


### 12-24 VDC MOTOR

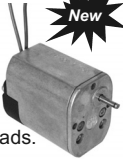

Igarashi Motor  
# 3657-070-GF-5.    
8100RPM @ 24VDC, 0.2A (no-load rating). 38mm diameter x 57mm long. 3.2mm diameter x 20.0mm long shaft. Two M3.0 x 0.5 tapped holes in motor face on 0.984" centers. Solder lugs.  
**CAT# DCM-369** \$3.00 each

## DC GEAR MOTORS


### 6 VDC GEAR MOTOR

Power Electric Distribution  
21267-000 Rev.B. 6 Vdc gear motor. No-load rating: 80 RPM @ 6 Vdc, 110mA. Works well down to 1.5Vdc (12RPM). 61mm L x 20mm D. 4mm diameter x 11mm flattened shaft. 280mm leads with 2-pin female connector.   
**CAT# DCM-365** \$11.95 each  
10 for \$11.50 each

### BUHLER DC GEAR MOTOR

Compact, relatively powerful DC gear motor. 44 RPM @ 6Vdc/ 70mA (no-load rating). 40.0 x 28.5 x 48.5mm long (1.57" x 1.12" x 1.90"), excluding shaft. 3mm (1/8") diameter flattened shaft x 10mm long. 8" pigtail leads.    
**CAT# DCM-401** \$12.50 each

### 62 / 124 RPM DC GEAR MOTOR


Buehler # 1.61.046.131.00.   
No-load Ratings: 62 RPM @ 12Vdc, 124 RPM @ 24Vdc. Overall length, 65mm. Gearbox diameter, 35mm. 5mm diameter x 26mm long flattened shaft. Three tapped mounting holes in gearbox face. Recessed 2-pin female connector. Our connector, CAT# CON-230P, though not ideal, will enable connection to the motor.  
**CAT# DCM-390** \$14.00 each

### 12VDC RIGHT-ANGLE GEAR HEAD MOTORS WITH WORM DRIVE

No-load rating: 180 RPM @ 12Vdc / 1.3A. Overall length, 144mm (5.66"). Motor dia., 49mm (1.91"). 12mm dia. worm shaft is 89mm (3.55") long. The last 12mm of the shaft has a 6 x 1.0 reverse metric thread. Heavy gauge U-bracket on back of gearhead, 1/4" holes with 7mm spacing. 3/16" quick-connect terminals. Designed for power seat adjustment in autos.

(LH)  **CAT# DCM-563** \$19.95 ea.  
(RH)  **CAT# DCM-697** \$19.95 ea.

### 3-12 VDC GEAR MOTOR

Compact DC gearhead motor. Operates smoothly from 3-12Vdc. 60RPM @ 6Vdc, 110mA (no-load rating). Overall length, 53mm. Diameter of gearhead, 33mm. 5mm diameter x 12mm long flattened shaft. Three tapped holes in motor face. Two 50mm leads.   
**CAT# DCM-702** \$15.00 each

### 3-24VDC GEAR MOTOR, USED

Timing-style gear motor, removed from working equipment in good condition. Operates over a 3-20Vdc range, approximately 20ma @ 3Vdc, 80ma @ 20Vdc. 176RPM @ 12Vdc. Pear-shaped gear box, 65 x 49mm, two mounting holes on 47mm centers. 41.5mm long, excluding shaft. 20mm long shaft with 4-prong, X-shaped gear on end. Two 170mm leads with 2-conductor female connector (0.1" spacing).    
**CAT# DCM-395** \$4.75 each

### PRECISION GEARHEAD MOTOR, USED

Pittman # GM8712F191 / PM3662. 96:1 gear ratio. Rated 19.1Vdc. 80 RPM @ 19vdc, 100mA (no-load). 56 RPM @ 12Vdc (no-load). 35mm dia. gearhead. 30mm dia. motor. Overall length of motor and gearhead, 75mm. 4.5mm dia. x 20mm long shaft. Three mounting holes on face of motor. Prepped with 17mm dia. metal gear, collar and mounting plate. Removed from working equipment in very-clean condition.   
**CAT# DCM-518** \$15.00 each


### 12 VDC 58 RPM MINI-MOTOR

Sayama #12SM-AT3. Compact, good-quality 12Vdc gearhead motor. 58RPM, @ 12Vdc, 20mA (no-load). 12mm dia. x 35mm long. Solder-lug terminals. 2mm dia. x 6mm long flattened shaft.   
**CAT# DCM-318** \$12.95 each

