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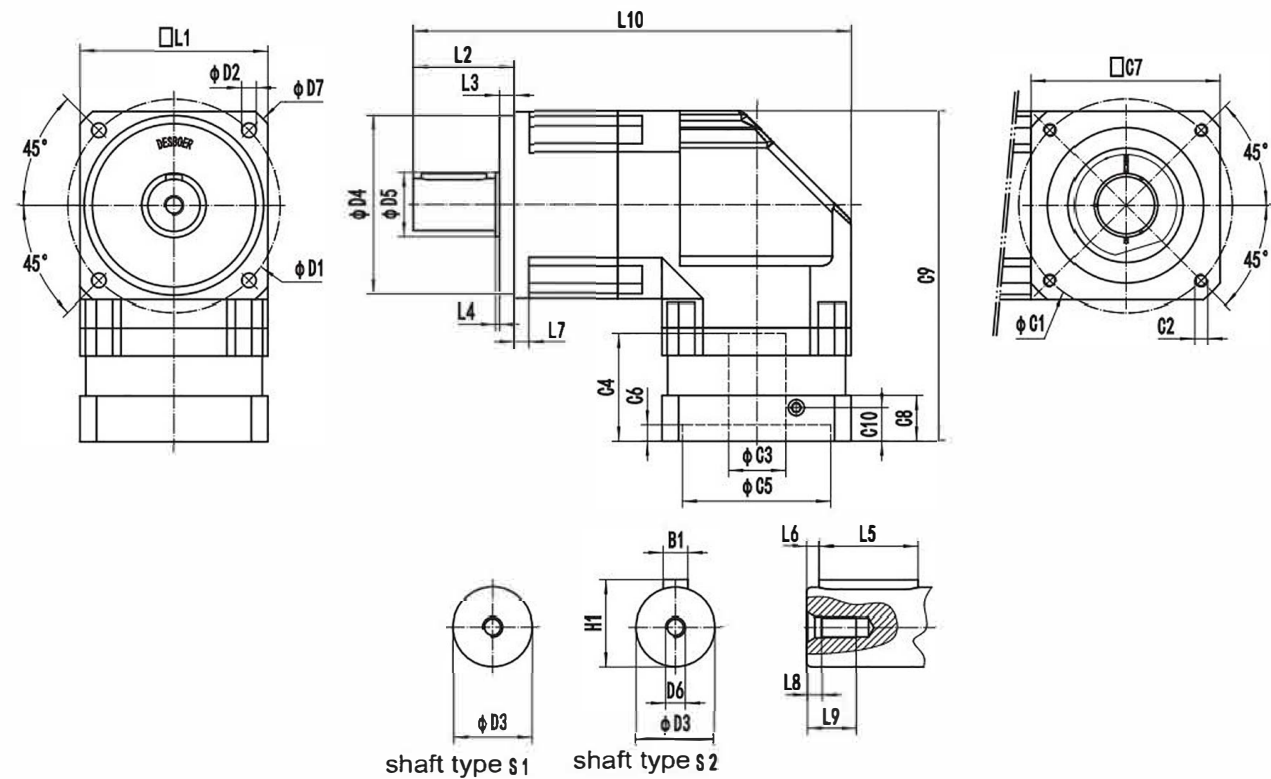
NBR SERIES

High precision planetary reducer



NBR060 Series

Parameter



(Unit: mm)

NBR060	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L4	L5	L6	L7
	70	5.5	16	50	21	M5×0.8P	80	60	37	7	2.5	25	2	8

NBR060	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	4	15	153	76	M5×0.8P	≤14/≤16	43	5	0	5	63	107	12	5	18

Gearbox
performance data

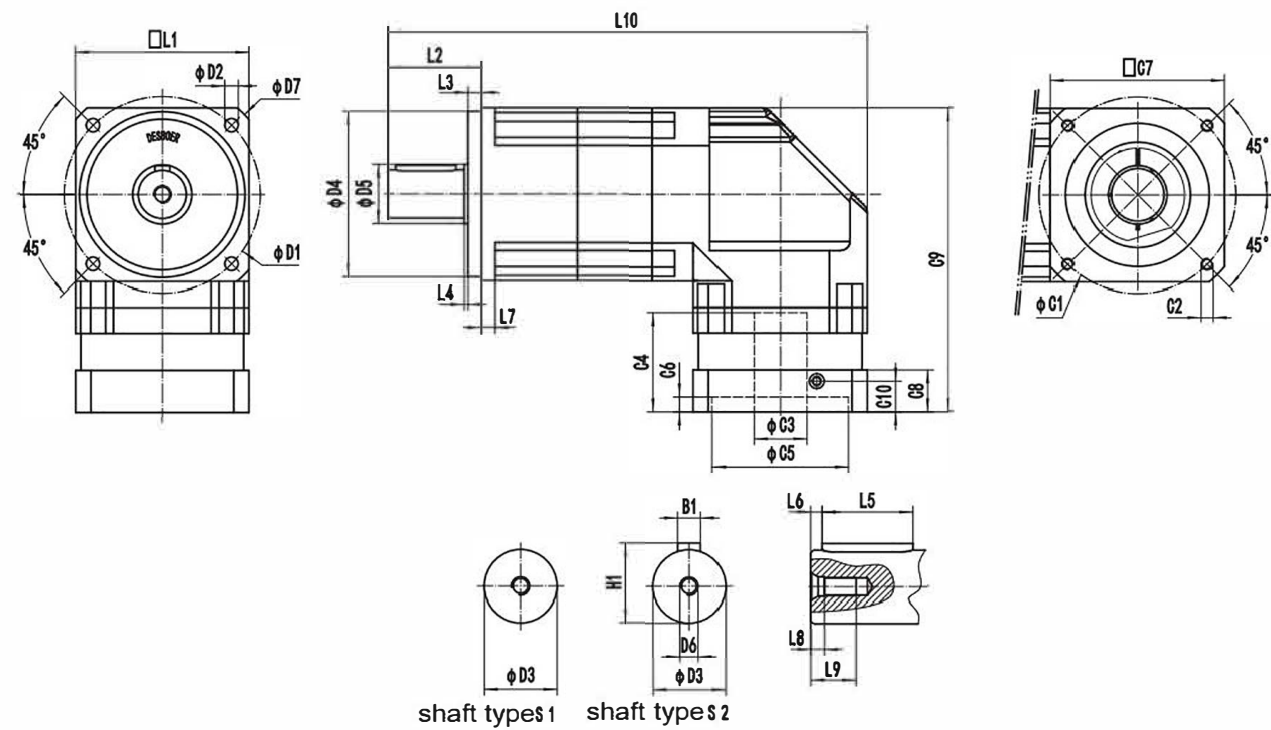
Segment number		Single segment									
Ratio	i	3	4	5	6	7	8	9	10	14	20
Rated output torque	Nm	30	45	55	50	45	40	35	35	35	35
Emergency stop torque	Nm	Three times of Maximum Output Torque									
Rated input speed	rpm	5000									
Max input speed	rpm	10000									
Ultraprecise backlash	arcmin	—									
Precise backlash	arcmin	≤4									
Standard backlash	arcmin	≤6									
Torsional rigidity	Nm/arcmin	7									
Max. radial Force	N	1530									
Max. axial Force	N	765									
Service Life	hr	20000 (10000 under continuous operation)									
Efficiency	%	≥95%									
Weight	kg	2.1									
Operating Temperature	℃	-10℃ ~ +90℃									
Lubrication		Synthetic grease									
Protection Class		IP64									
Mounting Position		All directions									
Noise Level (N1=3000rpm Non-Loaded)	dB (A)	≤63									
Rotary Inertia	kg · cm ²	0.35									0.7

- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm

*Dimensions based on servo-motor,please contact us for custom made order.

NBR060A Series

NBR060A Series
Parameter



(Unit : mm)

NBR060A	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L4	L5	L6	L7
	70	5.5	16	50	21	M5×0.8P	80	60	37	7	2.5	25	2	8

NBR060A	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	4	15	188	70	M5×0.8P	≤14/≤16	43	50	5	63	19	107	12	5	18

*Dimensions based on servo-motor,please contact us for custom made order.

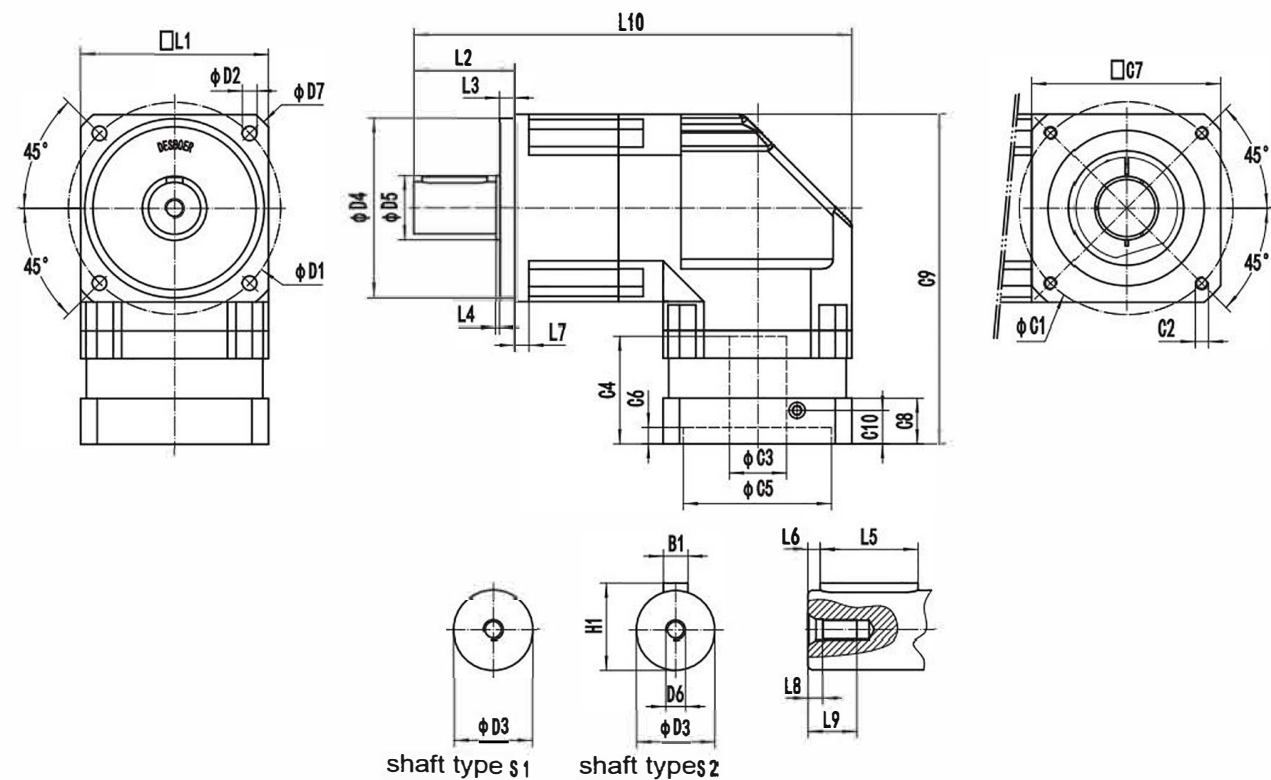
Gearbox performance data

Segment number		Double segment															
Ratio	i	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200
Rated output torque	Nm	55	50	45	40	35	55	50	45	40	35	35	50	45	40	35	35
Emergency stop torque	Nm	Three times of Maximum Output Torque															
Rated input speed	rpm	5000															
Max input speed	rpm	10000															
Ultraprecise backlash	arcmin	—															
Precise backlash	arcmin	≤7															
Standard backlash	arcmin	≤9															
Torsional rigidity	Nm/arcmin	7															
Max. radial Force	N	1530															
Max. axial Force	N	765															
Service Life	hr	20000 (10000 under continuous operation)															
Efficiency	%	≥92%															
Weight	kg	2.1															
Operating Temperature	℃	-10℃ ~ +90℃															
Lubrication		Synthetic grease															
Protection Class		IP64															
Mounting Position		All directions															
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤63															
Rotary inertia	Kg · cm²	0.09															

- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm

NBR090 Series

Parameter



(Unit: mm)

NBR090	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L3	L5	L6	L7
	100	7	22	80	30	M8 × 1.25P	116	90	48	10	2.5	32	3	10

