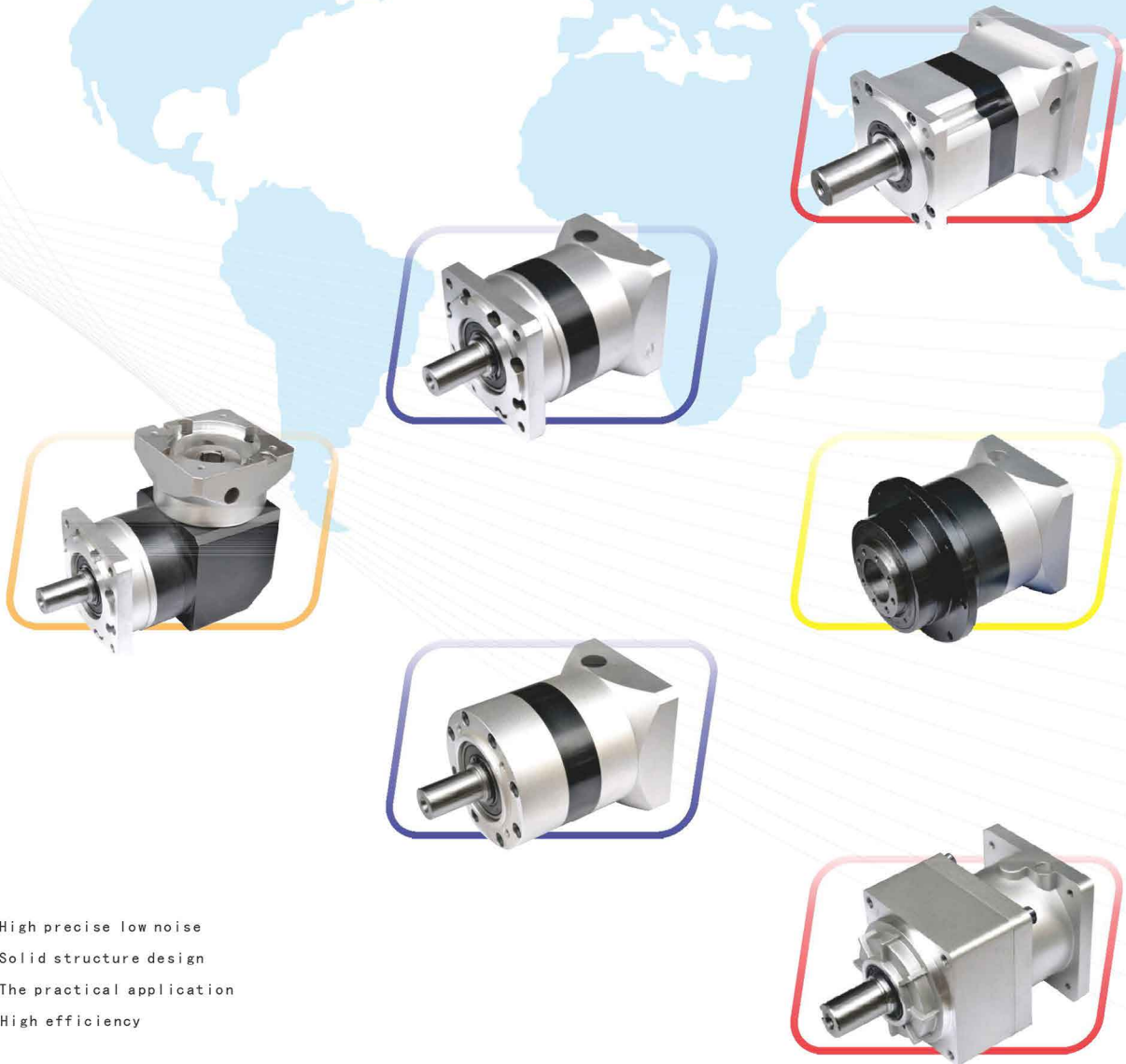


Precision Planetary Gearbox



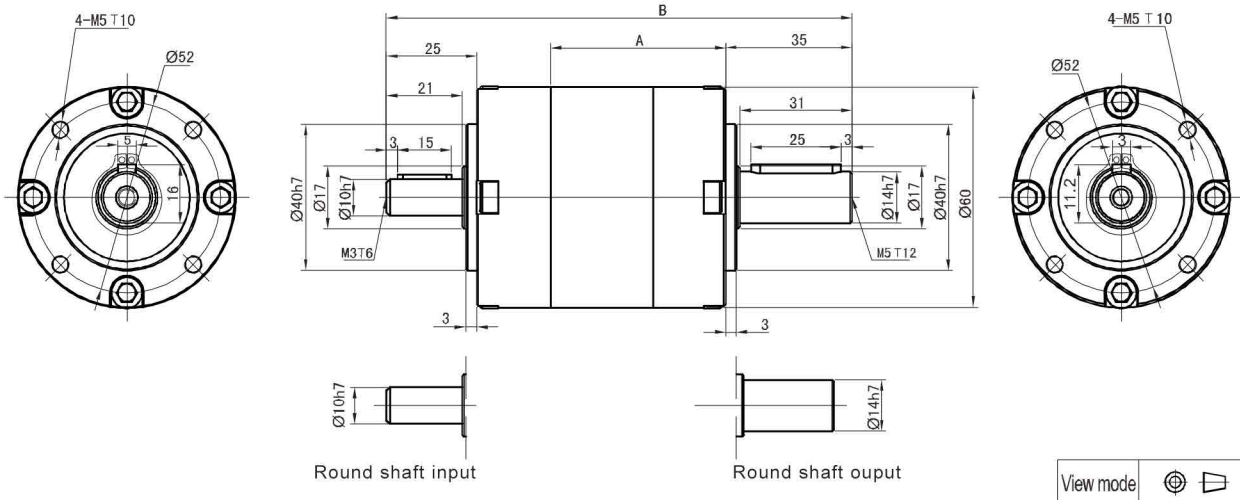
High precise low noise
Solid structure design
The practical application
High efficiency

伍勒斯精密机械有限公司
WOOLARS PRECISION MACHINERY CO., LIMITED

2018版
Product catalogue
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PLS60



Stage	Stage 1 (i: 3 4 5 7 10)		Stage 2 (i: 12 16 20 25 28 35 40 50 70)		Stage 3 (i: 64 80 100 125 140 175 200 250 350 400 500 700 1000)	
	A	B	A	B	A	B
Length(mm)	46	126.5	62	142.5	78	158.5

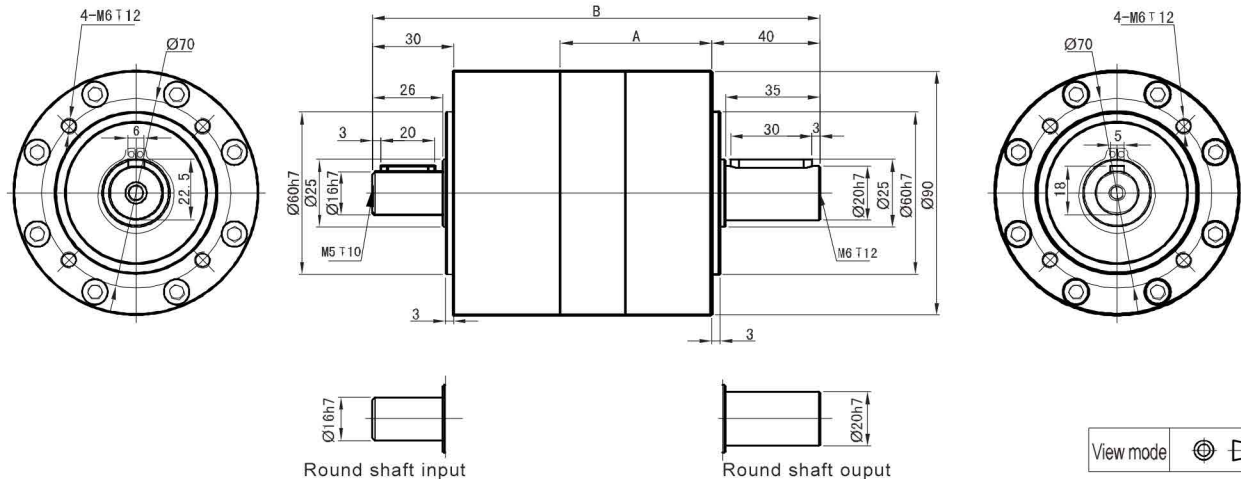
Rated input speed(rpm)	4000		4000		4000	
Maximum input speed(rpm)	8000		8000		8000	
The maximum radial force(N) ^②	170		100		170	
The maximum axial force(N) ^②	100		100		100	
No load torque(Nm)	about 0.6		about 0.3		about 0.3	
Efficiency withfull load(%)	96		94		90	
Back lash(arcmin)	<12		<15		<18	
Noise(dB)	≤58		≤58		≤58	
Weight(Kg)	1.0		1.3		1.6	
Average lifetime(h)	>20000					
Torsional rigidity(Nm/arcmin)	2.3					
lubricant	Effective lubrication					
direction of rotation	The input and output to the same					
Protection level	IP65					
Installation	arbitrarily					

