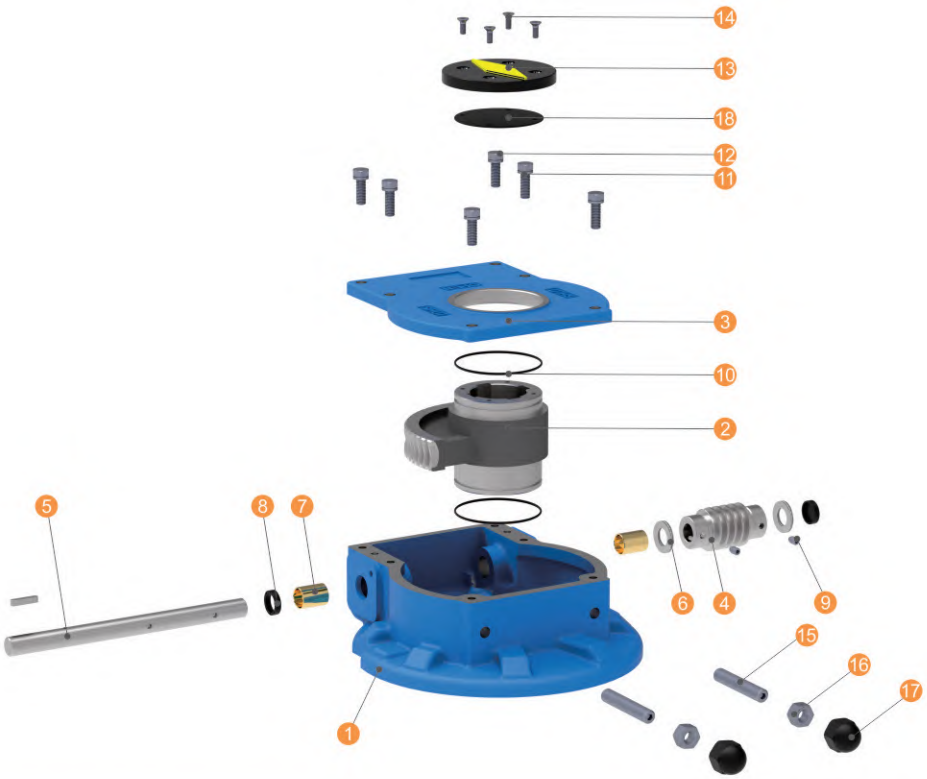
# EM SERIES GEARBOX

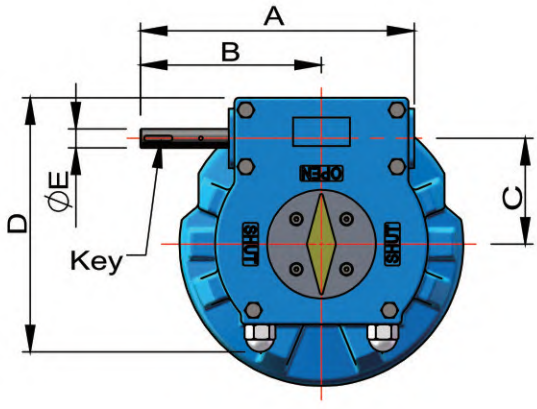
- This series of models, from the EM10-EM100, is a 90° partial-turn manual drive for ball, butterfly, plug valves and other 90° swivel drives.
- The standard material of the box is made of gray cast iron. It can be supplied with ductile iron and stainless steel or carbon steel according to customers' request.
- The flange of the valve is in accordance with the ISO5211 standard, and can also be customized according to the customer's products.
- Can be supplied with ductile iron casting handwheel, stamping handwheel and carbon steel welding handwheel according to customers' request.
- Stroke angle 0-90° (±5° adjustable)
- Temperature range: -20° C -120° C.

