

Precision Planetary Reducer



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[®]

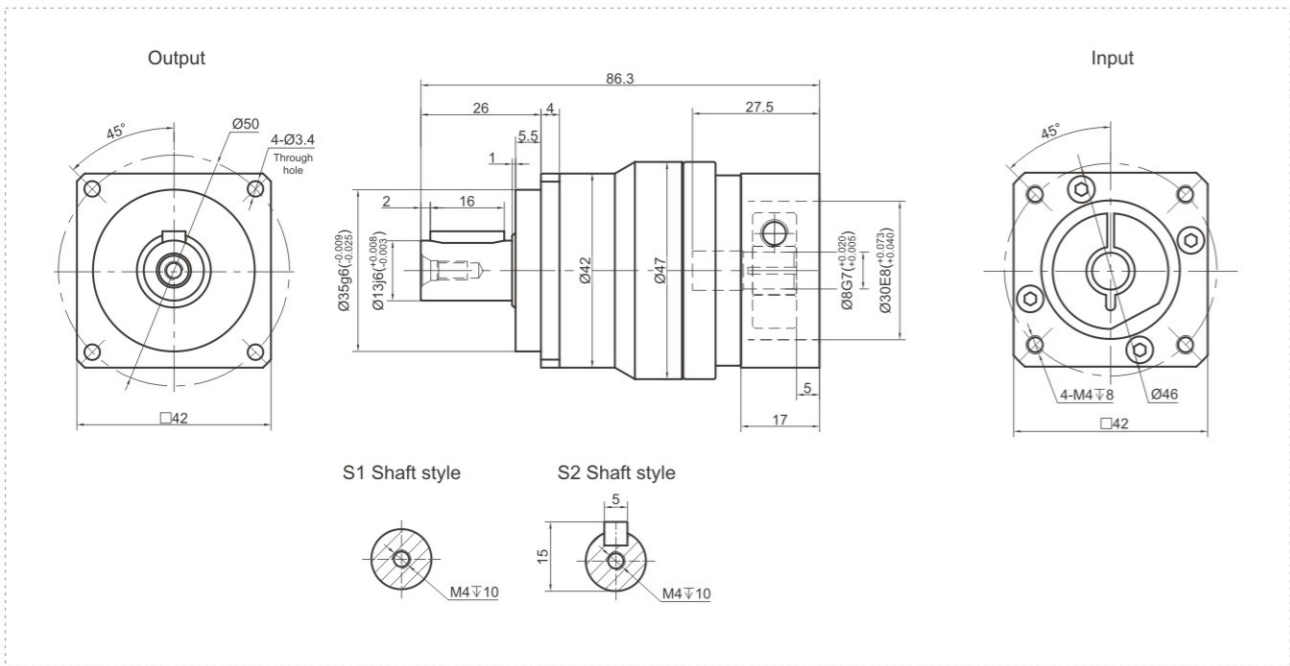
DRIVES

THE PRECISION

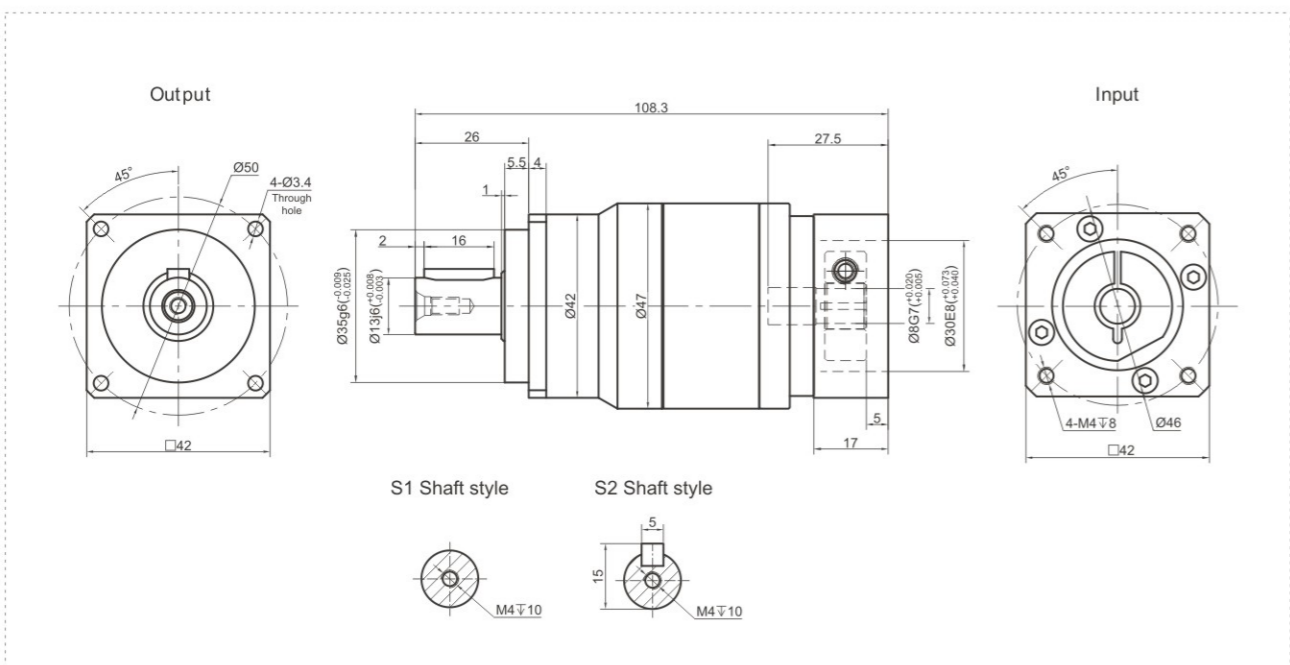


TCB042 Series

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 × 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	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		-										-									
	P1	arcmin	≤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	0.03										0.03									

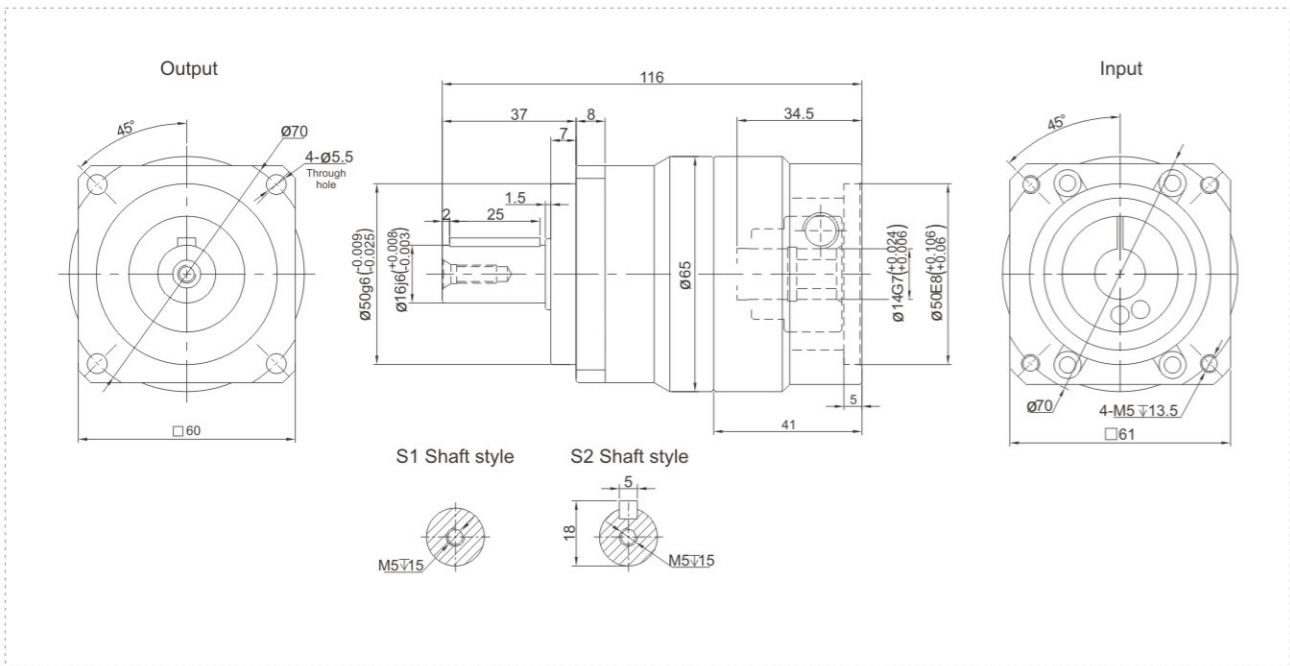
Notes:

- ① Speed ratio (i=Sin/Sout)
- ② When the output speed is 100 rpm, it acts on the center of the output shaft.
- ③ For continuous operation, the service life is no less than 10,000 hours.
- ④ The noise value was measured based on the input rotational speed of 3000 rpm, i=10.

