

AVATAR TD SERIES ROBOT JOINT MODULE



Product model illustration



TD	→	Avatar TD series				
XX	→	Motor model				
XX	→	Outer diameter				
PRO	→	PRO Hollow series	NH Solid series			
XX	→	51 Ratio	81 Ratio	101 Ratio	121 Ratio	
B	→	B Brake	Without brake			
IPXX	→	Waterproof level	IP40/IP67			



Avatar Intelligent Equipment Co., Ltd.

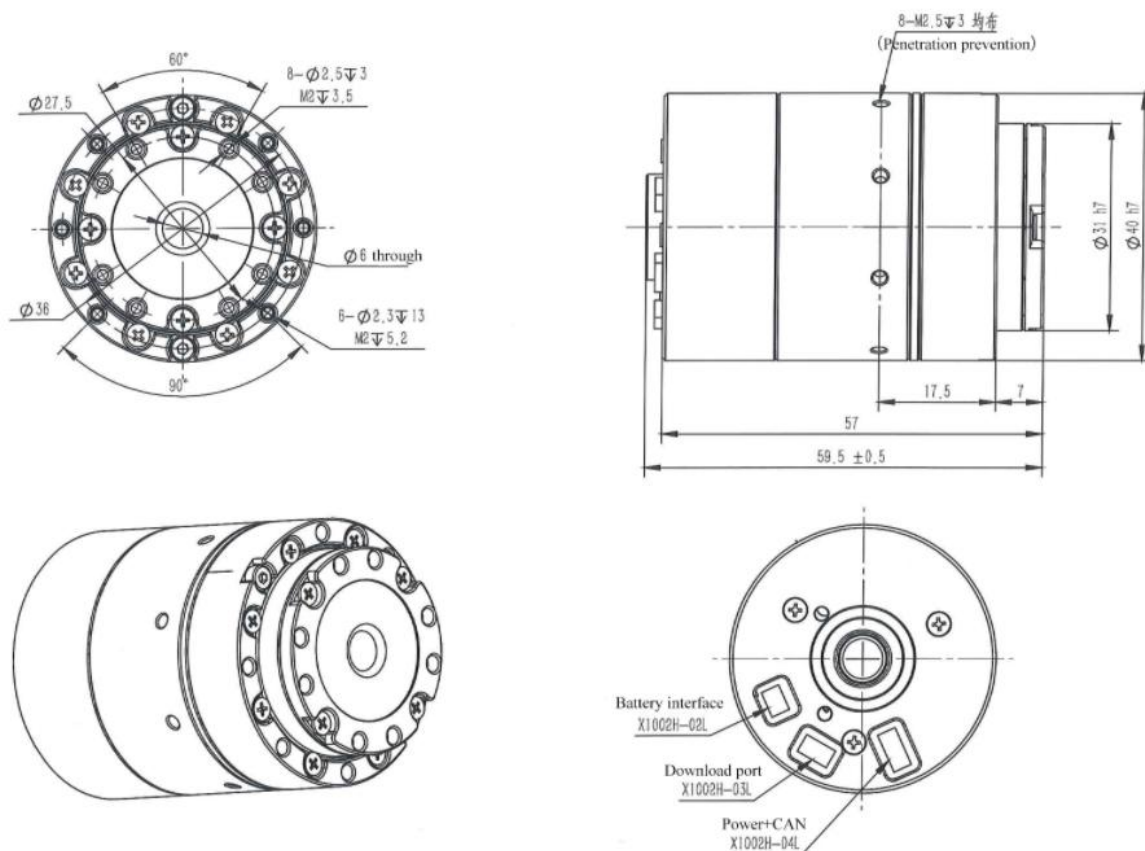
Add: No.Kinso Road, Zhengzhou, Henan Province, China

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Hollow TD series joint module quick selection table

Model	Ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Rated speed (RPM) (With 1/2 rated torque)
TD-30-40-PRO-XX	51/101	3.3/4.8	2.3/3.3	1.8/2.8	90/45
TD-40-52-PRO-XX	51/101	8.3/11	5.5/8.9	4/6.5	80/40
TD-50-60-PRO-XX	51/81/101	23/29/34	8.6/13.5/13.5	6.6/9.6/9.6	75/46/37
TD-50-70-PRO-XX	51/81/101	23/29/34	8.6/13.5/13.5	6.6/9.6/9.6	75/46/37
TD-60-70-PRO-XX	51/81/101/121	42/53/66/66	32/33/49/49	19.8/27.5/30/30	68/43/34/24
TD-60-80-PRO-XX	51/81/101/121	42/53/66/66	32/33/49/49	19.8/27.5/30/30	68/43/34/24
TD-70-90-PRO-XX	51/81/101/121	63/91/102/108	42/58/61/61	32/42/50/50	61/38/30/25
TD-80-110-PRO-XX	51/81/101/121/161	121/169/194/207/217	68.5/107/133/133/133	48/78/84/84/84	54/35/27/23/17
TD-100-142-PRO-XX	51/81/101/121/161	267/376/411/436/459	120/185/267/267/267	94/146/169/169/169	44/29/22/18/12
TD-110-170-PRO-XX	51/121/161	523/802/841	255/586/586	169/363/363	22/12/7

TD-30-40-PRO-XX joint module(without brake)

