

HEPCO- ASK

BALL BUSHING UNITS



HEPCO-ASK

BALL BUSHING UNITS

Hepco has distributed ASK's linear motion products exclusively for over 20 years. The current range continues ASK's tradition of offering designers and engineers the highest quality linear bearings - standard linear ball bushings are complemented by

a wide variety of flanged units and housings for ease of installation. The combination of the best application advice from Hepco's Technical Sales Team and the wide ASK range means Customer requirements are met exactly.

BALL BUSHINGS

A quality range of precision bearings with plastic retainers. A very competitively priced product with no sacrifice to quality. Also includes a range of 'long series' ball bushings with extra rigidity.



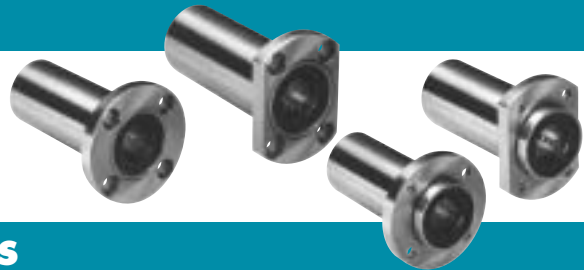
NF SERIES

A compact ball bushing with integral outer case and flange. This product with its machined datum face offers the designer a unique compact and very simple solution for mounting a datum platform perpendicular to the direction of travel.



NF LONG SERIES

A very versatile range of products. Two flange profiles and two methods of location. In addition the longer bearing length gives much greater rigidity and load capacity.



LCF-B FLANGED HOUSINGS

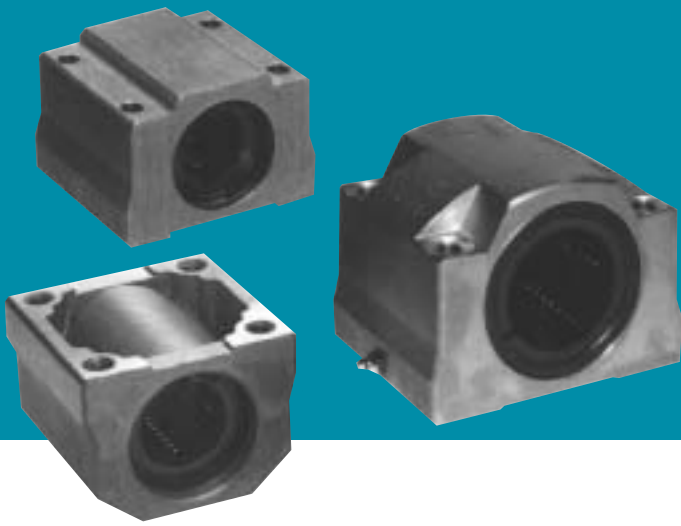
For more arduous applications than the NF long type product the use of the LCF flanged housing is recommended. With a longer distance between the two separate internal ball bushings this product offers even greater rigidity and load carrying capacity. Location on both sides of a spigot flange are offered, as is the capability to connect to a central lubrication system.



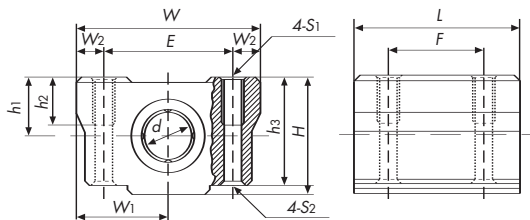
LC HOUSINGS

For applications where the datum face is required to be mounted in the same plane as the direction of travel the LC housing offers the designer a very effective 'off the shelf' solution. The simple 'four' fixing hole arrangement with machined datum faces also offers the ability of fixation from either side.