NBR090	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	6	20	212	100	M6 × 1P	≤19/≤24	46	80	10	90	24.5	158	18	6	24.5

Gearbox performance data

Segment number		Single segment									
Ratio	i	3	4	5	6	7	8	9	10	14	20
Rated output torque	Nm	85	110	140	140	130	110	95	95	130	95
Emergency stop torque	Nm	Three times of Maximum Output Torque									
Rated input speed	rpm	4000									
Max input speed	rpm	8000									
Ultraprecise backlash	arcmin	≤2									
Precise backlash	arcmin	≤4									
Standard backlash	arcmin	≤6									
Torsional rigidity	Nm/arcmin	14									
Max. radial Force	N	3250									
Max. axial Force	N	1625									
Service Life	hr	20000 (10000 under continuous operation)									
Efficiency	%	≥95%									
Weight	kg	6.4									
Operating Temperature	℃	-10℃ ~ +90℃									
Lubrication		Synthetic grease									
Protection Class		IP64									
Mounting Position		All directions									
Noise Level (N1=3000rpm, Non-Loaded)	dB (A)	≤65									
Rotary inertia	kg · cm ²	2.25									1.87

- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm

*Dimensions based on servo-motor, lease contact us for custom made order.

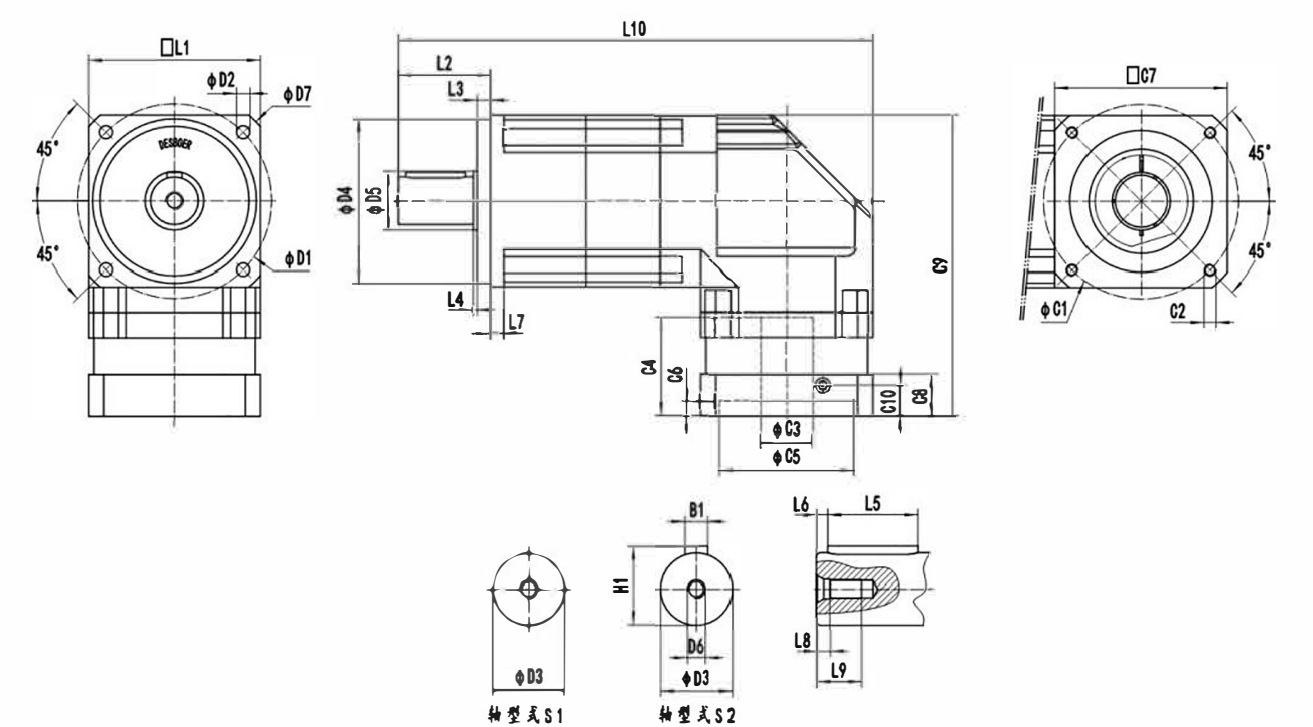
NBR090A Series

Parameter

Gearbox
performance data

Segment number		Double segment															
Ratio	i	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200
Rated output torque	Nm	140	140	130	110	95	95	140	130	110	95	95	140	130	110	95	95
Emergency stop torque	Nm	Three times of Maximum Output Torque															
Rated input speed	rpm	4000															
Max input speed	rpm	8000															
Ultraprecise backlash	arcmin	≤4															
Precise backlash	arcmin	≤7															
Standard backlash	arcmin	≤9															
Torsional rigidity	Nm/arcmin	14															
Max. radial Force	N	3250															
Max. axial Force	N	1625															
Service Life	hr	20000 (10000 under continuous operation)															
Efficiency	%	≥92%															
Weight	kg	7.8															
Operating Temperature	℃	-10℃ ~ +90℃															
Lubrication		Synthetic grease															
Protection Class		IP64															
Mounting Position		All directions															
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤65															
Rotary inertia	Kg · cm²	0.35								0.31							

- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm



(Unit: mm)

