

motion.nl



NFR SERIES

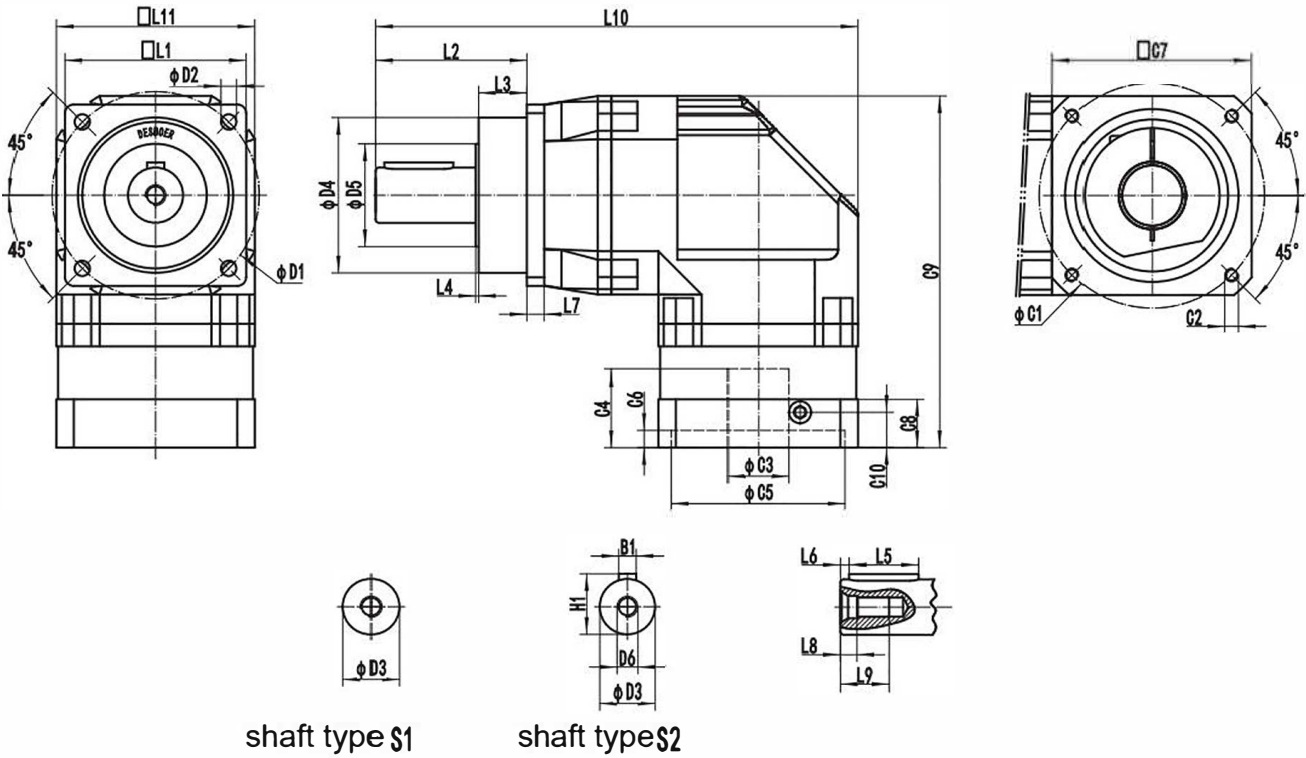
High precision planetary reducer



NFR075 Series

Parameter

**Gearbox
performance data**



(Unit: mm)

NFR075	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	85	6.8	22	70	50	M8 × 1.25P	76	56	17	2.25	32	3	7	6	20

NFR075	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	228	90	100	M6 × 1P	≤ 19/≤ 24	46	80	10	90	24.5	158	18	6	24.5

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	4100									
Max. axial Force	N	3700									
Service Life	hr	30000 (15000 under continuous operation)									
Efficiency	%	≥ 95%									
Weight	kg	6.4									
Operating Temperature	°C	-10°C ~ +90°C									
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

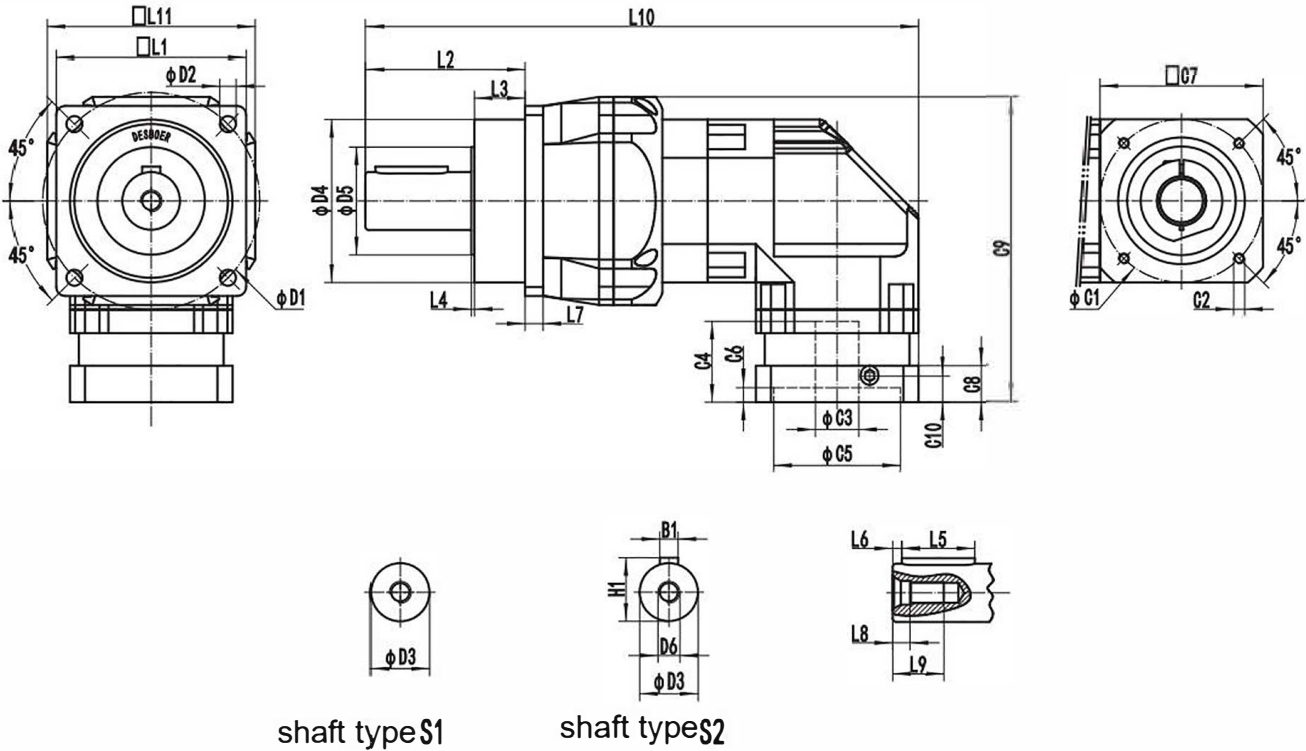
- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm

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

NFR075 Series

Parameter

**Gearbox
performance data**



(Unit: mm)

NFR075	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	85	6.8	22	70	50	M8 × 1.25P	76	56	17	2.25	32	3	7	6	20

NFR075	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	231	90	56	M5 × 0.8P	≤ 14/≤ 16	43	50	5	60	19	122	12	6	24.5

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	4100															
Max. axial Force	N	3700															
Service Life	hr	30000 (15000 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 · cm ²	0.35								0.31							

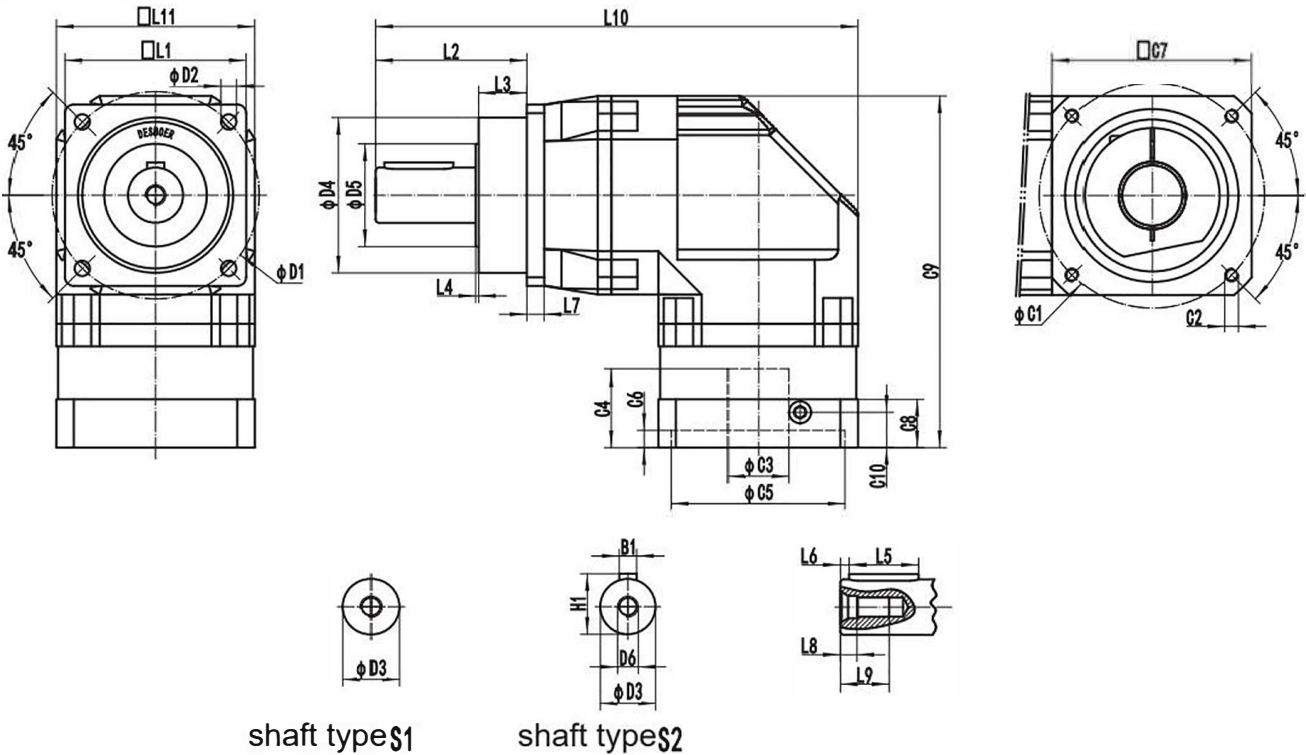
- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm

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

NFR100 Series

Parameter

**Gearbox
performance data**



(Unit: mm)

NFR100	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	120	9	32	90	60	M12 × 1.75P	105	88	28	1.7	40	5	10	9.5	28

NFR100	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	279	115	130	M8 × 1.25P	≤35	66	95	10	115	28	202	20.5	10	35

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									
Ultraprecise backlash	arcmin	≤2									
Precise backlash	arcmin	≤4									
Standard backlash	arcmin	≤6									
Torsional rigidity	Nm/arcmin	25									
Max. radial Force	N	9200									
Max. axial Force	N	5800									
Service Life	hr	30000 (15000 under continuous operation)									
Efficiency	%	≥95%									
Weight	kg	13.9									
Operating Temperature	°C	-10°C ~ +90°C									
Lubrication		Synthetic grease									
Protection Class		IP64									
Mounting Position		All directions									
Noise Level (N1=3000rpm, Non-Loaded)	dB (A)	≤68									
Rotary inertia	Kg · cm ²	6.84									6.25

