



**SPG/SDPG/SRS/SAGV SERIES
HIGH PRECISION PLANETARY GEAR BOX**



Zhongda Leader Realizes Infinite Possibility In Automation Application

Motor Drivers Micro Motors Precision Reducers



Headquarters Ningbo Zhongda Leader Intelligent Transmission Co., Ltd.



Subsidiary

Ningbo Zhongda Chuangyuan Precision Equipment Co., Ltd.



Subsidiary

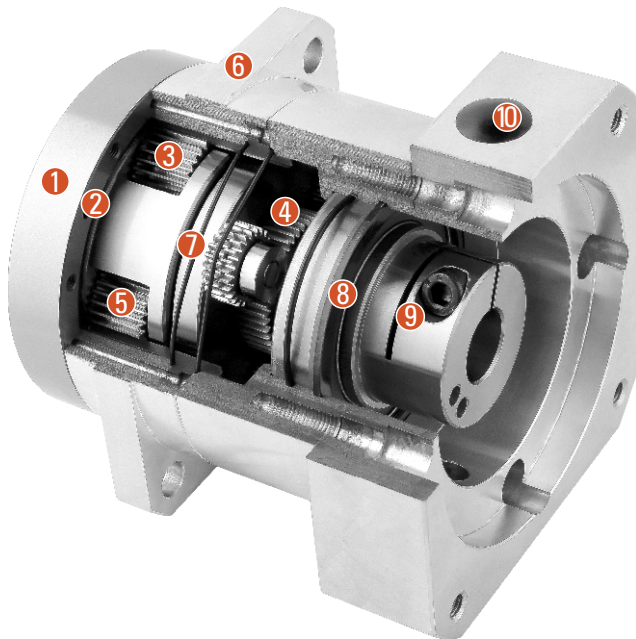
Foshan Zhongda Leader Drive Technology Co., Ltd.

Source Engineering, established in 1998 has been assisting OEM customers with their motion control needs for over 25 years. Our complete product line of motors, gearmotors, precision gearheads, standard and custom gives us the flexibility to provide a solution for a wide variety of industries and applications. Engineering, sales, technical support, and a stocking warehouse are located at our company headquarters in Ca.

Our Global manufacturing partner Ningbo Zhongda Leader Intelligent Transmission Co., Ltd has 9 branches and subsidiaries with 1800 employees. With their assistance, we can offer high-quality cost-effective products, R&D, special designs, and additional technical support to all our customers nationwide and overseas.

SPG/SDPG SERIES GEAR BOX

Sectional Drawing



- ① Output shaft
- ② Output shaft front bearing
- ③ Planetary gear
- ④ Sun Gear
- ⑤ Full needle bearing
- ⑥ Front cover
- ⑦ Output shaft rear bearing
- ⑧ Oil seal
- ⑨ Coupling
- ⑩ Rear cover

Type And Model Number

SPG/SDPG Reducers				Servo Motor			
32	SPG/SDPG	21	()	(S)	-	1000	T1
①	②	③	④	⑤	⑥	⑦	

- ① Gear head frame size: 20, 32, 50
- ② Gear head series code: SPG: High torque type SDPG: Standard torque type
- ③ Gear ratio
Single stage: 5
Two stages: 11, 15, 21, 33, 45

- ④ Backlash
Output load is $\pm 3\%$ of the rated output torque

Reducer Type No	Stage	Standard Type	High Precision Type PO
20SPG	1	3分arc-min	1分arc-min
	2	5分arc-min	3分arc-min
32SPG	1	3分arc-min	1分arc-min
	2	5分arc-min	3分arc-min
50SPG	1	3分arc-min	1分arc-min
	2	5分arc-min	3分arc-min

Input shaft type
S: Overall Locking (Omission)(Regardless whether the motor with keyway can use it)
⑤ S1: Locking with locking ring (Omission)(Regardless whether the motor with keyway can use it)
S2: Locking with keyway (Input shaft with key)
A: Other type (Please contact with us)
⑥ Applicable servo motor power (W)
⑦ Model of servo motor & input flange

