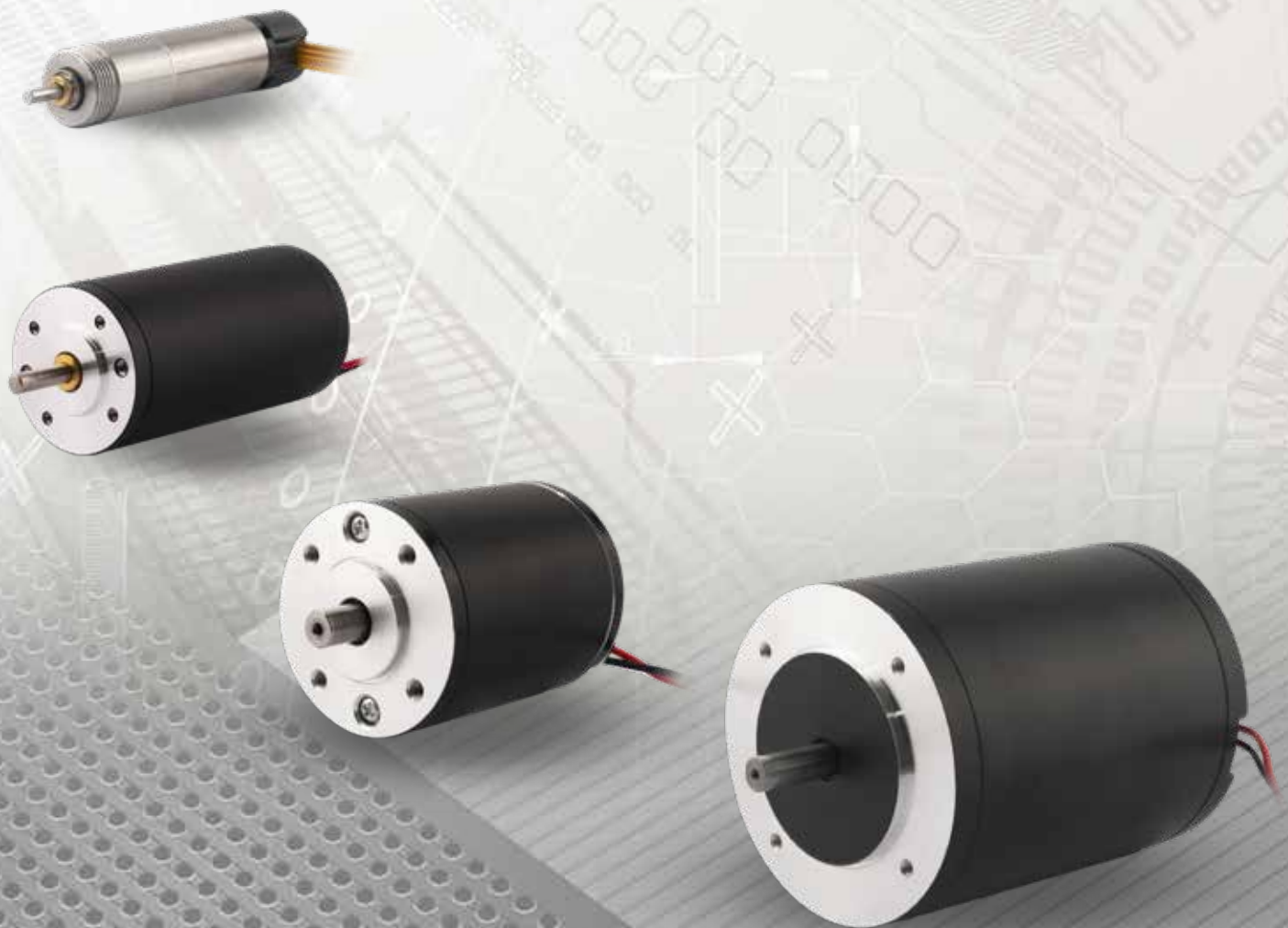


BRUSH DC MOTOR PRODUCT CATALOG



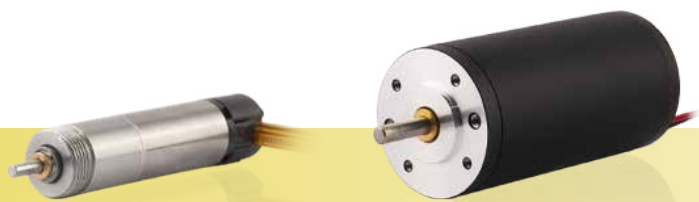
DINGS' Brush DC Motors have low mechanical loss, high power conversion efficiency but relatively save energy.

The speed of Brush DC motor can quickly respond to change of voltage and meet the requirements of high speed and high precision control.

Brush DC Motor's torque is proportional to the current, it has very good starting performance.

DINGS' Brush DC Motors can be designed by Ferrite, Aluminium, Nickel Cobalt, Rare Earth magnet or Permanent Magnet. Also DINGS' can adopt two different brush as Graphite or Metal Graphite.

In addition, DINGS' can customize Brush DC Motors in various ways with gearbox, encoder or DINGS' also can design Brush DC linear actuators for wide applications.



BRUSH DC MOTOR

CONTENTS

Part number construction

8 mm

42 mm

50 mm

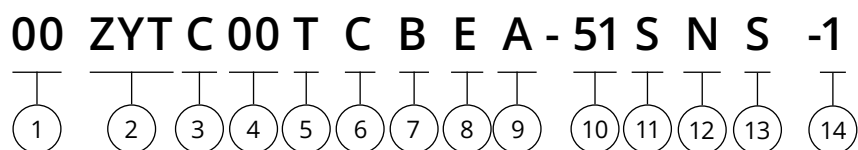
63 mm

80 mm

Precision planetary gearbox



Part Number Construction



① Motor Size

Motor Size(mm)	8	42	50	63	80
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② Product Name

ZYT = Slotted Brushed DC Motor (Ferrite)
 ZY = Slotted Brushed DC Motor (Aluminum nickel cobalt)
 ZYN = Slotted Brushed DC Motor (Rare earth)
 LY = Permanent magnet DC torque motor
 ZYC = Slotless Brush DC Motor

