

# Modular “Building Block” Clutches

## GFR..F2F3, GFR..F3F4

### Backstopping Ball Bearing Supported, Ramp & Roller Clutches

GFR..F2F3

GFR..F3F4



Models GFR..F2F3/F3F4 are ramp & roller type clutches, self contained, sealed and bearing supported, using two 160 Series bearings.

They use the GFR base module. Units must be oil lubricated before use if they are shipped disassembled and, in any case, for the F3F4 combination.

These cover combinations are primarily used as backstops.

The F3 cover acts as a torque arm and has an integrated restraining bolt. The restraining bolt should go into a slot in a fixed part of the machine. The restraining bolt must have a radial clearance of 1% of the bolt’s diameter. The torque arm and bearings must not be rigidly mounted.

F2 and F4 covers are used to enclose the unit. They are equipped with 3 screws for oil filling, drain and level.

If using cover type F4, the shaft end plate and its screw must be sealed to avoid oil leakage through the keyway.

Covers are easily removed, allowing for on site selection of rotation direction.

If requested, units can be shipped assembled and lubricated for the F2F3 combination.

#### For Indexing Applications:

Maximum number indexes per minute is 350.

This clutch is designed for oil lubrication. For grease lubrication, reduce the maximum overrunning speed to 50% of listed value.

### Specifications

| Size | Torque Capacity<br>lb.ft.<br>(Nm) | Overrunning Speed      | Shipping Weight<br>lb.<br>(kg) |
|------|-----------------------------------|------------------------|--------------------------------|
|      |                                   | Max. RPM<br>Inner Race |                                |
| 12   | 41<br>(55)                        | 3,100                  | 3.09<br>(1.4)                  |
| 15   | 92<br>(125)                       | 2,800                  | 3.97<br>(1.8)                  |
| 20   | 134<br>(181)                      | 2,400                  | 5.07<br>(2.3)                  |
| 25   | 213<br>(288)                      | 1,600                  | 7.50<br>(3.4)                  |
| 30   | 369<br>(500)                      | 1,300                  | 9.92<br>(4.5)                  |
| 35   | 535<br>(725)                      | 1,200                  | 12.35<br>(5.6)                 |
| 40   | 756<br>(1025)                     | 850                    | 18.74<br>(8.5)                 |
| 45   | 830<br>(1125)                     | 740                    | 19.62<br>(8.9)                 |
| 50   | 1,568<br>(2125)                   | 580                    | 28.22<br>(12.8)                |
| 55   | 1,937<br>(2625)                   | 550                    | 35.72<br>(16.2)                |
| 60   | 2,583<br>(3500)                   | 530                    | 42.56<br>(19.3)                |
| 70   | 4,244<br>(5750)                   | 500                    | 51.82<br>(23.5)                |
| 80   | 6,273<br>(8500)                   | 480                    | 70.56<br>(32)                  |
| 90   | 10,701<br>(14500)                 | 450                    | 104.08<br>(47.2)               |
| 100  | 14,760<br>(20000)                 | 350                    | 167.58<br>(76)                 |
| 130  | 23,063<br>(31250)                 | 250                    | 242.55<br>(110)                |
| 150  | 51,660<br>(70000)                 | 200                    | 471.87<br>(214)                |

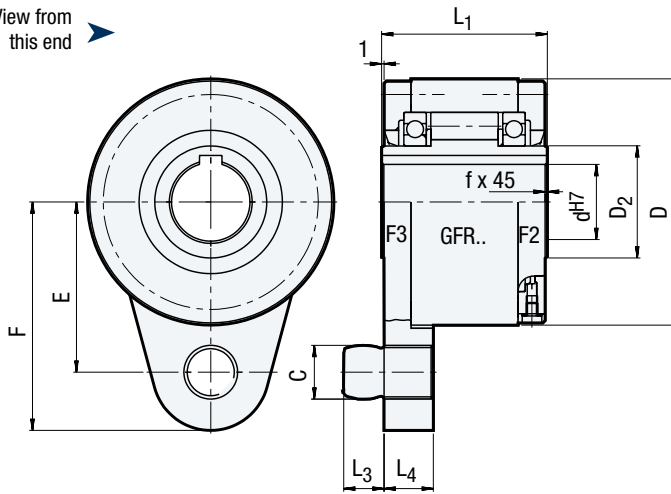
**Note:** When ordering, please specify direction of rotation.