### 24 VDC 50RPM

Cramer 800HN Permanent magnet gear motor. 50RPM @ 24Vdc, 20mA. Counter-clockwise rotation. 3.5mm dia. x 20mm long shaft, knurled lower half. Pear-shaped gear box, 61.00 x 46.83mm. Overall length of motor and gearbox, 40mm. Mounting tabs with threaded holes on 47.63mm centers. UL, RoHS.   
**CAT# DCM-364** \$7.50 each

### 24 VDC GEAR MOTOR W/ TURNTABLE

Relatively powerful, low-current DC motor and gearbox with a 4.9" dia. plastic (nylon?) turntable with a rubber o-ring circumference that could be used to drive another wheel. Turntable can be removed from motor and rubber ring on turntable can be removed as well. Motor gearbox has a 3/8" dia. shaft that is flattened and splined.   
**Specifications:**  
45RPM @ 24 Vdc, 60mA - operates at 12Vdc at 1/2 speed.  
Mabuchi motor RS-380SH. 1.1" dia. x 1.67".  
Molon gearbox# CHM-2435-1. 2.75" x 3.00" x 0.57"  
**CAT# DCM-351** \$9.75 each

## 12/24 VDC GEAR MOTOR

Buehler #1.61.046.503.06.  
No load ratings: 110 RPM @  
12Vdc/90mA. 250 RPM @  
24Vdc/90 mA. Overall length, excluding  
shaft, 75mm. Gear head dia., 35mm.  
Flatted shaft, 5mm dia. x 19mm long  
with 14.5mm diameter plastic gear. Motor  
attached to metal bracket and has  
12 inch leads with GMA inline fuse holder.

**CAT# DCM-441** \$14.95 each



## MIRROR ADJUSTER ASSEMBLY

Automotive side-view mirror assembly consists of two small 12 Vdc motors with push/pull worm-gear mechanisms. The motors raise and lower a 4.28" square plastic platform. The worm-gear mechanisms can push or pull depending on polarity and will allow manual adjustment without voltage present. Each motor / worm-gear assembly is independent, protected with a rubber boot for moisture protection. The motors can be separated from the larger assembly by drilling off the mirror platform. Overall thickness of motors and platform is approximately 2".

**CAT# DCM-273** \$3.00 per assembly



## SERVO MOTORS

### DIGITAL SERVO

Better quality servo with ball bearings. 54.0 oz/in torque. 0.18 sec/ 60 degrees. Body, excluding mounting flanges and horn: 1.52" x 0.75" x 1.36". 12" leads (brown, red, orange) with standard 3-conductor female connector.

**CAT# DCM-711** \$12.50 each



### STANDARD RACING SERVO

Comparable to JR Z270 analog racing servo. 1.55" x 0.73" x 1.46" (39.4 x 18.5 x 37.1mm). 49oz-in torque @ 6Vdc. Speed: 0.23sec/ 60 Degrees @ 4.8V, 0.19 sec/ 60 Degrees @ 6V. 6.5" leads w/ standard 3-conductor female connector.

**CAT# DCS-110** \$9.75 each • 5 for \$9.40 ea.



### CONTINUOUS ROTATION

Parallax (Futaba)# 900-00008  
0 to 50 RPM, with linear response to PWM for easy ramping. Power requirements: 4 to 6 VDC, 15-200 mA. 2.2 x 0.8 x 1.6" (55.8x 19 x 40.6 mm) excluding servo horn. Torque: 38 oz-in @ 6 V.

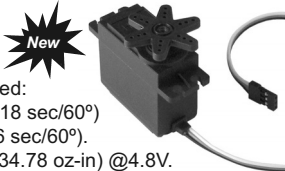
**CAT# PX-900** \$12.99 each



### CONTINUOUS ROTATION

Fitec # FS5103R  
Standard size, analog, continuous rotation servo. Speed: 55 RPM @ 4.8V (0.18 sec/60°) 62 RPM @ 6V (0.16 sec/60°). Torque: 2.5kg-cm (34.78 oz-in) @4.8V. 3.2kg.cm/44.52oz.in @ 6V. Weight, 36g (1.27 oz). 30cm leads w/JR connector. 40.8 x 20.1 x 38.0mm.

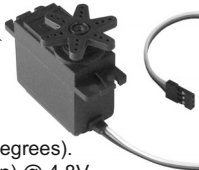
**CAT# DCS-103R** \$12.00 each



## CONTINUOUS ROTATION

Fitec FS5106R  
Higher torque, standard size, analog, continuous rotation servo. Speed: 55 RPM @ 4.8V (0.18 sec/60 degrees) 62 RPM @ 6V (0.16 sec/60 degrees). Torque: 5.2kg-cm (72.34 oz-in) @ 4.8V. 6.3kg.cm/87.64oz.in @ 6V. Weight, 40g (1.41 oz). 30cm leads w/JR connector. 40.8 x 20.1 x 38.0mm.

