

# XtraforsPrime AC Servomotors



## Features

- Compact size
- High torque
- High speed
- No cogging
- Modular construction

## Power

- Stall torque 0.25 to 75 Nm
- Size 34 to 192 mm

## Executions

- Wide range of standard models
- Customized versions
- CE certified, UL listed

# XtraforsPrime, AC Servomotors

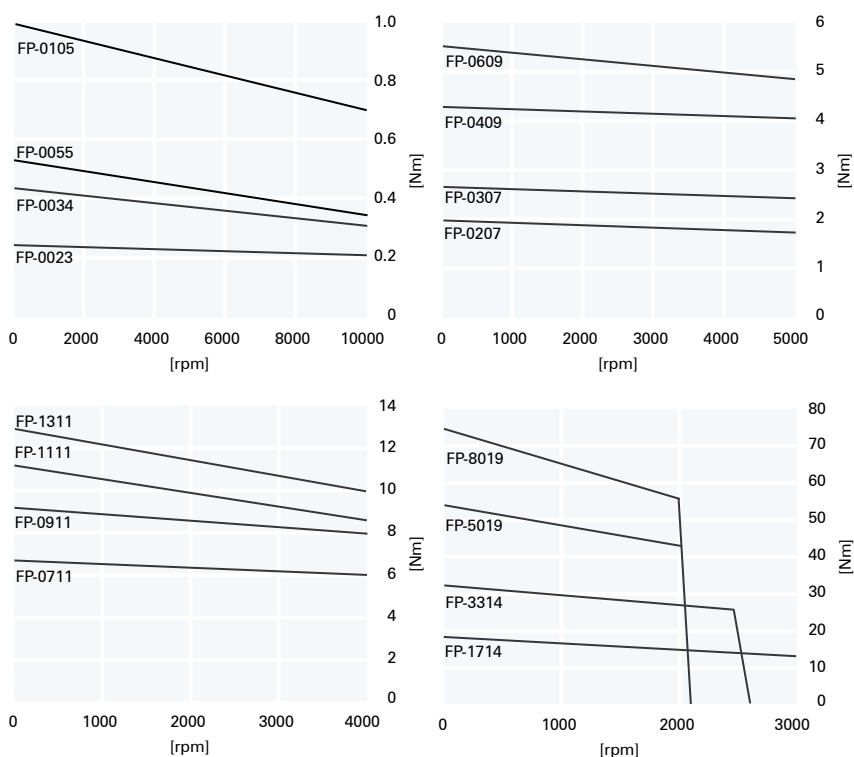
The modular construction concept is the basis for the wide range of standard models. The slotless stator design results in outstanding technical properties such as high speed, high torque, zero cogging, minimal torque ripple, high efficiency and high rigidity. Thus, these motors are perfectly suited for various demanding servo applications.

## Technical data

| Type    | Stall values |         | Nominal values |           | Peak values |           |           | Brake     | Length        |
|---------|--------------|---------|----------------|-----------|-------------|-----------|-----------|-----------|---------------|
|         | Torque       | Current | Torque         | Speed     | Torque      | Current   | Speed*    | Torque    | L             |
|         | $M_0$        | $i_0$   | $M_{nom}$      | $n_{nom}$ | $M_{max}$   | $i_{max}$ | $n_{max}$ | $M_{nom}$ | without brake |
|         | [Nm]         | [Arms]  | [Nm]           | [rpm]     | [Nm]        | [Arms]    | [rpm]     | [Nm]      | [mm]          |
| FP-0023 | 0.24         | 1.40    | 0.23           | 3000      | 1.44        | 8.40      | 36 000    | 0.4       | 145.0         |
| FP-0034 | 0.44         | 2.03    | 0.40           | 3000      | 2.64        | 12.2      | 30 000    | 0.4       | 140.5         |
| FP-0055 | 0.54         | 2.15    | 0.46           | 3000      | 3.24        | 12.9      | 22 000    | 1.0       | 90.00         |
| FP-0105 | 1.00         | 2.51    | 0.90           | 3000      | 6.00        | 15.0      | 15 000    | 1.0       | 110.0         |
| FP-0207 | 2.00         | 3.04    | 1.85           | 3000      | 12.0        | 18.2      | 9 500     | 2.0       | 116.5         |
| FP-0307 | 2.70         | 3.63    | 2.54           | 3000      | 16.2        | 21.8      | 8 500     | 4.5       | 137.5         |
| FP-0409 | 4.20         | 3.57    | 4.15           | 3000      | 25.2        | 21.4      | 5 300     | 4.5       | 147.5         |
| FP-0609 | 5.60         | 4.97    | 5.12           | 3000      | 33.6        | 29.8      | 5 500     | 9.0       | 165.5         |
| FP-0711 | 6.50         | 6.70    | 6.10           | 3000      | 39.0        | 40.2      | 6 300     | 9.0       | 149.0         |
| FP-0911 | 9.00         | 7.22    | 8.20           | 3000      | 54.0        | 43.3      | 5 000     | 9.0       | 173.0         |
| FP-1111 | 11.0         | 8.14    | 9.10           | 3000      | 66.0        | 48.9      | 4 600     | 18        | 197.0         |
| FP-1311 | 13.2         | 9.77    | 10.8           | 3000      | 79.2        | 58.6      | 4 600     | 18        | 221.0         |
| FP-1714 | 18.3         | 10.7    | 15.5           | 1500      | 110         | 64.0      | 3 500     | 18        | 215.0         |
| FP-3314 | 31.5         | 12.8    | 27.5           | 1500      | 189         | 76.8      | 2 500     | 36        | 317.0         |
| FP-5019 | 54.5         | 19.1    | 46.0           | 1500      | 327         | 114       | 2 000     | 72        | 307.0         |
| FP-8019 | 75.0         | 22.8    | 59.0           | 1500      | 450         | 137       | 2 000     | 72        | 362.0         |