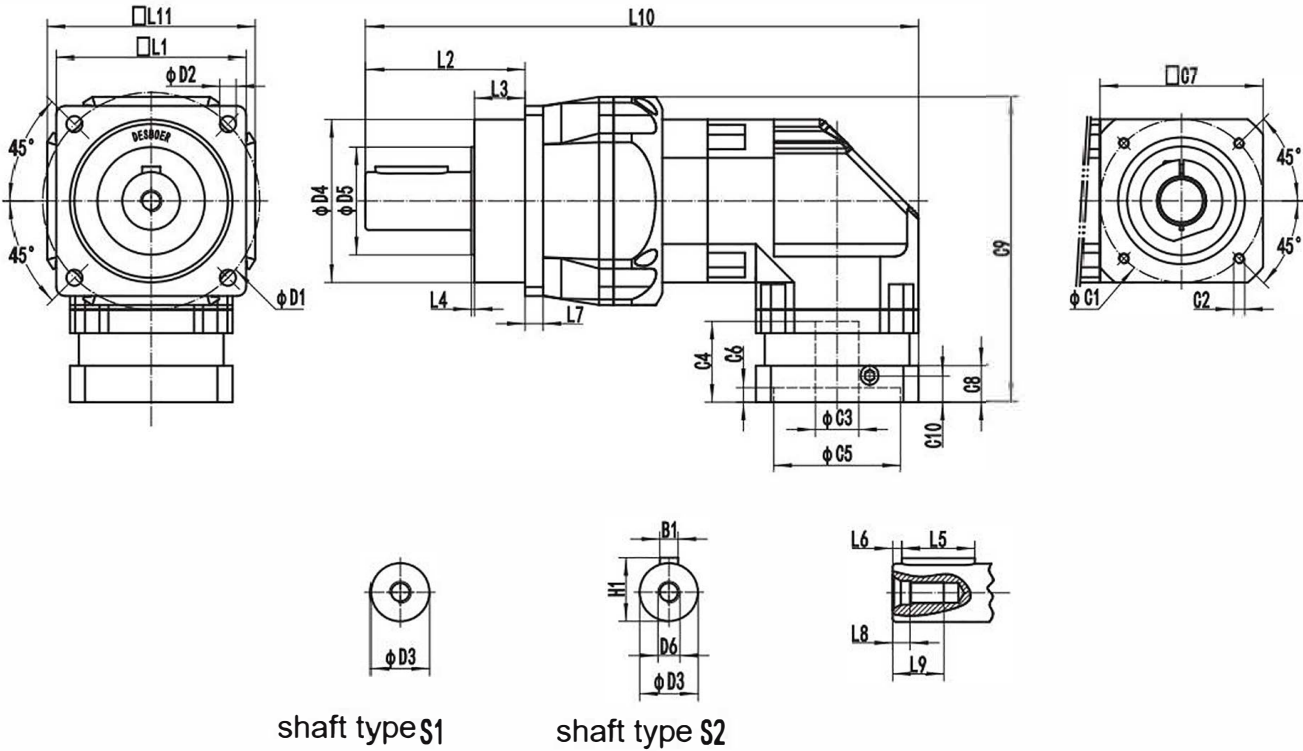
- ★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
- ▲ Measured in the shaft center when the output speed is 100rpm

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

NFR100 Series

Parameter

**Gearbox
performance data**



(Unit: mm)

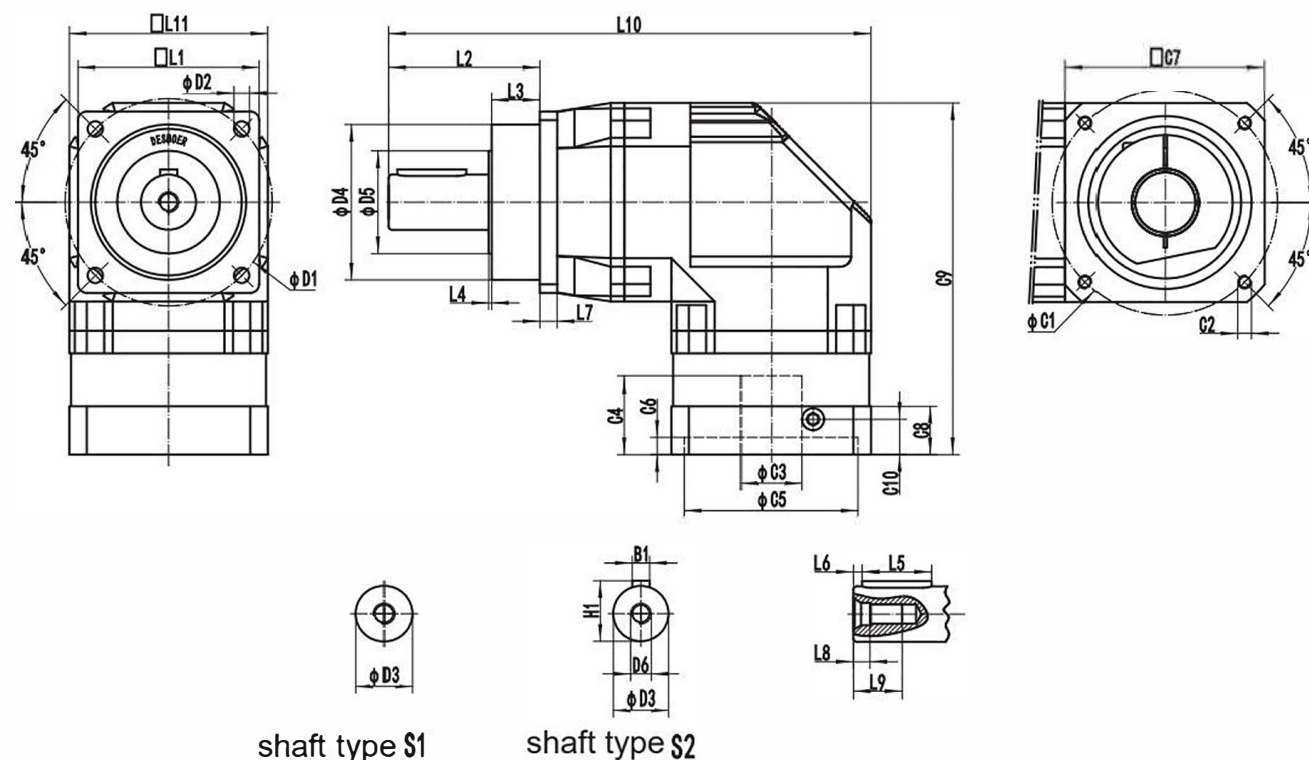
NFR100	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	120	9	32	90	60	M12 × 1.75P	105	88	28	1.7	40	5	10	9.5	28

NFR100	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	305	115	100	M6 × 1P	≤ 19/≤ 24	46	80	10	90	24.5	171	18	10	35

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 backlash	arcmin	≤ 7															
Standard backlash	arcmin	≤ 9															
Torsional rigidity	Nm/arcmin	25															
Max. radial Force	N	9200															
Max. axial Force	N	5800															
Service Life	hr	30000 (15000 under continuous operation)															
Efficiency	%	≥ 92%															
Weight	kg	15.1															
Operating Temperature	°C	-10°C ~ +90°C															
Lubrication		Synthetic grease															
Protection Class		IP64															
Mounting Position		All directions															
Noise Level (N1=3000rpm,Non-Loaded)	dB (A)	≤ 68															
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, please contact us for custom made order.



