

EDT-B Planetary Gear Reducers

English selection guide

Planetary gear reducers reduce motor speed and increase output torque. Match the ratio and stage group first, then verify output torque, inertia, radial/axial loading, duty, and mounting interfaces.

HTROBOT

Based in Tianjin, HTROBOT works with customers on industrial linear motion and multi-axis automation. Our range brings together linear modules, guides, ball screws, actuators and XYZ stages.

We support engineering-drawing and application discussions to clarify dimensions, mounting and the motion arrangement. Share the target travel, load, speed and operating environment, together with any existing drawings or reference images.

SELECTION NOTES

- Compare rated output torque inside one stage and reduction ratio.
- Check radial and axial load, input speed, inertia, duty, backlash, and mounting dimensions.
- These are planetary gear reducers, not electric cylinders or servo presses.

MODEL RANGE

Model	Output torque	Backlash	Input speed
EDT-B-60	40-60 Nm by ratio	≤ 5 arcmin / ≤ 7 arcmin	5,000 rpm
EDT-B-90	100-160 Nm by ratio	≤ 5 arcmin / ≤ 7 arcmin	4,000 rpm
EDT-B-115	208-330 Nm by ratio	≤ 5 arcmin / ≤ 7 arcmin	4,000 rpm
EDT-B-142	342-650 Nm by ratio	≤ 5 arcmin / ≤ 7 arcmin	3,000 rpm
EDT-B-180	520-1200 Nm by ratio	≤ 5 arcmin / ≤ 7 arcmin	3,000 rpm
EDT-B-220	1140-2000 Nm by ratio	≤ 5 arcmin / ≤ 7 arcmin	2,000 rpm

CONTACT HTROBOT

Email: emmy@htrobot.com

Website: www.htrobot.com

EDT-B-60

Gear Reducers

PRODUCT

A planetary gear reducer that lowers speed and raises torque at a selected stage and ratio.

TECHNICAL SPECIFICATIONS

Rated output torque T2N By stage and ratio; see table below	40-60 Nm by ratio
Moment of inertia J1 By stage and ratio; see table below	0.03-0.16 kg cm ² by ratio
Standard Backgap P2 Stage 1, ratios 3~10	<=5 arcmin
Standard Backgap P2 Stage 2, ratios 15~100	<=7 arcmin
Torsion rigidity Stages 1,2; ratios 3~100	7 Nm/arcmin
Rated input speed n1N Stages 1,2; ratios 3~100	5,000 rpm
Maximum input speed n1B Stages 1,2; ratios 3~100	10,000 rpm
Noise value Stages 1,2; ratios 3~100; 3000 rpm	<=58 dB
Allowable radial force F2rB Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	1,530 N
Allowable axial force F2a1B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	630 N
Allowable axial force F2a2B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	765 N
weight Stage 1, ratios 3~10	1.3 kg
weight Stage 2, ratios 15~100	1.5 kg

SELECTION

Select the stage and reduction ratio first. Then check torque, inertia, backlash, speed, shaft load, and mounting dimensions for that exact ratio.

TORQUE AND INERTIA BY STAGE AND RATIO

Stage	Ratio	Rated output torque	Moment of inertia
1	3	55 Nm	0.16 kg cm ²
1	4	50 Nm	0.14 kg cm ²
1	5	60 Nm	0.13 kg cm ²
1	6	55 Nm	0.13 kg cm ²



Product illustration

EDT-B-60

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Stage	Ratio	Rated output torque	Moment of inertia
1	7	50 Nm	0.13 kg cm ²
1	8	45 Nm	0.13 kg cm ²
1	10	40 Nm	0.13 kg cm ²
2	12	55 Nm	0.03 kg cm ²
2	15	55 Nm	0.03 kg cm ²
2	20	50 Nm	0.03 kg cm ²
2	25	60 Nm	0.03 kg cm ²
2	30	50 Nm	0.03 kg cm ²
2	35	60 Nm	0.03 kg cm ²
2	40	50 Nm	0.03 kg cm ²
2	50	60 Nm	0.03 kg cm ²
2	60	55 Nm	0.03 kg cm ²
2	70	50 Nm	0.03 kg cm ²
2	80	45 Nm	0.03 kg cm ²
2	100	40 Nm	0.03 kg cm ²

EDT-B-90

Gear Reducers

PRODUCT

A planetary gear reducer that lowers speed and raises torque at a selected stage and ratio.