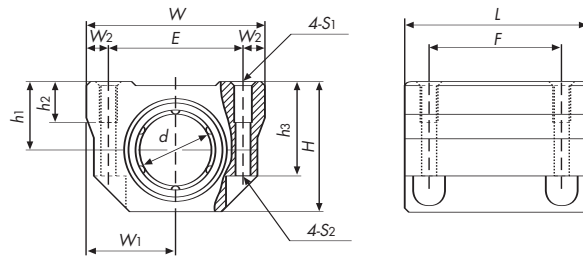




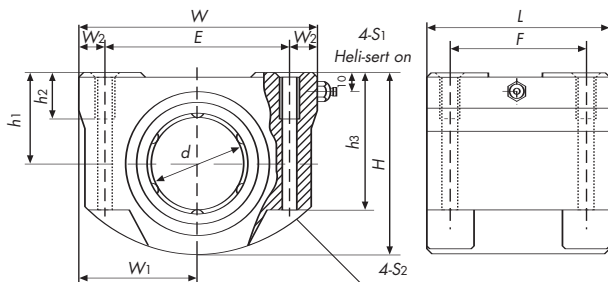
- Lightweight aluminium housing
- 4 fixing holes allow simple mounting to plate
- Can be fixed from either side



LC-8VUU-12VUU



LC-12VUU-30VUU



LC-40VUU Note: Grease nipple attached (A-PT 1/8)

| Reference Number | Main Dimensions | | | | | | | | | | | | Weight (kg) | Basic Load Capacity | | |
|------------------|-----------------|----------------------|-----|--------|----------------------|----------------|----------------|----------------|----|----|----|----------------|-------------|---------------------|---------|---------|
| | d | h ₁ ±0.02 | W | E ±0.1 | W ₁ ±0.02 | W ₂ | h ₂ | h ₃ | H | L | F | S ₁ | | S ₂ | C (kgf) | C (kgf) |
| LC-8VUU | 8 | 11 | 34 | 24 | 17 | 5 | 8 | 20 | 22 | 30 | 18 | M4 | 3.4 | 0.040 | 27 | 23 |
| LC-10VUU | 10 | 13 | 40 | 28 | 20 | 6 | 12 | 23.5 | 26 | 36 | 21 | M5 | 4.3 | 0.069 | 38 | 43 |
| LC-12VUU | 12 | 15 | 43 | 30.5 | 21.5 | 6.25 | 10 | 21 | 29 | 39 | 26 | M5 | 4.3 | 0.10 | 42 | 44 |
| LC-16VUU | 16 | 19 | 50 | 36 | 25 | 7 | 12 | 28 | 37 | 49 | 34 | M5 | 4.3 | 0.18 | 79 | 72 |
| LC-20VUU | 20 | 21 | 54 | 40 | 27 | 7 | 12 | 32 | 41 | 55 | 40 | M6 | 5.1 | 0.23 | 88 | 103 |
| LC-25VUU | 25 | 26 | 76 | 54 | 38 | 11 | 18 | 37 | 51 | 73 | 50 | M8 | 6.9 | 0.53 | 104 | 200 |
| LC-30VUU | 30 | 30 | 78 | 58 | 39 | 10 | 18 | 43 | 57 | 80 | 58 | M8 | 6.9 | 0.63 | 148 | 255 |
| LC-40VUU | 40 | 40 | 110 | 80 | 55 | 15 | 20 | 60 | 78 | 80 | 60 | M10 | 9 | 1.54 | 280 | 443 |

Note: All LC Series units are supplied with seals both ends.

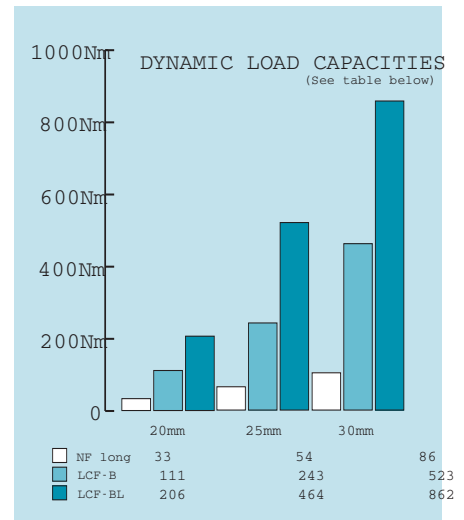
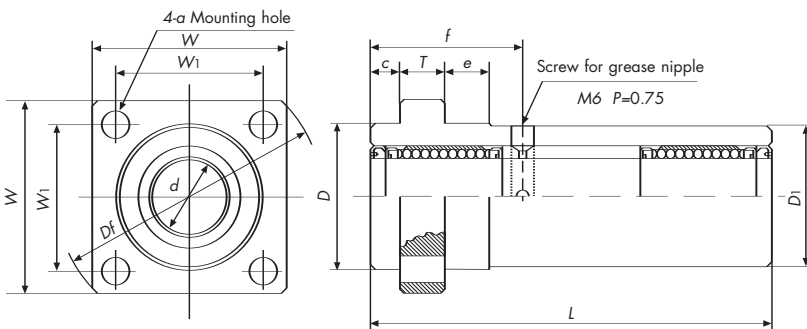
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BALL BUSHING UNITS WITH FLANGE

