TNF Series Gearbox Reducer

User Manual & Technical Reference

Models: TNF28 / TNF42 / TNF60

1. Product Features

3 Frame Sizes: TNF28, TNF42 and TNF60; 5 mm, 8 mm and 14 mm input options.

Motor Compatibility: TNF28: NEMA11 (28 mm); TNF42: NEMA17 (42 mm) or 40 mm servo; TNF60: NEMA23 (57 mm) or 60 mm servo.

L1 Single-Stage Ratios: 4:1, 5:1, 7:1 and 10:1.

L2 Two-Stage Ratios: 15:1, 20:1, 25:1, 30:1, 35:1, 40:1, 50:1 and 70:1 (series options; confirm by model).

Backlash Precision: Series limits: L1 up to 12 arcmin; L2 up to 15 arcmin.

Rated Output Torque: TNF28: 3–9 N·m; TNF42: 5–12 N·m; TNF60: 16–40 N·m.

Input Speed: Rated: 3000 RPM; maximum: 6000 RPM.

2. Technical Specifications

Parameter	TNF28	TNF42	TNF60
Product Type	Planetary Gearbox	Planetary Gearbox	Planetary Gearbox
Input Shaft	5 mm	5 / 8 mm	8 / 14 mm
Motor Compatibility	NEMA11 stepper	NEMA17 stepper / 40 mm servo	NEMA23 stepper / 60 mm servo
L1 Speed Ratio	4:1 / 5:1 / 7:1 / 10:1	4:1 / 5:1 / 7:1 / 10:1	4:1 / 5:1 / 7:1 / 10:1
L2 Speed Ratio	15:1 to 70:1*	15:1 to 70:1*	15:1 to 70:1*
Backlash (L1)	≤ 12 arcmin	≤ 8 arcmin	≤ 8 arcmin
Backlash (L2)	≤ 15 arcmin	≤ 12 arcmin	≤ 12 arcmin
Rated Output Torque	3–9 N·m	5–12 N·m	16–40 N·m
Rated Input Speed	3000 RPM	3000 RPM	3000 RPM
Max. Input Speed	6000 RPM	6000 RPM	6000 RPM
L1 Length	58 mm	51 mm	75 mm
L2 Length	66.5 mm	62 mm	90 mm

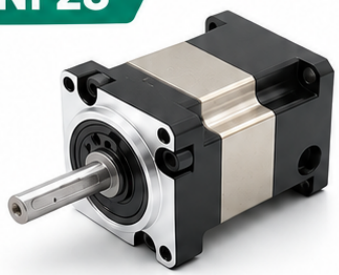
*Available L2 ratios differ across the supplied model drawings. Confirm the selected reduction ratio and mechanical interface before ordering.

3. Series Overview

Model identification, motor interface options, backlash and speed ratings.

TNF Series Gearboxes

TNF28



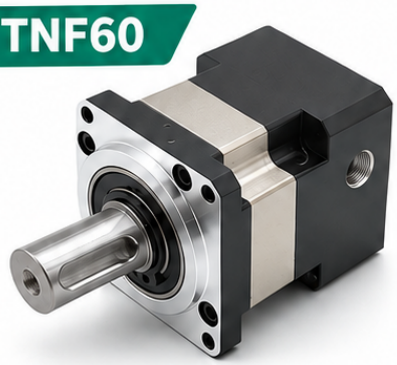
Input Shaft:	5mm input for NEMA11 28mm Motor
Backlash:	L1 ≤12 arcmin, L2 ≤15 arcmin
Rated Output Torque:	3–9 Nm
Max Input Speed:	6000 RPM
Rated Input Speed:	3000 RPM

TNF42



Input Shaft:	5mm input for NEMA17 42mm Motor
Backlash:	L1 ≤8 arcmin, L2 ≤12 arcmin
Rated Output Torque:	5–12 Nm
Max Input Speed:	6000 RPM
Rated Input Speed:	3000 RPM