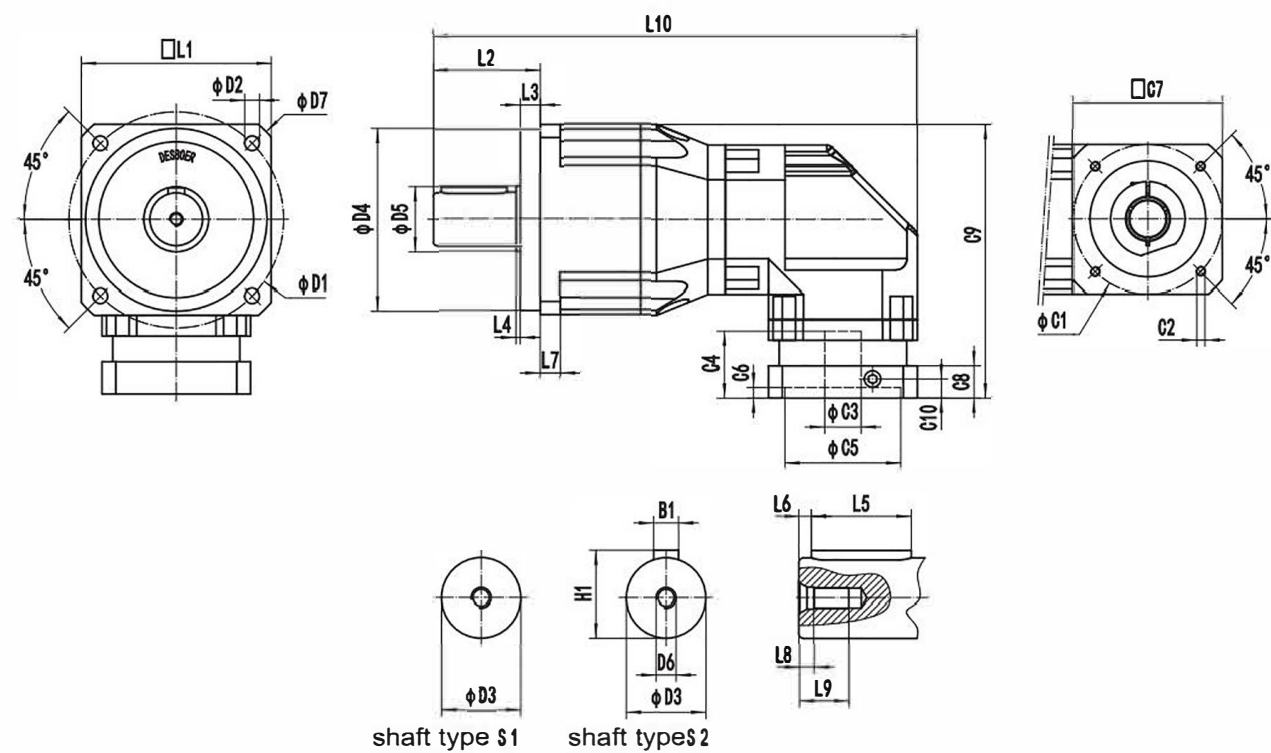
NBR090A	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L4	L5	L6	L7
	100	7	22	80	30	M8 × 1.25P	116	90	48	10	2.5	32	3	10

NBR090A	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	6	20	260	100	M6 × 1P	≤19/≤24	46	80	10	90	24.5	158	18	6	24.5

*Dimensions based on servo-motor,please contact us for custom made order.

NBR090 Series

Parameter



(Unit: mm)

NBR090	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L3	L5	L6	L7
	100	7	22	80	30	M8 × 1.25P	116	90	48	10	2.5	32	3	10

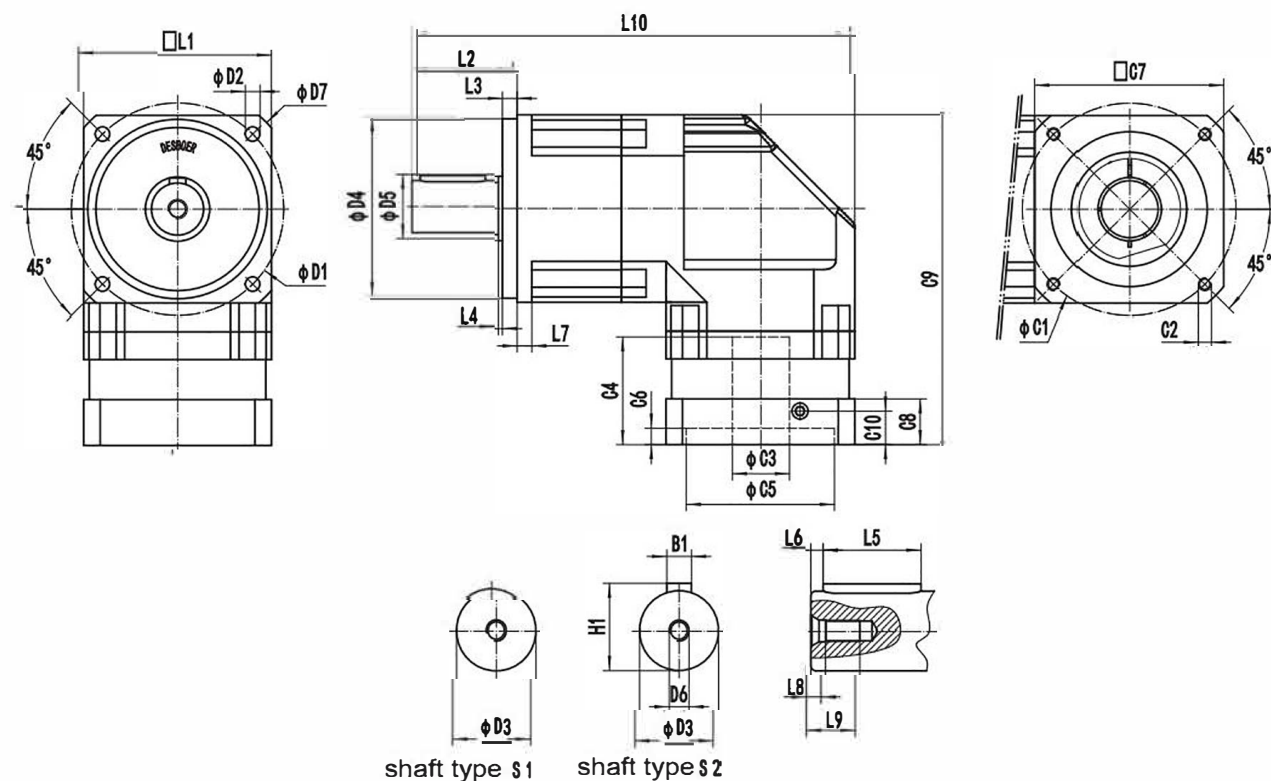
NBR090	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	6	20	216.5	70	M5 × 0.8P	≤ 14/≤ 16	43	50	5	63	19	122	12	6	24.5

*Dimensions based on servo-motor,please contact us for custom made order.

