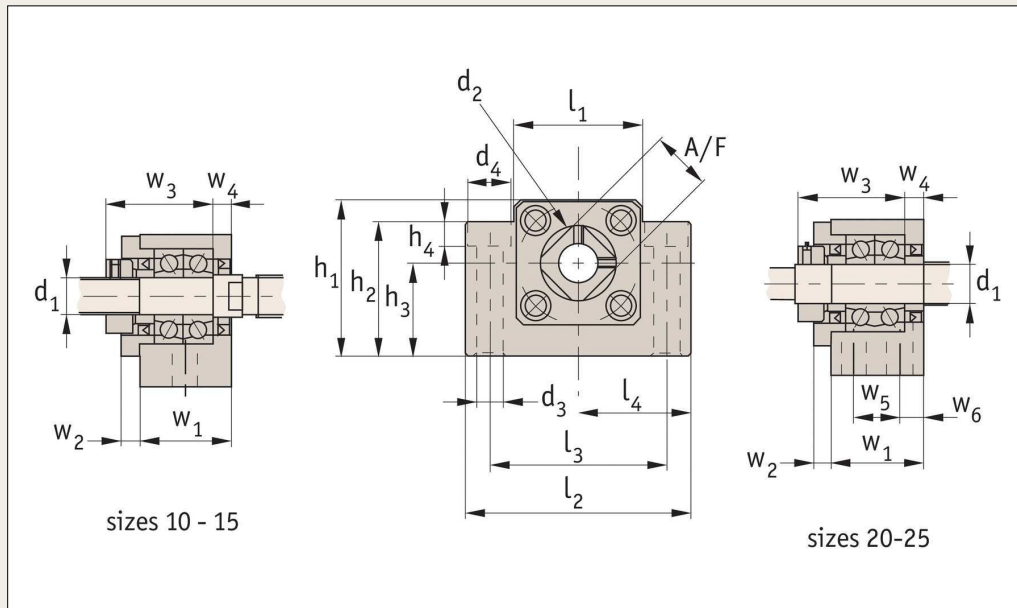


Fixed Rectangular Support Units (AK)

for ball & lead screws

Bearing Supports



L1388

Material

Steel with black oxide finish.
Bearings, sealed and lubricated for life.

Technical notes

Standard units are suitable for ball screws and lead screws to C5/C7 accuracy grade.

The bearings are not preloaded and have a maximum axial clearance of 18 μ .

For dimensions to machine the ends of the screws see technical pages.

Tips

Electroless nickel plated versions of these bearing mounts are available for clean room and other applications. **For lead screw sizes up to 80 and ball screw sizes up to 63 see part no. L1392.**

| Order No. | For lead screw o.d \emptyset <> | For ball screw o.d \emptyset <> | d ₁ | l ₁ | h ₁ | l ₂ | l ₃ | l ₄ $\pm 0,02$ | w ₁ | w ₂ | w ₃ | w ₄ |
|-------------------|--------------------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|------------------------------|----------------|----------------|----------------|----------------|
| L1388.AK10 | 14 - 16 | 12 | 10 | 36 | 43 | 70 | 52 | 35,0 | 24 | 6 | 29,5 | 6 |
| L1388.AK12 | 18 - 20 | 14 - 16 | 12 | 36 | 43 | 70 | 52 | 35,0 | 24 | 6 | 29,5 | 6 |
| L1388.AK15 | 22 - 24 | 20 | 15 | 41 | 49 | 80 | 60 | 40,0 | 25 | 6 | 36,0 | 5 |
| L1388.AK20 | 26 - 32 | 25 - 28 | 20 | 56 | 58 | 95 | 75 | 47,5 | 42 | 10 | 50,0 | 10 |
| L1388.AK25 | 36 | 32 - 36 | 25 | 66 | 68 | 105 | 85 | 52,5 | 48 | 12 | 56,0 | 14 |

| Order No. | h ₂ | h ₃ $\pm 0,02$ | h ₄ | d ₂ | d ₃ | d ₄ | A/F | w ₅ | w ₆ | Max axial load Kgf |
|-------------------|----------------|------------------------------|----------------|----------------|----------------|----------------|-----|----------------|----------------|-----------------------|
| L1388.AK10 | 35 | 25 | 11 | M3 | 9 | 14,0 | 16 | - | - | 195 |
| L1388.AK12 | 35 | 25 | 11 | M4 | 9 | 14,0 | 19 | - | - | 217 |
| L1388.AK15 | 40 | 30 | 15 | M4 | 11 | 17,0 | 22 | - | - | 240 |
| L1388.AK20 | 45 | 30 | 15 | M4 | 11 | 17,0 | 30 | 22 | 10 | 587 |
| L1388.AK25 | 25 | 35 | 8 | M5 | 11 | 7,8 | 35 | 30 | 9 | 709 |

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Notes

When inserting the screw shaft to the support unit, take care not to let the oil seal lip turn upward.

