



# MGM General Purpose 3-phase Brake Motors

## IEC & NEMA Compatible Brake motors with 3-phase brake

### BMX Series - 1/4HP, BAX Series 1/2 to 5HP

#### Features

- 230/460 Voltage
- Rated Output: 1/4 - 5 HP (0.18 - 3.7kW)
- IEC & NEMA compatible mounting options. IEC mounts B5 & B34. NEMA mounts 56C - 182TC
- 3 phase brake provides high braking torque, faster response time and better reliability
- 1800 RPM
- Continuous Duty (S1)
- Premium Efficiency (IE3) Frames 80-112, High efficiency (IE2) Frame 63/71
- IP54
- Class F insulation
- Inverter speed ratings: Constant torque 5:1, Variable torque 1000:1
- Enclosure: TEFC
- Aluminum construction
- Manual brake release (BAX Only)
- Mounting orientation:
  - C-face – horizontal or vertical
  - Rigid base – horizontal or vertical
- Note: BMX series 1/4HP is 1-phase 230V brake with rectifier
- Agency approvals: CE and CSA

#### The MGM Brake Motor advantage:

- Designed & built as dedicated brake motors. The perfect engineering and assembly combined with a strong and safe 3-phase brake, make these motors very reliable
- BAX series brakes are direct 3-phase AC coils (no DC rectifier)
- Superior braking performance vs standard brake motors: 3x faster response time, 2x holding torque, better cooling
- Motors built to the IEC standard provide the same power output as NEMA, but in a smaller footprint and robust design
- Top mount junction box design, with threaded entries provides ready terminal access
- Ring Lug Terminals makes wiring easy
- Aluminum construction: 25% weight savings
- MGM quality: produced in Italy with state of the art high quality manufacturing processes



**1811**  
**C-face/  
Removable  
Rigid Base  
(B34)**



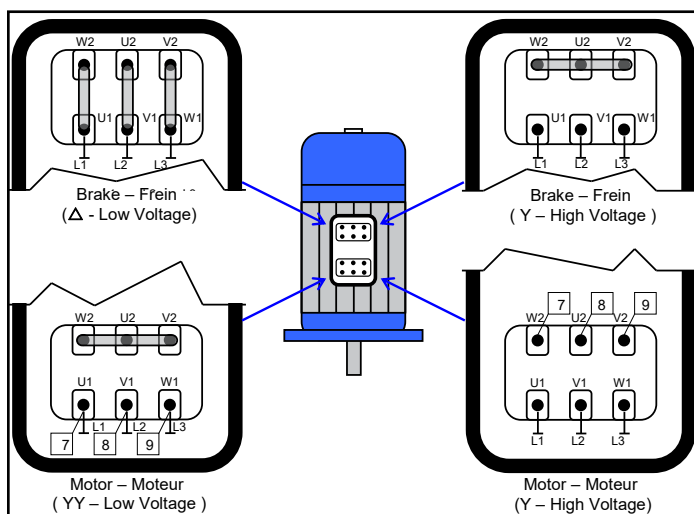
**18Q4**  
**D-flange (B5)**

#### Applications

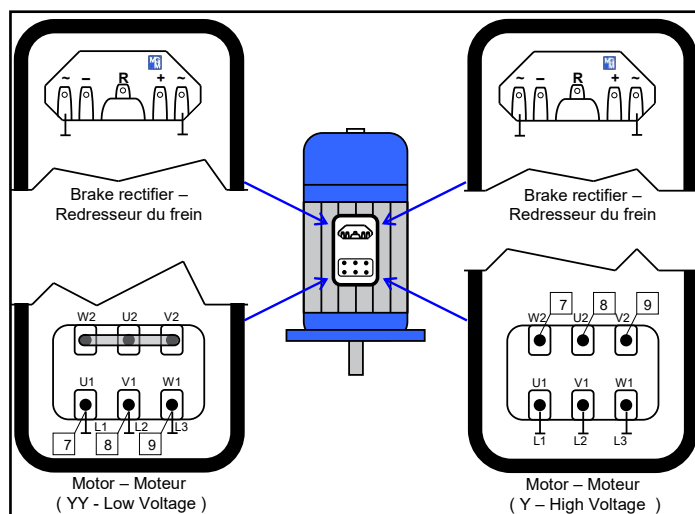
MGM brake motors are particularly suitable for hoist and traverse machines, tooling machinery, automatic and transfer machinery in textile, ceramic and packing fields and in all applications where precision and quickness in braking are required.

