuse and Speed Potentiometer Kit</b> for use with model 3910 control. Contains potentiometer for manually regulating motor speed and various fuses to cover the range of motors and gearmotors which can be used with the control.



**Metric "L" Brackets**

Item	Model No.	Description
A	0990	Metric Kit for 24A
B	1968	Metric Kit for 33A motors, and type D and Z gearmotors
C	1970	Metric Kit for type W gearmotors
D	1969	Metric Kit for E, F and FX gearmotors (will not fit 48R-F or 48R-FX)
—	—	no "L" bracket kits are available for 34R and 34R-Z gearmotors

**Metric Motor and Gearmotor Kits**

Item	Model No.	Description
E	1982	Metric die cast terminal box kit for 30R motors and gearmotors
E	1984	Metric die cast terminal kit with terminal block for 33A, 34R, 42A and 42R motors and gearmotors. For 90/130, 130V and 180VDC models only.