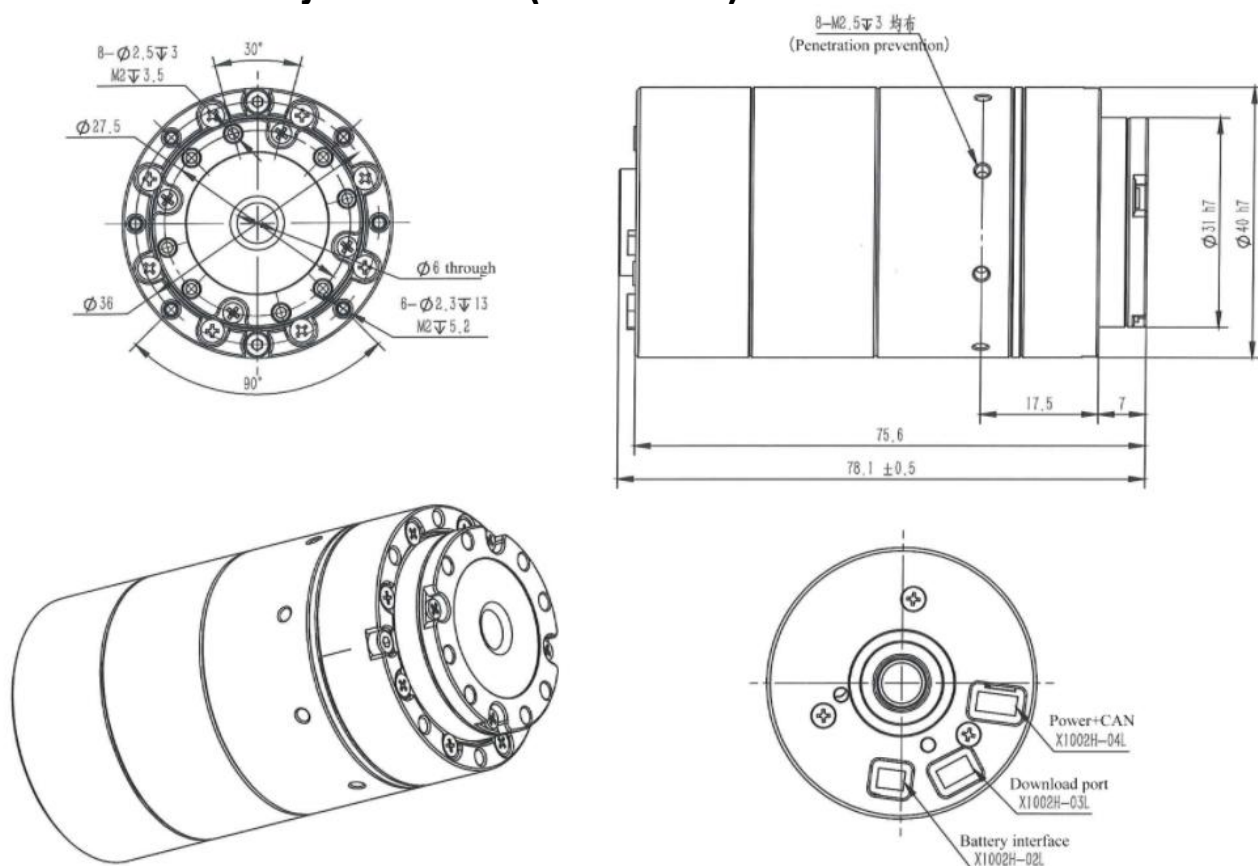


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	3.3	2.3	1.8	118	90	40
101	4.8	3.3	2.8	59	45	40

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
36	24-48	2	1	2.08	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.024	0.409	7	6	59.5±0.5	0.18	24

TD-30-40-PRO-XXB joint module(with brake)

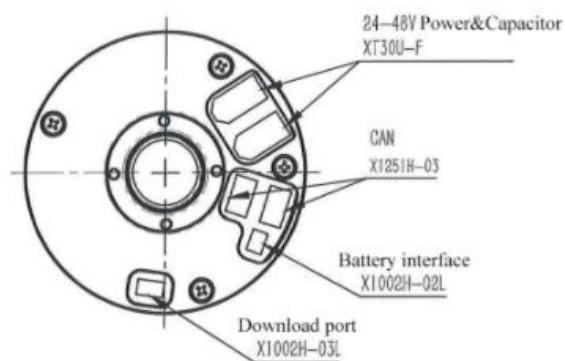
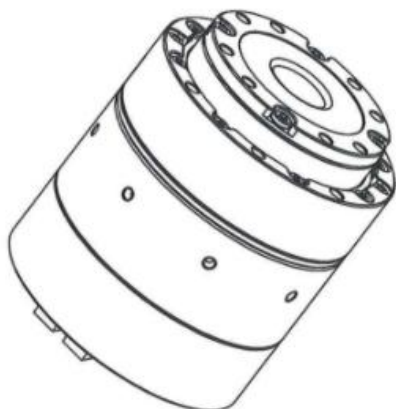
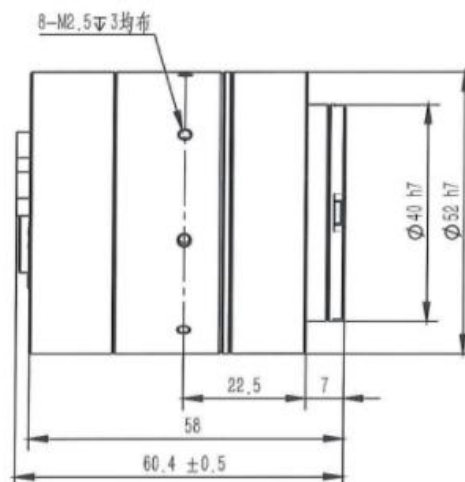
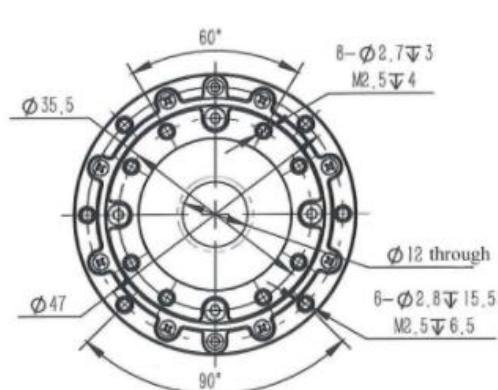


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36	24-48	2	1	2.08	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.024	0.409	7	6	78.1±0.5	0.23	24

TD-40-52-PRO-XX joint module(without brake)

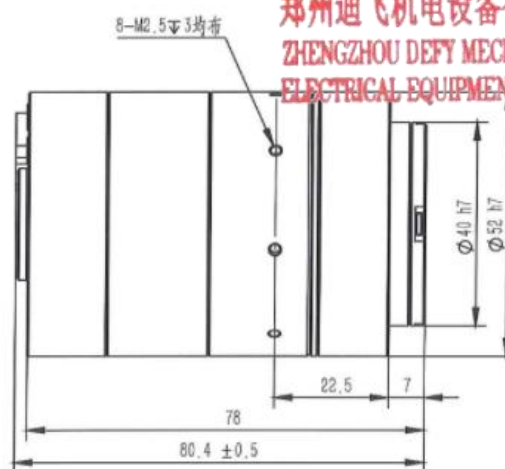
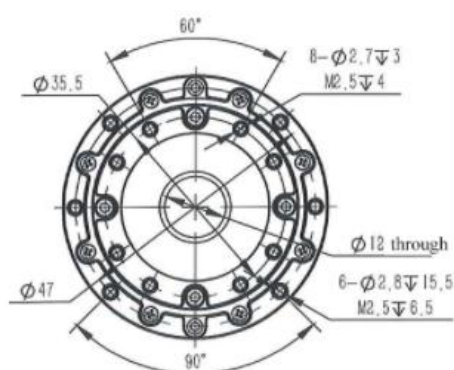


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	8.3	5.5	4	118	80	40
101	11	8.9	6.5	59	40	30

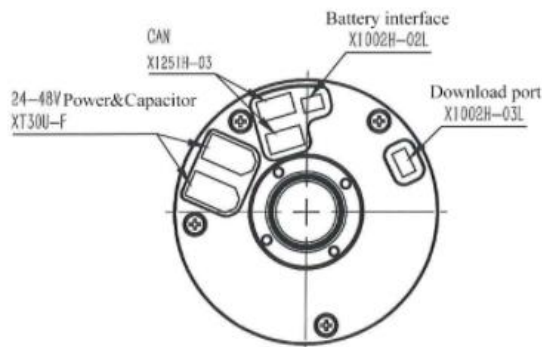
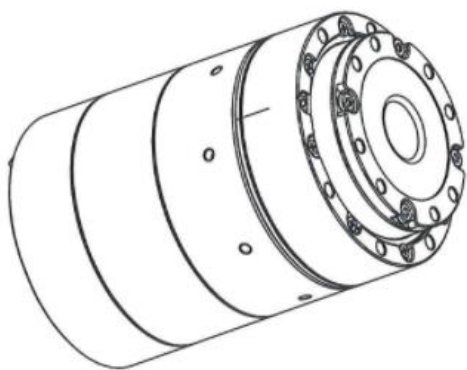
Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
90	24-48	3	2	1.96	17	CAN

Torque constant(N. m/A)	Inductance(m H)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.05	0.788	7	12	60.4±0.5	0.3	82

TD-40-52-PRO-XXB joint module(with brake)



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ZHENGZHOU DEFF MECHANICAL &
ELECTRICAL EQUIPMENT CO.,LTD.