PRODUCT SPECIFICATIONS

Reducer Performance Data

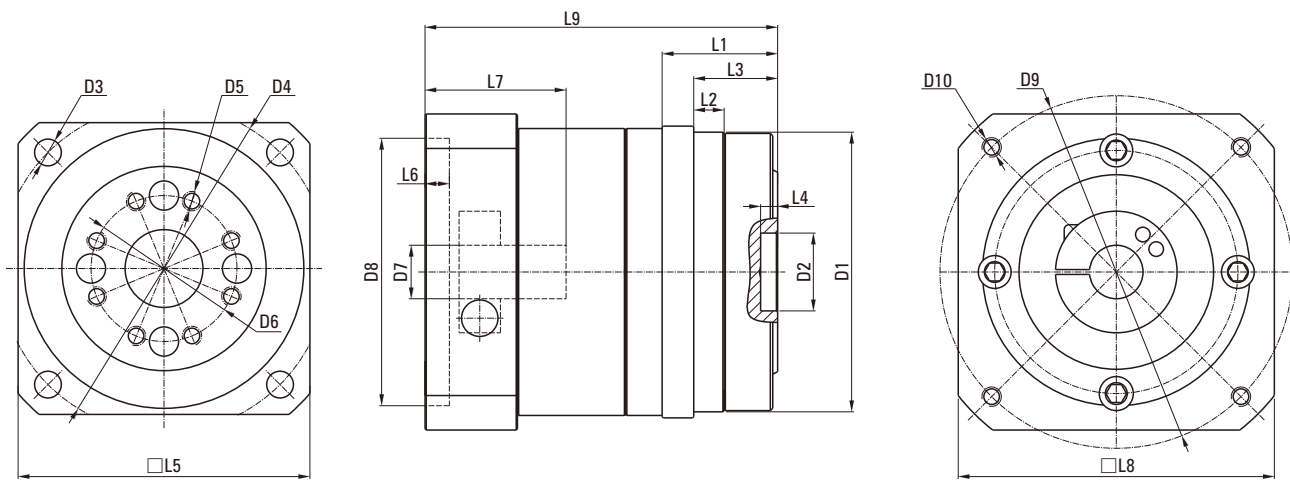
Specifications		Stage Number	Reduction Ratio	20SPG	32SPG	50SPG
Rated output torque T_{2N}	Nm	1	5	50	150	380
			2	11	59	160
		15		70	220	460
		21		78	240	490
		33		72	200	620
		45	98	280	640	
Instantaneous maximum torque	Nm	1,2	2 times rated output torque			
Recommended input speed	rpm	1,2	5~45	3000	3000	2000
Maximum input speed	rpm	1,2	5~45	6000	6000	4500
Precision back lash	arcmin	1	5	≤1	≤1	≤1
		2	11~45	≤3	≤3	≤3
Standard back lash	arcmin	1	5	≤3	≤3	≤3
		2	11~45	≤5	≤5	≤5
Torsional rigidity	Nm/arcmin	1,2	5~45	0.55	2.2	14
Life	hr	1,2	5~45	20000		
Efficiency	%	1	5	≥97		
		2	11~45	≥94		
Weight	Kg	1	5	1.2	3.0	10
		2	11~45	1.5	3.7	12
Ambient temperature	°C	1,2	11~45	-10°C ~ +90°C		
lubrication		1,2	11~45	Lifetime lubrication		
Protection grade		1,2	11~45	IP65		
Installation direction		1,2	11~45	Any direction		
Noise value	dB (A)	1,2	11~45	≤63	≤65	≤72
The moment of inertia	Nm	1	5	0.16	0.80	4.90
			2	11	0.17	1.00
		15		0.15	0.74	3.50
		21		0.071	0.35	1.60
		33		0.029	0.17	0.72
		45	0.022	0.12	0.50	

Reducer Performance Data

Specifications		Stage Number	Reduction Ratio	20SDPG	32SDPG	50SDPG
Rated output torque T_{2N}	Nm	1	5	38	120	290
			2	11	46	160
		15		58	170	400
		21		58	190	450
		33		70	200	470
		45	73	240	560	
Instantaneous maximum torque	Nm	1,2	2 times rated output torque			
Recommended input speed	rpm	1,2	5~45	3000	3000	2000
Maximum input speed	rpm	1,2	5~45	6000	6000	4500
Precision back lash	arcmin	1,2	5~45	≤1	≤1	≤1
Standard back lash	arcmin	1,2	5~45	≤3	≤3	≤3
Torsional rigidity	Nm/arcmin	1,2	5~45	0.55	2.2	14
Life	hr	1,2	5~45	20000		
Efficiency	%	1	5	≥97		
		2	11~45	≥94		
Weight	Kg	1	5	1.2	3.0	10
		2	11~45	1.5	3.7	12
Ambient temperature	°C	1,2	11~45	-10°C ~ +90°C		
lubrication		1,2	11~45	Lifetime lubrication		
Protection grade		1,2	11~45	IP65		
Installation direction		1,2	11~45	Any direction		
Noise value	dB (A)	1,2	11~45	≤63	≤65	≤72
The moment of inertia	Nm	1	5	0.17	0.73	4.8
			2	11	0.15	0.78
		15		0.14	0.62	2.9
		21		0.069	0.34	1.6
		33		0.023	0.12	0.6
		45	0.022	0.11	0.6	

SPG DIMENSIONS (SINGLE STAGE, RATIO I=5, TWO STAGE I=11-45)