## Wiring Diagrams

### BAX Series



### BMX Series



NOTE: Interchange any 2 line wires to reverse rotation



# MGM General Purpose 3-phase Brake Motors

## Motor Specifications – 3-phase

| Part Number          | Price      | Rated Power |      | Base RPM | Volts       | Encl. | Frame                  | Service Factor* | Mounting                            | Efficiency Group       | Weight (lb)   | Drawing Links       |
|----------------------|------------|-------------|------|----------|-------------|-------|------------------------|-----------------|-------------------------------------|------------------------|---------------|---------------------|
|                      |            | HP          | kW   |          |             |       |                        |                 |                                     |                        |               |                     |
| Footless             |            |             |      |          |             |       |                        |                 |                                     |                        |               |                     |
| <a href="#">18HZ</a> | \$468.00   | 1/4         | .018 | 1800     | 230/460 VAC | TEFC  | IEC 63                 | 1.15            | D-flange (B5)                       | IE2 high efficiency    | 18            | <a href="#">PDF</a> |
| <a href="#">14JQ</a> | \$531.00   | 1/2         | 0.37 |          |             |       | IEC 71                 |                 |                                     |                        | 29            | <a href="#">PDF</a> |
| <a href="#">18I8</a> | \$584.00   |             |      |          |             |       | IEC 71 (56C flange)    |                 |                                     |                        | C-face        | 33                  |
| <a href="#">13HB</a> | \$687.00   | 1           | 0.75 |          |             |       | IEC 80                 |                 | D-flange (B5)                       | IE3 premium efficiency | 45            | <a href="#">PDF</a> |
| <a href="#">18IC</a> | \$736.00   |             |      |          |             |       | IEC 80 (56C flange)    |                 |                                     |                        | C-face        | 46                  |
| <a href="#">18Q4</a> | \$898.00   | 2           | 1.5  |          |             |       | IEC 90                 |                 |                                     |                        | D-flange (B5) | 62                  |
| <a href="#">18Q5</a> | \$941.00   |             |      |          |             |       | IEC 90 (145TC flange)  |                 | C-face                              |                        | 63            | <a href="#">PDF</a> |
| <a href="#">18IY</a> | \$1,142.00 | 3           | 2.2  |          |             |       | IEC 100 (182TC flange) |                 | C-face                              |                        | 93            | <a href="#">PDF</a> |
| <a href="#">18J4</a> | \$1,565.00 | 5           | 3.7  |          |             |       | IEC 112 (182TC flange) |                 |                                     |                        | 123           | <a href="#">PDF</a> |
| With Rigid Base      |            |             |      |          |             |       |                        |                 |                                     |                        |               |                     |
| <a href="#">18I1</a> | \$489.00   | 1/4         | .018 | 1800     | 230/460 VAC | TEFC  | IEC 63                 | 1.15            | C-face/removable rigid base (B34)   | IE2 high efficiency    | 17            | <a href="#">PDF</a> |
| <a href="#">18I6</a> | \$551.00   | 1/2         | 0.37 |          |             |       | IEC 71                 |                 |                                     |                        | 28            | <a href="#">PDF</a> |
| <a href="#">18IA</a> | \$713.00   | 1           | 0.75 |          |             |       | IEC 80                 |                 |                                     |                        | 45            | <a href="#">PDF</a> |
| <a href="#">18Q3</a> | \$933.00   | 2           | 1.5  |          |             |       | IEC 90                 |                 |                                     |                        | 62            | <a href="#">PDF</a> |
| <a href="#">18Q6</a> | \$1,132.00 | 3           | 2.2  |          |             |       | IEC 100                |                 | D-flange/removable rigid base (B35) | IE3 premium efficiency | 82            | <a href="#">PDF</a> |
| <a href="#">18Q7</a> | \$1,132.00 |             |      |          |             |       |                        |                 | C-face/removable rigid base (B34)   |                        | 86            | <a href="#">PDF</a> |
| <a href="#">18OM</a> | \$1,550.00 | 5           | 3.7  |          |             |       | IEC 112                |                 | C-face/removable rigid base (B34)   |                        | 113           | <a href="#">PDF</a> |
| <a href="#">18ON</a> | \$1,550.00 |             |      |          |             |       |                        |                 | D-flange/removable rigid base (B35) |                        | 116           | <a href="#">PDF</a> |