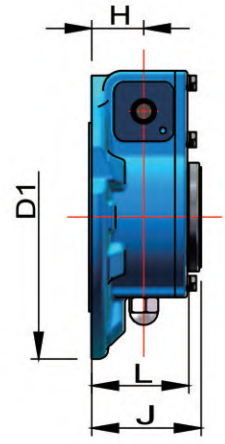
## EM Series Transmission Parts List

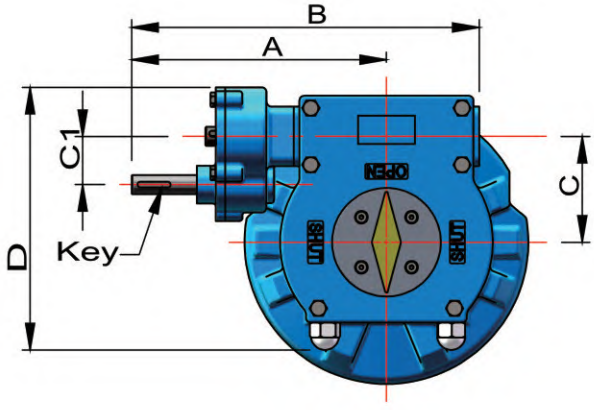


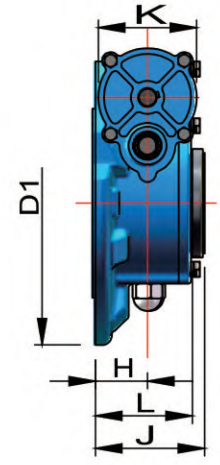

## Parts List and Materials

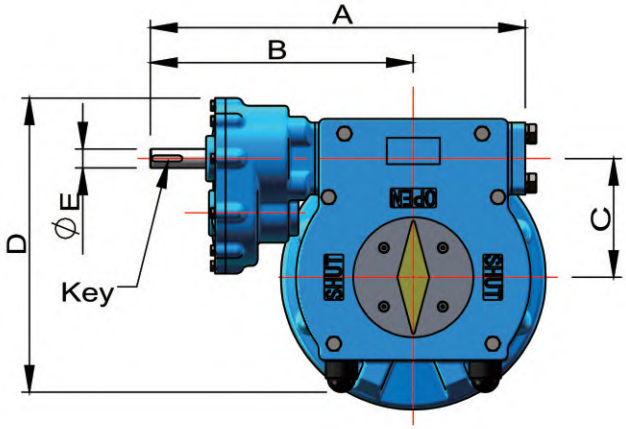
| No. | Part Name | Standard Material | Optional Material |
|---|---|---|---|
| 1 | Gear Housing | Cast Iron(ASTM A48 No.30A ) | Ductile Iron (ASTM A536 65-45-12) |
| 2 | Worm Gear | Ductile Iron(ASTM A536 80-55-06) | - |
| 3 | Cover | Cast Iron(ASTM A48 No.30A ) | Ductile Iron (ASTM A536 65-45-12) |
| 4 | Worm | Cast Iron(ASTM A29 1045) | 42CrMo |
| 5 | Input Shaft | Cast Iron(ASTM A29 1045) | SS304/17-4 |
| 6 | Bearing | Hardened Steel | - |
| 7 | Bushing | SF-1 | SS304/SS316 |
| 8 | Oil Seal | NBR | Fluorine Rubber |
| 9 | Fixing Screws | Carbon Steel | SS304/SS316 |
| 10 | O-ring | NBR | Fluorine Rubber |
| 11 | Spring Washer | Carbon Steel | SS304/SS316 |
| 12 | Bolt | Carbon Steel | SS304/SS316 |
| 13 | Position Indicator | ABS | SS304/SS316/Aluminum |
| 14 | Screw | Carbon Steel | SS304/SS316 |
| 15 | Limit Bolt | Carbon Steel | SS304/SS316 |
| 16 | Limit Nut | NBR | Fluorine Rubber |
| 17 | Nut Seal | Carbon Steel | SS304/SS316 |
| 18 | Worm Wheel Sealing Plate | Carbon Steel | SS304/SS316 |

