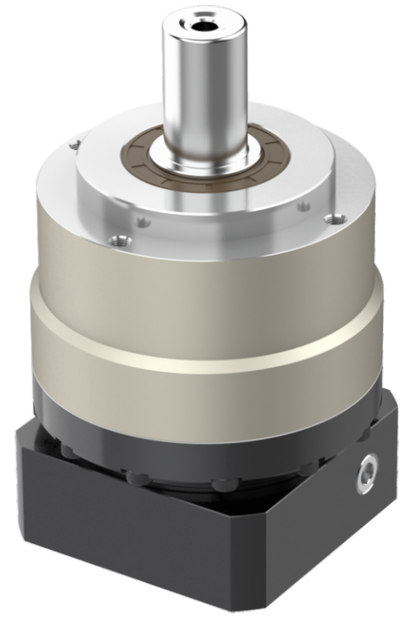
WAE Series Planetary Gearbox

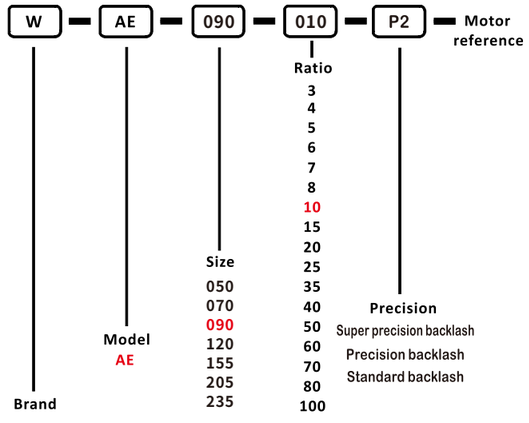
FEATURES

- The planet gear carrier and output end adopt an integrated double-supported structure design to ensure maximum torsional rigidity, toughness, and rotational accuracy.
- The planet gear adopts a full needle roller design to increase the contact area and improve the structural rigidity and output torque.
- The gear uses low carbon steel carburized and quenched to achieve a surface hardness of HRC62 to obtain the best wear resistance and impact toughness.
- The gear profile is designed with assistance from imported software to obtain the best possible design, thereby reducing noise.
- The connection between the input end and the motor shaft adopts a double-sided clamping method to achieve maximum clamping force and zero backlash power transmission.

WAE SERIES Committed To Building Enduring Highly-precision Gearbox WANSHSIN®



SELECTION



GENERAL NOTICES

- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

PLANETARY GEARBOX

Performance

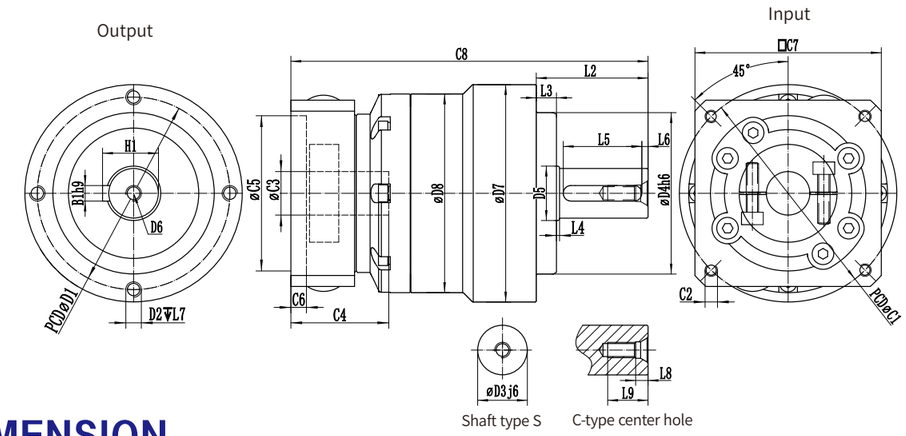
Specification	Unit	Stage	Ratio	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
Rated output torque T_{2N}	Nm	1	3	20	55	130	208	342	588	1140
			4	19	50	140	290	542	1050	1700
			5	22	60	160	330	650	1200	2000
			6	20	55	150	310	600	1100	1900
			7	19	50	140	300	550	1100	1800
			8	17	45	120	260	500	1000	1600
			10	14	40	100	230	450	900	1500
		2	15	20	55	130	208	342	588	1140
			20	19	50	140	290	542	1050	1700
			25	22	60	160	330	650	1200	2000
			30	20	55	150	310	600	1100	1900
			35	19	50	140	300	550	1100	1800
			40	19	50	140	290	542	1050	1700
			50	22	60	160	330	650	1200	2000
			60	20	55	150	310	600	1100	1900
			70	19	50	140	300	550	1100	1800
			80	17	45	120	260	500	1000	1600
			100	14	40	100	230	450	900	1500
Emergency stop torque T_{2NOT}	Nm	1,2	3～100	Triple rated output torque						
Rated input speed n_{1N}	rpm	1,2	3～100	5000	5000	4000	4000	3000	3000	2000
Maximum iutput speed n_{1B}		1,2	3～100	10000	10000	8000	8000	6000	6000	4000
Super precision backlash P0	arcmin	1	3～10	–	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
		2	15～100	–	≤3	≤3	≤3	≤3	≤3	≤3
Precision backlash P1	arcmin	1	3～10	-	≤3	≤3	≤3	≤3	≤3	≤3
		2	15～100	-	≤5	≤5	≤5	≤5	≤5	≤5
Standard backlash P2	arcmin	1	3～10	≤12	≤5	≤5	≤5	≤5	≤5	≤5
		2	15～100	≤16	≤8	≤8	≤8	≤8	≤8	≤8
Torsional rigidity	Nm/arcmin	1,2	3～100	3	7	14	25	50	145	225
Allowable radial force F_{2aB}	N	1,2	3～100	780	1530	3250	6700	9400	14500	20000
Allowable axial force F_{2aB}	N	1,2	3～100	390	765	1625	3350	4700	7250	10000
Lifespan	hr	1,2	3～100	20000						
Efficiency	%	1	3～10	≥97%						
		2	15～100	≥94%						
Weight	kg	1	3～10	0.6	1.2	3.7	7.5	16	36	53
		2	15～100	0.7	1.6	4.2	10.7	17	37	54
Use of temperature	℃	1,2	3～100	-20℃~+40℃						
Lubricating		1,2		Synthetic lubricating grease						
IP Grade		1,2	3～100	IP65						
Installation direction		1,2	3～100	In any direction						
Noise level (n1=3000rpm,off load)	dB(A)	1,2	3～100	≤56	≤58	≤60	≤63	≤65	≤67	≤70

