

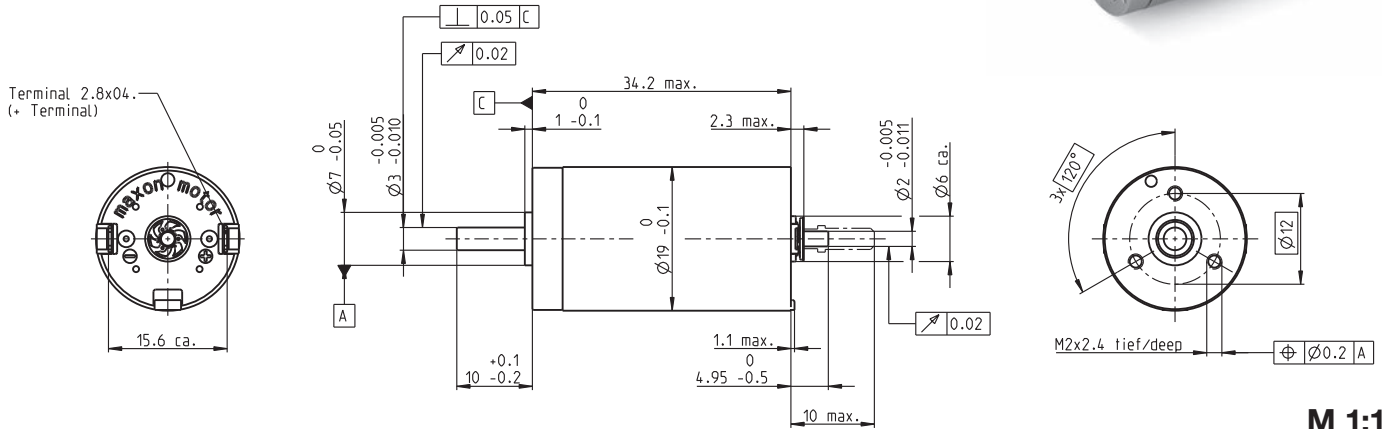
# DCX 19 S Precious Metal Brushes

## DC motor Ø19 mm

**NEW**



5/8 W 11.1 mNm 7500 rpm



M 1:1

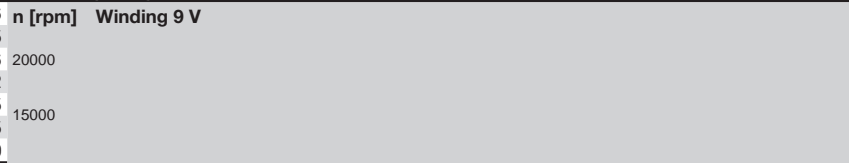
**Motor Data**

|     |   |                  |       |       |       |       |       |       |
|-----|---|------------------|-------|-------|-------|-------|-------|-------|
| 1_  | Nominal voltage                           | V                | 4.5   | 6     | 9     | 12    | 18    | 24    |
| 2_  | No load speed                             | rpm              | 6440  | 6350  | 6260  | 6360  | 6360  | 6350  |
| 3_  | No load current                           | mA               | 72    | 53    | 34.6  | 26.5  | 17.7  | 13.2  |
| 4_  | Nominal speed                             | rpm              | 5080  | 4540  | 4350  | 4490  | 4490  | 4480  |
| 5_  | Nominal torque (max. continuous torque)   | mNm              | 7.46  | 10.3  | 10.8  | 11.0  | 11.0  | 10.9  |
| 6_  | Nominal current (max. continuous current) | A                | 1.20  | 1.20  | 0.829 | 0.643 | 0.428 | 0.319 |
| 7_  | Stall torque                              | mNm              | 35.7  | 36.3  | 35.8  | 38.0  | 37.8  | 37.5  |
| 8_  | Stall current                             | A                | 5.42  | 4.07  | 2.64  | 2.13  | 1.41  | 1.05  |
| 9_  | Max. efficiency                           | %                | 78    | 79    | 79    | 79    | 79    | 79    |
| 10_ | Terminal resistance                       | Ω                | 0.831 | 1.47  | 3.40  | 5.63  | 12.7  | 22.8  |
| 11_ | Terminal inductance                       | mH               | 0.045 | 0.082 | 0.191 | 0.329 | 0.740 | 1.320 |
| 12_ | Torque constant                           | mNm/A            | 6.58  | 8.90  | 13.5  | 17.8  | 26.7  | 35.6  |
| 13_ | Speed constant                            | rpm/V            | 1450  | 1070  | 705   | 536   | 358   | 268   |
| 14_ | Speed/torque gradient                     | rpm/mNm          | 183   | 177   | 177   | 170   | 170   | 172   |
| 15_ | Mechanical time constant                  | ms               | 5.12  | 4.99  | 4.92  | 4.89  | 4.89  | 4.90  |
| 16_ | Rotor inertia                             | gcm <sup>2</sup> | 2.67  | 2.68  | 2.65  | 2.75  | 2.74  | 2.72  |

