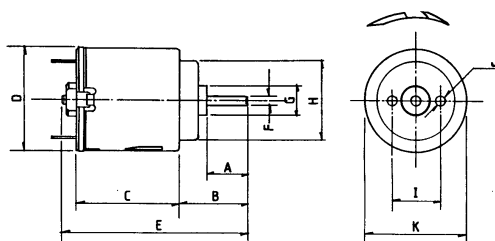


MINIATURE D.C. MOTORS**RE - 140 (3 POLE) & RE - 140/1**

PT.NO. 457 RE 140 (WITH BRACKET).
PT.NO. 719 RE 140 (WITHOUT BRACKET)
PT.NO. 457 RE 140/1 (WITH BRACKET)
PT.NO. 719 RE 140/1 (WITHOUT BRACKET)
PT.NO. 724 MOTOR BRACKET (90° ONLY)

**Weight 20g (approx)**

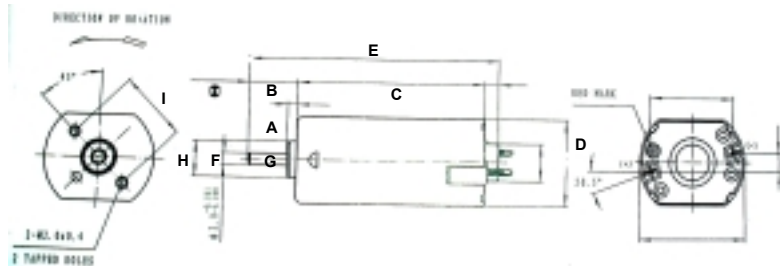
| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|------|------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| MILLIMETER | 8.3 | 14.0 | 21.0 | 21.0 | 38.0 | 2.0 | 6.15 | 16.0 | 10.0 | 2.0 | 20.15 |
| DECIMAL INCHES | 0.33 | 0.55 | 0.827 | 0.827 | 1.496 | 0.079 | 0.242 | 0.63 | 0.394 | 0.079 | 0.793 |

| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|------------|-----------------|---------------|---------|---------|-----------------------|---------|---------|--------|--------|-------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE - 140 | 1.5 - 3.0 | 1.5v CONSTANT | 8200 | 0.190 | 6250 | 0.62 | 0.089 | 6.4 | 0.400 | 44.2 | 0.375 | 27.0 |
| RE - 140 | 1.5 - 3.0 | 3.0v CONSTANT | 14000 | 0.230 | 11300 | 0.96 | 1.444 | 10.4 | 1.210 | 42.0 | 0.750 | 54.0 |
| RE - 140/1 | 3.0 - 9.0 | 6v CONSTANT | 9200 | 0.066 | 7071 | 0.219 | 0.11 | 8.1 | 0.589 | 44.79 | 0.48 | 35.1 |

Stall Current RE140 at 3v = 3.41A

RE - 170 (3 POLE)

PT.NO. 457 RE 170 (WITH BRACKET).
PT.NO. 719 RE 170 (WITHOUT BRACKET)
PT.NO. 724. MOTOR BRACKET (90° ONLY)



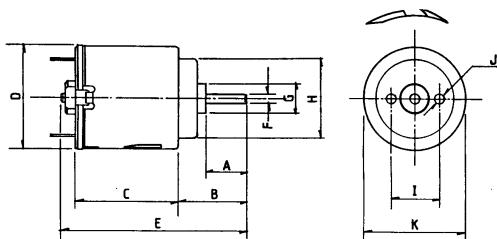
Weight 29g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|------|------|------|------|------|------|------|------|----|------|------|
| MILLIMETER | 6.7 | 8.3 | 32.0 | 18.7 | 42.7 | 2.0 | 6.5 | 14.5 | M2 | 12.0 | 45.0 |
| DECIMAL INCHES | 0.26 | 0.33 | 1.26 | 0.74 | 1.68 | 0.08 | 0.24 | 0.57 | | 0.47 | |

| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|-----------------|---------------|---------|---------|-----------------------|---------|---------|--------|--------|------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | STALL TORQUE | |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | oz - in | g - cm |
| RE - 170 | 1.5 - 3.0 | 3.0v CONSTANT | 10400 | 0.17 | 8870 | 1.03 | | 27 | 2.47 | 79.9 | | 184.0 |