# Modular “Building Block” Clutches

## GFR..F2F3, GFR..F3F4

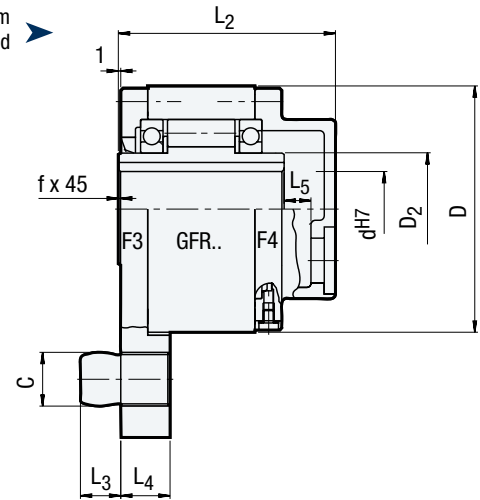
### GFR..F2F3

View from  
this end



### GFR..F3F4

View from  
this end



### Dimensions inches (mm)

| Size | d <sup>H7</sup> | D              | D <sub>2</sub> | C            | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | F              | E              | L <sub>5</sub> | f             |
|------|-----------------|----------------|----------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
| 12   | 0.47<br>(12)    | 2.44<br>(62)   | 0.79<br>(20)   | 0.39<br>(10) | 1.65<br>(42)   | 2.52<br>(64)   | 0.39<br>(10)   | 0.51<br>(13)   | 2.32<br>(59)   | 1.73<br>(44)   | 0.24<br>(6)    | 0.02<br>(0.5) |
| 15   | 0.59<br>(15)    | 2.68<br>(68)   | 0.98<br>(25)   | 0.39<br>(10) | 2.05<br>(52)   | 3.07<br>(78)   | 0.39<br>(10)   | 0.51<br>(13)   | 2.44<br>(62)   | 1.85<br>(47)   | 0.39<br>(10)   | 0.03<br>(0.8) |
| 20   | 0.79<br>(20)    | 2.95<br>(75)   | 1.18<br>(30)   | 0.47<br>(12) | 2.24<br>(57)   | 3.23<br>(82)   | 0.43<br>(11)   | 0.59<br>(15)   | 2.83<br>(72)   | 2.13<br>(54)   | 0.39<br>(10)   | 0.03<br>(0.8) |
| 25   | 0.98<br>(25)    | 3.54<br>(90)   | 1.57<br>(40)   | 0.63<br>(16) | 2.36<br>(60)   | 3.35<br>(85)   | 0.55<br>(14)   | 0.71<br>(18)   | 3.31<br>(84)   | 2.44<br>(62)   | 0.39<br>(10)   | 0.04<br>(1)   |
| 30   | 1.18<br>(30)    | 3.94<br>(100)  | 1.77<br>(45)   | 0.63<br>(16) | 2.68<br>(68)   | 3.74<br>(95)   | 0.55<br>(14)   | 0.71<br>(18)   | 3.62<br>(92)   | 2.68<br>(68)   | 0.39<br>(10)   | 0.04<br>(1)   |
| 35   | 1.38<br>(35)    | 4.33<br>(110)  | 1.97<br>(50)   | 0.79<br>(20) | 2.91<br>(74)   | 4.02<br>(102)  | 0.71<br>(18)   | 0.98<br>(25)   | 4.02<br>(102)  | 2.99<br>(76)   | 0.47<br>(12)   | 0.04<br>(1)   |
| 40   | 1.57<br>(40)    | 4.92<br>(125)  | 2.17<br>(55)   | 0.79<br>(20) | 3.39<br>(86)   | 4.53<br>(115)  | 0.71<br>(18)   | 0.98<br>(25)   | 4.41<br>(112)  | 3.35<br>(85)   | 0.47<br>(12)   | 0.06<br>(1.5) |
