GEARKO®

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GEARKO® **2025** REV **1.0**

GEARKO®

PLANETARY GEARBOX CATALOG

PASSION FOR PRECISION TRANSMISSION

PLANETARY GEARBOX CATALOG

PRECISION PLANETARY REDUCER

High Precision / High Rigidity / High Reliability


Advanced Technology


High-end Design


Customer Support


Know-how Process

“We customize high precision, high rigidity, high reliability planetary reducers for our customers.”


High Output Torque


Light Reliability


Maintenance Free


Customization Service

GEARKO®

DRIVES THE PRECISION

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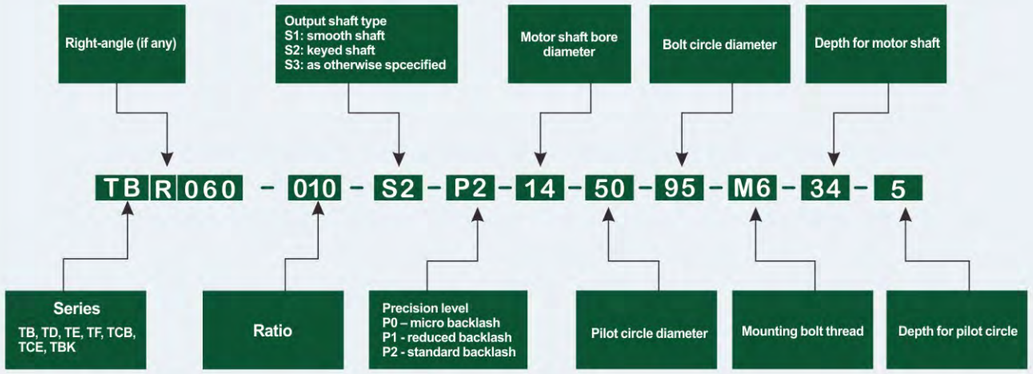
Gearbox Selection Reference Table*

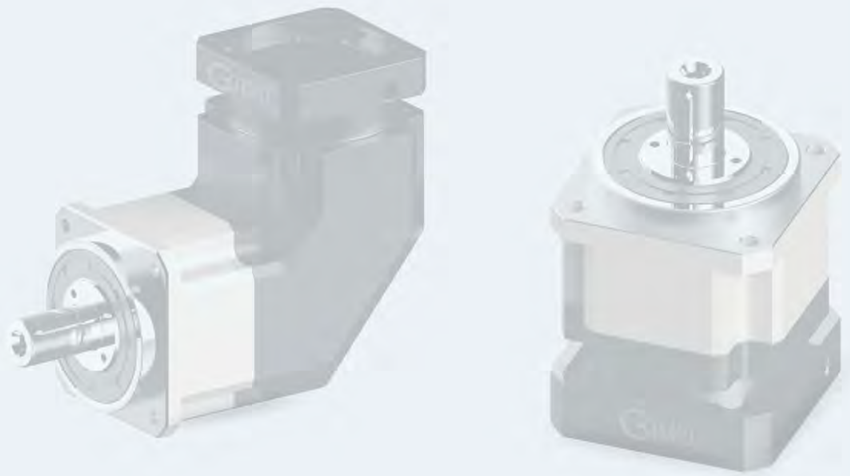
Innovative And Advanced Solutions To Maximize Customer Value

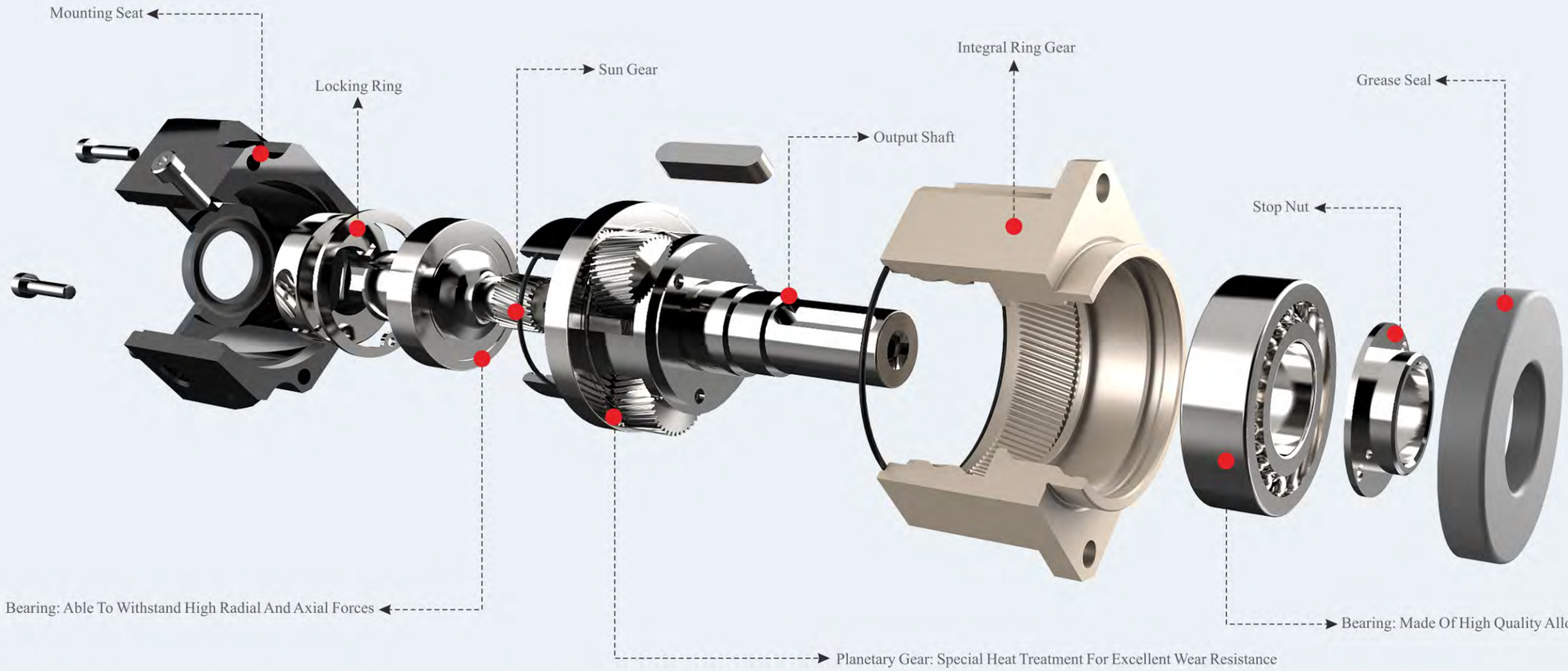
Gearbox Selection Reference Table											
Product Line Series	TB	TBR	TD	TDR		TE	TER	TF	TCB	TCBR	TCE
Backlash Range (for single stage)	⩽5	⩽6	⩽5	⩽6		⩽5	⩽6	⩽5	⩽5	⩽8	⩽5
Lowest Backlash Available (for single stage)	⩽1	⩽2	⩽1	⩽2		⩽3	⩽4	⩽1	⩽3	⩽4	⩽3
Frame Size	042/060/090/ 115/142/180/ 220 (available for customization for beyond 220)	042/060/090/ 115/142/180	047/064/090/ 110/140/200 /255	064/090 / 110/140		050 / 070 / 090 / 120/155/205 /235	070 / 090 / 120/155	060 /075/100 /140 /180	042/060/090/120/ 140/180	042/060/090/120	070/090/120/155
Double Stage Available	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
All Gearing Helical	Yes	Helical & Spiral Bevel	Yes	Helical & Spiral Bevel		Yes	Helical & Spiral Bevel	Yes	Yes	Yes	Yes
Bearing Load Capacity Rating	High	High	High	High		High	High	Very High	High	High	High
Lubricated for Life	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Efficiency (for one stage)	⩾97%	⩾95%	⩾97%	⩾95%		⩾97%	⩾95%	⩾97%	⩾97%	⩾95%	⩾97%
One-piece Ring Gear & Housing	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Housing Material	Steel	Steel	Steel	Steel		Steel	Steel	Steel	Steel	Steel	Steel
Housing Nickel Plating	Yes	Yes	Yes	Yes		Yes	Yes	Yes	No	No	No
One-piece Output Shaft & Planet Carrier	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
One-piece Sun Gear and Input Collet	Yes	Yes	Yes	Yes		Yes	Yes	Yes	No	No	No
Customized Flange for Motor Installation	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Page Range	05-18	19-30	31-44	45-52		53-66	67-74	75-84	85-96	97-104	105-112

*All technical specifications in this brochure were correct at the time of printing. They are subject to change without notice as part of our continuous improvement initiative.

ORDERING CODE







GEARKO HIGH-END DESIGN AND QUALITY GUARANTEE STABLE AND SUPERIOR PERFORMANCE

Precision Planetary Reducer

Precise & Efficient

+

TB/TBR SERIES

+

Versatile Applications

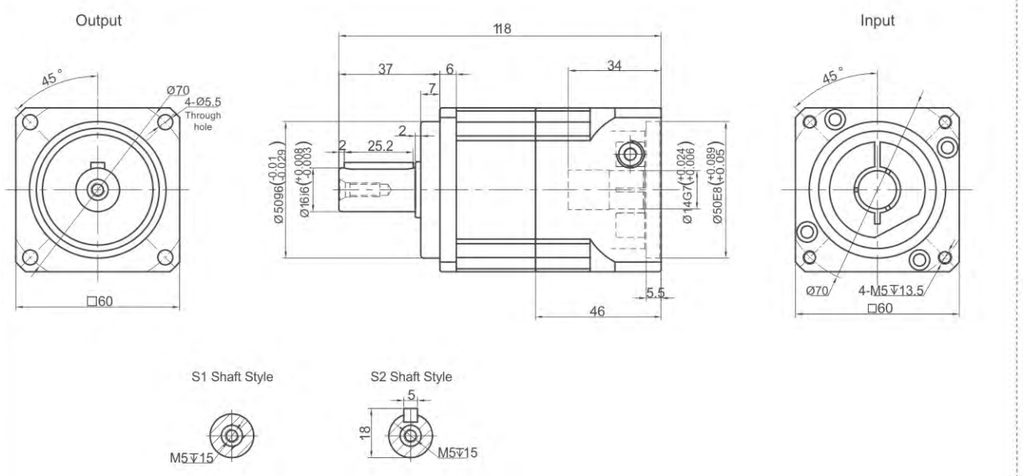
TB/TBR Series planetary reducer achieves maximum efficiency even at the highest speed and load. Robust structure and low backlash enable it to be applied in almost any shaft-output applications.

GEARKO®

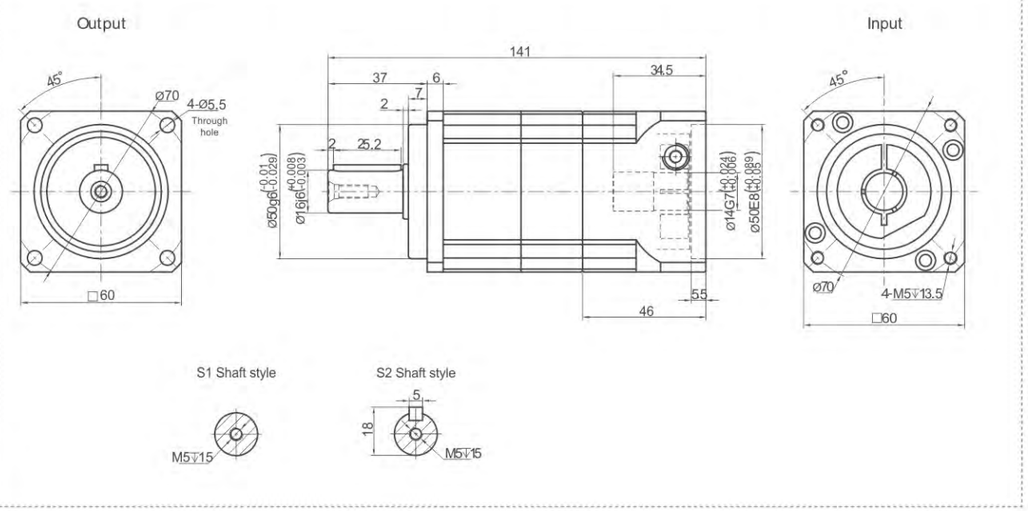
DRIVES THE PRECISION

TB060 Series

TB060 One Stage



TB060 Two Stage



Performance Data

The TB series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TB060			One Stage																			
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	52	50	58	55	50	45	-	42	52	50	58	58	50	45	58	55	50	45	42
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	5000											5000							
Maximum Input Speed	S_2	rpm	10000											10000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	1530											1530							
Maximum Axial Force	F_b	N	765											765							
Torsional Rigidity	-	Nm/arcmin	7											7							
Efficiency	η	%	≥97											≥94							
Service Life	–	h	20000											20000							
Noise	–	dB	≤58											≤60							
Weight	–	Kg	1.3											1.9							
Backlash	P0	arcmin	≤1											≤3							
	P1		≤3											≤5							
	P2		≤5											≤7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	$kg.cm^2$	0.16	0.14	0.13									0.13							

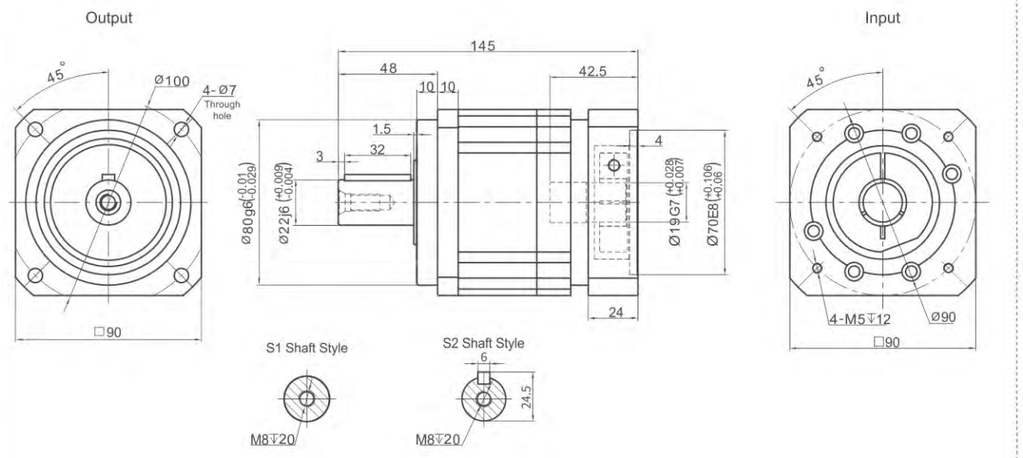
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

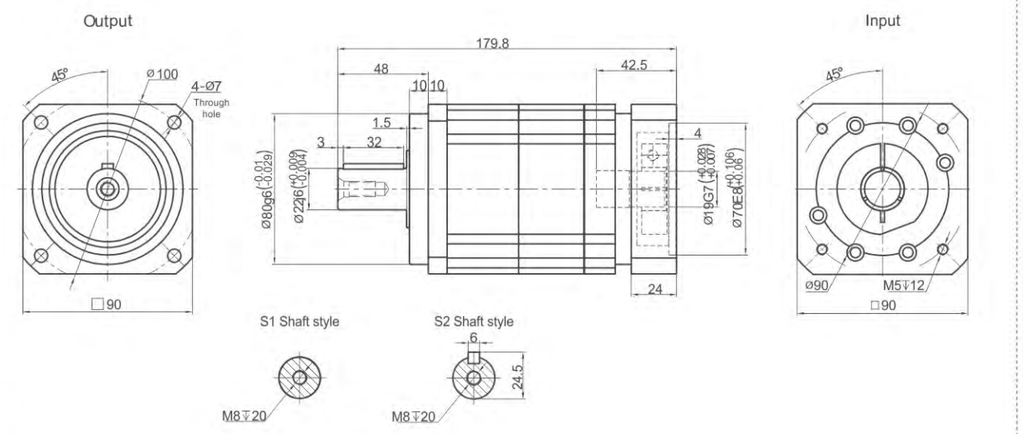
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TB090 Series

TB090 One Stage



TB090 Two Stage



Performance Data

The TB series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TB090			One Stage												Two Stage								
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	130	140	160	148	140	123	-	102	130	140	160	148	140	123	160	148	140	123	102
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	4000											4000							
Maximum Input Speed	S_2	rpm	8000											8000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	3250											3250							
Maximum Axial Force	F_b	N	1625											1625							
Torsional Rigidity	-	Nm/arcmin	14											14							
Efficiency	η	%	⩾97											⩾94							
Service Life	–	h	20000											20000							
Noise	–	dB	⩽60											⩽63							
Weight	–	Kg	3.6											4.5							
Backlash	P0	arcmin	⩽1											⩽3							
	P1		⩽3											⩽5							
	P2		⩽5											⩽7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	$kg.cm^2$	0.61	0.48	0.47	0.45	0.44							0.47						0.44	

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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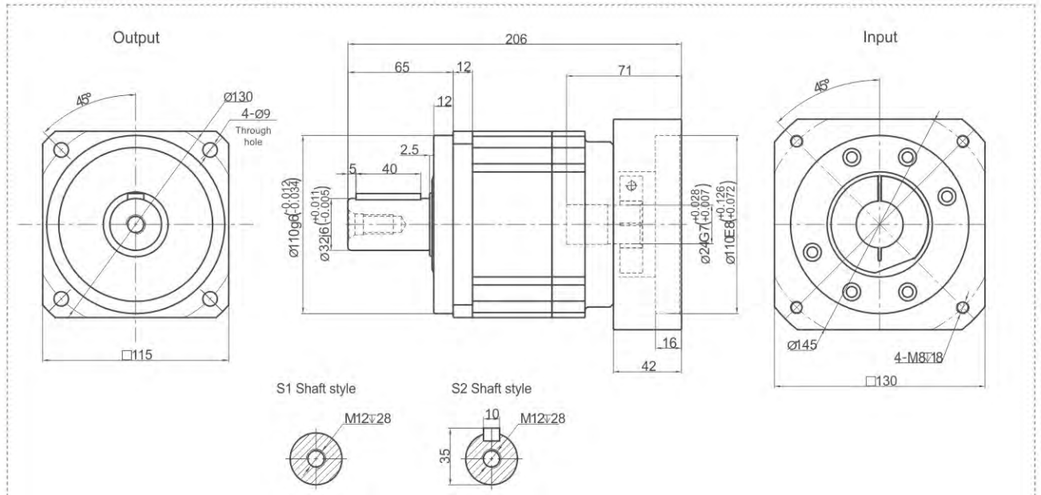
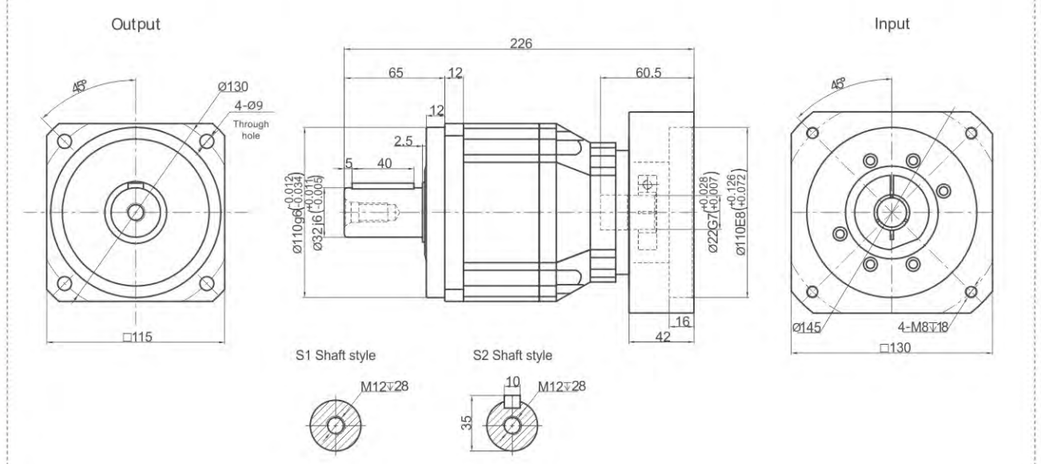
TB115 Series

TB115 One Stage



TB115 Two Stage



Performance Data

The TB series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TB115			One Stage																			
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	210	290	333	310	300	260	-	235	210	290	333	310	300	260	333	310	300	260	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	4000											4000							
Maximum Input Speed	S_2	rpm	8000											8000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	6700											6700							
Maximum Axial Force	F_b	N	3350											3350							
Torsional Rigidity	-	Nm/arcmin	25											25							
Efficiency	η	%	⩾97											⩾94							
Service Life	–	h	20000											20000							
Noise	–	dB	⩽63											⩽63							
Weight	–	Kg	8.5											9.5							
Backlash	P0	arcmin	⩽1											⩽3							
	P1		⩽3											⩽5							
	P2		⩽5											⩽7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	kg.cm²	3.25	2.74	2.71	2.65	2.62	2.58	–	2.57	0.47			0.44							

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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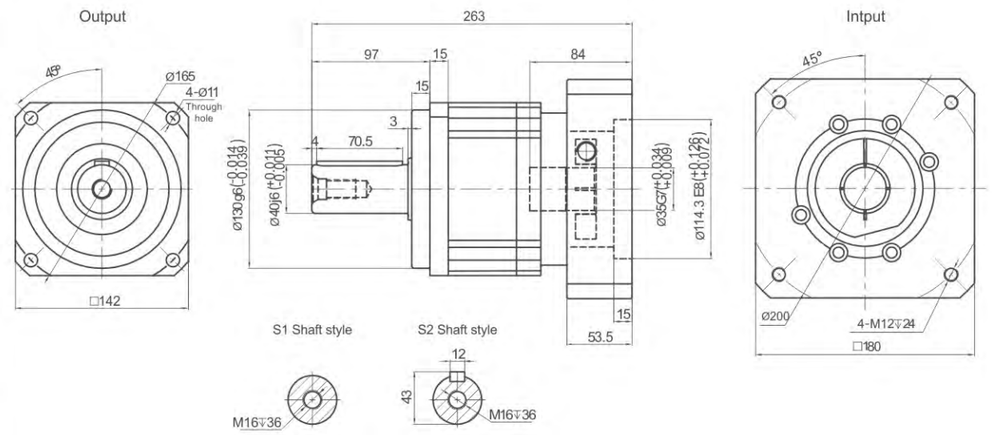
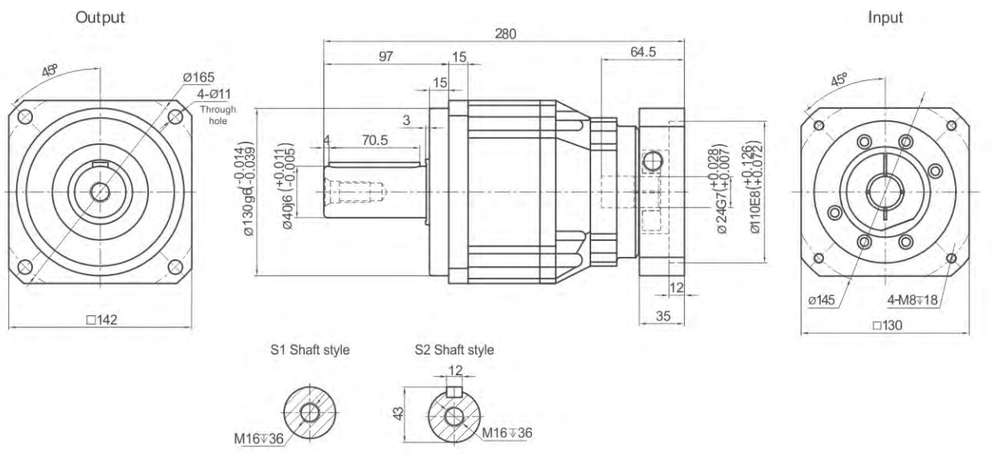
TB142 Series

TB142 One Stage



TB142 Two Stage



Performance Data

The TB series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TB142			One Stage																		
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	340	545	650	600	555	500	-	460	340	545	650	600	555	500	650	600	555	500	460
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	3000											3000							
Maximum Input Speed	S_2	rpm	6000											6000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	9400											9400							
Maximum Axial Force	F_b	N	4700											4700							
Torsional Rigidity	-	Nm/arcmin	50											50							
Efficiency	η	%	⩾97											⩾94							
Service Life	–	h	20000											20000							
Noise	–	dB	⩽65											⩽65							
Weight	–	Kg	16.5											16.4							
Backlash	P0	arcmin	⩽1											⩽3							
	P1		⩽3											⩽5							
	P2		⩽5											⩽10							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	$kg.cm^2$	9.21	7.54	7.42	7.25	7.14	7.07	-	7.03	2.71			2.57							

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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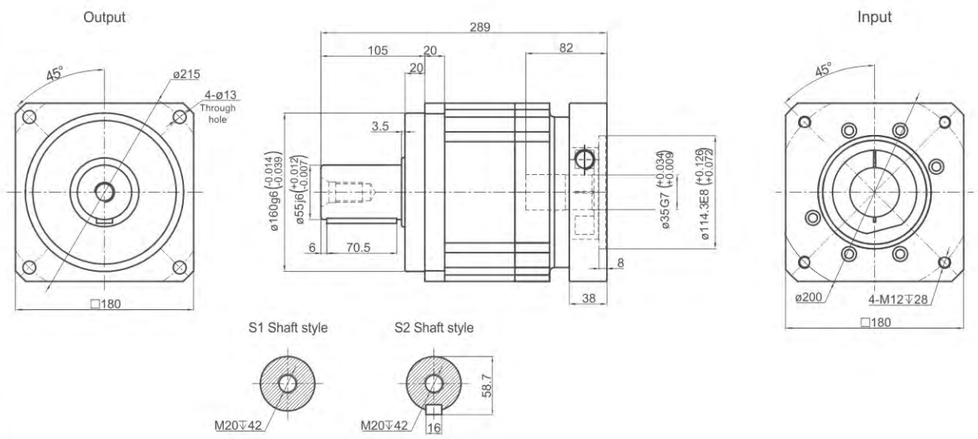
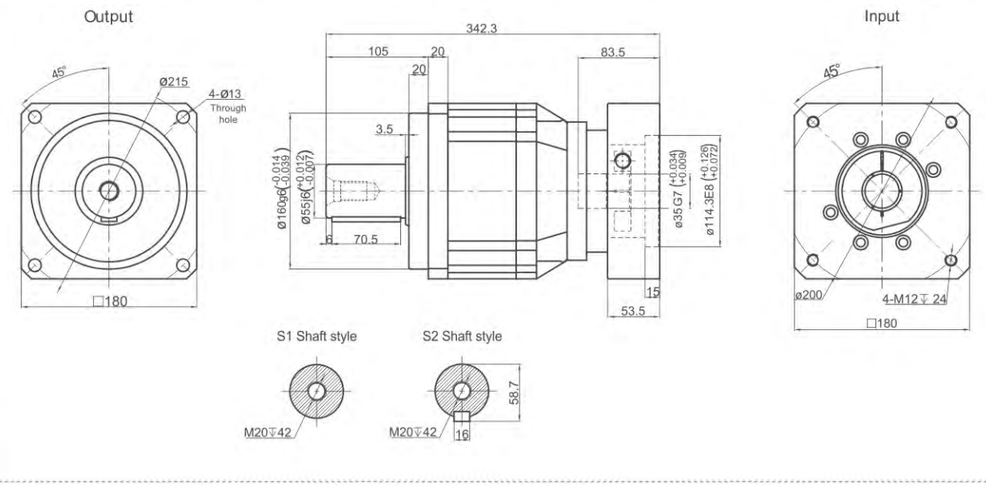
TB180 Series

TB180 One Stage



TB180 Two Stage



Performance Data

The TB series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TB180			One Stage													Two Stage							
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	590	1050	1200	1108	1100	1000	-	910	590	1050	1200	1108	1100	1000	1200	1108	1100	1000	910
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	3000											3000							
Maximum Input Speed	S_2	rpm	6000											6000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	14500											14500							
Maximum Axial Force	F_b	N	7250											7250							
Torsional Rigidity	-	Nm/arcmin	145											145							
Efficiency	η	%	⩾97											⩾94							
Service Life	–	h	20000											20000							
Noise	–	dB	⩽66											⩽66							
Weight	–	Kg	27											34							
Backlash	P0	arcmin	⩽1											⩽3							
	P1		⩽3											⩽5							
	P2		⩽5											⩽7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	kg.cm²	28.98	23.67	23.29	22.75	22.48	22.59	–	22.51	7.42			7.03							

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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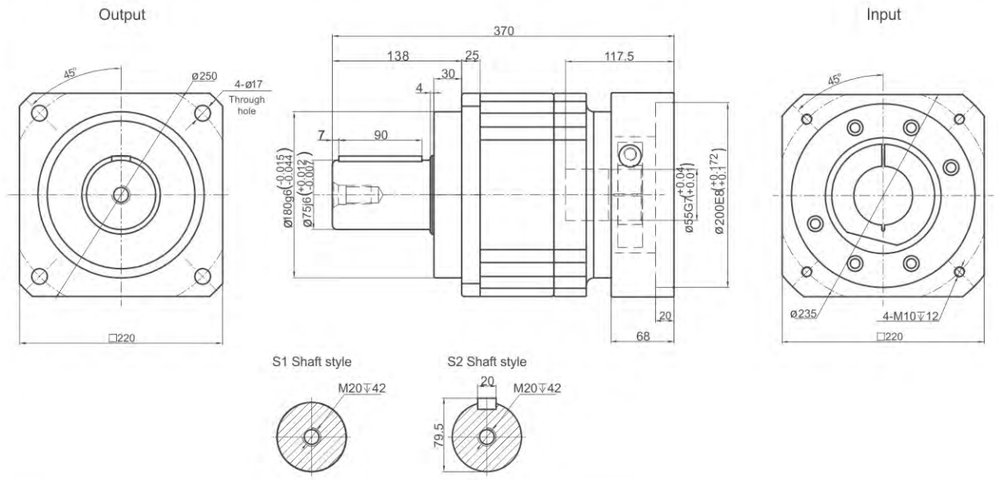
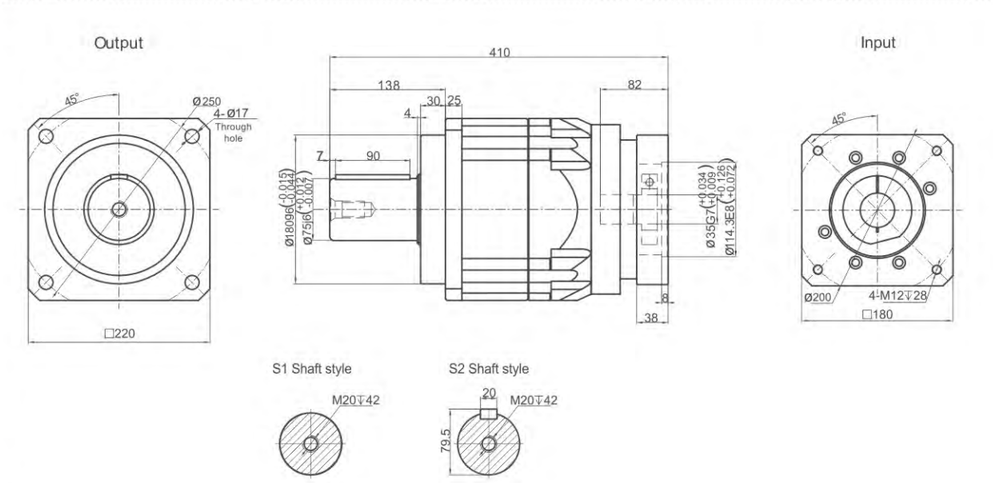
TB220 Series

TB220 One Stage



TB220 Two Stage



Performance Data

The TB series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TB220			One Stage													Two Stage							
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	1150	1700	2008	1900	1810	1600	-	1550	1150	1700	2008	1900	1810	1600	2008	1900	1810	1600	1550
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	2000											2000							
Maximum Input Speed	S_2	rpm	4000											4000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	50000											50000							
Maximum Axial Force	F_b	N	25000											25000							
Torsional Rigidity	–	Nm/arcmin	225											225							
Efficiency	η	%	⩾97											⩾94							
Service Life	–	h	20000											20000							
Noise	–	dB	⩽70											⩽70							
Weight	–	Kg	51.5											63.5							
Backlash	P0	arcmin	⩽1											⩽3							
	P1		⩽3											⩽5							
	P2		⩽5											⩽7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	kg.cm²	69.61	54.37	53.27	51.72	50.97	50.84	–	50.56	23.29			22.51							

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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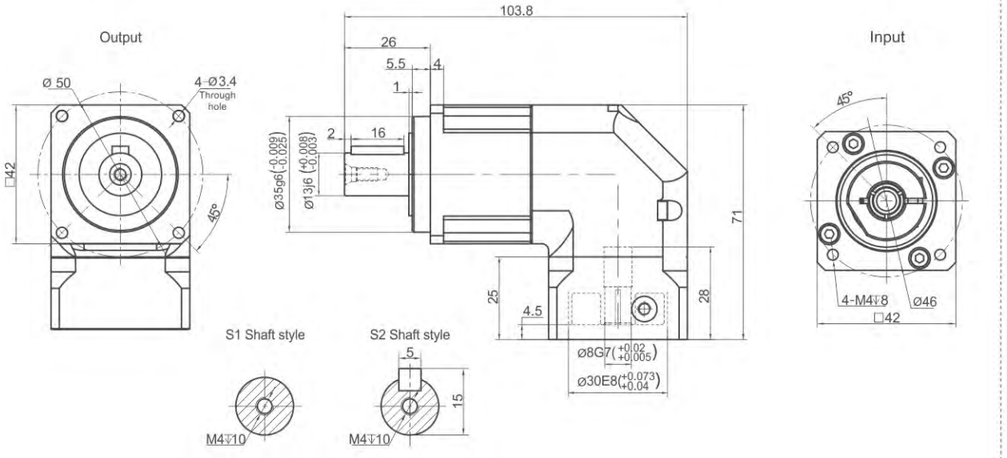
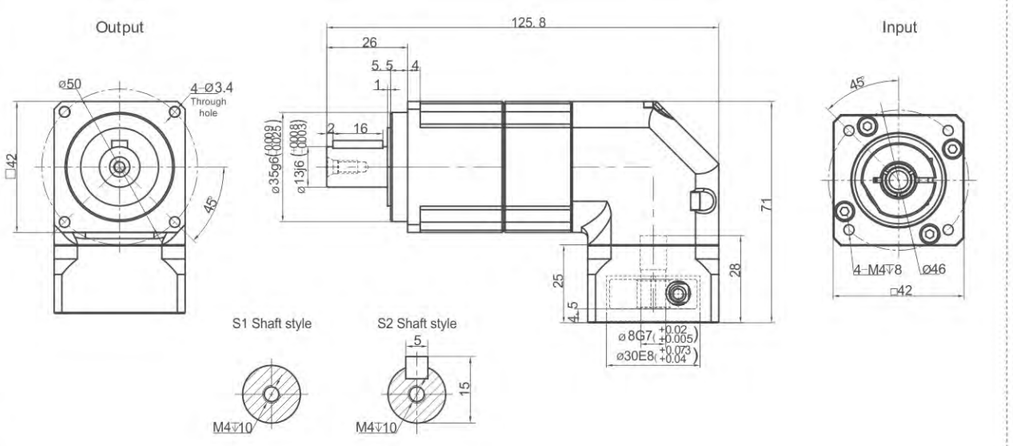
TBR042 Series

TBR042 One Stage



TBR042 Two Stage



Performance Data

The TBR series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TBR042			One Stage								Two Stage									
Speed Ratio		i	–	4	5	6	7	8	9	10	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	–	15	18	18	19	17	–	14	15	18	18	19	17	18	18	19	17	14
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	5000								5000									
Maximum Input Speed	S_2	rpm	10000								10000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	780								780									
Maximum Axial Force	F_b	N	390								390									
Torsional Rigidity	–	Nm/arcmin	3								3									
Efficiency	η	%	⩾95								⩾92									
Service Life	–	h	20000								20000									
Noise	–	dB	⩽61								⩽61									
Weight	–	Kg	0.7								0.9									
Backlash	P0	arcmin	–								–									
	P1		⩽4								⩽7									
	P2		⩽6								⩽9									
Operating Temperature	–	℃	-20~90								-20~90									
Lubrication	–		Synthetic Grease								Synthetic Grease									
Protection Class	–		IP65								IP65									
Mounting Position	–		Any Direction								Any Direction									
Moment of Inertia	J	$kg.cm^2$	0.09								0.09									