LCF-B-BL SERIES



- Ideal for arduous applications
- Connections for (manual or automatic) lubrication
- Greater rigidity
- High load / moment load capacity
- Location diameter on both sides of spigot



| Reference Number | Main Dimensions | | | | | | | | | | | | Number of Ball Circuits | Weight (kg) | Basic Load Capacity | | Moment Load Capacity | |
|------------------|-----------------|---------|----------------|-----|----|----|----|---|----------------|----|----|----|-------------------------|-------------|---------------------|----------|----------------------|---------|
| | d | D h7 | L 0 -0.3 | Df | W | T | W1 | a | c 0 -0.3 | e | f | D1 | | | C (kgf) | Co (kgf) | Dyn Nm | Stat Nm |
| LCF-12BUU | 12 | 26 | 72 | 48 | 36 | 8 | 26 | 6 | 8 | 8 | 36 | 25 | 5 | 0.25 | 123 | 90 | 46 | 34 |
| LCF-16BUU | 16 | 32 | 76 | 58 | 45 | 10 | 32 | 7 | 8 | 10 | 38 | 31 | 5 | 0.38 | 166 | 130 | 65 | 51 |
| LCF-20BUU | 20 | 40 | 82 | 73 | 53 | 12 | 40 | 7 | 8 | 12 | 41 | 39 | 6 | 0.65 | 257 | 158 | 111 | 68 |
| LCF-25BUU | 25 | 45 | 102 | 83 | 62 | 12 | 45 | 9 | 12 | 12 | 51 | 44 | 6 | 0.88 | 459 | 278 | 243 | 147 |
| LCF-30BUU | 30 | 52 | 122 | 94 | 69 | 15 | 52 | 9 | 12 | 15 | 61 | 51 | 6 | 1.36 | 721 | 394 | 523 | 286 |
| LCF-40BUU | 40 | 65 | 144 | 112 | 82 | 15 | 65 | 9 | 12 | 15 | 72 | 64 | 6 | 2.12 | 1131 | 652 | 820 | 473 |
| LCF-16BLUU | 16 | 32 | 100 | 58 | 45 | 10 | 32 | 7 | 8 | 10 | 38 | 31 | 5 | 0.45 | 166 | 130 | 104 | 82 |
| LCF-20BLUU | 20 | 40 | 120 | 73 | 53 | 12 | 40 | 7 | 8 | 12 | 41 | 39 | 6 | 0.85 | 257 | 158 | 206 | 126 |
| LCF-25BLUU | 25 | 45 | 150 | 83 | 62 | 12 | 45 | 9 | 12 | 12 | 51 | 44 | 6 | 1.15 | 464 | 278 | 464 | 278 |
| LCF-30BLUU | 30 | 52 | 180 | 94 | 69 | 15 | 52 | 9 | 12 | 15 | 61 | 51 | 6 | 1.77 | 721 | 394 | 862 | 471 |
| LCF-40BLUU | 40 | 65 | 240 | 112 | 82 | 15 | 65 | 9 | 12 | 15 | 72 | 64 | 6 | 3.15 | 1131 | 652 | 1973 | 1137 |

- Note: 1 To the axis, the concentricity of outer surface of the case and squareness of mounting face of the flange are below 0.025 respectively.
 2 The shaft tolerance of h7 for normal clearance and h6, h5 for tight clearance are advisable.
 3 All mounted with specific seals at two ends.