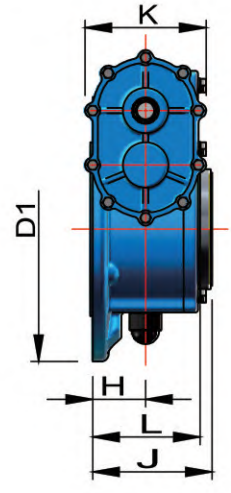

A
B
D
ØE
Key
C
OPEN
SHUT
SHUT
LIMITS


H
D1
L
J


B
A
C1
D
Key
C
OPEN
SHUT
SHUT
LIMITS


K
D1
H
L
J


A
B
D
ØE
Key
C
OPEN
SHUT
SHUT
LIMITS

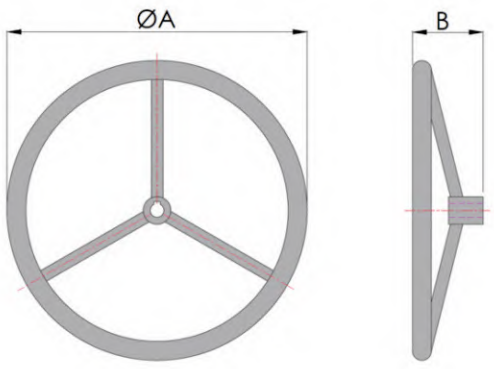

K
D1
H
L
J

## Size Data(inch)

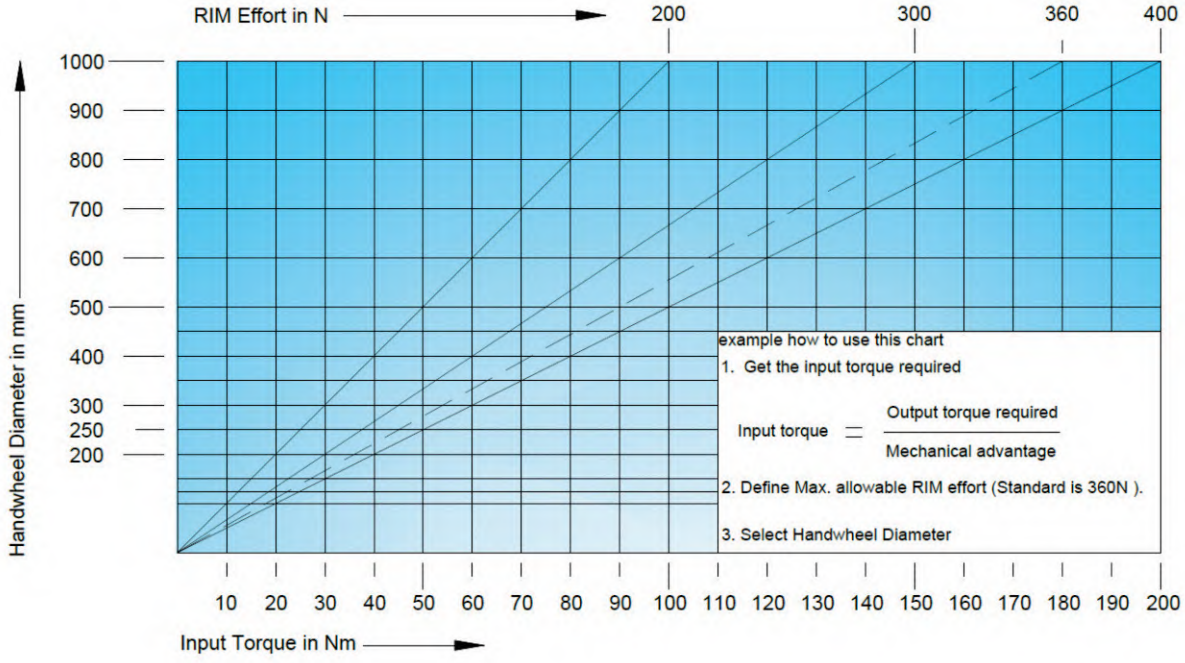
| Types | Mod. | A | B | C | C1 | D | E | H | J | K | Key | Pin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type A | Em10 | 9.02 | 7.01 | 2.09 | -- | 5.75 | 0.63 | 1.14 | 2.28 | -- | 0.24 | 0.24 |
| | EM20 | 12.05 | 10.04 | 2.09 | -- | 6.18 | 0.63 | 1.50 | 2.68 | -- | 0.24 | 0.31 |
| | EM30 | 14.57 | 12.01 | 2.83 | -- | 7.95 | 0.75 | 1.54 | 3.43 | -- | 0.24 | 0.39 |
| | EM40 | 15.67 | 12.09 | 4.06 | -- | 10.83 | 0.75 | 1.77 | 4.02 | -- | 0.24 | 0.47 |
| | EM50 | 15.98 | 12.13 | 5.12 | -- | 12.99 | 0.98 | 2.40 | 5.04 | -- | 0.24 | 0.63 |
| Type B | EM40/BR2.5 | 18.66 | 15.00 | 4.06 | 2.01 | 11.22 | 0.75 | 1.77 | 4.02 | 4.09 | 0.24 | 0.47 |
| | EM50/BR3.2 | 19.09 | 15.04 | 5.12 | 2.01 | 13.39 | 0.98 | 2.40 | 5.04 | 4.09 | 0.24 | 0.63 |
| | EM60/BR5 | 18.43 | 12.60 | 6.18 | 3.54 | 16.22 | 0.98 | 2.76 | 6.02 | 8.35 | 0.31 | 0.63 |
| | EM70/BR6 | 22.01 | 14.92 | 7.17 | 3.54 | 16.69 | 0.98 | 2.80 | 6.14 | 8.35 | 0.31 | 0.63 |
| Type C | EM80/BR8 | 22.83 | 16.14 | 8.27 | -- | 17.87 | 0.98 | 2.76 | 6.14 | 6.30 | 0.31 | 0.79 |
| | EM90/BR9 | 27.36 | 20.00 | 8.66 | -- | 21.85 | 1.38 | 3.74 | 7.48 | 9.21 | 0.31 | 0.94 |
| | EM100/BR16 | 33.62 | 23.62 | 12.01 | -- | 27.56 | 1.38 | 4.13 | 8.66 | 10.63 | 0.31 | 0.94 |