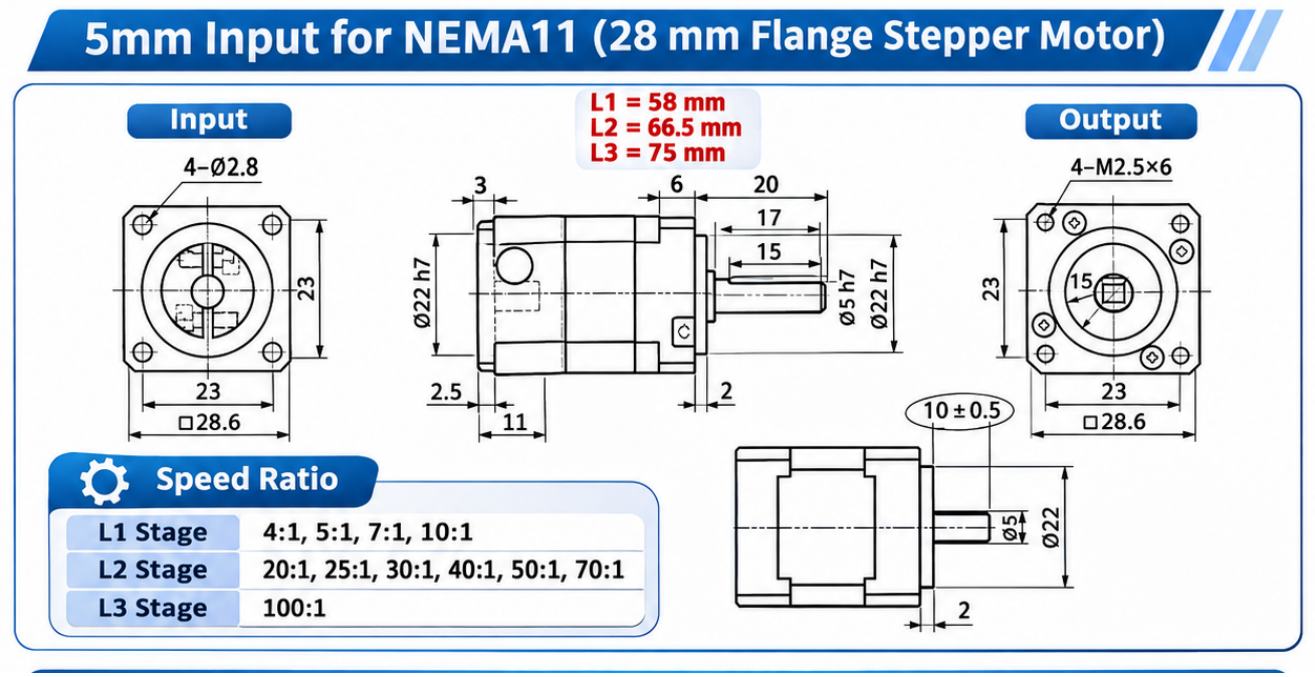
TNF60



Input Shaft:	8mm input for NEMA23 57mm Motor 14mm input for 60mm Servo Motor
Backlash:	L1 ≤8 arcmin, L2 ≤12 arcmin
Rated Output Torque:	16–40 Nm
Max Input Speed:	6000 RPM
Rated Input Speed:	3000 RPM

4. TNF28 Dimensional Drawing

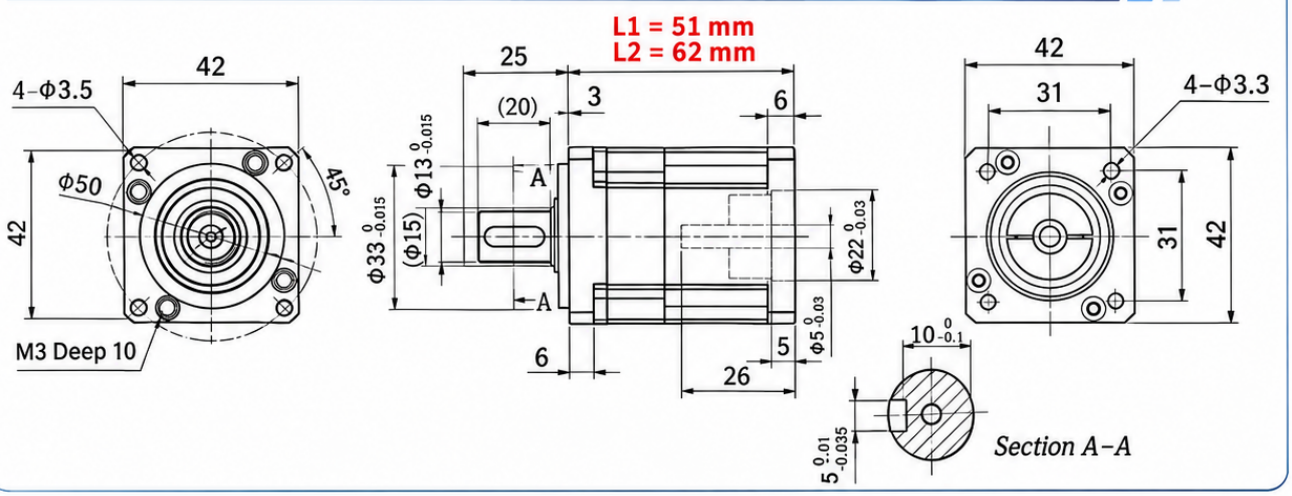
5 mm input for NEMA11, 28 mm flange stepper motor. Refer to drawing for mounting details.