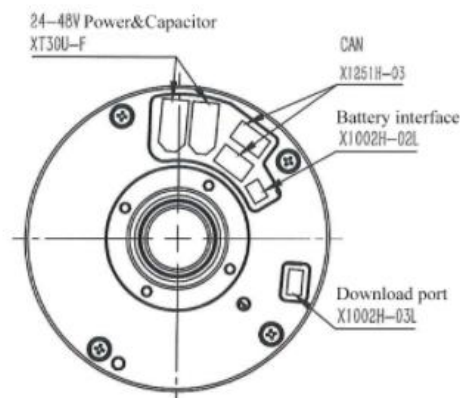
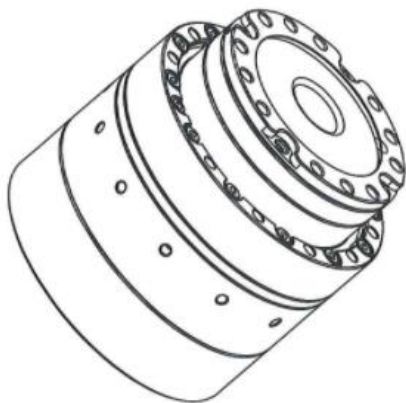
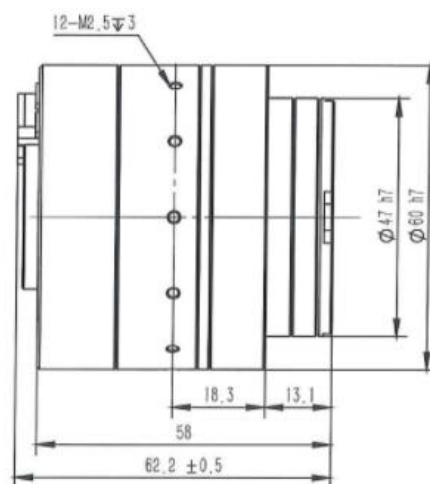
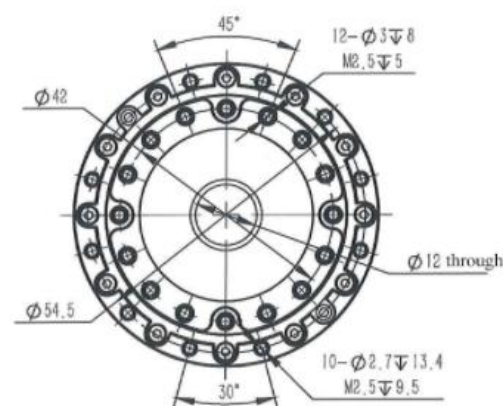


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
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Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communica tion bus
90	24-48	3	2	1.96	17	CAN

Torque constant(N. m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(m m)	Weight(kg)	Inertia(g * cm ²)
0.05	0.788	7	12	80.4±0.5	0.38	127

TD-50-60-PRO-XX joint module(without brake)

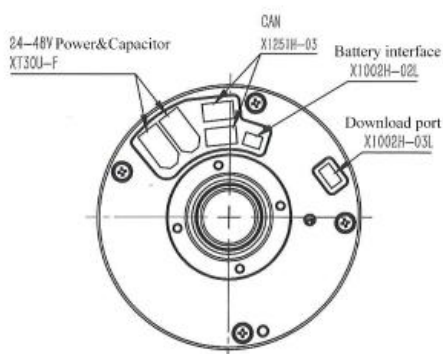
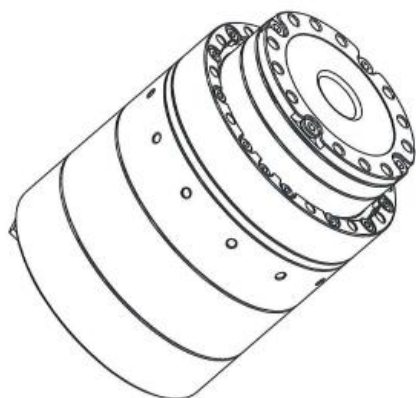
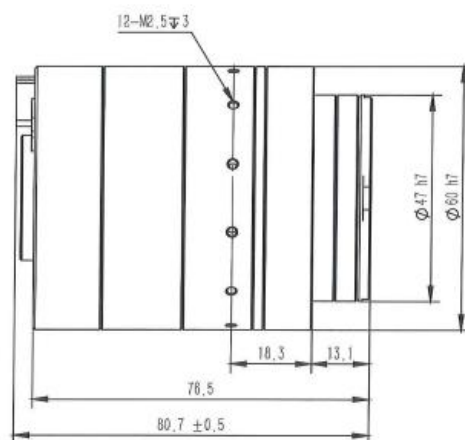
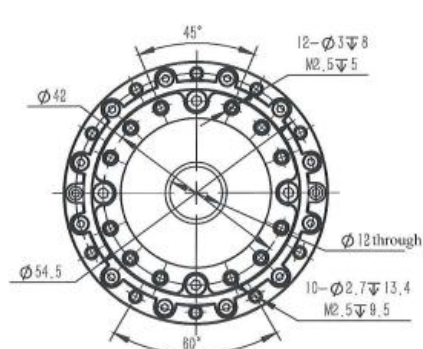


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	23	8.6	6.6	97	75	20
81	29	13.5	9.6	61	46	20
101	34	13.5	9.6	49	37	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
150	24-48	5	3.6	0.47	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole -pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.089	0.215	10	12	62.2±0.5	0.42	112

TD-50-60-PRO-XXB joint module(with brake)

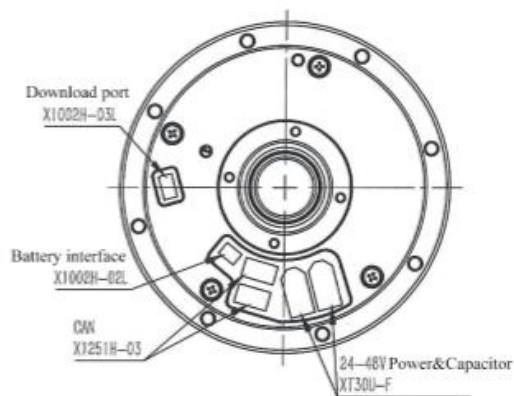
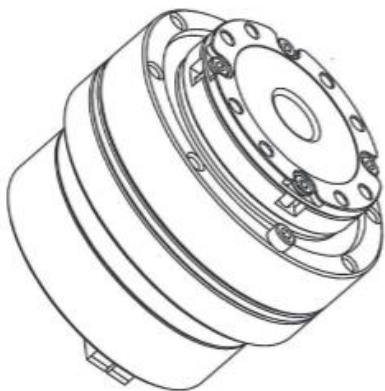
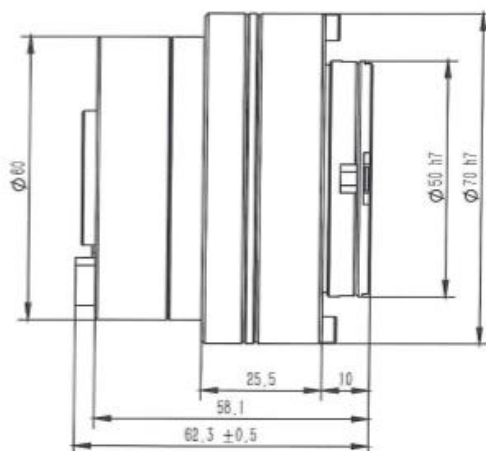
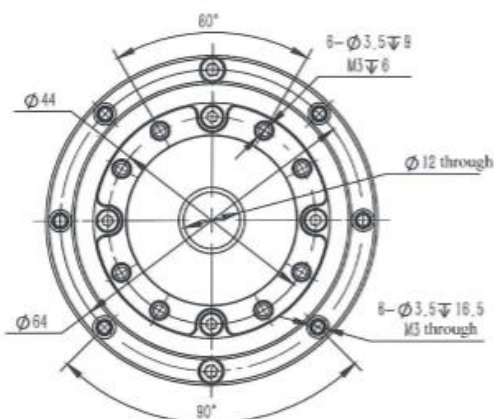