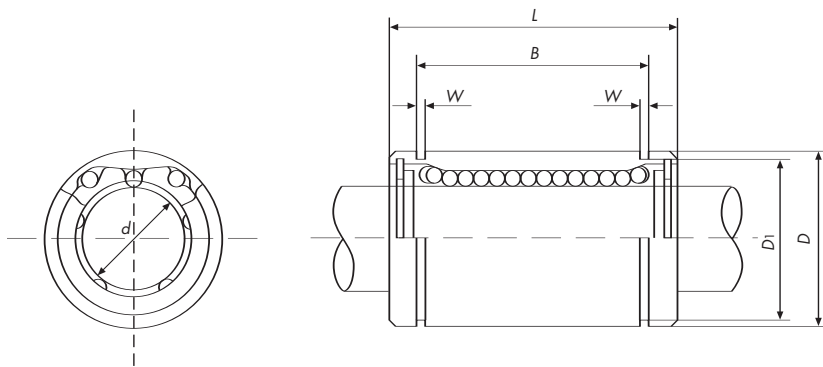
BALL BUSHINGS

L SERIES

NL SERIES



- Plastic retainers for quiet operation
- Metric dimensions for European market
- NL long series for greater rigidity



L SERIES

| Reference Number | | Inside Diameter | | Outside Diameter | | Length | | Setting Groove | | Number of Ball Circuits | Weight (kg) | Basic Load Capacity | | | |
|------------------|----------------|-----------------|------------------|------------------|-------------|--------|-----------|----------------|-----------|-------------------------|-------------|---------------------|----------------|---------|----------|
| | With two seals | d | Tolerance | D | Tolerance | L | Tolerance | B | Tolerance | | | W | D ₁ | C (kgf) | Co (kgf) |
| L-6V | L-6VUU | 6 | +0.008 0 | 12 | 0 -0.008 | 19 | 0 -0.2 | 13.5 | 0 -0.2 | 1.15 | 11.5 | 4 | 0.007 | 21 | 13 |
| L-8V | L-8VUU | 8 | | 16 | | 25 | | 16.5 | | 1.15 | 15.2 | 4 | 0.014 | 27 | 23 |
| L-10V | L-10VUU | 10 | | 19 | | 29 | | 21.9 | | 1.35 | 18.0 | 4 | 0.030 | 38 | 43 |
| L-12V | L-12VUU | 12 | +0.009 -0.001 | 22 | 0 -0.009 | 32 | 0 -0.2 | 22.9 | 0 -0.2 | 1.35 | 21.0 | 4 | 0.032 | 42 | 44 |
| L-16V | L-16VUU | 16 | | 26 | | 36 | | 25 | | 1.35 | 24.9 | 5 | 0.054 | 60 | 66 |
| L-20V | L-20VUU | 20 | | 32 | | 45 | | 31.5 | | 1.65 | 30.3 | 5 | 0.090 | 88 | 103 |
| L-25V | L-25VUU | 25 | +0.011 -0.001 | 40 | 0 -0.011 | 58 | 0 -0.3 | 44.1 | 0 -0.3 | 1.90 | 38.0 | 6 | 0.212 | 104 | 200 |
| L-30V | L-30VUU | 30 | | 47 | | 68 | | 52.1 | | 1.90 | 45.5 | 6 | 0.330 | 148 | 255 |
| L-40V | L-40VUU | 40 | | 62 | | 80 | | 60.7 | | 2.20 | 59.0 | 6 | 0.780 | 280 | 443 |