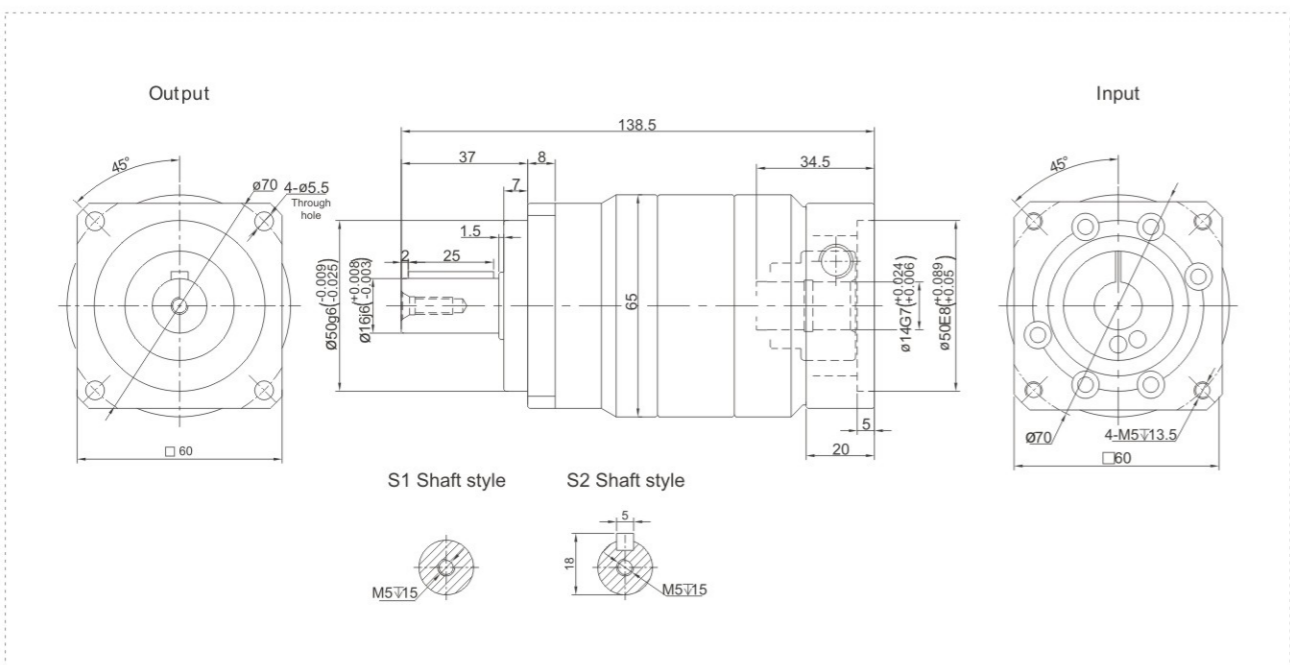
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TCB060 Series

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 × 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	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	-	-										-									
	P1	arcmin	≤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	0.16					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.

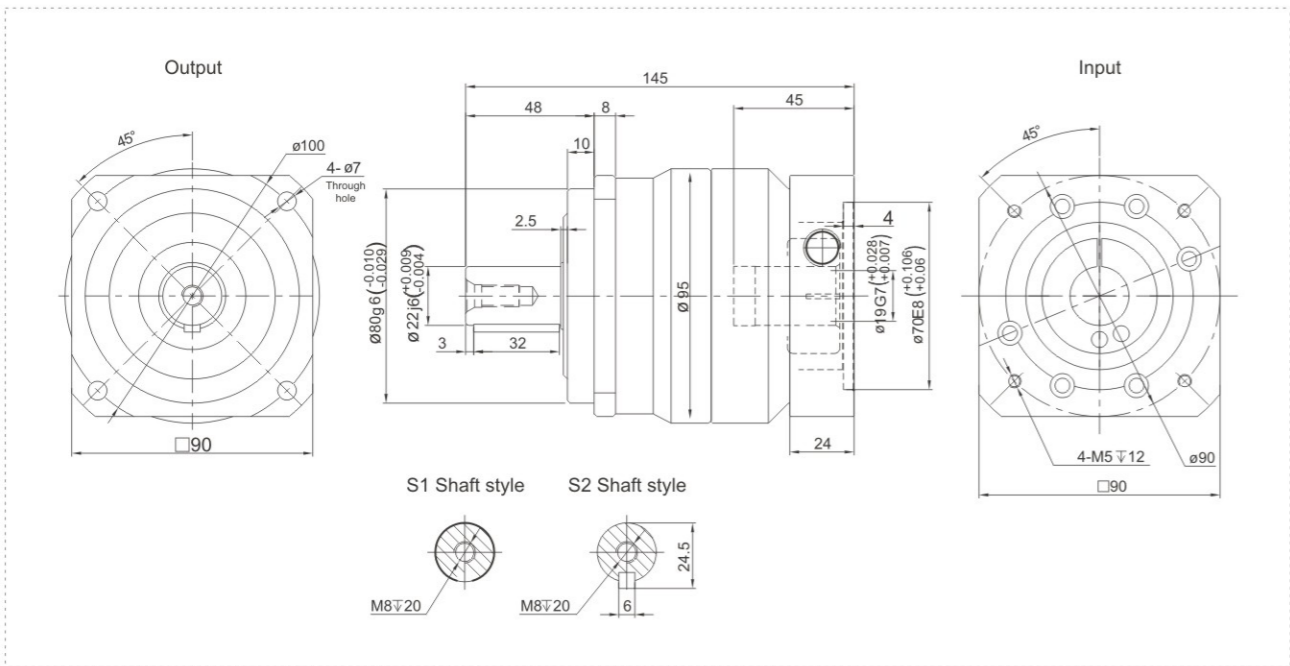
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TCB Series - Optimization of Performance and Cost

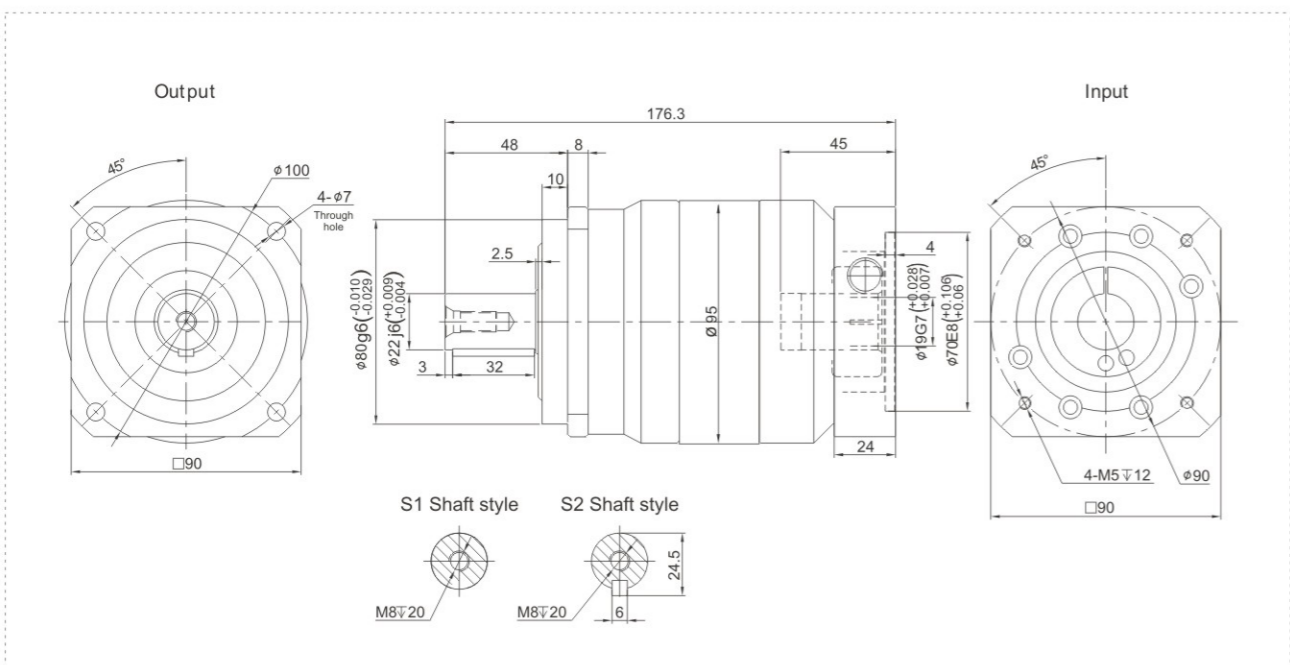


TCB090 Series

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 × 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	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	-										-									
	P1 arcmin	≤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	0.61	0.48	0.47	0.45	0.45	0.44	-	0.44	-	0.47	-	-	-	-	-	-	-	-	0.44	

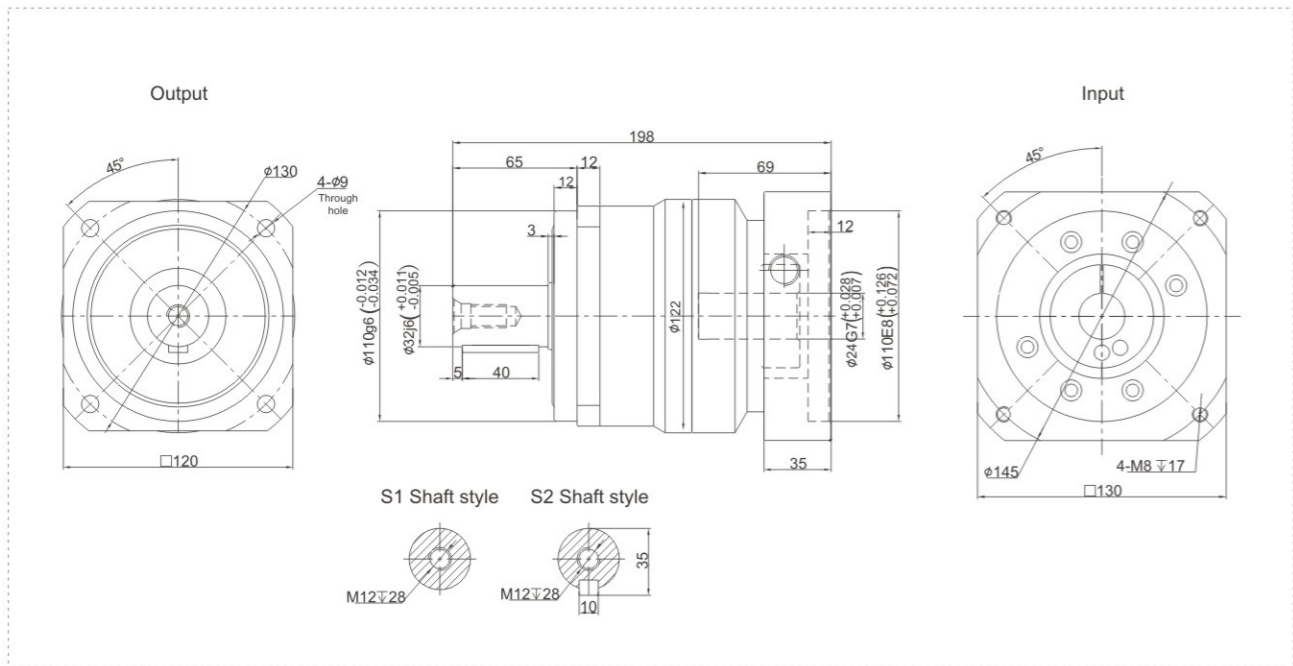
Notes:

- 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.