③ Motor Shape

C = Circular Type
 S = Square Type

④ Motor Length

Unit : mm
 when the length involves decimal points, use "." instead

⑤ Motor Casing

L = Aluminum
 T = Stainless steel / Iron
 X = Inorganic Shell

⑥ Brush Type

C = Graphite brush
 P = Metal graphite brush

⑦ Option

EKX = Encoder (X = Encoder Resolution)
 B = Brake
 GX = Gearbox (X = Gear Ratio)
 Note: When Options are not single,
 please use in alphabetical order for example, "BEG"

⑧ Structure

E = External type
 N = Non-Captive type
 C = Electric Cylinder (Captive) type
 K = Kaptive type

⑨ Lead Screw Code

Please refer to lead screw code selection table

⑩ Screw Length / Stroke

Kaptive = stroke distance
 Non-captive = total length of screw
 External = screw extension length from
 the mounting flange

⑪ Screw Surface Treatment

T = Teflon coating
 S = Standard (No teflon coating)

⑫ End Machining

M = Metric
 U = UNC
 S = Smooth
 C = Customize
 N = None

⑬ Nut Style

S = Standard Flange Nut
 A = Anti-Backlash Nut
 C = Customized Nut

⑭ Customer Sequence Number

Example

Part Number	50ZYT C100-1
Description	Brush DC Ferrite Motor Circular type Motor length 100mm Customizaion No.1

8mm Brush DC

8ZYCC24P-G16-E256-1 is very compact size Brush DC Motor with 16:1 Planetary Gearbox and 256 lines of encoder.

Motor's rated power is 299mW and rated speed is 350RPM.

Very compact design of motor but this motor also can be customized as linear actuator.

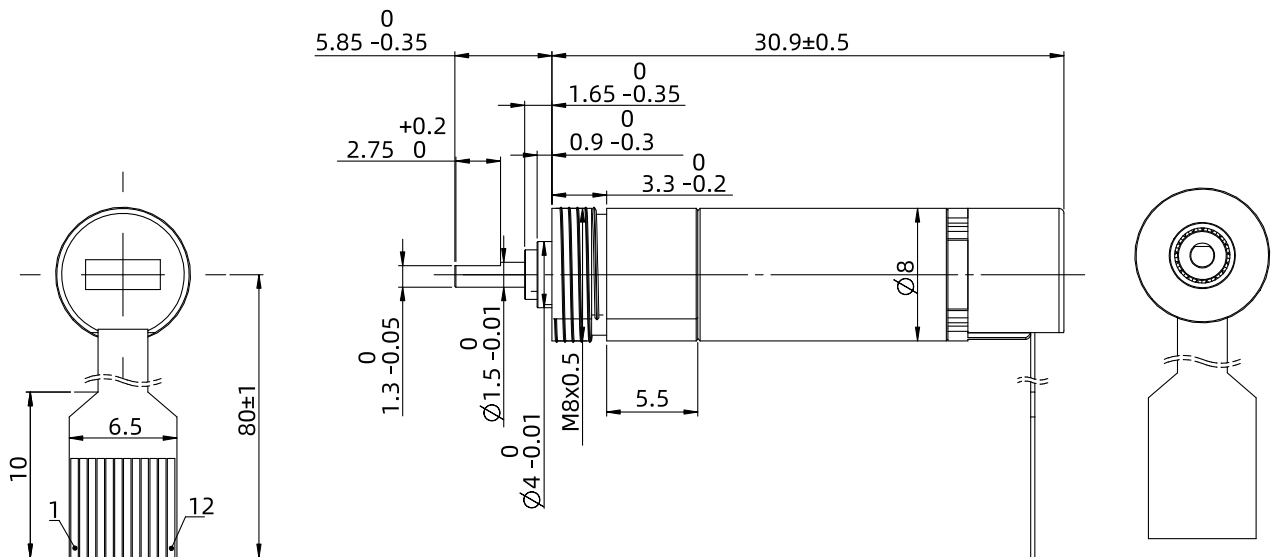


Motor Characteristics

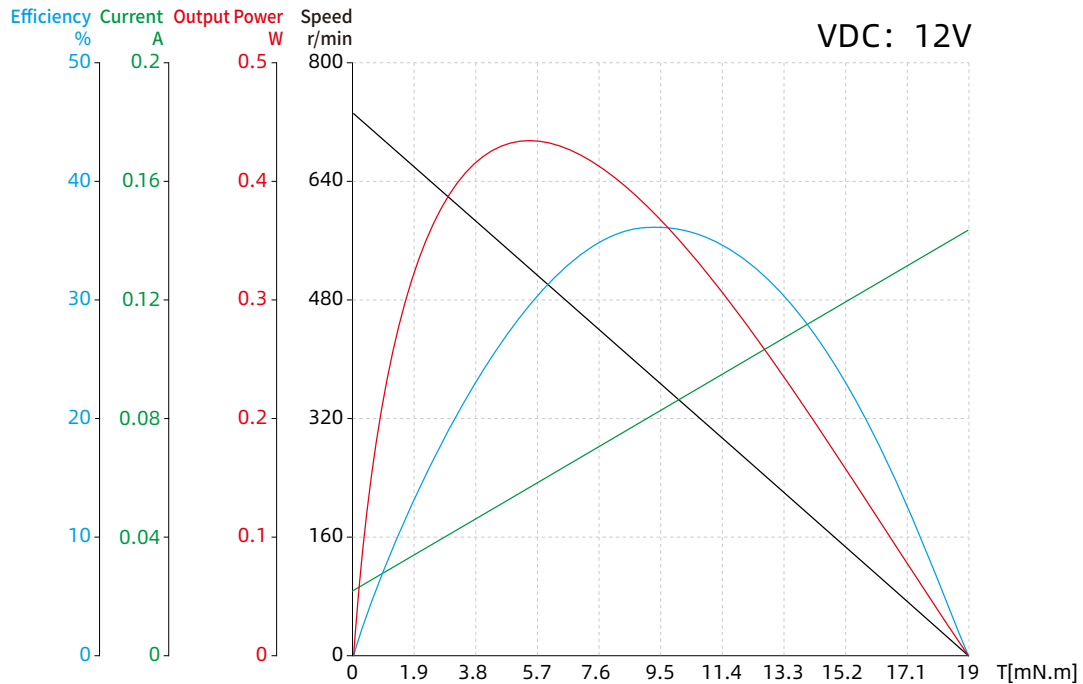
Motor part number	8ZYCC24P-G16-E256-1	
Phase resistance	Ω	83.5
Phase inductance	μH	240
Insulation class	-	F/155 °C
Insulation resistance	-	10M Ω /250V
Weight	g	8
Rated voltage	V	12
Rated power	mW	299
Rated torque	mN·m	6.64
Rated speed	RPM	430
Rated current	mA	72
No load speed	RPM	730
No load current	mA	30
Motor maximum efficiency	%	34.6
Noise (Ambient noise 20db, test distance 30cm)	dB	< 40
Case - Environmental thermal resistance (no load)	K/W	101
Ambient temperature	°C	-30 ~ 85
Maximum winding temperature (no load)	°C	100
Torque constant	mNm/A	132.9
Back-EMF constant	V/Krpm	13.92
Peak torque	m N·m	19.07
Peak current	mA	143
Inertia moment	g.cm ²	0.042
Mechanical time constant	ms	4.5
End bell	-	PPS+30%GF
Bearing	-	Deep groove
Magnet	-	SinterNdFeB
Shaft	-	30Cr13