Ratio(i)	3	4	5	7	10	12	16	20	25	28	35	40	50	70
Rated output torque(Nm)	16.5	27.0	29.5	19.5	8.5	30.0	30.0	30.0	33.0	30.0	33.0	30.0	33.0	21.5
maximum output torque(Nm)	33.0	54.0	59.0	39.0	17.0	60.0	60.0	60.0	66.0	60.0	66.0	60.0	66.0	43.0
Moment of inertia(Kgcm ²)	0.037	0.025	0.023	0.021	0.02	0.037	0.025	0.023	0.023	0.021	0.021	0.02	0.02	0.02

Ratio(i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque(Nm)	37.5	37.5	37.5	41.0	37.5	41.0	37.5	41.0	37.5	41.0	37.5	41.0	27.0	11.5
maximum output torque(Nm)	75.0	75.0	75.0	82.0	75.0	82.0	75.0	82.0	75.0	82.0	75.0	82.0	54.0	23.0
Moment of inertia(Kgcm ²)	0.023	0.023	0.023	0.023	0.021	0.021	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Subscript ①: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the input speed is 2000rpm. Output stress reference PLE60.

PLS90



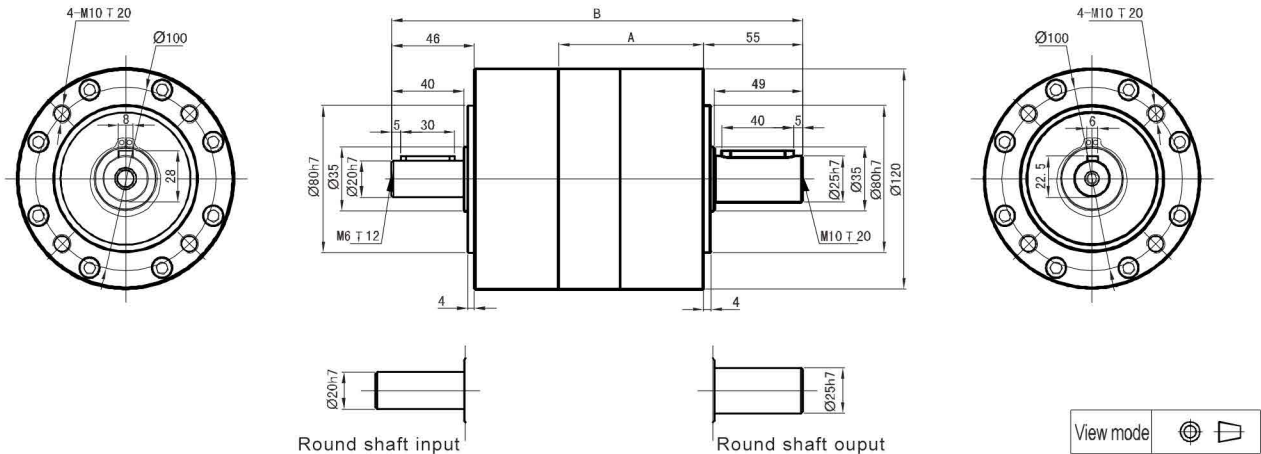
Stage	Stage 1 (i: 3 4 5 7 10)		Stage 2 (i: 12 16 20 25 28 35 40 50 70)				Stage 3 (i: 64 80 100 125 140 175 200 250 350 400 500 700 1000)						
	A	B	A	B	A	B	A	B	A	B			
Length(mm)	55	165.5	78.5	189.5	101.5	213.5							
Rated input speed(rpm)	3500		3500				3500						
Maximum input speed(rpm)	6000		6000				6000						
The maximum radial force(N) ^②			415										
The maximum axial force(N) ^②			260										
No load torque(Nm)	about 0.8		about 0.4				about 0.4						
Efficiency withfull load(%)	96		94				90						
Back lash(arcmin)	<12		<15				<18						
Noise(dB)	≤62		≤62				≤62						
Weight(Kg)													
Average lifetime(h)			>20000										
Torsional rigidity(Nm/arcmin)			7.5										
lubricant	Effective lubrication												
direction of rotation	The input and output to the same												
Protection level	IP65												
Installation	arbitrarily												