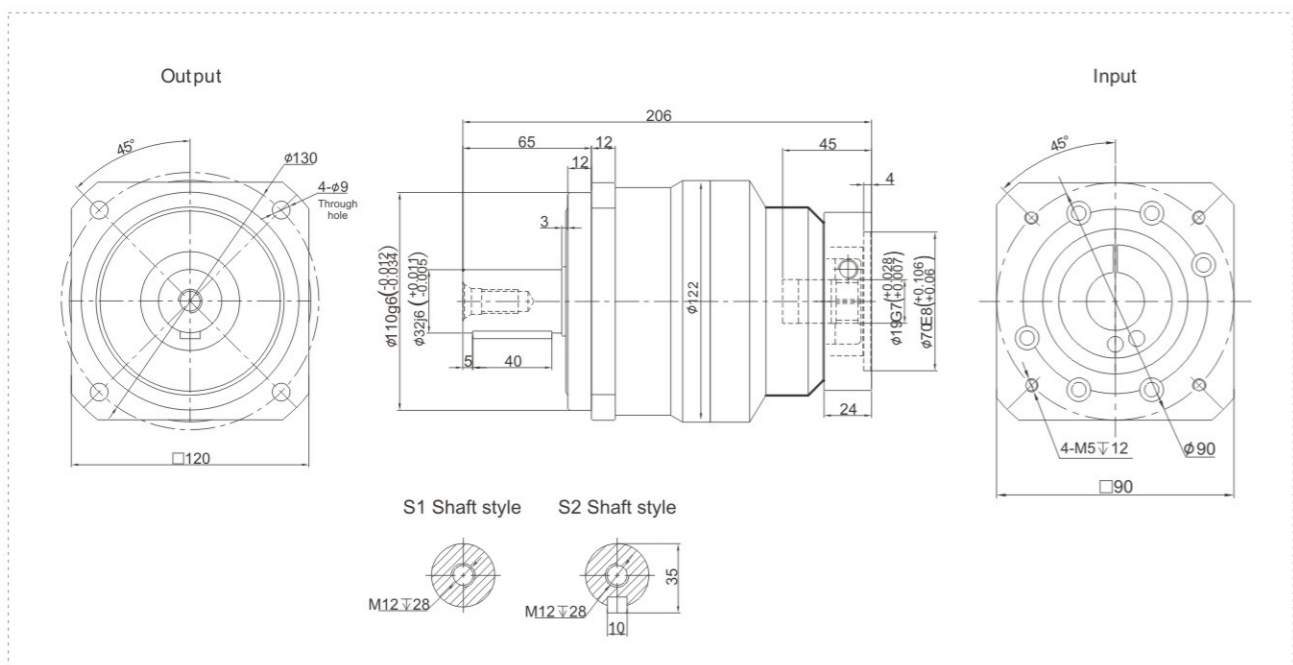
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TCB120 Series

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														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	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	-														-										
	P1	arcmin	≤ 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	3.25	2.74	2.71	2.65	2.62	2.58	-	2.57	0.47	0.44														

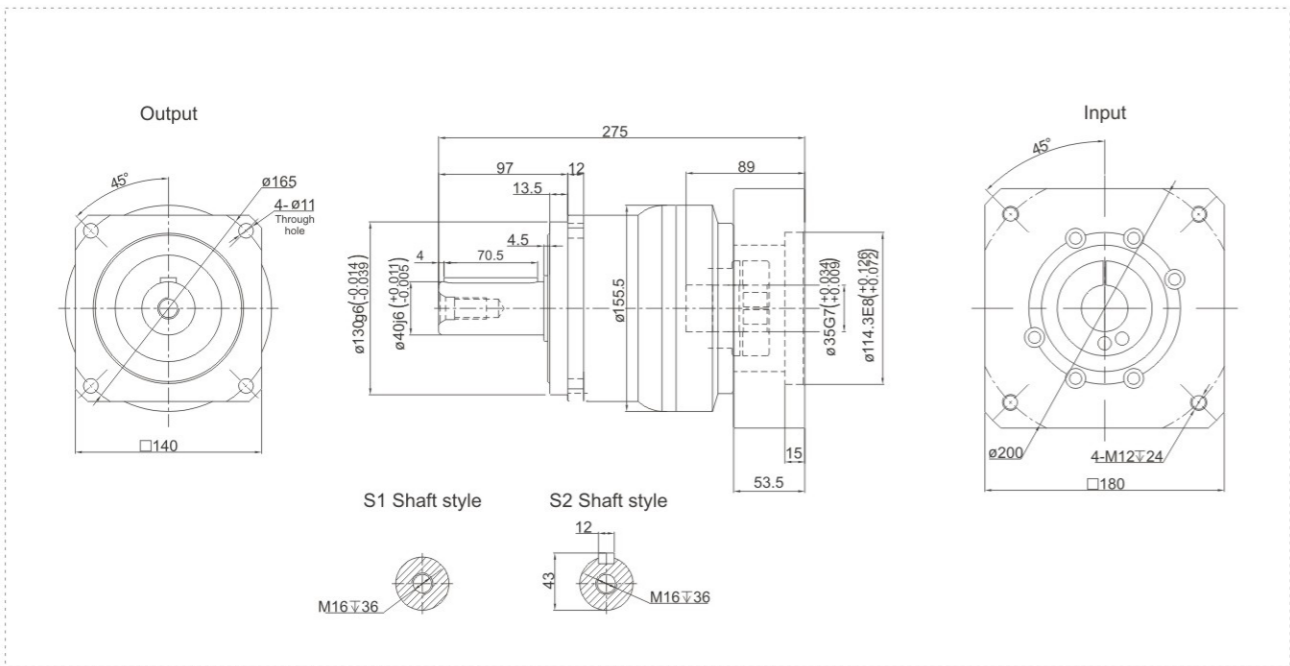
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

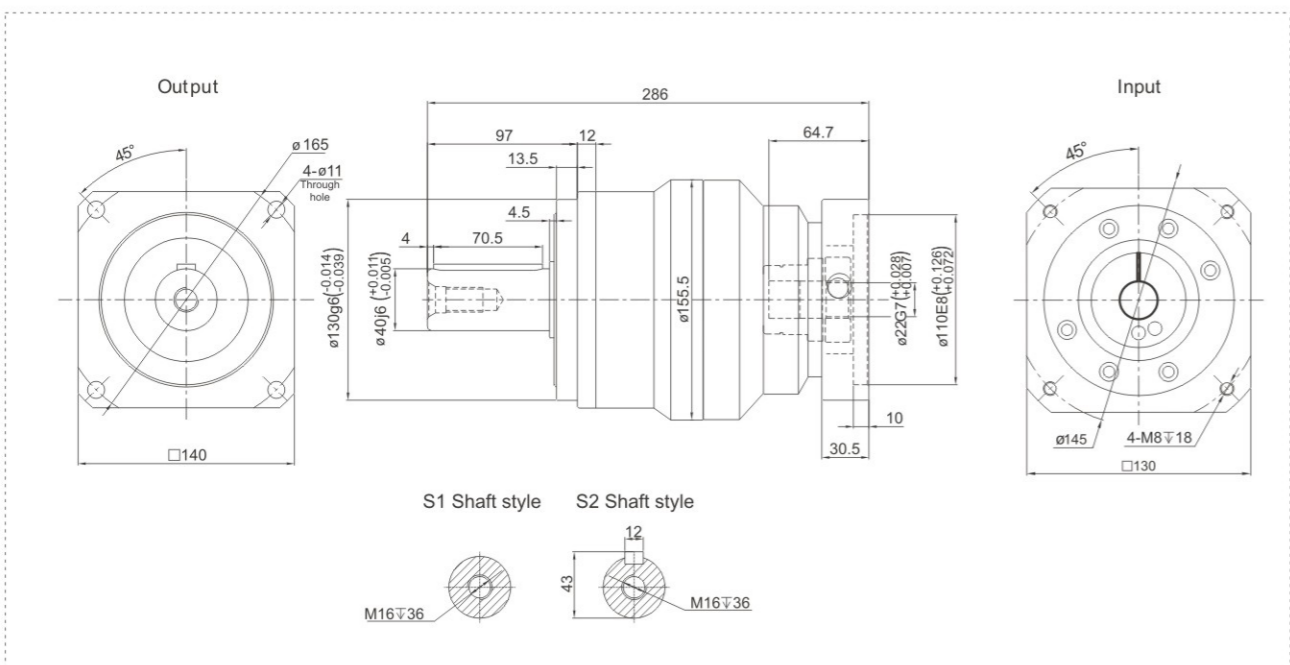
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TCB140 Series

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	-	-										-									
	P1	arcmin	≤ 3										≤ 5									
	P2	-	≤ 5										≤ 7									
Operating Temperature	-	$^{\circ}\text{C}$	$-20 \sim 90$										$-20 \sim 90$									
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	2.71	2.71	2.71	2.71	2.71	2.71	2.71	2.71	2.71	2.57	