8mm Brush DC

■ Dimensional Drawings



Torque Performance Curves



42mm Brush DC



42ZYT85-1 Brush DC Motor has 24V Rated voltage of DC Motor and it can run at Max. 3,150RPM.

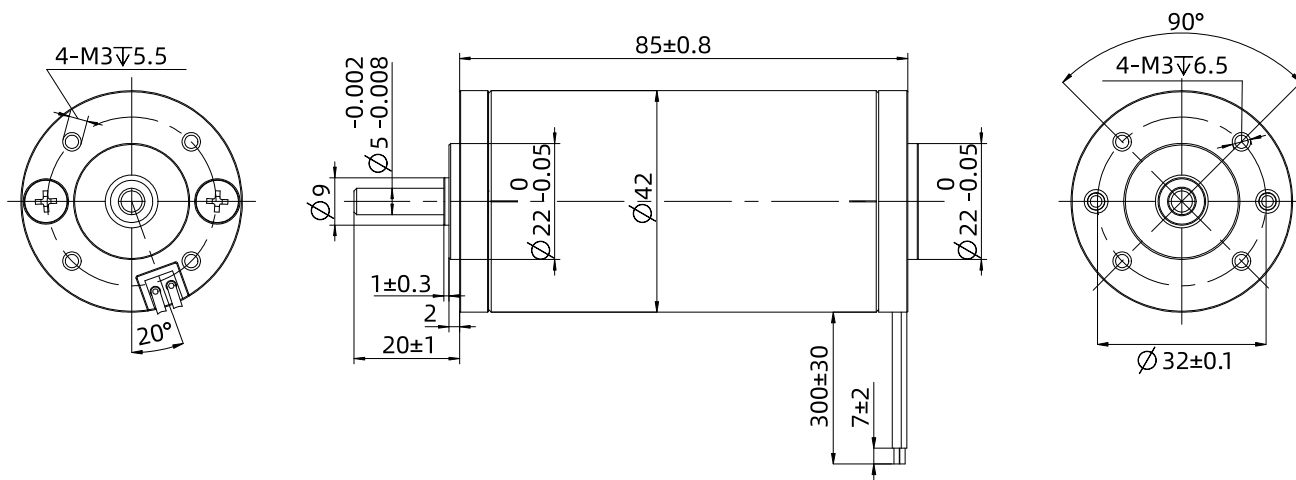
It can generate 57mN.m of rated torque and customized with gearbox and also designed as various linear actuators.

Motor Characteristics

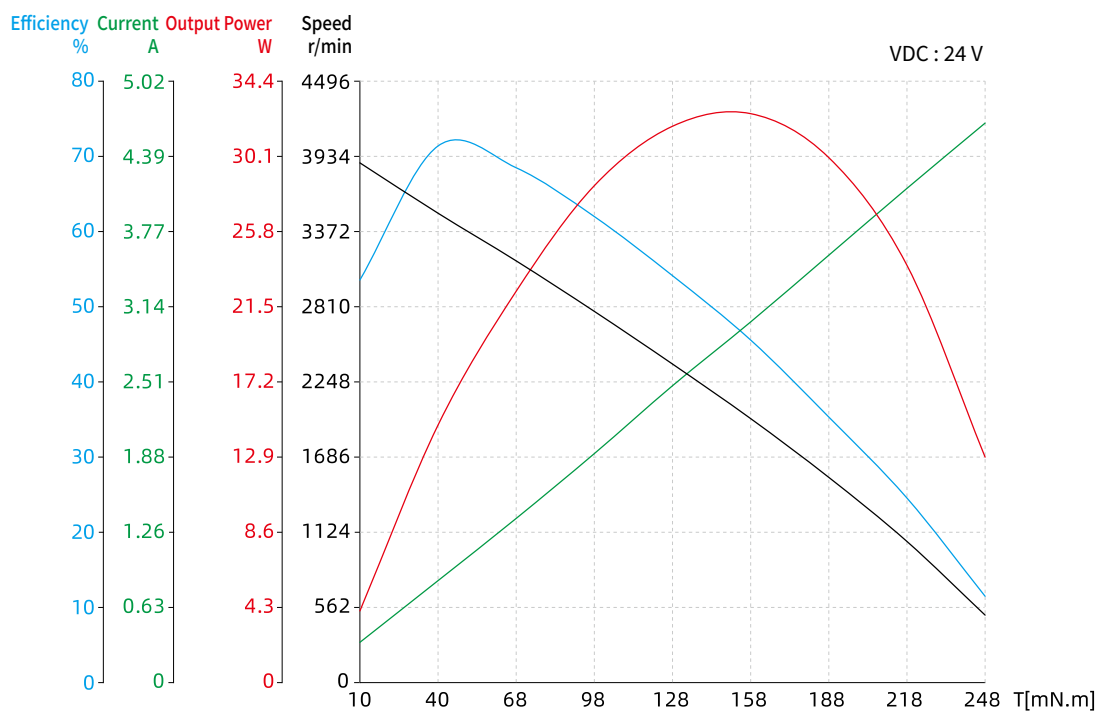
Motor part number	42ZYT85-1	
Rated voltage	V	24
Rated torque	mN·m	57
Rated speed	RPM	3150
Rated current	A	1.45
No-load speed	RPM	4000
No-load current	A	0.3
Rated power	W	19
Stall torque	mN·m	256
Stall current	A	5.5
Torque constant	mNm/A	64.5
Back emf constant	V/Krpm	6.7
Terminal resistance	Ω	4.65
Inductance	mH	3
Rotor inertia	g·cm ²	110
Starting torque	mN·m	20
Noise (ambient noise 20dB, test distance 1m)	dB	<50
Life span	H	>2500
Insulation resistance	-	100M Ω/250V
Duty cycle	-	S1
Motor weight	Kg	0.43

42mm Brush DC

Dimensional Drawings



Torque Performance Curves



50mm Brush DC

50ZYT60-1 Brush DC Motor has 24V Rated voltage of DC Motor and it can run at Max. 1,700RPM.