Dimensional Drawing



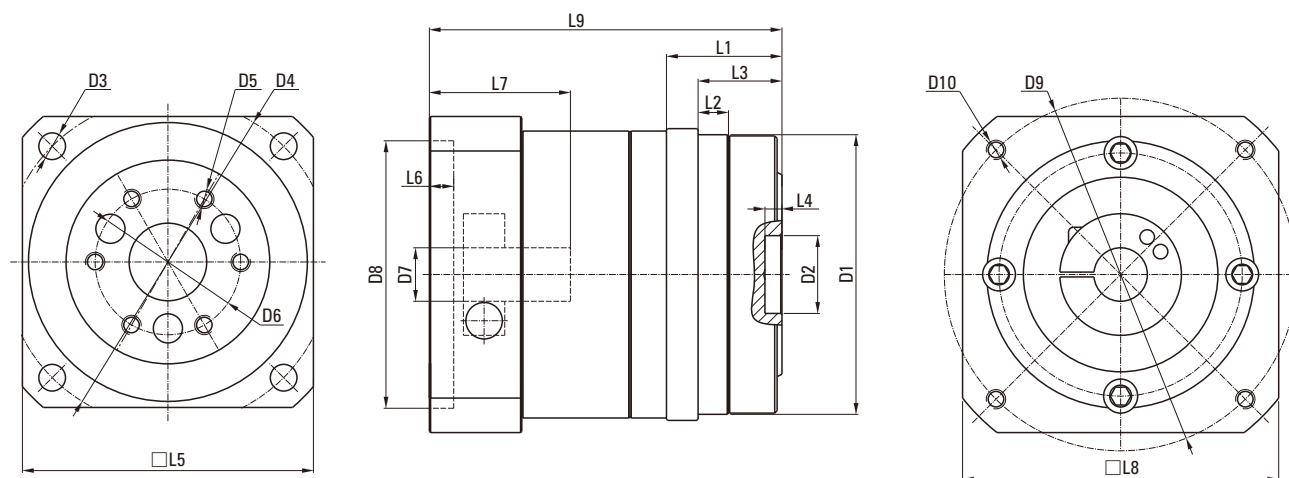
Dimensional Table

Unit: mm

Type	20SPG	32SPG	50SPG
D1 Mounting boss	Φ85h7	Φ115h7	Φ165h7
D2 Install seam	Φ24H7	Φ32H7	Φ47H7
D3 Flange mounting through hole	4-Φ9	4-Φ11	4-Φ14
D4 Distribution circle of mounting hole	Φ105	Φ135	Φ190
D5 Threaded mounting holes	8-M6×10	8-M8×12	8-M12×20
D6 Distribution circle of thread hole	Φ45	Φ60	Φ90
D7 Input coupling hole	Φ14~Φ19	Φ22	Φ35
D8 Input lip	Φ70	Φ110	Φ114.3
D9 Distribution circle of threaded hole	Φ90	Φ145	Φ200
4-D10 Gasket threaded hole	M6×10	M8×12	M12×20
L1 Flange face to face length	37	47.5	69
L2 Boss length	8	12.5	12
L3 Output flange thickness	27	34.5	53
Depth of L4 seam	5	7	7
L5 Flange width	□90	□120	□170
L6 Gasket seam depth	5	8	10
L7 Coupling depth	41	58	81
L8 Gasket width	100	130	176
L9 Reducer length	1 stage	96	120
	2 stage	113	145

SDPG DIMENSIONS (SINGLE STAGE, RATIO I=5, TWO STAGE I=11-45)

Dimensional Drawing



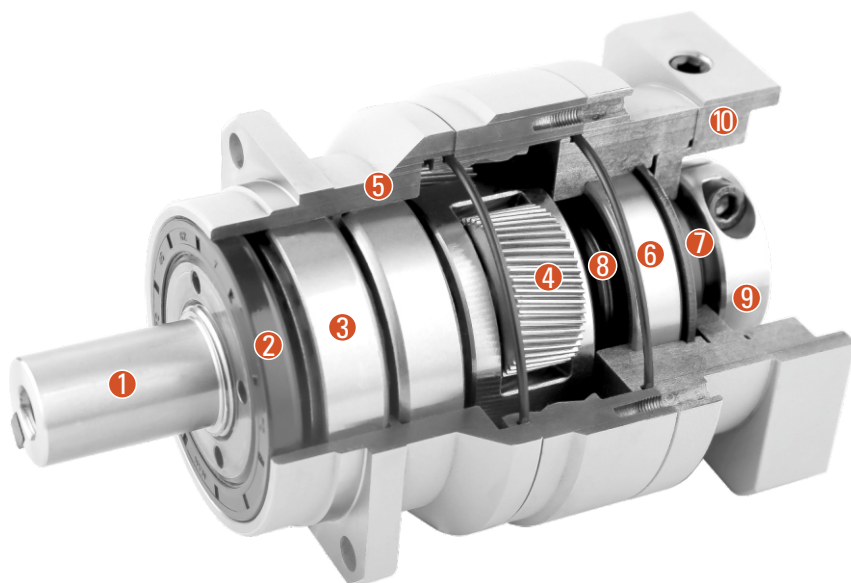
Dimensional Table

Unit: mm

Type	20SDPG	32SDPG	50SDPG	
D1 Mounting boss	Φ85h7	Φ115h7	Φ165h7	
D2 Install seam	Φ24H7	Φ32H7	Φ47H7	
D3 Flange mounting through hole	4-Φ9	4-Φ11	4-Φ14	
D4 Distribution circle of mounting hole	Φ105	Φ135	Φ190	
D5 Threaded mounting holes	6-M6×10	6-M8×12	14-M8×12	
D6 Distribution circle of thread hole	Φ45	Φ60	Φ100	
D7 Input coupling hole	Φ14~Φ19	Φ22	Φ35	
D8 Input lip	Φ70	Φ110	Φ114.3	
D9 Distribution circle of threaded hole	Φ90	Φ145	Φ200	
4-D10 Gasket threaded hole	M6×10	M8×12	M12×20	
L1 Flange face to face length	37	47.5	69	
L2 Boss length	8	12.5	12	
L3 Output flange thickness	27	34.5	53	
Depth of L4 seam	5	7	7	
L5 Flange width	□90	□120	□170	
L6 Gasket seam depth	5	8	10	
L7 Coupling depth	41	58	81	
L8 Gasket width	100	130	176	
L9 Reducer length	1 stage	96	120	192
	2 stage	113	145	213