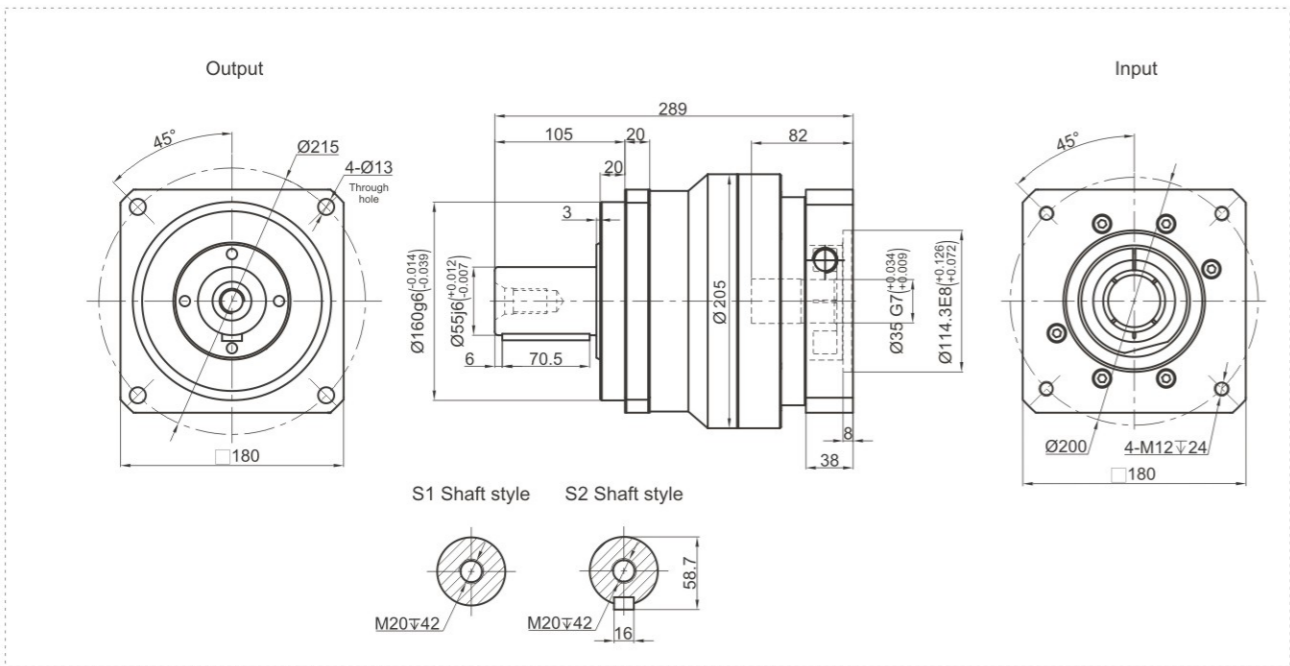
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

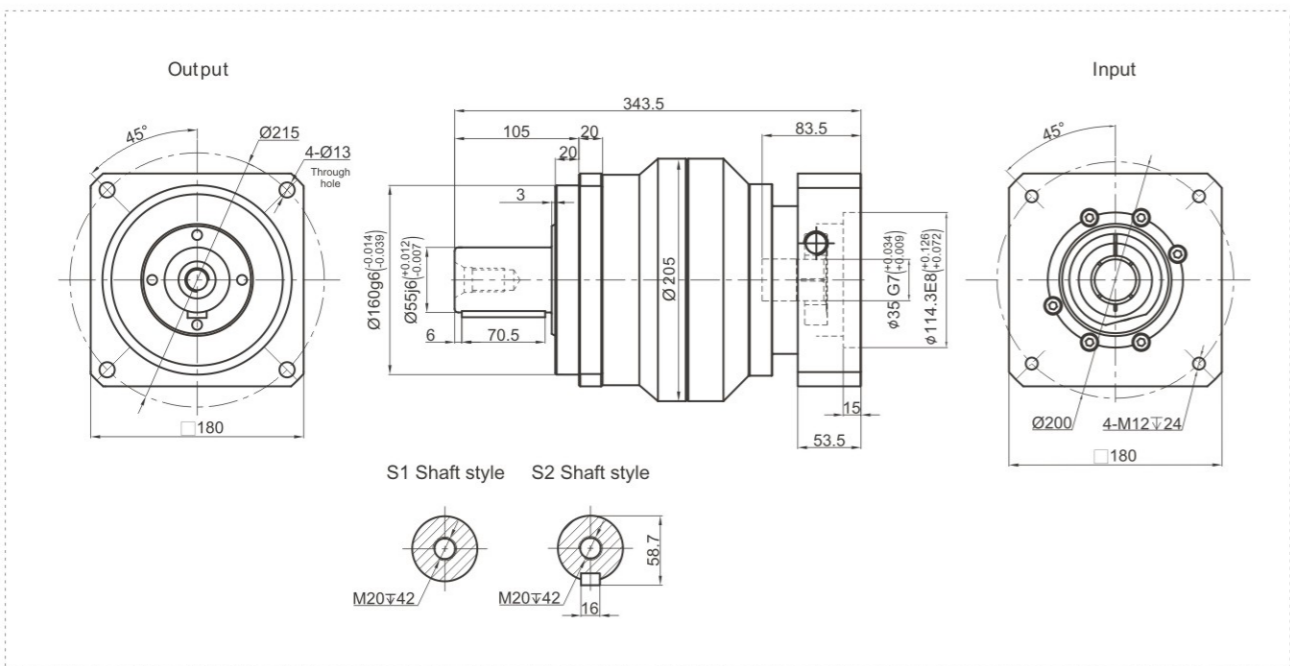
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TCB180 Series

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	-	-										-									
	P1	arcmin	≤ 3										≤ 5									
	P2	-	≤ 5										≤ 7									
Operating Temperature	-	$^{\circ}\text{C}$	$-20 \sim 90$										$-20 \sim 90$									
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						

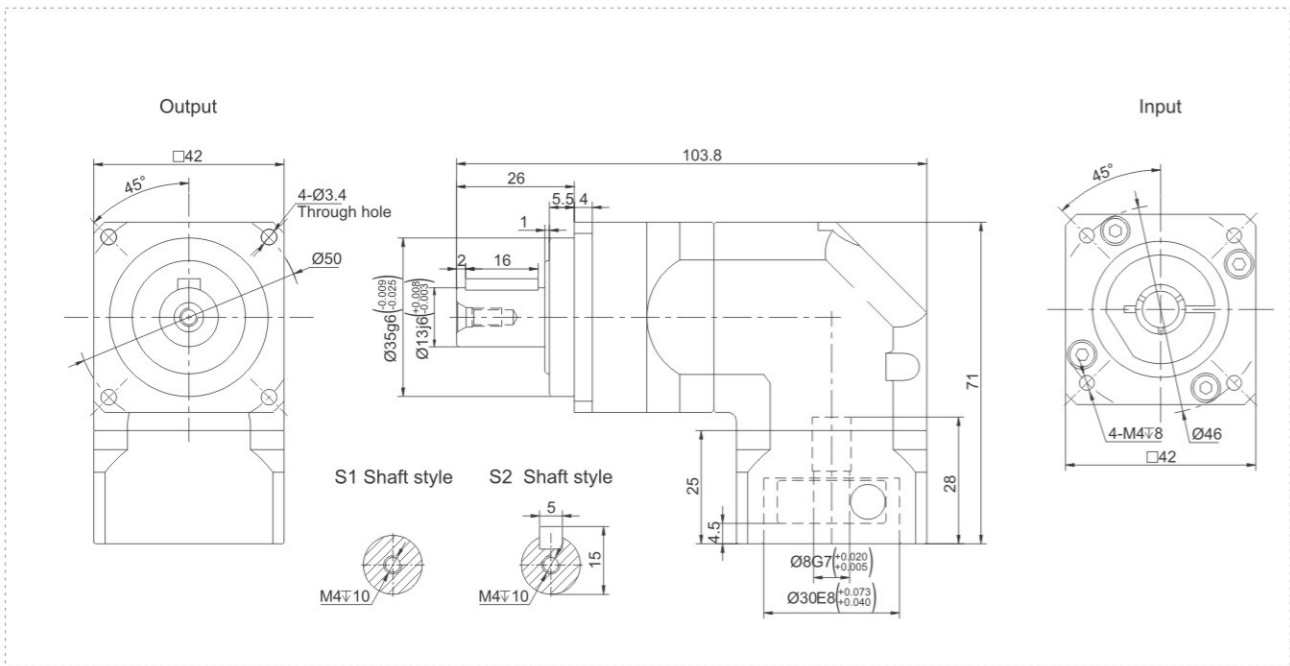
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

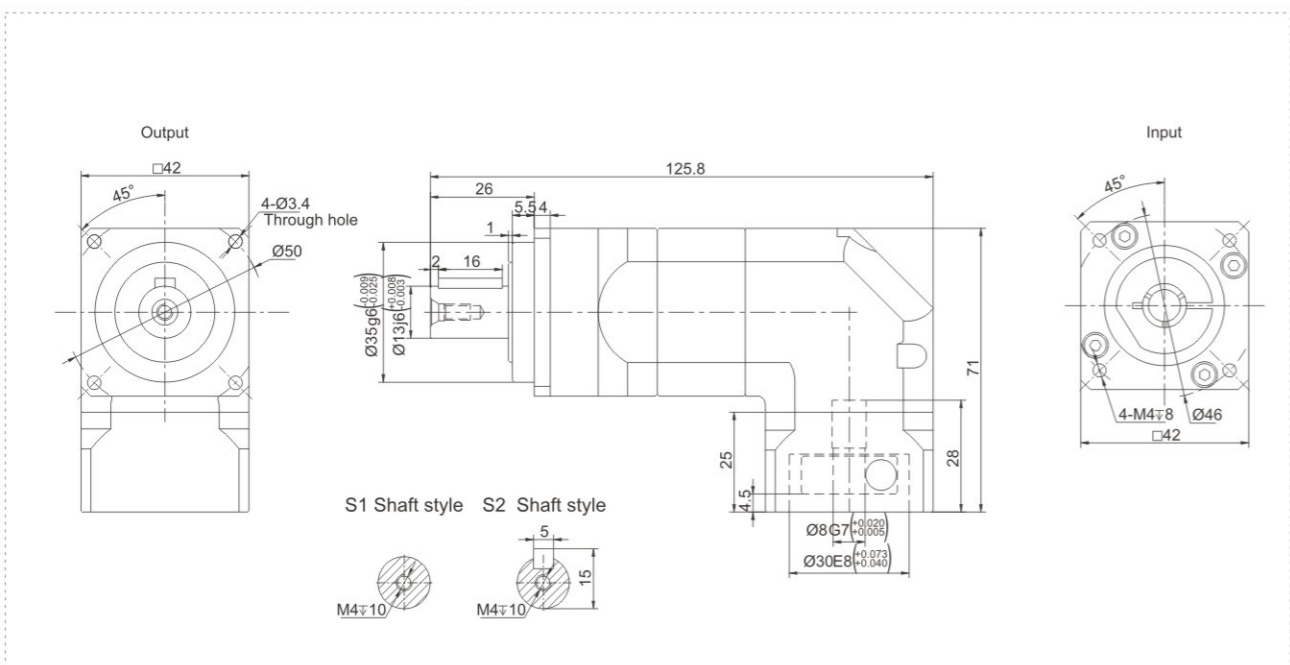
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TCBR042 Series

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	P_0	-	-										-							
	P_1 arcmin	-	≤ 6										≤ 9							
	P_2	-	≤ 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·cm ²	-	0.09										0.09							