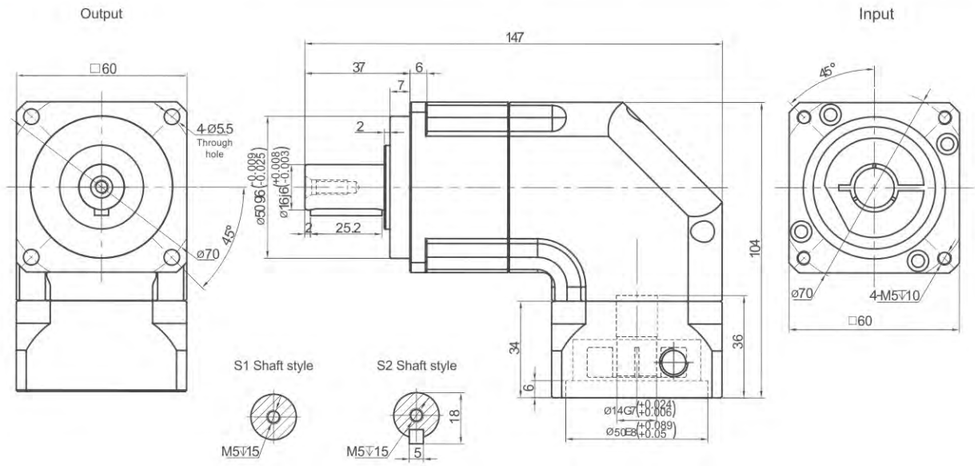
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

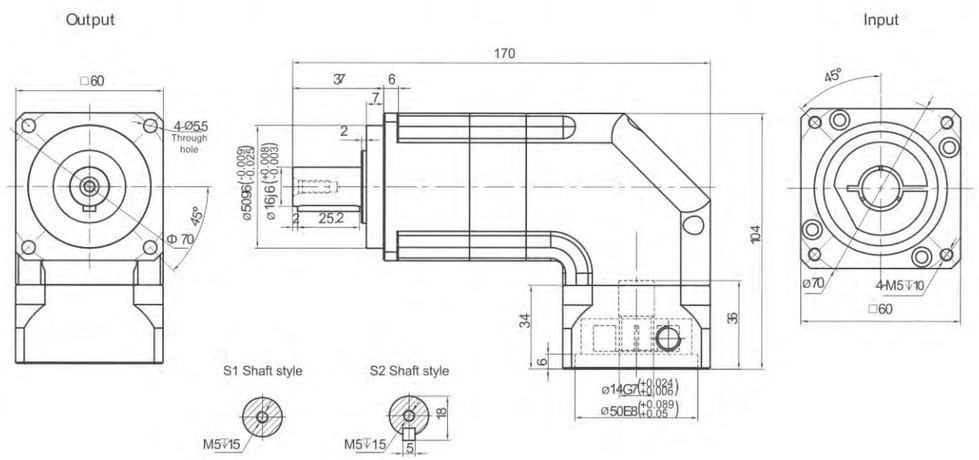
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TBR060 Series

TBR060 One Stage



TBR060 Two Stage



Performance Data

The TBR series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TBR060			One Stage		Two Stage
Speed Ratio	i		3 4 5 6 7 8 9 10 12 14 16 20 25 30 35 40 50 60 70 80 100 120 140 160 180 200		
Nominal Output Torque	T_1	Nm	50 48 58 55 50 45 - 42 55 42 45 42 58 55 50 45 58 55 50 45 42 55 50 45 - 42		
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$		$T_1 \times 3$
Nominal Input Speed	S_1	rpm	5000		5000
Maximum Input Speed	S_2	rpm	10000		10000
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$		$T_1 \times 3 \times 60\%$
Maximum Radial Force	F_a	N	1530		1530
Maximum Axial Force	F_b	N	765		765
Torsional Rigidity	–	Nm/arcmin	7		7
Efficiency	η	%	⩾95		⩾92
Service Life	–	h	20000		20000
Noise	–	dB	⩽63		⩽63
Weight	–	Kg	2		2.5
Backlash	P0	arcmin	-		-
	P1		⩽4		⩽7
	P2		⩽6		⩽9
Operating Temperature	–	℃	-20~90		-20~90
Lubrication	–		Synthetic Grease		Synthetic Grease
Protection Class	–		IP65		IP65
Mounting Position	–		Any Direction		Any Direction
Moment of Inertia	J	kg.cm²	0.35	0.07	0.09

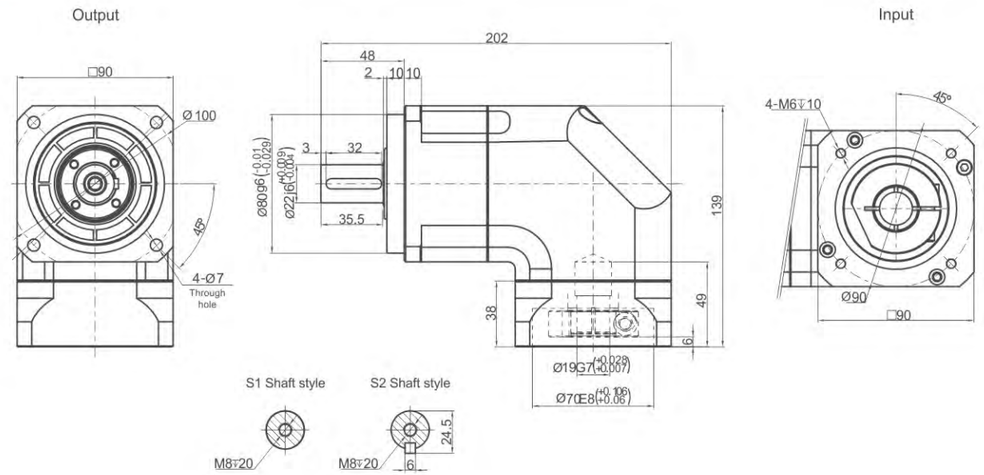
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

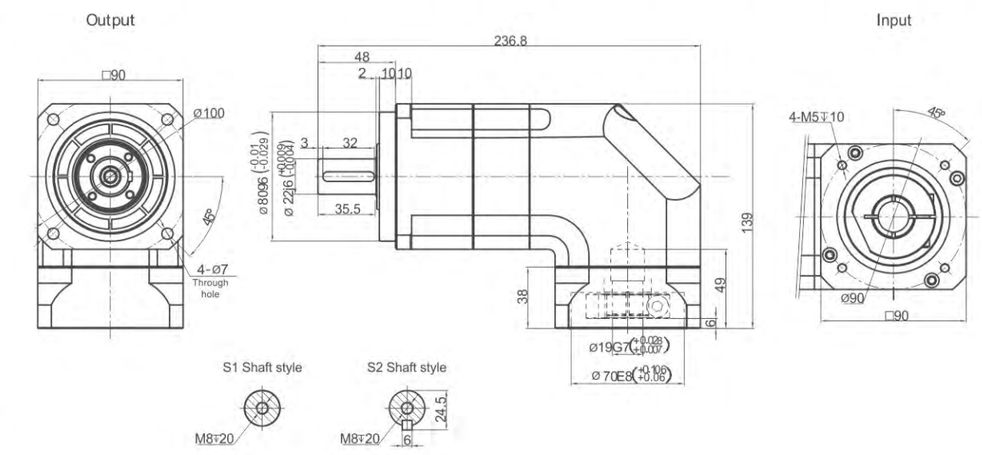
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TBR090 Series

TBR090 One Stage



TBR090 Two Stage



Performance Data

The TBR series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TBR090			One Stage		Two Stage	
Speed Ratio	i		3 4 5 6 7 8 9 10 12 14 16 20 25 30 35 40 50 60 70 80 100 120 140 160 180 200			
Nominal Output Torque	T_1	Nm	100 120 150 148 140 123 - 102 148 140 123 102 150 148 140 120 150 148 140 123 102 148 140 123 - 102			
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$		$T_1 \times 3$	
Nominal Input Speed	S_1	rpm	4000		4000	
Maximum Input Speed	S_2	rpm	8000		8000	
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$		$T_1 \times 3 \times 60\%$	
Maximum Radial Force	F_a	N	3250		3250	
Maximum Axial Force	F_b	N	1625		1625	
Torsional Rigidity	–	Nm/arcmin	14		14	
Efficiency	η	%	⩾95		⩾92	
Service Life	–	h	20000		20000	
Noise	–	dB	⩽65		⩽65	
Weight	–	Kg	6		6.3	
Backlash	P0	arcmin	⩽2		⩽4	
	P1		⩽4		⩽7	
	P2		⩽6		⩽9	
Operating Temperature	–	℃	-20~90		-20~90	
Lubrication	–		Synthetic Grease		Synthetic Grease	
Protection Class	–		IP65		IP65	
Mounting Position	–		Any Direction		Any Direction	
Moment of Inertia	J	kg.cm²	2.25	1.87	2.25	1.87

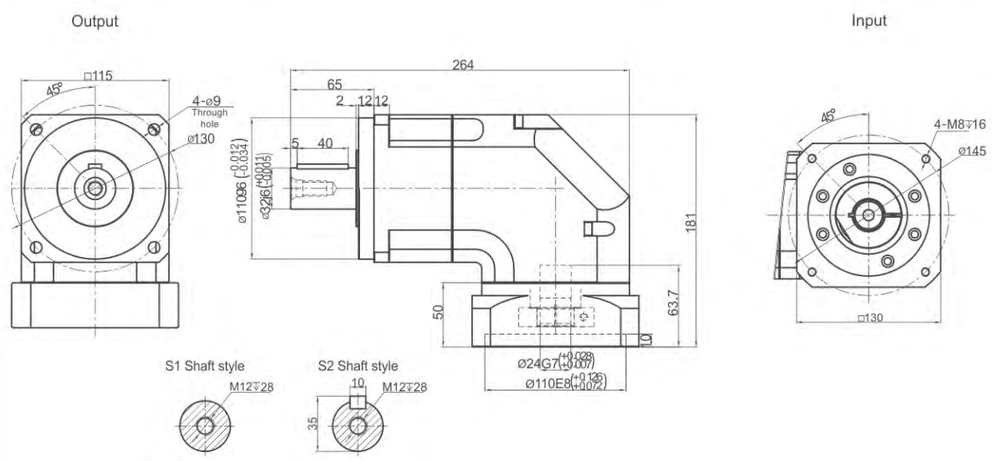
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

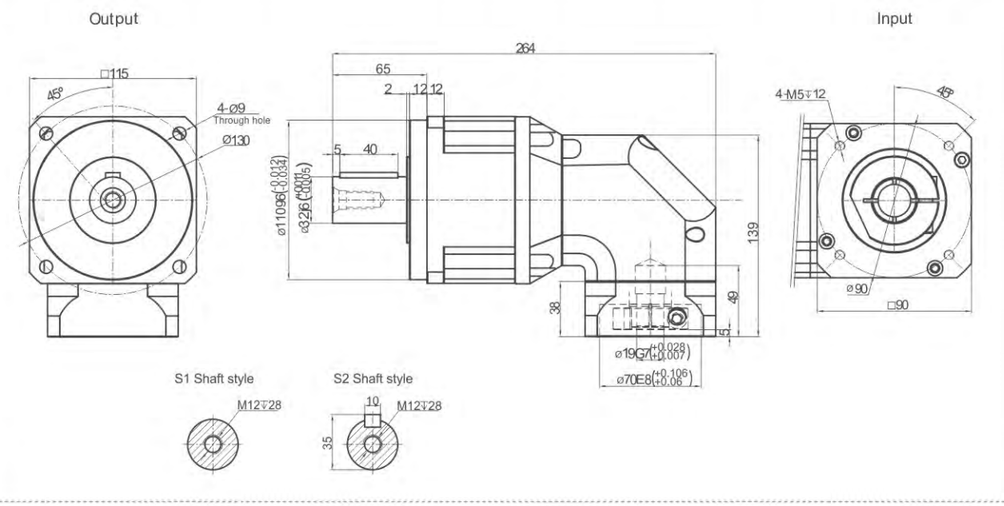
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TBR115 Series

TBR115 One Stage



TBR115 Two Stage



Performance Data

The TBR series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TBR115			One Stage				Two Stage			
Speed Ratio	i		3	4	5	6	7	8	9	10
Nominal Output Torque	T_1	Nm	200	260	330	310	300	260	-	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	4000							
Maximum Input Speed	S_2	rpm	8000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	6700							
Maximum Axial Force	F_b	N	3350							
Torsional Rigidity	–	Nm/arcmin	25							
Efficiency	η	%	⩾95							
Service Life	–	h	20000							
Noise	–	dB	⩽68							
Weight	–	Kg	13							
Backlash	P0	arcmin	⩽2							
	P1		⩽4							
	P2		⩽6							
Operating Temperature	–	℃	-20~90							
Lubrication	–		Synthetic Grease							
Protection Class	–		IP65							
Mounting Position	–		Any Direction							
Moment of Inertia	J	kg.cm²	6.84				6.25			

TBR115			Two Stage							
Speed Ratio	i		12	14	16	20	25	30	35	40
Nominal Output Torque	T_1	Nm	310	300	260	235	330	310	300	260
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	4000							
Maximum Input Speed	S_2	rpm	8000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	6700							
Maximum Axial Force	F_b	N	3350							
Torsional Rigidity	–	Nm/arcmin	25							
Efficiency	η	%	⩾92							
Service Life	–	h	20000							
Noise	–	dB	⩽68							
Weight	–	Kg	12.5							
Backlash	P0	arcmin	⩽4							
	P1		⩽7							
	P2		⩽9							
Operating Temperature	–	℃	-20~90							
Lubrication	–		Synthetic Grease							
Protection Class	–		IP65							
Mounting Position	–		Any Direction							
Moment of Inertia	J	kg.cm²	2.25				1.87			

TBR115			Two Stage							
Speed Ratio	i		50	60	70	80	100	120	140	160	180	200
Nominal Output Torque	T_1	Nm	330	310	300	260	235	310	300	260	-	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	4000									
Maximum Input Speed	S_2	rpm	8000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	6700									
Maximum Axial Force	F_b	N	3350									
Torsional Rigidity	–	Nm/arcmin	25									
Efficiency	η	%	⩾92									
Service Life	–	h	20000									
Noise	–	dB	⩽68									
Weight	–	Kg	12.5									
Backlash	P0	arcmin	⩽4									
	P1		⩽7									
	P2		⩽9									
Operating Temperature	–	℃	-20~90									
Lubrication	–		Synthetic Grease									
Protection Class	–		IP65									
Mounting Position	–		Any Direction									
Moment of Inertia	J	kg.cm²	2.25				1.87					

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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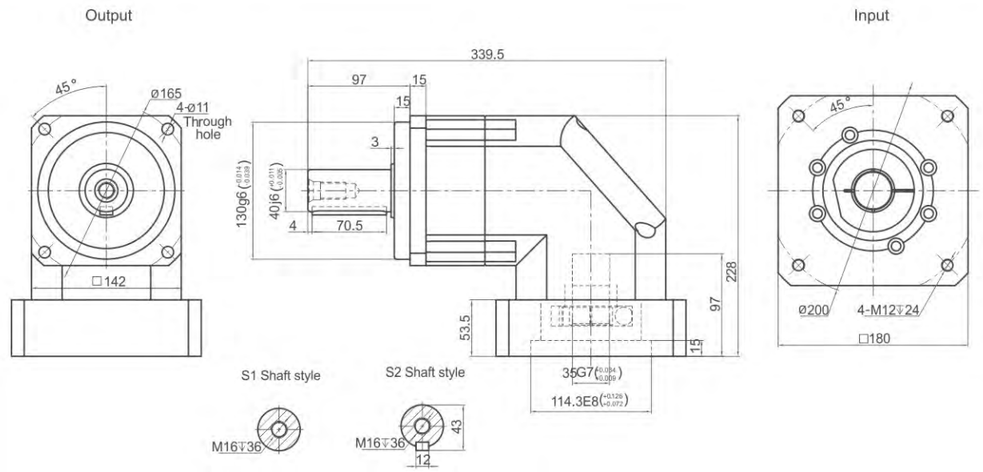
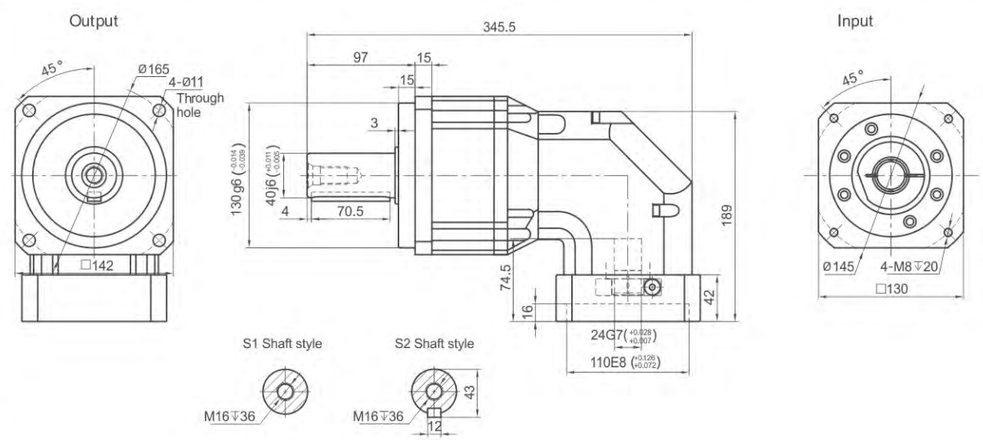
TBR142 Series

TBR142 One Stage



TBR142 Two Stage



Performance Data

The TBR series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TBR142			One Stage				Two Stage			
Speed Ratio	i		3	4	5	6	7	8	9	10	12	14	16	20	25	30	35	40	50	60	70	80	100	120	140	160	180	200
Nominal Output Torque	T_1	Nm	340	540	650	600	555	500	-	460	600	555	500	450	650	600	555	500	650	600	555	500	460	600	555	500	-	460
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$							$T_1 \times 3$																		
Nominal Input Speed	S_1	rpm	3000							3000																		
Maximum Input Speed	S_2	rpm	6000							6000																		
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$							$T_1 \times 3 \times 60\%$																		
Maximum Radial Force	F_a	N	9400							9400																		
Maximum Axial Force	F_b	N	4700							4700																		
Torsional Rigidity	–	Nm/arcmin	50							50																		
Efficiency	η	%	⩾95							⩾92																		
Service Life	–	h	20000							20000																		
Noise	–	dB	⩽70							⩽70																		
Weight	–	Kg	25.2							21.4																		
Backlash	P0	arcmin	⩽2							⩽4																		
	P1		⩽4							⩽7																		
	P2		⩽6							⩽9																		
Operating Temperature	–	℃	-20~90							-20~90																		
Lubrication	–		Synthetic Grease							Synthetic Grease																		
Protection Class	–		IP65							IP65																		
Mounting Position	–		Any Direction							Any Direction																		
Moment of Inertia	J	kg.cm²	23.4				21.8			6.84				6.25														

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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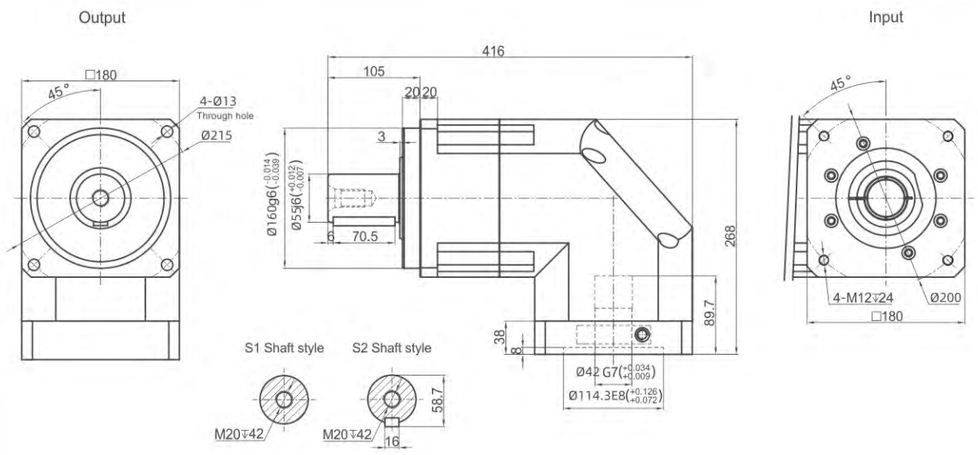
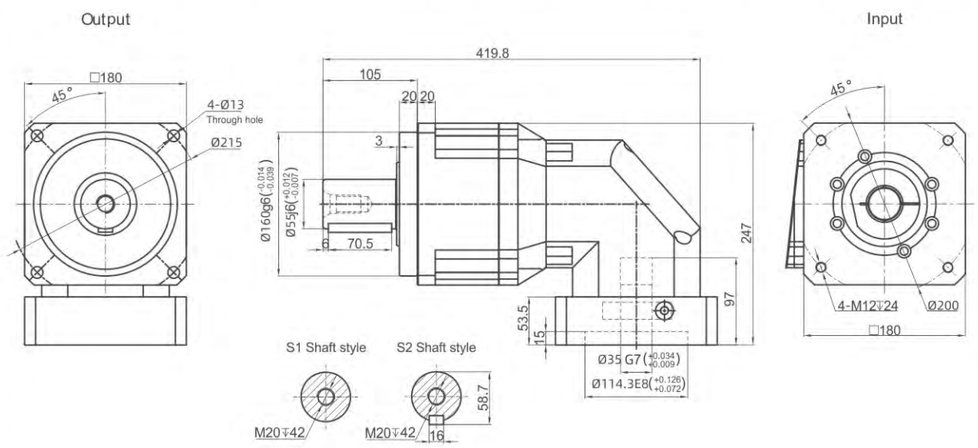
TBR180 Series

TBR180 One Stage



TBR180 Two Stage



Performance Data

The TBR series reducer adopts a standardized flange interface. The installation is convenient and quick. Due to its integral structure design, this high-precision model can operate excellently in many demanding working application.

TBR180			One Stage												Two Stage													
Speed Ratio	i		3	4	5	6	7	8	9	10	12	14	16	20	25	30	35	40	50	60	70	80	100	120	140	160	180	200
Nominal Output Torque	T_1	Nm	590	1040	1200	1108	1100	1000	-	910	1108	1100	1000	910	1200	1108	1100	1000	1200	1108	1100	1000	910	1108	1100	1000	-	910
Emergency Stop Torque	T_2	Nm	T_1 × 3												T_1 × 3													
Nominal Input Speed	S_1	rpm	3000												3000													
Maximum Input Speed	S_2	rpm	6000												6000													
Maximum Output Torque	T_4	Nm	T_1 × 3 × 60%												T_1 × 3 × 60%													
Maximum Radial Force	F_a	N	14500												14500													
Maximum Axial Force	F_b	N	7250												7250													
Torsional Rigidity	–	Nm/arcmin	145												145													
Efficiency	η	%	≥95												≥92													
Service Life	–	h	20000												20000													
Noise	–	dB	≤72												≤72													
Weight	–	Kg	46.5												43													
Backlash	P0	arcmin	≤2												≤4													
	P1		≤4												≤7													
	P2		≤6												≤9													
Operating Temperature	–	℃	-20~90												-20~90													
Lubrication	–		Synthetic Grease												Synthetic Grease													
Protection Class	–		IP65												IP65													
Mounting Position	–		Any Direction												Any Direction													
Moment of Inertia	J	kg.cm²	68.9						65.6						23.4							21.8						

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For Continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Precision Planetary Reducer

Enhanced Load Bearing Capacity

+

TD/TDR SERIES

+

Low Vibration & Noise

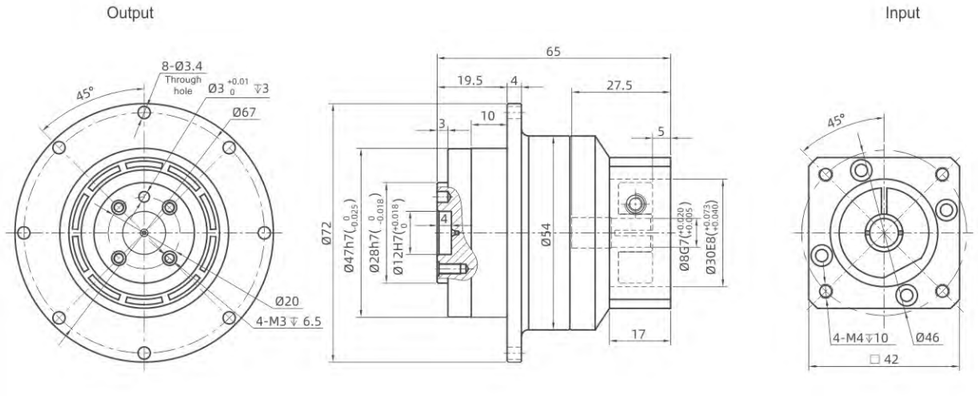
TD/TDR series planetary reducer offers you innovative and advanced solutions in terms of technology, which has achieved outstanding results in any flange-driven applications.

GEARKO®

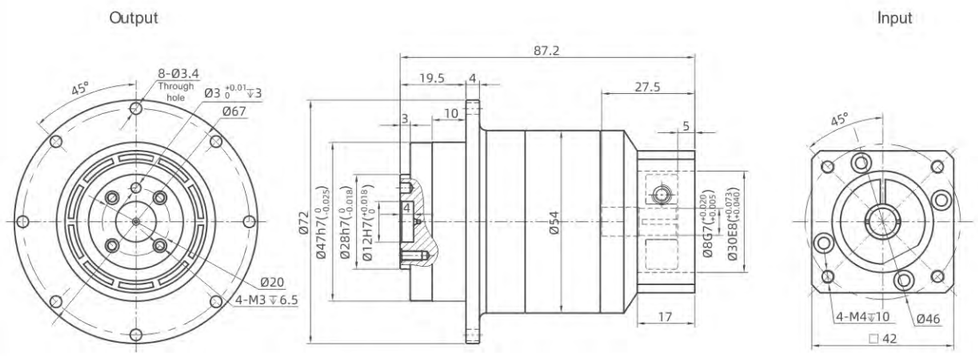
DRIVES THE PRECISION

TD047 Series

TD047 One Stage



TD047 Two Stage



Performance Data

TD series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TD047			One Stage				Two Stage						
Speed Ratio	i		4	5	7	10	20	25	35	40	50	70	100
Nominal Output Torque	T_1	Nm	19	20	19	14	19	20	19	17	20	19	14
Emergency Stop Torque	T_2	Nm	T1×3				T1×3						
Nominal Input Speed	S_1	rpm	5000				5000						
Maximum Input Speed	S_2	rpm	10000				10000						
Maximum Output Torque	T_4	Nm	T1×3×60%				T1×3×60%						
Maximum Bending Moment	M_a	Nm	780				780						
Maximum Axial Force	F_b	N	390				390						
Torsional Rigidity	–	Nm/arcmin	3				3						
Efficiency	η	%	⩾97				⩾94						
Service Life	–	h	20000				20000						
Noise	–	dB	⩽55				⩽55						
Weight	–	Kg	0.65				0.98						
Backlash	P0	arcmin	⩽1				⩽3						
	P1		⩽3				⩽5						
	P2		⩽5				⩽7						
Operating Temperature	–	℃	-20~90				-20~90						
Lubrication	–		Synthetic Grease				Synthetic Grease						
Protection Class	–		IP65				IP65						
Mounting Position	–		Any Direction				Any Direction						
Moment of Inertia	J	$kg.cm^2$	0.03				0.03						

Notes:

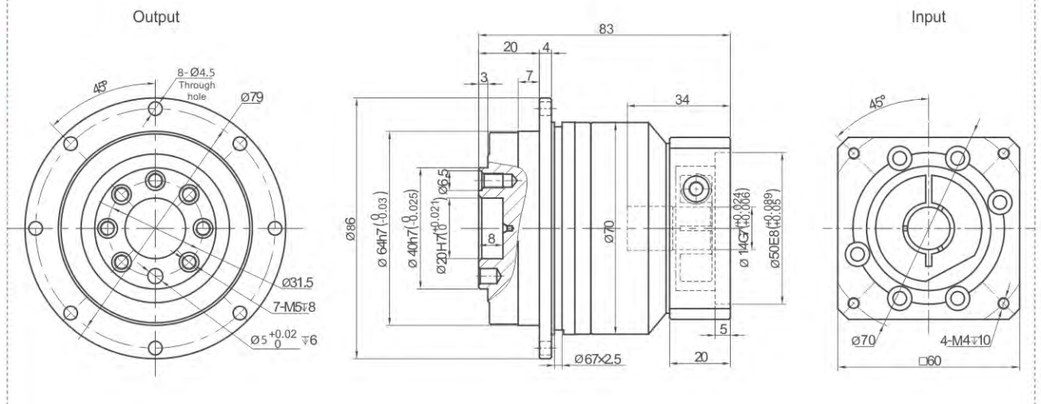
- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

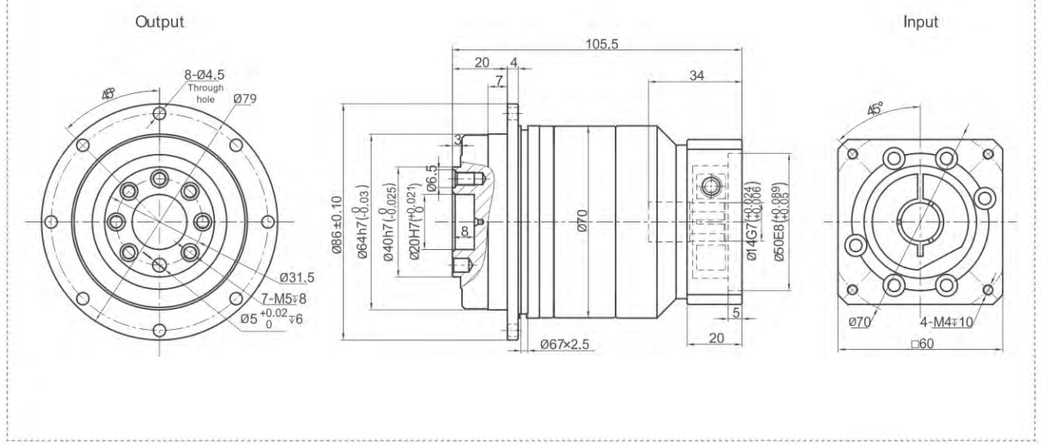
TD Series - Smooth and Reliable

TD064 Series

TD064 One Stage



TD064 Two Stage



Performance Data

TD series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TD064			One Stage				Two Stage						
Speed Ratio		i	4	5	7	10	20	25	35	40	50	70	100
Nominal Output Torque	T_1	Nm	50	58	50	42	50	58	50	48	58	50	42
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$				$T_1 \times 3$						
Nominal Input Speed	S_1	rpm	5000				5000						
Maximum Input Speed	S_2	rpm	10000				10000						
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$				$T_1 \times 3 \times 60\%$						
Maximum Bending Moment	M_a	Nm	125				125						
Maximum Axial Force	F_b	N	1050				1050						
Torsional Rigidity	–	Nm/arcmin	13				13						
Efficiency	η	%	⩾97				⩾94						
Service Life	–	h	30000				30000						
Noise	–	dB	⩽58				⩽58						
Weight	–	Kg	1.3				1.8						
Backlash	P0	arcmin	⩽1				⩽3						
	P1		⩽3				⩽5						
	P2		⩽5				⩽7						
Operating Temperature	–	℃	-20~90				-20~90						
Lubrication	–		Synthetic Grease				Synthetic Grease						
Protection Class	–		IP65				IP65						
Mounting Position	–		Any Direction				Any Direction						
Moment of Inertia	J	kg.cm²	0.14	0.13			0.13						

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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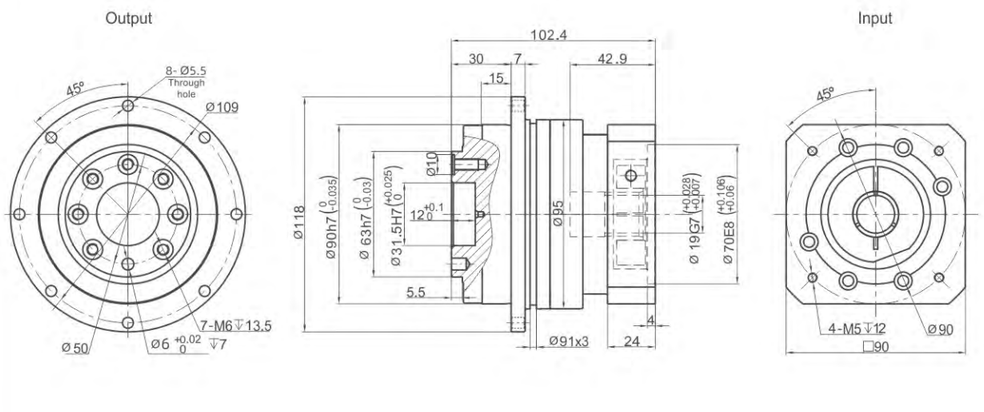
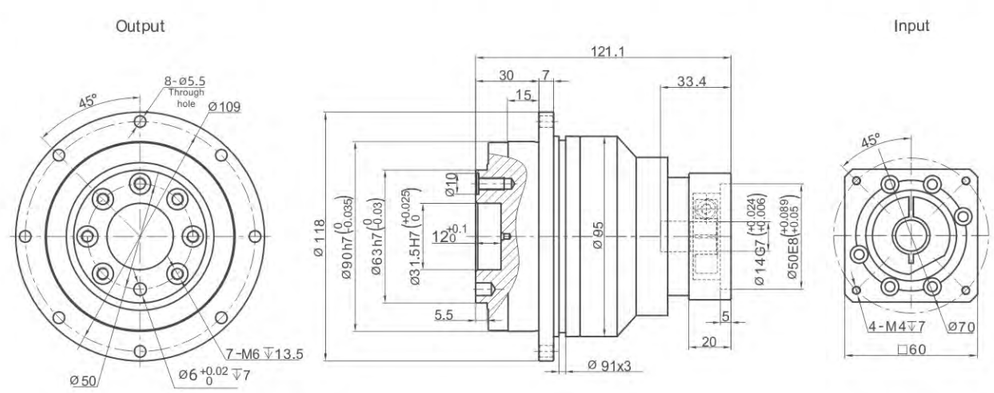
TD090 Series

TD090 One Stage



TD090 Two Stage



Performance Data

TD series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TD090			One Stage				Two Stage						
Speed Ratio	i		4	5	7	10	20	25	35	40	50	70	100
Nominal Output Torque	T_1	Nm	130	160	140	102	130	160	140	123	160	140	102
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$				$T_1 \times 3$						
Nominal Input Speed	S_1	rpm	4000				4000						
Maximum Input Speed	S_2	rpm	8000				8000						
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$				$T_1 \times 3 \times 60\%$						
Maximum Bending Moment	M_a	Nm	235				235						
Maximum Axial Force	F_b	N	2850				2850						
Torsional Rigidity	–	Nm/arcmin	31				31						
Efficiency	η	%	⩾97				⩾94						
Service Life	–	h	30000				30000						
Noise	–	dB	⩽60				⩽60						
Weight	–	Kg	3.9				3.1						
Backlash	P0	arcmin	⩽1				⩽3						
	P1		⩽3				⩽5						
	P2		⩽5				⩽7						
Operating Temperature	–	°C	-20~90				-20~90						
Lubrication	–		Synthetic Grease				Synthetic Grease						
Protection Class	–		IP65				IP65						
Mounting Position	–		Any Direction				Any Direction						
Moment of Inertia	J	$kg.cm^2$	0.51	0.47	0.45	0.44	0.13						