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
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150	24-48	5	3.6	0.47	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.089	0.215	10	12	80.7±0.5	0.59	146

TD-50-70-PRO-XX joint module(without brake)

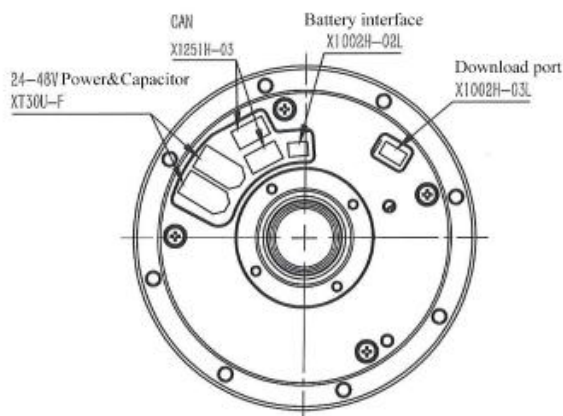
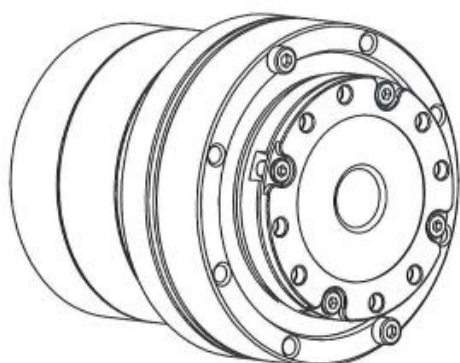
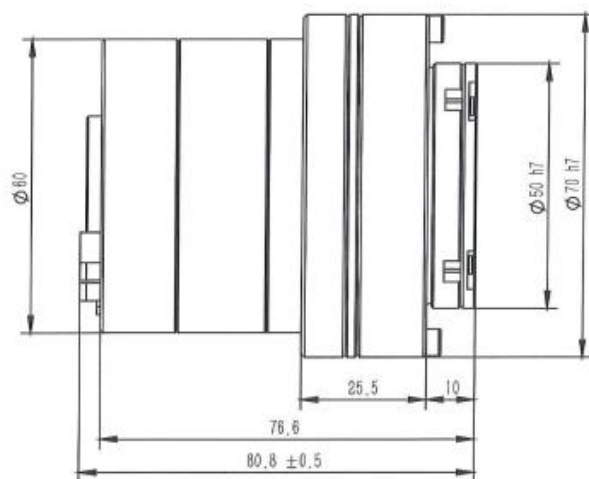
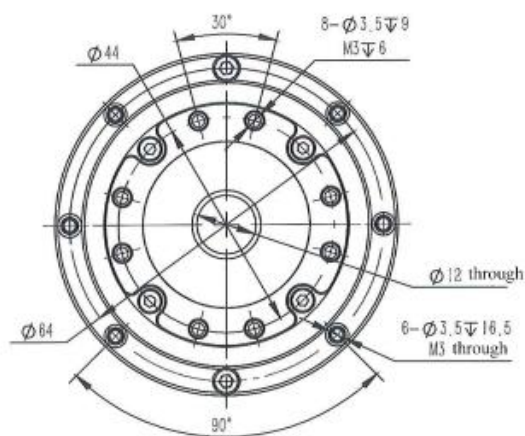


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101	34	13.5	9.6	49	37	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance (Ω)	Encoder Resolution (Bit)	Communication bus
150	24-48	5	3.6	0.47	17	CAN

Torque constant (N.m/A)	Inductance (mH)	Number of pole-pairs	Through hole (mm)	Length (m)	Weight (kg)	Inertia (g * cm ²)
0.089	0.215	10	12	62.3±0.5	0.63	124

TD-50-70-PRO-XXB joint module(with brake)

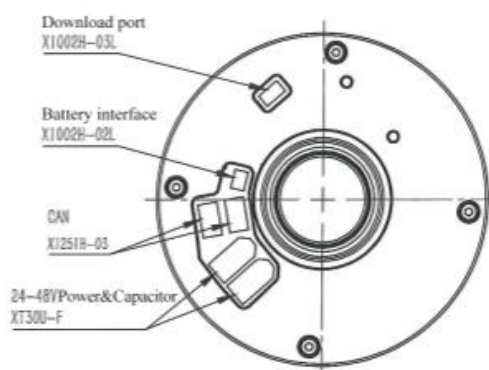
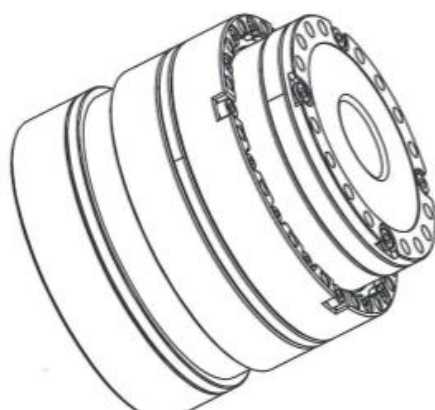
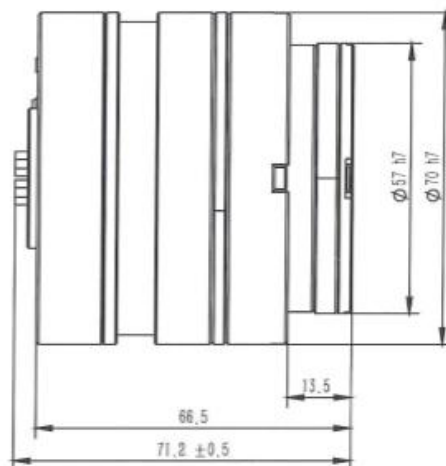
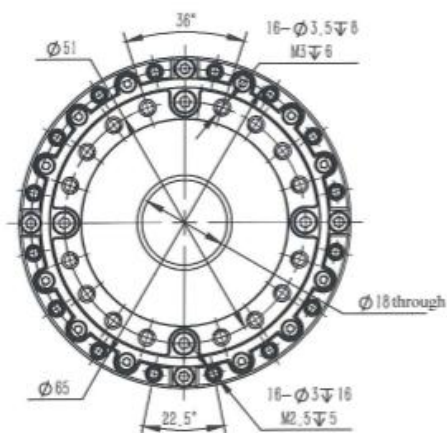


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Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
150	24-48	5	3.6	0.47	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.089	0.215	10	12	80.8±0.5	0.8	147

TD-60-70-PRO-XX joint module(without brake)