Gearbox performance data

Segment number		Double segment															
Ratio	i	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200
Rated output torque	Nm	140	140	130	110	95	95	140	130	110	95	95	140	130	110	95	95
Emergency stop torque	Nm	Three times of Maximum Output Torque															
Rated input speed	rpm	4000															
Max input speed	rpm	8000															
Ultraprecise backlash	arcmin	≤ 4															
Precise backlash	arcmin	≤ 7															
Standard backlash	arcmin	≤ 9															
Torsional rigidity	Nm/arcmin	14															
Max. radial Force	N	3250															
Max. axial Force	N	1625															
Service Life	hr	20000 (10000 under continuous operation)															
Efficiency	%	≥ 92%															
Weight	kg	7.8															
Operating Temperature	℃	- 10℃ ~ +90℃															
Lubrication		Synthetic grease															
Protection Class		IP64															
Mounting Position		All directions															
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤ 65															
Rotary inertia	kg · cm²	0.35								0.31							

★ Maximum Output Torque T_{2B}=60% × T_{2NOT}
▲ Measured in the shaft center when the output speed is 100rpm



(Unit: mm)

NBR115	D1	D3	D2	D4	D5	D6	D7	L1	L2	L3	L3	L5	L6	L7
	130	9	32	110	40	M12 × 1,75P	152	115	65	12	2,5	40	5	12

NBR115	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	9,5	28	268	130	M8 × 1,25P	≤35	66	95	10	115	28	201,5	20,5	10	35

Gearbox performance data

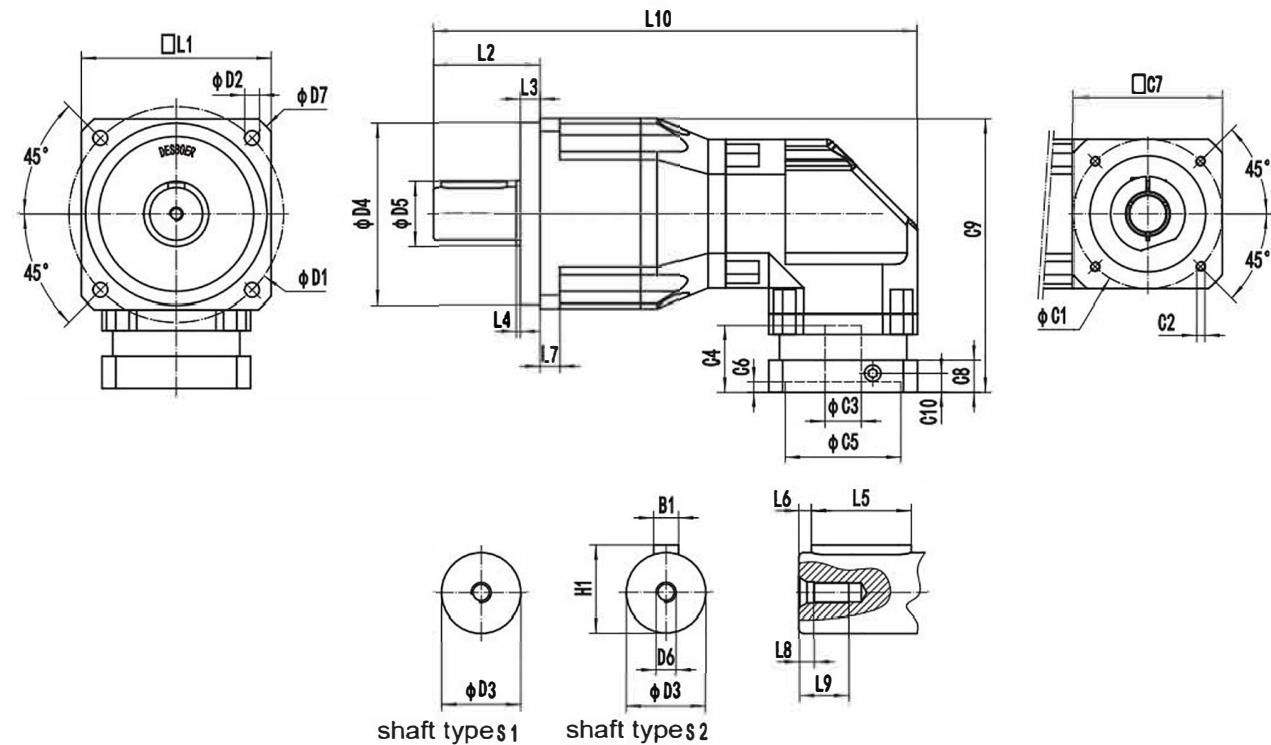
Segment number		Single segment									
Ratio	i	3	4	5	6	7	8	9	10	14	20
Rated output torque	Nm	180	240	300	290	280	240	210	210	280	210
Emergency stop torque	Nm	Three times of Maximum Output Torque									
Rated input speed	rpm	4000									
Max input speed	rpm	8000									
Ultra precise backlash	arcmin	≤2									
Precise backlash	arcmin	≤4									
Standard backlash	arcmin	≤6									
Torsional rigidity	Nm/arcmin	25									
Max. radial Force	N	6700									
Max. axial Force	N	3350									
Service Life	hr	20000(10000 under continuous operation)									
Efficiency	%	≥95%									
Weight	kg	13									
Operating Temperature	℃	- 10℃ ~ +90℃									
Lubrication		Synthetic grease									
Protection Class		IP64									
Mounting Position		All directions									
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤68									
Rotary inertia	kg · cm²	6.84									6.25

★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$

▲ Measured in the shaft center when the output speed is 100rpm

NBR115 Series

Parameter



(Unit: mm)

NBR115	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L3	L5	L6	L7
	130	9	32	110	40	M12 × 1.75P	152	115	65	12	2.5	40	5	12

NBR115	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	9.5	28	294	100	M6 × 1P	≤19/≤24	46	80	10	90	24.5	170.5	18	10	35

*Dimensions based on servo-motor,please contact us for custom made order.