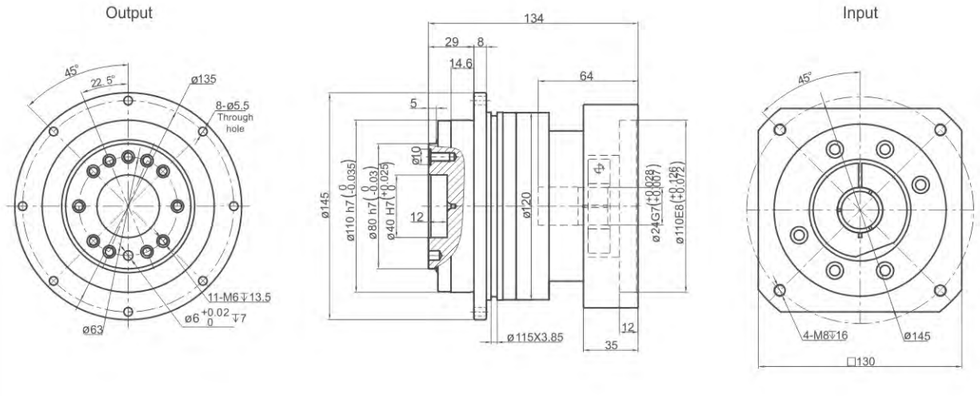
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

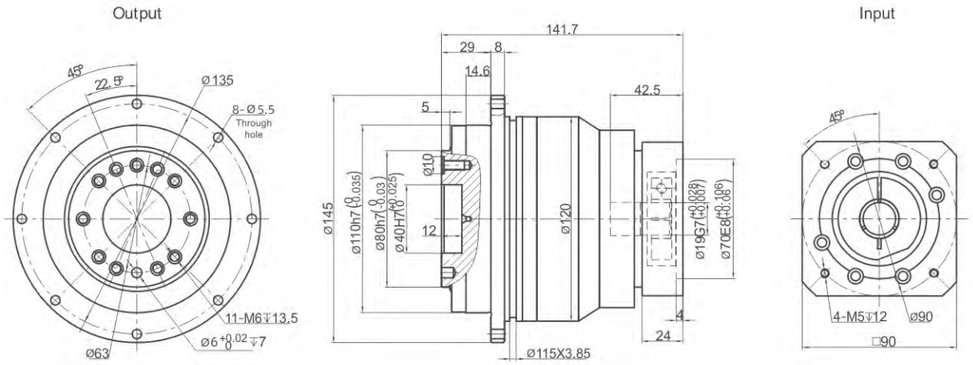
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TD110 Series

TD110 One Stage



TD110 Two Stage



Performance Data

TD series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TD110			One Stage				Two Stage						
Speed Ratio		i	4	5	7	10	20	25	35	40	50	70	100
Nominal Output Torque	T_1	Nm	290	333	300	235	290	333	300	260	333	300	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$				$T_1 \times 3$						
Nominal Input Speed	S_1	rpm	4000				4000						
Maximum Input Speed	S_2	rpm	8000				8000						
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$				$T_1 \times 3 \times 60\%$						
Maximum Bending Moment	M_a	Nm	430				430						
Maximum Axial Force	F_b	N	2990				2990						
Torsional Rigidity	–	Nm/arcmin	82				82						
Efficiency	η	%	⩾97				⩾94						
Service Life	–	h	30000				30000						
Noise	–	dB	⩽63				⩽63						
Weight	–	Kg	5.9				7.9						
Backlash	P0	arcmin	⩽1				⩽3						
	P1		⩽3				⩽5						
	P2		⩽5				⩽7						
Operating Temperature	–	℃	-20~90				-20~90						
Lubrication	–		Synthetic Grease				Synthetic Grease						
Protection Class	–		IP65				IP65						
Mounting Position	–		Any Direction				Any Direction						
Moment of Inertia	J	kg.cm²	2.87	2.71	2.62	2.57	0.47		0.44				

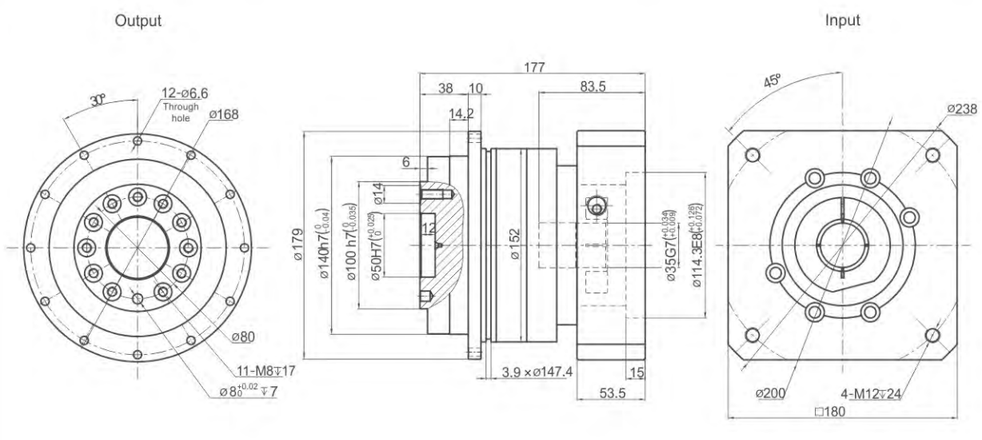
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

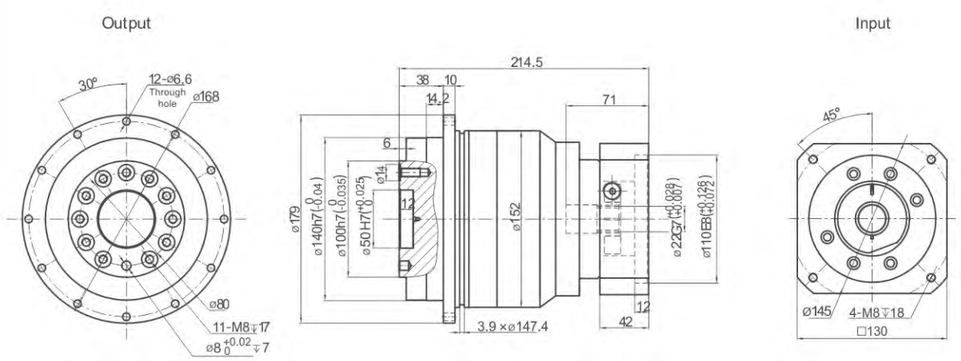
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TD140 Series

TD140 One Stage



TD140 Two Stage



Performance Data

TD series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TD140			One Stage				Two Stage						
Speed Ratio		i	4	5	7	10	20	25	35	40	50	70	100
Nominal Output Torque	T_1	Nm	545	650	555	460	545	650	555	560	650	555	460
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$				$T_1 \times 3$						
Nominal Input Speed	S_1	rpm	3000				3000						
Maximum Input Speed	S_2	rpm	6000				6000						
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$				$T_1 \times 3 \times 60\%$						
Maximum Bending Moment	M_a	Nm	1300				1300						
Maximum Axial Force	F_b	N	10590				10590						
Torsional Rigidity	–	Nm/arcmin	151				151						
Efficiency	η	%	⩾97				⩾94						
Service Life	–	h	30000				30000						
Noise	–	dB	⩽65				⩽65						
Weight	–	Kg	14.6				15.5						
Backlash	P0	arcmin	⩽1				⩽3						
	P1		⩽3				⩽5						
	P2		⩽5				⩽7						
Operating Temperature	–	℃	-20~90				-20~90						
Lubrication	–		Synthetic Grease				Synthetic Grease						
Protection Class	–		IP65				IP65						
Mounting Position	–		Any Direction				Any Direction						
Moment of Inertia	J	kg.cm²	7.54	7.42	7.14	7.03	2.71		2.57				

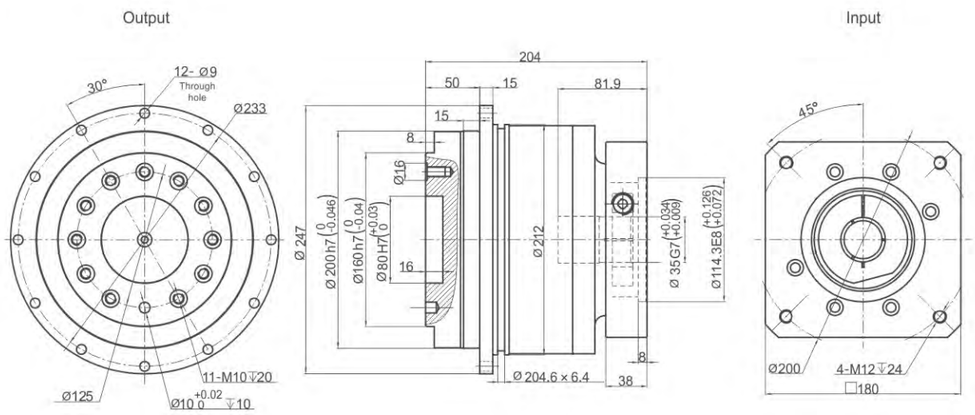
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

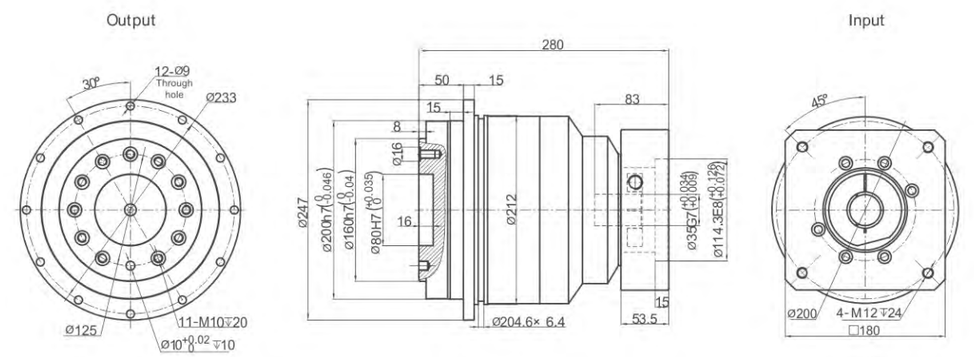
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TD200 Series

TD200 One Stage



TD200 Two Stage



Performance Data

TD series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TD200			One Stage				Two Stage						
Speed Ratio	i		4	5	7	10	20	25	35	40	50	70	100
Nominal Output Torque	T_1	Nm	1050	1200	1100	910	1050	1200	1100	1100	1200	1100	910
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$				$T_1 \times 3$						
Nominal Input Speed	S_1	rpm	3000				3000						
Maximum Input Speed	S_2	rpm	6000				6000						
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$				$T_1 \times 3 \times 60\%$						
Maximum Bending Moment	M_a	Nm	3064				3064						
Maximum Axial Force	F_b	N	16660				16660						
Torsional Rigidity	–	Nm/arcmin	440				440						
Efficiency	η	%	⩾97				⩾94						
Service Life	–	h	30000				30000						
Noise	–	dB	⩽66				⩽66						
Weight	–	Kg	35.1				34.9						
Backlash	P0	arcmin	⩽1				⩽3						
	P1		⩽3				⩽5						
	P2		⩽5				⩽7						
Operating Temperature	–	℃	-20~90				-20~90						
Lubrication	–		Synthetic Grease				Synthetic Grease						
Protection Class	–		IP65				IP65						
Mounting Position	–		Any Direction				Any Direction						
Moment of Inertia	J	kg.cm²	25.03	23.29	22.48	22.51	7.42		7.03				

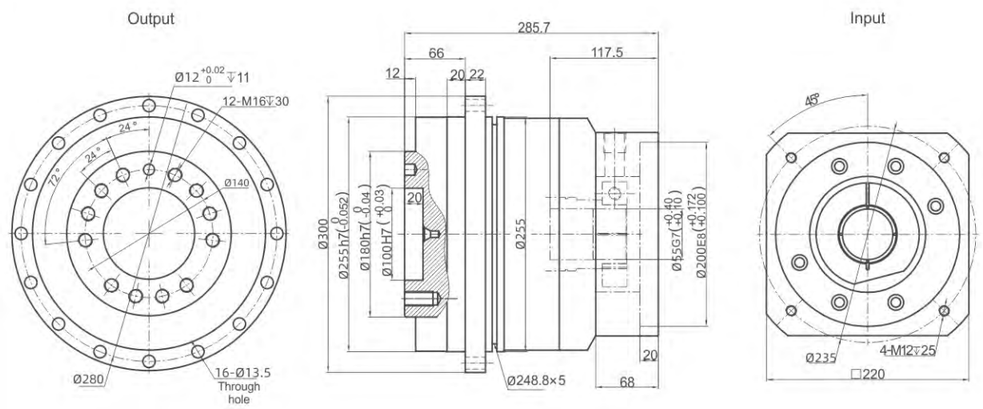
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

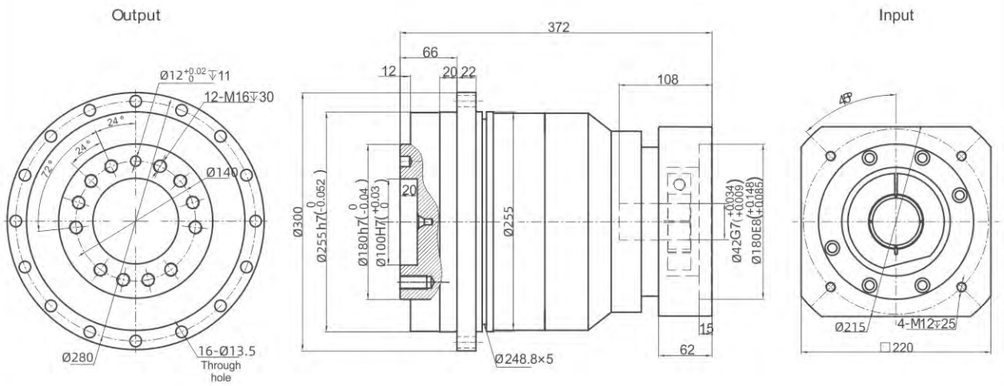
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TD255 Series

TD255 One Stage



TD255 Two Stage



Performance Data

TD series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TD255			One Stage				Two Stage						
Speed Ratio		i	4	5	7	10	20	25	35	40	50	70	100
Nominal Output Torque	T_1	Nm	1700	2008	1810	1550	1700	2008	1810	1700	2008	1810	1550
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$				$T_1 \times 3$						
Nominal Input Speed	S_1	rpm	2000				2000						
Maximum Input Speed	S_2	rpm	4000				4000						
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$				$T_1 \times 3 \times 60\%$						
Maximum Bending Moment	M_a	Nm	5900				5900						
Maximum Axial Force	F_b	N	29430				29430						
Torsional Rigidity	–	Nm/arcmin	1006				1006						
Efficiency	η	%	⩾97				⩾94						
Service Life	–	h	30000				30000						
Noise	–	dB	⩽70				⩽70						
Weight	–	Kg	64.5				70.4						
Backlash	P0	arcmin	⩽1				⩽3						
	P1		⩽3				⩽5						
	P2		⩽5				⩽7						
Operating Temperature	–	℃	-20~90				-20~90						
Lubrication	–		Synthetic Grease				Synthetic Grease						
Protection Class	–		IP65				IP65						
Mounting Position	–		Any Direction				Any Direction						
Moment of Inertia	J	kg.cm²	58.31	53.27	50.97	50.56	23.29		22.51				

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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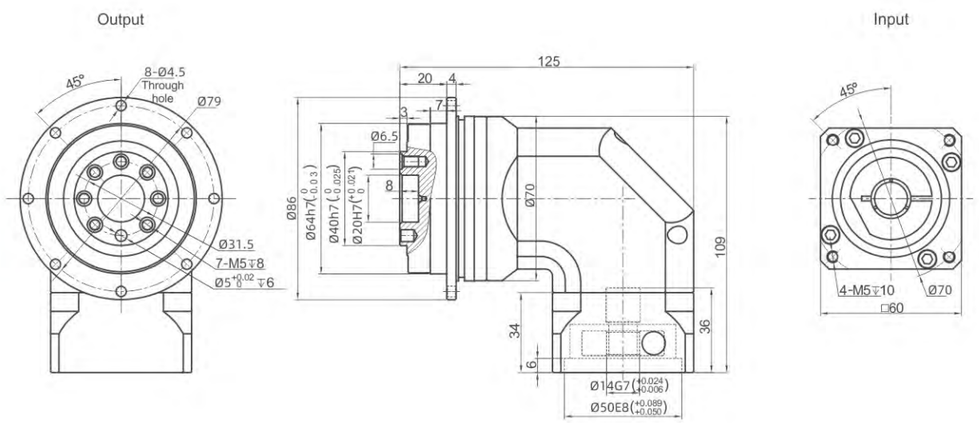
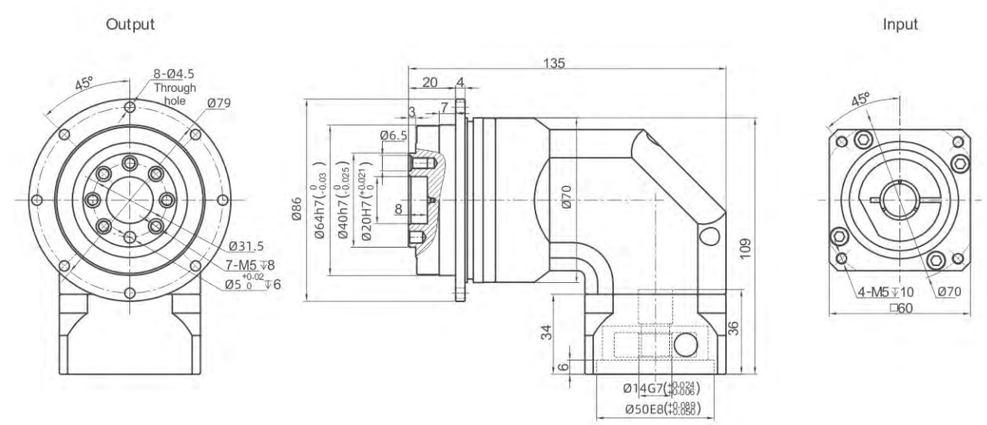
TDR064 Series

TDR064 One Stage



TDR064 Two Stage



Performance Data

TDR series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TDR064			One Stage							Two Stage						
Speed Ratio	i		4	5	7	10	14	20	25	35	40	50	70	100	140	200
Nominal Output Torque	T_1	Nm	48	58	50	42	42	42	58	50	48	58	50	42	-	-
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$							$T_1 \times 3$						
Nominal Input Speed	S_1	rpm	5000							5000						
Maximum Input Speed	S_2	rpm	10000							10000						
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$							$T_1 \times 3 \times 60\%$						
Maximum Bending Moment	M_a	Nm	125							125						
Maximum Axial Force	F_b	N	1050							1050						
Torsional Rigidity	–	Nm/arcmin	13							13						
Efficiency	η	%	⩾95							⩾92						
Service Life	–	h	30000							30000						
Noise	–	dB	⩽63							⩽63						
Weight	–	Kg	2.2							2.6						
Backlash	P0	arcmin	-							-						
	P1		⩽4							⩽7						
	P2		⩽6							⩽9						
Operating Temperature	–	℃	-20~90							-20~90						
Lubrication	–		Synthetic Grease							Synthetic Grease						
Protection Class	–		IP65							IP65						
Mounting Position	–		Any Direction							Any Direction						
Moment of Inertia	J	kg.cm²	0.35				0.07			0.09						

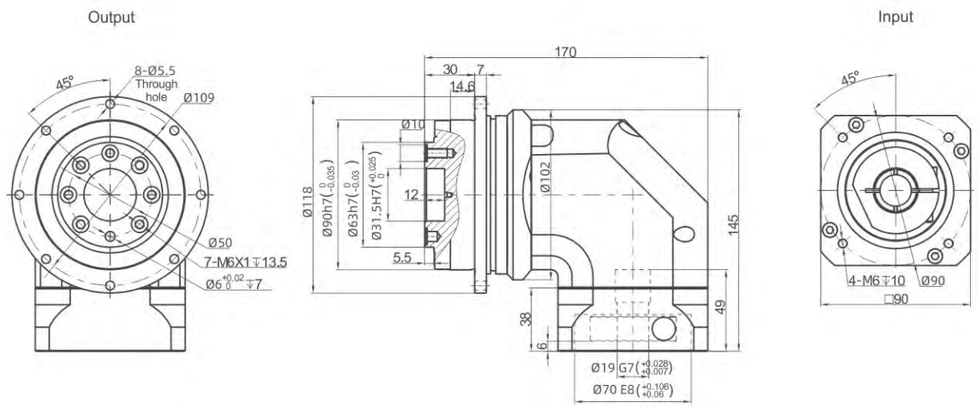
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

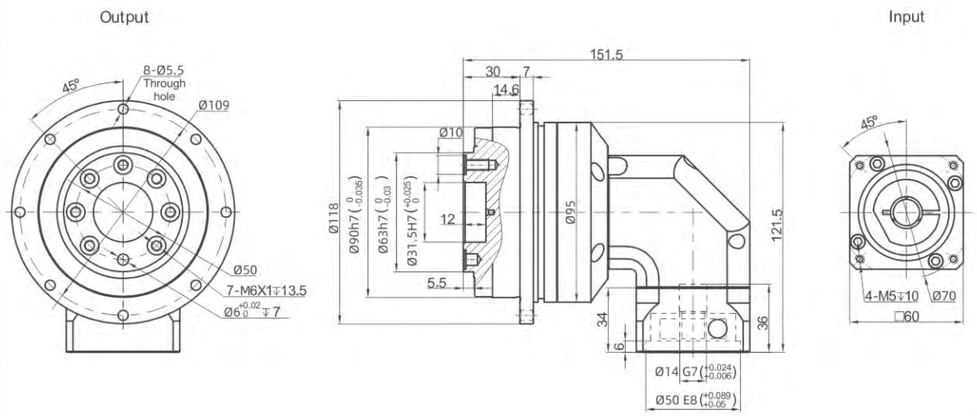
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TDR090 Series

TDR090 One Stage



TDR090 Two Stage



Performance Data

TDR series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TDR090			One Stage						Two Stage							
Speed Ratio	i		4	5	7	10	14	20	25	35	40	50	70	100	140	200
Nominal Output Torque	T_1	Nm	120	150	140	102	140	102	160	148	120	150	140	102	140	102
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$						$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	4000						4000							
Maximum Input Speed	S_2	rpm	8000						8000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$						$T_1 \times 3 \times 60\%$							
Maximum Bending Moment	M_a	Nm	235						235							
Maximum Axial Force	F_b	N	2850						2850							
Torsional Rigidity	–	Nm/arcmin	31						31							
Efficiency	η	%	⩾95						⩾92							
Service Life	–	h	30000						30000							
Noise	–	dB	⩽65						⩽65							
Weight	–	Kg	5						3.7							
Backlash	P0	arcmin	⩽2						⩽4							
	P1		⩽4						⩽7							
	P2		⩽6						⩽9							
Operating Temperature	–	℃	-20~90						-20~90							
Lubrication	–		Synthetic Grease						Synthetic Grease							
Protection Class	–		IP65						IP65							
Mounting Position	–		Any Direction						Any Direction							
Moment of Inertia	J	kg.cm²	2.25			1.87			0.35				0.31			

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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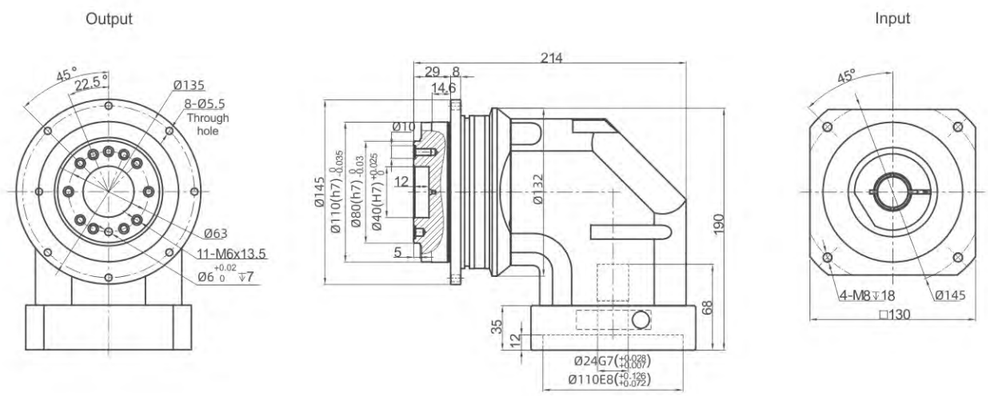
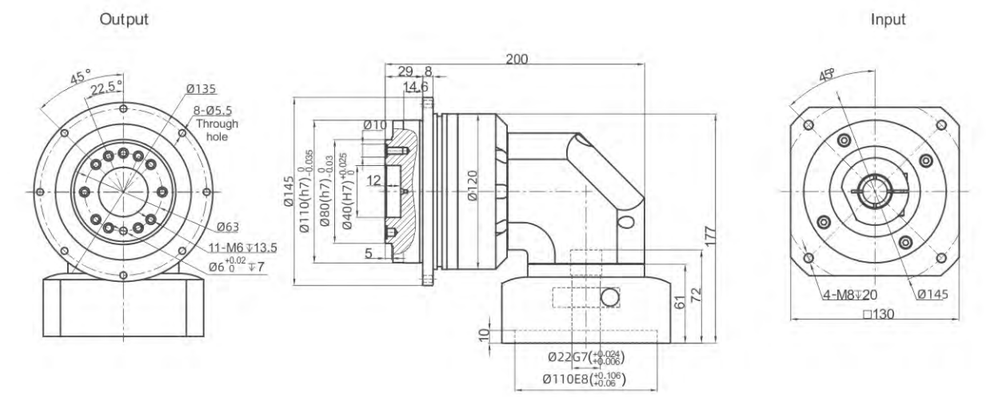
TDR110 Series

TDR110 One Stage



TDR110 Two Stage



Performance Data

TDR series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TDR110			One Stage								Two Stage					
Speed Ratio	i		4	5	7	10	14	20	25	35	40	50	70	100	140	200
Nominal Output Torque	T_1	Nm	260	330	300	235	300	235	330	300	260	330	300	235	300	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$					
Nominal Input Speed	S_1	rpm	4000								4000					
Maximum Input Speed	S_2	rpm	8000								8000					
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$					
Maximum Bending Moment	M_a	Nm	430								430					
Maximum Axial Force	F_b	N	2990								2990					
Torsional Rigidity	–	Nm/arcmin	82								82					
Efficiency	η	%	⩾95								⩾92					
Service Life	–	h	30000								30000					
Noise	–	dB	⩽68								⩽68					
Weight	–	Kg	10.5								11					
Backlash	P0	arcmin	⩽2								⩽4					
	P1		⩽4								⩽7					
	P2		⩽6								⩽9					
Operating Temperature	–	℃	-20~90								-20~90					
Lubrication	–		Synthetic Grease								Synthetic Grease					
Protection Class	–		IP65								IP65					
Mounting Position	–		Any Direction								Any Direction					
Moment of Inertia	J	kg.cm²	6.84				6.25				2.25				1.87	

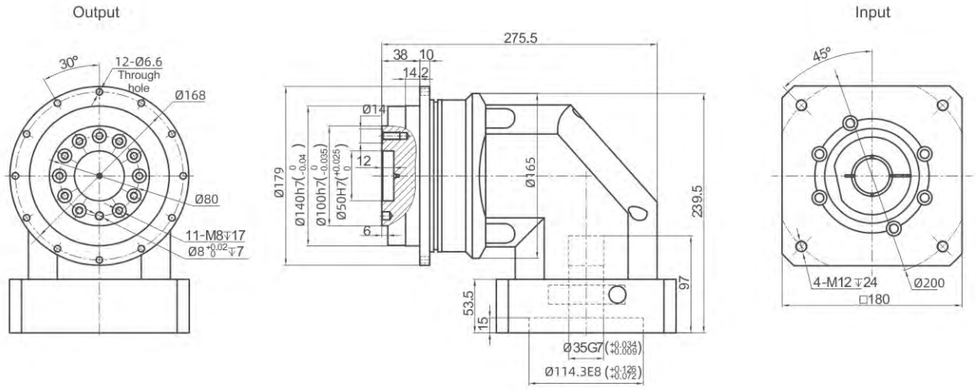
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

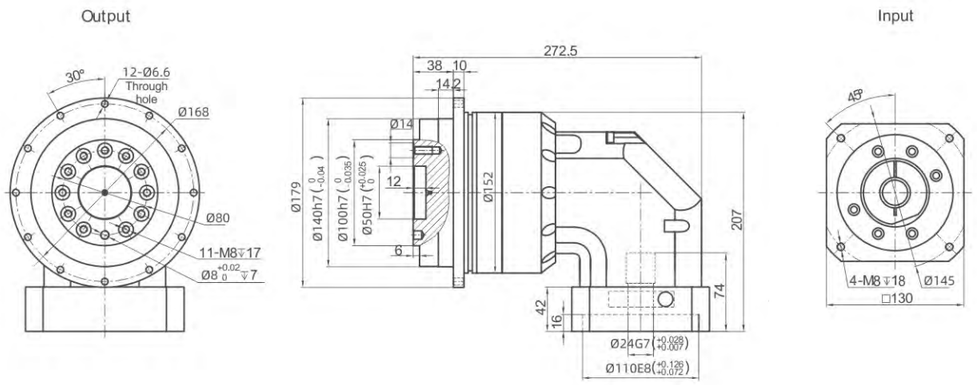
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TDR140 Series

TDR140 One Stage



TDR140 Two Stage



Performance Data

TDR series reducer offers quiet operation with high axial load and tilt moment. High quality and capacity load bearing ensures smooth operation for any flange-operated applications.

TDR140			One Stage						Two Stage							
Speed Ratio	i		4	5	7	10	14	20	25	35	40	50	70	100	140	200
Nominal Output Torque	T_1	Nm	540	650	555	460	555	450	650	555	560	650	555	460	555	460
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$						$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	3000						3000							
Maximum Input Speed	S_2	rpm	6000						6000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$						$T_1 \times 3 \times 60\%$							
Maximum Bending Moment	M_a	Nm	1300						1300							
Maximum Axial Force	F_b	N	10590						10590							
Torsional Rigidity	–	Nm/arcmin	151						151							
Efficiency	η	%	⩾95						⩾92							
Service Life	–	h	30000						30000							
Noise	–	dB	⩽70						⩽70							
Weight	–	Kg	25						22.1							
Backlash	P0	arcmin	⩽2						⩽4							
	P1		⩽4						⩽7							
	P2		⩽6						⩽9							
Operating Temperature	–	℃	-20~90						-20~90							
Lubrication	–		Synthetic Grease						Synthetic Grease							
Protection Class	–		IP65						IP65							
Mounting Position	–		Any Direction						Any Direction							
Moment of Inertia	J	kg.cm²	23.4			21.8			6.84				6.25			

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

Precision Planetary Reducer

Creative Structure Design

+

TE/TER SERIES

+

Optimized Backlash & High Rigidity

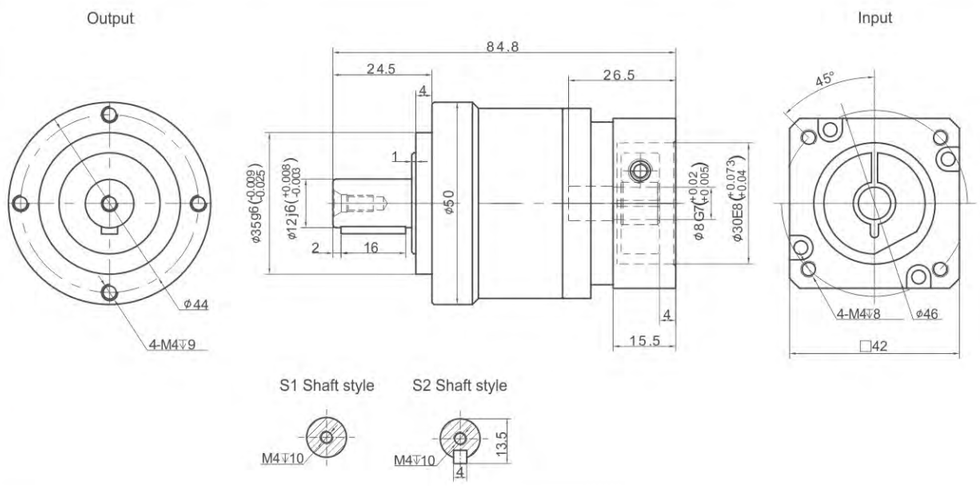
TE/TER series planetary reducer combines innovation, efficiency and quality, maximizing customer value and performance.