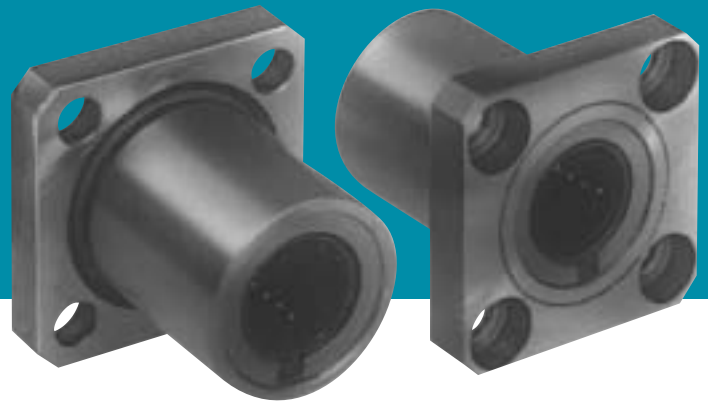
NL SERIES

| Reference Number | | Inside Diameter | | Outside Diameter | | Length | | Setting Groove | | Number of Ball Circuits | Weight Capacity (kg) | Basic Load | | | |
|------------------|----------------|-----------------|-------------|------------------|-------------|--------|-----------|----------------|-----------|-------------------------|----------------------|------------|----------------|---------|----------|
| | With two seals | d | Tolerance | D | Tolerance | L | Tolerance | B | Tolerance | | | W | D ₁ | C (kgf) | Co (kgf) |
| NL-8V | NL-8VUU | 8 | 0 -0.010 | 15 | 0 -0.016 | 45 | 0 -0.3 | 35 | 0 -0.3 | 1.10 | 14.3 | 4 | 0.028 | 45 | 64 |
| NL-10V | NL-10VUU | 10 | | 19 | | 55 | | 44 | | 1.35 | 18 | 4 | 0.060 | 63 | 86 |
| NL-12V | NL-12VUU | 12 | | 21 | | 57 | | 46 | | | 1.65 | 20 | 4 | 0.064 | 70 |
| NL-16V | NL-16VUU | 16 | 0 -0.012 | 28 | 0 -0.019 | 70 | 0 -0.4 | 53 | 0 -0.4 | 1.90 | | 27 | 4 | 0.140 | 125 |
| NL-20V | NL-20VUU | 20 | | 32 | | 80 | | 61 | | | 30.5 | 5 | 0.180 | 148 | 206 |
| NL-25V | NL-25VUU | 25 | | 40 | | 112 | | 82 | | | 38 | 6 | 0.424 | 174 | 400 |
| NL-30V | NL-30VUU | 30 | 45 | 123 | 89 | 43 | 6 | 0.480 | 247 | 510 | | | | | |

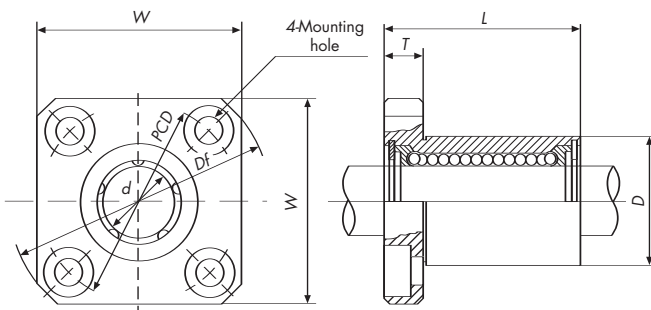
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BALL BUSHING UNITS WITH FLANGE

NF SERIES



- Compact bushing with integral outer case
- Machined datum for end face mounting
- Outer location diameter