\*Valid for operation with servo drive using 400VAC supply

## Torque curves



## Standard version

- Resolver feedback
- Shaft with keyway
- Protection IP-65
- Rotatable angled connectors
- PTC thermal sensor
- RoHS conform
- UL conform (UL-listed pending)

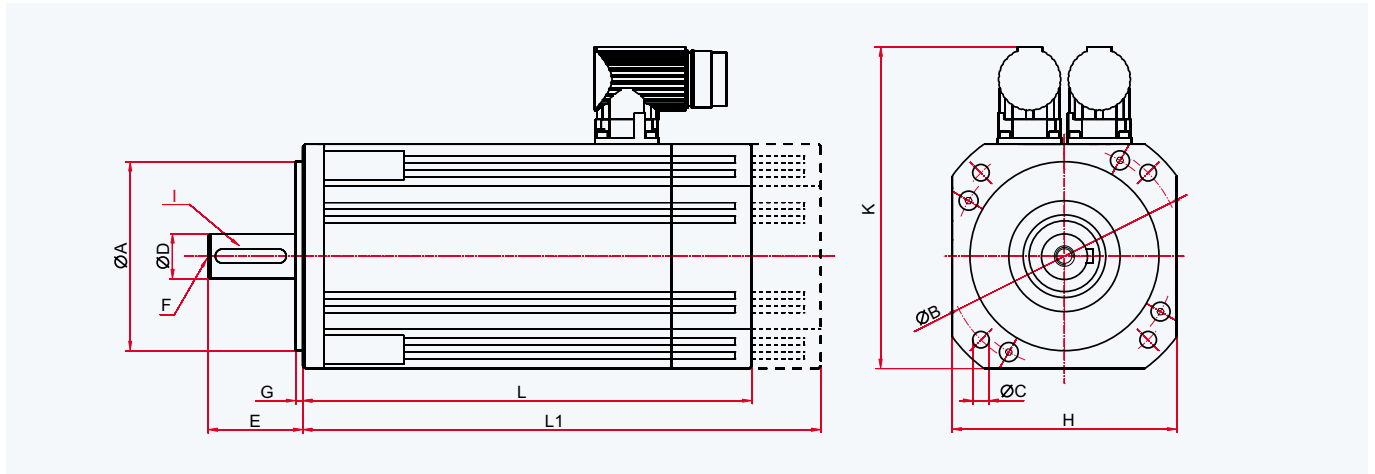
## Options

- Various types of incremental encoders, SinCos encoders, Hiperface, EnDat
- Shaft without keyway
- Protection IP-67
- Shaft seal
- Straight connectors
- Direct cable output
- NTC thermal sensor

## Customized versions

- Shafts (i.e. hollow shafts)
- Flanges, housings
- Windings
- Connections
- Executions according to customer's specification