\*Note: 1.15 SF (1.0 SF with VFD)

## Performance Data – 3-phase

| Part Number          | Rated Power |      | Service Factor | Duty Service | Full Load Speed (RPM) | Full Load Current (In) |      | Starting Current Ratio (Is/In) | Full Load Torque (Tn) |        | Starting Torque Ratio (Ts/Tn) | Power Factor | Efficiency (%) | Torque Speed Rating |          | Moment of Inertia (Joules) |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|-------------|------|----------------|--------------|-----------------------|------------------------|------|--------------------------------|-----------------------|--------|-------------------------------|--------------|----------------|---------------------|----------|----------------------------|------|-----|-----|-------|-----|------|------|--|--|--|--|--|--|--|--|--|--|--|
|                      | HP          | kW   |                |              |                       | 230V                   | 460V |                                | Nm                    | Lb-in  |                               |              |                | Constant            | Variable |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| Footless             |             |      |                |              |                       |                        |      |                                |                       |        |                               |              |                |                     |          |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18HZ</a> | 1/4         | .018 | 1.15           | S1           | 1670                  | 1.24                   | 0.62 | 3.71                           | 1.03                  | 9.12   | 3.88                          | 0.56         | 68.0           | 5:1                 | 1000:1   | 3.55                       |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">14JQ</a> | 1/2         | 0.37 |                |              | 1690                  | 1.82                   | 0.91 | 4.4                            | 2.09                  | 18.50  | 2.58                          | 0.71         | 72.0           |                     |          | 8.1                        |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18I8</a> |             |      |                |              | 1730                  | 3.2                    | 1.6  | 6.6                            | 4.14                  | 36.64  | 3.6                           | 0.70         | 85.5           |                     |          | 19.4                       |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">13HB</a> | 2           | 0.75 |                |              |                       |                        |      |                                |                       |        |                               |              | 1739           |                     |          | 6.2                        | 3.1  | 7.1 | 8.2 | 72.58 | 4.1 | 86.5 | 34.6 |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18IC</a> |             |      |                |              | 3                     | 2.2                    | 1750 | 8.6                            | 4.3                   | 7.4    | 12                            | 106.21       | 0.73           |                     |          | 89.5                       | 60.1 |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18Q4</a> | 5           | 3.7  |                |              |                       |                        | 1757 | 14                             | 7                     | 8.8    | 20.1                          | 177.90       |                |                     |          |                            | 4    | 145 |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18Q5</a> |             |      |                |              |                       |                        |      |                                |                       |        |                               |              |                |                     |          |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18IY</a> |             |      |                |              |                       |                        |      |                                |                       |        |                               |              |                |                     |          |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18J4</a> |             |      |                |              |                       |                        |      |                                |                       |        |                               |              |                |                     |          |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| With Rigid Base      |             |      |                |              |                       |                        |      |                                |                       |        |                               |              |                |                     |          |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18I1</a> | 1/4         | .018 | 1.15           | S1           | 1670                  | 1.24                   | 0.62 | 3.71                           | 1.03                  | 9.12   | 3.88                          | 0.56         | 68.0           | 5:1                 | 1000:1   | 3.55                       |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18I6</a> | 1/2         | 0.37 |                |              | 1690                  | 1.82                   | 0.91 | 4.4                            | 2.09                  | 18.50  | 2.58                          | 0.71         | 72.0           |                     |          | 8.1                        |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18IA</a> | 1           | 0.75 |                |              | 1730                  | 3.2                    | 1.6  | 6.6                            | 4.14                  | 36.64  | 3.6                           | 0.70         | 85.5           |                     |          | 19.4                       |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18Q3</a> | 2           | 1.5  |                |              | 1739                  | 6.2                    | 3.1  | 7.1                            | 8.2                   | 72.58  | 4.1                           |              | 86.5           |                     |          | 34.6                       |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18Q6</a> | 3           | 2.2  |                |              | 1750                  | 8.6                    | 4.3  | 7.4                            | 12                    | 106.21 |                               | 0.73         | 89.5           |                     |          | 60.1                       |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18Q7</a> |             |      |                |              | 1757                  | 14                     | 7    | 8.8                            | 20.1                  | 177.90 | 4                             |              |                |                     |          | 145                        |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18OM</a> | 5           | 3.7  |                |              |                       |                        |      |                                |                       |        |                               |              |                |                     |          |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |
| <a href="#">18ON</a> |             |      |                |              |                       |                        |      |                                |                       |        |                               |              |                |                     |          |                            |      |     |     |       |     |      |      |  |  |  |  |  |  |  |  |  |  |  |