GEARKO®

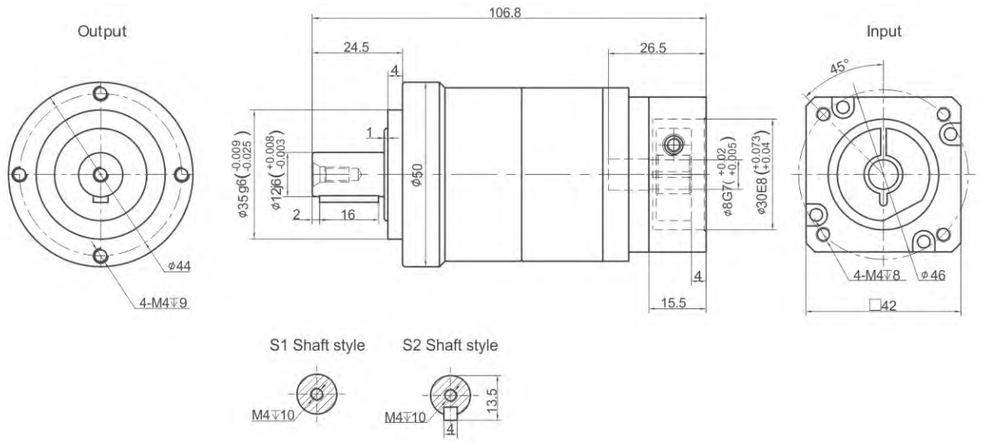
DRIVES THE PRECISION

TE050 Series

TE050 One Stage



TE050 Two Stage



Performance Data

TE series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TE050			One Stage								Two Stage									
Speed Ratio	i		-	4	5	6	7	8	9	10	-	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	-	19	20	19	19	17	-	14	-	19	20	19	19	17	20	19	19	17	14
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	5000								5000									
Maximum Input Speed	S_2	rpm	10000								10000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	702								702									
Maximum Axial Force	F_b	N	390								390									
Torsional Rigidity	–	Nm/arcmin	3								3									
Efficiency	η	%	⩾97								⩾94									
Service Life	–	h	20000								20000									
Noise	–	dB	⩽56								⩽56									
Weight	–	Kg	0.6								0.9									
Backlash	P0	arcmin	–								–									
	P1		⩽3								⩽5									
	P2		⩽5								⩽7									
Operating Temperature	–	℃	-20~90								-20~90									
Lubrication	–		Synthetic Grease								Synthetic Grease									
Protection Class	–		IP65								IP65									
Mounting Position	–		Any Direction								Any Direction									
Moment of Inertia	J	$kg.cm^2$	0.03								0.13									

Notes:

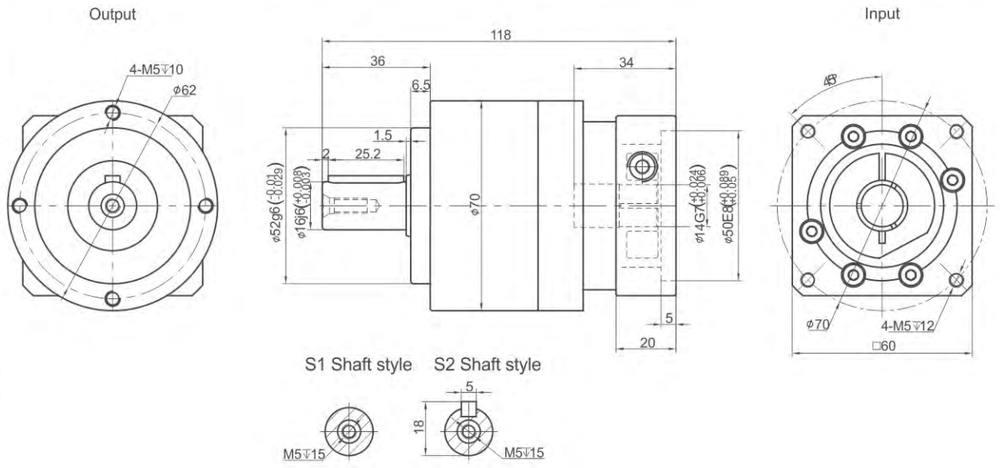
- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

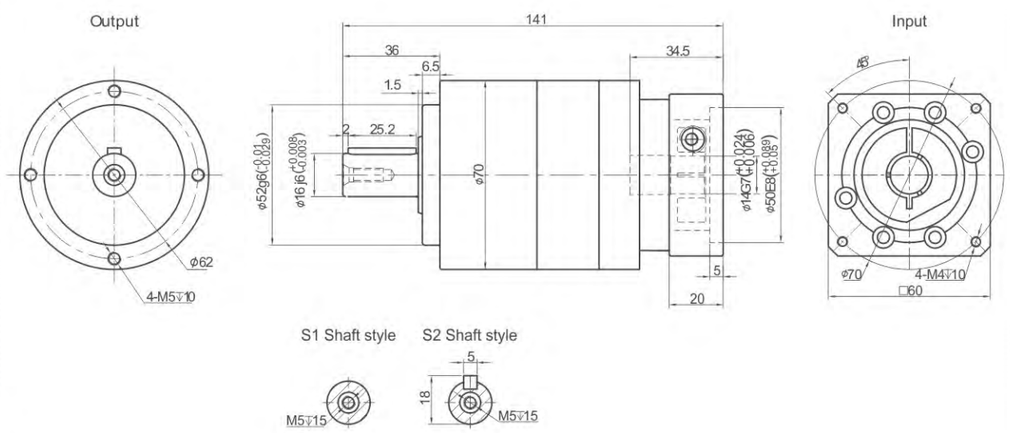
TE Series - High Precision Planetary Reducer

TE070 Series

TE070 One Stage



TE070 Two Stage



Performance Data

TE series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TE070			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	52	50	58	55	50	45	-	42	52	50	58	55	50	45	58	55	50	45	42
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$										
Nominal Input Speed	S_1	rpm	5000								5000										
Maximum Input Speed	S_2	rpm	10000								10000										
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$										
Maximum Radial Force	F_a	N	1377								1377										
Maximum Axial Force	F_b	N	765								765										
Torsional Rigidity	–	Nm/arcmin	7								7										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	20000								20000										
Noise	–	dB	⩽58								⩽58										
Weight	–	Kg	1.4								1.6										
Backlash	P0	arcmin	–								–										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic Grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	$kg.cm^2$	0.16	0.14	0.13						0.13										

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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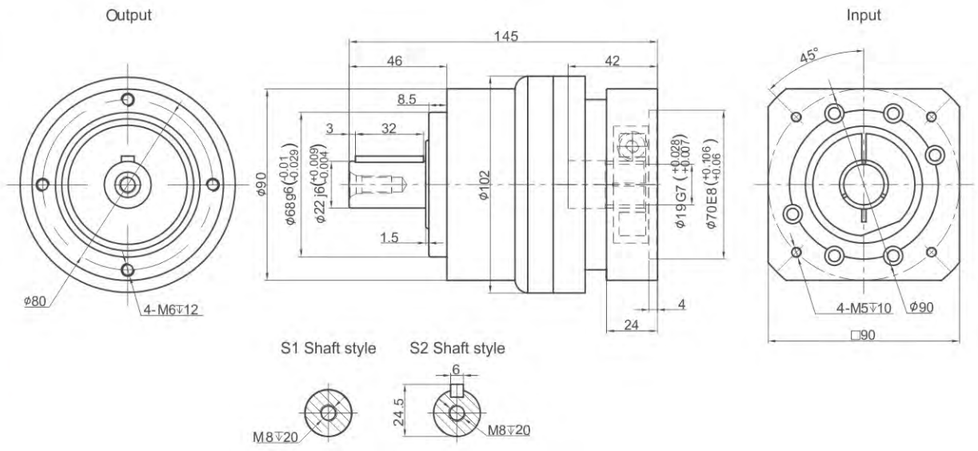
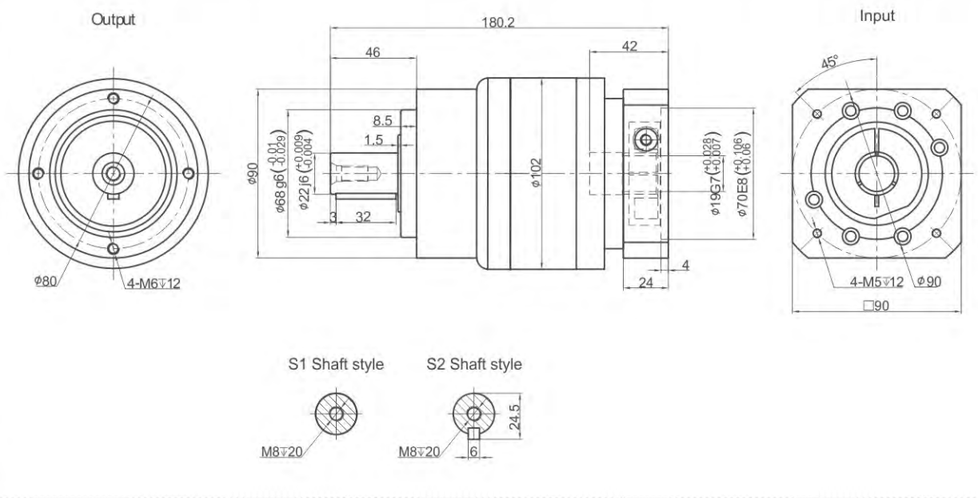
TE090 Series

TE090 One Stage



TE090 Two Stage



Performance Data

TE series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TE090			One Stage							Two Stage										
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	130	140	160	148	140	123	-	102	130	140	160	148	140	123	160	148	140	123	102
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$							$T_1 \times 3$											
Nominal Input Speed	S_1	rpm	4000							4000											
Maximum Input Speed	S_2	rpm	8000							8000											
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$							$T_1 \times 3 \times 60\%$											
Maximum Radial Force	F_a	N	2985							2985											
Maximum Axial Force	F_b	N	1625							1625											
Torsional Rigidity	–	Nm/arcmin	14							14											
Efficiency	η	%	⩾97							⩾94											
Service Life	–	h	20000							20000											
Noise	–	dB	⩽60							⩽60											
Weight	–	Kg	3.4							5.1											
Backlash	P0	arcmin	–							–											
	P1		⩽3							⩽5											
	P2		⩽5							⩽7											
Operating Temperature	–	℃	-20~90							-20~90											
Lubrication	–		Synthetic Grease							Synthetic Grease											
Protection Class	–		IP65							IP65											
Mounting Position	–		Any Direction							Any Direction											
Moment of Inertia	J	$kg.cm^2$	0.61	0.48	0.47	0.45		0.44		0.47			0.44								

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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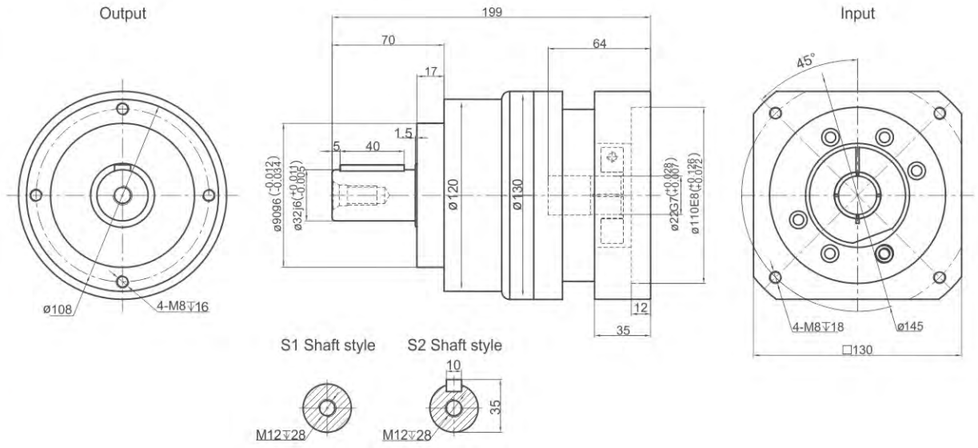
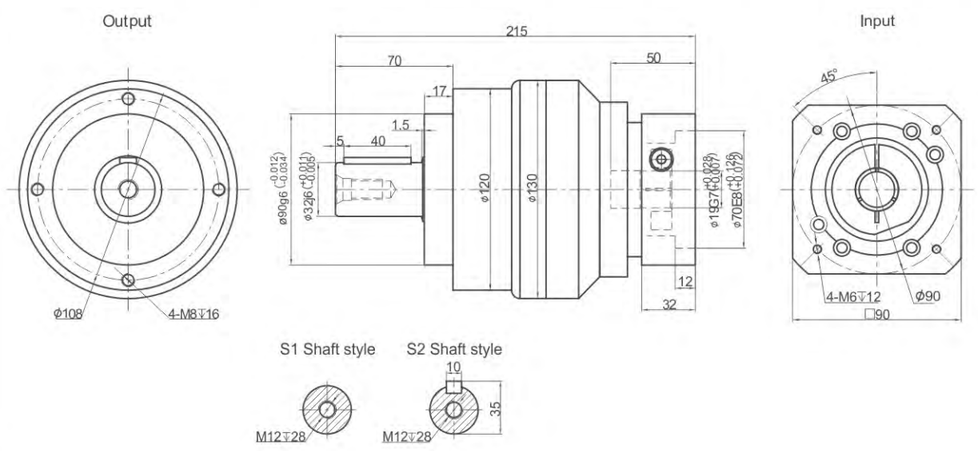
TE120 Series

TE120 One Stage



TE120 Two Stage



Performance Data

TE series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TE120			One Stage																		
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	210	290	333	310	300	260	-	235	210	290	333	310	300	260	333	310	300	260	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$																		
Nominal Input Speed	S_1	rpm	4000																		
Maximum Input Speed	S_2	rpm	8000																		
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$																		
Maximum Radial Force	F_a	N	6100																		
Maximum Axial Force	F_b	N	3350																		
Torsional Rigidity	–	Nm/arcmin	25																		
Efficiency	η	%	⩾97																		
Service Life	–	h	20000																		
Noise	–	dB	⩽63																		
Weight	–	Kg	7.5																		
Backlash	P0	arcmin	–																		
	P1		⩽3																		
	P2		⩽5																		
Operating Temperature	–	℃	-20~90																		
Lubrication	–		Synthetic Grease																		
Protection Class	–		IP65																		
Mounting Position	–		Any Direction																		
Moment of Inertia	J	kg.cm²	3.25	2.74	2.71	2.65	2.62	2.58	-	2.57	0.47										0.44

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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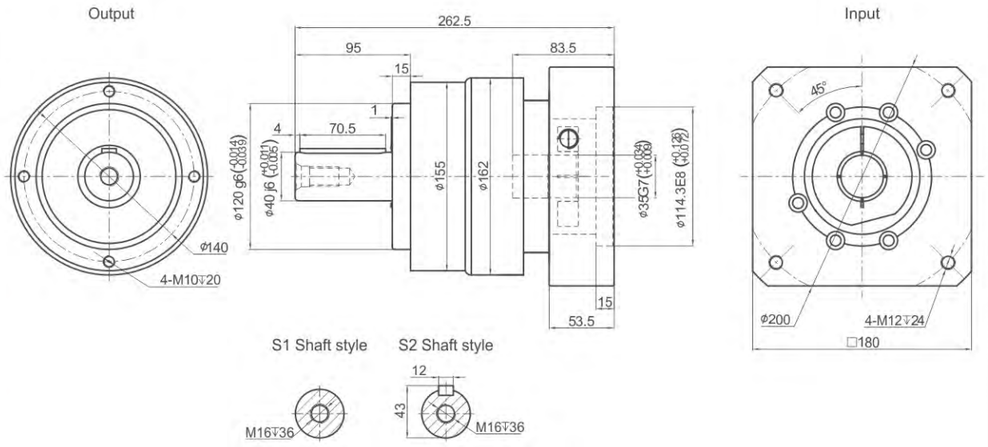
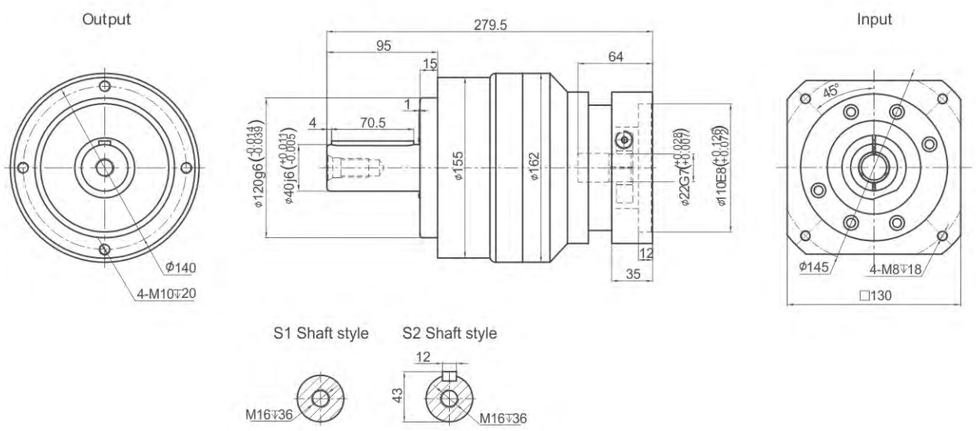
TE155 Series

TE155 One Stage



TE155 Two Stage



Performance Data

TE series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TE155			One Stage								Two Stage										
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	340	545	650	600	555	500	-	460	340	545	650	600	555	500	650	600	555	500	460
Emergency Stop Torque	T_2	Nm	$T_1\times3$								$T_1\times3$										
Nominal Input Speed	S_1	rpm	3000								3000										
Maximum Input Speed	S_2	rpm	6000								6000										
Maximum Output Torque	T_4	Nm	$T_1\times3\times60\%$								$T_1\times3\times60\%$										
Maximum Radial Force	F_a	N	8460								8460										
Maximum Axial Force	F_b	N	4700								4700										
Torsional Rigidity	–	Nm/arcmin	50								50										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	20000								20000										
Noise	–	dB	⩽65								⩽65										
Weight	–	Kg	18								17										
Backlash	P0	arcmin	–								–										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic Grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	kg.cm²	9.21	7.54	7.42	7.25	7.14	7.07	-	7.03	2.71				2.57						

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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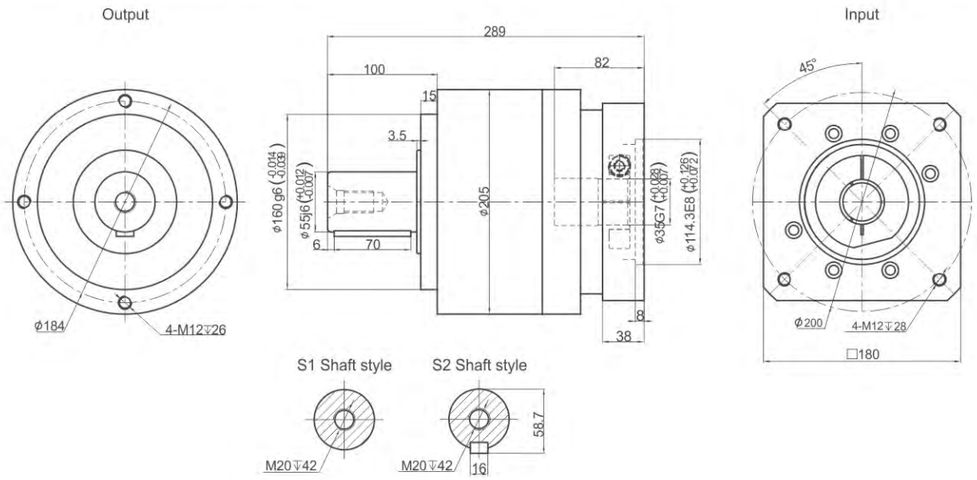
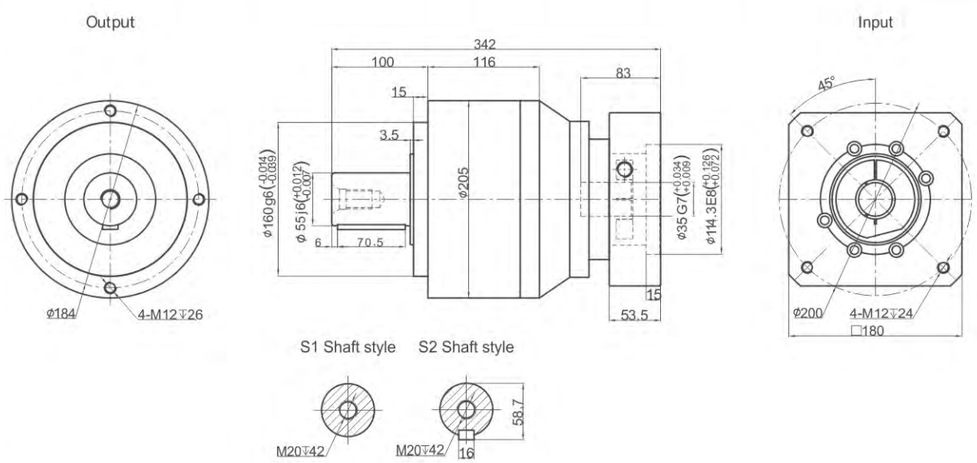
TE205 Series

TE205 One Stage



TE205 Two Stage



Performance Data

TE series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TE205			One Stage								Two Stage									
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	590	1050	1200	1108	1100	1000	-	910	590	1050	1200	1108	1100	1000	1200	1108	1100	1000	910
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$										
Nominal Input Speed	S_1	rpm	3000								3000										
Maximum Input Speed	S_2	rpm	6000								6000										
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$										
Maximum Radial Force	F_a	N	13050								13050										
Maximum Axial Force	F_b	N	7250								7250										
Torsional Rigidity	–	Nm/arcmin	145								145										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	20000								20000										
Noise	–	dB	⩽67								⩽67										
Weight	–	Kg	34								35										
Backlash	P0	arcmin	–								–										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic Grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	kg.cm²	28.98	23.67	23.29	22.75	22.48	22.59	-	22.51	7.42					7.03					

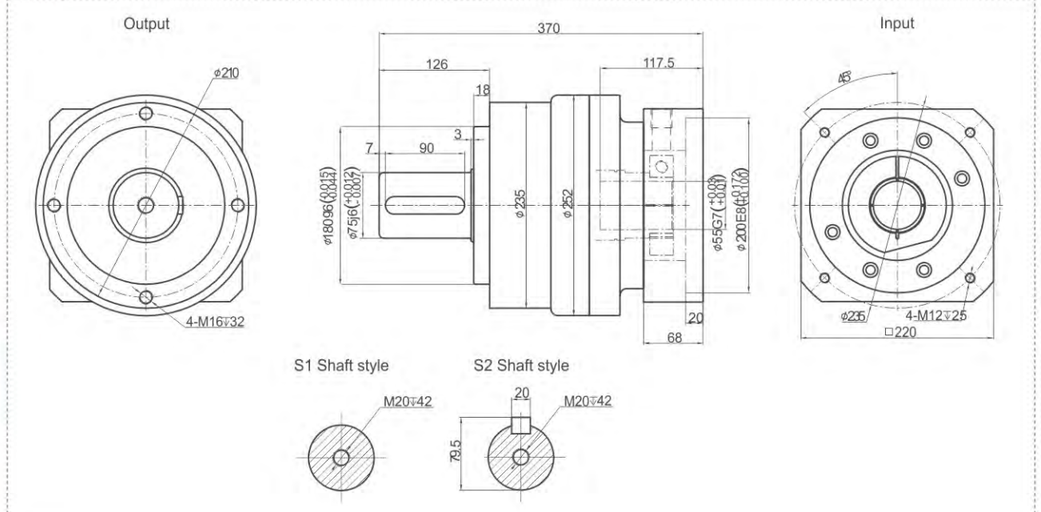
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

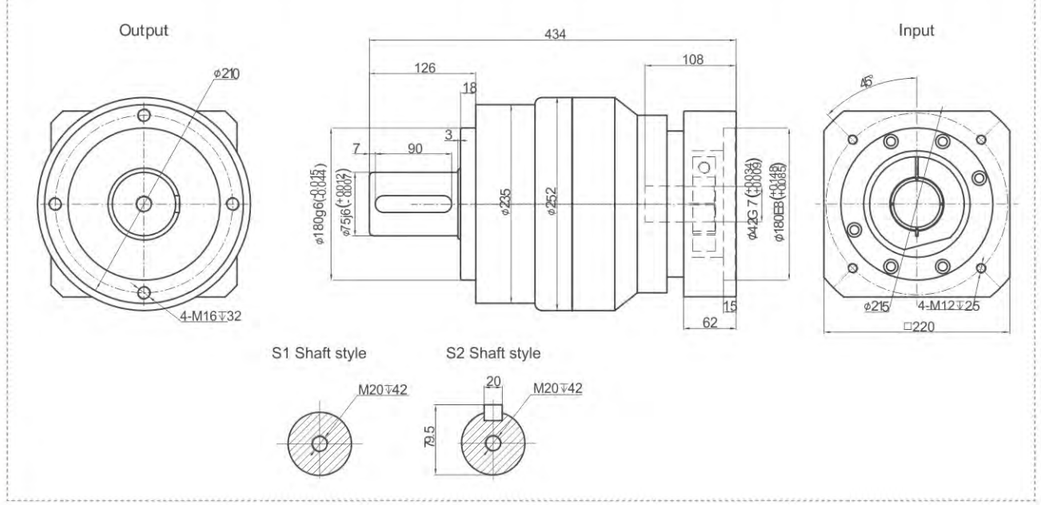
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TE235 Series

TE235 One Stage



TE235 Two Stage



Performance Data

TE series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TE235			One Stage								Two Stage									
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	1150	1700	2008	1900	1810	1600	-	1550	1150	1700	2008	1900	1810	1600	2008	1900	1810	1600	1550
Emergency Stop Torque	T_2	Nm	$T_1\times3$								$T_1\times3$										
Nominal Input Speed	S_1	rpm	2000								2000										
Maximum Input Speed	S_2	rpm	4000								4000										
Maximum Output Torque	T_4	Nm	$T_1\times3\times60\%$								$T_1\times3\times60\%$										
Maximum Radial Force	F_a	N	48700								48700										
Maximum Axial Force	F_b	N	18000								18000										
Torsional Rigidity	-	Nm/arcmin	225								225										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	20000								20000										
Noise	–	dB	⩽70								⩽70										
Weight	–	Kg	53								66										
Backlash	P0	arcmin	-								-										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic Grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	$kg.cm^2$	69.61	54.37	53.27	51.72	50.97	50.84	-	50.56	23.29								22.51		

Notes:

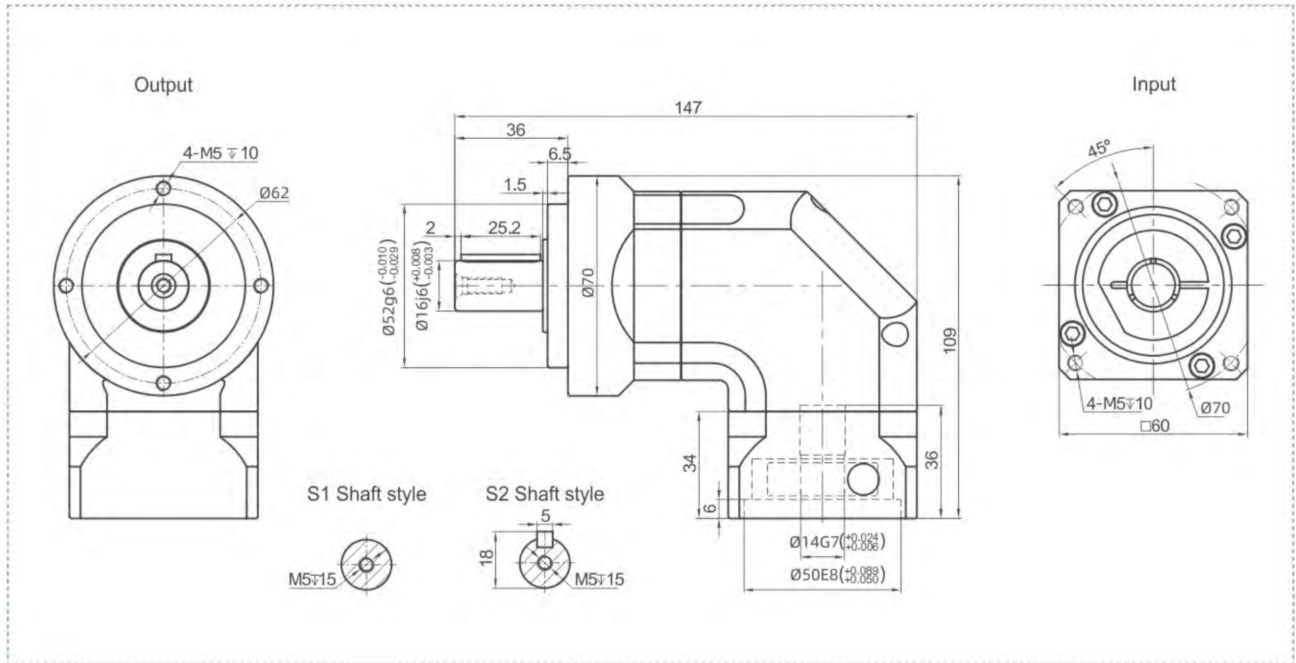
- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

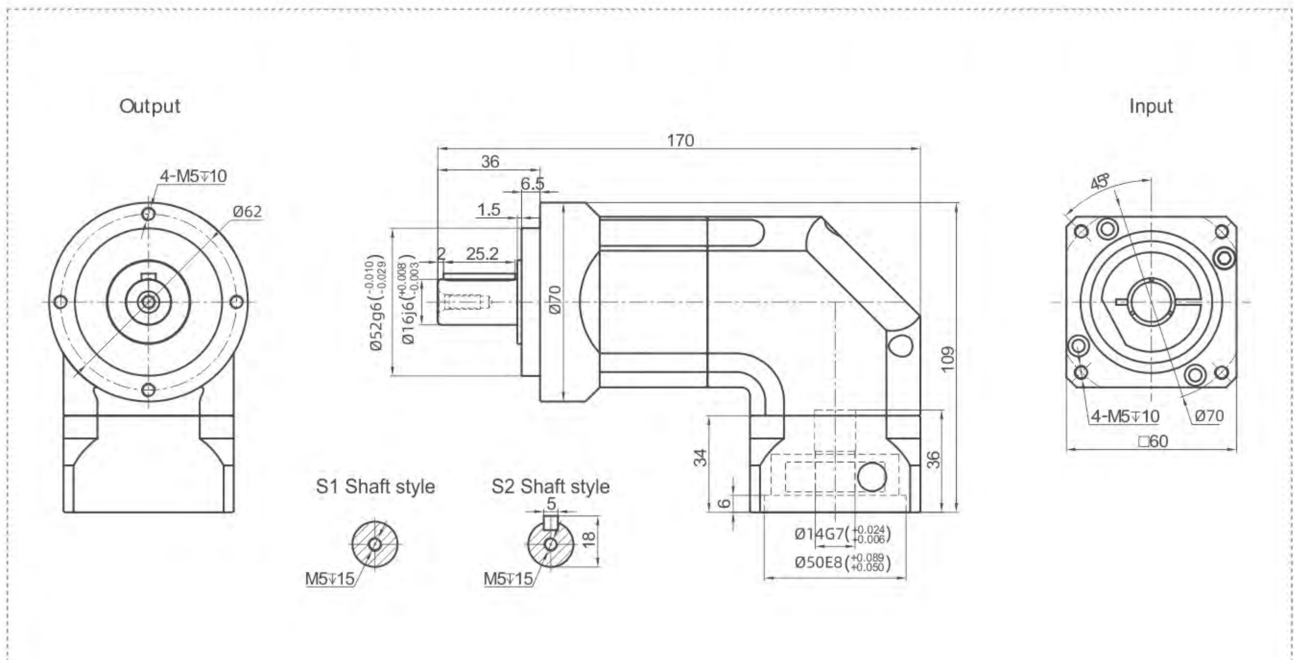
GEARKO®

TER070 Series

TER070 One Stage



TER070 Two Stage



Performance Data

TER series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TER070			One Stage										Two Stage													
Speed Ratio		i	3	4	5	6	7	8	9	10	14	20	25	30	35	40	50	60	70	80	100	120	140	160	180	200
Nominal Output Torque	T_1	Nm	50	48	58	55	50	45	-	42	42	42	58	55	50	45	58	55	50	45	42	55	50	45	-	42
Emergency Stop Torque	T_2	Nm	T_1×3										T_1×3													
Nominal Input Speed	S_1	rpm	5000										5000													
Maximum Input Speed	S_2	rpm	10000										10000													
Maximum Output Torque	T_4	Nm	T_1×3×60%										T_1×3×60%													
Maximum Radial Force	F_a	N	1377										1377													
Maximum Axial Force	F_b	N	765										765													
Torsional Rigidity	–	Nm/arcmin	7										7													
Efficiency	η	%	⩾95										⩾92													
Service Life	–	h	20000										20000													
Noise	–	dB	⩽63										⩽63													
Weight	–	Kg	2.1										2.5													
Backlash	P0		–										–													
	P1	arcmin	⩽4										⩽7													
	P2		⩽6										⩽9													
Operating Temperature	–	℃	-20~90										-20~90													
Lubrication	–		Synthetic Grease										Synthetic Grease													
Protection Class	–		IP65										IP65													
Mounting Position	–		Any Direction										Any Direction													
Moment of Inertia	J	$kg.cm^2$	0.35							0.07			0.09													

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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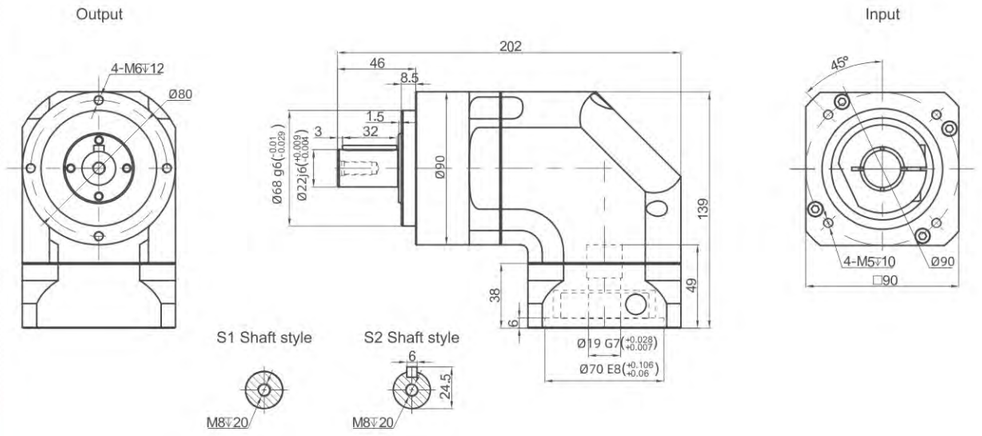
TER

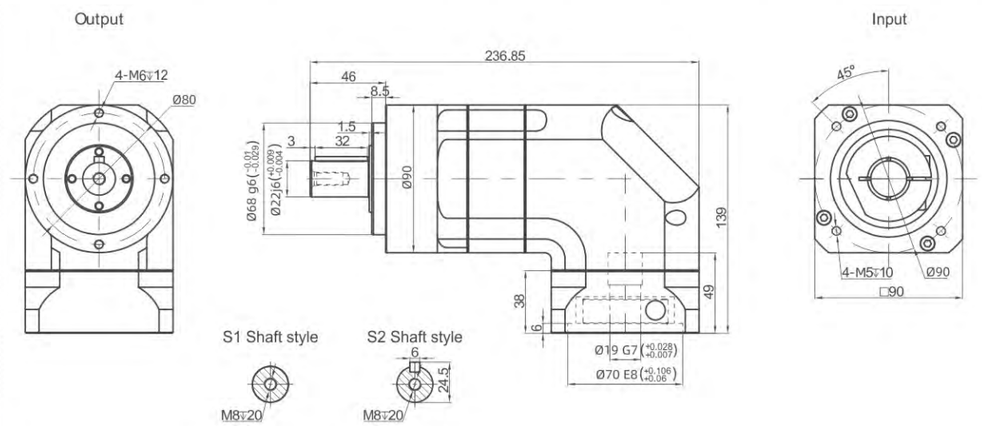
TER Series - High Precision Planetary Reducer

TER090 Series

TER090 One Stage



TER090 Two Stage



Performance Data

TER series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TER090			One Stage		Two Stage	
Speed Ratio	i		3 4 5 6 7 8 9 10 14 20 25 30 35 40 50 60 70 80 100 120 140 160 180 200			
Nominal Output Torque	T_1	Nm	100 120 150 148 140 123 - 102 140 102 150 148 140 120 150 148 140 123 102 148 140 123 - 102			
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$		$T_1 \times 3$	
Nominal Input Speed	S_1	rpm	4000		4000	
Maximum Input Speed	S_2	rpm	8000		8000	
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$		$T_1 \times 3 \times 60\%$	
Maximum Radial Force	F_a	N	2985		2985	
Maximum Axial Force	F_b	N	1625		1625	
Torsional Rigidity	–	Nm/arcmin	14		14	
Efficiency	η	%	≥95		≥92	
Service Life	–	h	20000		20000	
Noise	–	dB	≤65		≤65	
Weight	–	Kg	5		6.4	
Backlash	P0	arcmin	–		–	
	P1		≤4		≤7	
	P2		≤6		≤9	
Operating Temperature	–	°C	-20~90		-20~90	
Lubrication	–		Synthetic Grease		Synthetic Grease	
Protection Class	–		IP65		IP65	
Mounting Position	–		Any Direction		Any Direction	
Moment of Inertia	J	kg.cm²	2.25	1.87	2.25	1.87

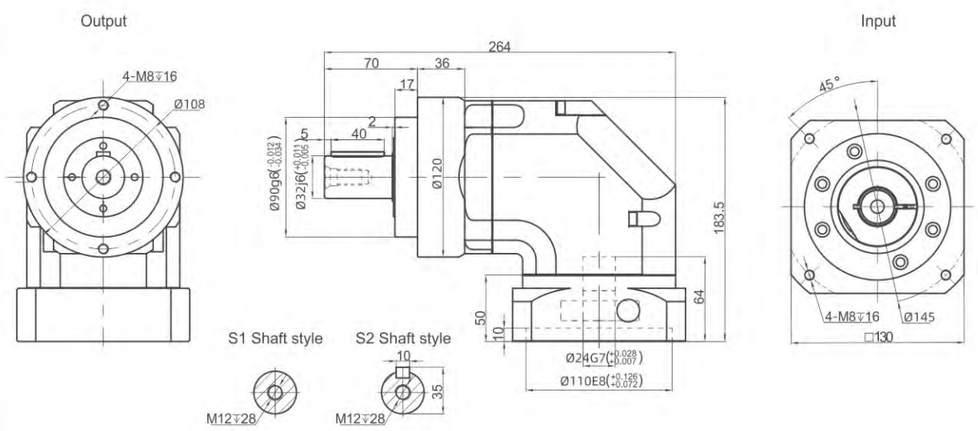
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

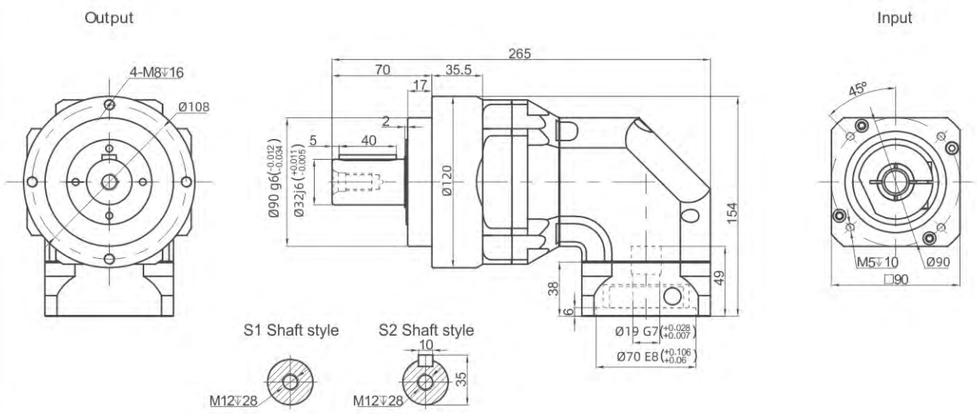
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TER120 Series