## Mechanical dimensions



Dimensions for motor with resolver feedback

| Dimensions<br>[mm] |       |     |     |       |    |     |     |          |        |     | without brake | with brake |
|--------------------|-------|-----|-----|-------|----|-----|-----|----------|--------|-----|---------------|------------|
|                    | ØA j6 | ØB  | ØC  | ØD k6 | E  | G   | H   | I        | F      | K   | L             | L1         |
| <b>FP-0023</b>     | 25    | 36  | 3.4 | 6 h5  | 20 | 2.5 | 34  | -        | -      | 62  | 145.0         | 176.0      |
| <b>FP-0034</b>     | 32    | 45  | 4.5 | 8 j5  | 25 | 2.5 | 42  | -        | -      | 70  | 140.5         | 171.5      |
| <b>FP-0055</b>     | 40    | 65  | 5.5 | 9     | 20 | 2.5 | 57  | A3x3x12  | M3x9   | 107 | 90.0          | 129.0      |
| <b>FP-0105</b>     | 40    | 65  | 5.5 | 9     | 20 | 2.5 | 57  | A3x3x12  | M3x9   | 107 | 110.0         | 149.0      |
| <b>FP-0207</b>     | 60    | 75  | 5.5 | 11    | 23 | 2.5 | 70  | A4x4x14  | M4x10  | 112 | 116.5         | 142.0      |
| <b>FP-0307</b>     | 60    | 75  | 5.5 | 11    | 23 | 2.5 | 70  | A4x4x14  | M4x10  | 112 | 137.5         | 165.5      |
| <b>FP-0409</b>     | 80    | 100 | 6.6 | 19    | 40 | 3   | 90  | A6x6x30  | M6x16  | 132 | 147.5         | 177.0      |
| <b>FP-0609</b>     | 80    | 100 | 6.6 | 19    | 40 | 3   | 90  | A6x6x30  | M6x16  | 132 | 165.5         | 207.0      |
| <b>FP-0711</b>     | 95    | 115 | 9   | 19    | 40 | 3   | 110 | A6x6x30  | M6x16  | 152 | 149.0         | 189.0      |
| <b>FP-0911</b>     | 95    | 115 | 9   | 19    | 40 | 3   | 110 | A6x6x30  | M6x16  | 152 | 173.0         | 213.0      |
| <b>FP-1111</b>     | 95    | 115 | 9   | 19    | 40 | 3   | 110 | A6x6x30  | M6x16  | 152 | 197.0         | 242.0      |
| <b>FP-1311</b>     | 95    | 115 | 9   | 19    | 40 | 3   | 110 | A6x6x30  | M6x16  | 152 | 221.0         | 266.0      |
| <b>FP-1714</b>     | 130   | 165 | 11  | 24    | 50 | 3.5 | 140 | A8x7x32  | M8x19  | 182 | 215.0         | 258.0      |
| <b>FP-3314</b>     | 130   | 165 | 11  | 24    | 50 | 3.5 | 140 | A8x7x32  | M8x19  | 182 | 317.0         | 370.0      |
| <b>FP-5019</b>     | 180   | 215 | 16  | 32    | 58 | 4   | 192 | A10x8x50 | M12x28 | 234 | 307.0         | 365.0      |
| <b>FP-8019</b>     | 180   | 215 | 16  | 32    | 58 | 4   | 192 | A10x8x50 | M12x28 | 234 | 362.0         | 420.0      |

Lengths of executions with different encoder models

| Type FP                  | 0023  | 0034  | 0055  | 0105  | 0207  | 0307  | 0409  | 0609  | 0711  | 0911  | 1111  | 1311  | 1714  | 3314  | 5019  | 8019  |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>L (without brake)</b> |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Incremental              | 137.0 | 132.5 | 106.5 | 126.5 | 126.0 | 147.0 | 147.5 | 165.5 | 162.0 | 187.0 | 210.0 | 234.0 | 215.0 | 317.0 | 320.0 | 375.0 |
| Endat 2.1                | -     | -     | 123.0 | 143.0 | 159.0 | 180.0 | 177.0 | 195.0 | 189.0 | 213.0 | 237.0 | 261.0 | 260.0 | 365.0 | 327.0 | 382.0 |
| Hiperface                | -     | -     | 123.0 | 143.0 | 142.0 | 163.0 | 165.0 | 180.5 | 162.0 | 186.0 | 210.0 | 234.0 | 235.0 | 340.0 | 327.0 | 382.0 |
| SinCos                   | -     | -     | 137.0 | 157.0 | 159.0 | 180.0 | 177.0 | 195.0 | 189.0 | 213.0 | 237.0 | 261.0 | 250.0 | 355.0 | 332.0 | 387.0 |
| <b>L1 (with brake)</b>   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Incremental              | 176.0 | 171.5 | 145.0 | 165.0 | 157.0 | 184.0 | 192.0 | 215.0 | 195.0 | 219.0 | 252.0 | 276.0 | 260.0 | 410.0 | 375.0 | 430.0 |
| Endat 2.1                | -     | -     | 167.0 | 187.0 | 190.0 | 217.0 | 209.5 | 232.5 | 208.0 | 232.0 | 265.0 | 289.0 | 300.0 | 430.0 | 382.0 | 435.0 |
| Hiperface                | -     | -     | 156.0 | 176.0 | 173.0 | 200.0 | 209.5 | 232.5 | 208.0 | 232.0 | 265.0 | 289.0 | 300.0 | 430.0 | 382.0 | 435.0 |
| SinCos                   | -     | -     | 172.0 | 192.0 | 190.0 | 217.0 | 214.0 | 244.5 | 217.0 | 241.0 | 283.0 | 307.0 | 310.0 | 440.0 | 385.0 | 440.0 |

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## The Infranor Group

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Infranor creates added value for its customers by providing tailor-made motion solutions.

Based on strong working relationships, Infranor offers extensive market know-how, comprehensive engineering skills and a wide range of high-quality products leading to productivity gains and therefore to comparative advantages for its customers in their respective markets.

## The Infranor Brand

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The Infranor Brand is a synonym for:

- Excellence
- Cooperation
- Added value