SRS SERIES GEAR BOX

Sectional Drawing



- ① Output shaft
- ② Oil seal
- ③ Output shaft bearing
- ④ Planetary gear
- ⑤ Front cover
- ⑥ Coupling bearing
- ⑦ Oil seal
- ⑧ Coupling
- ⑨ Lock ring
- ⑩ Rear cover

Type And Model Number

SRS Reducers				Servo Motor		
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060 **SRS** **10** **()** **(S)** - **400** **T1**
 ① ② ③ ④ ⑤ ⑥ ⑦

① Gear head frame size: 060

② Gear head series code: SRS: Square mounting flange series

Gear ratio

③ Single stage: 3, 4, 5, 6, 7, 8, 9, 10

Two stage: 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100

Amount of backlash, (P07)

④ Standard type P1 (Omission), high precision P0

The load of output shaft is $\pm 3\%$ of allowable output torque

Input shaft type

S: Overall Locking (Omission) (Regardless whether the motor with keyway can use it)

⑤ S1: Locking with locking ring (Omission) (Regardless whether the motor with keyway can use it)

S2: Locking with keyway (Input shaft with key)

A: Other type (Please contact with us)

⑥ Applicable servo motor power (W)

⑦ Model of servo motor & input flange

PRODUCT SPECIFICATIONS

Reducer Performance Data

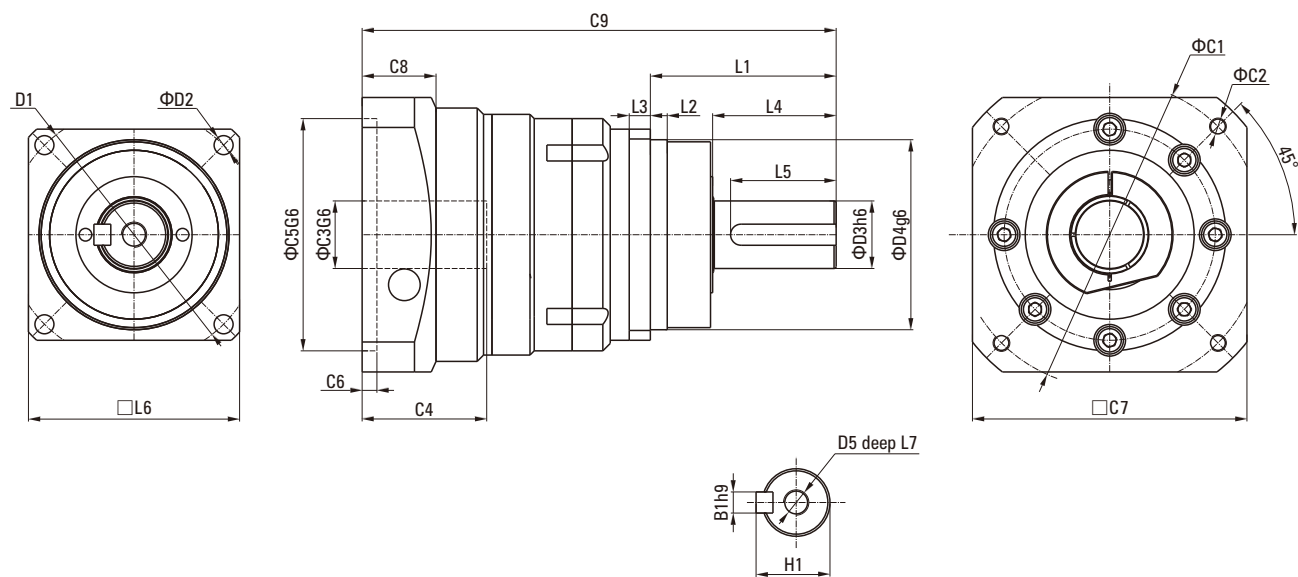
Specifications		Stage Number	Reduction Ratio	060SRS	075SRS	100SRS	140SRS	
Rated output torque T_{2N}	Nm	1	3	55	130	208	342	
			4	50	140	190	542	
			5	60	160	330	650	
			6	55	150	310	600	
			7	50	140	300	550	
			8	45	120	260	500	
			9	40	100	230	450	
			10	40	100	230	450	
			2	15	-	130	208	342
				20	-	140	290	542
		25		-	160	330	650	
		30		-	150	310	600	
		35		-	140	300	550	
		40		-	120	260	500	
		45		-	100	230	450	
		50		-	160	330	650	
		60		-	150	310	600	
		70		-	140	300	550	
		80	-	120	260	500		
90	-	100	230	450				
100	-	100	230	450				
Sudden stop torque	Nm	1,2	3~100	3 times rated output torque				
Rated input speed	rpm	1,2	3~100	3000	3000	3000	2000	
Maximum input speed	rpm	1,2	3~100	6000	6000	6000	4000	
Precision back lash	arcmin	1	3~10	≤1	≤1	≤1	≤1	
		2	15~100	-	≤3	≤3	≤3	
Standard back lash	arcmin	1	3~10	≤3	≤3	≤3	≤3	
		2	15~100	-	≤5	≤5	≤5	
Torsional rigidity	Nm/arcmin	1,2	3~100	7	14	25	50	
Allowable radial force	N	1,2	3~100	3000	4300	7000	10000	
Allowable axial force	N	1,2	3~100	2700	3900	6300	9000	
Life	hr	1,2	3~100	20000				
Efficiency	%	1	3~10	≥97				
		2	15~100	≥94				
Weight	Kg	1	3~10	1.3	3.7	7.8	14.5	
		2	15~100	-	4.1	9	17.5	
Working temperature	°C	-	-	-10°C~+90°C				
Lubrication way	-	-	-	Synthetic grease				
Protection grade	-	-	-	IP65				
Installation direction	-	1,2	3~100	Any direction				
Noise value	dB (A)	1,2	3~100	≤58	≤60	≤63	≤67	