| 45   | 1.77<br>(45)    | 5.12<br>(130)  | 2.36<br>(60)   | 0.98<br>(25) | 3.39<br>(86)   | 4.53<br>(115)  | 0.87<br>(22)   | 0.98<br>(25)   | 4.72<br>(120)  | 3.54<br>(90)   | 0.47<br>(12)   | 0.06<br>(1.5) |
| 50   | 1.97<br>(50)    | 5.91<br>(150)  | 2.76<br>(70)   | 0.98<br>(25) | 3.70<br>(94)   | 4.84<br>(123)  | 0.87<br>(22)   | 0.98<br>(25)   | 5.31<br>(135)  | 4.02<br>(102)  | 0.47<br>(12)   | 0.06<br>(1.5) |
| 55   | 2.17<br>(55)    | 6.30<br>(160)  | 2.95<br>(75)   | 1.26<br>(32) | 4.09<br>(104)  | 5.43<br>(138)  | 0.98<br>(25)   | 1.18<br>(30)   | 5.59<br>(142)  | 4.25<br>(108)  | 0.59<br>(15)   | 0.08<br>(2)   |
| 60   | 2.36<br>(60)    | 6.69<br>(170)  | 3.15<br>(80)   | 1.26<br>(32) | 4.49<br>(114)  | 5.79<br>(147)  | 0.98<br>(25)   | 1.18<br>(30)   | 5.71<br>(145)  | 4.41<br>(112)  | 0.59<br>(15)   | 0.08<br>(2)   |
| 70   | 2.76<br>(70)    | 7.48<br>(190)  | 3.54<br>(90)   | 1.50<br>(38) | 5.28<br>(134)  | 6.61<br>(168)  | 1.18<br>(30)   | 1.38<br>(35)   | 6.89<br>(175)  | 5.31<br>(135)  | 0.63<br>(16)   | 0.10<br>(2.5) |
| 80   | 3.15<br>(80)    | 8.27<br>(210)  | 4.13<br>(105)  | 1.50<br>(38) | 5.67<br>(144)  | 7.01<br>(178)  | 1.18<br>(30)   | 1.38<br>(35)   | 7.28<br>(185)  | 5.71<br>(145)  | 0.63<br>(16)   | 0.10<br>(2.5) |
| 90   | 3.54<br>(90)    | 9.06<br>(230)  | 4.72<br>(120)  | 1.97<br>(50) | 6.22<br>(158)  | 7.56<br>(192)  | 1.57<br>(40)   | 1.77<br>(45)   | 8.07<br>(205)  | 6.10<br>(155)  | 0.63<br>(16)   | 0.12<br>(3)   |
| 100  | 3.94<br>(100)   | 10.63<br>(270) | 5.51<br>(140)  | 1.97<br>(50) | 7.17<br>(182)  | 8.54<br>(217)  | 1.57<br>(40)   | 1.77<br>(45)   | 9.06<br>(230)  | 7.09<br>(180)  | 0.63<br>(16)   | 0.12<br>(3)   |
| 130  | 5.12<br>(130)   | 12.20<br>(310) | 6.30<br>(160)  | 2.68<br>(68) | 8.35<br>(212)  | 9.84<br>(250)  | 2.17<br>(55)   | 2.36<br>(60)   | 10.55<br>(268) | 8.07<br>(205)  | 0.71<br>(18)   | 0.12<br>(3)   |
| 150  | 5.91<br>(150)   | 15.75<br>(400) | 7.87<br>(200)  | 2.68<br>(68) | 9.69<br>(246)  | 11.26<br>(286) | 2.17<br>(55)   | 2.36<br>(60)   | 12.80<br>(325) | 10.04<br>(255) | 0.79<br>(20)   | 0.16<br>(4)   |

**Note:** For bore and keyseat information see page 99.