It can generate 22.5mN.m of rated torque and customized with gearbox and also designed as various linear actuators.

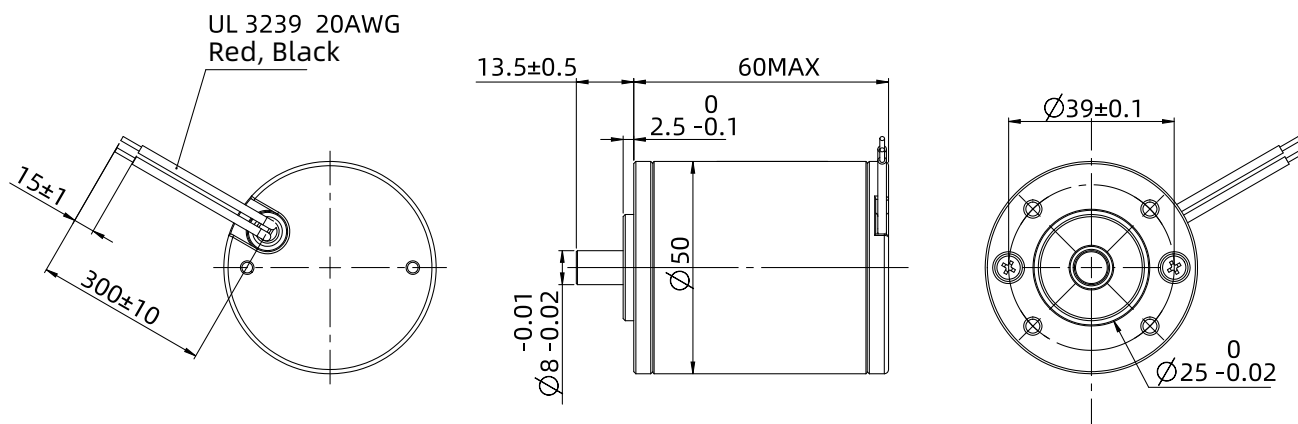


Motor Characteristics

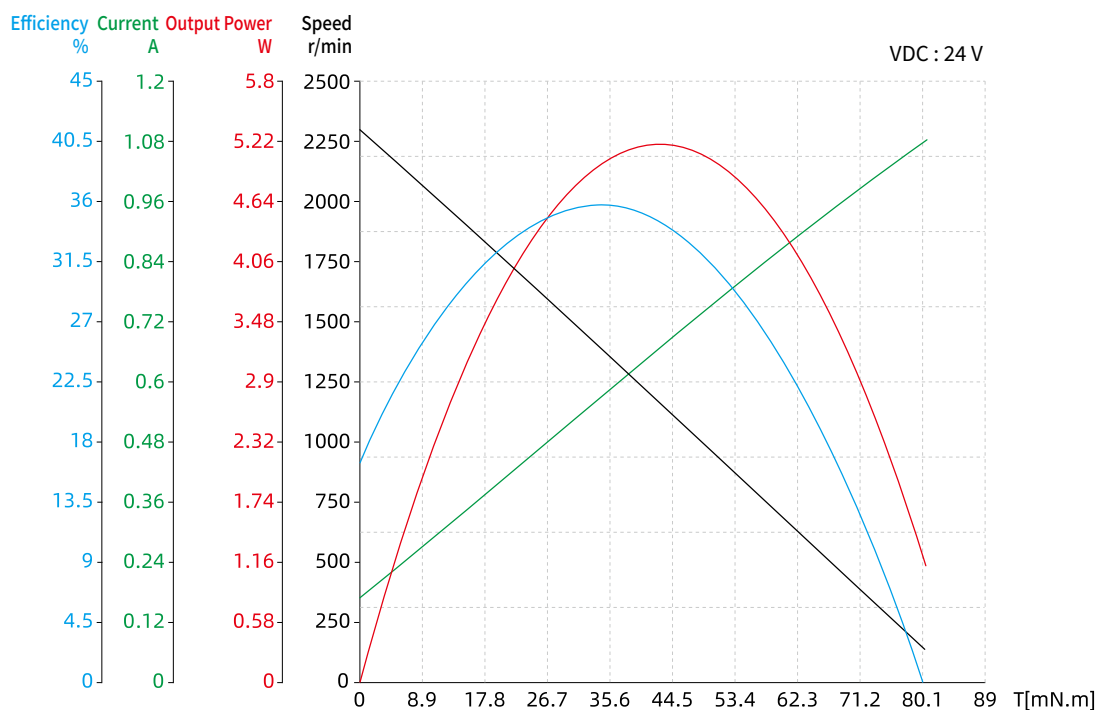
Motor part number	50ZYT60-1	
Rated voltage	V	24
Rated torque	mN·m	22.5
Rated speed	RPM	1700
Rated current	A	0.5
No-load speed	RPM	2300
No-load current	A	0.2
Rated power	W	4
Stall torque	mN·m	80
Stall current	A	1.1
Torque constant	mNm/A	86.4
Back emf constant	V/Krpm	9.05
Terminal resistance	Ω	20.2
Inductance	mH	11
Rotor inertia	g.cm ²	130
Starting torque	mN·m	32
Noise (ambient noise 20dB, test distance 1m)	dB	<48
Life span	H	>2500
Insulation resistance	-	100M Ω/250V
Duty cycle	-	S1
Motor weight	Kg	0.38

50mm Brush DC

Dimensional Drawings



Torque Performance Curves



63mm Brush DC

63ZYT125-1 Brush DC Motor has 24V Rated voltage of DC Motor and it can run at Max. 3,200RPM.

It can generate 0.27N.m of rated torque and customized with gearbox and also designed as various linear actuators.

