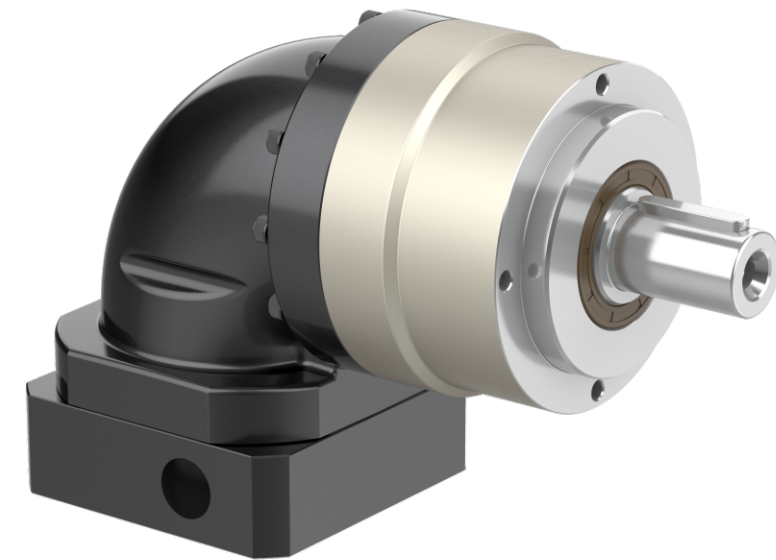


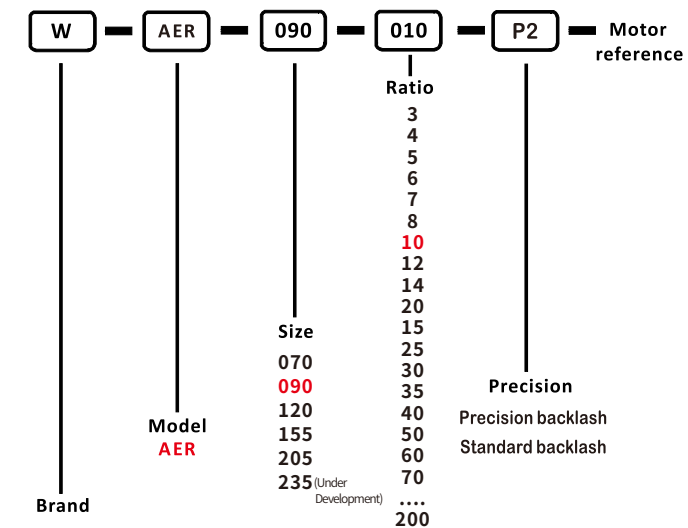
# WAER Series Planetary Gearbox

## FEATURES

- » Planet gear carrier and output shaft are integrated structure designed to ensure maximum torsional rigidity.
- » Planet gear with full needle design, increase the contact area to improve the rigidity and output torque.
- » The gears are carburized and quenched to the HRC62 with low carbon steel surface for optimum wear and impact toughness.
- » Gears refer to foreign imported software-assisted design to obtain the best tooth shape to reduce noise.
- » Adopt spiral bevel gear design, allow high output torque, more than 30% higher than straight bevel gear.
- » High allowable input speed, more than 8 times higher than straight bevel gear input.
- » The meshing tooth imprint of spiral bevel gear has been optimized by optimum design, thus ensuring even load on the contact tooth surface and a long service life.
- » Spiral bevel gears are meshed by optimum motion error analysis and strict process control to ensure high precision running backlash.



## SELECTION



## GENERAL NOTICES

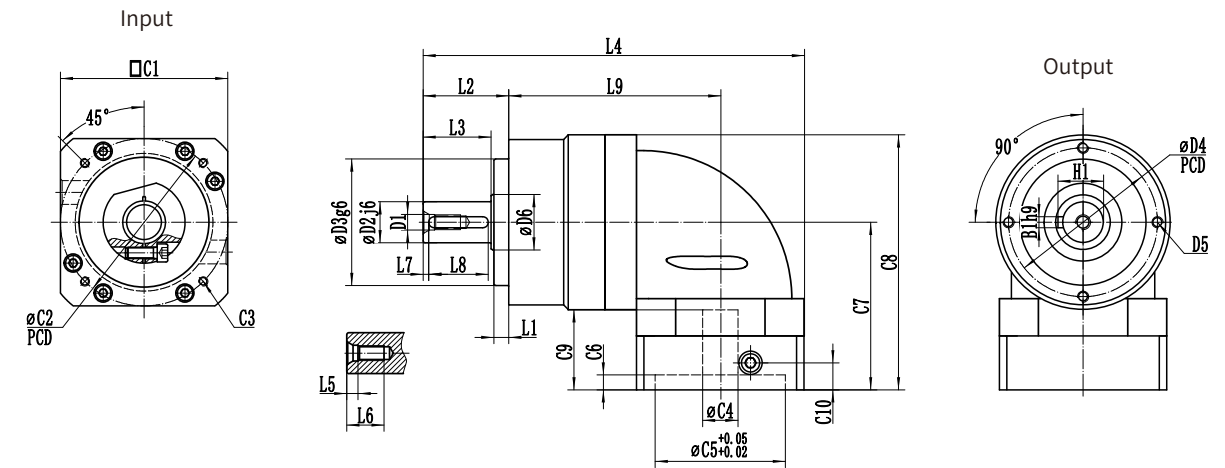
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