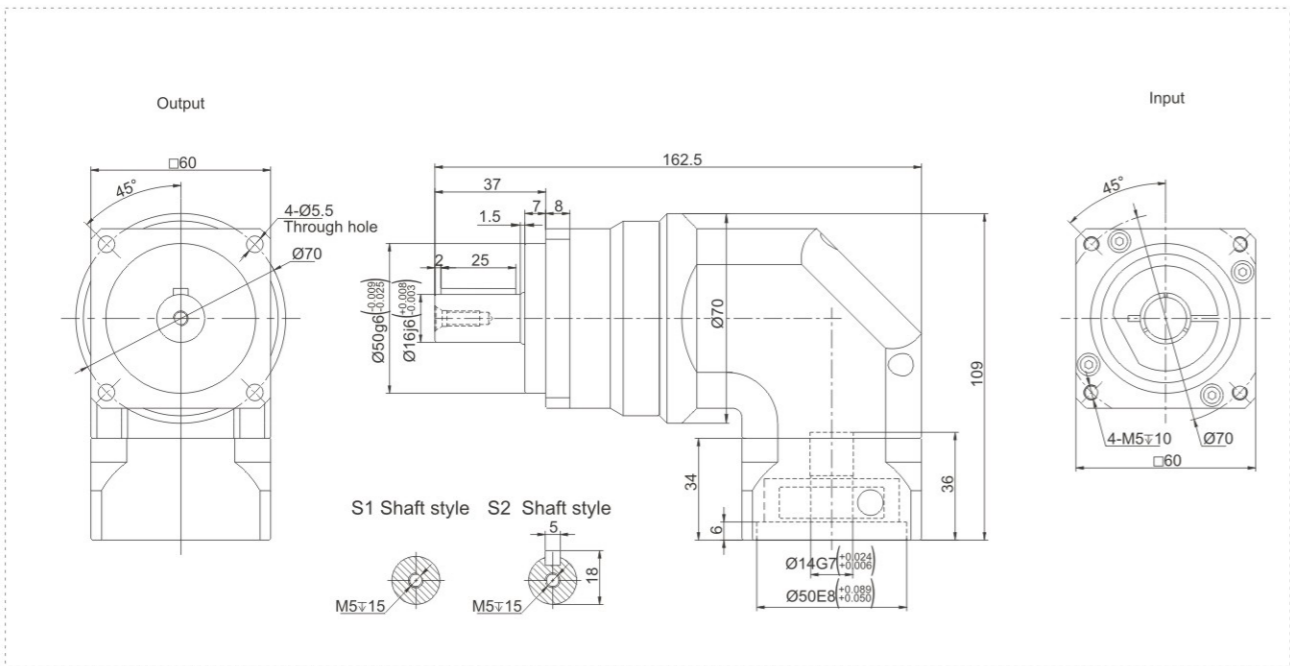
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

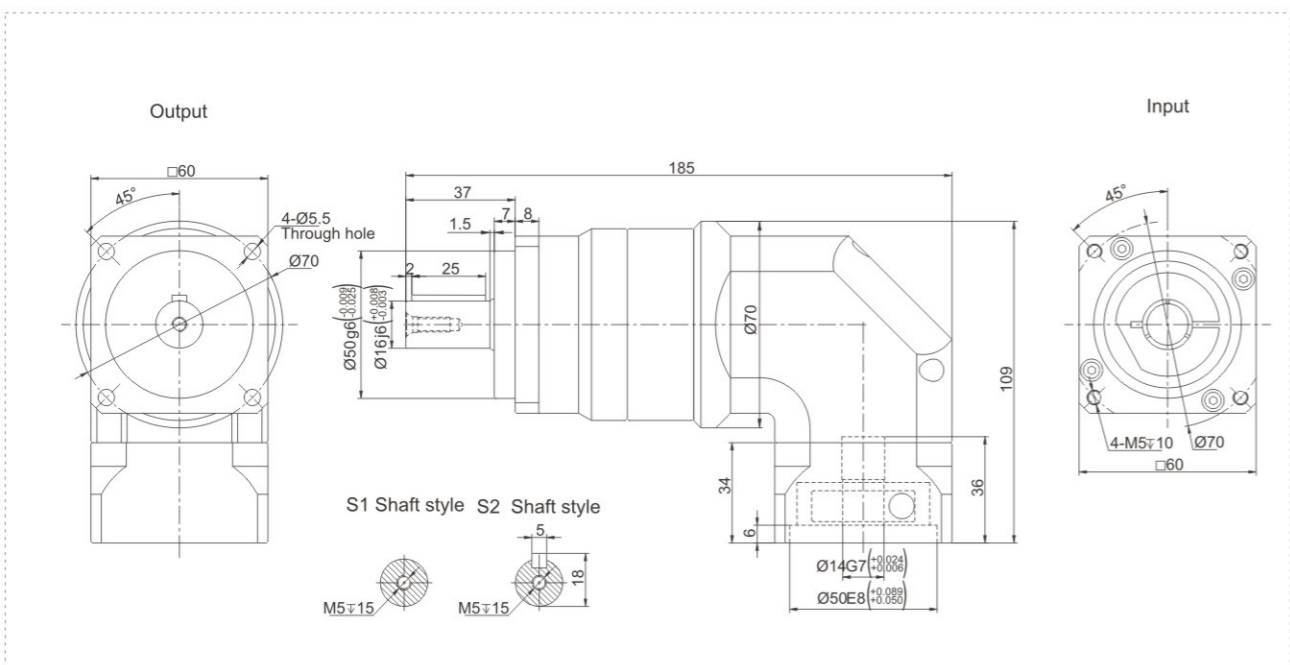
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TCBR060 Series

TCBR060 One Stage



TCBR060 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.

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	$T_1 \times 3$														$T_1 \times 3$													
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	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	-														-													
	P1 arcmin	≤ 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	0.35							0.07							0.09							0.09						
	kg·cm ²	0.35							0.07							0.09							0.09						

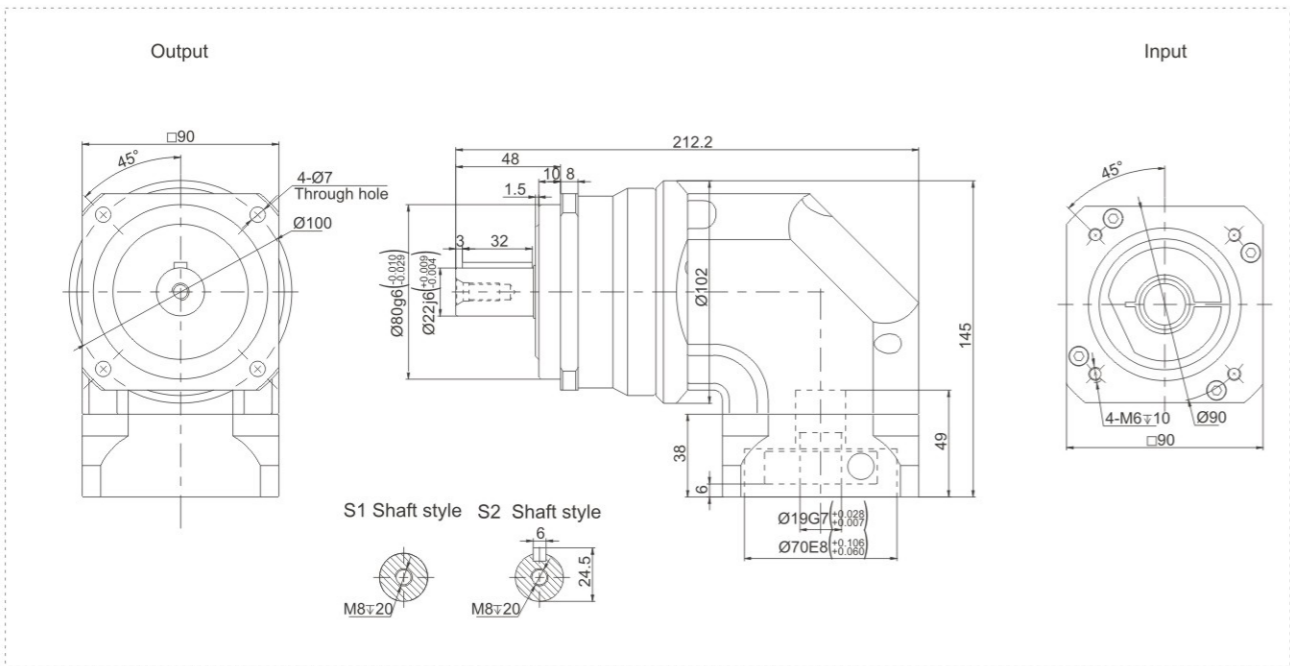
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

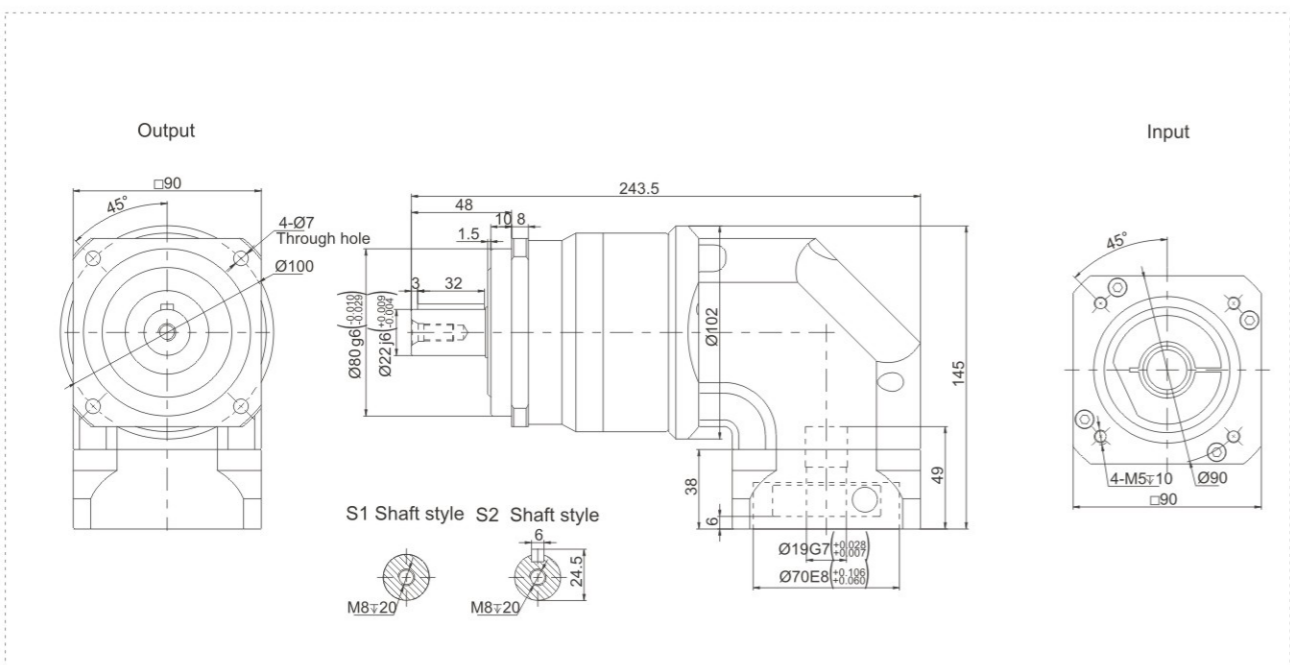
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TCBR090 Series

