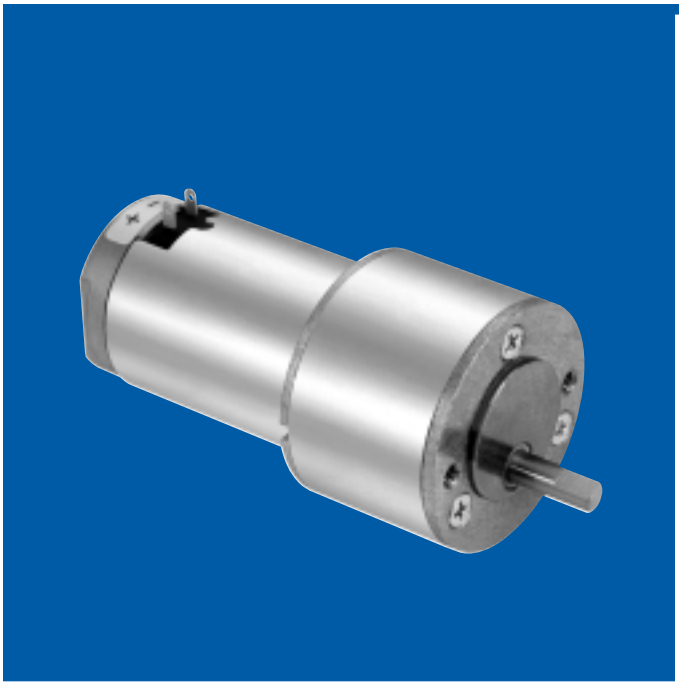
# IM-15 GEARMOTORS

DC Permanent Magnet Spur Gearmotors

E-2435



**torque rating:** Standard sintered gear strength to 300 oz. in. Optional cut gears add strength and durability

**weight:** 15 to 16.5 ounces

**gears:** Precision high density sintered gear

**shaft:** Precision-ground; through hardened AISI 1137-1141 steel. Options: length, flats, pinions, gears. Shaft material may change depending upon options selected

**bearings:** Motor and gearbox bearings are life-lubricated sleeve bearings. Ball bearing option available

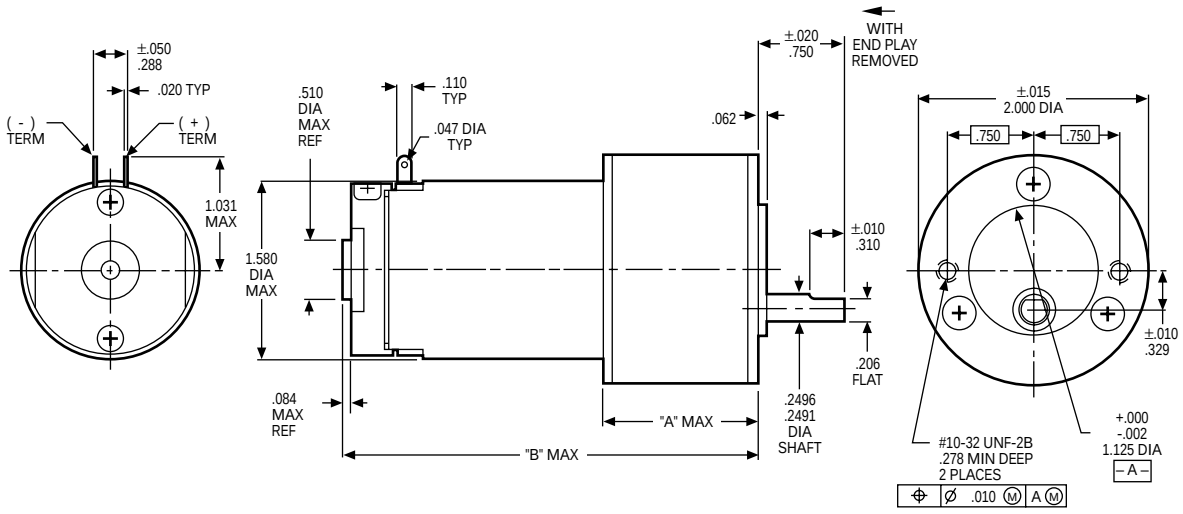
**gearbox cover:** Steel housing, zinc plate

**mounting flange:** Die-cast zinc

**options available:**

- Ball bearings
- Leads
- EMI suppression
- Square mounting flange

## Dimensions




**ROTATION (SEE CHART, OPPOSITE PAGE) VIEWED FROM SHAFT END WITH POSITIVE VOLTAGE ON (+) TERMINAL. REVERSE POLARITY FOR OPPOSITE ROTATION**