RE - 260 (3 POLE)

PT.NO. 457 RE 260 (WITH BRACKET).
PT.NO. 719 RE 260 (WITHOUT BRACKET)
PT.NO. 724 MOTOR BRACKET (90° ONLY)



Weight 29g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|------|------|------|------|------|-------|------|------|------|------|------|
| MILLIMETER | 8.2 | 11.3 | 23.5 | 23.7 | 42.0 | 2.0 | 6.1 | 19.1 | 11.5 | 2.3 | 23.7 |
| DECIMAL INCHES | 0.32 | 0.44 | 0.93 | 0.93 | 1.65 | 0.079 | 0.24 | 0.75 | 0.45 | 0.09 | 0.93 |

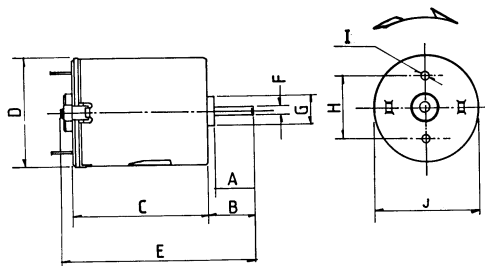
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|-----------------|---------------|---------|---------|-----------------------|---------|---------|--------|--------|-------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | STALL TORQUE | |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | oz - in | g - cm |
| RE - 260 | 3.0 - 6.0 | 3.0v CONSTANT | 4242 | 0.042 | 3296 | 0.151 | | 6.8 | 0.345 | 33.91 | | 30.61 |
| RE - 260 | 3.0 - 6.0 | 4.5v CONSTANT | 6360 | 0.065 | 4942 | 0.227 | | 10.2 | 0.518 | 50.84 | | 45.9 |
| RE - 260 | 3.0 - 6.0 | 6.0v CONSTANT | 8478 | 0.087 | 6587 | 0.302 | | 13.6 | | 31.5 | | 61.84 |

Stall Current RE260 at 4.5v = 0.79A

RE - 280 (3 POLE) & RE - 280/1 & RE-280/5



PT.NO. 457 RE 280 (WITH BRACKET)
 PT.NO. 457 RE 280/1 (WITH BRACKET)
 PT. NO. 457 RE 280/5 (WITH BRACKET)
 PT.NO. 719 RE 280 (WITHOUT BRACKET)
 PT.NO. 719 RE 280/1 (WITHOUT BRACKET)
 PT. NO. 719 RE 280/5 (WITHOUT BRACKET)
 PT.NO. 724 MOTOR BRACKET (90o ONLY)



Weight 44g (approx)

| | DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|---------------------------------|----------------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|---|
| RE 280, RE 280/1 RE 280/5 | MILLIMETER | 7.40 | 12.0 | 30.5 | 23.8 | 42.0 | 2.0 | 6.35 | 14.0 | 2.3 | 24.2 | |
| | DECIMAL INCHES | 0.41 | 0.472 | 1.201 | 0.937 | 1.65 | 0.078 | 0.250 | 0.551 | 0.090 | 0.953 | |

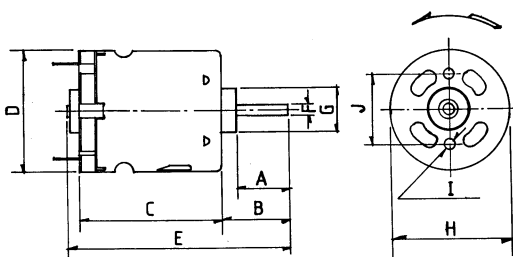
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|------------|--------------------|---------------|---------|---------|-----------------------|---------|---------|--------|--------|-------|-----------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | | |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | oz - in | g - cm |
| RE - 280 | 1.5 - 3.0 | 1.5v CONSTANT | 4600 | 0.120 | 3750 | 0.53 | 0.160 | 11.53 | 0.44 | 56.2 | 0.86 | 62.0 |
| RE - 280 | 1.5 - 3.0 | 3.0v CONSTANT | 9200 | 0.155 | 7800 | 0.85 | 0.278 | 20.00 | 1.60 | 62.3 | 1.81 | 130.0 |
| RE - 280/1 | 12 - 24 | 12v CONSTANT | 8400 | 0.10 | 6300 | 0.30 | 0.347 | 25.00 | 1.62 | 44.87 | 1.389 | 100.0 |
| RE - 280/5 | 3 - 6 | 6v CONSTANT | 9280 | 0.108 | 7664 | 0.51 | 0.347 | 25.00 | 1.99 | 64.85 | 2.02 | 100.0 |