Moment Of Inertia Of The Reducer

Specifications		Stage Number	Reduction Ratio	060SRS	075SRS	100SRS	140SRS	
The moment of inertia J_1	$Kg \cdot cm^2$	1	3	0.22	1.20	5.2	20	
			4	0.17	0.95	4.0	15	
			5	0.16	0.86	3.6	13	
			6	0.15	0.82	3.3	13	
			7	0.14	0.79	3.1	12	
			8	0.14	0.77	3.0	12	
			9	0.14	0.76	3.0	11	
			10	0.14	0.75	3.0	11	
			2	15	-	0.72	2.8	11
				20	-	0.72	2.8	11
		25		-	0.71	2.8	11	
		30		-	0.70	2.7	10	
		35		-	0.71	2.7	11	
		40		-	0.69	2.7	10	
		45		-	0.71	2.7	11	
		50		-	0.69	2.7	10	
		60		-	0.69	2.7	10	
		70		-	0.69	2.7	10	
		80	-	0.69	2.7	10		
		90	-	0.69	2.7	10		
100	-	0.69	2.7	10				

SRS DIMENSIONS (SINGLE STAGE I=3-10)

Dimensional Drawing



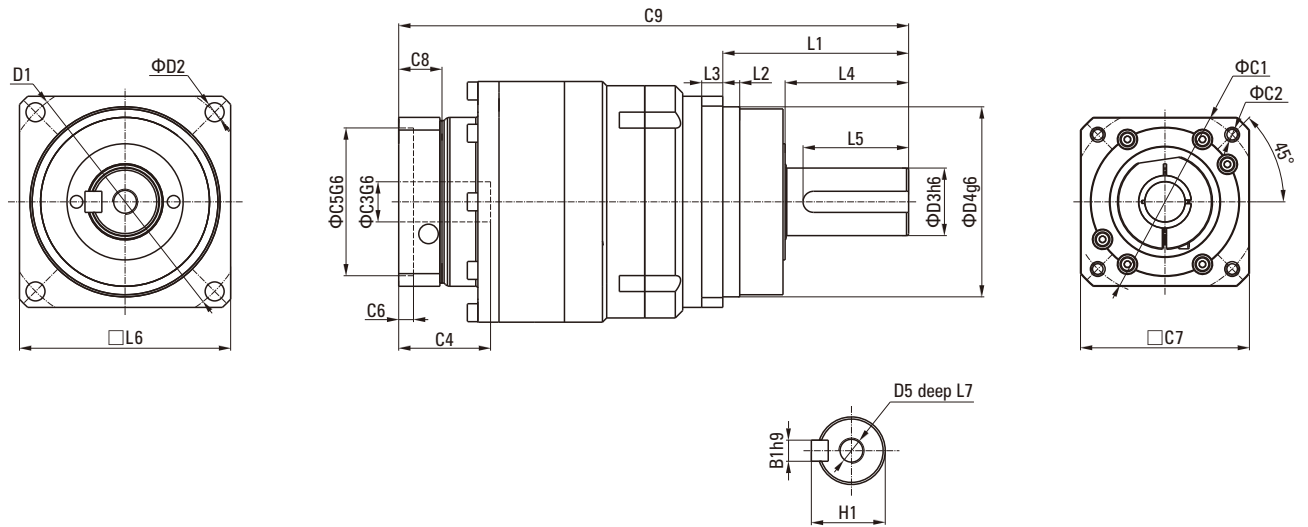
Dimensional Table

Unit: mm

Size	060SRS	075SRS	100SRS	140SRS
D1	68	85	120	165
D2	5.5	7.5	9	11
D3 ^{h6}	16	22	32	40
D4 ^{g6}	60	70	90	130
D5	M5×0.8P	M8×1.25P	M12×1.75P	M16×2P
L1	48	56	88	112
L2	11	6	8	10
L3	6	7	10	12
L4	28	34.7	58	82
L5	25	31	50	70
L6	60	75	100	140
L7	15	19	28	36
C1	70	100	145	165
C2	M5×0.8P	M6×1P	M8×1.25P	M10×1.5P
C3 ^{g6}	≤14/≤16	≤19/≤24	≤32	≤38
C4	35	40.5	51	60
C5 ^{g6}	50	80	110	130
C6	8	4	5	6
C7	60	90	130	142
C8	19.5	17.5	20	22.5
C9	96.5	167.5	224.5	295.5
B1 ^{h9}	5	6	10	12
H1	18	24.5	35	43