ROTATIONAL INERTIA OF REDUCER

Rotational inertia

Specification	Unit	Stage	Ratio	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
Rotational inertia J1	kg・cm^2	1	3	0.03	0.16	0.61	3.25	9.21	28.98	69.61
			4	0.03	0.14	0.48	2.74	7.54	23.67	54.37
			5	0.03	0.13	0.47	2.71	7.42	23.29	53.27
			6	0.03	0.13	0.45	2.65	7.25	22.75	51.72
			7	0.03	0.13	0.45	2.62	7.14	22.48	50.97
			8	0.03	0.13	0.44	2.58	7.07	22.59	50.84
			10	0.03	0.13	0.44	2.57	7.03	22.51	50.56
		2	15	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			20	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			25	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			30	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			35	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			40	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			50	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			60	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			70	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			80	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			100	0.03	0.03	0.13	0.44	2.57	7.03	22.51

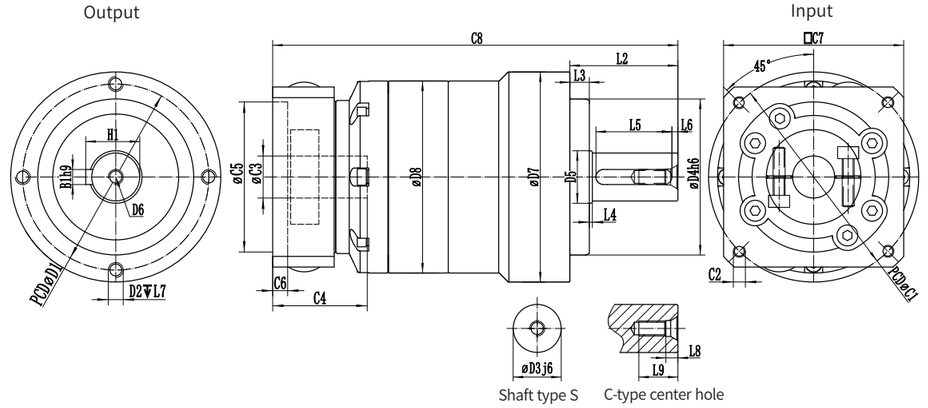
1. Ratio ($i=N_{in}/N_{out}$) 2. Maximum acceleration torque T_{2B} =60% of T_{2NOT} 3. Output speed100rpm,acting on the center of the output shaft



DIMENSION
SINGLE SECTION

Dimension(single stage,Ratio i=3~10)