**NOTE:** Consult factory prior to preparing spec control prints. Dimensions are for reference only

## Standard Part Numbers and Data

| STANDARD PART NUMBER PREFIX* | DIMENSION "A" MAX (in.) | DIMENSION "B" MAX (in.) | REDUCTION RATIO | TORQUE MULTIPLIER | CONTINUOUS TORQUE -2* (oz. in.) | CONTINUOUS TORQUE -3* (oz. in.) | DIRECTION OF ROTATION |
|---|---|---|---|---|---|---|---|
| **Short Stack — Motors** | | | | | | | |
| 455A100 | 1.375 | 3.677 | 5.90 | 4.8 | 19 | 19 | CW |
| 455A101 | 1.375 | 3.677 | 11.50 | 9.3 | 37 | 37 | CW |
| 455A102 | 1.375 | 3.677 | 19.66 | 14.4 | 57 | 57 | CCW |
| 455A103 | 1.375 | 3.677 | 38.33 | 28.0 | 112 | 112 | CCW |
| 455A104 | 1.375 | 3.677 | 65.53 | 43.2 | 173 | 173 | CW |
| 455A105 | 1.375 | 3.677 | 127.78 | 84.3 | 300 | 300 | CW |
| 455A106 | 1.375 | 3.677 | 218.42 | 128.9 | 300 | 300 | CCW |
| 455A107 | 1.375 | 3.677 | 425.93 | 251.3 | 300 | 300 | CCW |
| 455A108 | 1.375 | 3.677 | 728.08 | 385.9 | 300 | 300 | CW |
| 455A109 | 1.375 | 3.677 | 1,419.75 | 752.5 | 300 | 300 | CW |
| 455A110 | 1.515 | 3.811 | 2,426.93 | 1,164.9 | 300 | 300 | CCW |
| 455A111 | 1.515 | 3.811 | 4,732.51 | 2,271.6 | 300 | 300 | CCW |
| **Long Stack — Motors** | | | | | | | |
| 455A112 | 1.375 | 3.956 | 5.90 | 4.8 | 24 | 24 | CW |
| 455A113 | 1.375 | 3.956 | 11.50 | 9.3 | 47 | 47 | CW |
| 455A114 | 1.375 | 3.956 | 19.66 | 14.4 | 72 | 72 | CCW |
| 455A115 | 1.375 | 3.956 | 38.33 | 28.0 | 140 | 140 | CCW |
| 455A116 | 1.375 | 3.956 | 65.53 | 43.2 | 216 | 216 | CW |
| 455A117 | 1.375 | 3.956 | 127.78 | 84.3 | 300 | 300 | CW |
| 455A118 | 1.375 | 3.956 | 218.42 | 128.9 | 300 | 300 | CCW |
| 455A119 | 1.375 | 3.956 | 425.93 | 251.3 | 300 | 300 | CCW |
| 455A120 | 1.375 | 3.956 | 728.08 | 385.9 | 300 | 300 | CW |
| 455A121 | 1.375 | 3.956 | 1,419.75 | 752.5 | 300 | 300 | CW |
| 455A122 | 1.515 | 4.090 | 2,426.93 | 1,164.9 | 300 | 300 | CCW |
| 455A123 | 1.515 | 4.090 | 4,732.51 | 2,271.6 | 300 | 300 | CCW |

**NOTE:** 300 oz. in. is the maximum strength of this gearmotor series using standard sintered steel gears. Damage may result if this torque is exceeded

### *When You Order

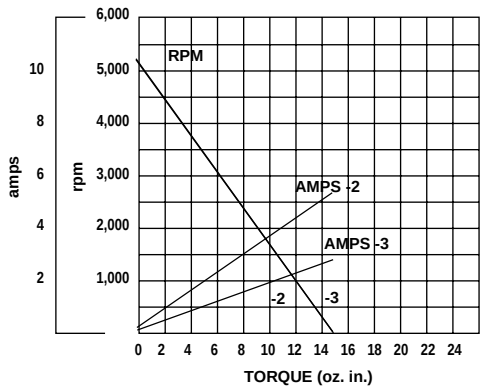
Each of the basic motor armature windings (bottom chart) can be used with any of the gear ratios listed above. To order, state the gear train standard part number prefix, plus a motor armature winding dash number. EXAMPLE: 455A100-2 is a 5.9:1 spur gear train with a "-2" short stack motor armature winding, 12 volts, 5,200 rpm no load speed, 3.5 oz. in. rated torque, etc.

## Basic Motor Data

| ARMATURE WINDING DASH NO.* | VOLTAGE (VDC) | SPEED ±10% NO LOAD (rpm) | CURRENT NO LOAD (max amps) | RATED TORQUE (oz. in.) | CURRENT AT RATED TORQUE (max amps) | TORQUE CONSTANT (oz. in./ amps) | RESISTANCE (ohms) |
|---|---|---|---|---|---|---|---|
| **Short Stack — Motors** | | | | | | | |
| -2 | 12 | 5,200 | .29 | 4.0 | 2.0 | 2.95 | 2.25 |
| -3 | 24 | 5,200 | .14 | 4.0 | 1.0 | 6.00 | 9.00 |
| **Long Stack — Motors** | | | | | | | |
| -2 | 12 | 5,200 | .35 | 5.0 | 2.3 | 3.00 | 2.00 |
| -3 | 24 | 5,200 | .17 | 5.0 | 1.2 | 6.10 | 6.60 |

## Typical Motor Performance

Short Stack Motors
Part Nos.: 455A100 thru 111




Long Stack Motors
Part Nos.: 455A112 thru 123