SRS DIMENSIONS (TWO STAGE I=15-100)

Dimensional Drawing



Dimensional Table

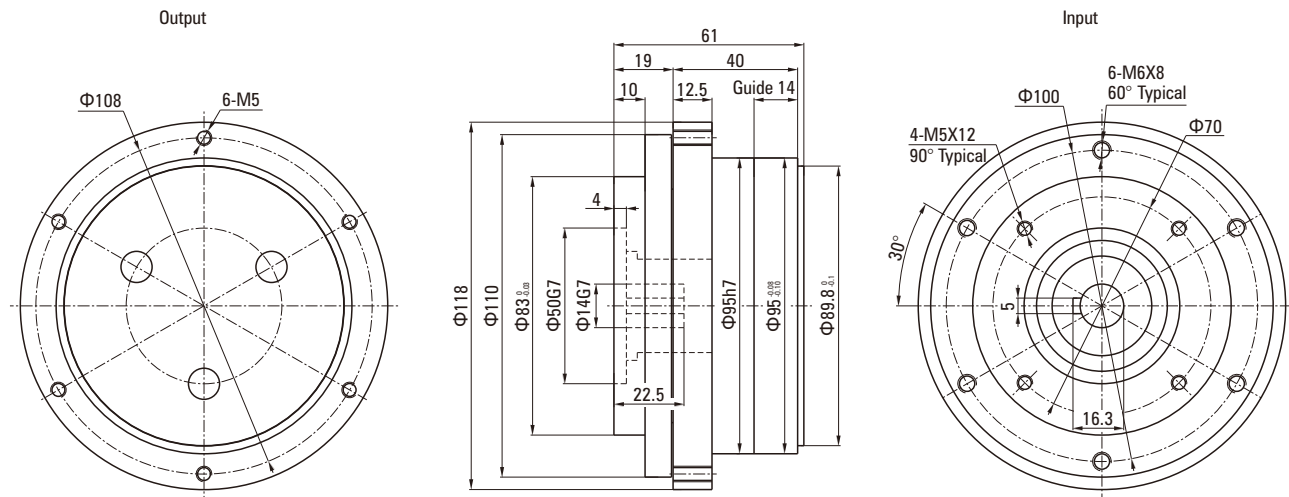
Unit: mm

Size	075SRS	100SRS	140SRS
D1	85	120	165
D2	7.5	9	11
D3 _{h6}	22	32	40
D4 _{g6}	70	90	130
D5	M8×1.25P	M12×1.75P	M16×2P
L1	56	88	112
L2	6	8	10
L3	7	10	12
L4	34.7	58	82
L5	31	50	70
L6	75	100	140
L7	19	28	36
C1	70	100	145
C2	M5×0.8P	M6×1P	M8×1.25P
C3 _{g6}	≤14/≤16	≤19/≤24	≤32
C4	35	40.5	51
C5 _{g6}	50	80	110
C6	8	4	5
C7	60	90	130
C8	19.5	17.5	20
C9	186.5	241	308.5
B1 _{h9}	6	10	12
H1	24.5	35	43