Ratio(i)	3	4	5	7	10	12	16	20	25	28	35	40	50	70
Rated output torque(Nm)	60.0	86.0	94.5	64.0	39.5	96.0	96.0	96.0	105.5	96.0	105.5	96.0	105.5	71.5
maximum output torque(Nm)	120.0	172.0	189.0	128.0	79.0	192.0	192.0	192.0	211.0	192.0	211.0	192.0	211.0	143.0
Moment of inertia(Kgcm ²)	0.281	0.189	0.173	0.167	0.163	0.281	0.189	0.173	0.173	0.167	0.167	0.163	0.163	0.163

Ratio(i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque(Nm)	120.0	120.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	89.5	55.0
maximum output torque(Nm)	240.0	240.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	179.0	110.0
Moment of inertia(Kgcm ²)	0.173	0.173	0.173	0.173	0.167	0.167	0.163	0.163	0.163	0.163	0.163	0.163	0.163	0.163

Subscript ①: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the input speed is 2000rpm. Output stress reference PLE90.

PLS120



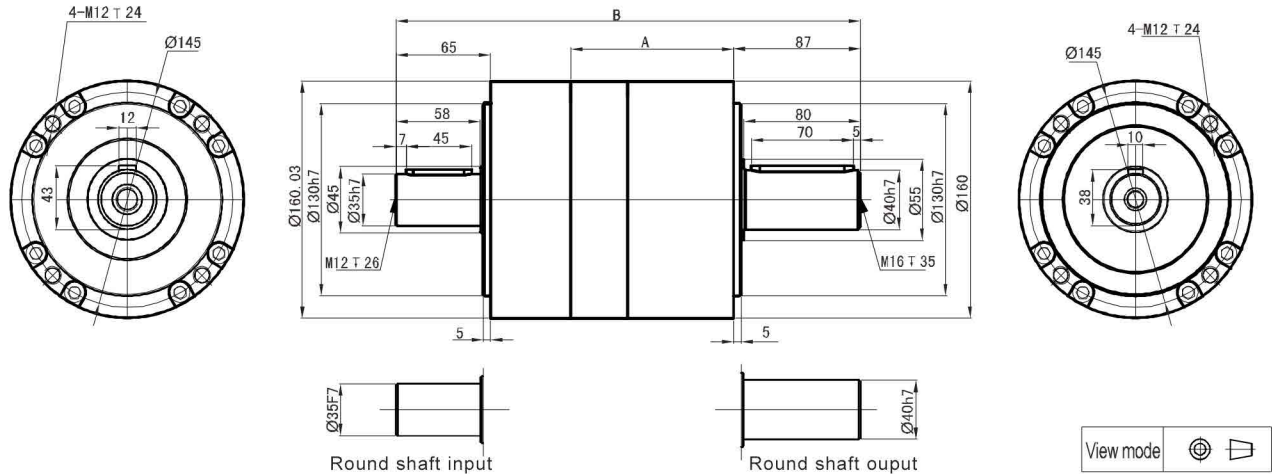
Stage	Stage 1 (i: 3 4 5 7 10)		Stage 2 (i: 12 16 20 25 28 35 40 50 70)		Stage 3 (i: 64 80 100 125 140 175 200 250 350 400 500 700 1000)	
	A	B	A	B	A	B
Length(mm)	80	228	112.0	259.5	143.5	291.0
Rated input speed(rpm)	3000		3000		3000	
Maximum input speed(rpm)	4800		4800		4800	
The maximum radial force(N) ^①			690			
The maximum axial force(N) ^①			420			
No load torque(Nm)	about 1.3		about 0.6		about 0.6	
Efficiency with full load(%)	96		94		90	
Back lash(arcmin)	<12		<15		<18	
Noise(dB)	≤65		≤65		≤65	
Weight(Kg)	7.0		9.0		11.3	
Average lifetime(h)			>20000			
Torsional rigidity(Nm/arcmin)			15.0			
lubricant	Effective lubrication					
direction of rotation	The input and output to the same					
Protection level	IP65					
Installation	arbitrarily					