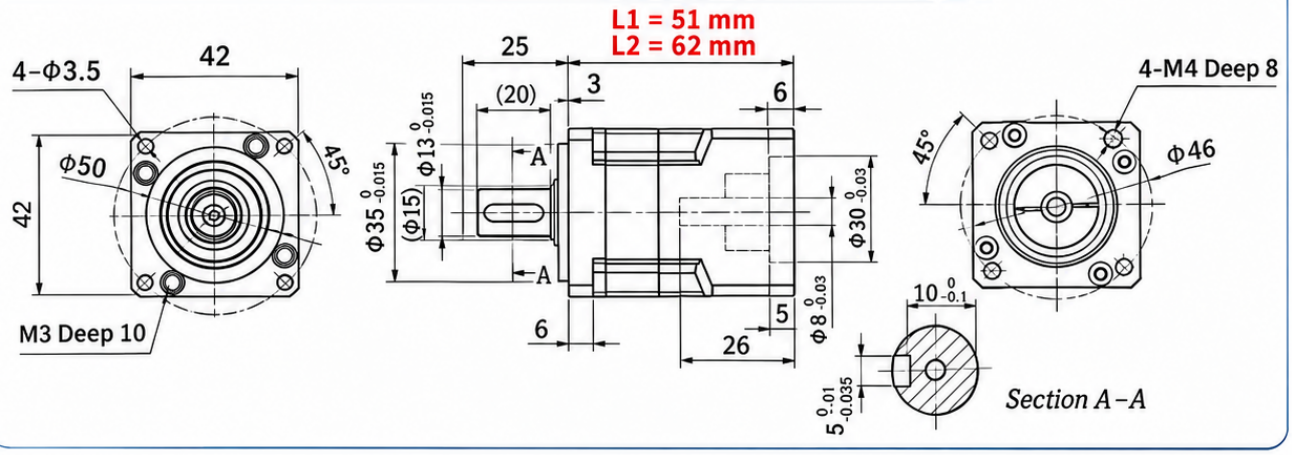
5. TNF42 Dimensional Drawings

5 mm input for NEMA17 and 8 mm input for 40 mm servo motor.

5mm Input for NEMA17 (42 mm Flange Stepper Motor)



8mm Input for 100W (40 mm Servo Motor)