Gearbox performance data

Segment number		Double segment															
Ratio	i	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200
Rated output torque	Nm	300	290	280	240	210	210	290	280	240	210	210	290	280	240	210	210
Emergency stop torque	Nm	Three times of Maximum Output Torque															
Rated input speed	rpm	4000															
Max input speed	rpm	8000															
Ultraprecise backlash	arcmin	≤4															
Precise backl	arcmin	≤7															
Standard backlash	arcmin	≤9															
Torsional rigidi	Nm/arcmin	25															
Max. radial Force	N	6700															
Max. axial Force	N	3350															
Service Life	hr	20000 (10000 under continuous operation)															
Efficiency	%	≥92%															
Weight	kg	14.2															
Operating Temperature	℃	-10℃ ~ +90℃															
Lubrication		Synthetic grease															
Protection Class		IP64															
Mounting Position		All directions															
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤68															
Rotary inertia	kg · cm²	2.25								1.87							

★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
▲ Measured in the shaft center when the output speed is 100rpm

NBR142 Series

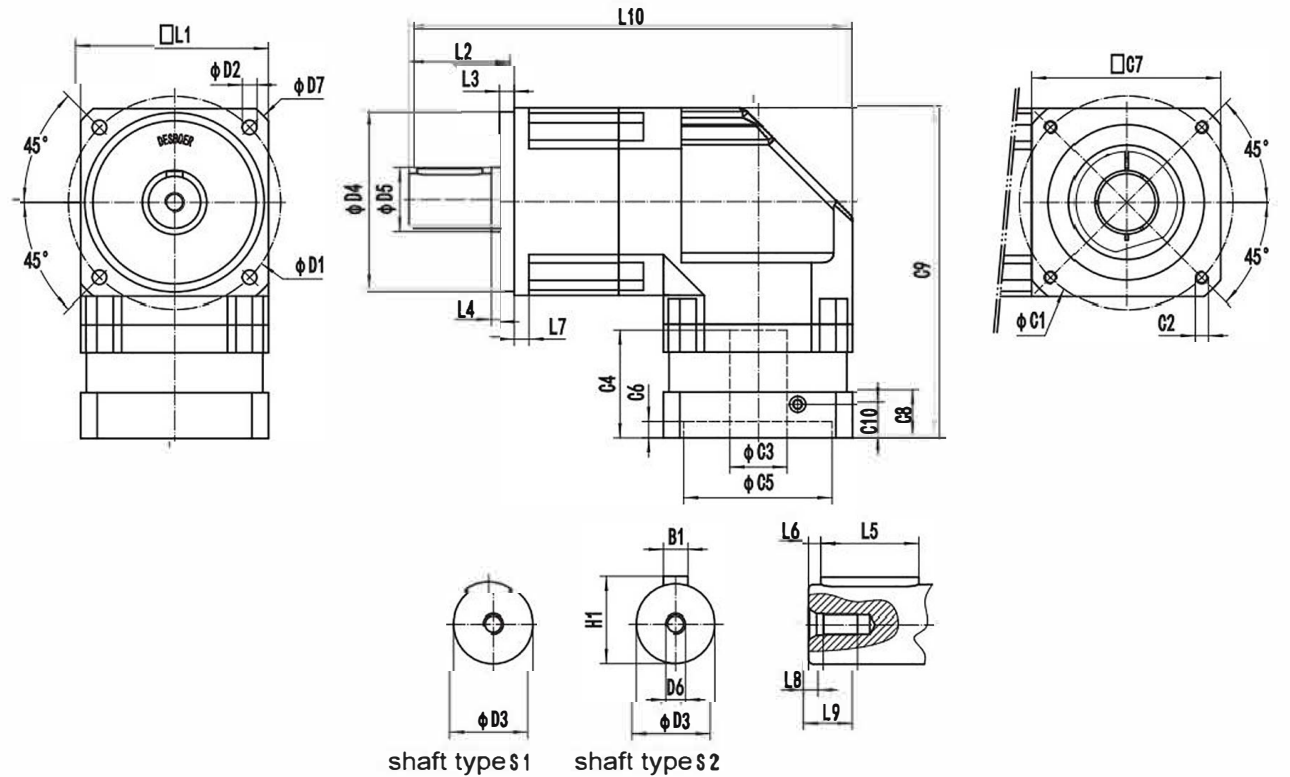
NBR142 Series

Parameter

Gearbox
performance data

Segment number		Single segment									
Ratio	i	3	4	5	6	7	8	9	10	14	20
Rated output torque	Nm	320	490	610	570	520	470	420	420	520	420
Emergency stop torque	Nm	Three times of Maximum Output Torque									
Rated input speed	rpm	3000									
Max input speed	rpm	6000									
Ultra precise backlash	arcmin	≤2									
Precise backlash	arcmin	≤4									
Standard backlash	arcmin	≤6									
Torsional rigidity	Nm/arcmin	50									
Max. radial Force	N	9400									
Max. axial Force	N	4700									
Service Life	hr	20000 (10000 under continuous operation)									
Efficiency	%	≥95%									
Weight	kg	24.5									
Operating Temperature	℃	-10℃ ~ +90℃									
Lubrication		Synthetic grease									
Protection Class		IP64									
Mounting Position		All directions									
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤70									
Rotational inertia	kg · cm²	23.4									21.8

- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm



(Unit: mm)

NBR142	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L3	L5	L6	L7
	165	11	40	130	52	M16×2P	185	142	97	15	3.5	70	4	15