## Technical Data

| Types | Mod. | Ratio | Max. Stem Dia. | Input Torque | Max. Output Torque | M.A ± 10% | Flange No. | L (Max.) | Handle wheel |
|---|---|---|---|---|---|---|---|---|---|
| | | | | in-lbs | in-lbs | | | | |
| Type A | Em10 | 37:1 | 1.10 | 310 | 2921 | 9.4 | F07 | 2.17 | 7.87 |
| | EM20 | 37:1 | 1.10 | 354 | 4425 | 12.5 | F10/F12 | 2.36 | 11.81 |
| | EM30 | 34:1 | 1.77 | 797 | 8850 | 11 | F12/F14 | 2.95 | 15.75 |
| | EM40 | 55:1 | 2.17 | 2036 | 26550 | 13 | F14/F16 | 3.54 | 23.62 |
| | EM50 | 52:1 | 2.56 | 2655 | 35400 | 13.3 | F16/F25 | 4.33 | 31.50 |
| Type B | EM40/BR2.5 | 137:1 | 2.17 | 779 | 26550 | 34 | F14/F16 | 3.54 | 23.62 |
| | EM50/BR3.2 | 166:1 | 2.56 | 1195 | 48675 | 40 | F16/F25 | 4.33 | 23.62 |
| | EM60/BR5 | 290:1 | 3.15 | 841 | 84075 | 63 | F20/F25 | 5.51 | 23.62 |
| | EM70/BR6 | 372:1 | 3.54 | 974 | 110625 | 73 | F25/F30 | 5.91 | 23.62 |
| Type C | EM80/BR8 | 519:1 | 3.94 | 1328 | 177000 | 133 | F30/F35 | 7.09 | 27.56 |
| | EM90/BR9 | 702:1 | 5.51 | 1239 | 265500 | 150 | F35/F40 | 7.48 | 27.56 |
| | EM100/BR16 | 1408:1 | 7.09 | 1593 | 398250 | 274 | F40/F48 | 8.66 | 27.56 |




| Model | ØA mm/Inch | B |
|---|---|---|
| F150 | Ø150(6") | 2.95 |
| F200 | Ø200(8") | 2.95 |
| F300 | Ø300 (12") | 2.63 |
| F400 | Ø400(16") | 2.79 |
| F500 | Ø500(20") | 5.91 |
| F600 | Ø600(24") | 6.38 |
| F700 | Ø700(28") | 9.06 |
| F800 | Ø800(32") | 9.06 |
| F900 | Ø900(36") | 9.06 |
| F1000 | Ø1000(40") | 9.06 |






# EM SERIES GEARBOX