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	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	P_0	≤ 4														≤ 7													
	P_1	≤ 6														≤ 9													
	P_2	≤ 8														≤ 12													
Operating Temperature	$^{\circ}\text{C}$	-20~90														-20~90													
Lubrication	-	Synthetic Grease														Synthetic grease													
Protection Class	-	IP65														IP65													
Mounting Position	-	Any Direction														Any Direction													
Moment of Inertia	J	2.25							1.87							0.35							0.31						

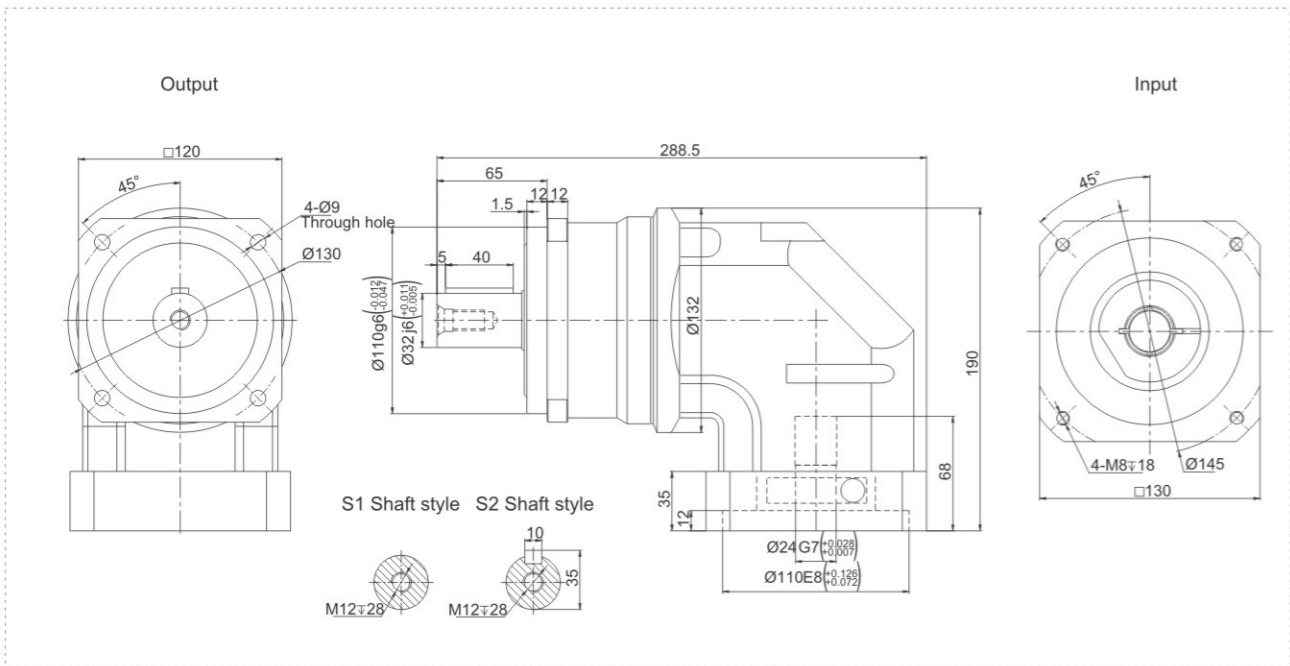
Notes:

- Speed ratio ($i = \text{Sin}/\text{Sout}$)
- 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, $i=10$.

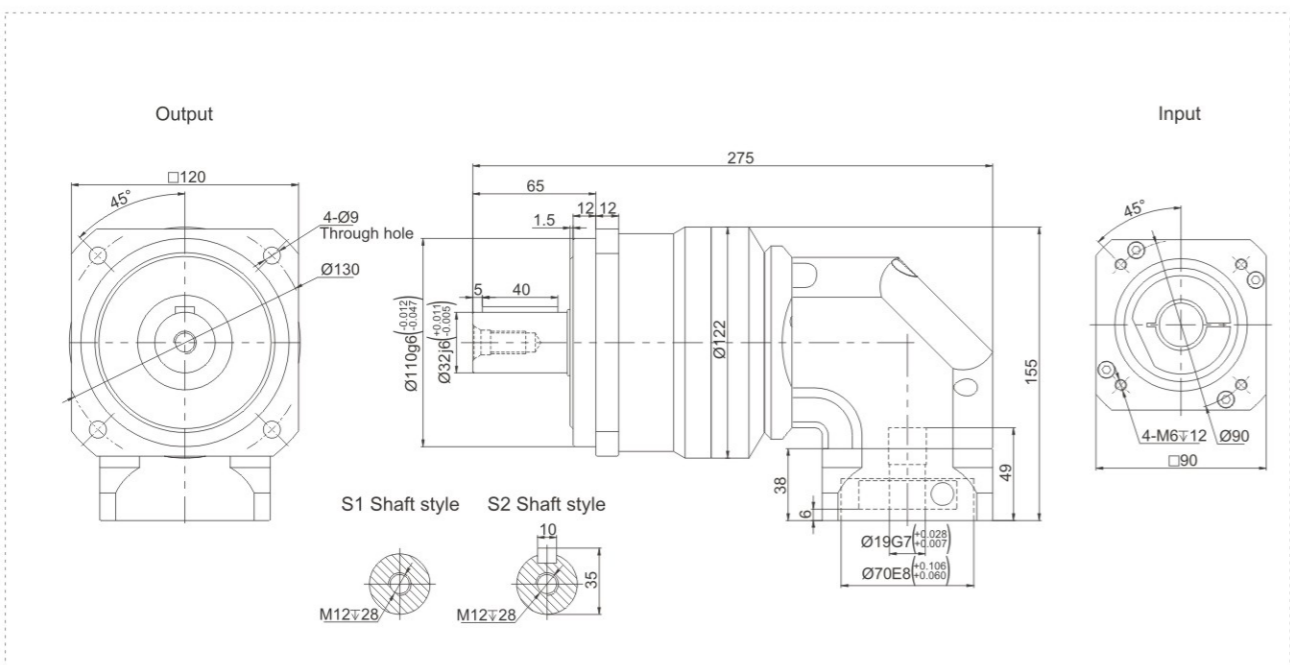
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TCBR120 Series

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	≤ 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·cm ²	6.84							6.25							2.25					1.87				

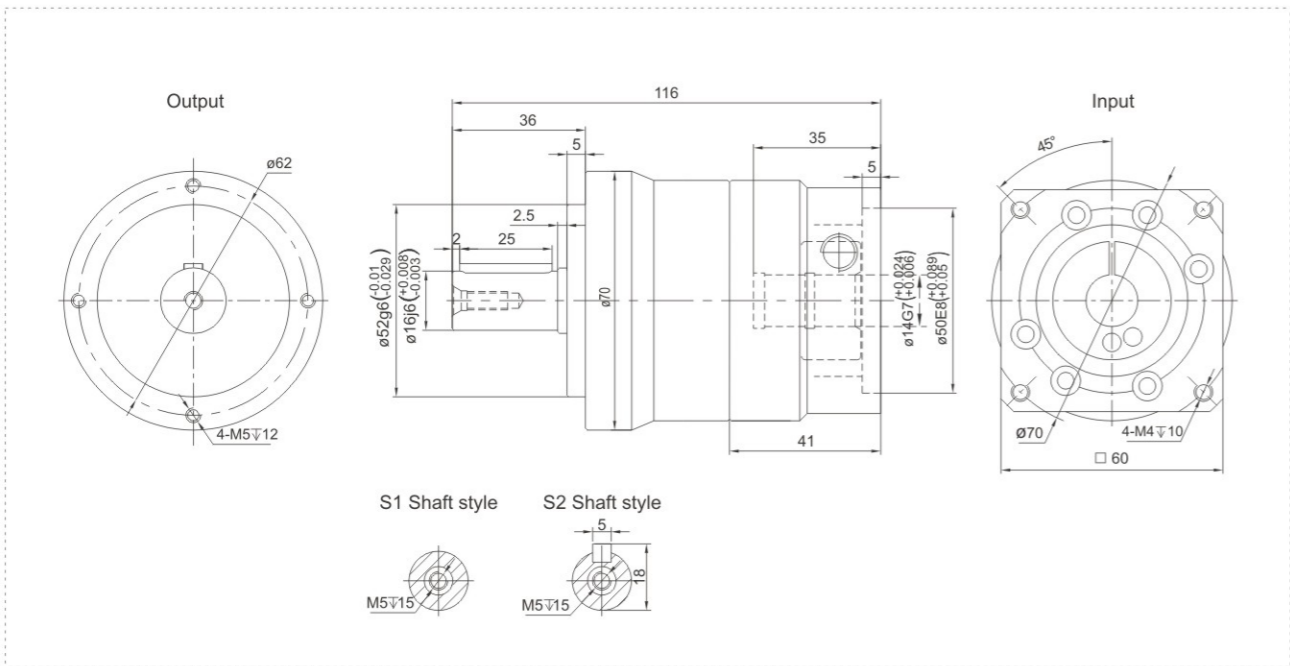
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