When securing the set piece with a hexagonal socket head set screw, apply an adhesive to the hexagonal socket head set screw before tightening it in order to prevent the screw from loosening. If planning to use the product in a harsh environment, it is also necessary to take measures to prevent other components/parts from loosening. Contact our Technical Department for details.

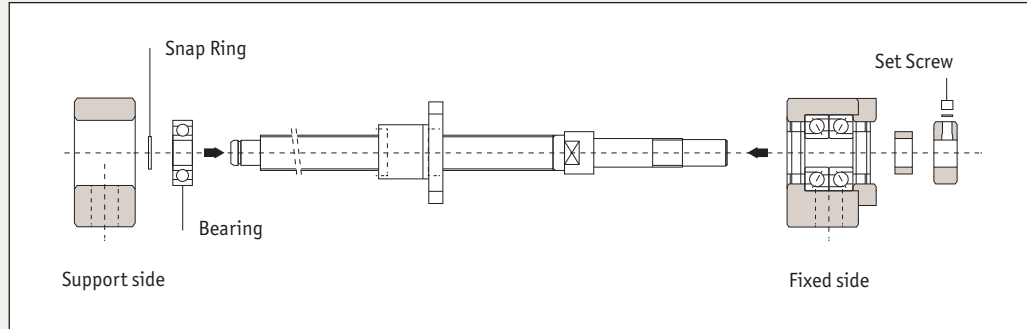
Notes

If using the fixed side support unit as the reference point, secure a clearance between the ball screw nut and the table or inside the bracket when making adjustment.

If using the table as a reference point, make the adjustment either by using the shim (for a square type support unit), or securing the clearance between the outer surface of the nut and the inner surface of the mounting section (for a round type support unit).

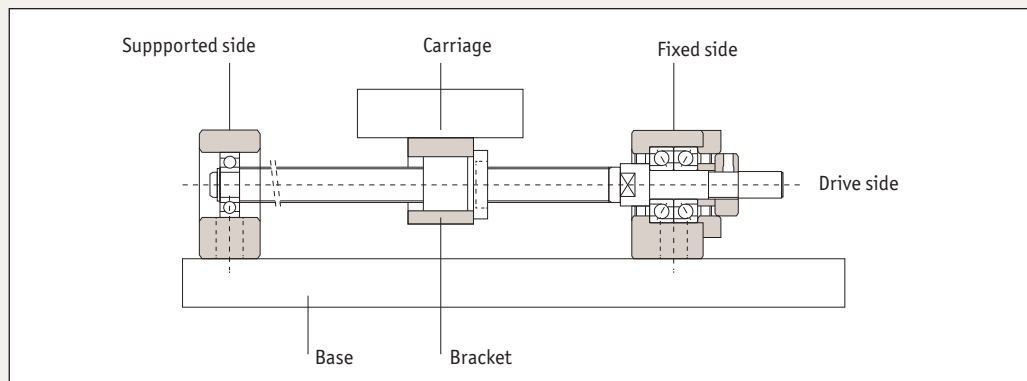
Installing the support unit

1. Install the fixed side support unit to the screw shaft.
2. After inserting the fixed side support unit, secure the lock nut using the fastening set piece and the hexagonal socket head set screws.
3. Attach the support side bearing to the screw shaft and secure the bearing using the snap ring, and then install the assembly to the housing on the supported side.