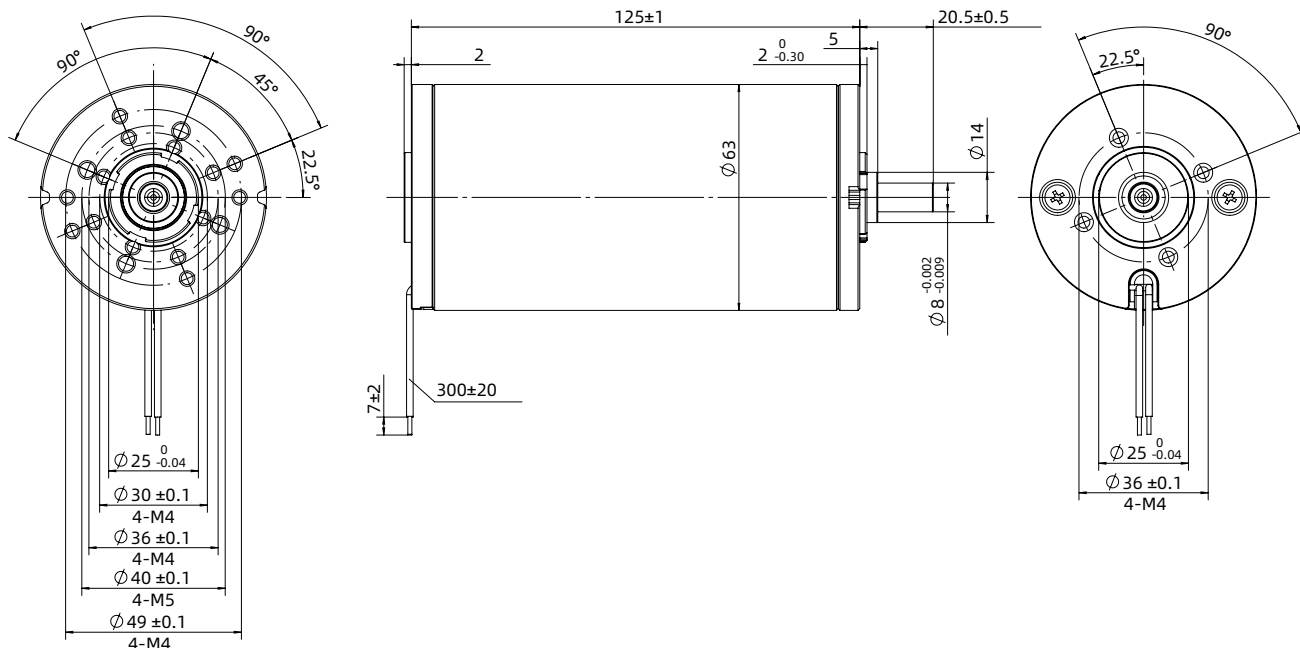


Motor Characteristics

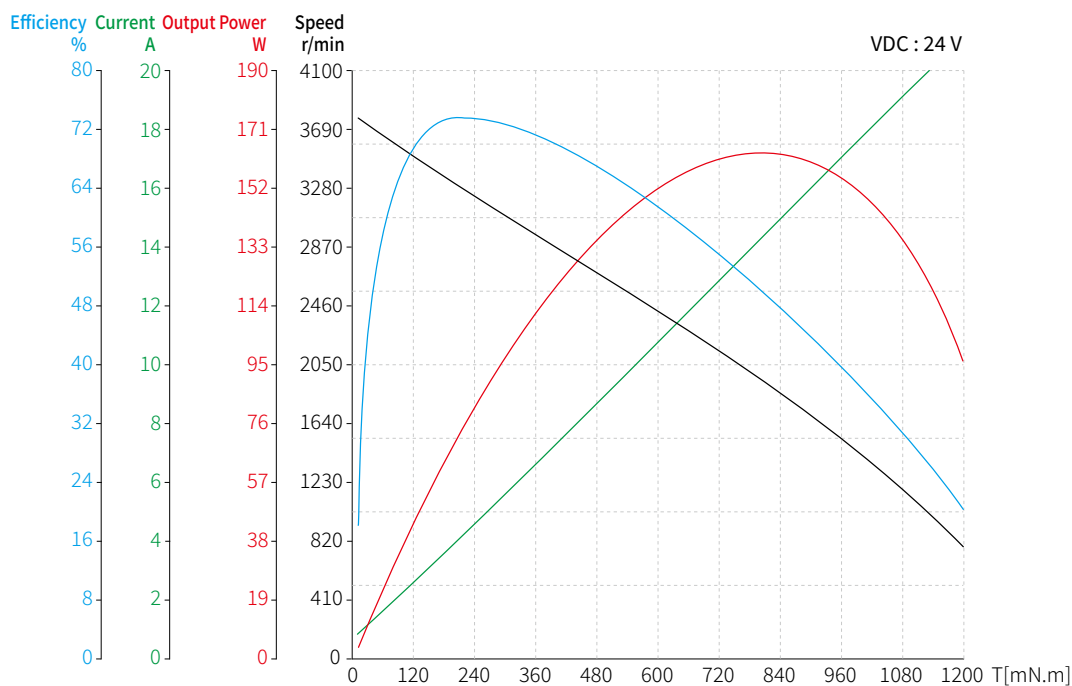
Motor part number	63ZYT125-1	
Rated voltage	V	24
Rated torque	N·m	0.27
Rated speed	RPM	3200
Rated current	A	6.0
No-load speed	RPM	3650
No-load current	A	1.0
Rated power	W	90
Stall torque	N·m	1.6
Stall current	A	29
Torque constant	mNm/A	62
Back emf constant	V/Krpm	6.01
Terminal resistance	Ω	0.82
Inductance	mH	1.6
Rotor inertia	kg.cm ²	0.8
Starting torque	mN·m	42
Noise (ambient noise 20dB, test distance 1m)	dB	<50
Life span	H	>3000
Insulation resistance	-	100M Ω/250V
Duty cycle	-	S1
Motor weight	Kg	1.6

63mm Brush DC

Dimensional Drawings



Torque Performance Curves



Note : All drawings are 1st Angle Projection - ISO Compliant (3D models available)

80mm Brush DC

80ZYT102-1 Brush DC Motor has 24V Rated voltage of DC Motor and it can run at Max. 2,500RPM.