TECHNICAL SPECIFICATIONS

Rated output torque T2N By stage and ratio; see table below	100-160 Nm by ratio
Moment of inertia J1 By stage and ratio; see table below	0.13-0.61 kg cm ² by ratio
Standard Backgap P2 Stage 1, ratios 3~10	<=5 arcmin
Standard Backgap P2 Stage 2, ratios 15~100	<=7 arcmin
Torsion rigidity Stages 1,2; ratios 3~100	14 Nm/arcmin
Rated input speed n1N Stages 1,2; ratios 3~100	4,000 rpm
Maximum input speed n1B Stages 1,2; ratios 3~100	8,000 rpm
Noise value Stages 1,2; ratios 3~100; 3000 rpm	<=60 dB
Allowable radial force F2rB Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	3,250 N
Allowable axial force F2a1B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	1,300 N
Allowable axial force F2a2B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	1,625 N
weight Stage 1, ratios 3~10	3.7 kg
weight Stage 2, ratios 15~100	4.1 kg

SELECTION

Select the stage and reduction ratio first. Then check torque, inertia, backlash, speed, shaft load, and mounting dimensions for that exact ratio.

TORQUE AND INERTIA BY STAGE AND RATIO

Stage	Ratio	Rated output torque	Moment of inertia
1	3	130 Nm	0.61 kg cm ²
1	4	140 Nm	0.48 kg cm ²
1	5	160 Nm	0.47 kg cm ²
1	6	150 Nm	0.45 kg cm ²



Product illustration

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Stage	Ratio	Rated output torque	Moment of inertia
1	7	140 Nm	0.45 kg cm ²
1	8	120 Nm	0.44 kg cm ²
1	10	100 Nm	0.44 kg cm ²
2	12	130 Nm	0.13 kg cm ²
2	15	130 Nm	0.13 kg cm ²
2	20	140 Nm	0.13 kg cm ²
2	25	160 Nm	0.13 kg cm ²
2	30	130 Nm	0.13 kg cm ²
2	35	160 Nm	0.13 kg cm ²
2	40	140 Nm	0.13 kg cm ²
2	50	160 Nm	0.13 kg cm ²
2	60	150 Nm	0.13 kg cm ²
2	70	140 Nm	0.13 kg cm ²
2	80	120 Nm	0.13 kg cm ²
2	100	100 Nm	0.13 kg cm ²

EDT-B-115

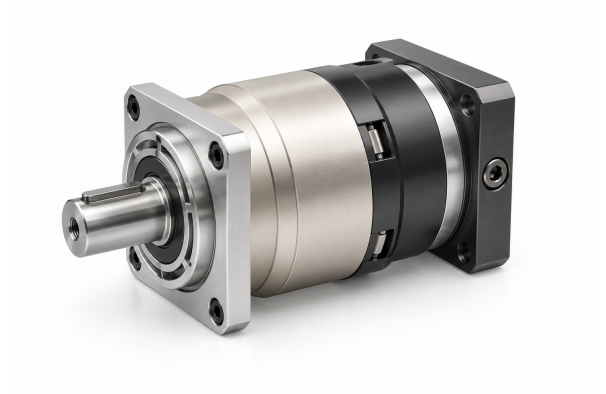
Gear Reducers

PRODUCT

A planetary gear reducer that lowers speed and raises torque at a selected stage and ratio.

TECHNICAL SPECIFICATIONS

Rated output torque T2N By stage and ratio; see table below	208-330 Nm by ratio
Moment of inertia J1 By stage and ratio; see table below	0.44-3.25 kg cm ² by ratio
Standard Backgap P2 Stage 1, ratios 3~10	<=5 arcmin
Standard Backgap P2 Stage 2, ratios 15~100	<=7 arcmin
Torsion rigidity Stages 1,2; ratios 3~100	25 Nm/arcmin
Rated input speed n1N Stages 1,2; ratios 3~100	4,000 rpm
Maximum input speed n1B Stages 1,2; ratios 3~100	8,000 rpm
Noise value Stages 1,2; ratios 3~100; 3000 rpm	<=63 dB
Allowable radial force F2rB Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	6,700 N
Allowable axial force F2a1B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	3,000 N
Allowable axial force F2a2B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	3,350 N
weight Stage 1, ratios 3~10	7.8 kg
weight Stage 2, ratios 15~100	9 kg



Product illustration

SELECTION

Select the stage and reduction ratio first. Then check torque, inertia, backlash, speed, shaft load, and mounting dimensions for that exact ratio.