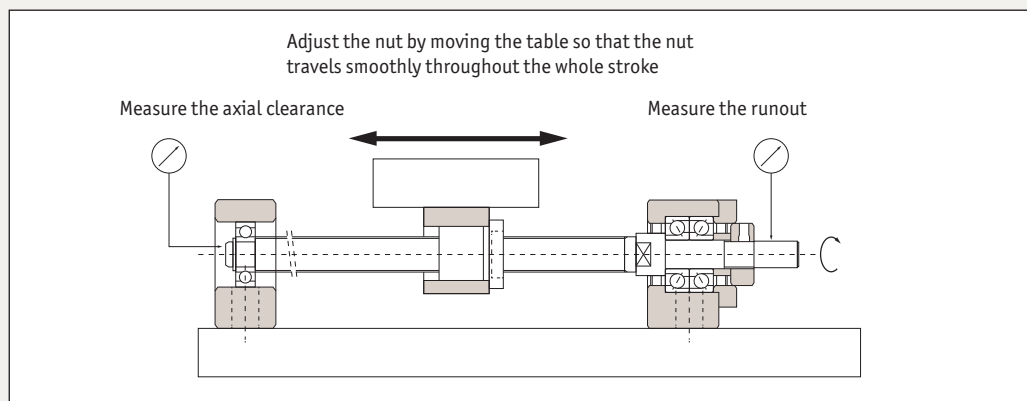
Installation onto the table and the base

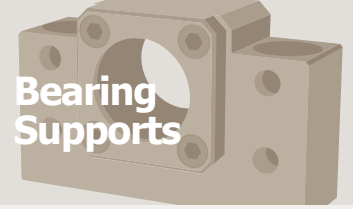
1. If using a bracket when mounting the ball screw nut to the carriage, insert the nut into the bracket and temporarily fasten it.
2. Temporarily fasten the fixed side support unit to the base. In doing so, press the table toward the fixed side support unit to align the axial centre, and adjust the carriage so that it can travel freely.
3. Press the carriage toward the fixed side support unit to align the axial centre. Make the adjustment by reciprocating the table several times so that the nut travels slowly over the whole stroke, and temporarily secure the support unit to the base.



Checking the accuracy and fully fastening the support unit

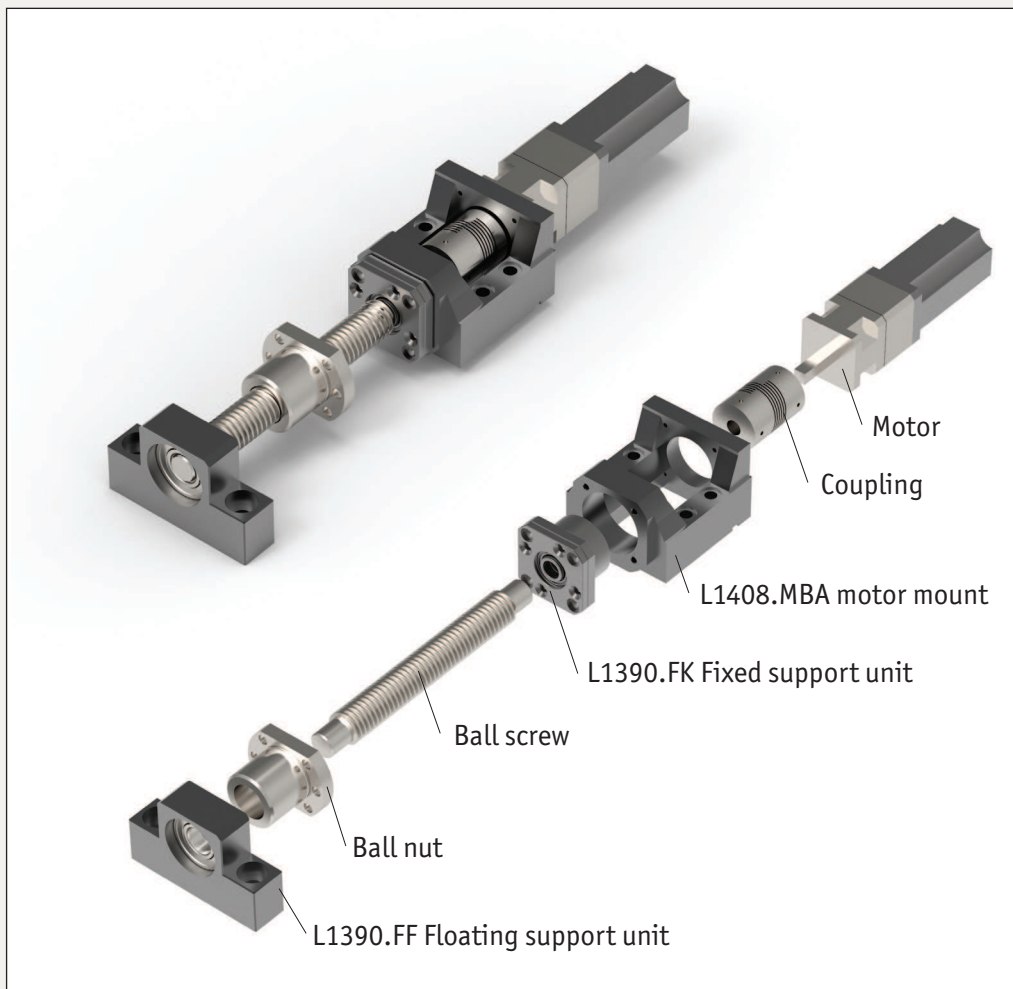
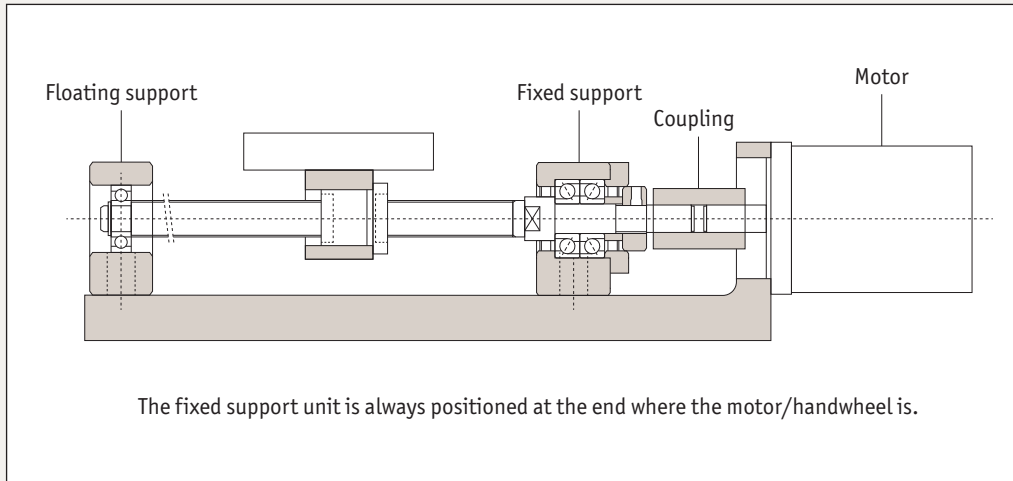
1. While checking the runout of the ball screw shaft end and the axial clearance using a dial gauge, fully fasten the ball screw nut, the nut bracket, the fixed side support unit and the support side unit, in this order.