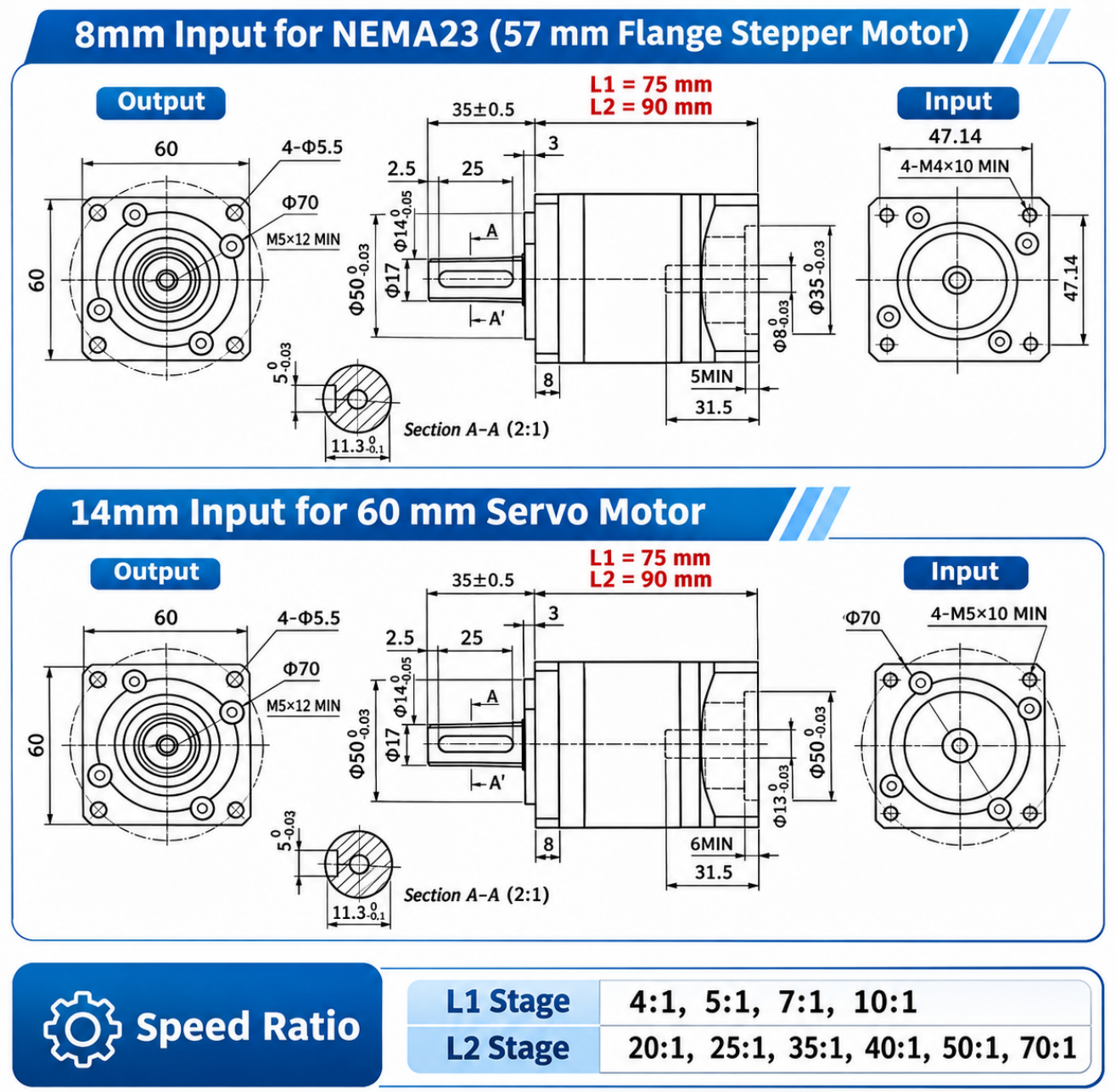


Speed Ratio

L1 Stage	4:1, 5:1, 7:1, 10:1
L2 Stage	20:1, 25:1, 35:1, 40:1, 50:1, 70:1

6. TNF60 Dimensional Drawings

8 mm input for NEMA23 and 14 mm input for 60 mm servo motor.



Speed Ratio

L1 Stage	4:1, 5:1, 7:1, 10:1
L2 Stage	20:1, 25:1, 35:1, 40:1, 50:1, 70:1

7. Selection & Installation Notes

Before installation

• Identify the exact gearbox model, reduction ratio, and stage count.

• Check motor shaft diameter, flange dimensions, mounting hole positions, and fastener specifications against the relevant dimensional drawing.

• Confirm that operating speed, output torque, and applied loads remain within the manufacturer-approved ratings for the selected configuration.

• Ensure shafts and mounting faces are aligned and free of debris; avoid forcing incompatible parts together.

• Use the appropriate fastening procedure and torque values supplied by the equipment or motor manufacturer. No tightening torque values are specified in the supplied source material.

Operating and maintenance notes

• Do not exceed the stated maximum input speed of 6000 RPM.

• Monitor the assembled drive for abnormal vibration, temperature rise, or noise during initial operation.

• For lubrication, maintenance intervals, environmental limits, and service procedures, consult the manufacturer-specific documentation for the purchased configuration.

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