(Unit: mm)

NFR140	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	165	11	40	130	75	M16×2P	142	115	30	3	70	5	20	12	36

NFR140	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	365	142	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.

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									
Ultraprecise backlash	arcmin	≤2									
Precise backlash	arcmin	≤4									
Standard backlash	arcmin	≤6									
Torsional rigidity	Nm/arcmin	50									
Max. radial Force	N	14000									
Max. axial Force	N	11400									
Service Life	hr	30000 (15000 under continuous operation)									
Efficiency	%	≥95%									
Weight	kg	23.7									
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 · cm ²	23.4									21.8

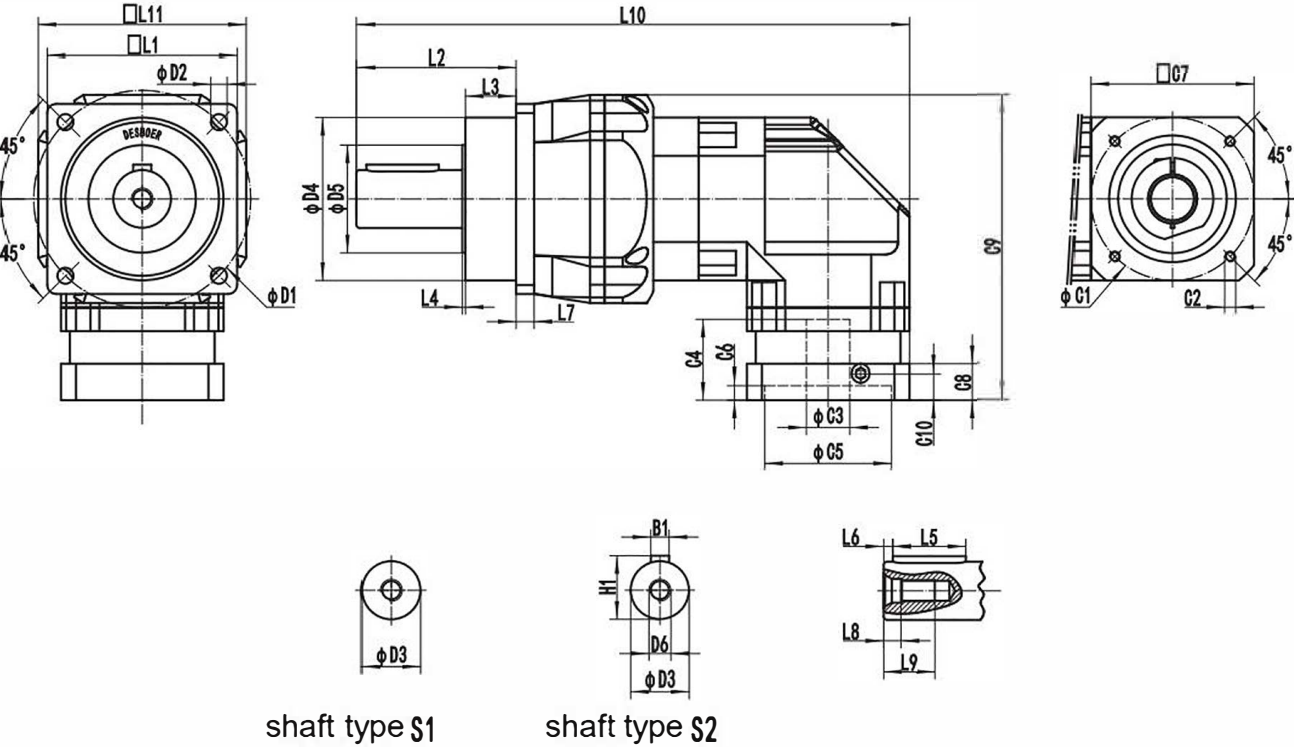
★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$

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

NFR140 Series

Parameter

Gearbox
performance data



(Unit: mm)

NFR140	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	165	11	40	130	75	M16 × 2P	142	115	30	3	70	5	20	12	36

NFR140	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	396	142	130	M8 × 1.25P	≤35	66	95	10	115	28	215	20.5	12	43

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															
Ultraprecise backlash	arcmin	≤4															
Precise backlash	arcmin	≤7															
Standard backlash	arcmin	≤9															
Torsional rigidity	Nm/arcmin	50															
Max. radial Force	N	14000															
Max. axial Force	N	11400															
Service Life	hr	30000 (15000 under continuous operation)															
Efficiency	%	≥92%															
Weight	kg	26.7															
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 · cm ²	6.84								6.25							