Performance

Specification	Unit	Stage	Ratio	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235	
Rated output torque $T_{2N}$	Nm	1	3	55	130	208	342	588	-	-
			4	50	140	290	540	1050	-	-
			5	60	160	330	650	1200	-	-
			6	55	150	310	600	1100	-	-
			7	50	140	300	550	1100	-	-
			8	50	140	290	542	1050	-	-
			10	60	160	330	650	1200	-	-
			12	55	150	310	600	1100	-	-
			14	50	140	300	550	1100	-	-
			20	40	100	230	450	900	-	-
		2	15	55	130	208	342	588	-	-
			25	60	160	330	650	1200	-	-
			30	55	130	208	342	588	-	-
			35	50	140	300	550	1100	-	-
			40	50	140	290	542	1050	-	-
			50	60	160	330	650	1200	-	-
			60	55	150	310	600	1100	-	-
			70	50	140	300	550	1100	-	-
			80	50	140	290	542	1050	-	-
			100	60	160	330	650	1200	-	-
Emergency stop torque $T_{2NOT}$	Nm	1,2	3~200	Triple rated output torque						
		1,2	3~200	5000	4000	4000	3000	3000	-	
Rated input speed $n_{1N}$	rpm	1,2	3~200	5000	4000	4000	3000	3000	-	
Maximum input speed $n_{1B}$	rpm	1,2	3~200	10000	8000	8000	6000	6000	-	
Precision backlash $P_1$	arcmin	1	3~20	≤5	≤5	≤5	≤5	≤5	-	
		2	15~200	≤7	≤7	≤7	≤7	≤7	-	
Standard backlash $P_2$	arcmin	1	3~20	≤7	≤7	≤7	≤7	≤7	-	
		2	15~200	≤10	≤10	≤10	≤10	≤10	-	
Torsional rigidity	Nm/arcmin	1,2	3~200	7	14	25	50	145	-	
Allowable radial force $F_{2aB}$	N	1,2	3~200	1530	3250	6700	9400	14500	-	
Allowable axial force $F_{2aB}$	N	1,2	3~200	765	1625	3350	4700	7250	-	
Lifespan	hr	1,2	3~200	20000						
Efficiency	%	1	3~20	95%						
		2	25~200	92%						
Weight	kg	1	3~20	2.1	6.4	13	24.5	51	-	
		2	25~200	1.5	7.8	14.2	27.5	54	-	
Use of temperature	°C	1,2	3~200	-20°C~+40°C						
Lubricating				Synthetic lubricating grease						
IP Grade		1,2	3~200	IP65						
Installation direction			3~200	In any direction						
Noise level ( $n_1=3000$ , off load)	dB(A)	1,2	3~200	≤63	≤65	≤68	≤70	≤72	-	