Stall Current RE280 at 1.5v = 2.41A

RE - 360 (3 POLE) & RE - 360/1



Pt. No. 457 RE 360 (with Bracket)
 Pt. No. 719 RE 360 (without Bracket)
 Pt. No. 457 RE 360/1 (with bracket)
 Pt. No. 719 RE 360/1 (without bracket)
 Pt. No. 725 Motor Bracket (90o only)



Weight 51g (approx)

| | DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|--|----------------|-------|-------|------|-------|------|-------|-------|-------|------|------|---|
| | MILLIMETER | 8.2 | 11.5 | 32.5 | 27.63 | 47.0 | 2.305 | 10.0 | 27.5 | M2.6 | 16.0 | |
| | DECIMAL INCHES | 0.323 | 0.453 | 1.28 | 1.088 | 1.85 | 0.091 | 0.394 | 1.083 | | 0.63 | |

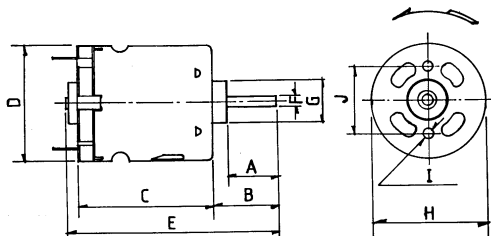
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|--------------------|--------------|---------|---------|-----------------------|---------|--------|--------|--------|-------|-----------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | | |
| | | | R.P.M. | A | R.P.M. | A | | g - cm | W | % | oz - in | g - cm |
| RE - 360 | 6 - 15 | 12v CONSTANT | 11370 | 0.151 | 9511 | 0.77 | | 58.8 | 5.75 | 61.94 | | 360.0 |

Stall Current RE360 at 12v = 3.95A

RE - 380 (3 POLE)



Pt. No. 457 RE 380 (with Bracket)
 Pt. No. 719 RE 380 (without Bracket)
 Pt. No. 725 Motor Bracket (90o only)



Weight 69g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|---|
| MILLIMETER | 12.5 | 16.0 | 38.0 | 27.7 | 57.0 | 2.30 | 10.0 | 27.5 | M2.6 | 16.0 | |
| DECIMAL INCHES | 0.492 | 0.630 | 1.496 | 1.091 | 2.244 | 0.091 | 0.394 | 1.083 | | 0.630 | |

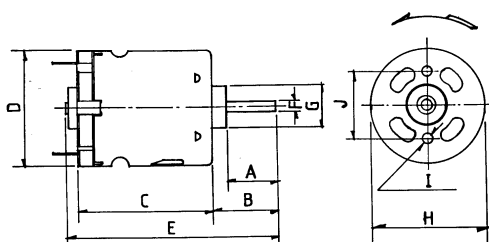
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|-----------------|---------------|---------|---------|-----------------------|---------|---------|--------|--------|------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE - 380 | 3.0 - 7.2 | 7.2v CONSTANT | 26000 | 1.000 | 19000 | 4.41 | 5.000 | 375.00 | 19.68 | 62.0 | 30.000 | 594.8 |

Stall Current RE380 at 7.2v = 25.19A

RE - 385 (5 POLE)



Pt. No. 457 RE 385 (with Bracket)
 Pt. No. 719 RE 385 (without Bracket)
 Pt. No. 725 Motor Bracket (90o only)



Weight 66g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|---|
| MILLIMETER | 11.5 | 15.0 | 38.0 | 27.7 | 56.0 | 2.305 | 10.0 | 27.5 | M2.6 | 16.0 | |
| DECIMAL INCHES | 0.453 | 0.591 | 1.496 | 1.091 | 2.205 | 0.091 | 0.394 | 1.083 | | 0.630 | |