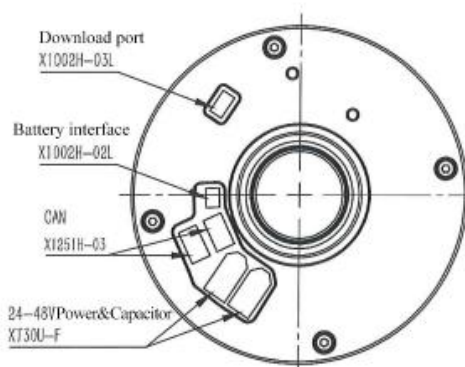
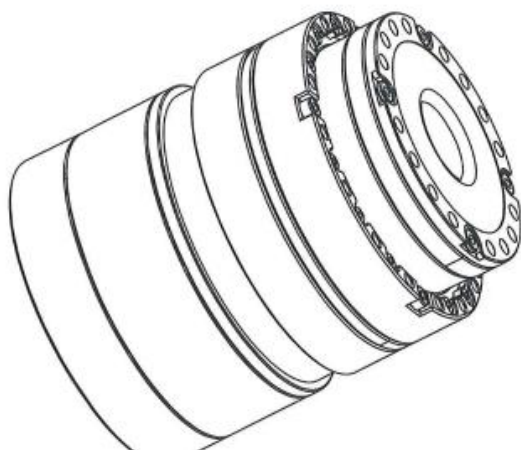
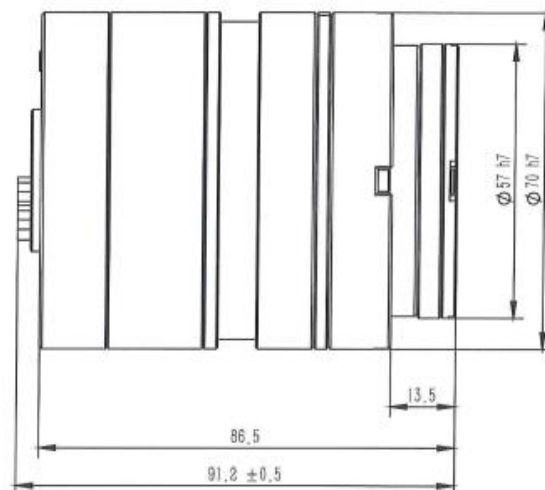
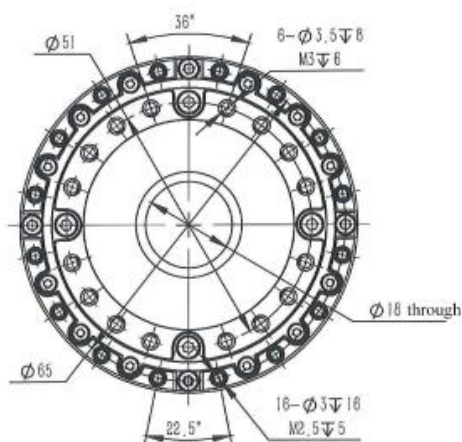


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	42	32	19.8	82	68	20
81	53	33	27.5	51	43	20
101	66	49	30	41	34	10
121	66	49	30	32	24	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
300	24-48	6.7	5	0.33	17	CAN

Torque constant(N.m/A)	Inductance(m H)	Number of pole -pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.096	0.074	10	18	71.2±0.5	0.69	382

TD-60-70-PRO-XXB joint module(with brake)

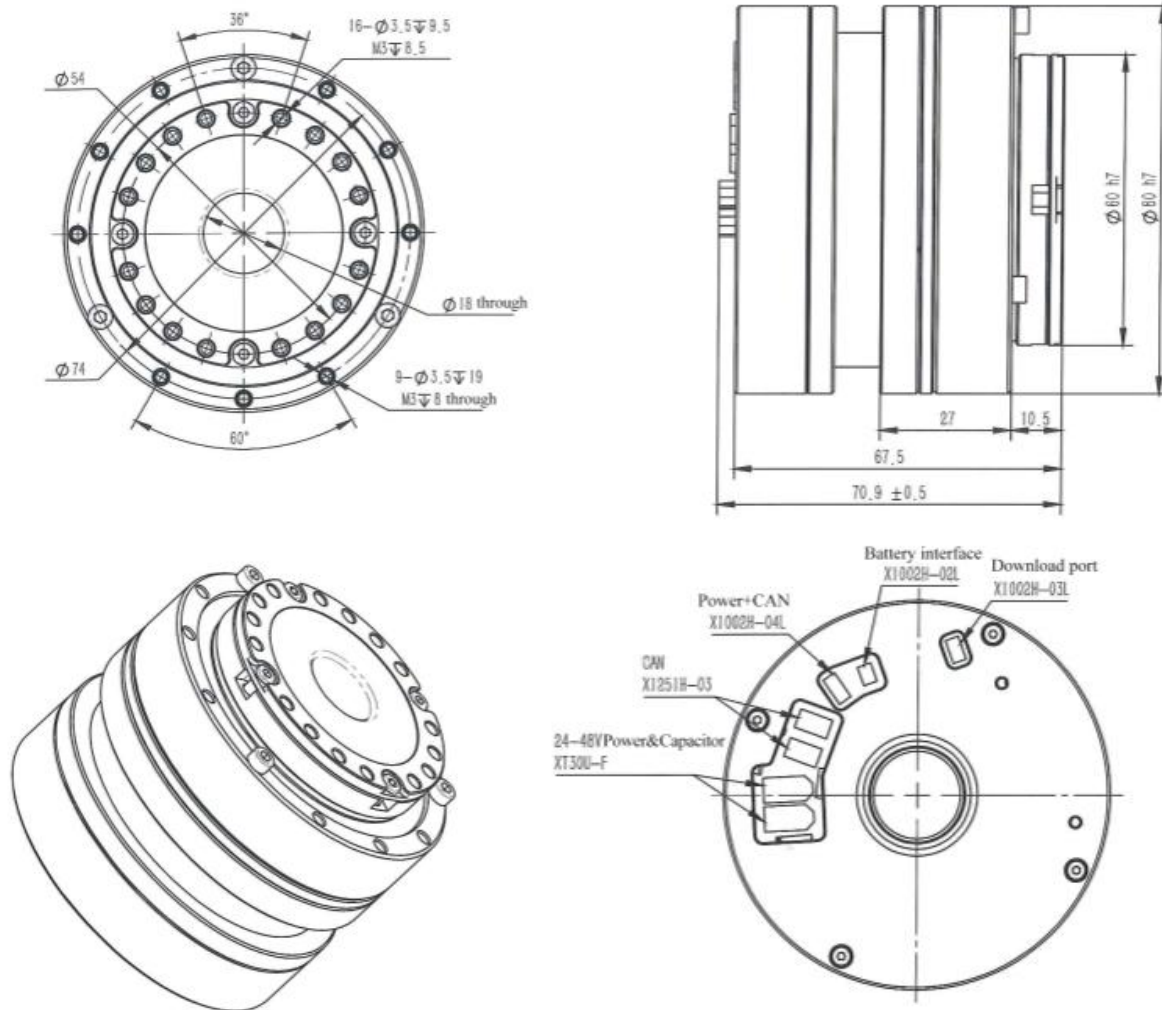


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	42	32	19.8	82	68	20
81	53	33	27.5	51	43	20
101	66	49	30	41	34	10
121	66	49	30	32	24	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
300	24-48	6.7	5	0.33	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.096	0.074	10	18	91.2±0.5	0.84	538

TD-60-80-PRO-XX joint module(without brake)