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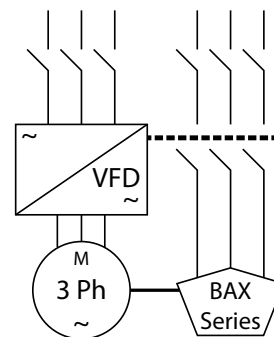
## Brake Performance Data

| Part Number          | HP  | Series | Brake Voltage      | Brake Current | Brake Torque |       | Brake Manual Release     |
|----------------------|-----|--------|--------------------|---------------|--------------|-------|--------------------------|
|                      |     |        |                    |               | Nm           | lb-ft |                          |
| Footless             |     |        |                    |               |              |       |                          |
| <a href="#">18HZ</a> | 1/4 | BMX    | 230VAC 1-Phase     | 0.2           | 5            | 3.7   | No                       |
| <a href="#">14JQ</a> | 1/2 | BAX    | 230/460VAC 3-Phase | 0.1/0.09      | 14           | 10.3  | Yes - Brake Release Tool |
| <a href="#">18I8</a> |     |        |                    |               |              |       |                          |
| <a href="#">13HB</a> | 1   |        |                    | 0.18/0.12     | 18           | 13.2  |                          |
| <a href="#">18IC</a> |     |        |                    |               |              |       |                          |
| <a href="#">18Q4</a> | 2   |        |                    | 0.30/0.35     | 38           | 28.0  |                          |
| <a href="#">18Q5</a> |     |        |                    |               |              |       |                          |
| <a href="#">18IY</a> | 3   |        |                    | 0.40/0.35     | 50           | 36.8  |                          |
| <a href="#">18J4</a> | 5   |        |                    |               | 80           | 59.0  |                          |
| With Rigid Base      |     |        |                    |               |              |       |                          |
| <a href="#">18I1</a> | 1/4 | BMX    | 230VAC 1-Phase     | 0.2           | 5            | 3.7   | No                       |
| <a href="#">18I6</a> | 1/2 | BAX    | 230/460VAC 3-Phase | 0.1/0.09      | 14           | 10.3  | Yes - Brake Release Tool |
| <a href="#">18IA</a> | 1   |        |                    | 0.18/0.12     | 18           | 13.2  |                          |
| <a href="#">18Q3</a> | 2   |        |                    | 0.30/0.35     | 38           | 28.0  |                          |
| <a href="#">18Q6</a> | 3   |        |                    |               | 50           | 36.8  |                          |
| <a href="#">18Q7</a> |     |        |                    |               |              |       |                          |
| <a href="#">18OM</a> | 5   |        |                    | 0.40/0.35     | 80           | 59.0  |                          |
| <a href="#">18ON</a> |     |        |                    |               |              |       |                          |

## Brake Wiring



NOTE: Brake must be wired separately when the motor is VFD operated. BAX series brake requires full 3-phase line voltage, 230 or 460V. BMX series (1/4HP) is 1-phase 230V only.