TER120 One Stage



TER120 Two Stage



Performance Data

TER series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TER120			One Stage																Two Stage							
Speed Ratio		i	3	4	5	6	7	8	9	10	14	20	25	30	35	40	50	60	70	80	100	120	140	160	180	200
Nominal Output Torque	T_1	Nm	200	260	330	310	300	260	-	235	300	235	330	310	300	260	330	310	300	260	235	310	300	260	-	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$										$T_1 \times 3$													
Nominal Input Speed	S_1	rpm	4000										4000													
Maximum Input Speed	S_2	rpm	8000										8000													
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$										$T_1 \times 3 \times 60\%$													
Maximum Radial Force	F_a	N	6100										6100													
Maximum Axial Force	F_b	N	3350										3350													
Torsional Rigidity	–	Nm/arcmin	25										25													
Efficiency	η	%	≥95										≥92													
Service Life	–	h	20000										20000													
Noise	–	dB	≤68										≤68													
Weight	–	Kg	13										12.5													
Backlash	P0	arcmin	–										–													
	P1		≤4										≤7													
	P2		≤6										≤9													
Operating Temperature	–	℃	-20~90										-20~90													
Lubrication	–		Synthetic Grease										Synthetic Grease													
Protection Class	–		IP65										IP65													
Mounting Position	–		Any Direction										Any Direction													
Moment of Inertia	J	$kg.cm^2$	6.84								6.25		2.25									1.87				

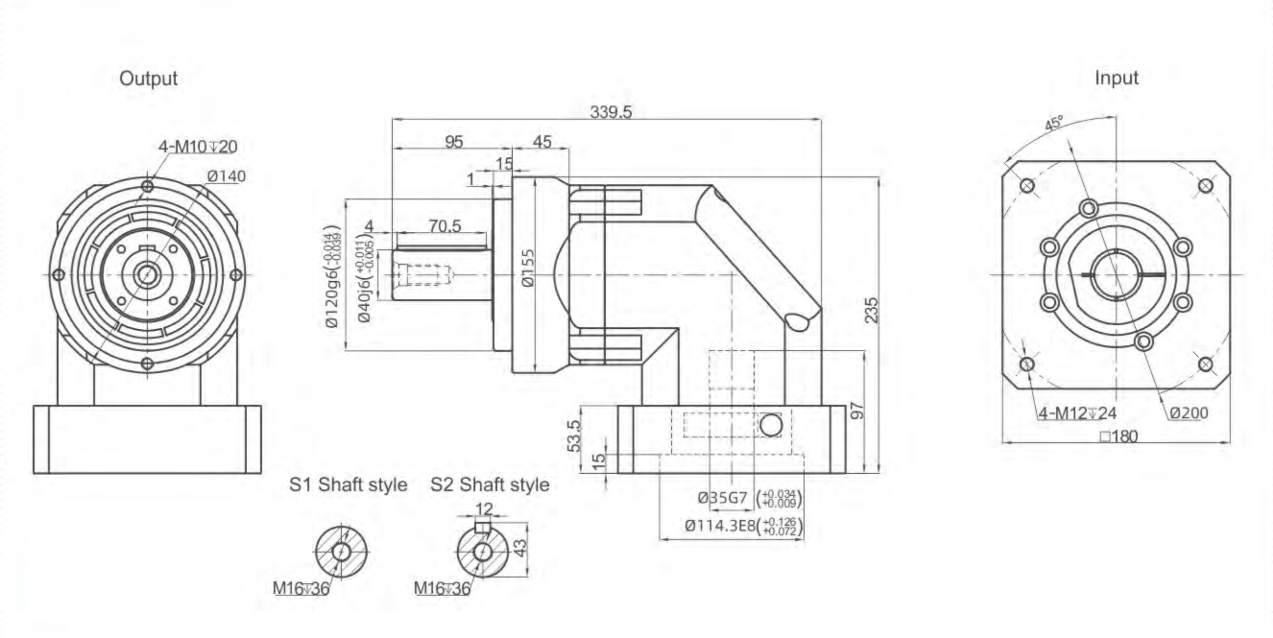
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

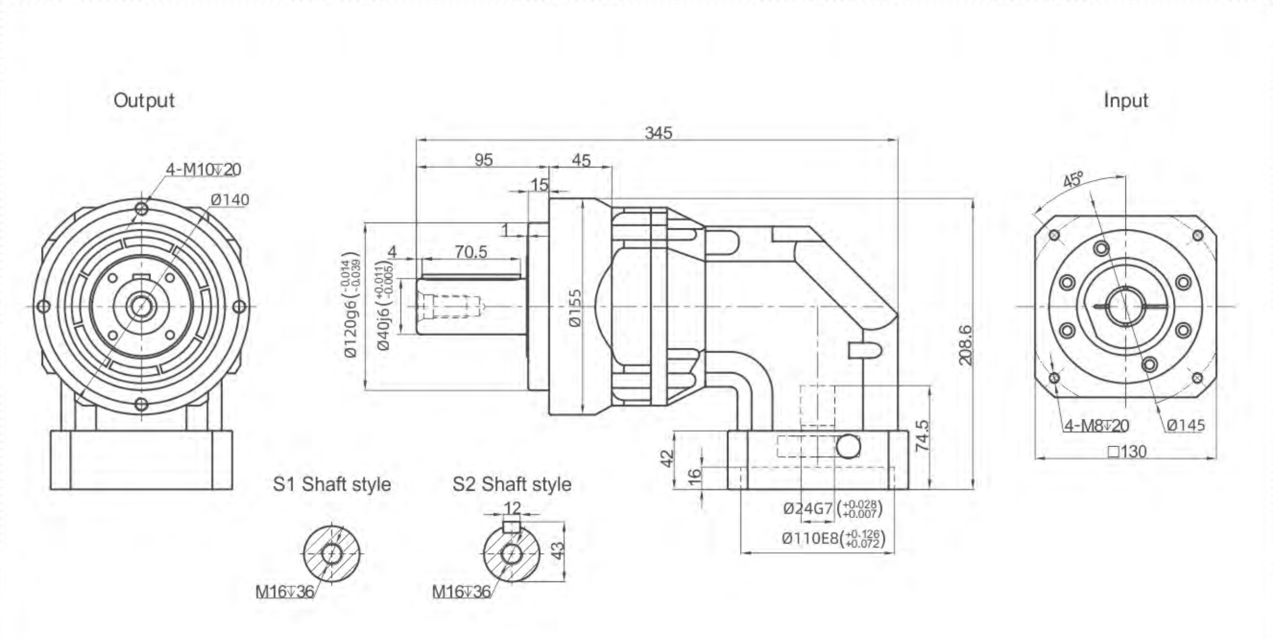
TER

TER155 Series

TER155 One Stage



TER155 Two Stage



Performance Data

TER series offer additional installation flexibility in addition to TB series but with zero compromise in performance. It is with high precision and robust design.

TER155			One Stage										Two Stage													
Speed Ratio		i	3	4	5	6	7	8	9	10	14	20	25	30	35	40	50	60	70	80	100	120	140	160	180	200
Nominal Output Torque	T_1	Nm	340	540	650	600	555	500	-	460	555	450	650	600	555	500	650	600	555	500	460	600	555	500	-	460
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$										$T_1 \times 3$													
Nominal Input Speed	S_1	rpm	3000										3000													
Maximum Input Speed	S_2	rpm	6000										6000													
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$										$T_1 \times 3 \times 60\%$													
Maximum Radial Force	F_a	N	8460										8460													
Maximum Axial Force	F_b	N	4700										4700													
Torsional Rigidity	–	Nm/arcmin	50										50													
Efficiency	η	%	≥95										≥92													
Service Life	–	h	20000										20000													
Noise	–	dB	≤70										≤70													
Weight	–	Kg	25.1										21.5													
Backlash	P0	arcmin	–										–													
	P1	arcmin	≤4										≤7													
	P2	arcmin	≤6										≤9													
Operating Temperature	–	℃	-20~90										-20~90													
Lubrication	–		Synthetic Grease										Synthetic Grease													
Protection Class	–		IP65										IP65													
Mounting Position	–		Any Direction										Any Direction													
Moment of Inertia	J	$kg.cm^2$	23.4								21.8		6.84									6.25				

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Precision Planetary Reducer

High-end Structure Design

+

TF SERIES

+

Premium Performance

TF series planetary reducer has the characteristics of high rigidity, high precision (single stage can achieve less than 1 arcmin), high transmission efficiency (single stage at 97% -98%), high torque / volume ratio, and lifetime maintenance-free.

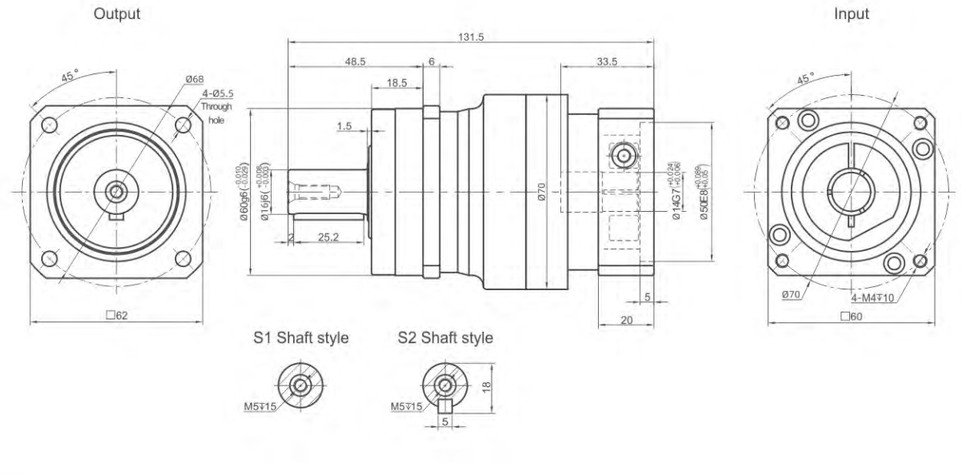
GEARKO®

DRIVES THE PRECISION

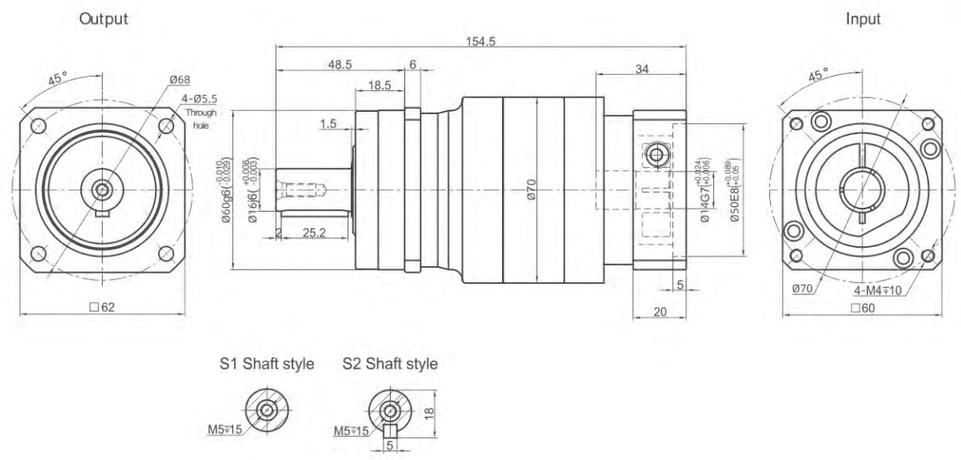
TF Series - High-end Design and Premium Performance

TF060 Series

TF060 One Stage



TF060 Two Stage



Performance Data

The TF series reducer targets those applications requiring extremely smooth operation even at high axial or radial load at high speed. The enhanced load bearing capacity guarantees its design precision at almost any demanding condition.

TF060			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	52	50	58	55	50	45	-	42	52	50	58	55	50	45	58	55	50	45	42
Emergency Stop Torque	T_2	Nm	T1×3								T1×3										
Nominal Input Speed	S_1	rpm	5000								5000										
Maximum Input Speed	S_2	rpm	10000								10000										
Maximum Output Torque	T_4	Nm	T1×3×60%								T1×3×60%										
Maximum Radial Force	F_a	N	1400								1400										
Maximum Axial Force	F_b	N	1100								1100										
Torsional Rigidity	–	Nm/arcmin	7								7										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	30000								30000										
Noise	–	dB	⩽58								⩽60										
Weight	–	Kg	1.6								2.1										
Backlash	P0	arcmin	-								-										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic Grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	kg.cm²	0.16	0.14	0.13						0.13										

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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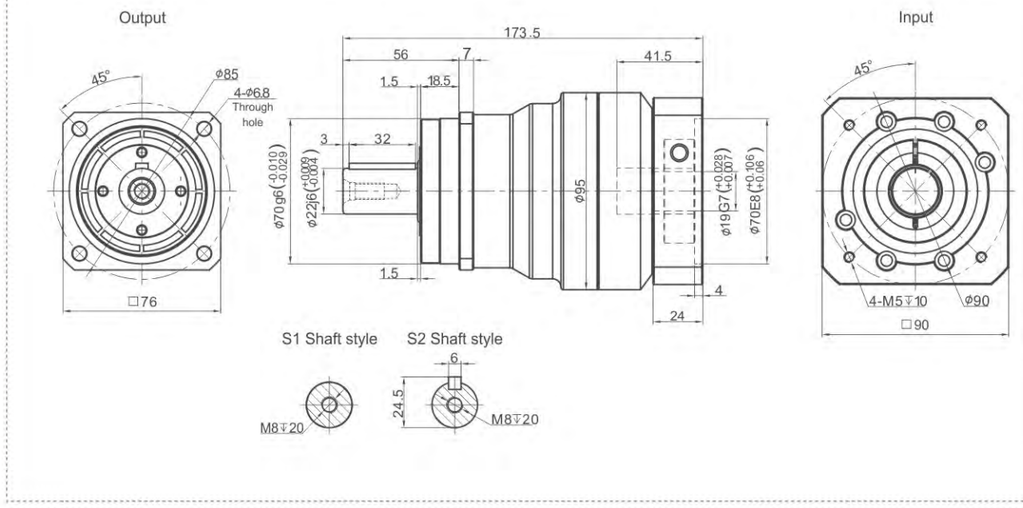
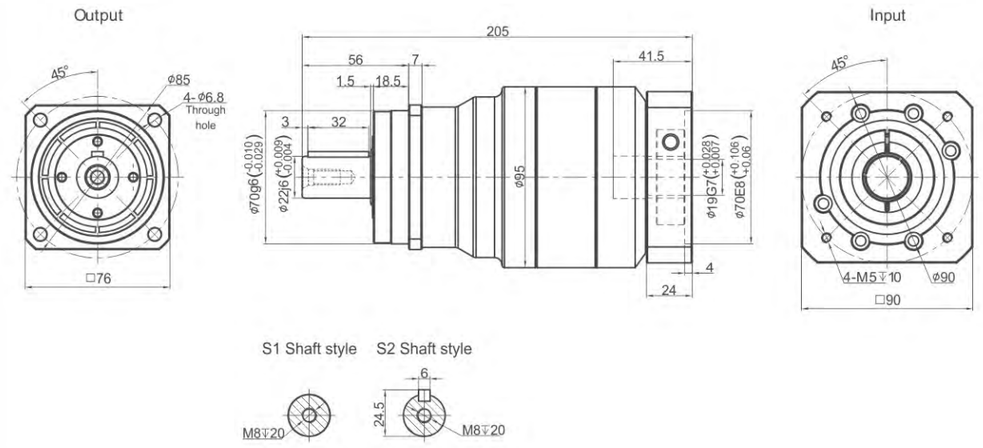
TF Series - High-end Design and Premium Performance

TF075 Series

TF075 One Stage



TF075 Two Stage



Performance Data

The TF series reducer targets those applications requiring extremely smooth operation even at high axial or radial load at high speed. The enhanced load bearing capacity guarantees its design precision at almost any demanding condition.

TF075			One Stage												Two Stage							
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	130	140	160	148	140	123	-	102	130	140	160	148	140	123	160	148	140	123	102
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	4000											4000							
Maximum Input Speed	S_2	rpm	8000											8000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	4100											4100							
Maximum Axial Force	F_b	N	3700											3700							
Torsional Rigidity	–	Nm/arcmin	14											14							
Efficiency	η	%	≥97											≥94							
Service Life	–	h	30000											30000							
Noise	–	dB	≤60											≤60							
Weight	–	Kg	3.9											5.1							
Backlash	P0	arcmin	≤1											–							
	P1		≤3											≤5							
	P2		≤5											≤7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	$kg.cm^2$	0.61	0.48	0.47	0.45		0.44			0.47				0.44							

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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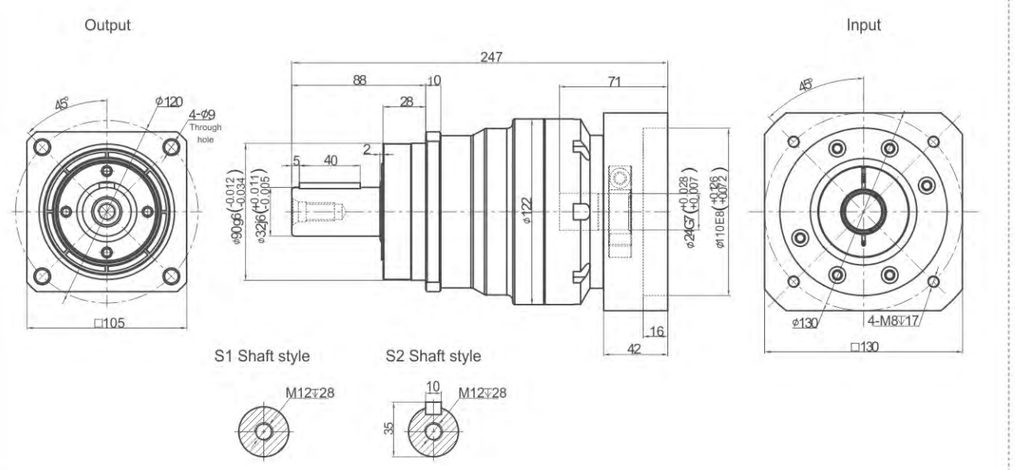
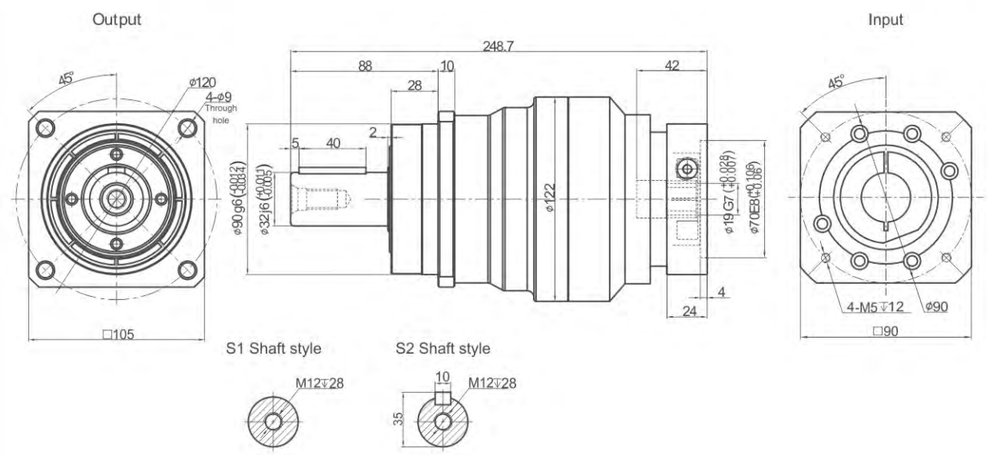
TF Series - High-end Design and Premium Performance

TF100 Series

TF100 One Stage



TF100 Two Stage



Performance Data

The TF series reducer targets those applications requiring extremely smooth operation even at high axial or radial load at high speed. The enhanced load bearing capacity guarantees its design precision at almost any demanding condition.

TF100			One Stage													Two Stage								
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	210	290	333	310	300	260	-	235	210	290	333	310	300	260	333	310	300	260	235
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	4000											4000							
Maximum Input Speed	S_2	rpm	8000											8000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	9200											9200							
Maximum Axial Force	F_b	N	5820											5820							
Torsional Rigidity	–	Nm/arcmin	25											25							
Efficiency	η	%	⩾97											⩾94							
Service Life	–	h	30000											30000							
Noise	–	dB	⩽63											⩽63							
Weight	–	Kg	8.9											8.1							
Backlash	P0	arcmin	⩽1											⩽3							
	P1		⩽3											⩽5							
	P2		⩽5											⩽7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic Grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	kg.cm²	3.25	2.74	2.71	2.65	2.62	2.58	–	2.57	0.47			0.44							

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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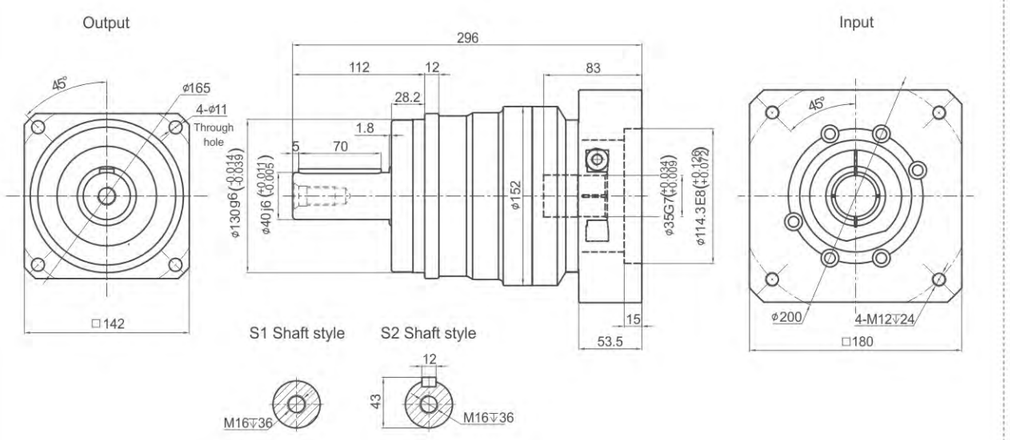
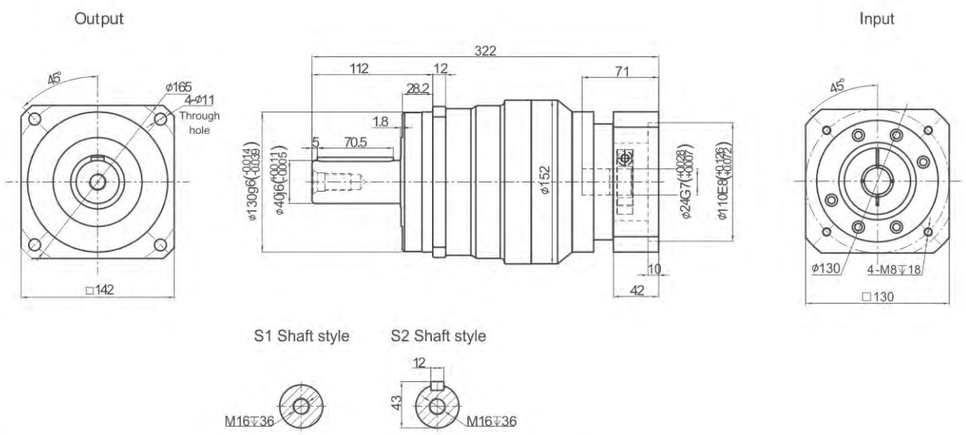
TF Series - High-end Design and Premium Performance

TF140 Series

TF140 One Stage



TF140 Two Stage



Performance Data

The TF series reducer targets those applications requiring extremely smooth operation even at high axial or radial load at high speed. The enhanced load bearing capacity guarantees its design precision at almost any demanding condition.

TF140			One Stage												Two Stage								
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100		
Nominal Output Torque	T_1	Nm	340	545	650	600	555	500	–	460	340	545	650	600	555	500	650	600	555	500	460		
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	3000											3000									
Maximum Input Speed	S_2	rpm	6000											6000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	14000											14000									
Maximum Axial Force	F_b	N	11400											11400									
Torsional Rigidity	–	Nm/arcmin	50											50									
Efficiency	η	%	⩾97											⩾94									
Service Life	–	h	30000											30000									
Noise	–	dB	⩽65											⩽65									
Weight	–	Kg	18											16.6									
Backlash	P0	arcmin	⩽1											⩽3									
	P1		⩽3											⩽5									
	P2		⩽5											⩽7									
Operating Temperature	–	℃	-20~90											-20~90									
Lubrication	–		Synthetic Grease											Synthetic Grease									
Protection Class	–		IP65											IP65									
Mounting Position	–		Any Direction											Any Direction									
Moment of Inertia	J	$kg.cm^2$	9.2	7.5	7.4	7.2	7.1	7.0	-	7.0	2.71				2.57								

Notes:

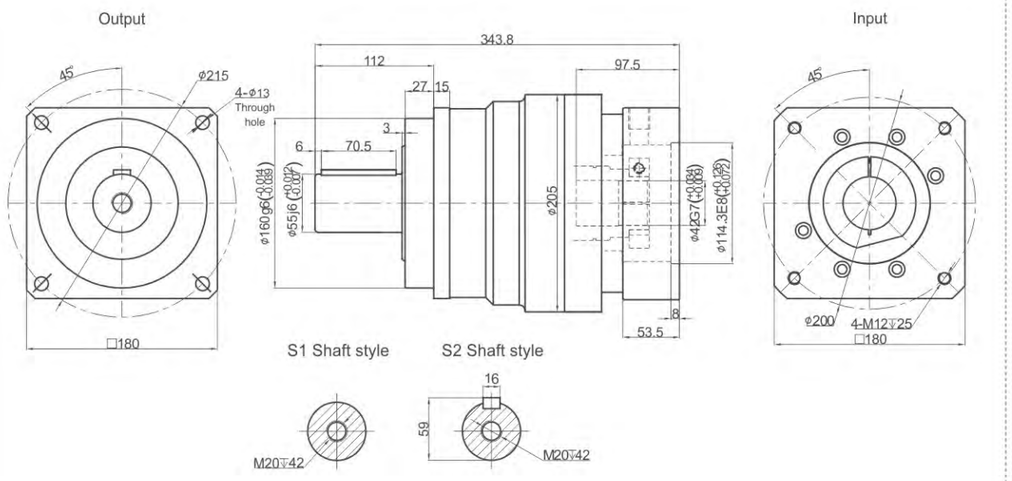
- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

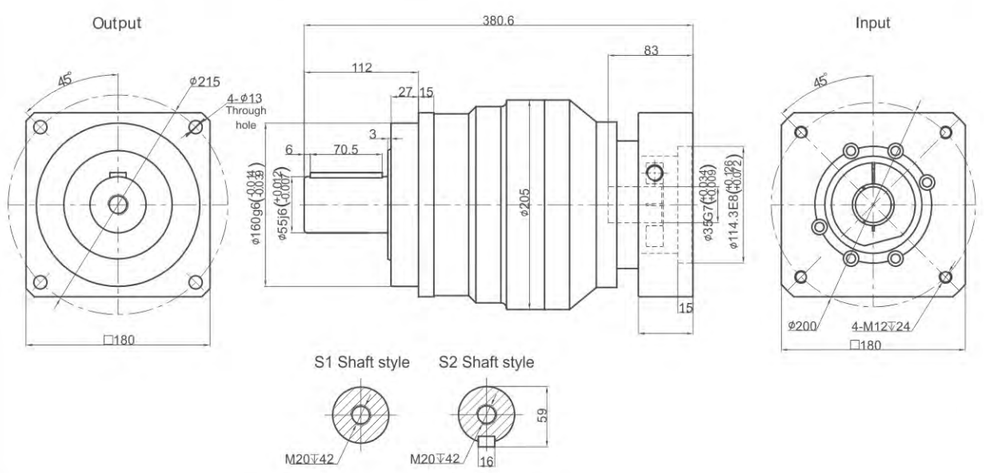
TF Series - High-end Design and Premium Performance

TF180 Series

TF180 One Stage



TF180 Two Stage



Performance Data

The TF series reducer targets those applications requiring extremely smooth operation even at high axial or radial load at high speed. The enhanced load bearing capacity guarantees its design precision at almost any demanding condition.

TF180			One Stage								Two Stage									
Speed Ratio		i	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	590	1050	1200	1108	1100	1000	–	910	590	1050	1200	1108	1100	1000	1200	1108	1100	1000	910
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$										
Nominal Input Speed	S_1	rpm	3000								3000										
Maximum Input Speed	S_2	rpm	6000								6000										
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$										
Maximum Radial Force	F_a	N	18000								18000										
Maximum Axial Force	F_b	N	19500								19500										
Torsional Rigidity	–	Nm/arcmin	145								145										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	30000								30000										
Noise	–	dB	⩽67								⩽67										
Weight	–	Kg	35.5								42										
Backlash	P0	arcmin	⩽1								⩽3										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic Grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	$kg.cm^2$	28.98	23.67	23.29	22.75	22.48	22.59	-	22.51	7.42		7.03								

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

Precision Planetary Reducer

Modular & Economical Design

+

TCB/TCBR/TCE SERIES

+

Optimized Performance

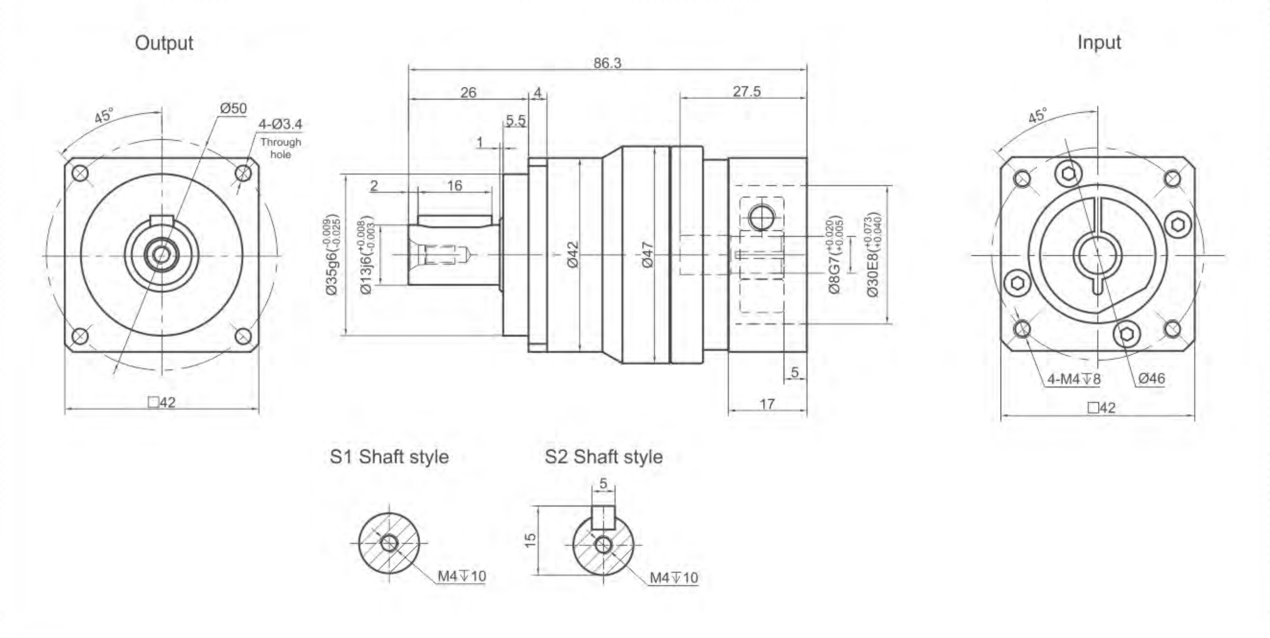
TCB/TCBR/TCE series planetary reducer backlash is low and its transmission capacity is strong, the input end can be matched with servo, stepping and any other motors.

GEARKO®

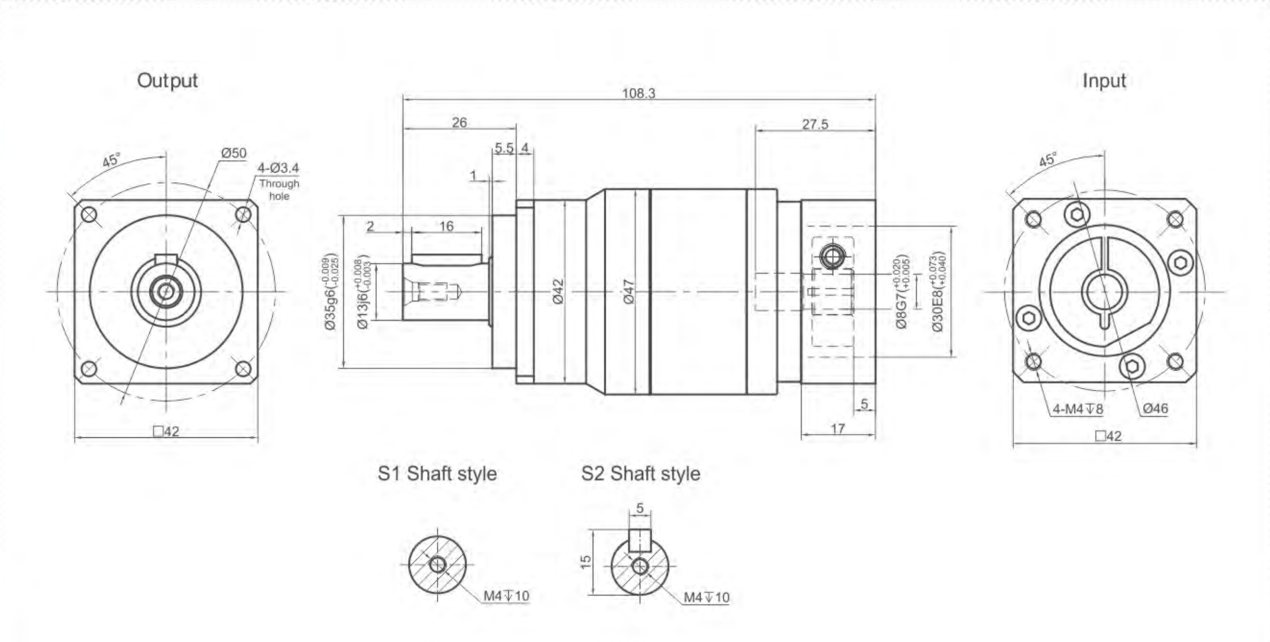
DRIVES THE PRECISION

TCB042 Series

TCB042 One Stage



TCB042 Two Stage



Performance Data

TCB series planetary reducer has modular design compact structure with high reliability and efficiency. It is a perfect optimization of both performance and cost.

