



PLANETARY GEAR REDUCER

PGR Compact Series | Precision Planetary Gear Reducer

Compact Series | 20 / 22 / 24 / 28 mm planetary gear reducer.

COMPACT SERIES SELECTION

Website Group	Model	Size	Stages	Reduction Ratios	Rated Torque	Input Speed
Compact Series	PGR-20	20 mm	1-4	4-1296	6-13 kgf·cm	≤ 8000 rpm
	PGR-22	22 mm	1-4	3.5-509.1	8-25 kgf·cm	≤ 8000 rpm
	PGR-24	24 mm	1-4	3.83-759.7	10-30 kgf·cm	≤ 8000 rpm
	PGR-28	28 mm	1-4	3.83-759.7	20-50 kgf·cm	≤ 8000 rpm



PLANETARY GEAR REDUCER

PGR-20 | Compact Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-20
SIZE / POSITIONING	Ø20 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	4 / 4.75 / 6	16 / 19 / 22.6 / 24 / 28.5 / 36	64 / 76 / 90.2 / 96 / 107.2 / 114 / 135.4 / 144 / 171 / 216	256 / 304 / 361 / 384 / 428.7 / 456 / 509.1 / 541.5 / 576 / 643 / 684 / 812.2 / 864 / 1026 / 1296
Gearbox Length L	mm	20.9	24.9	29.7	35.5
Rated Permissible Torque	kgf·cm	6	7	10	13
Instantaneous Permissible Torque	kgf·cm	12	14	20	26
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 1.6	≤ 1.6	≤ 1.6	≤ 1.6
Axial Load	kgf	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2

Backlash — No Load	°	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120



PLANETARY GEAR REDUCER

PGR-22 | Compact Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-22
SIZE / POSITIONING	Ø22 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.5 / 4 / 4.75	12.25 / 14 / 16 / 16.6 / 19 / 22.6	42.9 / 49 / 56 / 58.2 / 64 / 66.5 / 76 / 79 / 90.25 / 107.2	150.1 / 171.5 / 196 / 203.7 / 224 / 232.7 / 256 / 266 / 276.4 / 304 / 315.9 / 361 / 375.1 / 428.7 / 509.1
Gearbox Length L	mm	22.6	27.9	33.2	38.5
Rated Permissible Torque	kgf·cm	8.0	10.0	15.0	25.0
Instantaneous Permissible Torque	kgf·cm	16.0	20.0	30.0	50.0
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 1.6	≤ 1.6	≤ 1.6	≤ 1.6
Axial Load	kgf	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2

Backlash — No Load	°	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120



PLANETARY GEAR REDUCER
PGR-24 | Compact Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-24
SIZE / POSITIONING	Ø24 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.83 / 4.4 / 5.25	14.7 / 16.8 / 19.4 / 20.1 / 23 / 27.7	56.2 / 64.5 / 74.1 / 77 / 85.2 / 88.5 / 101.6 / 105.6 / 121.3 / 144.7	215.2 / 247.2 / 284 / 294.9 / 326.2 / 338.8 / 374.8 / 389.3 / 404.3 / 447.2 / 464.5 / 533.6 / 554.2 / 636.7 / 759.7
Gearbox Length L	mm	24.6	30.4	36.2	42
Rated Permissible Torque	kgf·cm	10.0	15.0	20.0	30.0
Instantaneous Permissible Torque	kgf·cm	20.0	30.0	40.0	60.0
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0
Axial Load	kgf	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3

Backlash — No Load	°	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120



PLANETARY GEAR REDUCER

PGR-28 | Compact Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-28
SIZE / POSITIONING	Ø28 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.83 / 4.4 / 5.25	14.7 / 16.8 / 19.4 / 20.1 / 23 / 27.7	56.2 / 64.5 / 74.1 / 77 / 85.2 / 88.5 / 101.6 / 105.6 / 121.3 / 144.7	215.2 / 247.2 / 284 / 294.9 / 326.2 / 338.8 / 374.8 / 389.3 / 404.3 / 447.2 / 464.5 / 533.6 / 554.2 / 636.7 / 759.7
Gearbox Length L	mm	25.6	31.9	38.2	44.5
Rated Permissible Torque	kgf·cm	20.0	25.0	35.0	50.0
Instantaneous Permissible Torque	kgf·cm	40.0	50.0	70.0	100.0
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 6.0	≤ 6.0	≤ 6.0	≤ 6.0
Axial Load	kgf	≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04

Axial Clearance	mm	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3
Backlash — No Load	°	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120