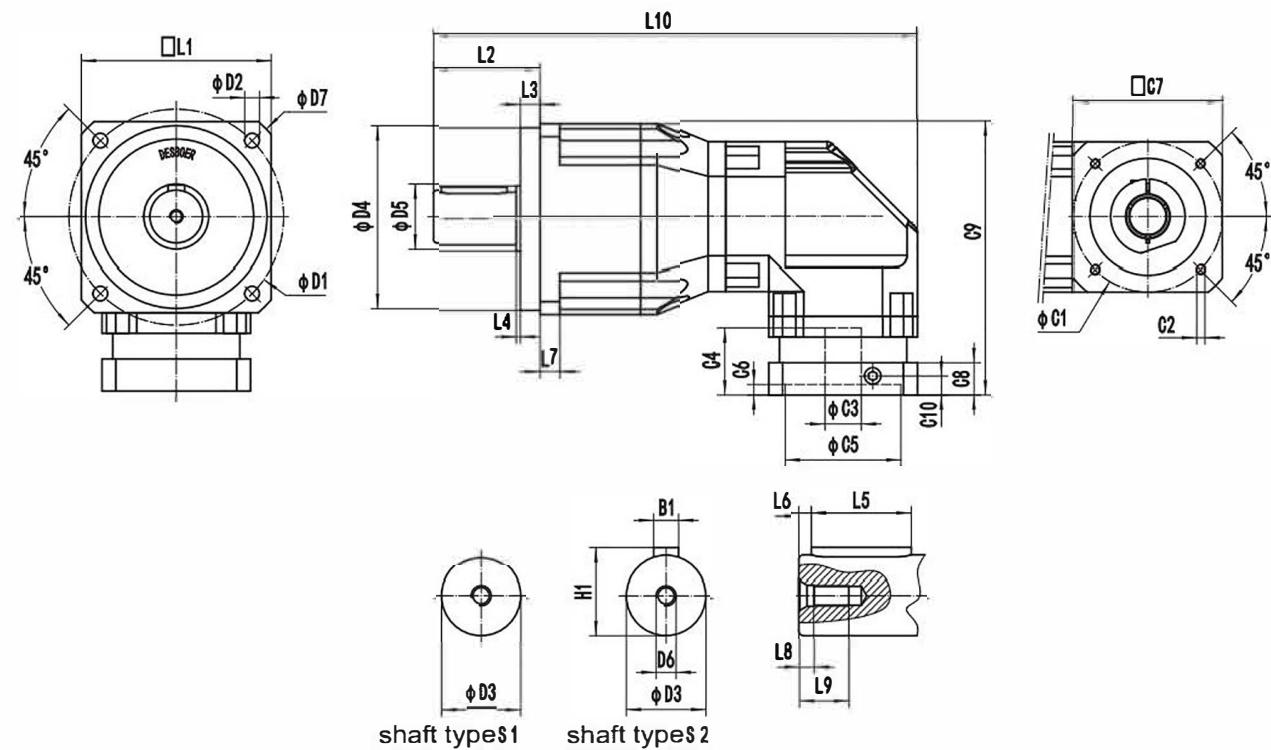
NBR142	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	12	36	353.5	145	M8×1.25P	≤42	83	110	10	130	39	250	29	12	43

*Dimensions based on servo-motor,please contact us for custom made order.

NBR142 Series

NBR142 Series

Parameter



(Unit: mm)

NBR142	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L3	L5	L6	L7
	165	11	40	130	52	M16×2P	185	142	97	15	3.5	70	4	15

NBR142	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	12	36	385	130	M8×1.25P	≤35	66	95	10	115	28	215	20.5	12	43

*Dimensions based on servo-motor,please contact us for custom made order.

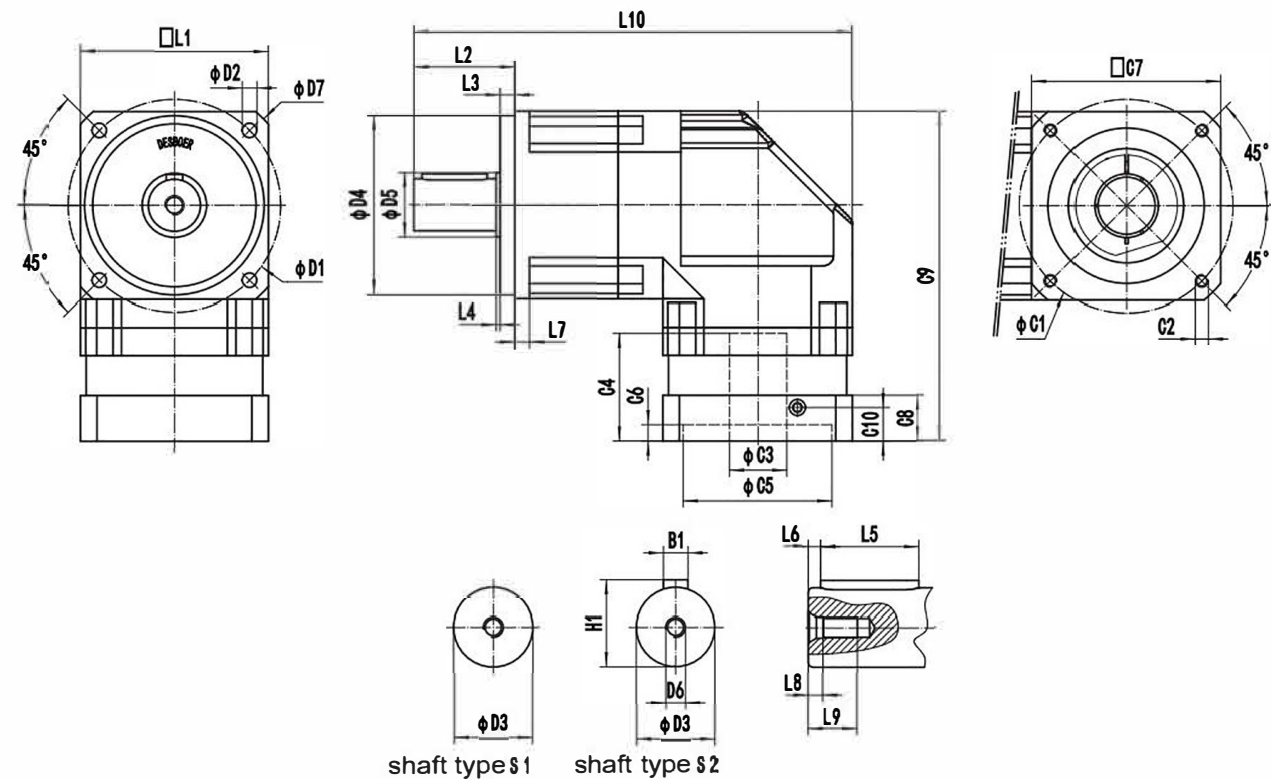
Gearbox performance data

Segment number		Double segment															
Ratio	i	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200
Rated output torque	Nm	610	570	520	470	420	610	570	520	470	420	420	570	520	520	420	420
Emergency stop torque	Nm	Three times of Maximum Output Torque															
Rated input speed	rpm	3000															
Max input speed	rpm	6000															
Ultra precise backlash	arcmin	≤4															
Precise backlash	arcmin	≤7															
Standard backlash	arcmin	≤9															
Torsional rigidity	Nm/arcmin	50															
Max. radial Force	N	9400															
Max. axial Force	N	4700															
Service Life	hr	20000 (10000 under continuous operation)															
Efficiency	%	≥92%															
Weight	kg	27.5															
Operating Temperature	℃	-10℃ ~ +90℃															
Lubrication		Synthetic grease															
Protection Class		IP64															
Mounting Position		All directions															
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤70															
Rotary inertia	kg · cm²	6.84								6.25							