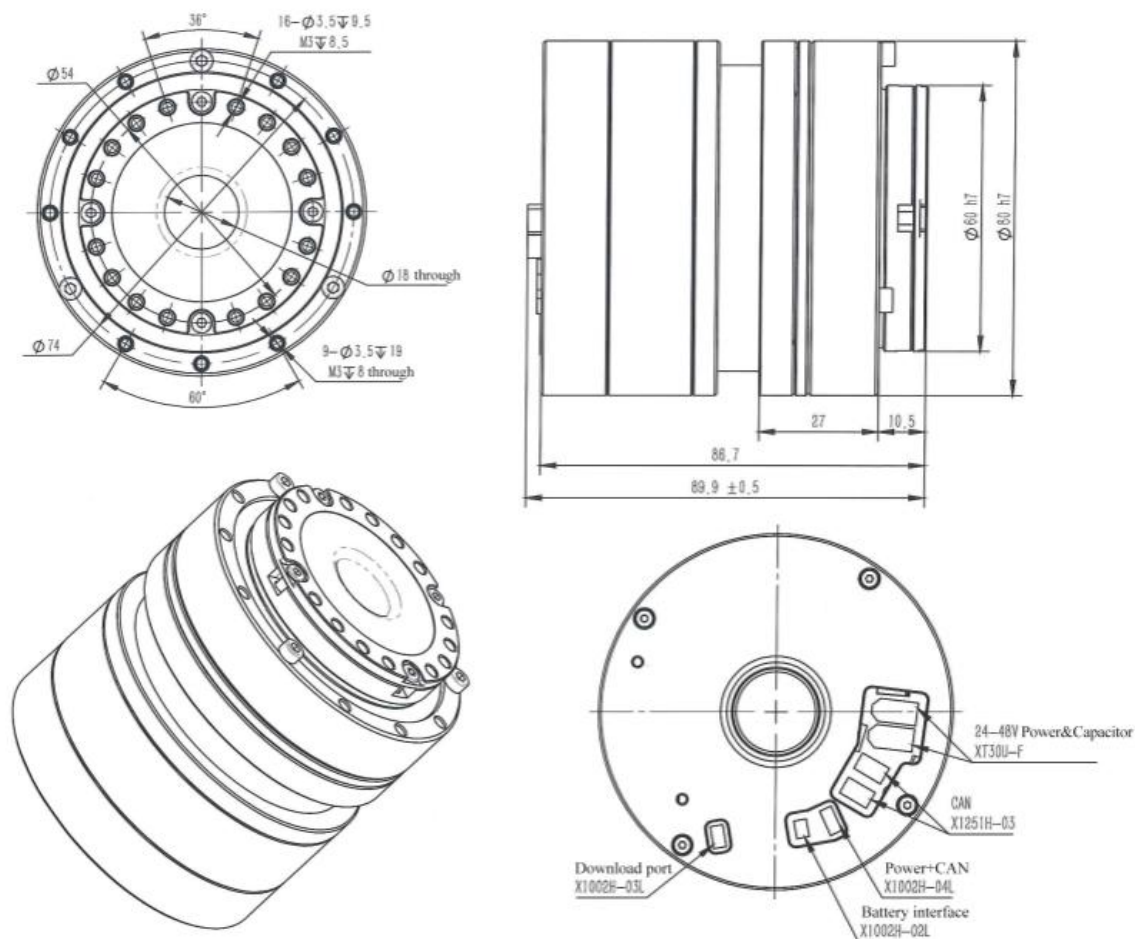


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	42	32	19.8	82	68	20
81	53	33	27.5	51	43	20
101	66	49	30	41	34	10
121	66	49	30	32	24	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
300	24-48	6.7	5	0.33	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.096	0.074	10	18	70.9±0.5	1.01	441

TD-60-80-PRO-XXB joint module(with brake)

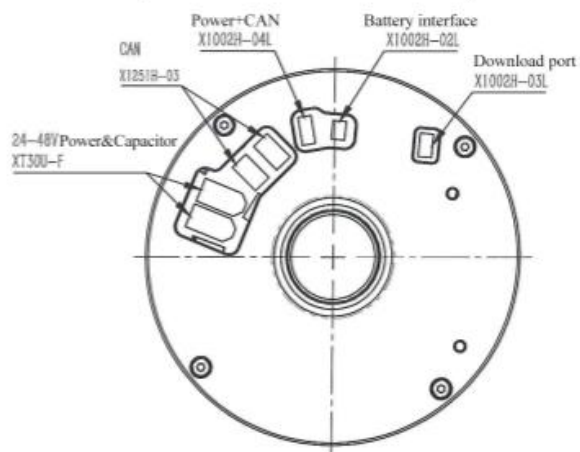
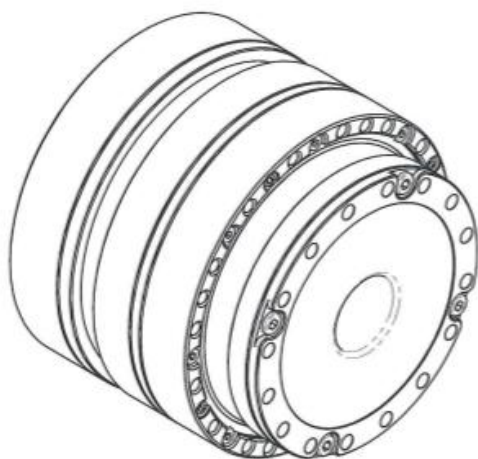
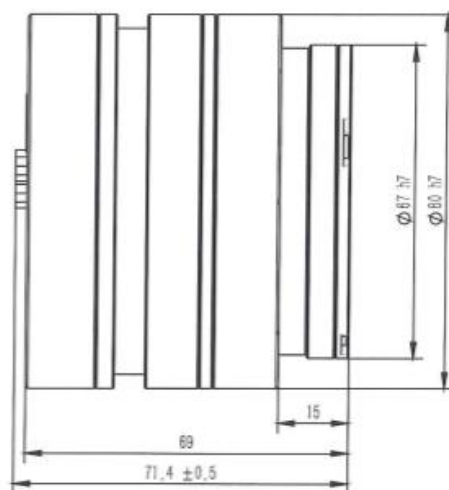
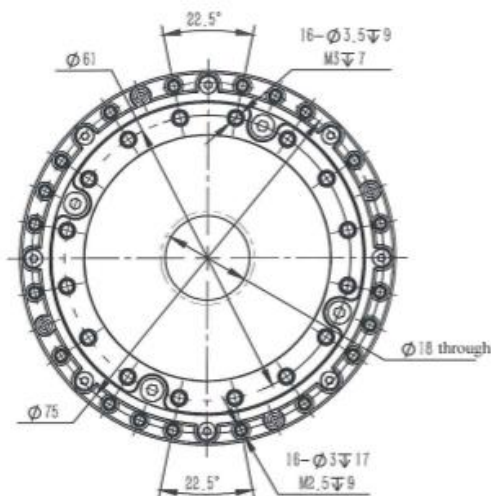


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Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
300	24-48	6.7	5	0.33	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.096	0.074	10	18	89.9±0.5	1.17	595

TD-70-80-PRO-XX joint module(without brake)