TCB042			One Stage								Two Stage										
Speed Ratio		i	-	4	5	6	7	8	9	10	-	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	-	17	19	18	19	16	-	14	-	17	19	18	18	16	19	18	18	16	14
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$										
Nominal Input Speed	S_1	rpm	3000								3000										
Maximum Input Speed	S_2	rpm	6000								6000										
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$										
Maximum Radial Force	F_a	N	760								760										
Maximum Axial Force	F_b	N	380								380										
Torsional Rigidity	–	Nm/arcmin	3								3										
Efficiency	η	%	≥97								≥94										
Service Life	–	h	20000								20000										
Noise	–	dB	≤56								≤56										
Weight	–	Kg	0.5								0.7										
Backlash	P0	arcmin	–								–										
	P1	arcmin	≤3								≤5										
	P2	arcmin	≤5								≤7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication		–	Synthetic Grease								Synthetic grease										
Protection Class		–	IP65								IP65										
Mounting Position		–	Any Direction								Any Direction										
Moment of Inertia	J	$kg.cm^2$	0.03								0.03										

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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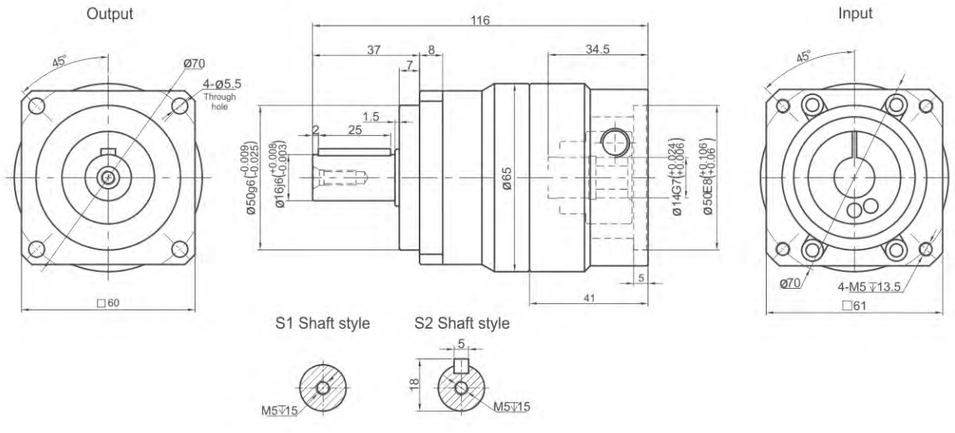
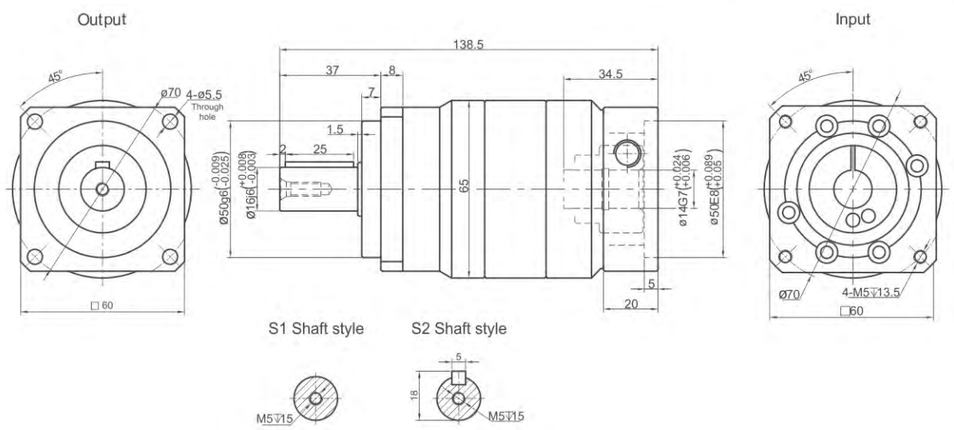
TCB060 Series

TCB060 One Stage



TCB060 Two Stage



Performance Data

TCB series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCB060			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	40	45	55	50	45	45	-	35	40	45	55	50	45	45	55	50	45	45	35
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	3000								3000									
Maximum Input Speed	S_2	rpm	6000								6000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	1530								1530									
Maximum Axial Force	F_b	N	765								765									
Torsional Rigidity	–	Nm/arcmin	7								7									
Efficiency	η	%	⩾97								⩾94									
Service Life	–	h	20000								20000									
Noise	–	dB	⩽58								⩽58									
Weight	–	Kg	1.3								1.7									
Backlash	P0	arcmin	–								–									
	P1		⩽3								⩽5									
	P2		⩽5								⩽7									
Operating Temperature	–	℃	-20~90								-20~90									
Lubrication	–		Synthetic Grease								Synthetic grease									
Protection Class	–		IP65								IP65									
Mounting Position	–		Any Direction								Any Direction									
Moment of Inertia	J	$kg.cm^2$	0.16	0.14	0.13						0.13									

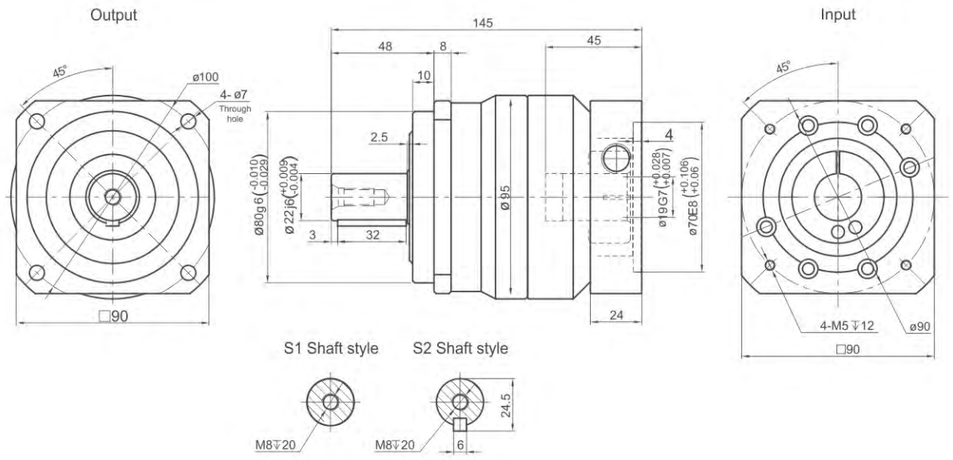
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

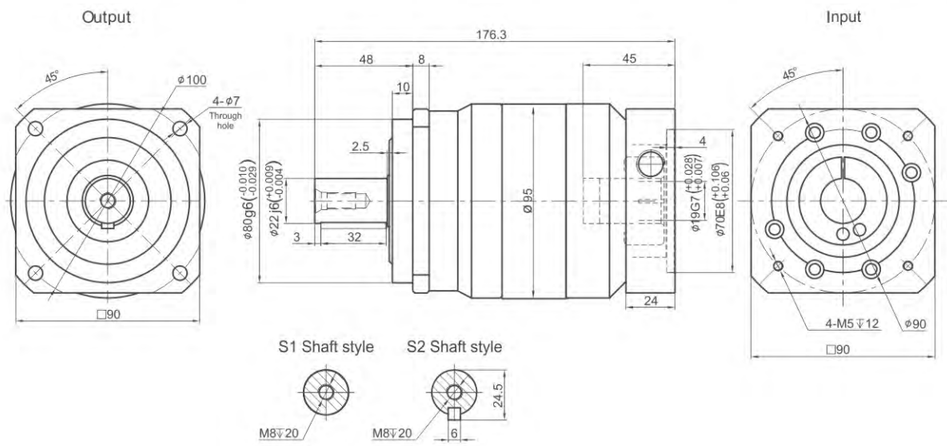
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TCB090 Series

TCB090 One Stage



TCB090 Two Stage



Performance Data

TCB series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCB090			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	100	110	150	140	135	120	-	100	100	110	150	140	135	120	150	140	135	120	100
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	3000								3000									
Maximum Input Speed	S_2	rpm	6000								6000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	3250								3250									
Maximum Axial Force	F_b	N	1625								1625									
Torsional Rigidity	–	Nm/arcmin	14								14									
Efficiency	η	%	⩾97								⩾94									
Service Life	–	h	20000								20000									
Noise	–	dB	⩽60								60									
Weight	–	Kg	3.5								5.1									
Backlash	P0	arcmin	–								–									
	P1		⩽3								⩽5									
	P2		⩽5								⩽7									
Operating Temperature	–	℃	-20~90								-20~90									
Lubrication	–		Synthetic Grease								Synthetic grease									
Protection Class	–		IP65								IP65									
Mounting Position	–		Any Direction								Any Direction									
Moment of Inertia	J	kg.cm²	0.61	0.48	0.47	0.45	0.45	0.44	-	0.44	0.47									0.44

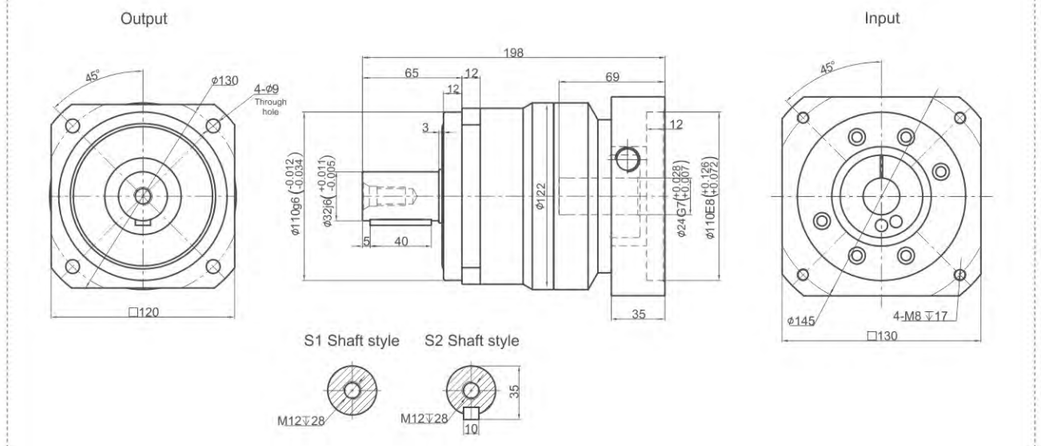
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

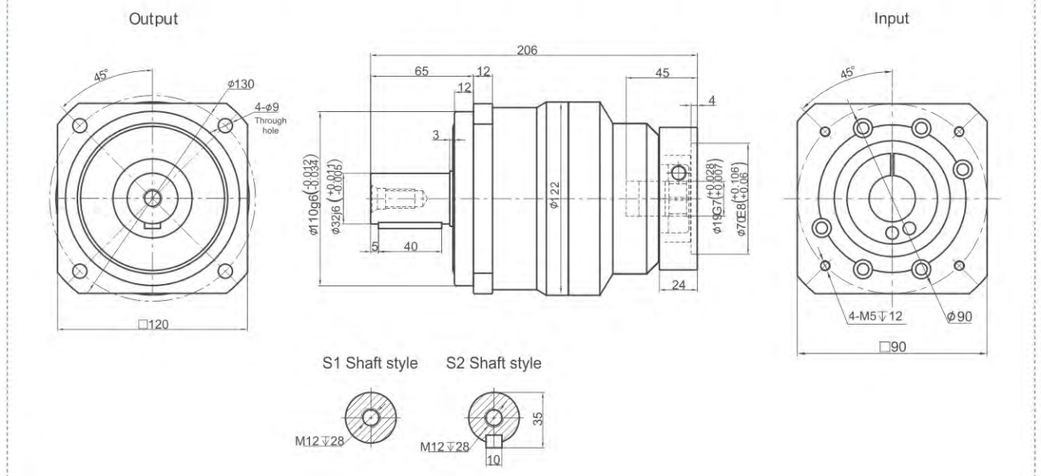
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TCB120 Series

TCB120 One Stage



TCB120 Two Stage



Performance Data

TCB series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCB120			One Stage																	
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	200	280	320	310	300	255	-	220	200	280	320	310	300	255	320	310	300	255	220
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$													$T_1 \times 3$					
Nominal Input Speed	S_1	rpm	3000													3000					
Maximum Input Speed	S_2	rpm	6000													6000					
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$													$T_1 \times 3 \times 60\%$					
Maximum Radial Force	F_a	N	6700													6700					
Maximum Axial Force	F_b	N	3350													3350					
Torsional Rigidity	–	Nm/ arcmin	25													25					
Efficiency	η	%	⩾97													⩾94					
Service Life	–	h	20000													20000					
Noise	–	dB	⩽63													⩽63					
Weight	–	Kg	8													9.5					
Backlash	P0	arcmin	–													–					
	P1		⩽3													⩽5					
	P2		⩽5													⩽7					
Operating Temperature	–	℃	-20~90													-20~90					
Lubrication	–		Synthetic Grease													Synthetic grease					
Protection Class	–		IP65													IP65					
Mounting Position	–		Any Direction													Any Direction					
Moment of Inertia	J	kg.cm²	3.25	2.74	2.71	2.65	2.62	2.58	-	2.57	0.47					0.44					

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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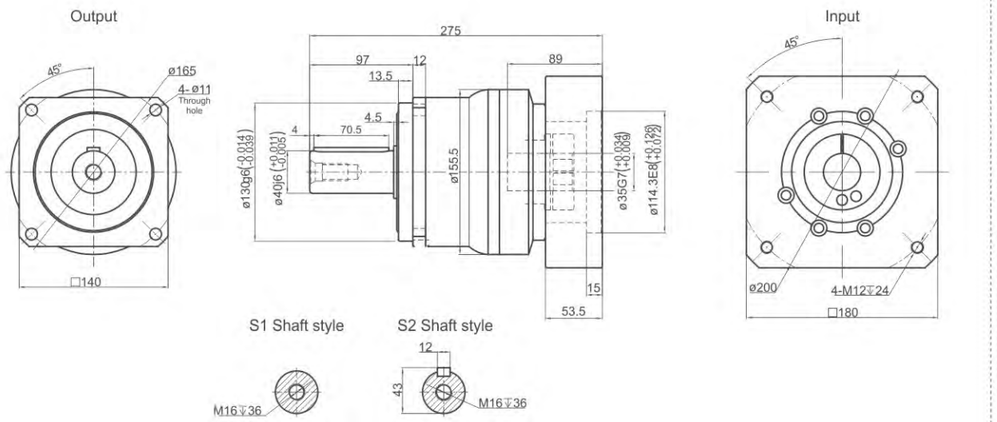
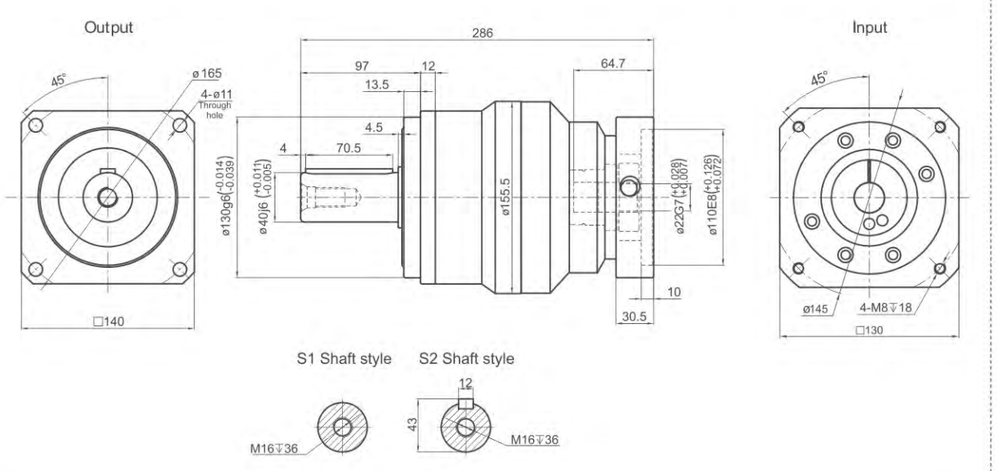
TCB140 Series

TCB140 One Stage



TCB140 Two Stage



Performance Data

TCB series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCB140			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	340	535	650	600	550	500	-	445	340	535	650	600	550	500	650	600	550	500	445
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$										
Nominal Input Speed	S_1	rpm	2000								2000										
Maximum Input Speed	S_2	rpm	4000								4000										
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$										
Maximum Radial Force	F_a	N	9400								9400										
Maximum Axial Force	F_b	N	4700								4700										
Torsional Rigidity	–	Nm/arcmin	50								50										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	20000								20000										
Noise	–	dB	⩽65								⩽65										
Weight	–	Kg	17								19.8										
Backlash	P0	arcmin	–								–										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	kg.cm²	9.21	7.54	7.42	7.25	7.14	7.07	-	7.03	2.71						2.57				

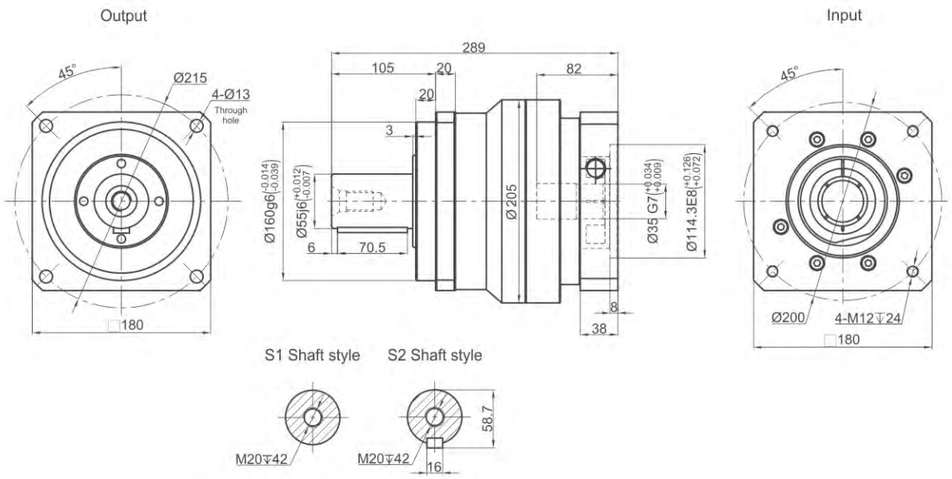
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

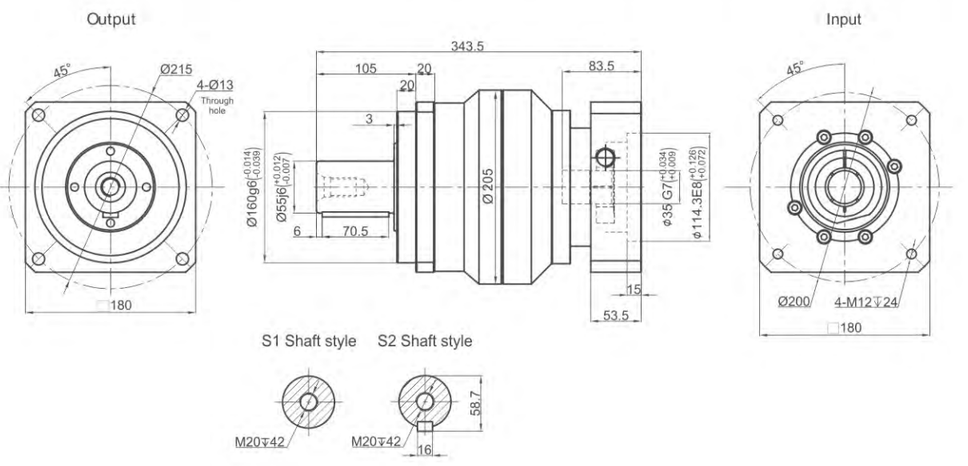
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TCB180 Series

TCB180 One Stage



TCB180 Two Stage



Performance Data

TCB series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCB180			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	580	1020	1180	1050	1050	970	-	870	580	1020	1180	1050	1050	970	1180	1050	1050	970	870
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$										
Nominal Input Speed	S_1	rpm	2000								2000										
Maximum Input Speed	S_2	rpm	4000								4000										
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$										
Maximum Radial Force	F_a	N	14100								14100										
Maximum Axial Force	F_b	N	7050								7050										
Torsional Rigidity	–	Nm/arcmin	140								140										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	20000								20000										
Noise	–	dB	⩽67								⩽67										
Weight	–	Kg	20.7								27										
Backlash	P0	arcmin	–								–										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	kg.cm²	28.98	23.67	23.29	22.75	22.48	22.59	-	22.51	7.42						7.03				

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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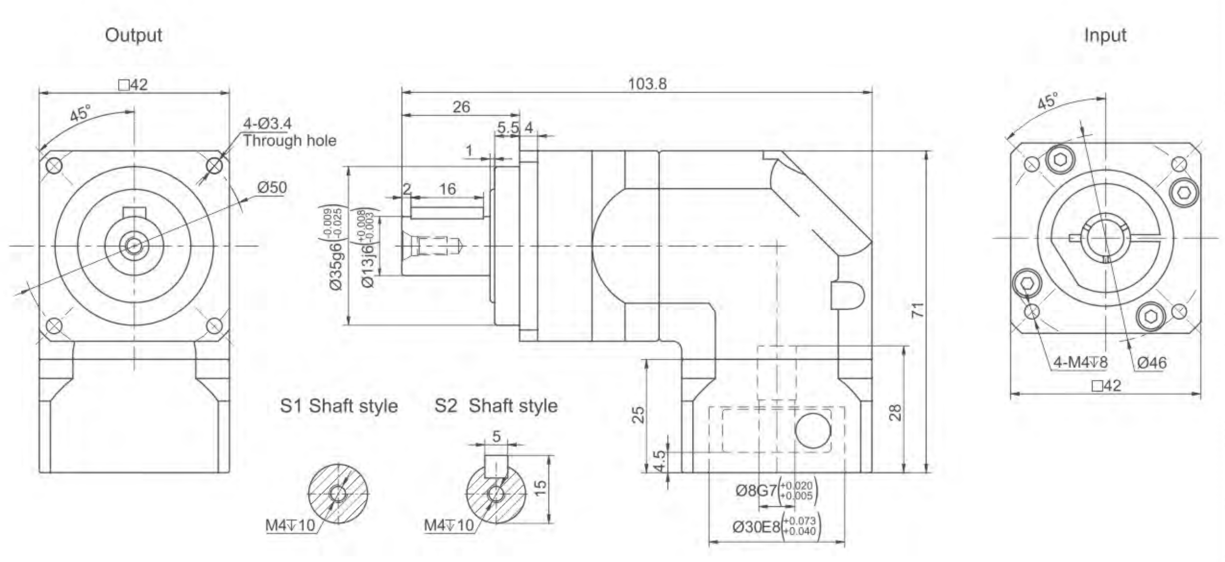
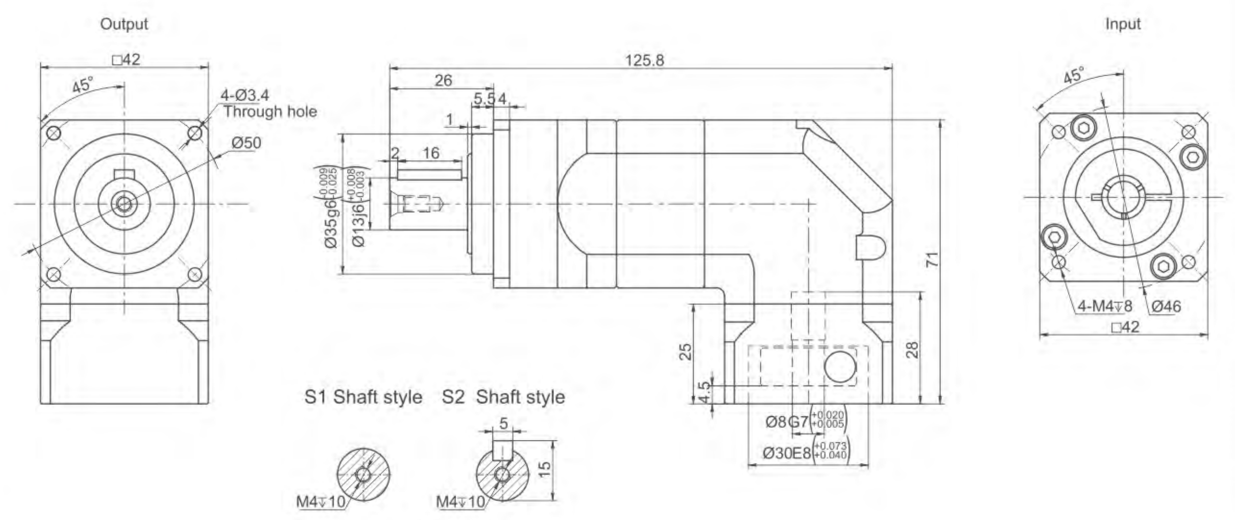
TCBR042 Series

TCBR042 One Stage



TCBR042 Two Stage



Performance Data

TCBR series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

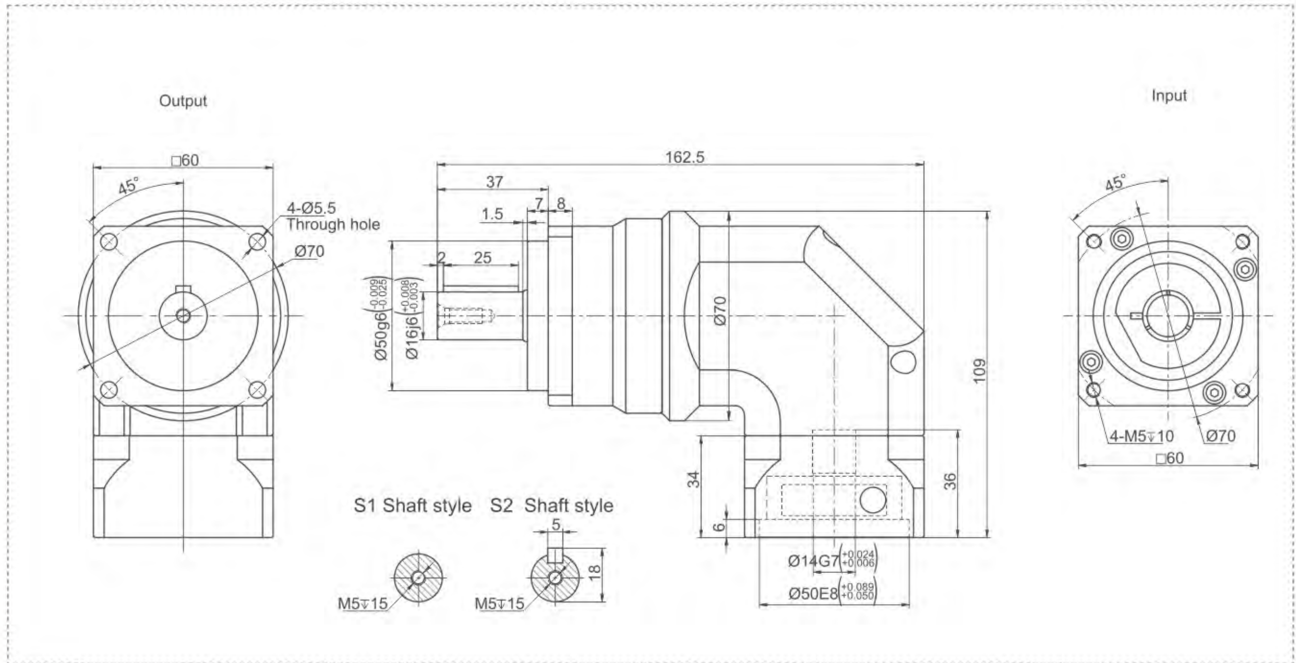
TCBR042			One Stage							Two Stage									
Speed Ratio	i		-	4	5	6	7	8	10	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	-	11	13	16	17	15	13	13	13	16	17	15	13	16	17	15	13
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$							$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	3000							3000									
Maximum Input Speed	S_2	rpm	6000							6000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$							$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	760							760									
Maximum Axial Force	F_b	N	380							380									
Torsional Rigidity	–	Nm/arcmin	3							3									
Efficiency	η	%	≥95							≥92									
Service Life	–	h	20000							20000									
Noise	–	dB	≤63							≤63									
Weight	–	Kg	0.9							1.1									
Backlash	P0	arcmin	-							-									
	P1	arcmin	≤6							≤9									
	P2	arcmin	≤8							≤12									
Operating Temperature	–	℃	-20～90							-20～90									
Lubrication	–		Synthetic Grease							Synthetic grease									
Protection Class	–		IP65							IP65									
Mounting Position	–		Any Direction							Any Direction									
Moment of Inertia	J	$kg.cm^2$	0.09							0.09									

Notes:

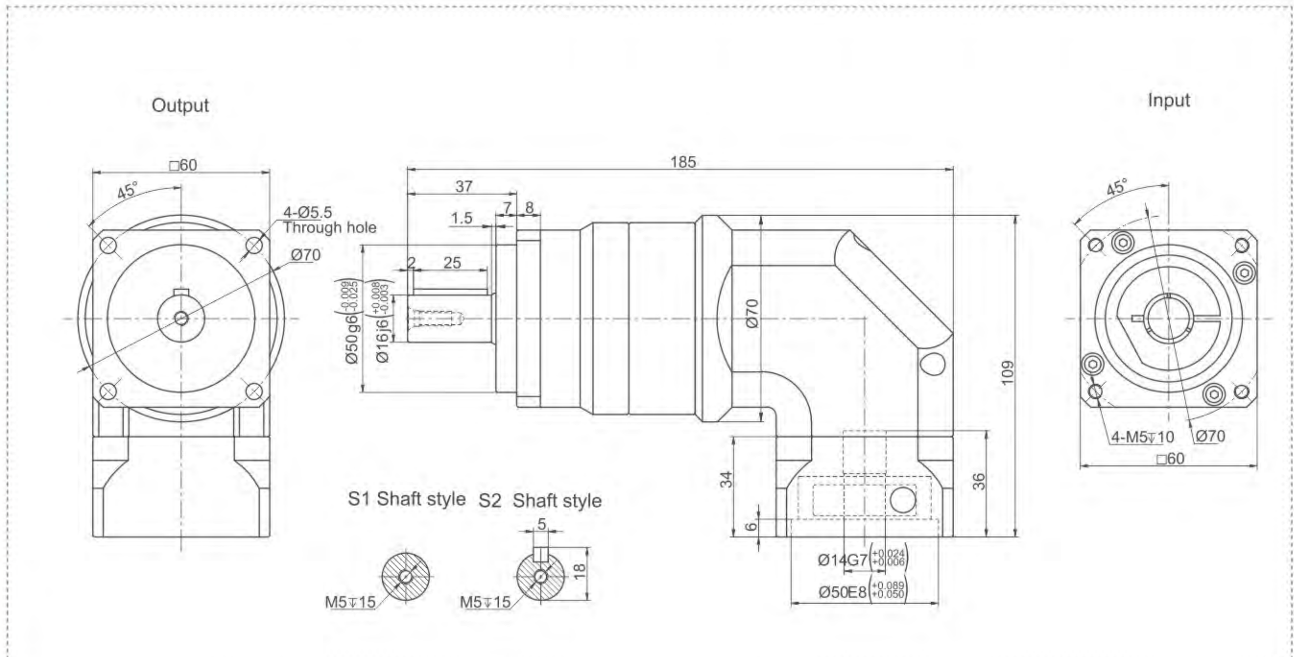
- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

TCBR060 Series

TCBR060 One Stage



TCBR060 Two Stage



TCB

Performance Data

TCBR series planetary reducer has modular design compact structure with high reliability and efficiency. It is a perfect optimization of both performance and cost.

TCBR060			One Stage											Two Stage												
Speed Ratio	i		3	4	5	6	7	8	10	12	14	16	20	25	30	35	40	50	60	70	80	100	120	140	160	200
Nominal Output Torque	T_1	Nm	35	45	55	50	46	43	40	50	40	43	40	55	50	46	43	55	50	46	43	40	50	46	43	40
Emergency Stop Torque	T_2	Nm	$T_1\times3$											$T_1\times3$												
Nominal Input Speed	S_1	rpm	3000											3000												
Maximum Input Speed	S_2	rpm	6000											6000												
Maximum Output Torque	T_4	Nm	$T_1\times3\times60\%$											$T_1\times3\times60\%$												
Maximum Radial Force	F_a	N	1450											1450												
Maximum Axial Force	F_b	N	724											724												
Torsional Rigidity	–	Nm/arcmin	6											6												
Efficiency	η	%	⩾95											⩾92												
Service Life	–	h	20000											20000												
Noise	–	dB	⩽66											⩽66												
Weight	–	Kg	1.5											2.1												
Backlash	P0	arcmin	-											-												
	P1	arcmin	⩽6											⩽9												
	P2	arcmin	⩽8											⩽12												
Operating Temperature	–	℃	-20～90											-20～90												
Lubrication		–	Synthetic Grease											Synthetic grease												
Protection Class		–	IP65											IP65												
Mounting Position		–	Any Direction											Any Direction												
Moment of Inertia	J	kg.cm²	0.35								0.07			0.09												

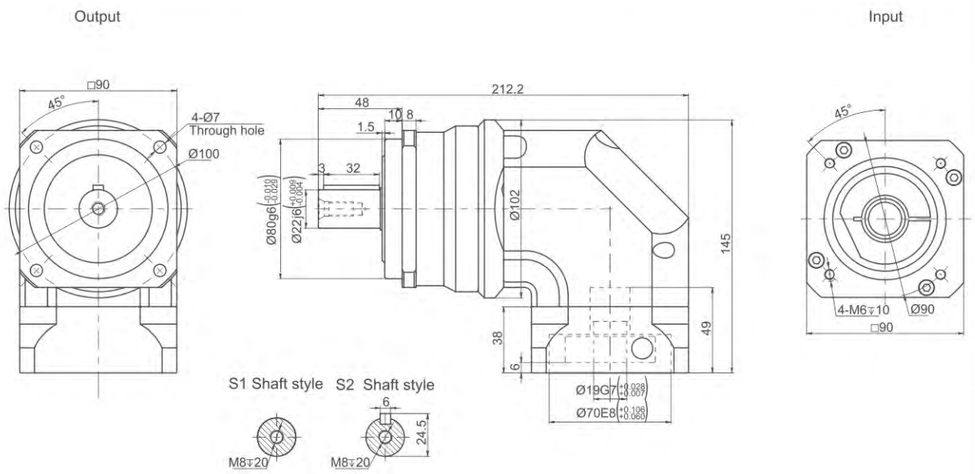
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

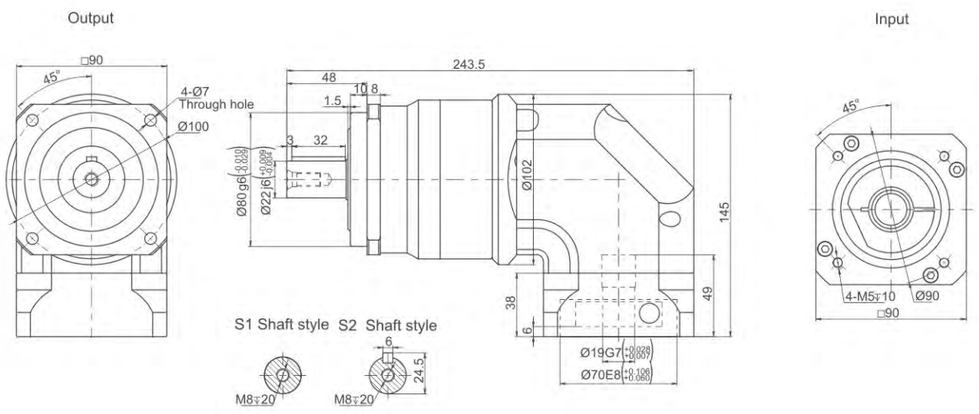
TCB

TCBR090 Series

TCBR090 One Stage



TCBR090 Two Stage



Performance Data

TCBR series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCBR090			One Stage												Two Stage											
Speed Ratio	i		3	4	5	6	7	8	10	12	14	16	20	25	30	35	40	50	60	70	80	100	120	140	160	200
Nominal Output Torque	T_1	Nm	85	115	140	140	135	115	97	140	135	115	97	140	140	135	115	140	140	135	115	97	140	135	115	97
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$												
Nominal Input Speed	S_1	rpm	3000											3000												
Maximum Input Speed	S_2	rpm	6000											6000												
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$												
Maximum Radial Force	F_a	N	3200											3200												
Maximum Axial Force	F_b	N	1600											1600												
Torsional Rigidity	–	Nm/arcmin	14											14												
Efficiency	η	%	⩾95											⩾92												
Service Life	–	h	20000											20000												
Noise	–	dB	⩽67											⩽67												
Weight	–	Kg	6.4											7.7												
Backlash	P0	arcmin	⩽4											⩽7												
	P1		⩽6											⩽9												
	P2		⩽8											⩽12												
Operating Temperature	–	°C	-20~90											-20~90												
Lubrication	–		Synthetic Grease											Synthetic grease												
Protection Class	–		IP65											IP65												
Mounting Position	–		Any Direction											Any Direction												
Moment of Inertia	J	kg.cm²	2.25									1.87		0.35												0.31