★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
▲ Measured in the shaft center when the output speed is 100rpm

NBR180Series

Parameter



(Unit: mm)

NBR180	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L3	L5	L6	L7
	215	13	55	160	70	M20×2.5P	240	180	105	20	3.5	70.5	6	20

NBR180	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	15	42	394	215	M12×1.75P	≤55	85	180	6	190	32	304	20.5	16	59

Gearbox performance data

Segment number		Single segment										
Ratio	i	3	4	5	6	7	8	9	10	14	20	
Rated output torque	Nm	550	980	1140	1040	1040	950	850	850	1040	850	
Emergency stop torque	Nm	Three times of Maximum Output Torque										
Rated input speed	rpm	3000										
Max input speed	rpm	6000										
Ultraprecise backlash	arcmin	≤2										
Precise backlash	arcmin	≤4										
Standard backlash	arcmin	≤6										
Torsional rigidity	Nm/arcmin	145										
Max. radial Force	N	14500										
Max. axial Force	N	7250										
Service Life	hr	20000 (10000 under continuous operation)										
Efficiency	%	≥95%										
Weight	kg	51										
Operating Temperature	℃	-10℃ ~ +90℃										
Lubrication		Synthetic grease										
Protection Class		IP64										
Mounting Position		All directions										
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤72										
Rotary inertia	kg · cm²	68.9									65.6	

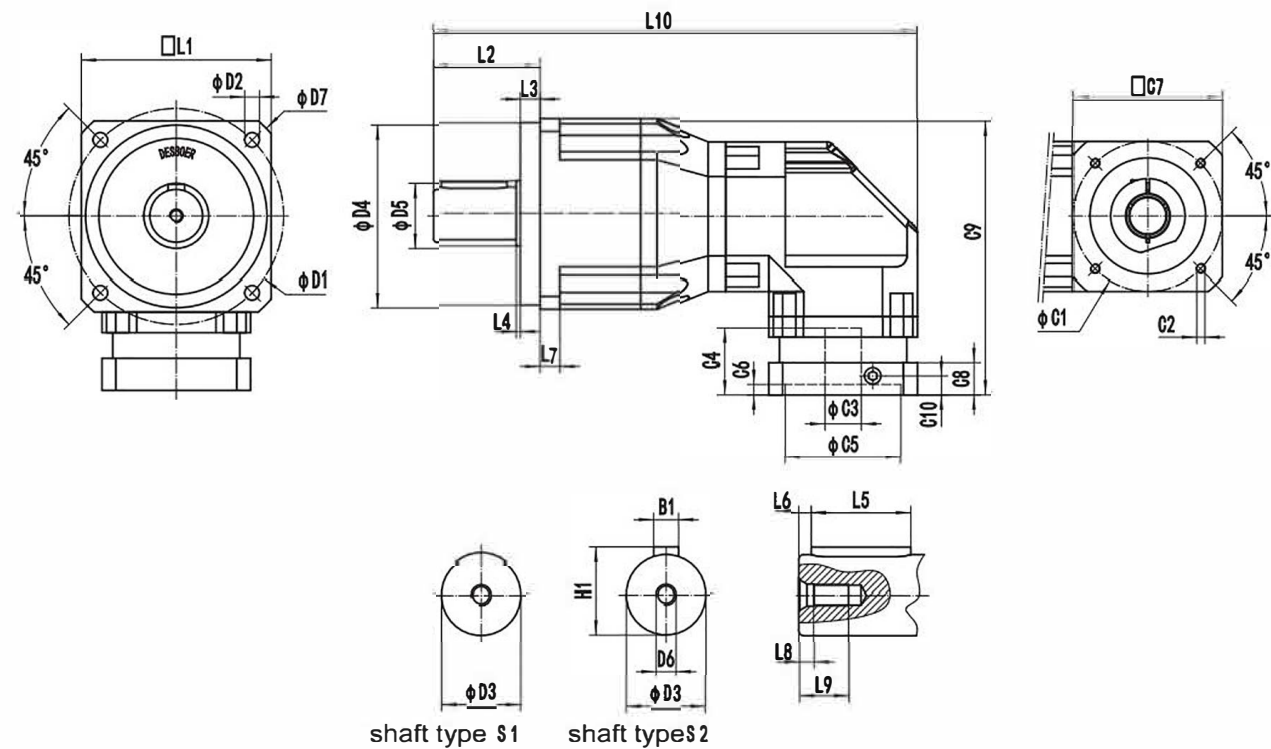
★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
▲ Measured in the shaft center when the output speed is 100rpm

*Dimensions based on servo-motor,please contact us for custom made order.

NBR180Series

NBR180Series

Parameter



(Unit: mm)

NBR180	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L4	L5	L6	L7
	215	13	55	160	70	M20×2.5P	240	180	105	20	3.5	70.5	6	20

NBR180	L8	L9	L10	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	15	42	452.5	145	M8×1.25P	≤42	83	110	10	130	39	269	29	16	59

Gearbox performance data

Segment number		Double segment															
Ratio	i	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200
Rated output torque	Nm	1140	1040	1040	950	850	1140	1040	1040	950	850	850	1040	1040	950	850	850
Emergency stop torque	Nm	Three times of Maximum Output Torque															
Rated input speed	rpm	3000															
Max input speed	rpm	6000															
Ultraprecise backlash	arcmin	≤4															
Precise backlash	arcmin	≤7															
Standard backlash	arcmin	≤9															
Torsional rigidity	Nm/arcmin	145															
Max. radial force	N	14500															
Max. axial force	N	7250															
Service Life	hr	20000 (10000 under continuous operation)															
Efficiency	%	≥92%															
Weight	kg	54															
Operating Temperature	℃	-10℃~+90℃															
Lubrication		Synthetic grease															
Protection Class		IP64															
Mounting Position		All directions															
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤72															
Rotary inertia	kg·cm²	23.4								21.8							

- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm

*Dimensions based on servo-motor,please contact us for custom made order.