Ratio(i)	3 ^(max)	4	5	7	10	12 ^(max)	16	20	25	28	35	40	50	70
Rated output torque(Nm)	148.0	222.0	235.0	158.0	93.0	250.0	250.0	250.0	264.0	250.0	264.0	250.0	264.0	177.0
maximum output torque(Nm)	296.0	444.0	470.0	316.0	186.0	500.0	500.0	500.0	528.0	500.0	528.0	500.0	528.0	354.0
Moment of inertia(Kgcm ²)	1.19	0.80	0.71	0.68	0.67	1.19	0.80	0.71	0.71	0.68	0.68	0.67	0.67	0.67

Ratio(i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque(Nm)	310.0	310.0	310.0	329.0	310.0	329.0	310.0	329.0	310.0	329.0	310.0	329.0	220.0	130.0
maximum output torque(Nm)	620.0	620.0	620.0	658.0	620.0	658.0	620.0	658.0	620.0	658.0	620.0	658.0	440.0	260.0
Moment of inertia(Kgcm ²)	0.71	0.71	0.71	0.71	0.68	0.68	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67

Subscript ①: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the input speed is 2000rpm. Output stress reference PLE120.

PLS160



Stage	Stage 1 (i: 3 4 5 8)		Stage 2 (i: 12 16 20 25 32 40 64)		Stage 3 (i: 60 64 80 100 120 160 200 256 320 512)	
	A	B	A	B	A	B
Length(mm)	112.0	319.0	151.0	358.0	190.0	397.0
Rated input speed(rpm)	3000		3000		3000	
Maximum input speed(rpm)	4500		4500		4500	
The maximum radial force(N) ^②			1400			
The maximum axial force(N) ^②			900			
No load torque(Nm)	about 3.2		about 2.1		about 2.1	
Efficiency withfull load(%)	96		94		90	
Back lash(arcmin)	< 12		< 15		< 18	
Noise(dB)	≤ 65		≤ 65		≤ 65	
Weight(Kg)	25.0		31.0		37.0	
Average lifetime(h)			>20000			
Torsional rigidity(Nm/arcmin)			27.0			
lubricant	Effective lubrication					
direction of rotation	The input and output to the same					
Protection level	IP65					
Installation	arbitrarily					

Ratio(i)	3	4	5	8	12	16	20	25	32	40	60	64 ^{Stage 2}	64 ^{Stage 3}	80
Rated output torque(Nm)	310.0	605.0	420.0	270.0	680.0	680.0	680.0	460.0	680.0	460.0	900.0	310.0	900.0	900.0
maximum output torque(Nm)	620.0	1210.0	840.0	540.0	1360.0	1360.0	1360.0	920.0	1360.0	920.0	1800.0	620.0	1800.0	1800.0
Moment of inertia(Kgcm ²)	4.41	3.26	3.08	2.96	4.41	3.26	3.08	3.08	2.94	2.94	4.41	2.96	3.08	3.08

Ratio(i)	100	120	160	200	256	320	512							
Rated output torque(Nm)	900.0	580.0	900.0	580.0	900.0	580.0	400.0							
maximum output torque(Nm)	1800.0	1160.0	1800.0	1160.0	1800.0	1160.0	800.0							
Moment of inertia(Kgcm ²)	3.08	2.96	2.96	2.96	2.96	2.96	2.96							

Subscript ①: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the input speed is 2000rpm. Output stress reference PLE160.