It can generate 0.25N.m of rated torque and customized with gearbox and also designed as various linear actuators.

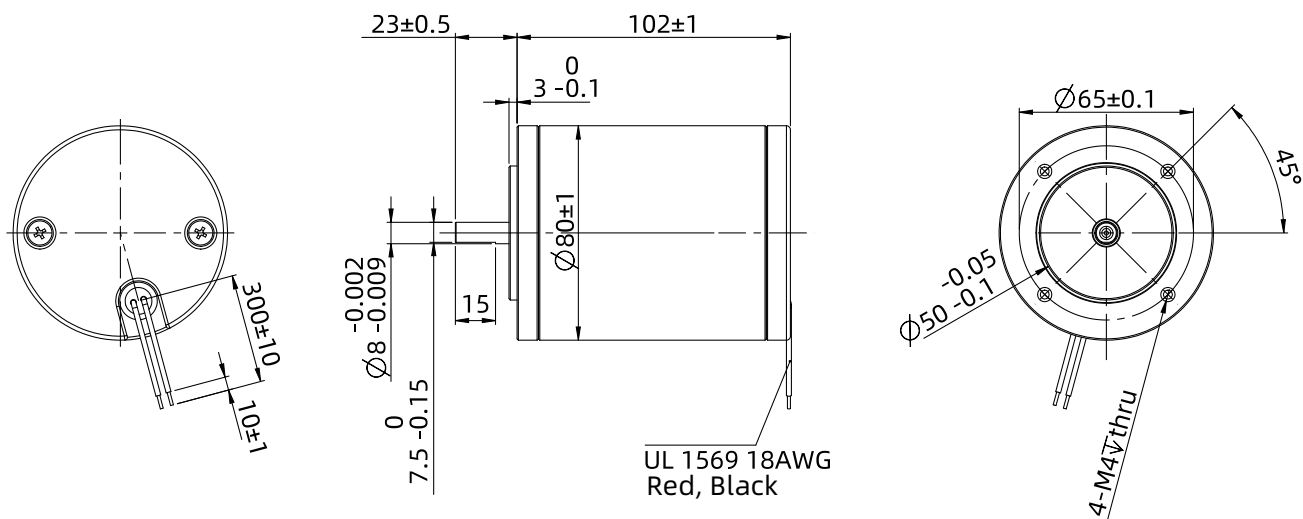


Motor Characteristics

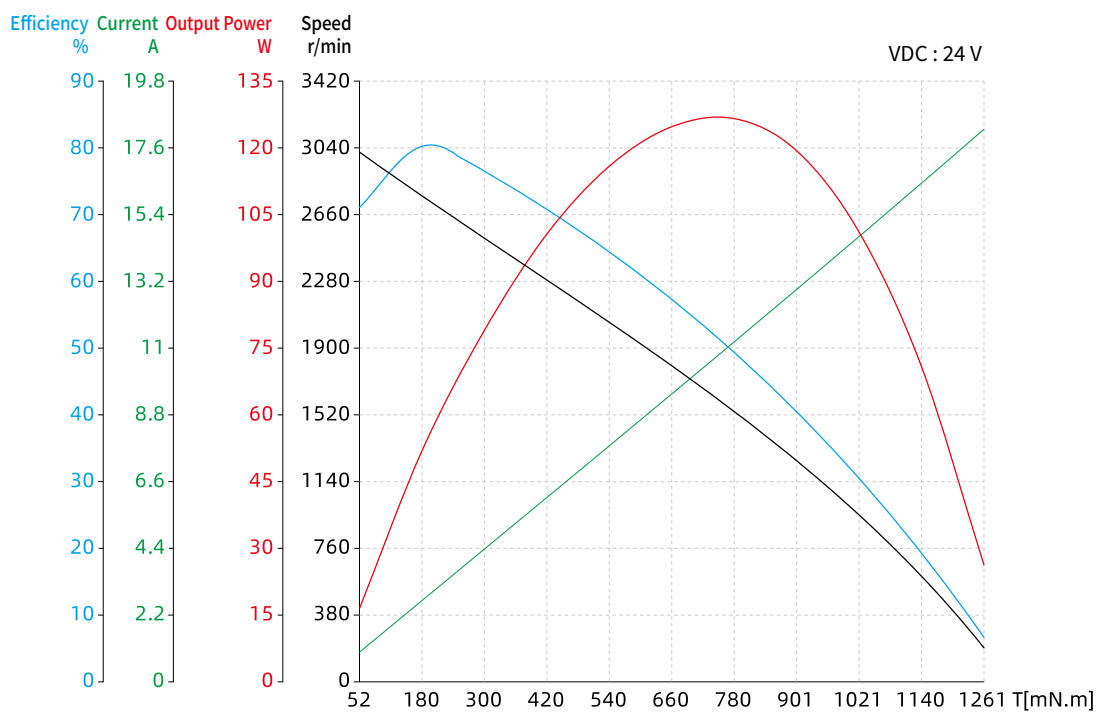
Motor part number	80ZYT102-1	
Rated voltage	V	24
Rated torque	N·m	0.25
Rated speed	RPM	2500
Rated current	A	4.5
No-load speed	RPM	3200
No-load current	A	0.6
Rated power	W	65
Stall torque	N·m	1.2
Stall current	A	19
Torque constant	mNm/A	61
Back emf constant	V/Krpm	6.4
Terminal resistance	Ω	1.3
Inductance	mH	1.8
Rotor inertia	kg.cm ²	1.6
Starting torque	mN·m	52
Noise (ambient noise 20dB, test distance 1m)	dB	<50
Life span	H	>3000
Insulation resistance	-	100M Ω/250V
Duty cycle	-	S1
Motor weight	Kg	1.7