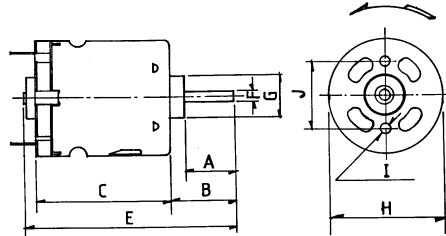
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|-----------------|--------------|---------|---------|-----------------------|---------|---------|--------|--------|------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE - 385 | 6.0 - 15.0 | 12v CONSTANT | 11646 | 0.18 | 9869 | 0.99 | | 78.4 | 7.98 | 66.1 | | 513.5 |

Stall Current RE385 at 12v = 4.62A

RE - 385LN (5 POLE). NOISE ATTENUATED



Pt. No. 457 RE 385LN (with Bracket)
 Pt. No. 719 RE 385LN (without Bracket)
 Pt. No. 725 Motor Bracket (90o only)



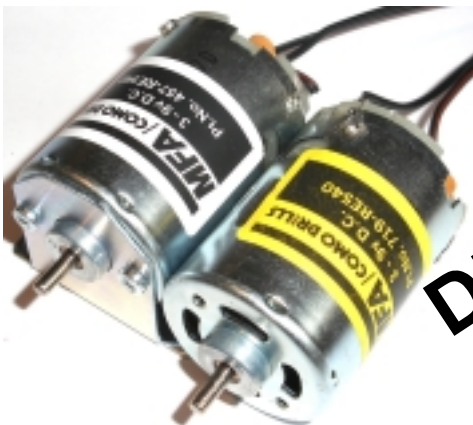
Weight 110g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|------------|---|-----|------|---|------|-----|------|----|-----|------|---|
| MILLIMETER | 6 | 8.5 | 46.5 | | 57.3 | 2.3 | 10.0 | 29 | M 3 | 16.0 | |

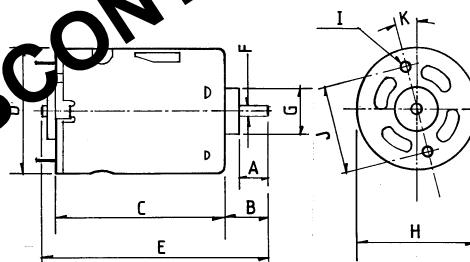
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|------------|-----------------|--------------|---------|---------|-----------------------|---------|---------|--------|--------|-----|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE - 385LN | 6.0 - 12.0 | 12v CONSTANT | 7300 | 0.15 | 5950 | 0.9 | | 110 | 7 | 65 | | 660 |

Stall Current RE385 at 12v = 4.62A

RE - 540 (3 POLE)



Pt. No. 457 RE 540 (with Bracket)
 Pt. No. 719 RE 540 (without Bracket)
 Pt. No. 726 Motor Bracket (90o only)



Weight 148g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|----|-------|---|
| MILLIMETER | 8.5 | 13.0 | 50.0 | 35.8 | 67.0 | 3.175 | 13.0 | 35.7 | M3 | 25.0 | |
| DECIMAL INCHES | 0.335 | 0.512 | 1.969 | 1.409 | 2.638 | 0.125 | 0.512 | 1.406 | | 0.984 | |

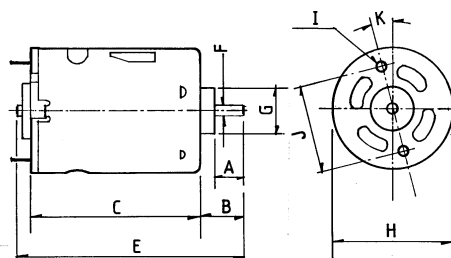
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|-----------------|---------------|---------|---------|-----------------------|---------|---------|--------|--------|------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE - 540 | 3.0 - 9.0 | 3.6v CONSTANT | 8400 | 0.80 | 8350 | 5.71 | 1.87 | 135 | 11.6 | 56.4 | 10.8 | 780 |
| RE - 540 | 3.0 - 9.0 | 6.0v CONSTANT | 14000 | 1.00 | 10800 | 7.10 | 3.5 | 254 | 28.1 | 66.0 | 26.4 | 1900 |