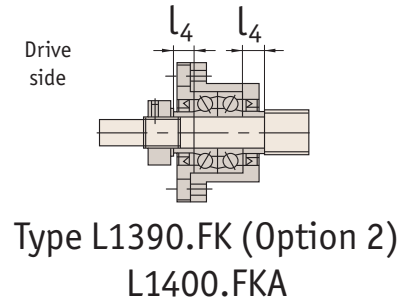
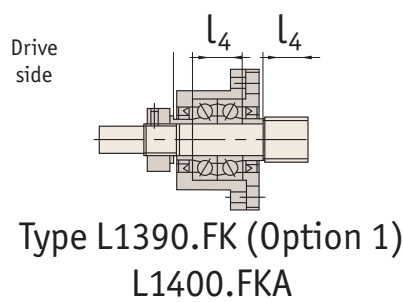
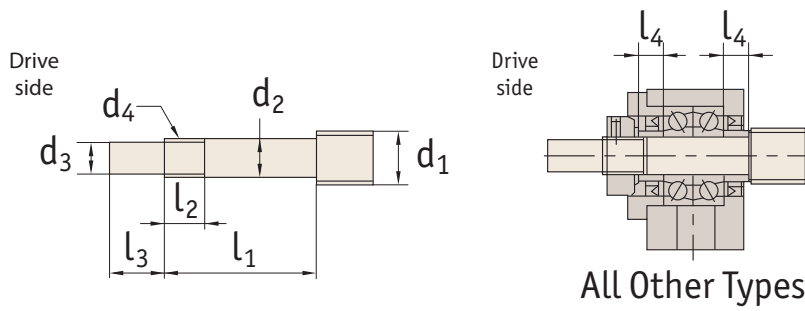




Connection with motor

1. Mount motor bracket to the base.
2. Connect the motor and the ball screw using a coupling (make sure the mounting accuracy is maintained).
3. Mount motor bracket to the base.