80mm Brush DC

Dimensional Drawings



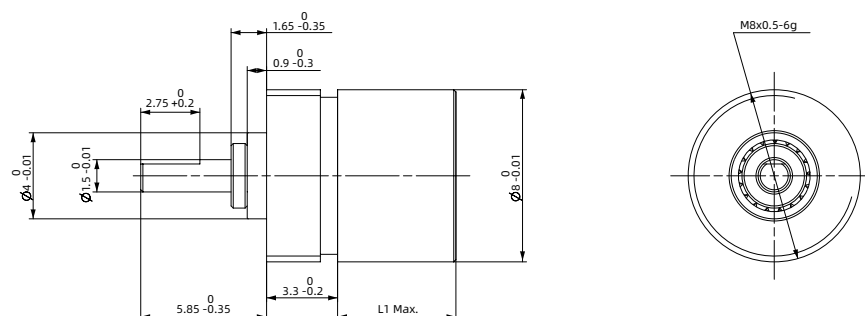
Torque Performance Curves



Precision Planetary Gearbox

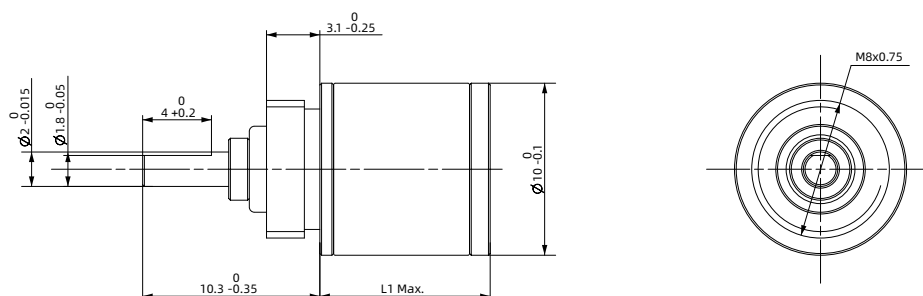
Precision planetary gearbox

8PGX



Stage	-	Stage 1	Stage 2
Reduction ratio	X : 1	4	16
Max. continuous torque	N·m	0.01	0.02
Max. continuous output power	W	0.84	0.52
Max. continuous speed transfer	rpm	12000	12000
Max. axial load (Dynamic)	N	5	5
Max. radial load (5mm from flange)	N	5	6
Max. efficiency	%	90	81
Max. backlash	°	1.8	2.0
Gearbox length L	mm	5.5	8.1
Weight	g	2.6	3.2

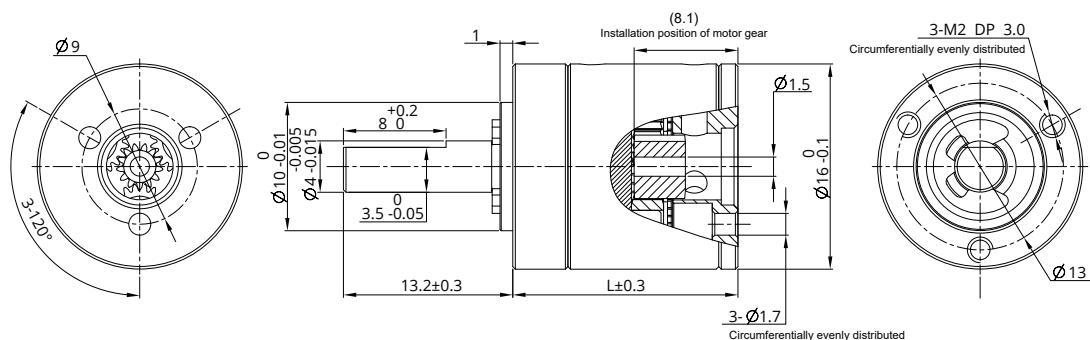
10PGX



Stage	-	Stage 1	Stage 2	Stage 3	Stage 4
Reduction ratio	X : 1	4.25	18	76.8	326
Max. continuous torque	N·m	0.01	0.03	0.10	0.15
Max. continuous output power	W	1.6	1.2	1.0	0.4
Max. continuous speed transfer	rpm	12000	12000	12000	12000
Max. axial load (Dynamic)	N	5	5	5	5
Max. radial load (5mm from flange)	N	5	10	15	20
Max. efficiency	%	90	81	73	65
Max. backlash	°	1.5	1.8	2.0	2.2
Gearbox length L	mm	10.1	13.6	17.1	20.6
Weight	g	6.7	7.2	7.7	8.2

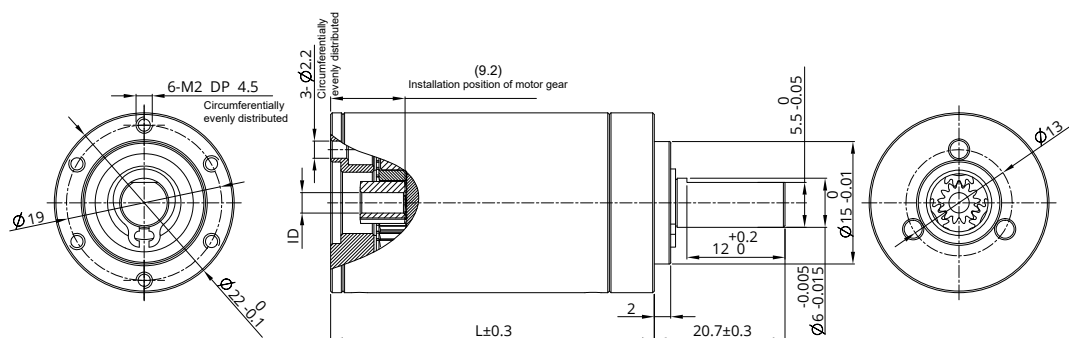
Precision Planetary Gearbox

● 16PGX



Stage	-	Stage 1	Stage 2	Stage 3	Stage 4
Reduction ratio	X : 1	3.947, 5.307	16, 21, 28	62, 83, 111, 150	243, 326, 439, 590, 794
Max. continuous torque	N·m	0.2	0.25	0.35	0.45
Max. continuous output power	W	6.5	3.2	1.6	0.6
Max. continuous speed transfer	rpm	12000	14000	16000	16000
Max. axial load (Dynamic)	N	20	20	20	20
Max. radial load (5mm from flange)	N	30	45	70	70
Max. efficiency	%	90	80	75	65
Max. backlash	°	1.0	1.2	1.3	1.4
Gearbox length L	mm	18.7	25.5	30.2	35
Weight	g	25	31	37	42