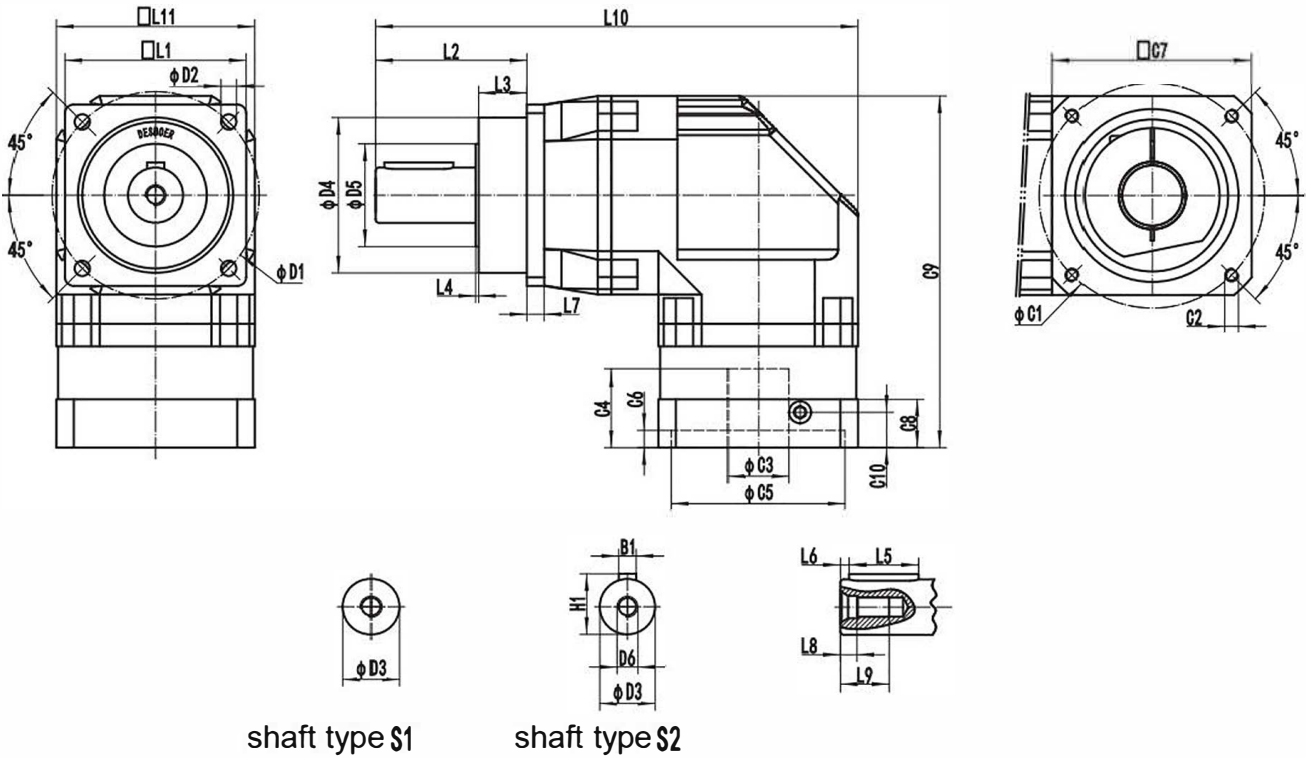
★ Maximum Output Torque $T_{2B}=60\% \times T_{2NOT}$
▲ Measured in the shaft center when the output speed is 100rpm

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

NFR180Series

Parameter

Gearbox
 performance data



(Unit: mm)

NFR180	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	215	13	55	160	105	M20×2.5P	180	115	30	3	70	6	20	15	42

NFR180	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	397	180	215	M12×1.75P	≤55	88	180	6	190	32	306.5	20.5	16	59

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	18000									
Max. axial Force	N	19500									
Service Life	hr	30000 (15000 under continuous operation)									
Efficiency	%	≥95%									
Weight	kg	50									
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 · cm ²	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.

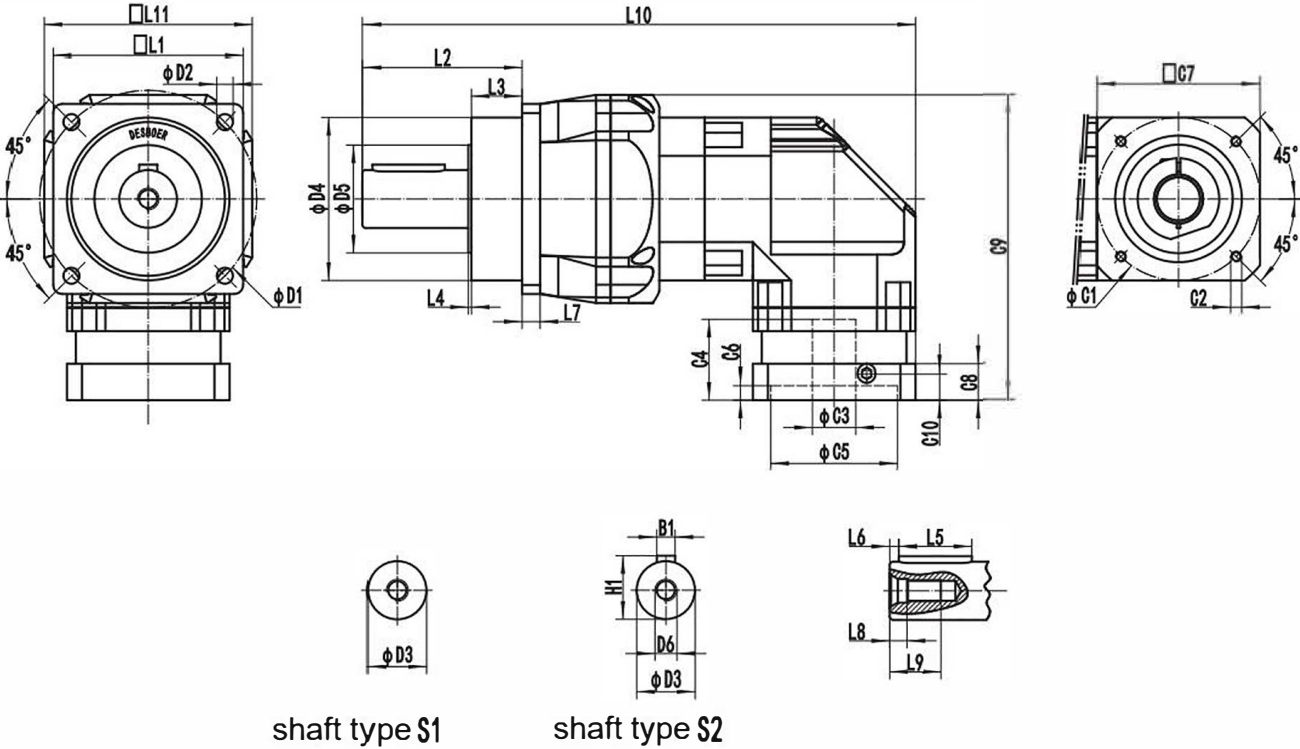
NFR180 Series

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	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	18000															
Max. axial Force	N	19500															
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