Rotational inertia

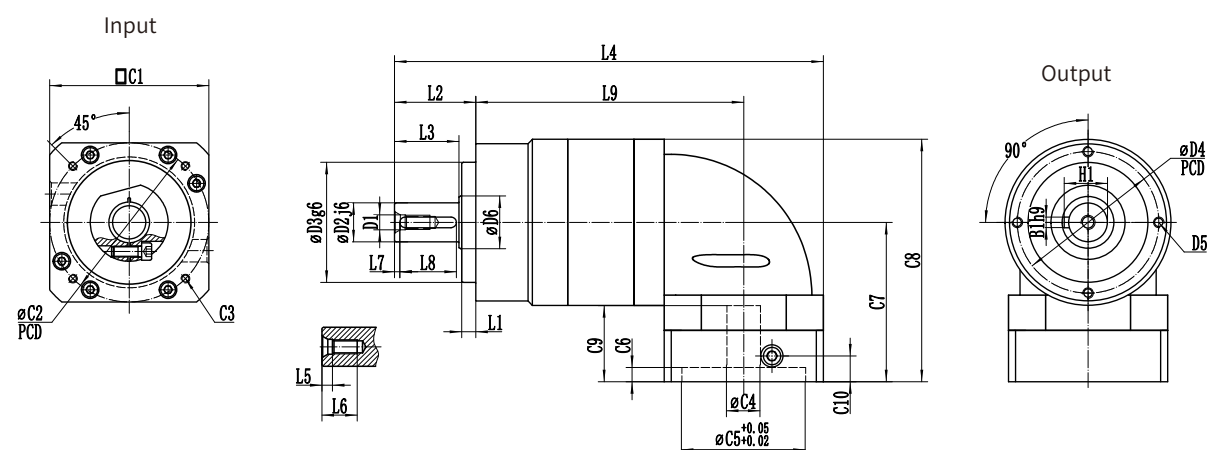
Specification	Unit	Stage	Ratio	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235
Rotational inertia $J_1$	kg.cm <sup>2</sup>	1	3~10	0.35	2.25	6.84	23.4	68.9	-
			12、14	0.07	1.87	6.25	21.8	65.6	-
			20	0.07	1.87	6.25	21.8	65.6	-
		2	15	0.35	2.25	6.84	23.4	68.9	-
			25~100	0.09	0.35	2.25	6.84	23.4	-
			0.007	0.01	0.31	1.87	6.25	21.8	-



DIMENSION SINGLE SECTION

Dimension(single stage, Ratio i=3~200)

Dimension	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235
D1	M5	M8	M12	M16	M16	-
D2j6	16	22	32	40	55	-
D3g6	52	68	90	120	160	-
D4	62	80	108	140	184	-
D5	4-M5	4-M6	4-M8	4-M10	4-M12	-
D6	17.5	29.8	39.5	49.5	69.5	-
L1	6.5	8	17	15	15	-
L2	36	46	70	97	100	-
L3	28.5	36.5	51	79	82	-
L4	152.2	205	259	347	394	-
L5	4	6	10	12	11.5	-
L6	13	20	28	36	42	-
L7	2	3	5	5	6	-
L8	25	32	40	63	70	-
L9	86.2	114	131.5	179	204	-
C1	60	90	130	180	180	-
C2	70	90	145	200	200	-
C3	4-M4	4-M5	4-M8	4-M12	4-M12	-
C4	14	19	24	35	42	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	71.9	90.1	126.5	162.5	195.5	-
C8	106.9	137.1	189	237.5	295.5	-
C9	35	43	71	86	119	-
C10	11.5	14.5	27	32	65	-
B1	5	6	10	12	16	-
H1	18	24.5	35	43	59	-



# DIMENSION

## SINGLE SECTION

Dimension(double stage,Ratio i=15~200)

Dimension	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235
D1	M5	M8	M12	M16	M16	-
D2j6	16	22	32	40	55	-
D3g6	52	68	90	120	160	-
D4	62	80	108	140	184	-
D5	4-M5	4-M6	4-M8	4-M10	4-M12	-
D6	17.5	29.8	39.5	49.5	69.5	-
L1	6.5	8	17	15	15	-
L2	36	46	70	97	100	-
L3	28.5	36.5	51	79	82	-
L4	184.2	242.5	304	408	431.5	-
L5	4	6	10	12	11.5	-
L6	13	20	28	36	42	-
L7	2	3	5	5	6	-
L8	25	32	40	63	70	-
L9	118.2	151.5	176.5	240	241.5	-
C1	60	90	130	180	180	-
C2	70	90	145	200	200	-
C3	4-M4	4-M5	4-M8	4-M12	4-M12	-
C4	14	19	24	35	42	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	71.9	90.1	126.5	162.5	195.5	-
C8	106.9	137.1	189	237.5	295.5	-
C9	35	43	71	86	119	-
C10	11.5	14.5	27	32	65	-
B1	5	6	10	12	16	-
H1	18	24.5	35	43	59	-

## 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	2020	2022
<ul style="list-style-type: none"> <li>National high-tech enterprise</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Industry and Information Technology of the People's Republic of China "specialized, special and new" key small giant enterprise</li> <li>Hunan Enterprise Technology Center</li> </ul>	<ul style="list-style-type: none"> <li>2022 Hunan Reducer Engineering Technology Research Center</li> <li>2022 The 2nd Ningxiang Mayor Quality Award(Organization)</li> </ul>

## 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.