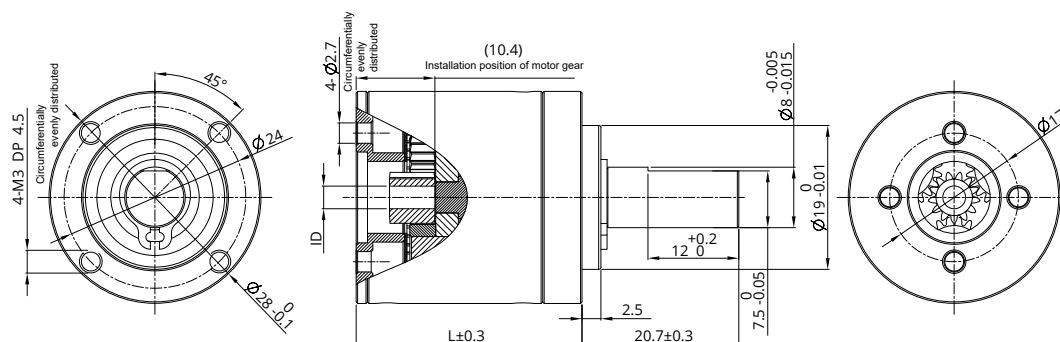
● 22PGX



Stage	-	Stage 1	Stage 2	Stage 3	Stage 4
Reduction ratio	X : 1	3.9, 5.3, 6.6	16, 21, 26, 28, 35, 44	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. continuous torque	N·m	0.50	0.70	1.20	1.50
Max. continuous output power	W	24	12	6.0	1.6
Max. continuous speed transfer	rpm	8000	10000	12000	12000
Max. axial load (Dynamic)	N	40	40	40	40
Max. radial load (5mm from flange)	N	65	100	120	120
Max. efficiency	%	90	81	74	66
Max. backlash	°	0.85	1.05	1.2	1.35
Gearbox length L	mm	22.3	33	39.6	46.3
Weight	g	59	83	97	112

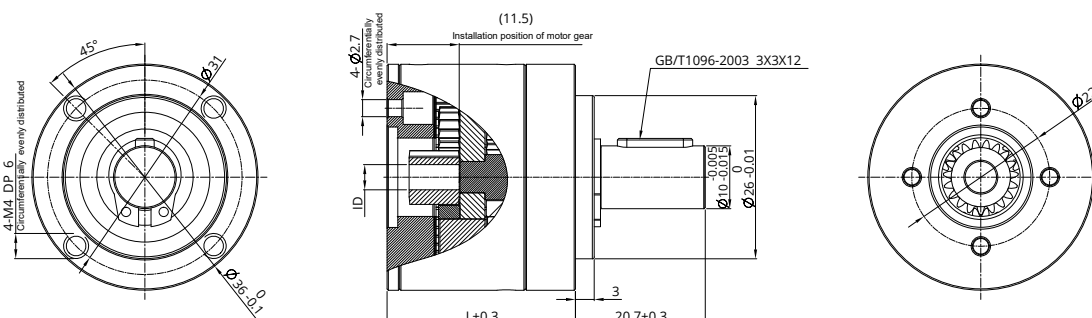
Precision Planetary Gearbox

28PGX



Stage	-	Stage 1	Stage 2	Stage 3	Stage 4
Reduction ratio	X : 1	3.9, 5.3, 6.6	16, 21, 26, 28, 35	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. continuous torque	N·m	1.25	2.90	5.0	5.0
Max. continuous output power	W	100	50	25	22
Max. continuous speed transfer	rpm	6000	7000	8000	8000
Max. axial load (Dynamic)	N	110	110	110	110
Max. radial load (5mm from flange)	N	160	180	180	180
Max. efficiency	%	90	81	74	65
Max. backlash	°	0.55	0.7	0.9	1.0
Gearbox length L	mm	24.2	36.9	43.5	50.2
Weight	g	103	150	174	198

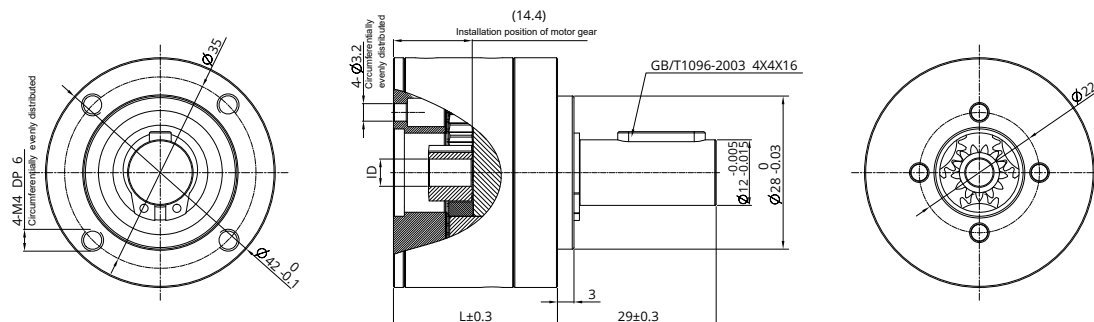
36PGX



Stage	-	Stage 1	Stage 2	Stage 3	Stage 4
Reduction ratio	X : 1	3.9, 5.3	16, 21, 26, 28, 35	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. continuous torque	N·m	2.30	5.40	9.30	9.30
Max. continuous output power	W	185	90	45	40
Max. continuous speed transfer	rpm	5000	6000	7000	7000
Max. axial load (Dynamic)	N	240	240	240	240
Max. radial load (5mm from flange)	N	200	250	250	250
Max. efficiency	%	90	80	75	65
Max. backlash	°	0.5	0.6	0.7	0.8
Gearbox length L	mm	30	44.7	51.3	58
Weight	g	156	238	277	315

Precision Planetary Gearbox

● 42PGX



Stage	-	Stage 1	Stage 2	Stage 3	Stage 4
Reduction ratio	X : 1	3.9, 5.3	16, 21, 26, 28, 35	62, 83, 103, 111, 138, 150, 172, 186, 231	243, 326, 406, 439, 546, 590, 679, 734, 794, 913, 987, 1135, 1227, 1526
Max. continuous torque	N·m	3.0	7.5	15	15
Max. continuous output power	W	580	240	100	20
Max. continuous speed transfer	rpm	6000	6000	6000	6000
Max. axial load (Dynamic)	N	200	200	200	200
Max. radial load (5mm from flange)	N	350	525	750	750
Max. efficiency	%	90	81	72	64
Max. backlash	°	0.3	0.4	0.5	0.6
Gearbox length L	mm	36.1	54.9	63.6	72.4
Weight	g	252	405	476	544

DINGS'

Precision Motion Specialist

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