Motor and brake connection for VFD

## Alternate Performance Data (50Hz) – 3-phase

| Part Number          | Rated Power |      | F.L. RPM (380-415) | Volts       | Current         |                | Efficiency (%) | F.L. Power Factor |
|----------------------|-------------|------|--------------------|-------------|-----------------|----------------|----------------|-------------------|
|                      | HP          | kW   |                    |             | No Load Current | Full Load Amps |                |                   |
| Footless             |             |      |                    |             |                 |                |                |                   |
| <a href="#">18HZ</a> | 1/4         | .018 | 1361               | 200/400 VAC | 1.3/0.65        | 1.42/0.71      | 64.7           | 0.55              |
| <a href="#">14JQ</a> | 1/2         | 0.37 | 1415               |             | 2.0/1.0         | 2.1/1.05       | 72.7           | 0.70              |
| <a href="#">18I8</a> |             |      |                    |             |                 | 2.1/1.05       |                |                   |
| <a href="#">13HB</a> | 1           | 0.75 | 1420               |             | 3.0/1.5         | 3.94/1.97      | 82.5           | 0.67              |
| <a href="#">18IC</a> |             |      |                    |             |                 | 3.94/1.97      |                |                   |
| <a href="#">18Q4</a> | 2           | 1.5  | 1428               |             | 5.0/2.5         | 7.0/3.5        | 85.3           | 0.74              |
| <a href="#">18Q5</a> |             |      |                    |             |                 | 7.0/3.5        |                |                   |
| <a href="#">18IY</a> | 3           | 2.2  | 1440               |             | 6.0/3.0         | 9.6/4.8        | 86.7           | 0.76              |
| <a href="#">18J4</a> | 5           | 3.7  | 1448               |             | 10.0/5.0        | 16.2/8.1       | 88.4           | 0.75              |
| With Rigid Base      |             |      |                    |             |                 |                |                |                   |
| <a href="#">18I1</a> | 1/4         | .018 | 1361               | 200/400 VAC | 1.3/0.65        | 1.42/0.71      | 64.7           | 0.55              |
| <a href="#">18I6</a> | 1/2         | 0.37 | 1415               |             | 2.0/1.0         | 2.1/1.05       | 72.7           | 0.70              |
| <a href="#">18IA</a> | 1           | 0.75 | 1420               |             | 3.0/1.5         | 3.94/1.97      | 82.5           | 0.67              |
| <a href="#">18Q3</a> | 2           | 1.5  | 1428               |             | 5.0/2.5         | 7.0/3.5        | 85.3           | 0.74              |
| <a href="#">18Q6</a> | 3           | 2.2  | 1440               | 200/400 VAC | 6.0/3.0         | 9.6/4.8        | 86.7           | 0.76              |
| <a href="#">18Q7</a> |             |      |                    |             |                 | 9.6/4.8        |                |                   |
| <a href="#">18OM</a> | 5           | 3.7  | 1448               | 200/400 VAC | 10.0/5.0        | 16.2/8.1       | 88.4           | 0.75              |
| <a href="#">18ON</a> |             |      |                    |             |                 | 16.2/8.1       |                |                   |



# MGM IEC Motor Accessories

| MGM IEC Motor Accessories            |          |                                                                                                                                      |       |
|--------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------|-------|
| Part Number                          | Price    | Description                                                                                                                          | Image |
| <a href="#"><u>6401000170000</u></a> | \$436.00 | M.G.M. Electric Motors BAX brake, replacement. For use with M.G.M. Electric Motors BAX series IEC 71 frame AC motors with brake.     |       |
| <a href="#"><u>6403000410P00</u></a> | \$475.00 | M.G.M. Electric Motors BAX brake, replacement. For use with M.G.M. Electric Motors BAX series IEC 80 frame AC motors with brake.     |       |
| <a href="#"><u>6405000410P00</u></a> | \$581.00 | M.G.M. Electric Motors BAX brake, replacement. For use with M.G.M. Electric Motors BAX series IEC 90 frame AC motors with brake.     |       |
| <a href="#"><u>6409000410P00</u></a> | \$683.00 | M.G.M. Electric Motors BAX brake, replacement. For use with M.G.M. Electric Motors BAX series IEC 100 frame AC motors with brake.    |       |
| <a href="#"><u>6414000170P00</u></a> | \$812.00 | M.G.M. Electric Motors BAX brake, replacement. For use with M.G.M. Electric Motors BAX series IEC 112 frame AC motors with brake.    |       |
| <a href="#"><u>6460000000000</u></a> | \$304.00 | M.G.M. Electric Motors BMX brake, replacement. For use with M.G.M. Electric Motors BMX series IEC 63 frame AC motors with brake.     |       |
| <a href="#"><u>6201000000000</u></a> | \$40.00  | M.G.M. Electric Motors BAX brake release tool, replacement. For use with all M.G.M. Electric Motors BAX series AC motors with brake. |       |

| IEC Motor Mounting Types      |                                                          |                                                            |  |
|-------------------------------|----------------------------------------------------------|------------------------------------------------------------|--|
| <b>B3</b><br>Foot mounted<br> | <b>B14</b><br>"C" type face at drive end, no feet.<br>   | <b>B5</b><br>"D" type flange at drive end, no feet.<br>    |  |
|                               | <b>B34</b><br>"C" type face at drive end, with feet.<br> | <b>B35</b><br>"D" type flange at drive end, with feet.<br> |  |