(Unit: mm)

NFR180	D1	D2	D3	D4	D5	D6	L1	L3	L3	L4	L3	L6	L7	L3	L9
	215	13	55	160	105	M20×2.5P	180	115	30	3	70	6	20	15	42

NFR180	L10	L11	C1*	C2*	C3*	C4*	C5*	C6*	C7*	C8*	C9*	C10*	B1	H1
	466	180	145	M8×1.25P	≤42	83	110	10	130	39	269	29	16	59

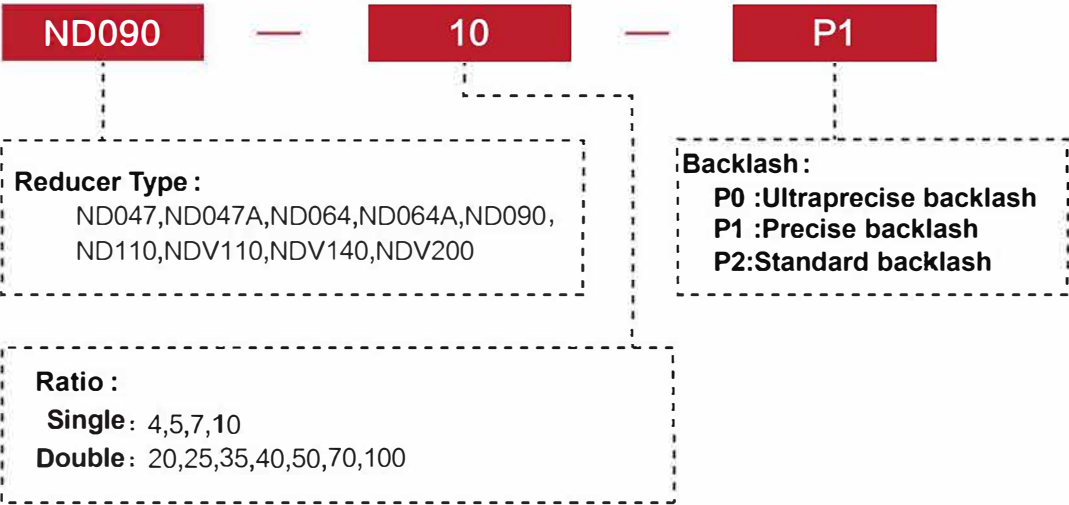
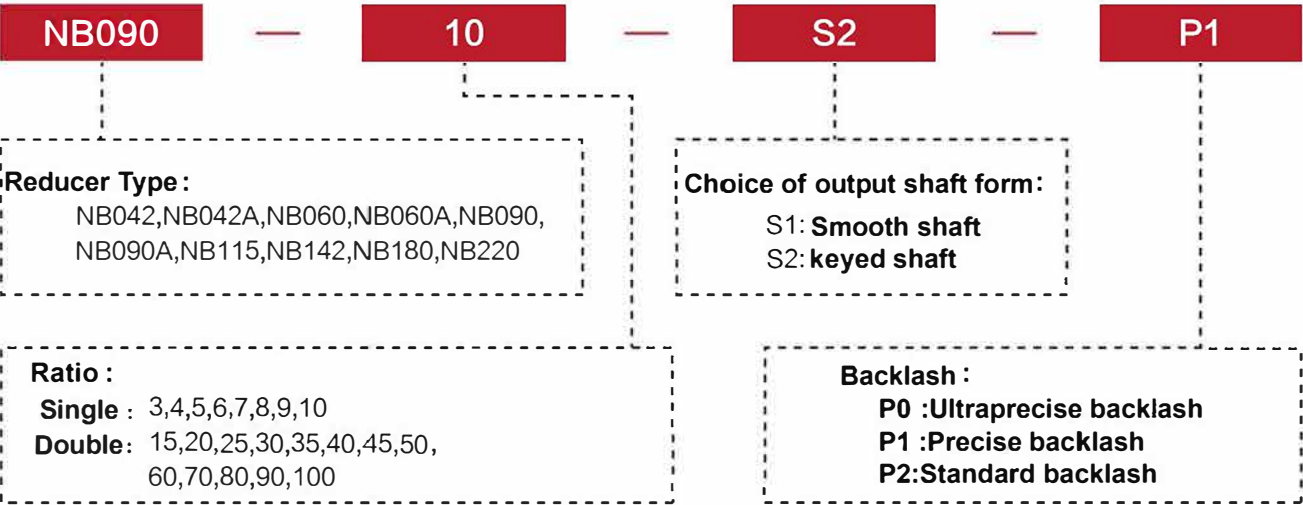
*Dimensions based on servo-motor,please contact us for custom made order.