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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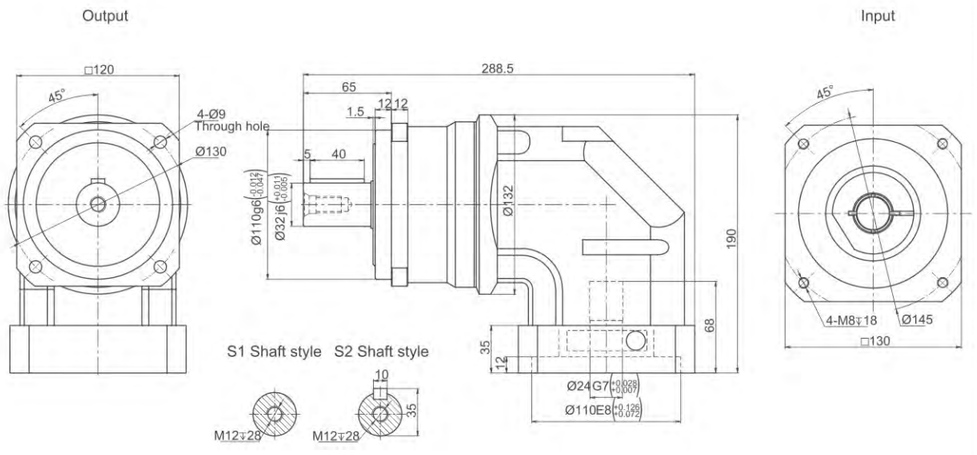
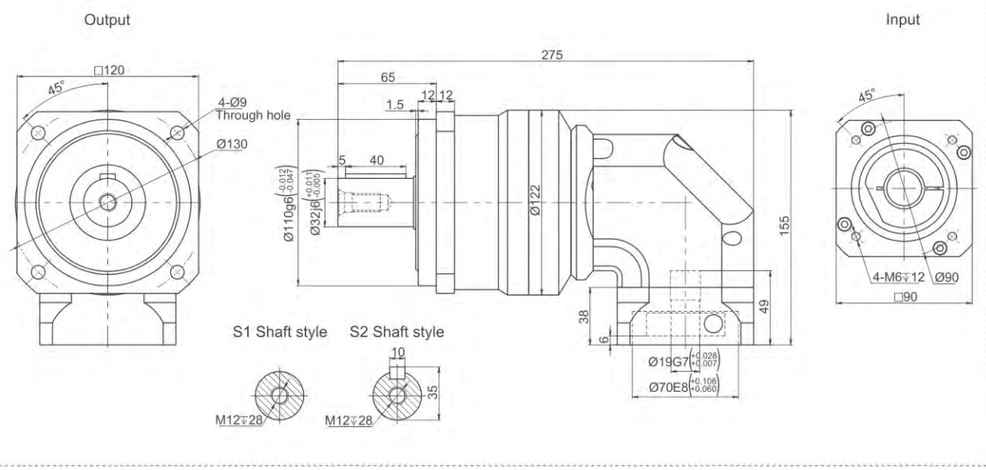
TCBR120 Series

TCBR120 One Stage



TCBR120 Two Stage



Performance Data

TCBR series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCBR120			One Stage														Two Stage													
Speed Ratio	i		3	4	5	6	7	8	10	12	14	16	20	25	30	35	40	50	60	70	80	100	120	140	160	200				
Nominal Output Torque	T_1	Nm	190	245	315	305	290	255	225	305	290	255	225	315	305	290	255	315	305	290	255	225	305	290	255	225				
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$														$T_1 \times 3$													
Nominal Input Speed	S_1	rpm	3000														3000													
Maximum Input Speed	S_2	rpm	5000														5000													
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$														$T_1 \times 3 \times 60\%$													
Maximum Radial Force	F_a	N	6600														6600													
Maximum Axial Force	F_b	N	3200														3200													
Torsional Rigidity	–	Nm/arcmin	25														25													
Efficiency	η	%	⩾95														⩾92													
Service Life	–	h	20000														20000													
Noise	–	dB	⩽70														⩽70													
Weight	–	Kg	13														14													
Backlash	P0	arcmin	⩽4														⩽7													
	P1		⩽6														⩽9													
	P2		⩽8														⩽12													
Operating Temperature	–	℃	-20~90														-20~90													
Lubrication	–		Synthetic Grease														Synthetic grease													
Protection Class	–		IP65														IP65													
Mounting Position	–		Any Direction														Any Direction													
Moment of Inertia	J	kg.cm²	6.84														6.25										2.25			1.87

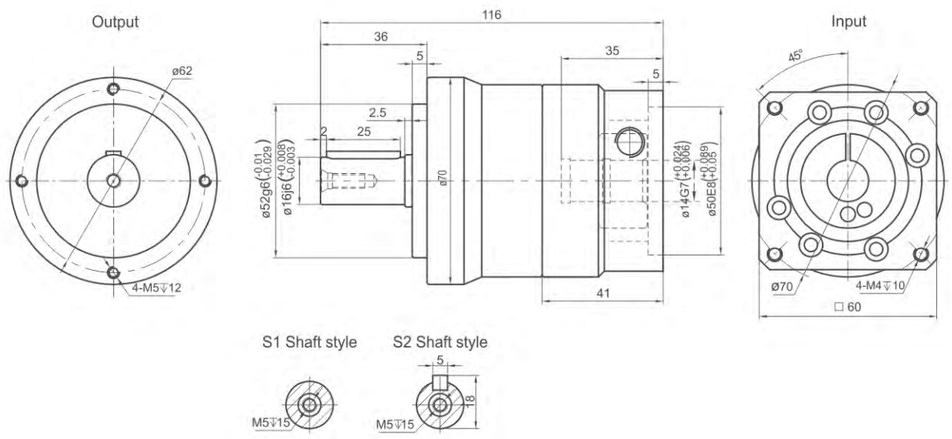
Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

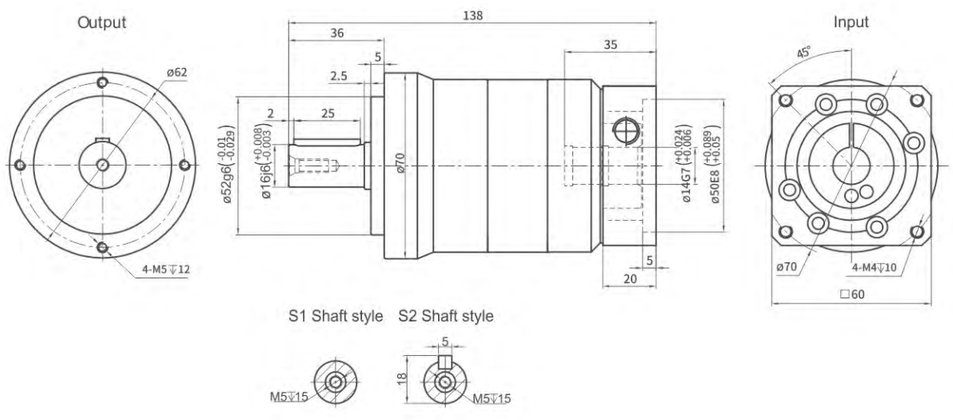
Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

TCE070 Series

TCE070 One Stage



TCE070 Two Stage



Performance Data

TCE series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCE070			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	40	45	55	50	45	45	-	35	40	45	55	50	45	45	55	50	45	45	35
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$									
Nominal Input Speed	S_1	rpm	3000								3000									
Maximum Input Speed	S_2	rpm	6000								6000									
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$									
Maximum Radial Force	F_a	N	1530								1530									
Maximum Axial Force	F_b	N	765								765									
Torsional Rigidity	–	Nm/arcmin	7								7									
Efficiency	η	%	⩾97								⩾94									
Service Life	–	h	20000								20000									
Noise	–	dB	⩽58								⩽58									
Weight	–	Kg	1.6								1.9									
Backlash	P0	arcmin	–								–									
	P1		⩽3								⩽5									
	P2		⩽5								⩽7									
Operating Temperature	–	℃	-20~90								-20~90									
Lubrication	–		Synthetic Grease								Synthetic grease									
Protection Class	–		IP65								IP65									
Mounting Position	–		Any Direction								Any Direction									
Moment of Inertia	J	kg.cm²	0.16	0.14	0.13						0.13									

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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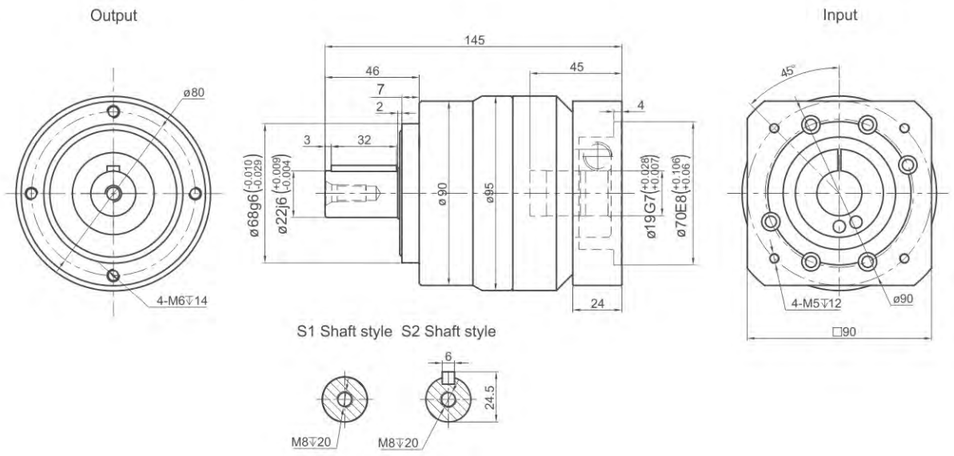
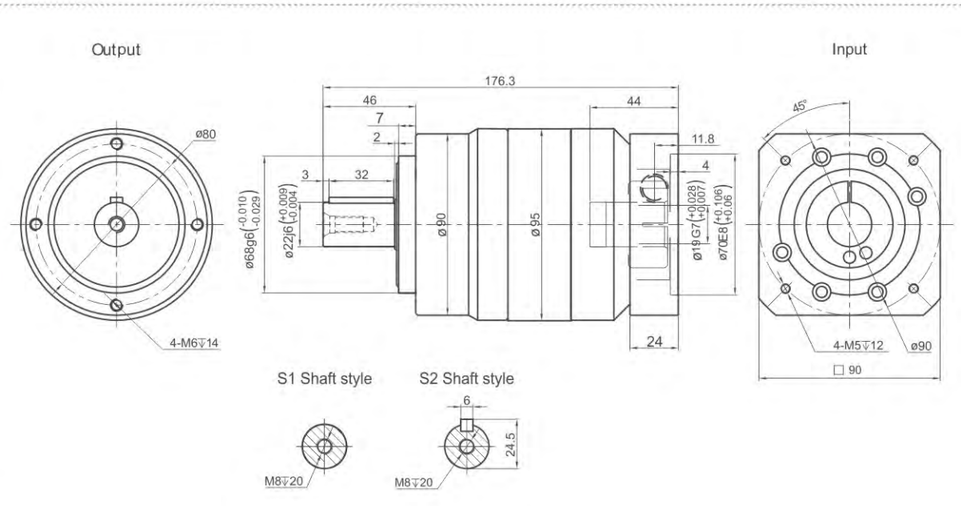
TCE090 Series

TCE090 One Stage



TCE090 Two Stage



Performance Data

TCE series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCE090			One Stage																		
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	100	110	150	140	135	120	-	100	100	110	150	140	135	120	150	140	135	120	100
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$											$T_1 \times 3$							
Nominal Input Speed	S_1	rpm	3000											3000							
Maximum Input Speed	S_2	rpm	6000											6000							
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$											$T_1 \times 3 \times 60\%$							
Maximum Radial Force	F_a	N	3250											3250							
Maximum Axial Force	F_b	N	1625											1625							
Torsional Rigidity	–	Nm/arcmin	14											14							
Efficiency	η	%	⩾97											⩾94							
Service Life	–	h	20000											20000							
Noise	–	dB	⩽60											⩽60							
Weight	–	Kg	3.4											5.2							
Backlash	P0	arcmin	–											–							
	P1		⩽3											⩽5							
	P2		⩽5											⩽7							
Operating Temperature	–	℃	-20~90											-20~90							
Lubrication	–		Synthetic Grease											Synthetic grease							
Protection Class	–		IP65											IP65							
Mounting Position	–		Any Direction											Any Direction							
Moment of Inertia	J	$kg.cm^2$	0.61	0.48	0.47	0.45	0.45	0.44	-	0.44	0.47						0.44				

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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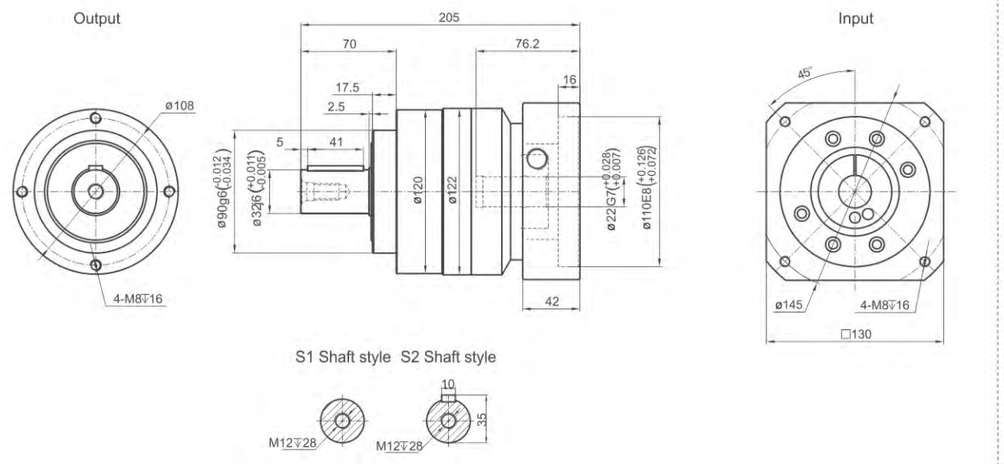
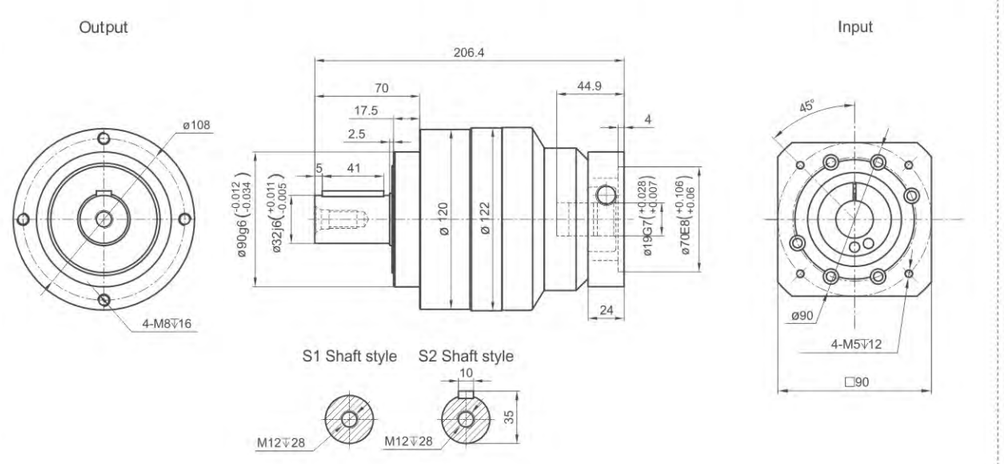
TCE120 Series

TCE120 One Stage



TCE120 Two Stage



Performance Data

TCE series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCE120			One Stage																		
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	200	280	320	310	300	255	-	220	200	280	320	310	300	255	320	310	300	255	220
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$													$T_1 \times 3$					
Nominal Input Speed	S_1	rpm	3000													3000					
Maximum Input Speed	S_2	rpm	6000													6000					
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$													$T_1 \times 3 \times 60\%$					
Maximum Radial Force	F_a	N	6700													6700					
Maximum Axial Force	F_b	N	3350													3350					
Torsional Rigidity	–	Nm/arcmin	25													25					
Efficiency	η	%	⩾97													⩾94					
Service Life	–	h	20000													20000					
Noise	–	dB	⩽63													⩽63					
Weight	–	Kg	7.8													8.5					
Backlash	P0	arcmin	–													–					
	P1		⩽3													⩽5					
	P2		⩽5													⩽7					
Operating Temperature	–	℃	-20~90													-20~90					
Lubrication	–		Synthetic Grease													Synthetic grease					
Protection Class	–		IP65													IP65					
Mounting Position	–		Any Direction													Any Direction					
Moment of Inertia	J	$kg.cm^2$	3.25	2.74	2.71	2.65	2.62	2.58	-	2.57	0.47					0.44					

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

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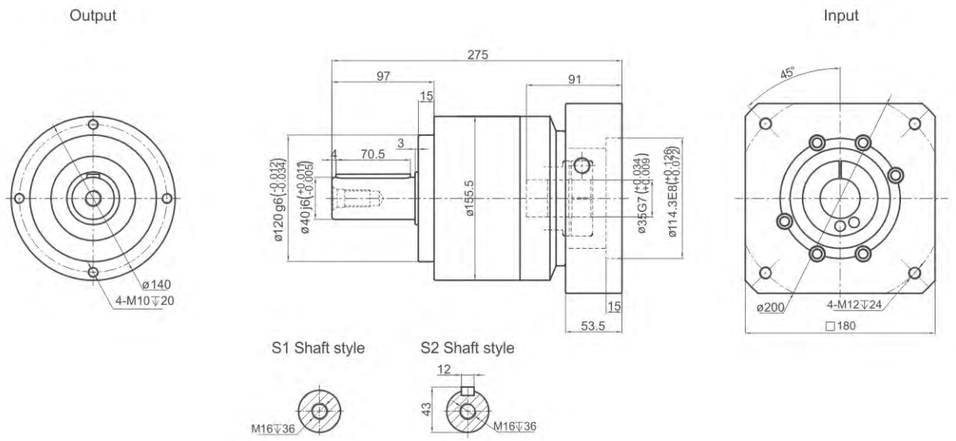
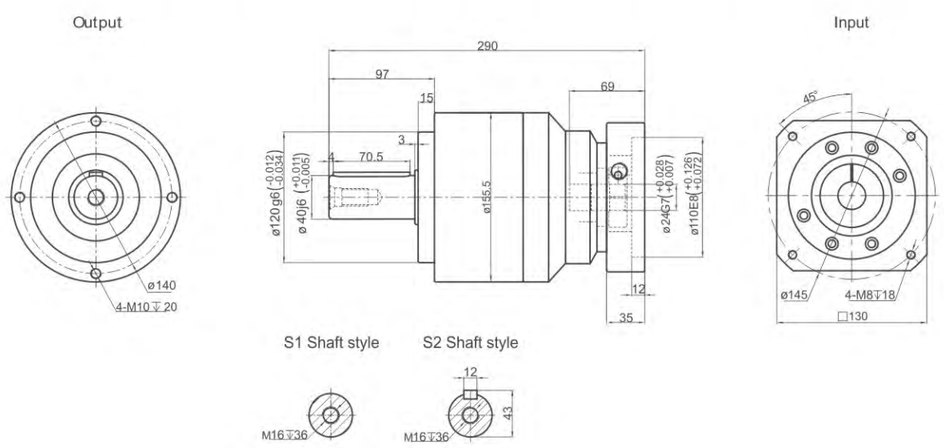
TCE155 Series

TCE155 One Stage



TCE155 Two Stage



Performance Data

TCE series planetary reducer has modular design compact structure with high reliability and efficiency.
It is a perfect optimization of both performance and cost.

TCE155			One Stage								Two Stage									
Speed Ratio	i		3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	100
Nominal Output Torque	T_1	Nm	340	535	650	600	550	500	-	445	340	535	650	600	550	500	650	600	550	500	445
Emergency Stop Torque	T_2	Nm	$T_1 \times 3$								$T_1 \times 3$										
Nominal Input Speed	S_1	rpm	2000								2000										
Maximum Input Speed	S_2	rpm	4000								4000										
Maximum Output Torque	T_4	Nm	$T_1 \times 3 \times 60\%$								$T_1 \times 3 \times 60\%$										
Maximum Radial Force	F_a	N	9400								9400										
Maximum Axial Force	F_b	N	4700								4700										
Torsional Rigidity	–	Nm/arcmin	50								50										
Efficiency	η	%	⩾97								⩾94										
Service Life	–	h	20000								20000										
Noise	–	dB	⩽65								⩽65										
Weight	–	Kg	19								20										
Backlash	P0	arcmin	–								–										
	P1		⩽3								⩽5										
	P2		⩽5								⩽7										
Operating Temperature	–	℃	-20~90								-20~90										
Lubrication	–		Synthetic Grease								Synthetic grease										
Protection Class	–		IP65								IP65										
Mounting Position	–		Any Direction								Any Direction										
Moment of Inertia	J	kg.cm²	9.21	7.54	7.42	7.25	7.14	7.07	-	7.03	2.71						2.57				

Notes:

- Speed ratio (i=Sin/Sout)
- When the output speed is 100 rpm, it acts on the center of the output shaft.
- For continuous operation, the service life is no less than 10,000 hours.
- The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

Any product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

Hollow Rotating Platform

Proven Structure

+

TMN SERIES

+

Precise Positioning

The hollow rotating platform can be driven by different brand servo motors with high precision. The operation is stable and the positioning is precision.

GEARKO®

DRIVES THE PRECISION

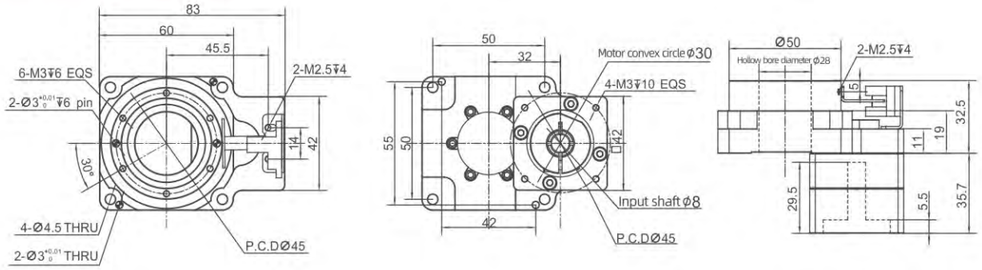
TMN 60 Series

Outline Dimension Table

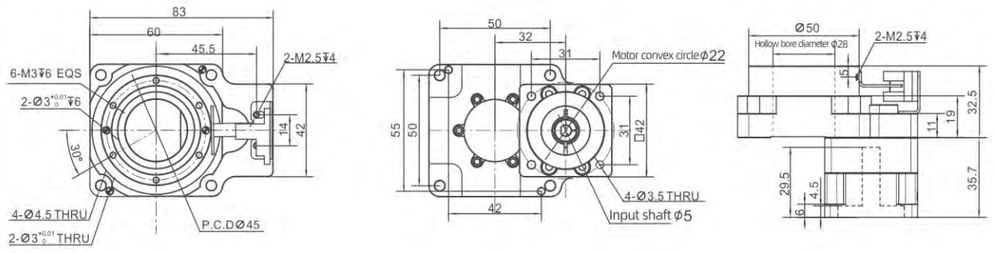
TMN60 – 10 – ST

Model	Reduction ratio	Motor type
TMN060	1:05	Stepping motor
TMN085	1:10	SV: AC Servo motor
TMN130	1:18	
TMN200		
TMN280		
TMN450		

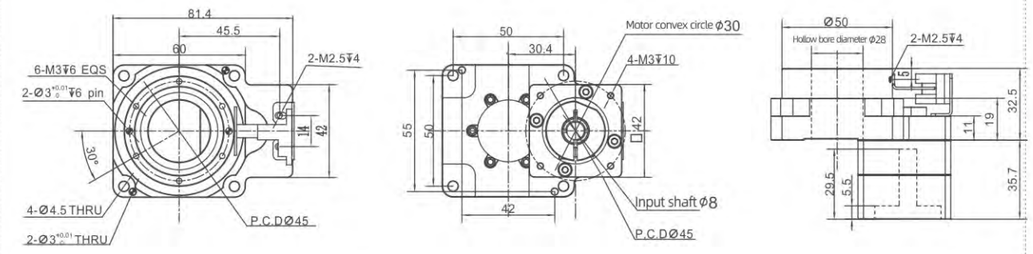
50/100 wAC servo motor



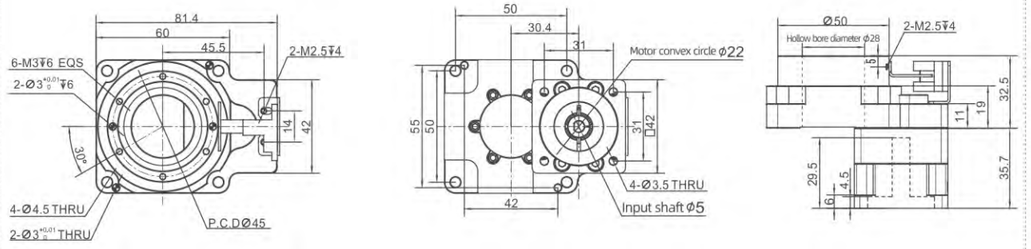
50/100 wAC servo motor



Model 42 stepper motor



Model 42 stepper motor



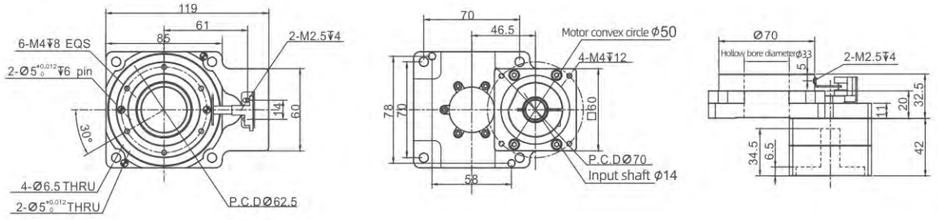
Adaptive Motor	50/100 wAC Servo Motor		42 Stepper Motor	
Rotary platform bearing	Crossed roller bearing	Crossed roller bearing	Crossed roller bearing	Crossed roller bearing
Reduction ratio	1:5	1:10	1:5	1:10
Allowable torque	5Nm	4Nm	5Nm	4Nm
Allowable disk speed	⩽200r/min Intermittent operation	⩽200r/min Intermittent operation	⩽200r/min Intermittent operation	⩽200r/min Intermittent operation
Allow inertial load	8Nm	6Nm	8Nm	6Nm
Allowable axial load	280N	280N	280N	280N
Positioning accuracy	⩽1arcmin	⩽1arcmin	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽15arcsec	⩽15arcsec	⩽15arcsec	⩽15arcsec
Rotating platform parallelism	0.01mm	0.01mm	0.01mm	0.01mm
Rotating platform concentricity	0.01mm	0.01mm	0.01mm	0.01mm
Precision life	20000h Intermittent operation	20000h Intermittent operation	20000h Intermittent operation	20000h Intermittent operation
Protection class	IP40	IP40	IP40	IP40
weight	0.6Kg	0.6Kg	0.6Kg	0.6Kg

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

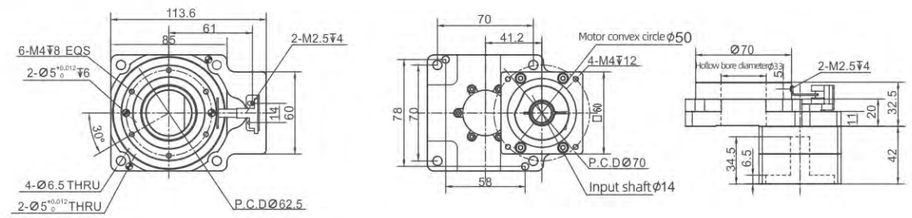
TMN85 Series

Outline Dimension Table

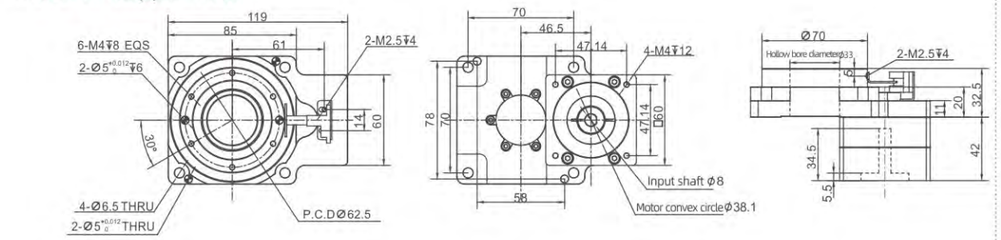
200/400 WAC servo motor



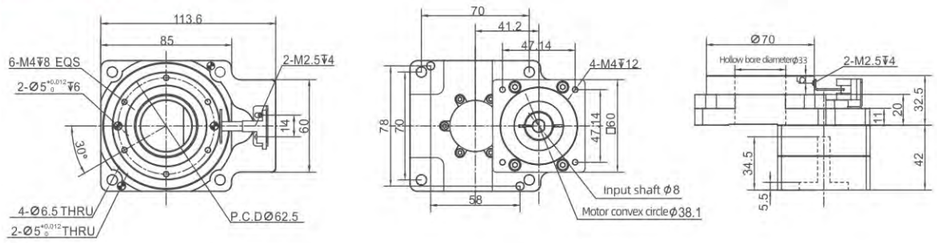
200/400 WAC servo motor



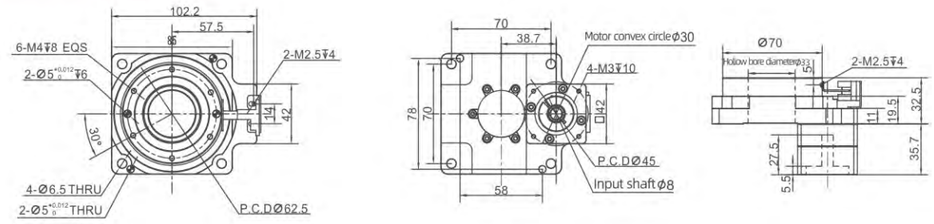
Model 57 stepper motor



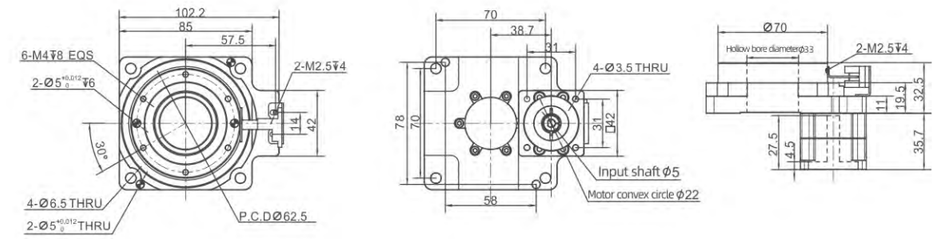
Model 57 stepper motor



50/100 W AC servo motor



Model 46 stepper motor



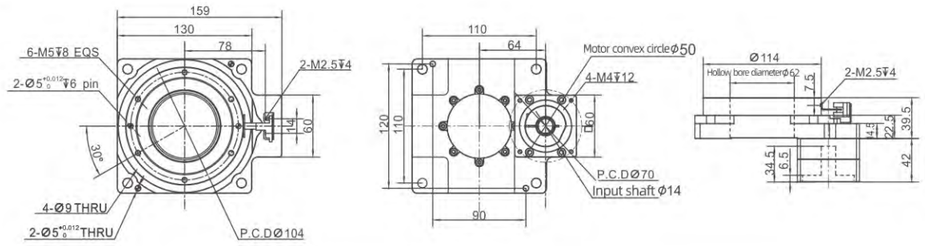
Adaptive Motor	200/400 WAC Servo Motor		57 Stepper Motor		50/100 W AC Servo Motor	42 Stepper Motor
Rotary platform bearing	Crossed roller bearing		Crossed roller bearing		Crossed roller bearing	
Reduction ratio	1:5	1:10	1:5	1:10	1:18	1:18
Allowable torque	30Nm	20Nm	30Nm	20Nm	12Nm	12Nm
Allowable disk speed	⩽200r/min Intermittent operation		⩽200r/min Intermittent operation		⩽200r/min Intermittent operation	
Allow inertial load	60Nm	32Nm	60Nm	32Nm	20Nm	20Nm
Allowable axial load	500N	500N	500N	500N	500N	500N
Positioning accuracy	⩽1arcmin	⩽1arcmin	⩽1arcmin	⩽1arcmin	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽15arcsec	⩽15arcsec	⩽15arcsec	⩽15arcsec	⩽15arcsec	⩽15arcsec
Rotating platform parallelism	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Rotating platform concentricity	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Precision life	20000h Intermittent operation		20000h Intermittent operation		20000h Intermittent operation	
Protection class	IP40	IP40	IP40	IP40	IP40	IP40
weight	1.2Kg	1.2Kg	1.2Kg	1.2Kg	1.2Kg	1.2Kg

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

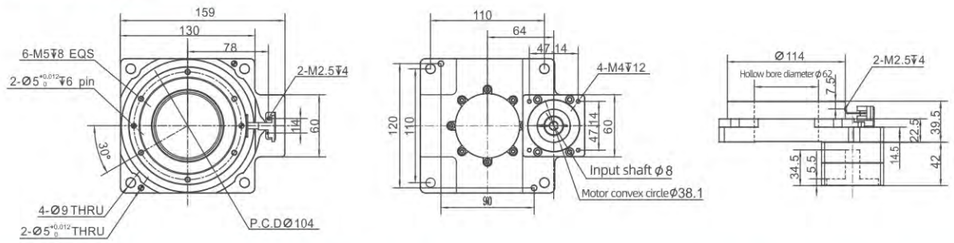
TMN130 Series

Outline Dimension Table

200/400 WAC servo motor



Model 57 stepper motor



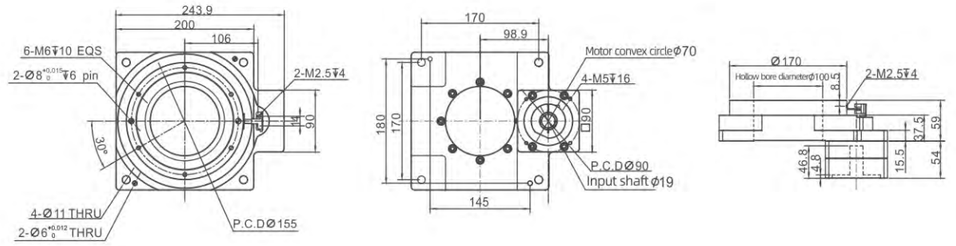
Adaptive Motor	200/400 W AC Servo Motor		57 Stepper Motor Servo Motor	
Rotary platform bearing	Crossed roller bearing		Crossed roller bearing	
Reduction ratio	1:10	1:18	1:10	1:18
Allowable torque	52Nm	32Nm	52Nm	32Nm
Allowable disk speed	⩽200r/min Intermittent operation		⩽200r/min Intermittent operation	
Allow inertial load	72Nm	52Nm	72Nm	52Nm
Allowable axial load	2000N	2000N	2000N	2000N
Positioning accuracy	⩽1arcmin	⩽1arcmin	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽15arcsec	⩽15arcsec	⩽15arcsec	⩽15arcsec
Rotating platform parallelism	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Rotating platform concentricity	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Precision life	20000h Intermittent operation		20000h Intermittent operation	
Protection class	IP40	IP40	IP40	IP40
weight	2.5Kg	2.5Kg	2.5Kg	2.5Kg