**CAT# DCS-106R** \$15.75 each



## STEPPER MOTORS

### 5-WIRE STEPPER MOTOR

Howard Industries # 1-19-4201  
24Vdc. 3.6 Degrees/step. 42 x 42 x 32mm. Shaft: 5mm dia. x 10mm long. Five 6" leads. Two mounting studs on two diagonal corners of motor face.

**CAT# SMT-364** \$4.35 each



### 6-WIRE STEPPER

North American Phillips Controls # 504-0004. 12 Volts, 8 Watt stepper motor. 2.25" dia x 0.95", 0.25" dia. x 0.37" long shaft. 6" leads. Motors are unshaded, but discolored from storage conditions.

**CAT# SMT-358** \$2.00 each



### 8-WIRE STEPPER MOTOR, USED

Minebea Astrosyn Type 23LM-K255-03. NEMA 23 bipolar stepper motor. 1.8 degree per step. 57 x 57mm mounting plate. 57mm diameter x 40mm long, excluding shaft. 6.5mm dia. x 23mm long shaft. Eight 6" leads with 8-conductor female socket connector (0.1" spacing). Used, removed from equipment.

**CAT# SMT-135** \$8.50 each



### 8-LEAD STEPPER MOTOR

Airpac® S57M048S02.  
5V, 6.25 Ohms/coil, 7.5 Degrees per step. 57mm diameter x 24mm long. Mounting flange with tapped holes on 67mm centers. 5mm diameter x 12mm long shaft with nylon cogbelt pulley. Eight 270mm leads.

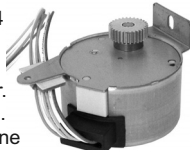
**CAT# SMT-133** \$3.00 each



### GEAR REDUCTION STEPPER MOTOR

Japan Servo #KP48FP8G-504  
3:25 gear reduction. 7.5 Degrees per step. 24Vdc. 95 Ohms/phase. 6-wire motor. Body is 1.88" diameter x 1.03". L-shape mounting flange on one side, extended mounting tab on other side. 3/16" dia. shaft with a 0.62" dia. brass gear.

**CAT# SMT-359** \$2.50 each



### STEPPER MOTOR, 6-WIRE

Mabuchi # PF35T-48L4. Four phase, unipolar stepper motor with 6 leads. 3.6 Degree step angle. 20 Ohms. 7V, 350mA. 1.38" dia. x 0.59" long. Mounting flange has two holes on 1.68" centers. Dual shaft, 0.078" dia. Brass gear on one side, 10 teeth, 0.25" dia. 2.75" leads with socket connector.

**CAT# SMT-108** \$3.25 each

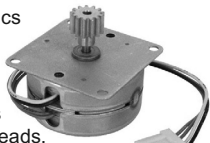


## STEPPER MOTORS

Portescap #S42L048S02-M5  
24V, 5 Ohm, 7.5 Degree per step.  
42mm diameter x 22mm. Two  
mounting holes on 51mm centers.  
Four 3" leads. Shaft - 3mm diameter x  
11mm long. 16 tooth, 9.75mm dia. brass gear.  
**CAT# SMT-356** \$2.50 each



Thomson Airpax Mechatronics  
# S42M048T52. 3.1Vdc,  
3.6 Ohm, 7.5 Degree per  
step. 42mm diameter x  
22mm. Four mounting holes  
on 36mm centers. Four 6" leads.  
Shaft - 3mm diameter x 11mm long.  
13 tooth, 12mm diameter brass gear.  
**CAT# SMT-355** \$2.50 each



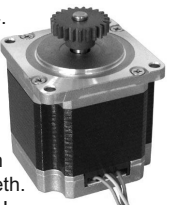
## 6-LEAD STEPPER MOTOR

Sanyo Denki 3.5V, 1.5A,  
1.8 Degree/ step.  
"Step-Syn" 103G770-1854.  
57mm diameter x 51mm long  
motor. 57mm x 57mm square  
mounting flange with mounting  
holes on 47.14mm centers.  
6.3mm (0.25") diameter x  
24mm long shaft with 15mm diameter plastic cog  
pulley, 1.5mm pitch. Six 7" leads.  
**CAT# SMT-362** \$14.00 each



## 4-LEAD, 1.8 DEG STEPPER MOTOR

Shinano Kenshi # STP 58D3004.  
56 x 56 x 54mm stepper.  
1.8 Degree per step. 0.48 Ohm.  
Four mounting holes on 47mm  
centers. Four 4" wire leads  
prepped with 5-pin connector.  
6.5mm (0.25") dia. shaft x 16mm  
long. 25mm dia, gear with 23 teeth.  
**CAT# SMT-119** \$14.00 each