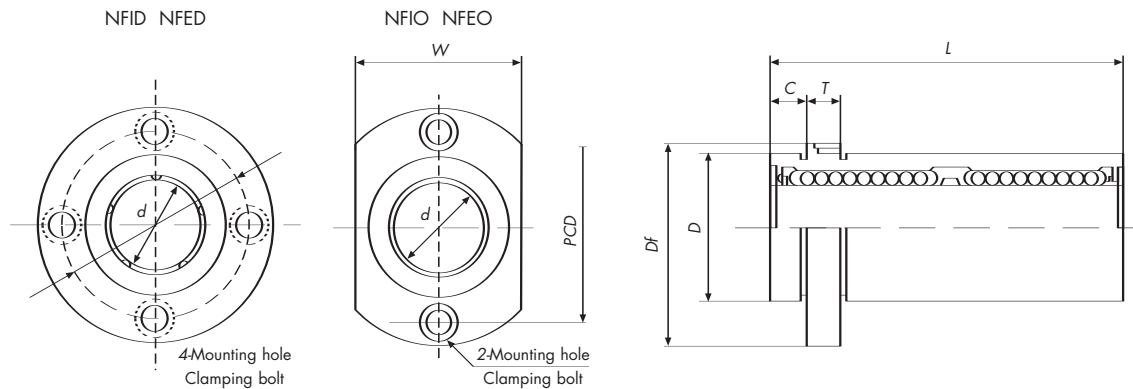
| Reference Number | Main Dimensions | | | | | | | | | | Number of Ball Circuits | Weight (kg) | Basic Load Capacity | |
|------------------|-----------------|-------------|-------------|-----|-----------|------|-----|-----|-------|---------------|-------------------------|-------------|---------------------|----------------|
| | d | Tolerance | D $h1$ | L | Tolerance | Df | W | T | PCD | Clamping Bolt | | | C (kgf) | C_0 (kgf) |
| NF-8VUU | 8 | 0 -0.009 | 16 | 24 | 0 -0.2 | 32 | 25 | 5 | 24 | M3 | 4 | 0.04 | 27 | 23 |
| NF-10VUU | 10 | | 19 | 29 | | 39 | 30 | 6 | 29 | M4 | 4 | 0.06 | 38 | 43 |
| NF-12VUU | 12 | | 22 | 30 | | 42 | 32 | 6 | 32 | M4 | 4 | 0.08 | 42 | 44 |
| NF-16VUU | 16 | | 26 | 36 | | 46 | 35 | 6 | 36 | M4 | 5 | 0.10 | 60 | 66 |
| NF-20VUU | 20 | 0 -0.010 | 32 | 42 | 0 -0.3 | 54 | 42 | 8 | 43 | M5 | 5 | 0.18 | 88 | 103 |
| NF-25VUU | 25 | | 40 | 58 | | 62 | 50 | 8 | 51 | M5 | 6 | 0.30 | 102 | 200 |
| NF-30VUU | 30 | 47 | 64 | 76 | 60 | 10 | 62 | M6 | 6 | 0.55 | 148 | 255 | | |
| NF-35VUU | 35 | 0 | 52 | 70 | 82 | 64 | 10 | 67 | M6 | 6 | 0.59 | 167 | 314 | |
| NF-40VUU | 40 | -0.012 | 60 | 80 | 96 | 75 | 13 | 78 | M8 | 6 | 1.21 | 280 | 443 | |

Note: The squareness of datum face of the flange to axis: below 0.012 for $\varnothing 8 \sim \varnothing 16$.
below 0.015 for $\varnothing 20 \sim \varnothing 30$ below 0.020 for $\varnothing 35 \sim \varnothing 40$.

BALL BUSHING UNITS WITH FLANGE NF LONG SERIES



- Longer series than NF type
- Spigot type for end location and mounting
- Oval flange where space is a premium
- Long series for greater rigidity



SPIGOT TYPE

| Reference Number | Main Dimensions | | | | | | | | | | | | Weight (kg) | Basic Load Capacity | | Moment Load Capacity | | |
|------------------|-----------------|-------------|-----|-------------|-----|-----------|-----------|-----|-----|-----|-----|---------------|-------------|---------------------|-------------|----------------------|---------|-----|
| | d | Tolerance | D | Tolerance | L | Tolerance | D_f | T | C | W | PCD | Clamping Bolt | | C (kgf) | C_o (kgf) | Dyn Nm | Stat Nm | |
| NFID-8VLUU | 8 | 0 -0.010 | 15 | 0 -0.013 | 45 | 0 -0.3 | 32 | 5 | 5 | N/A | 24 | M3 | 0.048 | 45 | 32 | 6 | 4 | |
| NFIO-8VLUU | | | | | | | | | | 21 | | | 0.042 | | | | | |
| NFID-10VLUU | 10 | | 19 | 0 -0.016 | 55 | | 40 | 6 | 6 | N/A | 29 | M4 | 0.088 | 63 | 60 | 10 | 9 | |
| NFIO-10VLUU | | | | | | | | | | 25 | | | 0.078 | | | | | |
| NFID-12VLUU | 12 | | 21 | 0 -0.016 | 57 | | 42 | 6 | 6 | N/A | 32 | M4 | 0.093 | 70 | 86 | 11 | 12 | |
| NFIO-12VLUU | | | | | | | | | | 27 | | | 0.083 | | | | | |
| NFID-16VLUU | 16 | | 28 | 0 -0.019 | 70 | | 48 | 6 | 6 | N/A | 38 | M4 | 0.170 | 125 | 152 | 26 | 31 | |
| NFID-20VLUU | 20 | | | | | | | | | 32 | | | 0 -0.013 | | | | | 80 |
| NFID-25VLUU | 25 | | 40 | 0 -0.019 | 112 | | 0 -0.4 | 62 | 8 | 8 | N/A | 51 | M5 | 0.502 | 174 | 386 | 54 | 120 |
| NFID-30VLUU | 30 | | | | | | | | | | 45 | | | 0 -0.010 | | | | |