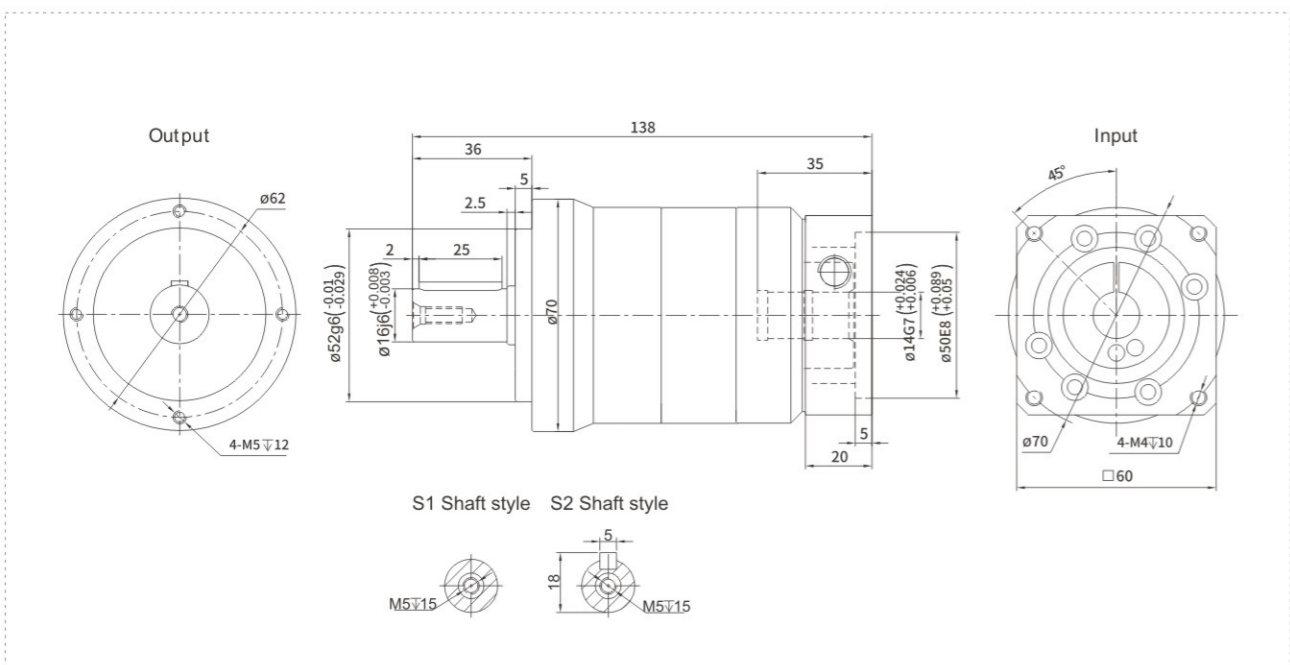
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TCE070 Series

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	-										-									
	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	0.16	0.14						0.13										0.13	

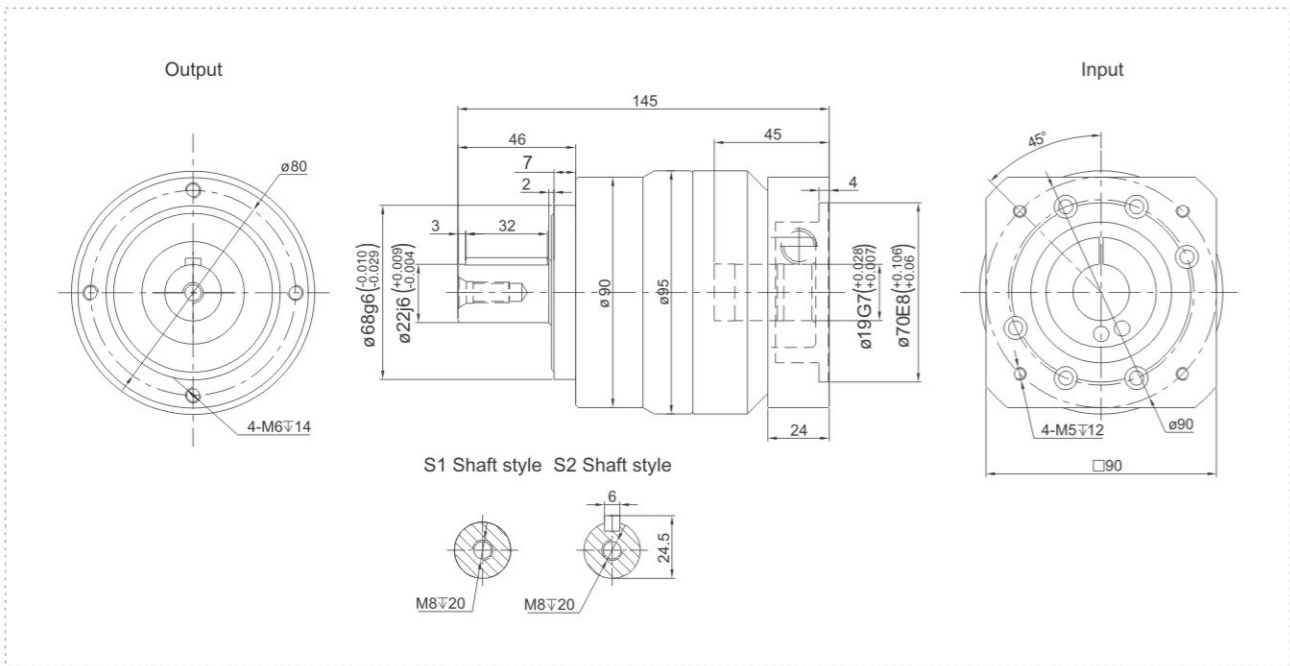
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

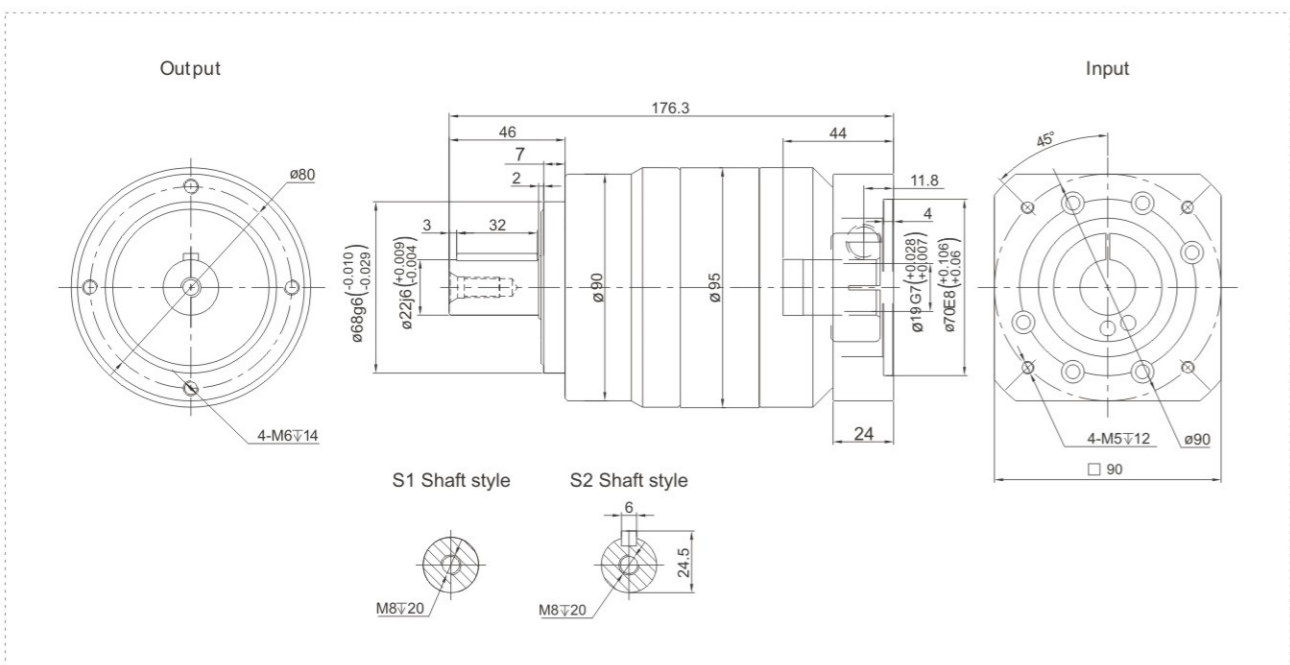
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TCE090 Series

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										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	3.4										5.2									
Backlash	P0	-										-									
	P1 arcmin	≤ 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	0.61	0.48	0.47	0.45	0.45	0.44	-	0.44	-	0.47	-	-	-	-	-	-	-	-	0.44	

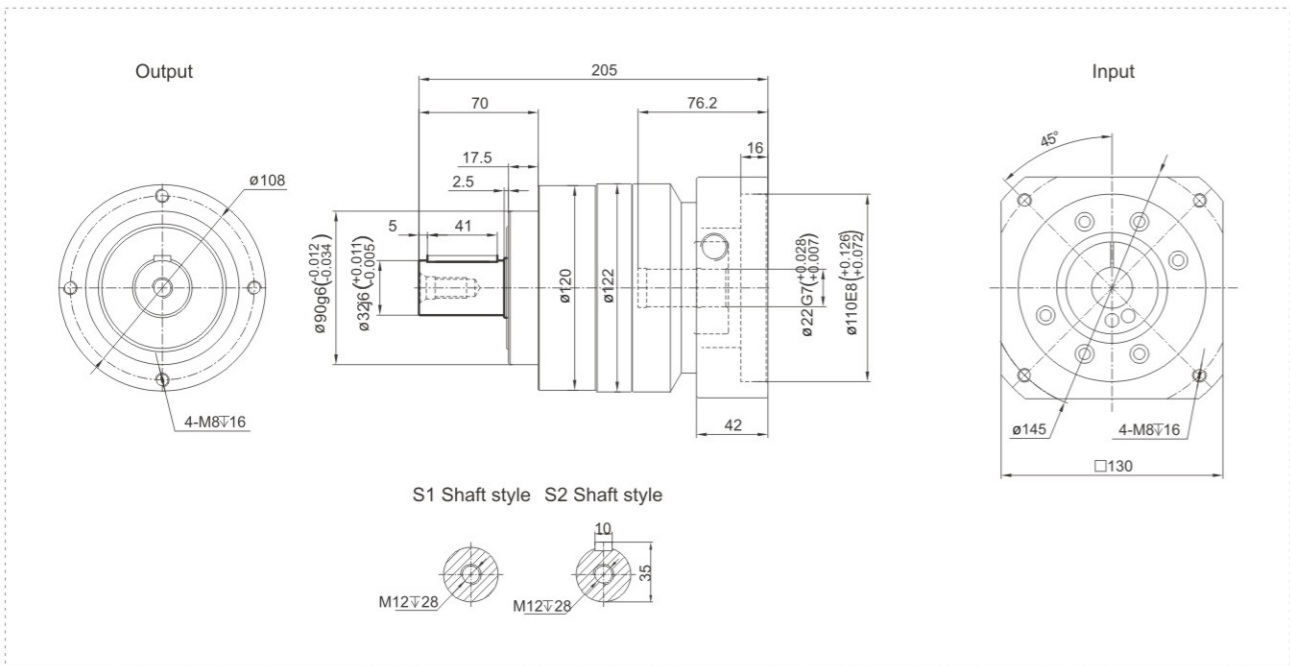
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