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

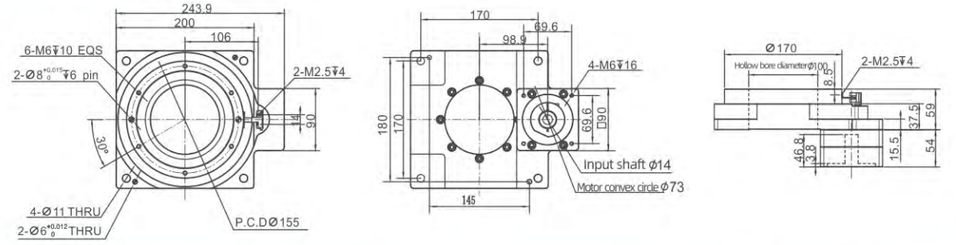
TMN200 Series

Outline Dimension Table

750 W AC servo motor



Model 86 stepper motor



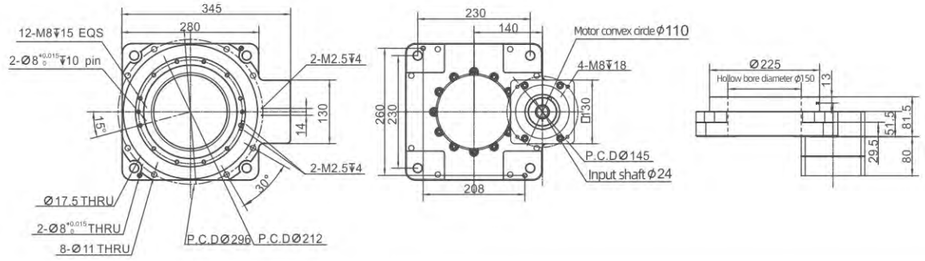
Adaptive Motor	750 W AC Servo Motor		Model 86 stepper motor Servo Motor	
Rotary platform bearing	Crossed roller bearing		Crossed roller bearing	
Reduction ratio	1:10	1:18	1:10	1:18
Allowable torque	90Nm	60Nm	90Nm	60Nm
Allowable disk speed	⩽200r/min Intermittent operation		⩽200r/min Intermittent operation	
Allow inertial load	135Nm	92Nm	135Nm	92Nm
Allowable axial load	4000N	4000N	4000N	4000N
Positioning accuracy	⩽1arcmin	⩽1arcmin	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽15arcsec	⩽15arcsec	⩽15arcsec	⩽15arcsec
Rotating platform parallelism	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Rotating platform concentricity	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Precision life	20000h Intermittent operation		20000h Intermittent operation	
Protection class	IP40	IP40	IP40	IP40
weight	8Kg	8Kg	8Kg	8Kg

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

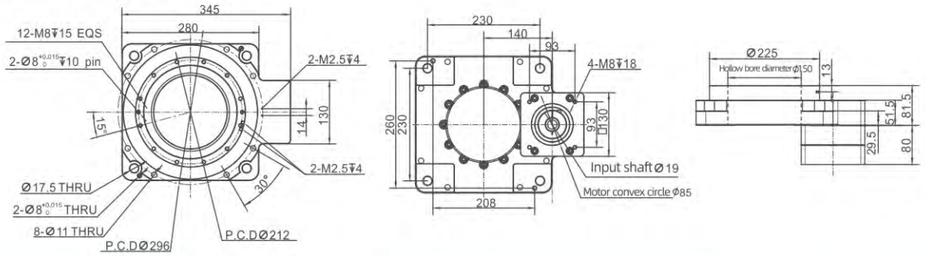
TMN280 Series

Outline Dimension Table

1500 WAC servo motor



Model 110 stepper motor



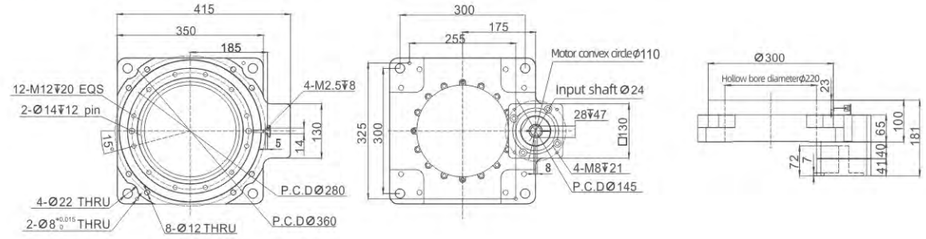
Adaptive Motor	1500 W AC Servo Motor		110 Stepper Motor Servo Motor	
Rotary platform bearing	Crossed roller bearing		Crossed roller bearing	
Reduction ratio	1:10	1:18	1:10	1:18
Allowable torque	126Nm	100Nm	126Nm	100Nm
Allowable disk speed	⩽200r/min Intermittent operation		⩽200r/min Intermittent operation	
Allow inertial load	350Nm	300Nm	350Nm	300Nm
Allowable axial load	7500N	7500N	7500N	7500N
Positioning accuracy	⩽1arcmin	⩽1arcmin	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽20arcsec	⩽20arcsec	⩽20arcsec	⩽20arcsec
Rotating platform parallelism	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Rotating platform concentricity	⩽0.01mm	⩽0.01mm	⩽0.01mm	⩽0.01mm
Precision life	20000h Intermittent operation		20000h Intermittent operation	
Protection class	IP40	IP40	IP40	IP40
weight	19Kg	19Kg	19Kg	19Kg

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

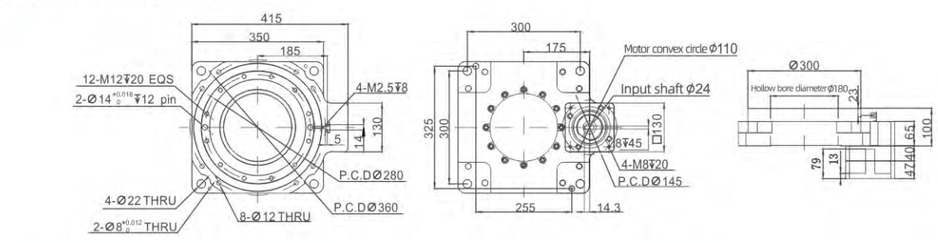
TMN350 Series

Outline Dimension Table

1500 W AC servo motor



1500 W AC servo motor



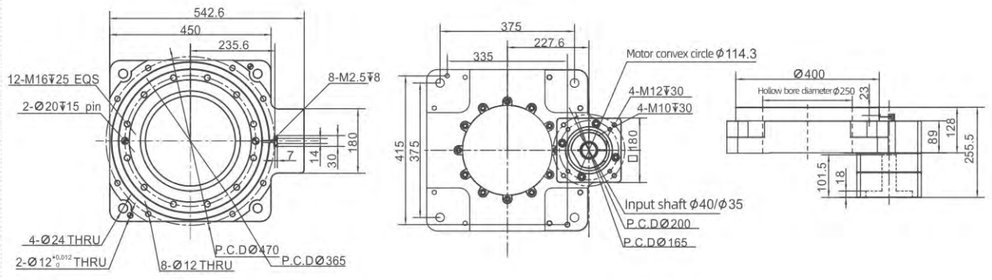
Adaptive Motor	1500 W AC Servo Motor	
Rotary platform bearing	Crossed roller bearing	Crossed roller bearing
Reduction ratio	1:10	1:18
Allowable torque	356Nm	356Nm
Allowable disk speed	⩽200r/min Intermittent operation	⩽200r/min Intermittent operation
Allow inertial load	450Nm	356Nm
Allowable axial load	10000N	11500N
Positioning accuracy	⩽1.5arcmin	⩽1.5arcmin
Repeated positioning accuracy	⩽20arcsec	⩽20arcsec
Rotating platform parallelism	⩽0.02mm	⩽0.02mm
Rotating platform concentricity	⩽0.02mm	⩽0.02mm
Precision life	20000h Intermittent operation	20000h Intermittent operation
Protection class	IP40	IP40
weight	41Kg	41Kg

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

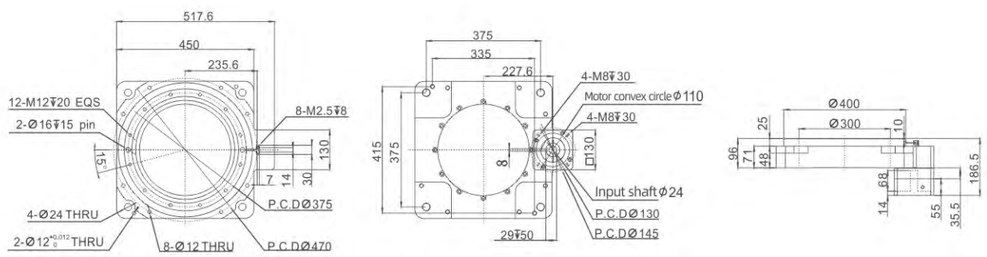
TMN450/450B Series

Outline Dimension Table

1500 WAC servo motor



Model 110 stepper motor



Adaptive Motor	3KW AC Servo Motor
Rotary platform bearing	Crossed roller bearing
Reduction ratio	1:10
Allowable torque	456Nm
Allowable disk speed	⩽200r/min Intermittent operation
Allow inertial load	600Nm
Allowable axial load	15000N
Positioning accuracy	⩽2arcmin
Repeated positioning accuracy	⩽20arcsec
Rotating platform parallelism	⩽0.02mm
Rotating platform concentricity	⩽0.02mm
Precision life	20000h Intermittent operation
Protection class	IP40
weight	80Kg

Adaptive Motor	1.5KW AC Servo Motor
Rotary platform bearing	Crossed roller bearing
Reduction ratio	1:10
Allowable torque	380Nm
Allowable disk speed	⩽200r/min Intermittent operation
Allow inertial load	490Nm
Allowable axial load	15000N
Positioning accuracy	⩽2arcmin
Repeated positioning accuracy	⩽20arcsec
Rotating platform parallelism	⩽0.02mm
Rotating platform concentricity	⩽0.02mm
Precision life	20000h Intermittent operation
Protection class	IP40
weight	47Kg

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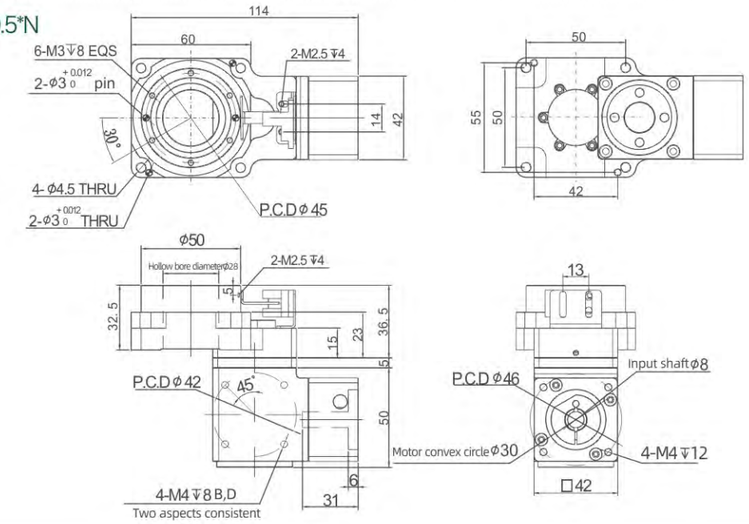
TMNZ60 Series

Outline Dimension Table

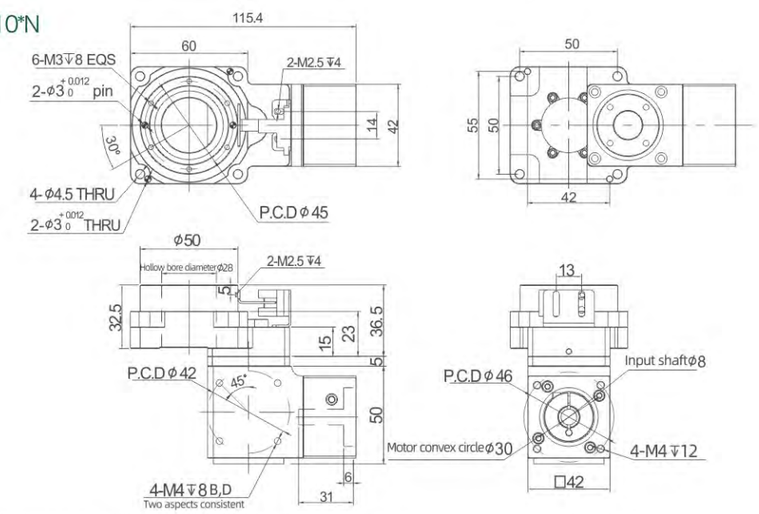
TMNZ – 60 – Z – 10*N

- TMNZ: Rotate platform series
- 60: specification
- Z: Right angle reducer
- 10*N: Reduction ratio
  - Optional: 05, 10, 18

TMNZ60-0.5*N



TMNZ60-10*N



N: Reducer Gear Ratio 1:2, 1:3, or 1:5 Please provide motor flange size when ordering

Adaptive Motor	50/100W AC Servo Motor	
Rotary platform bearing	Crossed roller bearing	Crossed roller bearing
Reduction ratio	1:5	1:10
Allowable torque	5Nm	4Nm
Allowable disk speed	⩽200r/min Intermittent operation	⩽200r/min Intermittent operation
Allow inertial load	8Nm	6Nm
Allowable axial load	280N	280N
Positioning accuracy	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽15arcsec	⩽15arcsec
Rotating platform parallelism	⩽0.01mm	⩽0.01mm
Rotating platform concentricity	⩽0.01mm	⩽0.01mm
Precision life	20000h Intermittent operation	20000h Intermittent operation
Protection class	IP40	IP40
weight	0.6Kg	0.6Kg

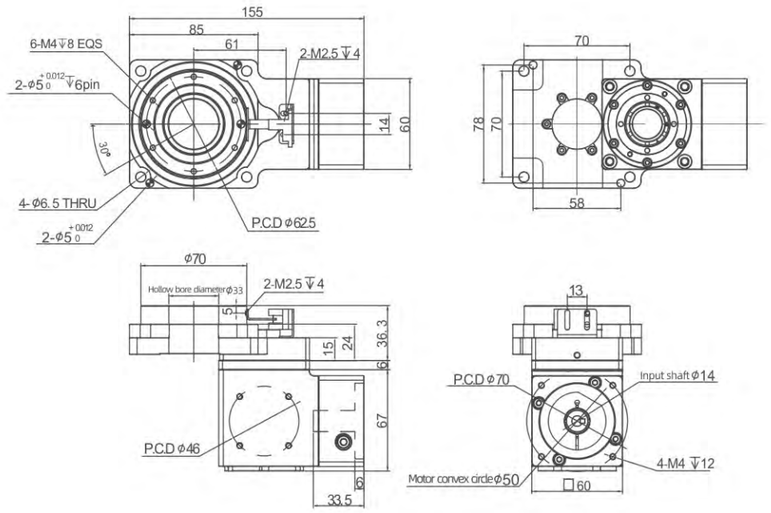
Project		i²	Direct-drive right angle reducer DR042
Rated output torque	Nm	2	12
		3	7
		5	2.5
Scram torque	Nm		2倍于T_{2N}/2 2 times T2N/2
Rated input speed	rpm		1500
Maximum input speed	rpm		2500
Return clearance	arcmin		⩽5
Resistance to torsion steel	Nm/arcmin		1.2
Allowable radial force	N		300
Allowable axial force	N		150
Service life	Hr		20000 (Continuous operation reduces service life by 50%)
efficiency	%		96%
Operating temperature	℃		-10℃~+90℃
Class of protection			IP65
oiling			Synthetic lubricating oil
noise	dB (A)		⩽62

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

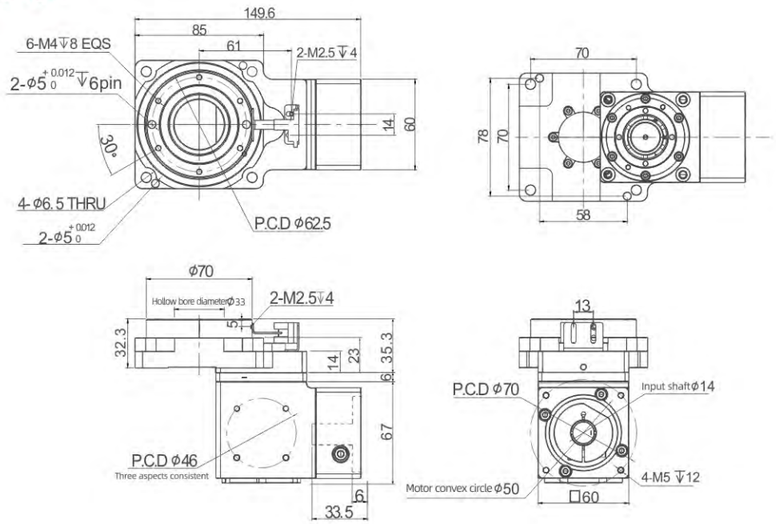
TMNZ85 Series

Outline Dimension Table

TMNZ85-0.5*N



TMNZ85-10*N



N：Reducer Gear Ratio 1:2, 1:3, or 1:5
Please provide motor flange size when ordering

Adaptive Motor	200/400W AC Servo Motor	
Rotary platform bearing	Crossed roller bearing	Crossed roller bearing
Reduction ratio	1:5	1:10
Allowable torque	30Nm	20Nm
Allowable disk speed	⩽200r/min Intermittent operation	⩽200r/min Intermittent operation
Allow inertial load	60Nm	32Nm
Allowable axial load	500N	500N
Positioning accuracy	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽15arcsec	⩽15arcsec
Rotating platform parallelism	⩽0.01mm	⩽0.01mm
Rotating platform concentricity	⩽0.01mm	⩽0.01mm
Precision life	20000h Intermittent operation	20000h Intermittent operation
Protection class	IP40	IP40
weight	1.2Kg	1.2Kg

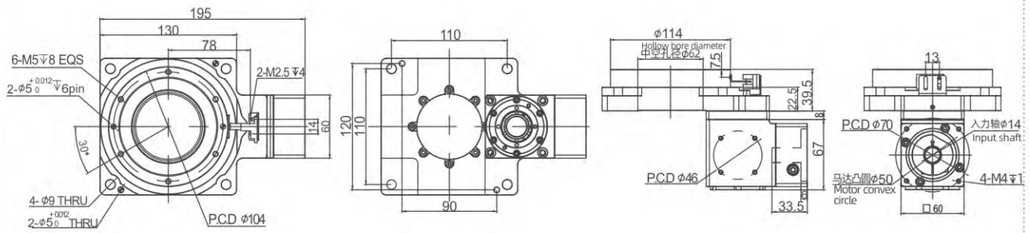
Project	i²	Direct-drive right angle reducer DR060
Rated output torque	Nm	2 — 32
		3 — 24
		5 — 8
Scram torque	Nm	2倍于T_{2N}/2 2 times T2N/2
Rated input speed	rpm	1000
Maximum input speed	rpm	2500
Return clearance	arcmin	⩽5
Resistance to torsion steel	Nm/arcmin	1.5
Allowable radial force	N	500
Allowable axial force	N	200
Service life	Hr	20000 (Continuous operation reduces service life by 50%)
efficiency	%	96%
Operating temperature	℃	-10℃~+90℃
Class of protection		IP65
oiling		Synthetic lubricating oil
noise	dB（A）	⩽65

The above technical parameters are for reference only. Actually, according to the data provided by the customer, relevant technical parameters and dimensions will be issued.

TMNZ130 Series

Outline Dimension Table

TMNZ130-10*N



Adaptive Motor	200/400W AC Servo Motor
Rotary platform bearing	Crossed roller bearing
Reduction ratio	1:10
Allowable torque	52Nm
Allowable disk speed	≤200r/min Intermittent operation
Allow inertial load	72Nm
Allowable axial load	2000N
Positioning accuracy	≤1arcmin
Repeated positioning accuracy	≤15arcsec
Rotating platform parallelism	≤0.01mm
Rotating platform concentricity	≤0.01mm
Precision life	20000h Intermittent operation
Protection class	IP40
weight	2.5Kg

Project		i²	Direct-drive right angle reducer DR060
Rated output torque	Nm	2	32
		3	24
		5	8
Scram torque	Nm		2倍于T_{2N}/2 2 times T2N/2
Rated input speed	rpm		1000
Maximum input speed	rpm		2500
Return clearance	arcmin		≤5
Resistance to torsion steel	Nm/arcmin		1.5
Allowable radial force	N		500
Allowable axial force	N		200
Service life	Hr		20000 (Continuous operation reduces service life by 50%)
efficiency	%		96%
Operating temperature	℃		-10℃~+90℃
Class of protection			IP65
oiling			Synthetic lubricating oil
noise	dB (A)		≤65

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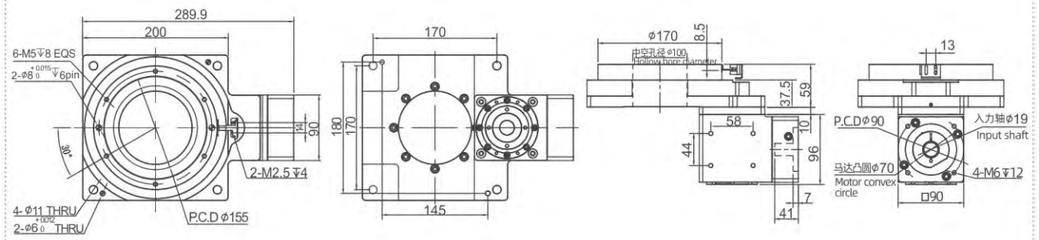
TMNZ200 Series

Outline Dimension Table

TMNZ200-10*N



Adaptive Motor	750W AC Servo Motor
Rotary platform bearing	Crossed roller bearing
Reduction ratio	1:10
Allowable torque	90Nm
Allowable disk speed	≤200r/min Intermittent operation
Allow inertial load	135Nm
Allowable axial load	4000N
Positioning accuracy	≤1arcmin
Repeated positioning accuracy	≤15arcsec
Rotating platform parallelism	≤0.01mm
Rotating platform concentricity	≤0.01mm
Precision life	20000h Intermittent operation
Protection class	IP40
weight	8Kg

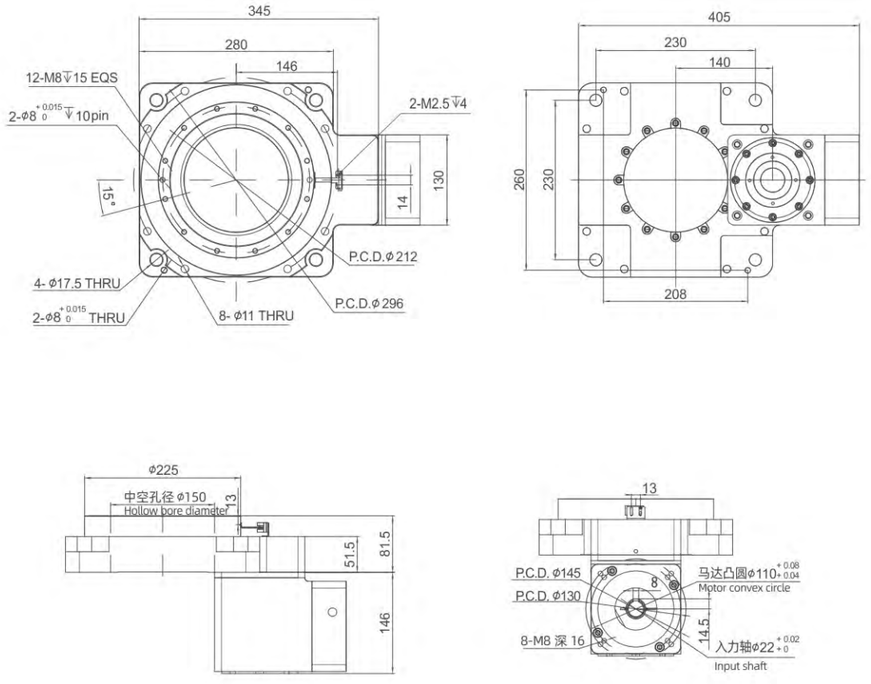
Project		i²	Direct-drive right angle reducer DR090
Rated output torque	Nm	2	60
		3	48
		5	16
Scram torque	Nm		2倍于T_{2N}/2 2 times T2N/2
Rated input speed	rpm		1000
Maximum input speed	rpm		2500
Return clearance	arcmin		≤5
Resistance to torsion steel	Nm/arcmin		5
Allowable radial force	N		1200
Allowable axial force	N		500
Service life	Hr		20000 (Continuous operation reduces service life by 50%)
efficiency	%		96%
Operating temperature	℃		-10℃~+90℃
Class of protection			IP65
oiling			Synthetic lubricating oil
noise	dB (A)		≤65

* All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice.

TMNZ280 Series

Outline Dimension Table

TMNZ280-10*N



Adaptive Motor	200/400W AC Servo Motor	
Rotary platform bearing	Crossed roller bearing	Crossed roller bearing
Reduction ratio	1:5	1:10
Allowable torque	30Nm	20Nm
Allowable disk speed	⩽200r/min Intermittent operation	⩽200r/min Intermittent operation
Allow inertial load	60Nm	32Nm
Allowable axial load	500N	500N
Positioning accuracy	⩽1arcmin	⩽1arcmin
Repeated positioning accuracy	⩽15arcsec	⩽15arcsec
Rotating platform parallelism	⩽0.01mm	⩽0.01mm
Rotating platform concentricity	⩽0.01mm	⩽0.01mm
Precision life	20000h Intermittent operation	20000h Intermittent operation
Protection class	IP40	IP40
weight	1.2Kg	1.2Kg

Project		i²	Direct-drive right angle reducer DR060
Rated output torque	Nm	2	32
		3	24
		5	8
Scram torque	Nm		2倍于T_{2N}/2 2 times T2N/2
Rated input speed	rpm		1000
Maximum input speed	rpm		2500
Return clearance	arcmin		⩽5
Resistance to torsion steel	Nm/arcmin		1.5
Allowable radial force	N		500
Allowable axial force	N		200
Service life	Hr		20000 (Continuous operation reduces service life by 50%)
efficiency	%		96%
Operating temperature	°C		-10°C~+90°C
Class of protection			IP65
oiling			Synthetic lubricating oil
noise	dB (A)		⩽65

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High-precision Spiral Bevel Gear Reducer

High strength high efficiency

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TR SERIES

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Large carrying capacity, smooth operation and low noise

TR series planetary reducer can reducer features high strength, high efficiency, large carrying capacity, smooth operation, low noise and diversified application output forms.

GEARKO®

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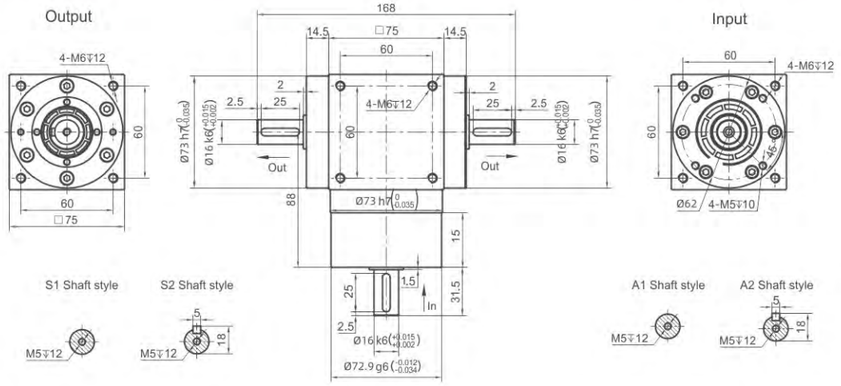
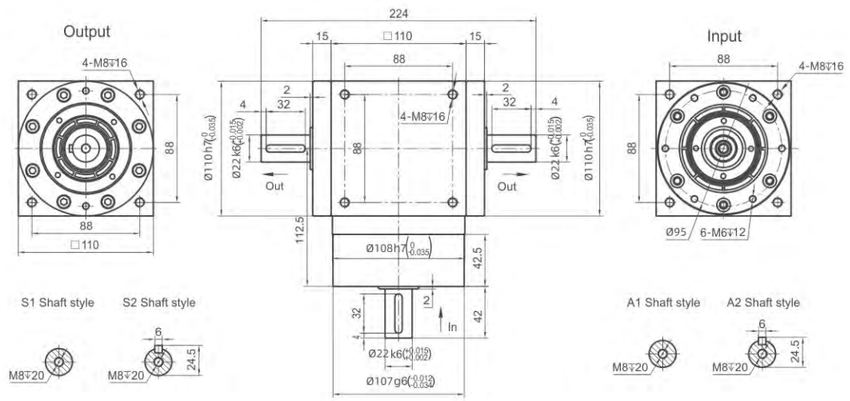
TRSeries - Diversification of output forms

TRZ Series

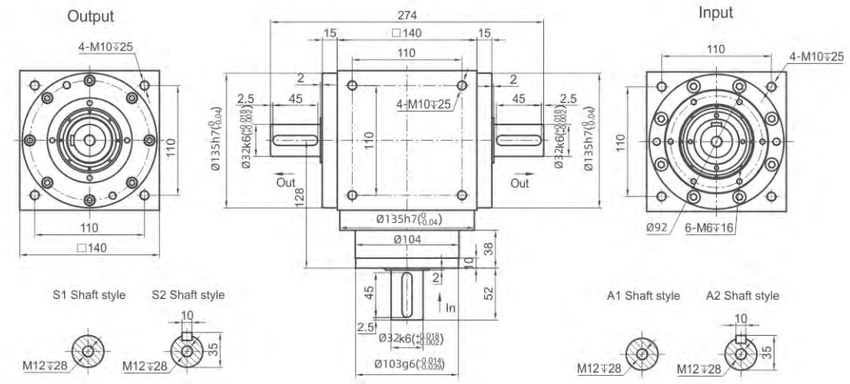
TRZ075

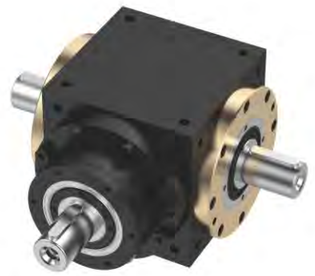


TRZ110



TRZ140





Ordering Code Example:

T R Z □ □□ □

- Number of output ports: None - Horizontal dual-port output; A stands for single-port output; B represents right-angle double-port output; C stands for three-port output
- Specification code, represented by a number
- Form code: none - indicates the hole in the shaft out; K means hole in hole out; Z means axis in and axis out; H stands for shaft in hole out
- Type: Commutator
- Company code, representing Wuxi Tengma Precision Co., LTD.

Output axis form: S1: optical axis output S2: axis with key output
Axis input form: A1: optical axis input A2: axis key input

One Stage			TRZ075	TRZ110	TRZ140
①Speed Ratio	i		1		
Norminal Output Torque	T_1	Nm	44	152	358
Norminal Input Speed	S_1	rpm	1500		
Maximum Acceleration Input Speed	S_2	rpm	6500	4500	3500
Maximum Acceleration Output Torque	T_4	Nm	$T_1 \times 1.5$		
②Maximum Radial Force(Output)	F_a	N	1100	2700	4800
②Maximum Axial Force(Output)	F_b	N	550	1350	2400
②Maximum Radial Force(input)	F_{a1}	N	425	1050	1350
②Maximum Axial Force(input)	F_{b1}	N	950	2100	2700
Effciency	η	%	⩾98		
③Service Life	–	h	20000		
Noise	–	dB	⩽70	⩽76	⩽78
Weight	–	kg	2.7	8.6	15.7
④Backlash	P	arcmin	⩽6		
Operating Temperature	–	℃	-20～90		
Lubrication	–		Synthetic Grease		
Moment of Inertia	J	Kg.cm²	1.5	14.58	23.57

Notes:

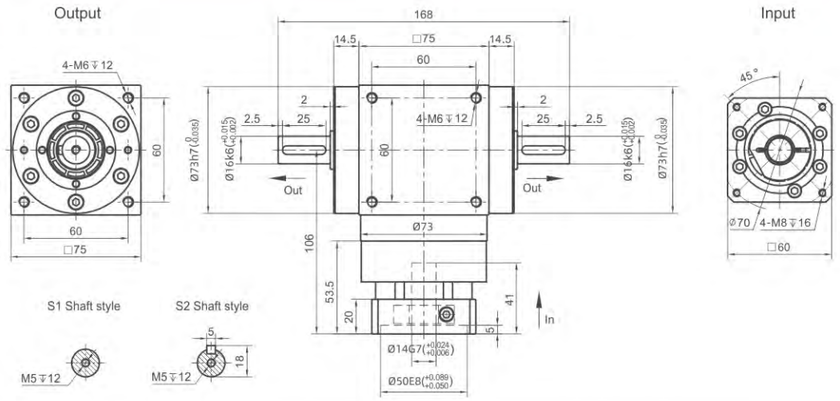
- Speed ratio (i=Sin/Sout)
- The maximum acceleration input speed acts on the center position of the input shaft;
- For continous operation, the service life is no lessthan 10,000 hours.
- Measured at 2% rated output torque

All product models and parameters in this sample are subject to change without prior notice. Please confirm with the company before ordering.

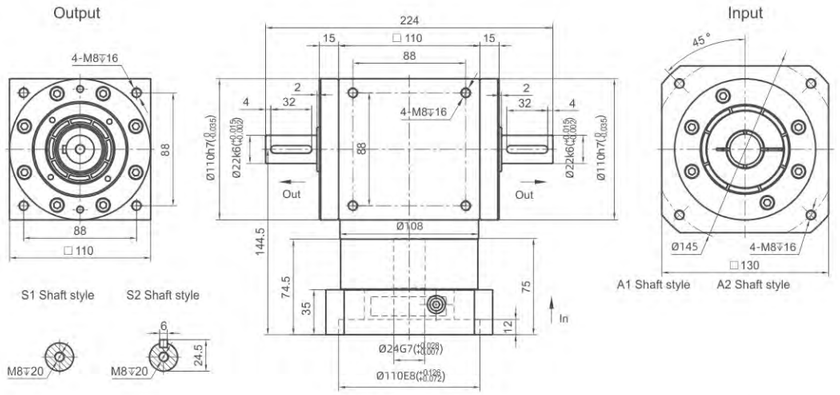
TRSeries - Diversification of output forms

TR Series

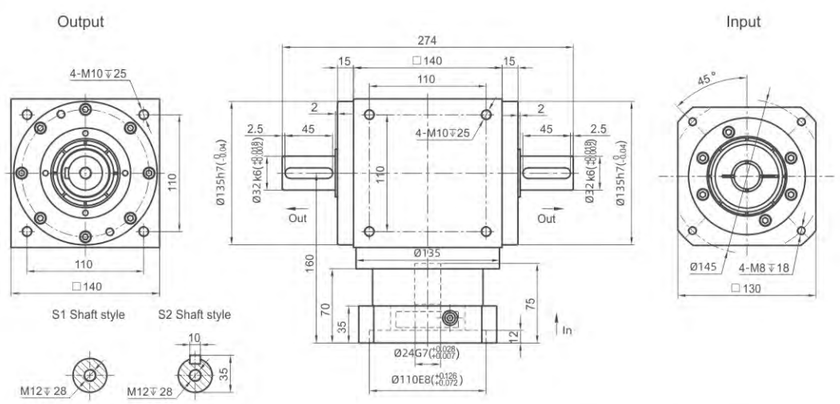
TR075



TR110



TR140



Ordering Code Example:

T R □ □□ □

- Number of output ports: None - Horizontal dual-port output; A stands for single-port output; B represents right-angle double-port output; C stands for three-port output
- Specification code, represented by a number
- Form code: none - indicates the hole in the shaft out; K means hole in hole out; Z means axis in and axis out; H stands for shaft in hole out
- Type: Commutator
- Company code, representing Wuxi Tengma Precision Co., LTD.

Output axis form: S1: optical axis output S2: axis with key output
Axis input form: A1: optical axis input A2: axis key input

One Stage			TR075	TR110	TR140
① Speed Ratio	i		1		
Norminal Output Torque	T_1	Nm	44	152	3.58
Norminal Input Speed	S_1	rpm	1500		
Maximum Acceleration Input Speed	S_2	rpm	6500	4500	3500
Maximum Acceleration Output Torque	T_4	Nm	$T_1 \times 1.5$		
② Maximum Radial Force	F_a	N	1100	2700	4800
② Maximum Axial Force	F_b	N	550	1350	2400
Effciency	η	%	⩾98		
③ Service Life	–	h	20000		
Noise	–	dB	⩽70	⩽76	⩽78
Weight	–	kg	2.7	8.85	16.4
④ Backlash	P	arcmin	⩽6		
Operating Temperature	–	℃	-20～90		
Lubrication	–		Synthetic Grease		
Moment of Inertia	J	Kg.cm²	1.42	14.42	23.57

Notes:

- Speed ratio (i=Sin/Sout)
- The maximum acceleration input speed acts on the center position of the input shaft;
- For continous operation, the service life is no lessthan 10,000 hours.
- Measured at 2% rated output torque

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