END FLANGE TYPE

| Reference Number | Main Dimensions | | | | | | | | | | | | Weight (kg) | Basic Load Capacity | | Moment Load Capacity | | |
|------------------|-----------------|-------------|-----|-------------|-----|-----------|-----------|-----|-----|-----|-----|---------------|-------------|---------------------|-------------|----------------------|---------|-----|
| | d | Tolerance | D | Tolerance | L | Tolerance | D_f | T | C | W | PCD | Clamping Bolt | | C (kgf) | C_o (kgf) | Dyn Nm | Stat Nm | |
| NFED-8VLUU | 8 | 0 -0.010 | 15 | 0 -0.013 | 45 | 0 -0.3 | 32 | 5 | 0 | N/A | 24 | M3 | 0.048 | 45 | 32 | 6 | 4 | |
| NFEO-8VLUU | | | | | | | | | | 21 | | | 0.042 | | | | | |
| NFED-10VLUU | 10 | | 19 | 0 -0.016 | 55 | | 40 | 6 | 0 | N/A | 29 | M4 | 0.088 | 63 | 60 | 10 | 9 | |
| NFEO-10VLUU | | | | | | | | | | 25 | | | 0.078 | | | | | |
| NFED-12VLUU | 12 | | 21 | 0 -0.016 | 57 | | 42 | 6 | 0 | N/A | 32 | M4 | 0.093 | 70 | 86 | 11 | 12 | |
| NFEO-12VLUU | | | | | | | | | | 27 | | | 0.083 | | | | | |
| NFED-16VLUU | 16 | | 28 | 0 -0.019 | 70 | | 48 | 6 | 0 | N/A | 38 | M4 | 0.170 | 125 | 152 | 26 | 31 | |
| NFED-20VLUU | 20 | | | | | | | | | 32 | | | 0 -0.013 | | | | | 80 |
| NFED-25VLUU | 25 | | 40 | 0 -0.019 | 112 | | 0 -0.4 | 62 | 8 | 0 | N/A | 51 | M5 | 0.502 | 174 | 386 | 54 | 120 |
| NFED-30VLUU | 30 | | | | | | | | | | 45 | | | 0 -0.010 | | | | |

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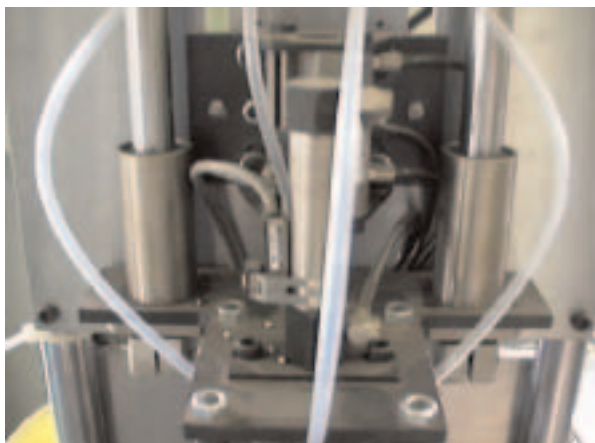
APPLICATION EXAMPLES



NF LONG (SPIGOT FLANGE)



LC ALUMINIUM HOUSING



NF LONG (END FLANGE)



LCB-B TYPE

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