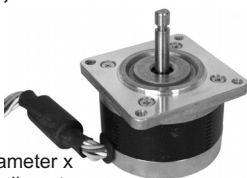
## 4-WIRE STEPPER MOTOR

Minebea # 23KM-K217-P2V.  
56 x 56 x 42mm stepping motor.  
Four mounting holes on 47.14mm  
centers. 1.8 degrees per step.  
8mm diameter x 25mm long  
shaft with 20mm diameter cog gear.  
4, 380mm wires with 4-pin connector. Motors are  
new, prepped with a removable metal adapter.  
**CAT# SMT-363** \$12.00 each



## STEPPER MOTOR, 8-WIRE

Minebea-Matsushita  
# 23LM-K255-08W  
P/N 20-0253-01 REV.L.  
57mm x 57mm square  
mounting flange,  
tapped mounting holes,  
47.15 centers. 57mm diameter x  
40.11mm body. 6.35mm diameter  
flatted shaft 27.45mm long. 8-wire, two ferrites and  
molex type connector on 6" leads. Unknown specs.  
**CAT# SMT-366** \$10.00 each



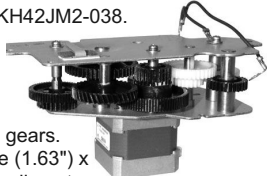
## ROTARY STEPPER MOTOR

Nippon Pulse #PF55-48D1.  
55mm dia. x 25mm 5V unipolar  
stepper motor. 7.5 Deg. per step.  
2-phase. 5 Ohms per phase.  
Shaft is 3mm in dia. x 4mm long  
with a small keyway on one side. Six 12" leads.  
**CAT# SMT-120** \$2.00 each



## STEPPER MOTOR W/ GEAR TRAIN

Japan Servo Motor# KH42JM2-038.  
6-pin connector,  
1.8 Degree/ step  
motor attached to a  
gear train with eight  
single and compound gears.  
Motor is 42mm square (1.63") x  
1.57" long with a 5mm diameter  
shaft with a brass gear attached. The gear train is  
6" x 1.45" overall and is removable. Requires an  
11-pin socket connector, 2mm pitch for connection.  
**CAT# SMT-107** \$10.00 each



## 16 WIRE STEPPER MOTOR

Brand unknown -  
Made in Belgium # PD 12  
Code number :  
9904 112 12001  
3 Deg. 45' step angle.  
175mA. 150 g/cm torque. 1.5" diameter x  
2.48" long. 1.5" square mounting plate.  
0.15" dia. x 0.40" long shaft. 16 leads, 11" long.  
**CAT# SMT-118** \$4.75 each



## 115 VAC REVERSIBLE AC MOTORS

### 115VAC REVERSIBLE MOTOR W/ CAPACITOR

Oriental Motor# 4RJ20GB-AUL.  
Capacitor-run, single-  
phase motor with built-in  
friction brake to improve  
instantaneous reversing characteristics.  
Suited for applications where the motor must switch di-  
rection frequently. 115 Vac, 0.48A, 20W. Starting  
torque, 14.6 oz-in. Rated Torque, 18.7 oz-in. 1500  
RPM. 7mm diameter x 12.5mm long pinion shaft de-  
signed to mate with gearbox. 80mm square mounting  
plate. Overall length of motor, 77mm. Three 12" leads.  
UL, CSA, CE. Includes 6 uF capacitor. We have some  
gearheads designed to fit this motor, Oriental  
#4GB3.6KA - see CAT# GH-436. Motors and gear-  
heads are new, in original boxes.  
**CAT# ACM-420** \$25.00 each



### GEAR HEAD FOR REVERSIBLE MOTOR, ACM-420

Oriental # 4GB3.6KA.  
Designed for use with  
Oriental GB-series  
motors, like our CAT#  
ACM-420. Fits 80mm  
square mounting plate on motor. 32.2mm thick.  
5/16" (9mm) diameter flatted shaft is 30mm long.  
When used with CAT# ACM-420, final no-load  
speed is 500 RPM. New, in original box with hard-  
ware and installation instructions.  
**CAT# GH-436** \$25.00 each



Elinco WH-1276. Low-noise,  
capacitor-run reversible 115Vac,  
0.2A, continuous-duty motor  
with a 5mm dia. x 10mm toothed  
shaft designed to mate with a  
gear head. 1450 RPM.  
61mm square mounting  
plate with four holes. Motor  
is 61mm dia. x 66mm long. Three 10" leads. In-  
cludes 2.0 uF 300V capacitor & hook-up instructions.  
**CAT# ACM-276** \$16.00 each



## AC GEAR MOTORS

### 50 RPM AC MOTOR

Synchron# M945. 50RPM timing-type motor. 120 Vac, 60Hz, 8W. 47mm dia. x 24mm. Gear box is 59mm x 47mm oval x 19mm. 3.5mm (1/8") diameter shaft with brass gear attached. 7" pigtail leads.