Dimension	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
D1	44	62	80	108	140	184	210
D2	M4*0.7P	M5*0.8P	M6*1.0P	M8*1.25P	M10*1.5P	M12*1.75P	M16*2.0P
D3 j6	12	16	22	32	40	55	75
D4 g6	35	52	68	90	120	160	180
D5	15	18	30	40	50	70	85
D6	M4*0.7P	M5*0.8P	M8*1.25P	M12*1.75P	M16*2.0P	M20*2.5P	M20*2.5P
D7	50	70	90	120	155	205	235
D8	53	64	94	125	150	200	225
L1	–	–	–	–	–	–	–
L2	24.5	36	46	70	97	100	126
L3	4	6.5	8	17	15	15	18
L4	1	1	1	1.5	3	3	3
L5	14	25	32	40	63	70	90
L6	2	2	3	5	5	6	7
L7	10	10	12	16	20	22	28
L8	3.2	4.8	7.2	10	12	15	15
L9	10	12.5	19	28	36	42	42
C1	46	70	90	90	145	145	200	200	200	235
C2	M4*0.7P	M4	M5	M5	M8	M8	M12	M12*1.75P	M12*1.75P	M12*1.75P
C3	≤8	≤14	≤19	≤19	≤24	≤24	≤35	≤35/≤42	≤42	≤42/≤55
C4	26	31.5	41	41	59	60	81	81	114	117
C5	30	50	70	70	110	110	114.3	114.3	114.3	200
C6	5	5	5	6	14	14	19	19	24	20
C7	42	60	80	80	130	130	180	180	180	220
C8	86	115	128	147	165	199.5	221.5	279	318	377
B1 h9	4	5	6	10	12	16	20
H1	13.5	18	24.5	35	43	59	79.5



DIMENSION
DOUBLE SECTION

Dimension(double stage,Ratio i=15~100)

Dimension	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
D1	44	62	80	108	140	184	210
D2	M4*0.7P	M5*0.8P	M6*1.0P	M8*1.25P	M10*1.5P	M12*1.75P	M16*2.0P
D3 j6	12	16	22	32	40	55	75
D4 g6	35	52	68	90	120	160	180
D5	15	18	30	40	50	70	85
D6	M4*0.7P	M5*0.8P	M8*1.25P	M12*1.75P	M16*2.0P	M20*2.5P	M20*2.5P
D7	50	70	90	120	155	205	235
D8	53	64	94	125	150	200	225
L1	–	–	–	–	–	–	–
L2	24.5	36	46	70	97	100	126
L3	4	6.5	8	17	15	15	18
L4	1	1	1	1.5	3	3	3
L5	14	25	32	40	63	70	90
L6	2	2	3	5	5	6	7
L7	10	10	12	16	20	22	28
L8	3.2	4.8	7.2	10	12	15	15
L9	10	12.5	19	28	36	42	42
C1	46	70	90	70	90	145	90	145	145	200	200
C2	M4*0.7P	M4	M5	M4	M5	M8	M5	M8	M8*1.25P	M12*1.75P	M12*1.75P
C3	≤8	≤14	≤19	≤14	≤19	≤24	≤19	≤24	≤24/≤28	≤35	≤42
C4	26	31.5	41	31.5	41	59	41	60	66	80	114
C5	30	50	70	50	70	110	70	110	110	114.3	114.3
C6	5	5	5	5	6	14	6	14	10	9	24
C7	42	60	80	60	80	130	80	130	130	180	180
C8	107	147	160	168	184.5	202.5	214	244.5	325	352.5	441.5
B1 h9	4	5	6	10	12	16	20
H1	13.5	18	24.5	35	43	59	79.5

WANSHSIN Seikou(Hunan)Co., Ltd.

WANSHSIN is a professional gearbox, gear motor and inverter manufacturer and intelligent automation complete solution provider, integrating R&D, production, sales and service. The products cover the light and heavy industry, are widely used in new energy, robots, automobile manufacturing, warehousing, logistics, food industry and other industries. WANSHSIN has gradually become a reliable long-term partner of those leading enterprises of relevant industries.

Enterprise Honor

2019

- National high-tech enterprise

2020

- Ministry of Industry and Information Technology of the People's Republic of China "specialized, special and new" key small giant enterprise
- Hunan Enterprise Technology Center

2022

- 2022 Hunan Reducer Engineering Technology Research Center
- 2022 The 2nd Ningxiang Mayor Quality Award(Organization)

Committed To Building Enduring Highly-precision Gearbox
WANSHSIN®

Core Competitiveness

Leading R&D Capability

Three major R&D centers have been established to lead the industry's high-quality development with innovation.

Excellent Quality

We are the pioneer in introducing and launching the advanced automotive industry quality control standards pre-planning of product quality and have equipped with a large number of imported international advanced inspection/testing equipment to ensure product quality.

Advanced Manufacturing

We have hundreds of domestic advanced processing equipment with a total value of more than 100 million yuan, and our capacity is in a leading position in China.

Fast Delivery

Sufficient spare parts in warehouse to ensure very short lead time.