TORQUE AND INERTIA BY STAGE AND RATIO

Stage	Ratio	Rated output torque	Moment of inertia
1	3	208 Nm	3.25 kg cm ²
1	4	290 Nm	2.74 kg cm ²
1	5	330 Nm	2.71 kg cm ²
1	6	310 Nm	2.65 kg cm ²

EDT-B-115

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Stage	Ratio	Rated output torque	Moment of inertia
1	7	300 Nm	2.62 kg cm ²
1	8	260 Nm	2.58 kg cm ²
1	10	230 Nm	2.57 kg cm ²
2	12	208 Nm	0.47 kg cm ²
2	15	208 Nm	0.47 kg cm ²
2	20	290 Nm	0.47 kg cm ²
2	25	330 Nm	0.47 kg cm ²
2	30	208 Nm	0.47 kg cm ²
2	35	330 Nm	0.47 kg cm ²
2	40	290 Nm	0.47 kg cm ²
2	50	330 Nm	0.44 kg cm ²
2	60	310 Nm	0.44 kg cm ²
2	70	300 Nm	0.44 kg cm ²
2	80	260 Nm	0.44 kg cm ²
2	100	230 Nm	0.44 kg cm ²

EDT-B-142

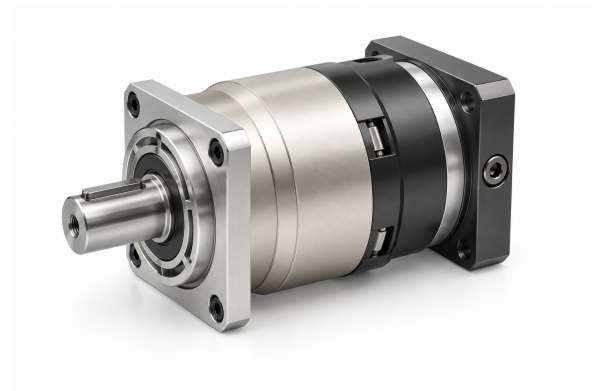
Gear Reducers

PRODUCT

A planetary gear reducer that lowers speed and raises torque at a selected stage and ratio.

TECHNICAL SPECIFICATIONS

Rated output torque T2N By stage and ratio; see table below	342-650 Nm by ratio
Moment of inertia J1 By stage and ratio; see table below	2.57-9.21 kg cm ² by ratio
Standard Backgap P2 Stage 1, ratios 3~10	<=5 arcmin
Standard Backgap P2 Stage 2, ratios 15~100	<=7 arcmin
Torsion rigidity Stages 1,2; ratios 3~100	50 Nm/arcmin
Rated input speed n1N Stages 1,2; ratios 3~100	3,000 rpm
Maximum input speed n1B Stages 1,2; ratios 3~100	6,000 rpm
Noise value Stages 1,2; ratios 3~100; 3000 rpm	<=65 dB
Allowable radial force F2rB Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	9,400 N
Allowable axial force F2a1B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	4,000 N
Allowable axial force F2a2B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	4,700 N
weight Stage 1, ratios 3~10	14.5 kg
weight Stage 2, ratios 15~100	17.5 kg



Product illustration

SELECTION

Select the stage and reduction ratio first. Then check torque, inertia, backlash, speed, shaft load, and mounting dimensions for that exact ratio.

TORQUE AND INERTIA BY STAGE AND RATIO

Stage	Ratio	Rated output torque	Moment of inertia
1	3	342 Nm	9.21 kg cm ²
1	4	542 Nm	7.54 kg cm ²
1	5	650 Nm	7.42 kg cm ²
1	6	600 Nm	7.25 kg cm ²

EDT-B-142

Gear Reducers

Stage	Ratio	Rated output torque	Moment of inertia
1	7	550 Nm	7.14 kg cm ²
1	8	500 Nm	7.07 kg cm ²
1	10	450 Nm	7.03 kg cm ²
2	12	342 Nm	2.71 kg cm ²
2	15	342 Nm	2.71 kg cm ²
2	20	542 Nm	2.71 kg cm ²
2	25	650 Nm	2.71 kg cm ²
2	30	342 Nm	2.71 kg cm ²
2	35	650 Nm	2.71 kg cm ²
2	40	542 Nm	2.71 kg cm ²
2	50	650 Nm	2.57 kg cm ²
2	60	600 Nm	2.57 kg cm ²
2	70	550 Nm	2.57 kg cm ²
2	80	500 Nm	2.57 kg cm ²
2	100	450 Nm	2.57 kg cm ²

EDT-B-180

Gear Reducers

PRODUCT

A planetary gear reducer that lowers speed and raises torque at a selected stage and ratio.