**CAT# ACM-93** \$5.00 each



### 24 VAC 4.1 RPM GEAR MOTOR

Airpax # S94-0200. 24VAC 60Hz, capacitor run, gear motor. 52.5mm diameter x 45mm. Shaft is 5.5mm diameter x 41mm long with a 9.5mm copper bushing on the lower 11mm of the shaft. Three tapped mounting holes in face of motor. Four 150mm pigtail leads.

Note: Motor specifies requirement of 10 uF capacitor. We don't currently have any in stock, but do have a 11uF, CAT# MPC-11. The capacitor is put in series with the windings, between one white lead and either the red or brown lead. Power is applied to the two unused leads.

**CAT# ACM-200** \$6.50 each



## LINEAR ACTUATOR FOR AUTO DOOR LOCK

12 Vdc motor-drive actuator for automotive door locks. Nylon plunger moves 0.75". Push or pull, depending on polarity. Includes mounting hardware and a 10" metal extension rod which fits through the hole in the end of the plunger. Overall dimensions of actuator assembly (retracted): 8.42" x 2.35" x 1.15". Rubber boot protects against moisture and dust. Pigtail leads.

**CAT # DLA-1** \$5.50 each



## GEARS & ROTATING PARTS

### PLANETARY GEARHEAD, USED

Mates with Faulhaber 2342 and similar motors with four mounting holes on 26mm centers and an 11mm dia. mating gear with 18 teeth. Gearbox dimensions: 32mm x 32mm x 25mm. 6mm dia. shaft is 35mm long. Exact specs unknown. Final rotational speed was approximately 120RPM when used with Faulhaber 2342 motor at 12Vdc.

**CAT# GH-2** \$3.75 each



### GEAR ASSEMBLY

Made for a Kodak 35mm film scanner, this high-quality plastic gear train contains four gears. Three are identical dual gears with 36 and 10 teeth. The other has 18 and 22 teeth. The unit snaps together and apart. Overall dimensions: 63 x 34 x 26mm.

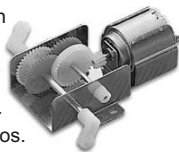
**CAT# GR-131** \$2.25 each



## GEARBOX 2 IN 1, MOTOR GEARS & ACCESSORIES

Velleman Kits # KNS7. Fun with gears and motors. Small 3 Vdc motor, metal bracket and axles, and an assortment of small plastic gears and collars to produce a gear train of various ratios.

**CAT# GR-84** \$11.95 each



## MATING GEARS

All gears in this section mate with one another

### 5 GEAR

#### ASSORTMENT

Five matched break-resistant plastic gears ranging from 0.44" dia. (10 teeth) to 2.02" (50 teeth).

Gears are molded with 0.15" (4mm) bores and come with inserts which reduce the bore to 0.065" (2mm) diameter.

**CAT# GR-5** \$2.75 per set - includes 5 gears and 5 inserts • 10 sets for \$20.00



### 4 GEAR SET

Four matched unbreakable plastic gears. The three larger gears are beveled on one side and can mesh at 90° as well as the normal 180° angle. They have 5mm bores. Inserts are supplied to reduce the bore size to 3mm. The smallest gear has a 2mm bore. Gears are 41, 31, 21 and 13mm.

**CAT# GR-86** \$2.25 each



### 2 GEAR SET

Two nylon gears:

**26 cog.**  
1.08" diameter x 0.27" wide.  
0.18" collar.  
0.25" dia. bore.

**34 cog.**  
1.41" diameter x 0.23" wide. 0.1" collar.  
0.33" diameter flattened bore.

**CAT# GR-109** \$1.75 per set



### COMPOUND GEAR 21 & 14 COG

0.77" D x 0.46"  
0.53" D x 0.28". 6mm bore.

**CAT# GR-78** 50¢ each



### 30 TOOTH NYLON GEAR

32mm diameter x 11mm wide. 8mm bore.

**CAT # GR-126** 75¢ each



### 38 TOOTH METAL GEAR

40mm diameter x 8.0mm wide. 8mm flattened bore.

**CAT # GR-127**  
\$1.50 each