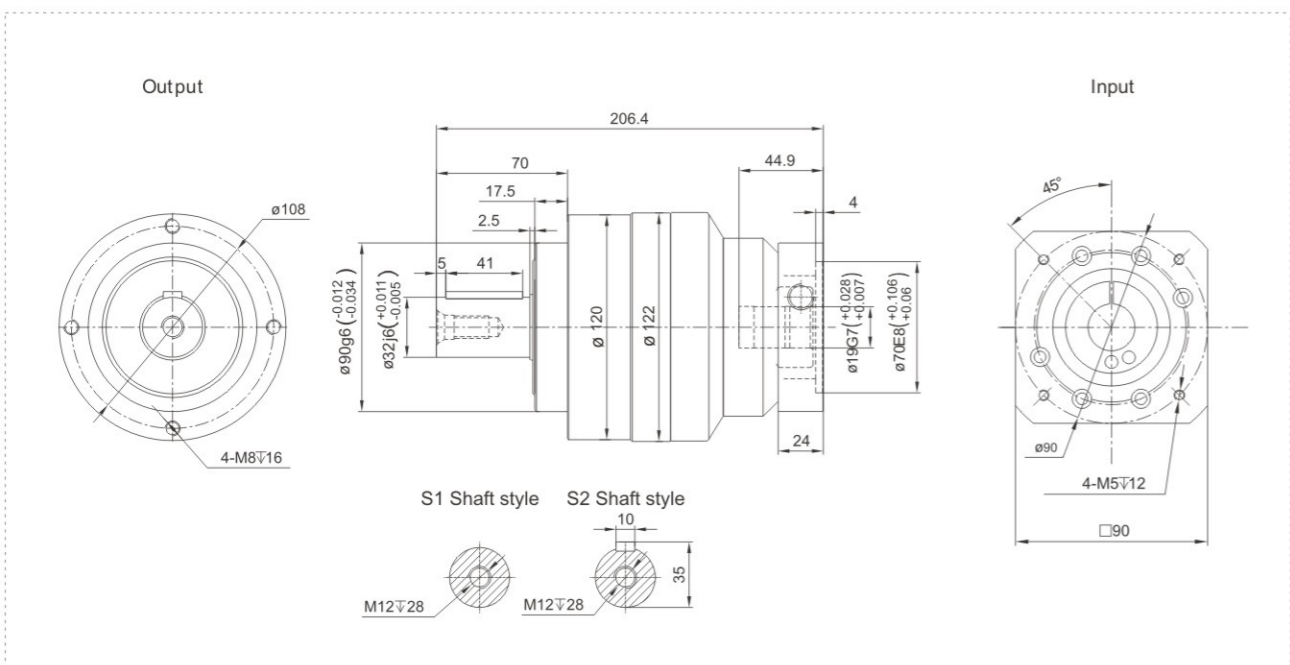
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TCE120 Series

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														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	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	-														-									
	P1 arcmin	≤ 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	3.25	2.74	2.71	2.65	2.62	2.58	-	2.57	0.47	0.44														

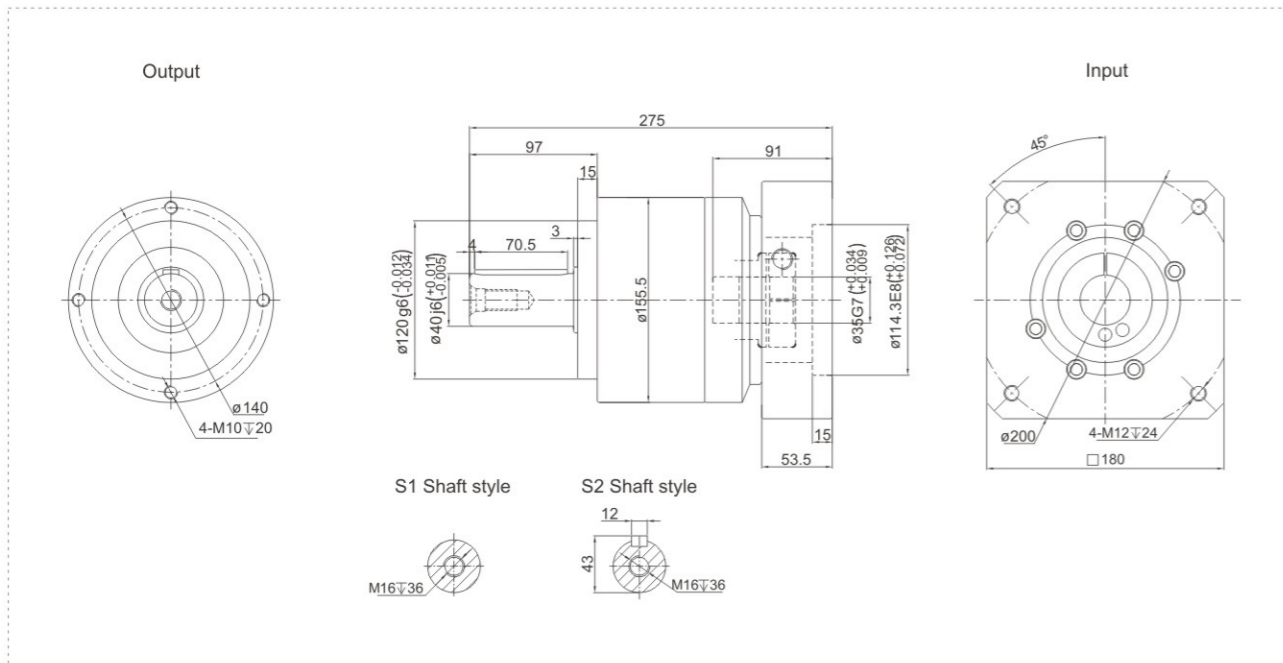
Notes:

- Speed ratio ($i = S_{in}/S_{out}$)
- 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, $i=10$.

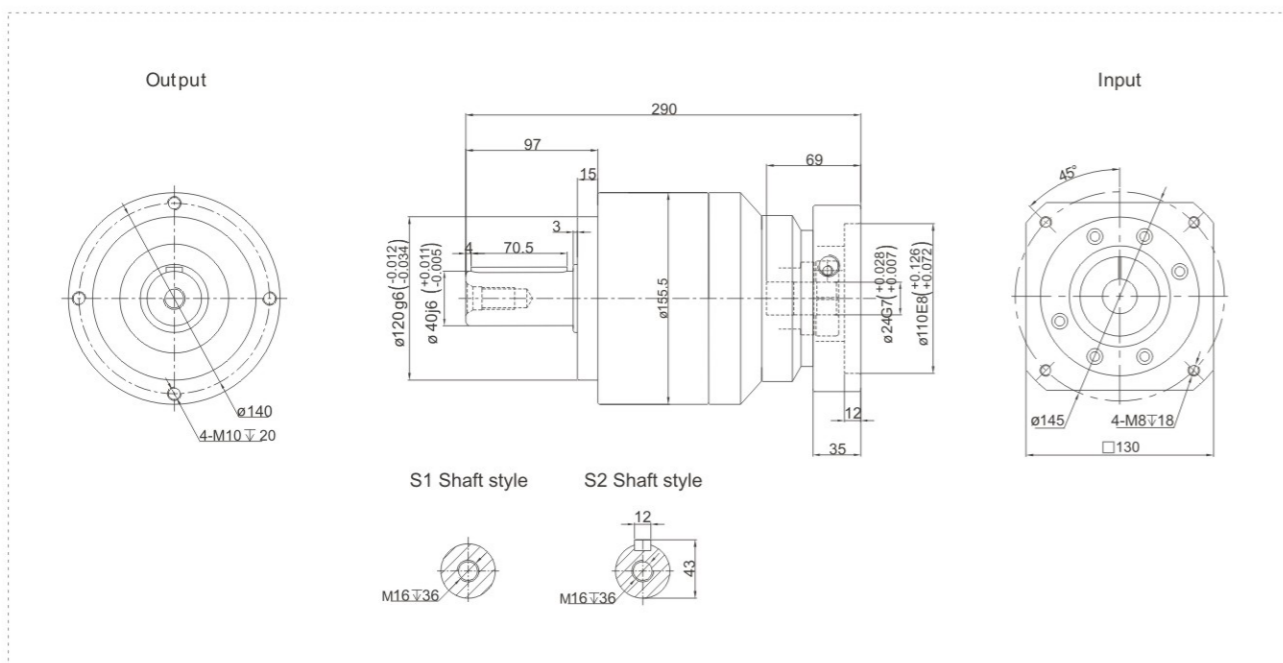
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TCE155 Series

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		-										-									
	P1	arcmin	≤ 3										≤ 5									
	P2		≤ 5										≤ 7									
Operating Temperature	-	$^{\circ}\text{C}$	$-20 \sim 90$										$-20 \sim 90$									
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 ($i = \text{Sin}/\text{Sout}$)
- 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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