TECHNICAL SPECIFICATIONS

Rated output torque T2N By stage and ratio; see table below	520-1200 Nm by ratio
Moment of inertia J1 By stage and ratio; see table below	7.03-28.98 kg cm2 by ratio
Standard Backgap P2 Stage 1, ratios 3~10	<=5 arcmin
Standard Backgap P2 Stage 2, ratios 15~100	<=7 arcmin
Torsion rigidity Stages 1,2; ratios 3~100	145 Nm/arcmin
Rated input speed n1N Stages 1,2; ratios 3~100	3,000 rpm
Maximum input speed n1B Stages 1,2; ratios 3~100	6,000 rpm
Noise value Stages 1,2; ratios 3~100; 3000 rpm	<=67 dB
Allowable radial force F2rB Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	14,500 N
Allowable axial force F2a1B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	6,200 N
Allowable axial force F2a2B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	7,250 N
weight Stage 1, ratios 3~10	29 kg
weight Stage 2, ratios 15~100	33 kg

SELECTION

Select the stage and reduction ratio first. Then check torque, inertia, backlash, speed, shaft load, and mounting dimensions for that exact ratio.

TORQUE AND INERTIA BY STAGE AND RATIO

Stage	Ratio	Rated output torque	Moment of inertia
1	3	588 Nm	28.98 kg cm2
1	4	1,050 Nm	23.67 kg cm2
1	5	1,200 Nm	23.29 kg cm2
1	6	1,000 Nm	22.75 kg cm2



Product illustration

EDT-B-180

Gear Reducers

Stage	Ratio	Rated output torque	Moment of inertia
1	7	1'100 Nm	22.48 kg cm ²
1	8	1'000 Nm	22.59 kg cm ²
1	10	520 Nm	22.51 kg cm ²
2	15	588 Nm	7.42 kg cm ²
2	20	1'050 Nm	7.42 kg cm ²
2	25	1'200 Nm	7.42 kg cm ²
2	30	1'200 Nm	7.42 kg cm ²
2	35	1'200 Nm	7.42 kg cm ²
2	40	1'200 Nm	7.42 kg cm ²
2	50	1'200 Nm	7.03 kg cm ²
2	70	1'100 Nm	7.03 kg cm ²
2	80	1'000 Nm	7.03 kg cm ²
2	100	520 Nm	7.03 kg cm ²

EDT-B-220

Gear Reducers

PRODUCT

A planetary gear reducer that lowers speed and raises torque at a selected stage and ratio.

TECHNICAL SPECIFICATIONS

Rated output torque T2N By stage and ratio; see table below	1140-2000 Nm by ratio
Moment of inertia J1 By stage and ratio; see table below	22.51-69.61 kg cm ² by ratio
Standard Backgap P2 Stage 1, ratios 3~10	≤5 arcmin
Standard Backgap P2 Stage 2, ratios 15~100	≤7 arcmin
Torsion rigidity Stages 1,2; ratios 3~100	225 Nm/arcmin
Rated input speed n1N Stages 1,2; ratios 3~100	2,000 rpm
Maximum input speed n1B Stages 1,2; ratios 3~100	4,000 rpm
Noise value Stages 1,2; ratios 3~100; 3000 rpm	≤70 dB
Allowable radial force F2rB Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	50,000 N
Allowable axial force F2a1B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	35,000 N
Allowable axial force F2a2B Stages 1,2; ratios 3~100; 2. Output speed of 100rpm, acting on the center position of the output shaft.	25,000 N
weight Stage 1, ratios 3~10	48 kg
weight Stage 2, ratios 15~100	60 kg

SELECTION

Select the stage and reduction ratio first. Then check torque, inertia, backlash, speed, shaft load, and mounting dimensions for that exact ratio.

TORQUE AND INERTIA BY STAGE AND RATIO

Stage	Ratio	Rated output torque	Moment of inertia
1	3	1,140 Nm	69.61 kg cm ²
1	4	1,700 Nm	54.37 kg cm ²
1	5	2,000 Nm	53.27 kg cm ²
1	6	1'600 Nm	51.72 kg cm ²



Product illustration

EDT-B-220

Gear Reducers

Stage	Ratio	Rated output torque	Moment of inertia
1	7	1'800 Nm	50.97 kg cm ²
1	8	1'600 Nm	50.84 kg cm ²
1	10	1'220 Nm	50.56 kg cm ²
2	15	1'140 Nm	23.29 kg cm ²
2	20	1'700 Nm	23.29 kg cm ²
2	25	2'000 Nm	23.29 kg cm ²
2	30	2'000 Nm	23.29 kg cm ²
2	35	2'000 Nm	23.29 kg cm ²
2	40	2'000 Nm	23.29 kg cm ²
2	50	2'000 Nm	22.51 kg cm ²
2	70	1'800 Nm	22.51 kg cm ²
2	80	1'600 Nm	22.51 kg cm ²
2	100	1'220 Nm	22.51 kg cm ²