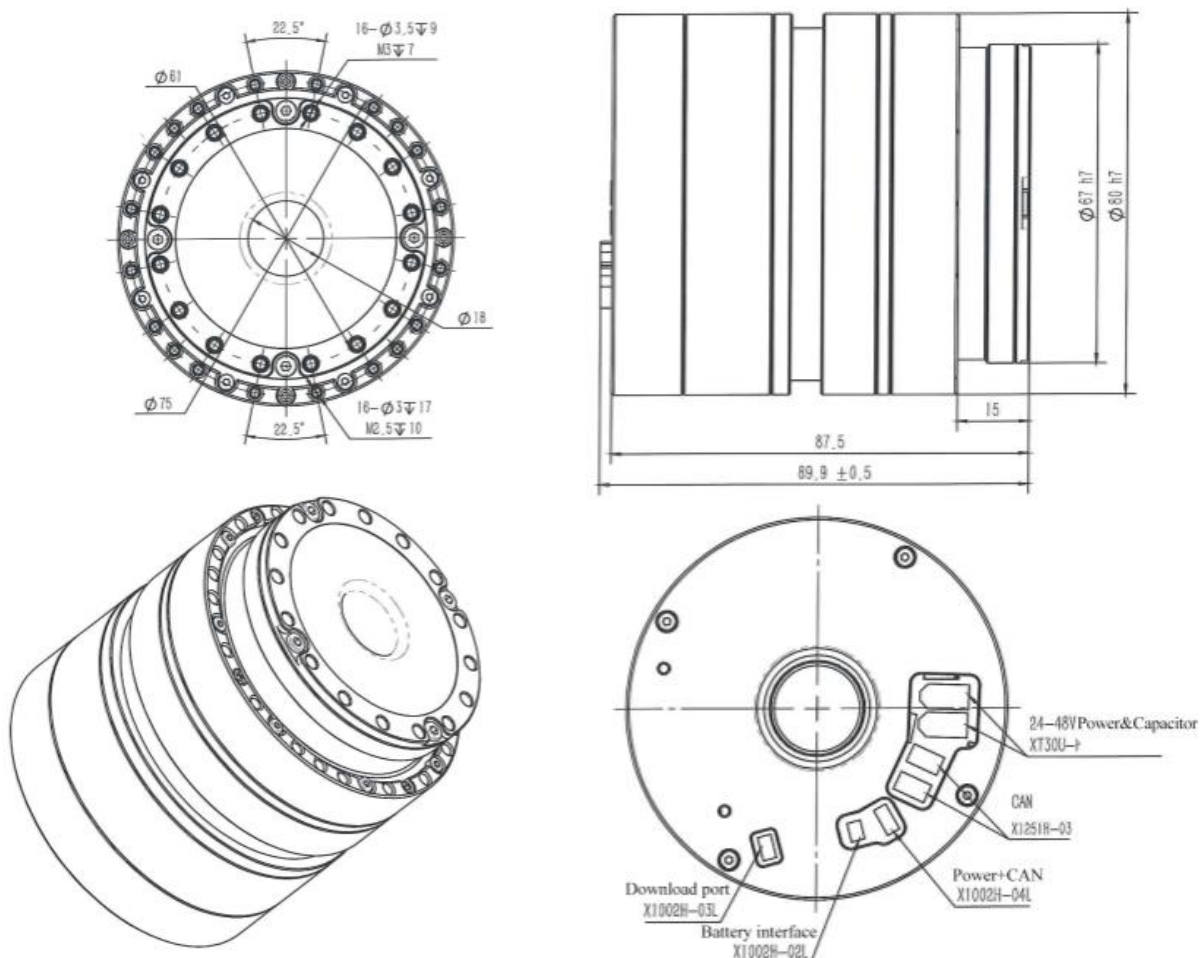


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	63	42	32	77	61	20
81	91	58	42	48	38	20
101	102	61	50	40	30	10
121	108	61	50	30	25	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
500	24-48	8.4	6.1	0.38	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.118	0.33	10	18	71.4±0.5	0.95	569

TD-70-80-PRO-XXB joint module(with brake)

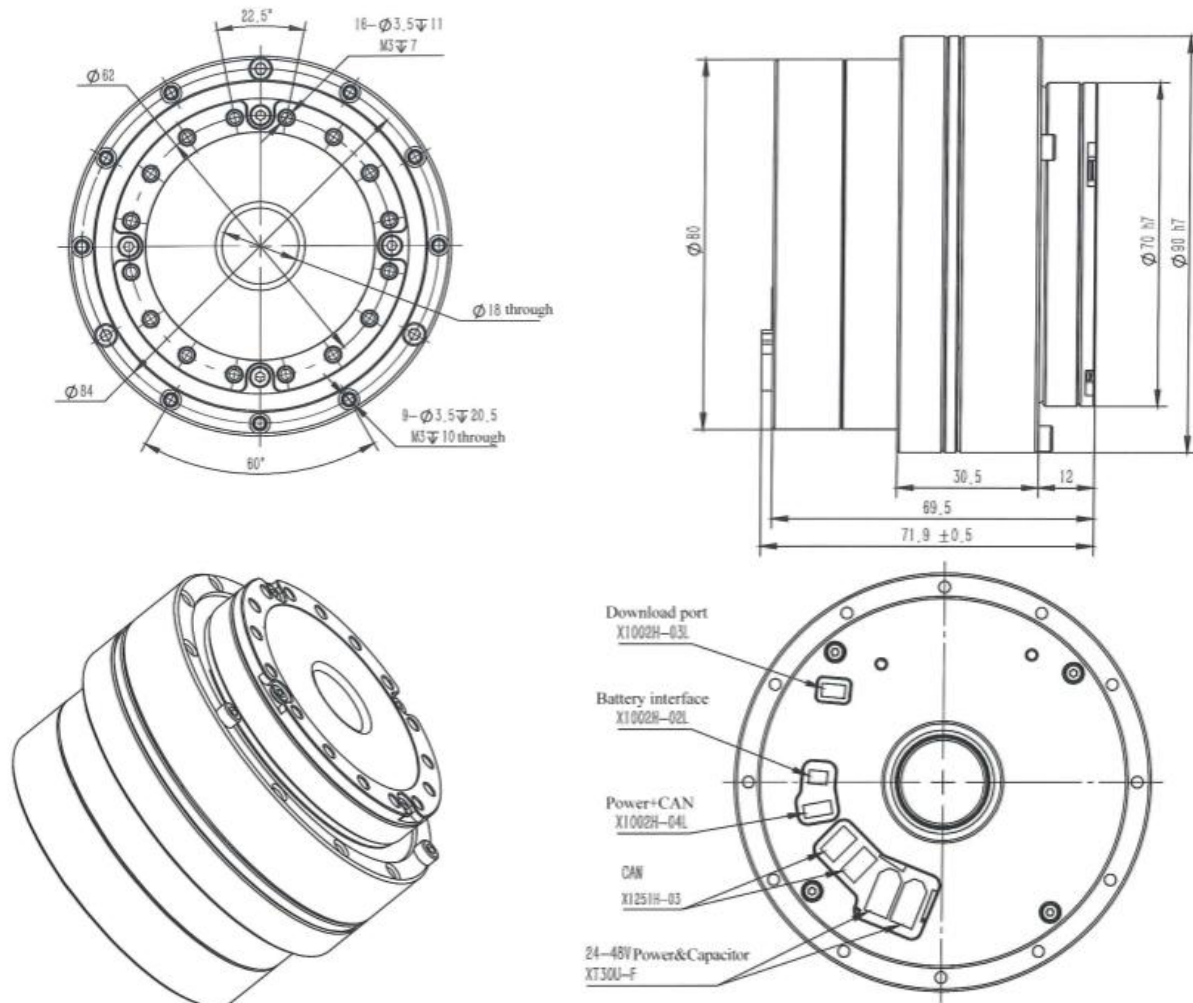


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	63	42	32	77	61	20
81	91	58	42	48	38	20
101	102	61	50	40	30	10
121	108	61	50	30	25	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
500	24-48	8.4	6.1	0.38	17	CAN

Torque constant(N.m/A)	Inductance(m H)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.118	0.33	10	18	89.9±0.5	1.3	679

TD-70-90-PRO-XX joint module(without brake)

