

# DATORKER® Strain Wave Gear Technical Data

Date: 2025/12/30

|                                       |              |  |         |                                                                                     |
|---------------------------------------|--------------|--|---------|-------------------------------------------------------------------------------------|
| Specification                         | DTC-20-80-PE |  | Diagram |  |
| Model                                 | 20           |  |         |                                                                                     |
| Ratio                                 | 80           |  |         |                                                                                     |
| Item                                  |              |  | Value   | Unit                                                                                |
| Rated torque at input 2000rpm         |              |  | 24      | Nm                                                                                  |
| Average torque                        |              |  | 33      | Nm                                                                                  |
| Repeated peak torque                  |              |  | 51      | Nm                                                                                  |
| Momentary peak torque                 |              |  | 89      | Nm                                                                                  |
| Average input speed                   |              |  | 3500    | rpm                                                                                 |
| Maximum input speed                   |              |  | 6500    | rpm                                                                                 |
| Moment of inertia                     |              |  | 0.09    | x10 <sup>-4</sup> kgm <sup>2</sup>                                                  |
| Transmission accuracy                 |              |  | 1       | arc min                                                                             |
| Repeatability                         |              |  | ±6      | arc sec                                                                             |
| Maximum backlash                      |              |  | -       | arc sec                                                                             |
| Hysteresis loss                       |              |  | 1       | arc min                                                                             |
| Lost motion                           |              |  | 1       | arc min                                                                             |
| Torsional Stiffness K1                |              |  | 0.4     | kgfm/arc min                                                                        |
| Torsional Stiffness K2                |              |  | 0.5     | kgfm/arc min                                                                        |
| No load starting torque               |              |  | 5.7     | cNm                                                                                 |
| No load running torque(25°C/2000rpm)  |              |  | 10      | cNm                                                                                 |
| Weight                                |              |  | 0.65    | kg                                                                                  |
| Crossed roller bearing specifications |              |  |         |                                                                                     |
| Pitch circle diameter of roller       |              |  | 0.05    | m                                                                                   |
| Offset amount                         |              |  | 0.0102  | m                                                                                   |
| Basic dynamic load ratings            |              |  | 5.8     | kN                                                                                  |
| Basic static load ratings             |              |  | 9       | kN                                                                                  |
| Moment rigidity                       |              |  | 3.8     | kgfm/arc min                                                                        |
| Permissible dynamic tilting moment    |              |  | 91      | Nm                                                                                  |
| Permissible static tilting moment     |              |  | 130     | Nm                                                                                  |
| Permissible axial load                |              |  | 1.24    | kN                                                                                  |
| Permissible radial load               |              |  | 0.828   | kN                                                                                  |