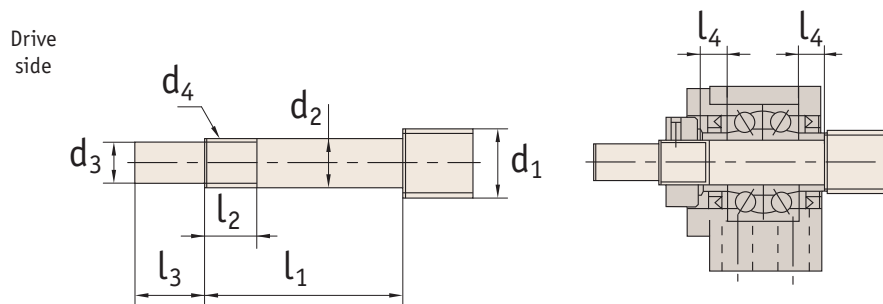
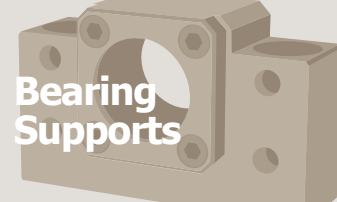




| Part no. | | | | | Thread \varnothing | Shaft support \varnothing | | | For thread | | | | |
|------------|------------|------------|-------------|------------|----------------------|-----------------------------|------------------|-------|------------|-------|---------|-------|-------|
| FK | EK | AK | FKA | LK | d_1 | d_2 | | h_7 | l_1 | l_3 | d_4 | l_2 | l_4 |
| L1390.FK05 | L1394.EK05 | - | - | - | 8 | 5 | -0,008 -0,015 | 4 | 23 | 6 | M5x0,5 | 7 | 3,5 |
| L1390.FK06 | L1394.EK06 | - | - | - | 8 | 6 | -0,008 -0,015 | 4 | 28 | 8 | M6x0,75 | 8 | 5,0 |
| L1390.FK08 | L1394.EK08 | - | L1400.FKA08 | L1402.LK08 | 10/12 | 8 | -0,008 -0,015 | 6 | 32 | 9 | M8x1,0 | 10 | 5,5 |
| L1390.FK10 | L1394.EK10 | L1388.AK10 | L1400.FKA10 | L1402.LK08 | 12/14/15 | 10 | -0,008 -0,015 | 8 | 35 | 15 | M10x1,0 | 12 | 5,5 |
| L1390.FK12 | L1394.EK12 | L1388.AK12 | L1400.FKA12 | L1402.LK08 | 14/15/16 | 12 | -0,008 -0,015 | 10 | 35 | 15 | M12x1,0 | 12 | 5,5 |
| L1390.FK15 | L1394.EK15 | L1388.AK15 | L1400.FKA15 | L1402.LK08 | 18/20 | 15 | -0,008 -0,017 | 12 | 48 | 20 | M15x1,0 | 13 | 10,0 |
| L1390.FK17 | - | - | - | - | 20/25 | 17 | -0,008 -0,017 | 15 | 59 | 23 | M17x1,0 | 17 | 10,0 |
| L1390.FK20 | L1394.EK20 | L1388.AK20 | L1400.FKA20 | - | 25/28/30 | 20 | -0,008 -0,017 | 17 | 63 | 25 | M20x1,0 | 15 | 11,0 |
| L1390.FK25 | - | - | - | - | 30/32/36 | 25 | -0,008 -0,017 | 20 | 76 | 30 | M25x1,5 | 20 | 14,0 |
| L1390.FK30 | - | - | - | - | 36/40 | 30 | -0,008 -0,018 | 25 | 73 | 38 | M30x1,5 | 25 | 9,0 |

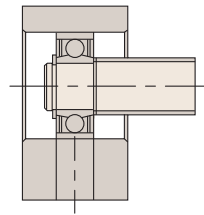
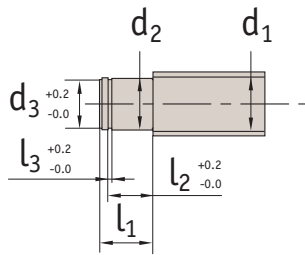
Technical Information