Stall Current RE540 at 6v = 28.87A

RE - 540LN (3 POLE). NOISE ATTENUATED



Pt. No. 457 RE 540LN (with Bracket)
Pt. No. 719 RE 540LN (without Bracket)
Pt. No. 726 Motor Bracket (90o only)



Weight 212g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|------------|-----|------|------|---|------|-----|------|----|----|------|---|
| MILLIMETER | 5.5 | 9.75 | 57.1 | | 69.2 | 3.0 | 14.0 | 37 | M3 | 25.0 | |
| | | | | | | | | | | | |

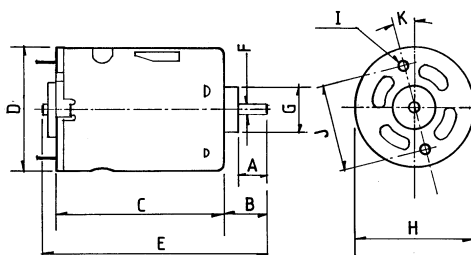
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|------------|-----------------|--------------|---------|---------|-----------------------|---------|---------|--------|--------|-----|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE - 540LN | 6.0 - 12.0 | 12v CONSTANT | 6000 | 0.25 | 4930 | 1.6 | | 250 | 12.8 | 67 | | 1500 |
| | | | | | | | | | | | | |

Stall Current RE540 at 6v = 28.87A

RE - 540/1 (3 POLE)



Pt. No. 457 RE 540/1 (with Bracket)
Pt. No. 719 RE 540/1 (without Bracket)
Pt. No. 726 Motor Bracket (90o only)



24 volt versions are available for this range of motors. Performance data is similar to 12 volt versions. This version also has an extended 10mm rear shaft to accommodate motor encoders.

Pt. No's
457RE540124V
719RE540124V

Weight 146g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|-------|-------|-------|-------|------|-------|-------|-------|----|-------|---|
| MILLIMETER | 9.0 | 13.5 | 50.0 | 35.8 | 68.0 | 3.175 | 13.0 | 35.7 | M3 | 25.0 | |
| DECIMAL INCHES | 0.354 | 0.531 | 1.969 | 1.409 | 2.67 | 0.125 | 0.512 | 1.406 | | 0.984 | |

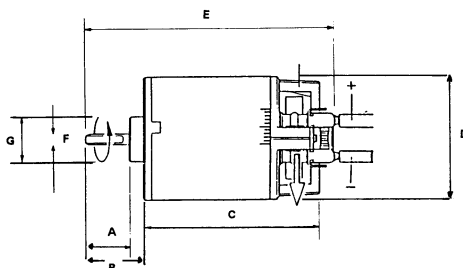
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|------------|-----------------|----------------|---------|---------|-----------------------|---------|---------|--------|--------|------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE - 540/1 | 4.5 - 15.0v | 6.0v CONSTANT | 7500 | 0.45 | 6180 | 2.1 | 1.64 | 118.2 | 7.49 | 59.4 | 9.31 | 670 |
| | | 12.0v CONSTANT | 15800 | 0.52 | 13360 | 2.85 | 2.14 | 154.4 | 21.2 | 61.9 | 13.9 | 1000 |

Stall Current RE540/1 at 6v = 8.24A

RE - 700 (3 POLE) Ball raced motor



Pt. No. 457 RE 700 (with Bracket)
Pt. No. 719 RE 700 (without Bracket)
Pt. No. 726 Motor Bracket (90o only)