Reducer order

Reducer order

NB series

ND series

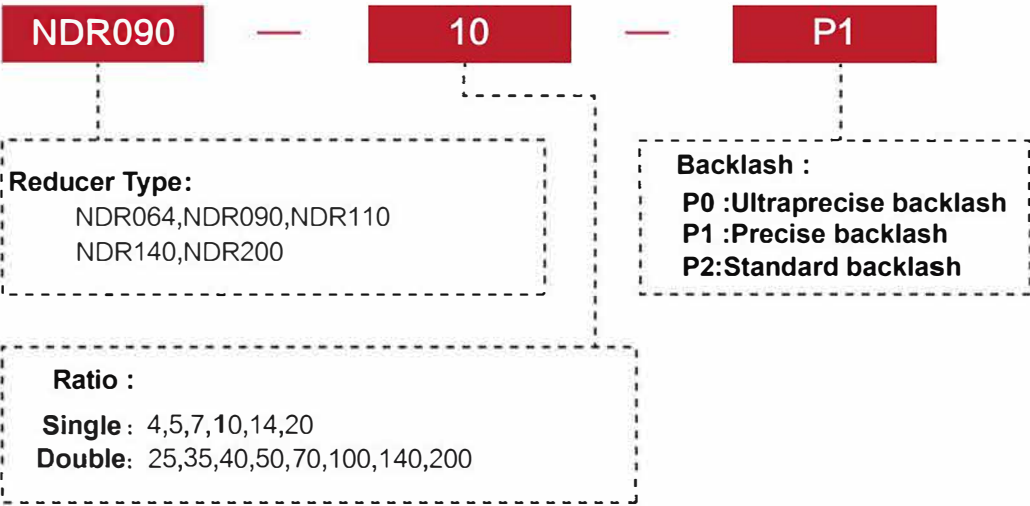
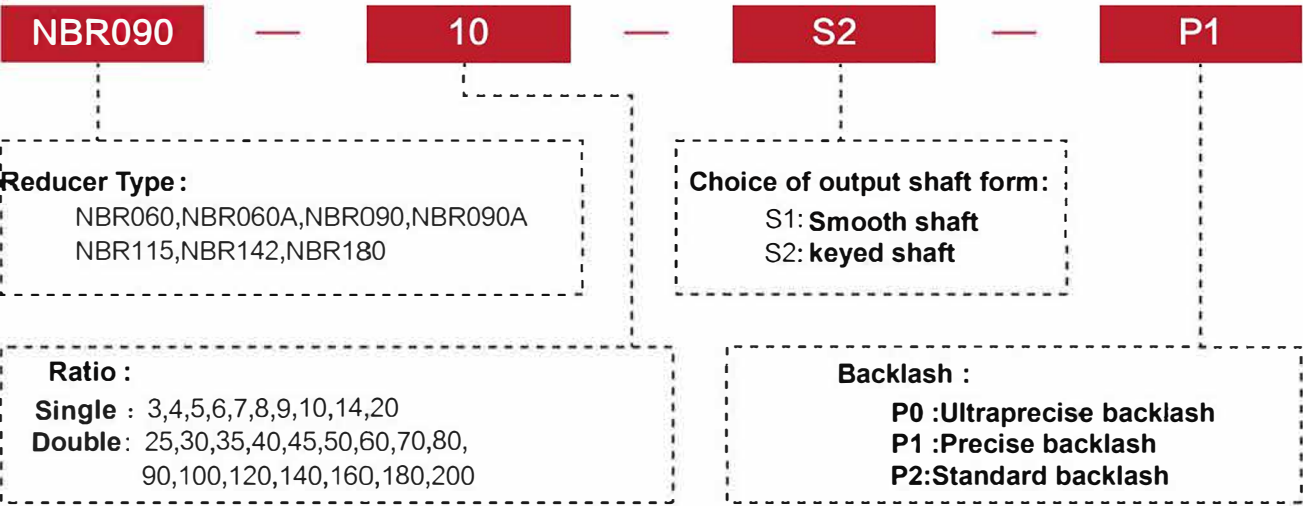


Selected examples : NB090–10–S2–P1 / SIEMENS 1FL6042–2AF

Selected examples : ND090–10–P1 / SIEMENS 1FL6042–2AF

NBR series

NDR series



Selected examples : NBR090–10–S2–P1 / SIEMENS 1FL6042–2AF

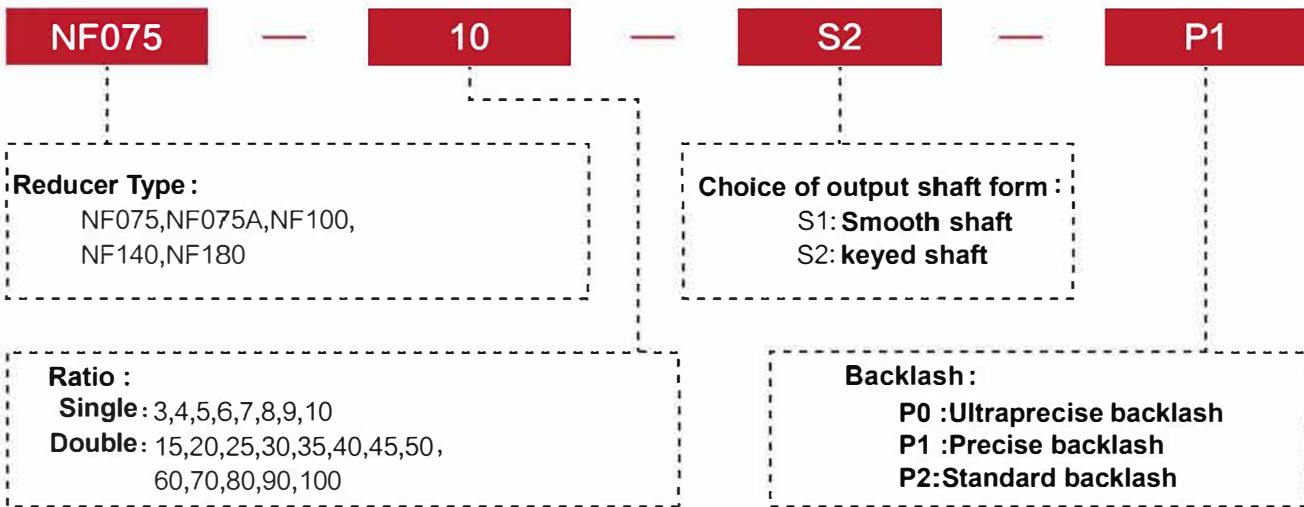
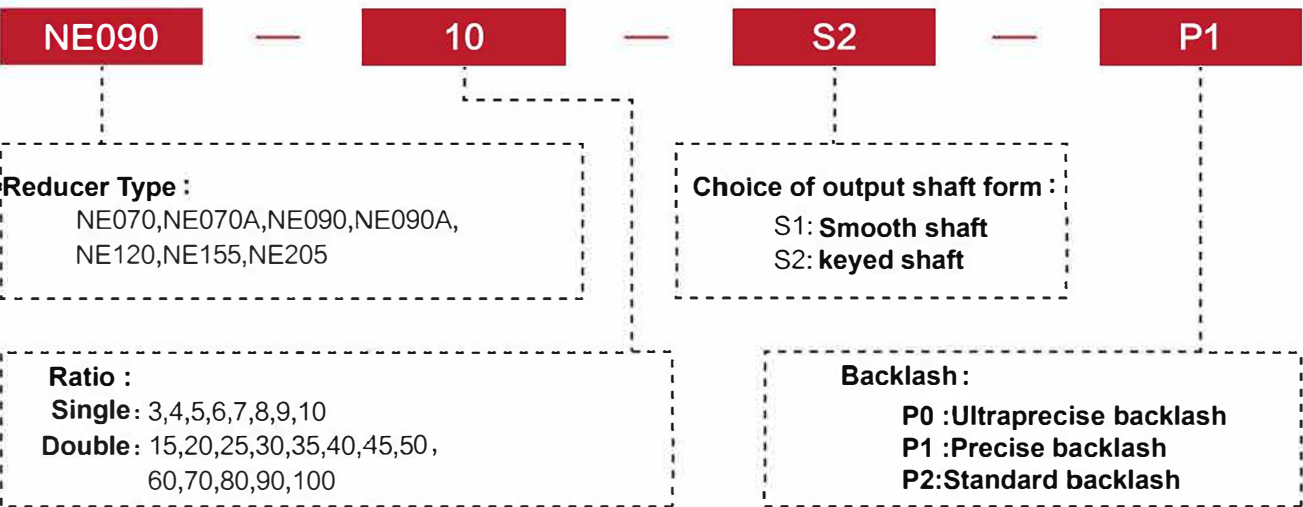
Selected examples : NDR090–10–P1 / SIEMENS 1FL6042–2AF