Fixed side for unit type L1392.BK

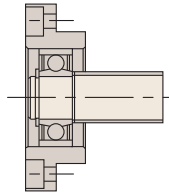


| Part sno. | Thread ϕ | Shaft support ϕ | | | | | Thread | | |
|-------------------|---------------|----------------------|------------------|-------|-------|-------|---------|-------|-------|
| | | d_1 | d_2 | d_3 | l_1 | l_3 | d_4 | l_2 | l_4 |
| L1392.BK10 | 12/14/15 | 10 | -0,008 -0,015 | 8 | 36 | 15 | M10x1,0 | 12 | 5,5 |
| L1392.BK12 | 14/15/16 | 12 | -0,008 -0,015 | 10 | 36 | 15 | M12x1,0 | 12 | 5,5 |
| L1392.BK15 | 18/20 | 15 | -0,008 -0,017 | 12 | 40 | 20 | M15x1,0 | 12 | 6,0 |
| L1392.BK17 | 20/25 | 17 | -0,008 -0,017 | 15 | 53 | 23 | M17x1,0 | 17 | 7,0 |
| L1392.BK20 | 25/28 | 20 | -0,008 -0,017 | 17 | 53 | 25 | M20x1,0 | 15 | 8,0 |
| L1392.BK25 | 32/36 | 25 | -0,008 -0,017 | 20 | 66 | 30 | M25x1,5 | 20 | 9,0 |
| L1392.BK30 | 36/40 | 30 | -0,008 -0,018 | 25 | 73 | 38 | M30x1,5 | 25 | 9,0 |
| L1392.BK35 | 45 | 35 | -0,008 -0,018 | 30 | 82 | 45 | M35x1,5 | 26 | 12,0 |
| L1392.BK40 | 50 | 40 | -0,008 -0,018 | 35 | 94 | 50 | M40x1,5 | 30 | 15,0 |

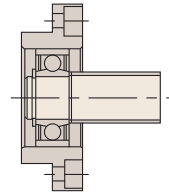
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All Other Types



Type L1391.FF (Option 1)



Type L1391.FF (Option 2)

| Part no. | | | | | Thread ϕ | Shaft support ϕ | | | | | |
|------------|------------|--------------|------------|------------|---------------|----------------------|------------------|-------------|-------|------------------|-------|
| FF | EF | BF | AF | LF | d_1 | d_2 | | l_1 | d_3 | l_2 | l_3 |
| L1391.FF06 | L1395.EF06 | - | - | - | 8 | 6 | -0,008 -0,015 | 9 | 5,7 | 6,8 | 0,80 |
| - | L1395.EF08 | - | - | L1403.LF08 | 10 | 6 | -0,008 -0,015 | 9 | 5,7 | 6,8 | 0,80 |
| L1391.FF10 | L1395.EF10 | L1393.BF10 | L1389.AF10 | - | 12/14/15 | 8 | -0,008 -0,015 | 10 | 7,6 | 7,9 | 0,90 |
| L1391.FF12 | L1395.EF12 | L1393.BF12 | L1389.AF12 | L1403.LF12 | 14/15/16 | 10 | -0,008 -0,015 | 11 | 9,6 | 9,15 | 1,15 |
| L1391.FF15 | L1395.EF15 | L1393.BF15 | L1389.AF15 | L1403.LF15 | 18/20 | 15 | -0,008 -0,017 | 13 | 14,3 | 10,15 | 1,15 |
| L1391.FF17 | - | L1393.BF17 | - | - | 20/25 | 17 | -0,008 -0,017 | 16 | 16,2 | 13,15 | 1,15 |
| L1391.FF20 | L1395.EF20 | (L1393.BF20) | L1389.AF20 | - | 25/28/30 | 20 | -0,008 -0,017 | 19 (16*) | 19,0 | 15,35 (13,15) | 1,35 |
| L1391.FF25 | - | L1393.BF25 | L1389.AF25 | - | 30/32/36 | 25 | -0,008 -0,017 | 20 | 23,9 | 16,35 | 1,35 |
| L1391.FF30 | - | L1393.BF30 | L1389.AF30 | - | 36/40 | 30 | -0,008 -0,018 | 21 | 28,6 | 17,75 | 1,75 |
| - | - | L1393.BF35 | - | - | 40/45 | 35 | -0,008 -0,018 | 22 | 33,0 | 18,75 | 1,75 |
| - | - | L1393.BF40 | - | - | 50 | 40 | -0,008 -0,018 | 23 | 38,0 | 19,95 | 1,95 |

*applies to L1393.BF20 only.