**Thermal data**

|     |                                     |     |           |
|-----|-------------------------------------|-----|-----------|
| 17_ | Thermal resistance housing-ambient  | K/W | 17.6      |
| 18_ | Thermal resistance winding-housing  | K/W | 6.5       |
| 19_ | Thermal time constant winding       | s   | 11.6      |
| 20_ | Thermal time constant motor         | s   | 312       |
| 21_ | Ambient temperature ball bearings   | °C  | -40...+85 |
| 21_ | Ambient temperature sleeve bearings | °C  | -30...+85 |
| 22_ | Max. winding temperature            | °C  | 100       |

**Operating Range**



**Mechanical data ball bearings**

|     |                                    |     |         |
|-----|------------------------------------|-----|---------|
| 23_ | Max. speed                         | rpm | 7500    |
| 24_ | Axial play                         | mm  | 0...0.1 |
| 25_ | Preload                            | N   | 2.5     |
| 25_ | Radial play                        | mm  | 0.02    |
| 26_ | Max. axial load (dynamic)          | N   | 2.5     |
| 27_ | Max. force for press fits (static) | N   | 30      |
| 27_ | (static, shaft supported)          | N   | 440     |
| 28_ | Max. radial load [mm from flange]  | N   | 16 [5]  |

**Mechanical data sleeve bearings**

|     |                                    |     |         |
|-----|------------------------------------|-----|---------|
| 23_ | Max. speed                         | rpm | 7500    |
| 24_ | Axial play                         | mm  | 0...0.2 |
| 25_ | Preload                            | N   | 0       |
| 25_ | Radial play                        | mm  | 0.02    |
| 26_ | Max. axial load (dynamic)          | N   | 0.1     |
| 27_ | Max. force for press fits (static) | N   | 80      |
| 27_ | (static, shaft supported)          | N   | 440     |
| 28_ | Max. radial load [mm from flange]  | N   | 3 [5]   |

**maxon Modular System**

|                   |        |                      |                            |
|-------------------|--------|----------------------|----------------------------|
| <b>maxon gear</b> | Stages | <b>maxon sensor</b>  | <b>maxon motor control</b> |
| 126_GPX 19 A/C    | 1-2    | 146_ENX 10 QUAD      | 416_ESCON Module 24/2      |
| 127_GPX 19 LN/LZ  | 1-2    | 147_ENX 16 EASY      | 416_ESCON 36/2 DC          |
| 128_GPX 19 HP     | 2-3    | 148_ENX 16 EASY Abs. | 424_EPOS2 24/2 (DC/EC)     |
| 130_GPX 22 A/C    | 3-4    |                      | 424_EPOS2 Module 36/2      |
| 131_GPX 22 LN/LZ  | 3-4    |                      | 428_EPOS2 P 24/5           |
| 132_GPX 22 HP     | 4      |                      | 435_MAXPOS 50/5            |

**Other specifications**

|     |                               |     |    |
|-----|-------------------------------|-----|----|
| 29_ | Number of pole pairs          |     | 1  |
| 30_ | Number of commutator segments |     | 9  |
| 31_ | Weight of motor               | g   | 50 |
| 32_ | Typical noise level           | dBA | 48 |

**Configuration**

Bearing: Ball bearings preloaded/sleeve bearings  
 Commutation: Precious metal brushes with CLL/graphite brushes  
 Flange front/back: Standard flange/configurable flange/no flange  
 Shaft front/back: Length/diameter/flat face  
 Electric connection: Terminals or cable/alignment of connection/cable length/connector type