Reducer order

Reducer order

NE series

NF series

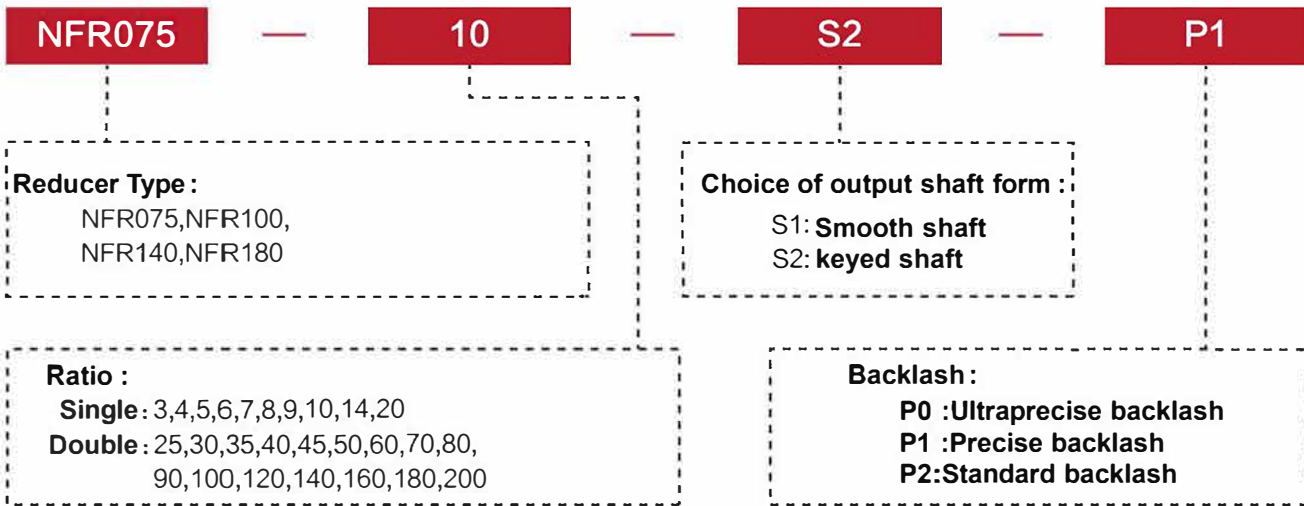
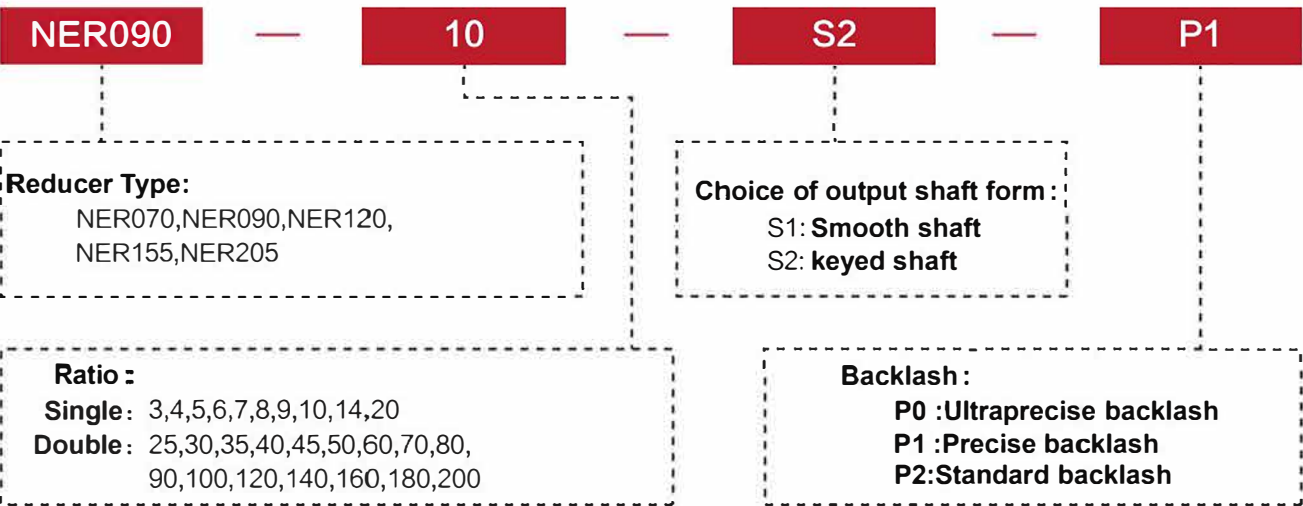


Selected examples : NE090-10-S2-P1 / SIEMENS 1FL6042-2AF

Selected examples : NF075-10-S2-P1 / SIEMENS 1FL6042-2AF

NER series

NFR series



Selected examples: NER090-10-S2-P1 / SIEMENS 1FL6042-2AF

Selected examples : NFR075-10-S2-P1 / SIEMENS 1FL6042-2AF