95SAGV PLANETARY GEARBOX-COMPREHENSIVE PERFORMANCE PARAMETERS OF TRAVELING WHEEL

Dimensional Drawing

95SAGV 1 STAGE



Reducer Performance Data

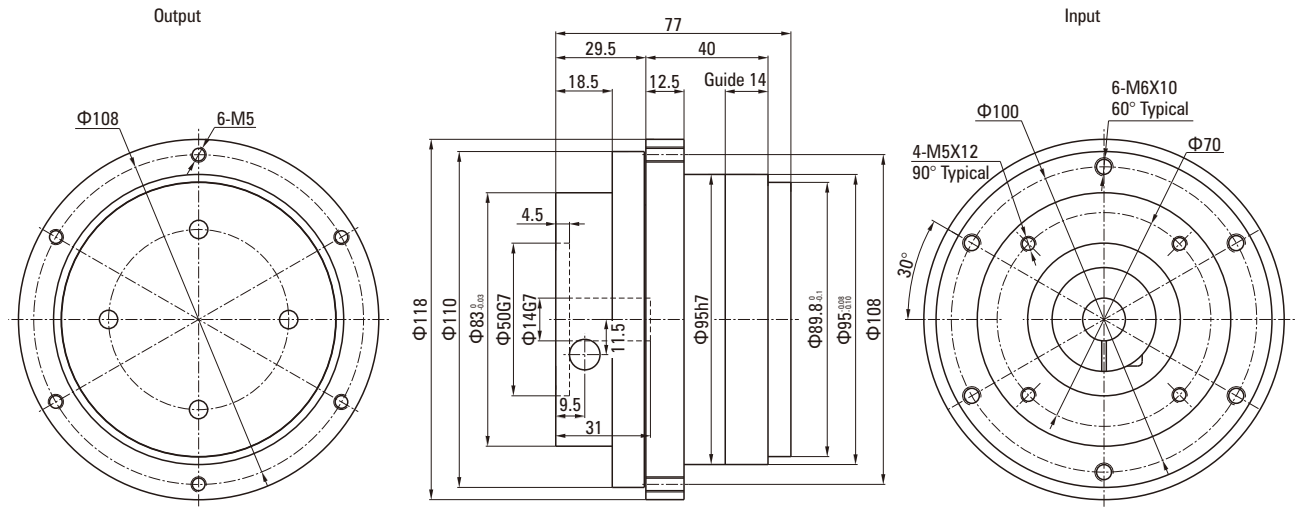
Unit: mm

Reduction Ratio	i (Recommend)	5	6	7	9
Nominal output torque T2N	Nm	60	55	50	40
Maximum acceleration torque T2B	Nm	Rated torque*1.8			
Sudden stop torque T2NOT	Nm	3 time the rated torque			
Nominal input speed	rpm	3000			
Maximum input speed	rpm	4500			
Backlash	arcmin	≤25			
Maximum radial load	N	3000			
Maximum axial load	N	500			
Noise value Distance 1m (n=3000 rpm, No load)	dB(A)	≤60			
Service life	h	20000			
Efficiency	%	95%			
Use of temperature	°C	-10°C ~ +90°C			
Lubrication	-	Synthetic grease			
Weight	kg	≤3.6			
Rubber wheel specifications (Recommended)	-	150*40 Polyurethane rubber wheel optional			
Stage number	-	1			

95SAGV PLANETARY GEARBOX-COMPREHENSIVE PERFORMANCE PARAMETERS OF TRAVELING WHEEL

Dimensional Drawing

95SAGV 2 STAGE



Reducer Performance Data

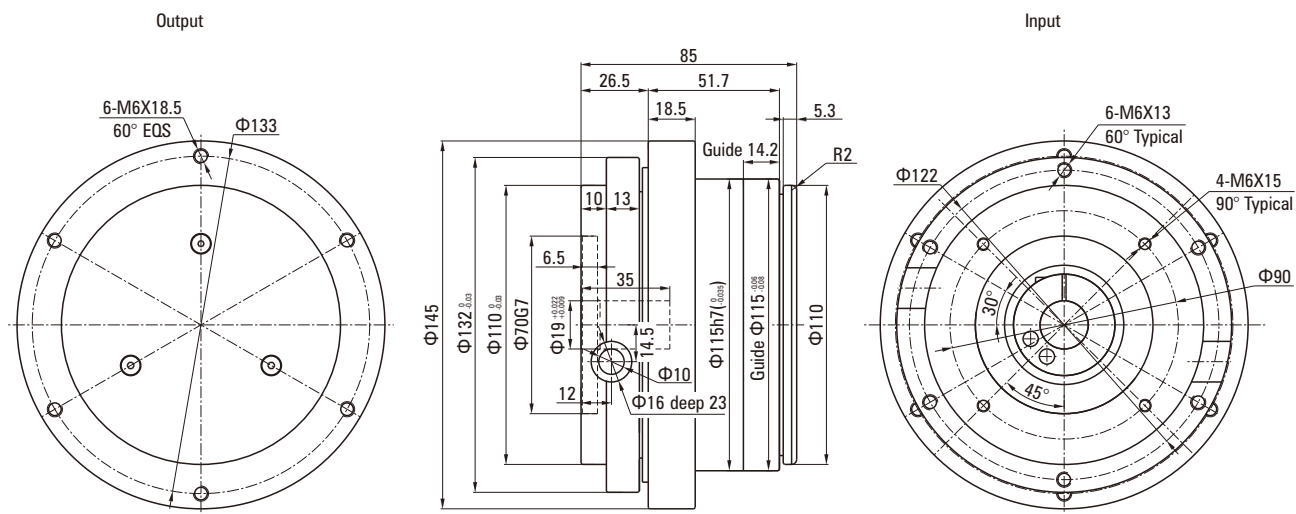
Unit: mm

Reduction Ratio	i (Recommend)	12	15	16	20
Nominal output torque T2N	Nm	55	50	75	70
Maximum acceleration torque T2B	Nm	Rated torque*1.8			
Sudden stop torque T2NOT	Nm	3 time the rated torque			
Nominal input speed	rpm	3000			
Maximum input speed	rpm	4500			
Backlash	arcmin	≤25			
Maximum radial load	N	3000			
Maximum axial load	N	500			
Noise value Distance 1m (n=3000 rpm, No load)	dB(A)	≤60			
Service life	h	20000			
Efficiency	%	92%			
Use of temperature	°C	-10°C ~ +90°C			
Lubrication	-	Synthetic grease			
Weight	kg	≤4.5			
Rubber wheel specifications (Recommended)	-	150*40 Polyurethane rubber wheel optional			
Stage number	-	2			

