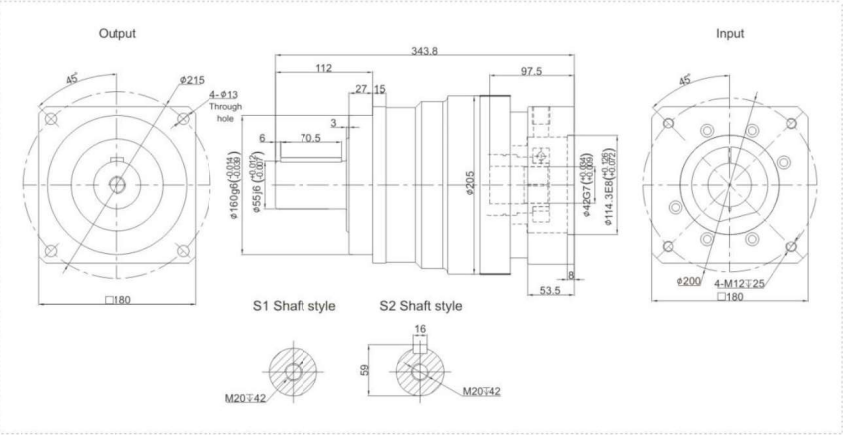
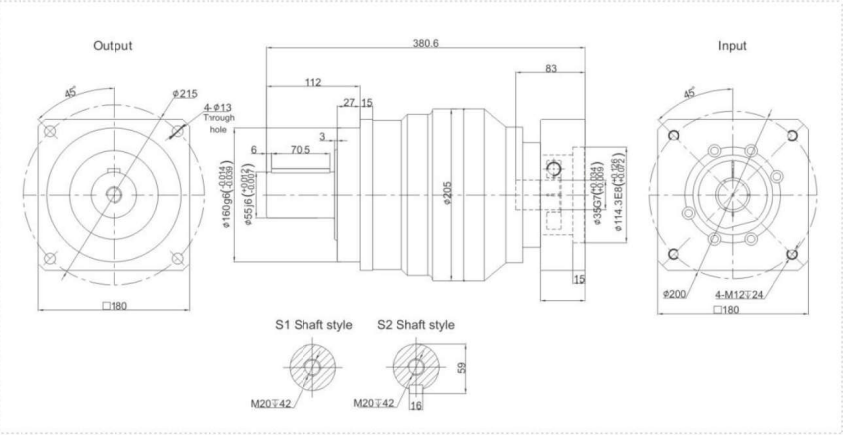
# TF Series - High-end Design and Premium Performance

## TF180 Series

### TF180 One Stage




### TF180 Two Stage






## Performance Data

The TF series reducer targets those applications requiring extremely smooth operation even at high axial or radial load at high speed. The enhanced load bearing capacity guarantees its design precision at almost any demanding condition.

| TF180 | | | One Stage | | | | | | | | Two Stage | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Speed Ratio | | i | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 60 | 70 | 80 | 100 |
| Nominal Output Torque | $T_1$ | Nm | 590 | 1050 | 1200 | 1108 | 1100 | 1000 | – | 910 | 590 | 1050 | 1200 | 1108 | 1100 | 1000 | 1200 | 1108 | 1100 | 1000 | 910 |
| Emergency Stop Torque | $T_2$ | Nm | $T_1 \times 3$ | | | | | | | | $T_1 \times 3$ | | | | | | | | | | |
| Nominal Input Speed | $S_1$ | rpm | 3000 | | | | | | | | 3000 | | | | | | | | | | |
| Maximum Input Speed | $S_2$ | rpm | 6000 | | | | | | | | 6000 | | | | | | | | | | |
| Maximum Output Torque | $T_4$ | Nm | $T_1 \times 3 \times 60\%$ | | | | | | | | $T_1 \times 3 \times 60\%$ | | | | | | | | | | |
| Maximum Radial Force | $F_a$ | N | 18000 | | | | | | | | 18000 | | | | | | | | | | |
| Maximum Axial Force | $F_b$ | N | 19500 | | | | | | | | 19500 | | | | | | | | | | |
| Torsional Rigidity | – | Nm/arcmin | 145 | | | | | | | | 145 | | | | | | | | | | |
| Efficiency | $\eta$ | % | ⩾97 | | | | | | | | ⩾94 | | | | | | | | | | |
| Service Life | – | h | 30000 | | | | | | | | 30000 | | | | | | | | | | |
| Noise | – | dB | ⩽67 | | | | | | | | ⩽67 | | | | | | | | | | |
| Weight | – | Kg | 35.5 | | | | | | | | 42 | | | | | | | | | | |
| Backlash | P0 | arcmin | ⩽1 | | | | | | | | ⩽3 | | | | | | | | | | |
| | P1 | | ⩽3 | | | | | | | | ⩽5 | | | | | | | | | | |
| | P2 | | ⩽5 | | | | | | | | ⩽7 | | | | | | | | | | |
| Operating Temperature | – | ℃ | -20~90 | | | | | | | | -20~90 | | | | | | | | | | |
| Lubrication | – | | Synthetic Grease | | | | | | | | Synthetic Grease | | | | | | | | | | |
| Protection Class | – | | IP65 | | | | | | | | IP65 | | | | | | | | | | |
| Mounting Position | – | | Any Direction | | | | | | | | Any Direction | | | | | | | | | | |
| Moment of Inertia | J | $kg.cm^2$ | 28.98 | 23.67 | 23.29 | 22.75 | 22.48 | 22.59 | - | 22.51 | 7.42 | | | | | | 7.03 | | | | |

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.