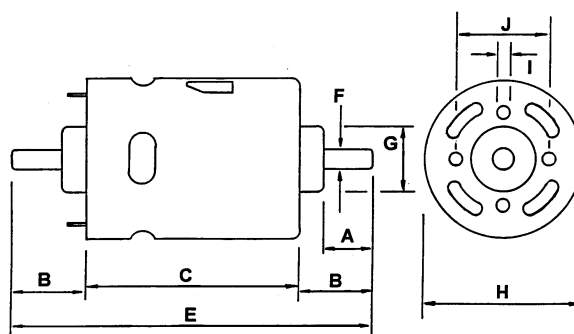
Weight 178g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|-------|-------|------|------|------|-------|------|------|--------|------|---|
| MILLIMETER | 12.45 | 16.45 | 50.0 | 36.6 | 70.0 | 3.165 | 13.0 | 36.6 | M2.5x5 | 24.0 | |
| DECIMAL INCHES | | | | | | | | | | | |

| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|-------|-----------------|---------------|---------|---------|-----------------------|---------|---------|--------|--------|------|--------------|--------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | g - cm |
| | | | R.P.M. | A | R.P.M. | A | oz - in | g - cm | W | % | | |
| RE700 | 6.0 - 8.4v | 7.2v constant | 22500 | 2.4 | 15600 | 10.3 | | | 65 | 75.0 | | |
| | | | | | | | | | | | | |

RE - 800 (3 POLE)

Pt. No. 457 RE 800 (with Bracket)
Pt. No. 719 RE 800 (without Bracket)
Pt. No. 1114/2 Motor Bracket (90o only)



Weight 595g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|-------|-------|-------|---|-------|-------|-------|-------|----|-------|---|
| MILLIMETER | 13.2 | 20.5 | 69.0 | | 110.0 | 6.35 | 21.75 | 51.8 | M5 | 32.0 | |
| DECIMAL INCHES | 0.520 | 0.810 | 2.720 | | 4.330 | 0.250 | 0.860 | 2.040 | | 1.260 | |

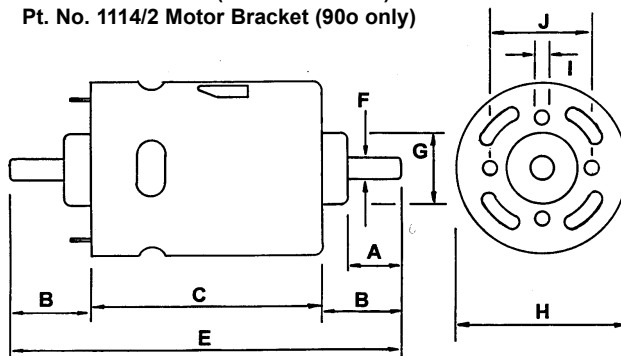
| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|-----------------|----------------|---------|---------|-----------------------|---------|---------|-------|--------|------|--------------|-------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | oz - in | mN-m |
| | | | R.P.M. | A | R.P.M. | A | oz - in | mN-m | W | % | | |
| RE - 800 | 12.0v | 12.0v CONSTANT | 5167 | 1.058 | 4289 | 5.28 | | 82.08 | 36.88 | 58.2 | | 482.8 |

Stall Current RE800 at 12v = 25.86A

RE - 850 (3 POLE)



Pt. No. 457 RE 850 (with Bracket)
 Pt. No. 719 RE 850 (without Bracket)
 Pt. No. 1114/2 Motor Bracket (90o only)



Weight 595g (approx)

| DIMENSIONS | A | B | C | D | E | F | G | H | I | J | K |
|----------------|-------|-------|-------|---|-------|-------|-------|-------|----|-------|---|
| MILLIMETER | 13.2 | 20.5 | 69.0 | | 110.0 | 6.350 | 21.75 | 51.8 | M5 | 32.0 | |
| DECIMAL INCHES | 0.520 | 0.810 | 2.720 | | 4.330 | 0.250 | 0.860 | 2.040 | | 1.260 | |

| MODEL | VOLTAGE | | NO LOAD | | AT MAXIMUM EFFICIENCY | | | | | | STALL TORQUE | |
|----------|-----------------|----------------|---------|---------|-----------------------|---------|---------|-------|--------|-------|--------------|------|
| | OPERATING RANGE | NOMINAL | SPEED | CURRENT | SPEED | CURRENT | TORQUE | | OUTPUT | EFF | | |
| | | | R.P.M. | A | R.P.M. | A | oz - in | mN-m | W | % | oz - in | mN-m |
| RE - 850 | 12.0v | 12.0v CONSTANT | 9778 | 1.90 | 8311 | 10.82 | | 92.13 | 80.16 | 61.74 | | 614 |

Stall Current RE850 at 12v = 61.34A