115SAGV COMPREHENSIVE PERFORMANCE PARAMETERS OF TRAVELING WHEEL

Dimensional Drawing

- 115SAGV Travelling wheel



Reducer Performance Data

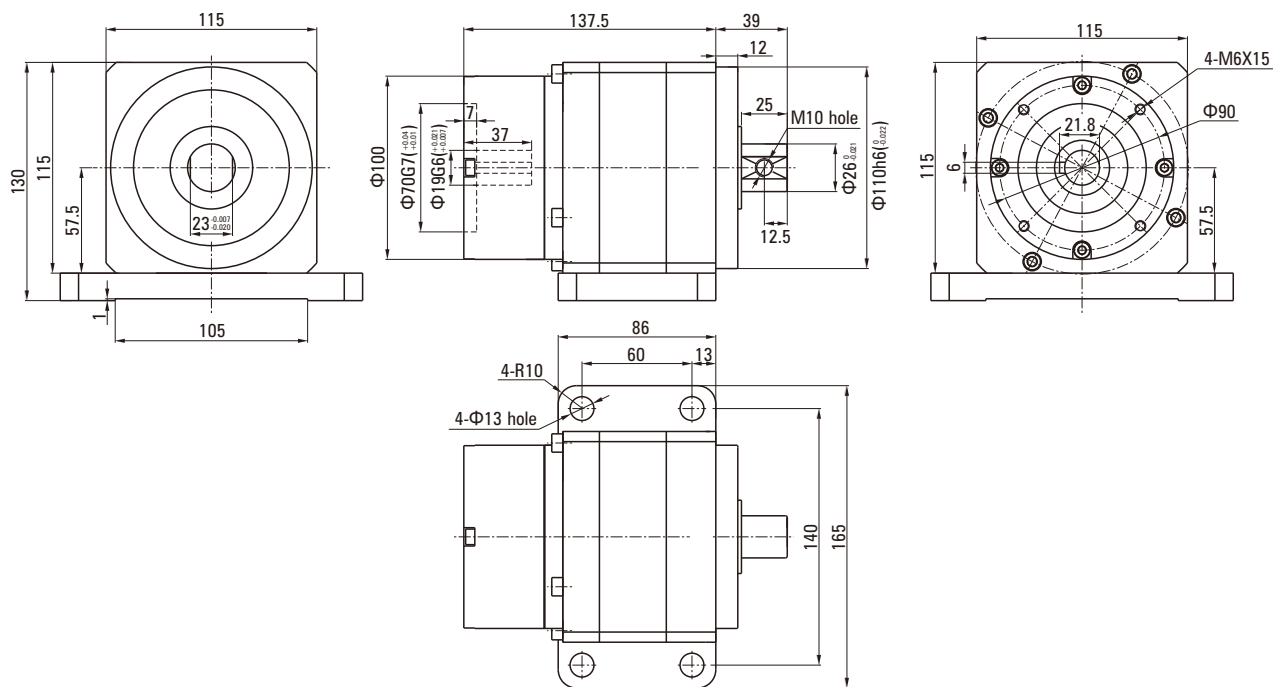
Unit: mm

Reduction Ratio	i (Recommend)	15	18	20	21	30
Nominal output torque T2N	Nm	80	140	100	130	150
Maximum acceleration torque T2B	Nm	Rated torque*1.8				
Sudden stop torque T2NOT	Nm	3 time the rated torque				
Nominal input speed	rpm	3000				
Maximum input speed	rpm	6000				
Backlash	arcmin	≤25				
Maximum radial load	N	8000				
Maximum axial load	N	2000				
Noise value Distance 1m (n=3000 rpm, No load)	dB(A)	≤63				
Service life	h	20000				
Efficiency	%	92%				
Use of temperature	°C	-10°C ~ +90°C				
Lubrication	-	Synthetic grease				
Weight	kg	≤5				
Rubber wheel specifications (Recommended)	-	180*58.5 Polyurethane rubber wheel optional				
Stage number	-	2				

115SAGV PLANETARY GERABOX- COMPREHENSIVE PARAMETER PERFORMANCE OF LIFTING STRUCTURE

Dimensional Drawing

115SAGV Lift



Reducer Performance Data

Unit: mm

Reduction Ratio	i (Recommend)	80
Nominal output torque T2N	Nm	300
Sudden stop torque T2NOT	Nm	3 time the rated torque
Nominal input speed	rpm	3000
Backlash	arcmin	≤25
Maximum radial load	N	16000
Maximum axial load	N	3300
Noise value Distance 1m (n=3000 rpm, No load)	dB(A)	≤65
Service life	h	20000
Efficiency	%	92%
Use of temperature	°C	-10°C ~ +90°C
Lubrication	-	Synthetic grease
Weight	kg	≤8
Stage number	-	2

CATALOGUE



PRECISION HARMONIC REDUCER



CYCLOIDAL PIN WHEEL
PRECISION REDUCER



TRANSMISSION PLANETARY
GEAR MOTOR



SERVO DRIVER
BRUSHLESS DRIVER
INDUSTRIAL VEHICLE DRIVER
AC SPEED CONTROLLER



DC BRUSHLESS GEAR MOTOR



MOTOR ROLLER





HIGH PRECISION PLANETARY GEAR BOX CATALOGUE

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