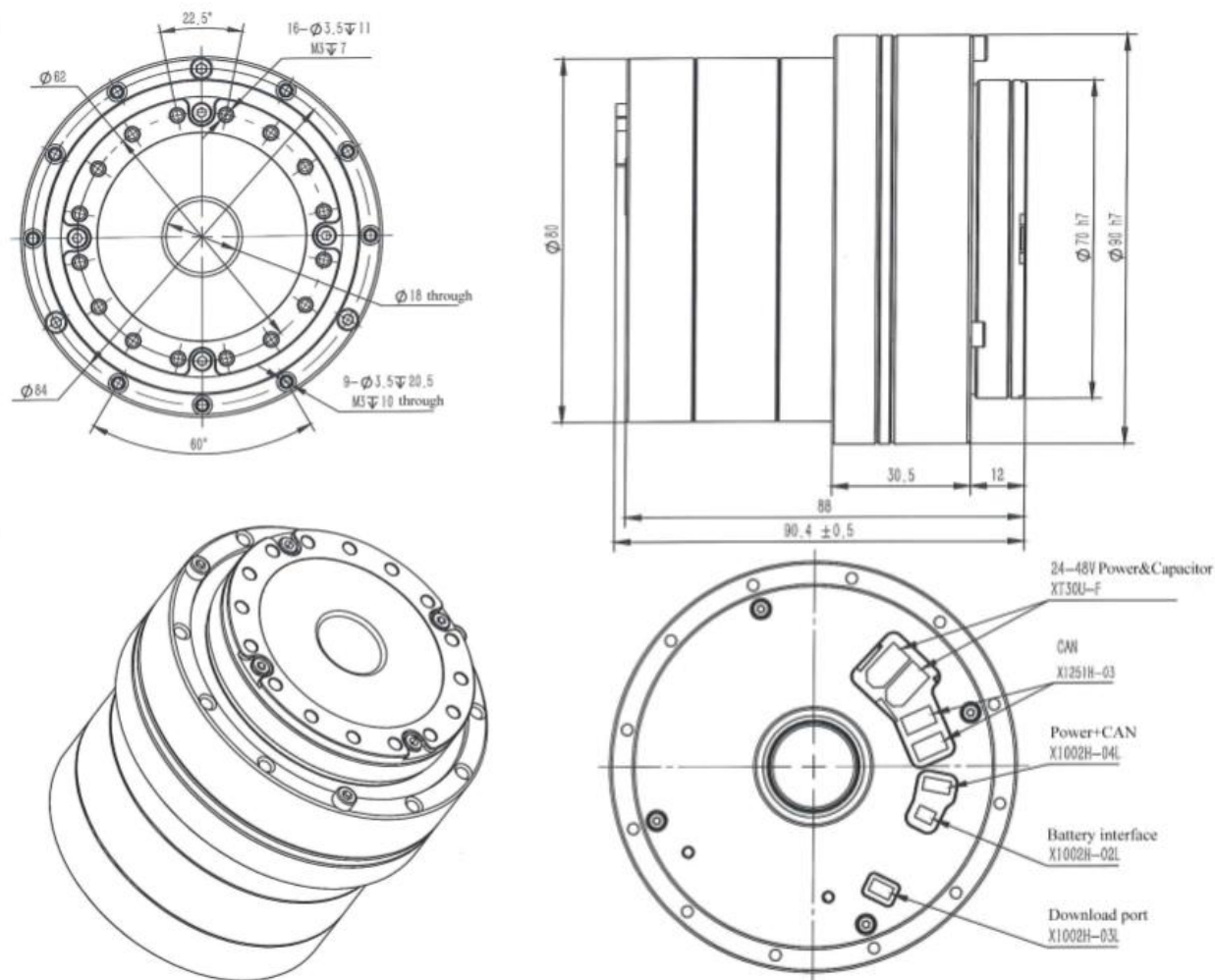


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	63	42	32	77	61	20
81	91	58	42	48	38	20
101	102	61	50	40	30	10
121	108	61	50	30	25	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
500	24-48	8.4	6.1	0.38	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.118	0.33	10	18	71.9±0.5	1.3	594

TD-70-90-PRO-XXB joint module(with brake)

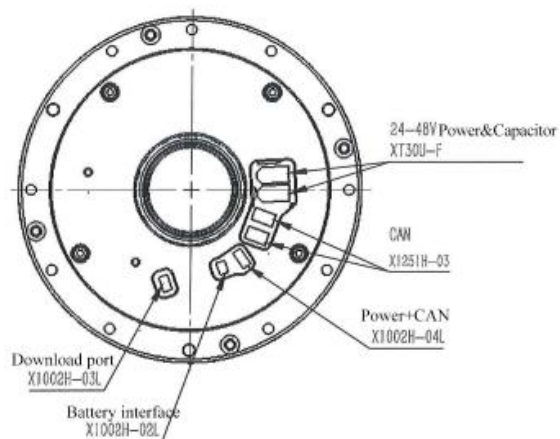
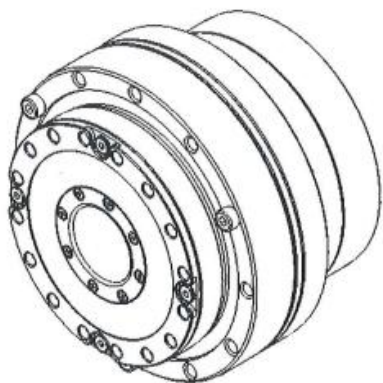
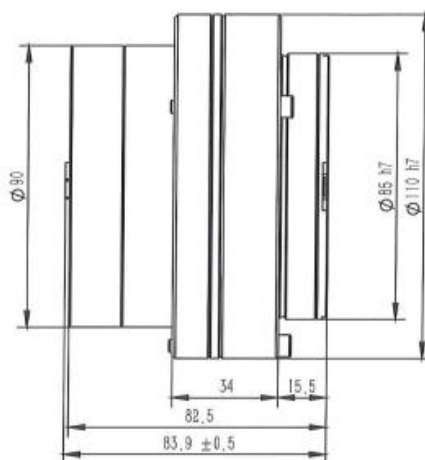
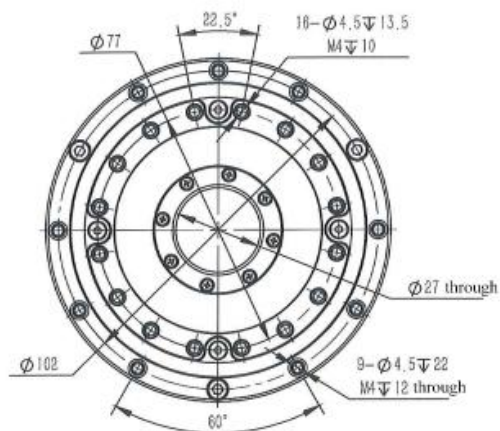


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	63	42	32	77	61	20
81	91	58	42	48	38	20
101	102	61	50	40	30	10
121	108	61	50	30	25	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
500	24-48	8.4	6.1	0.38	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.118	0.33	10	18	90.4±0.5	1.6	682

TD-80-110-PRO-XX joint module(without brake)

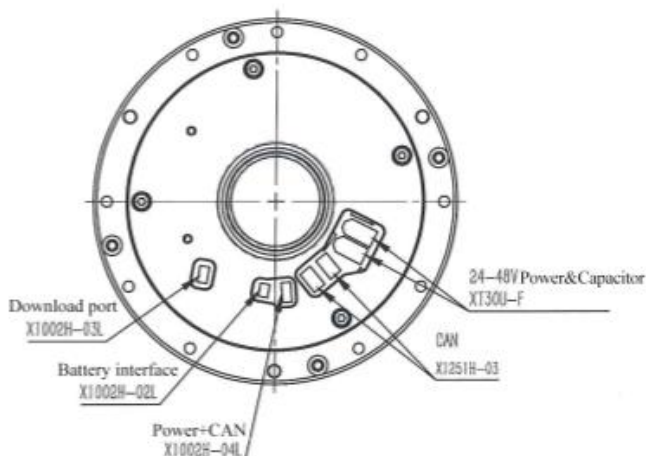
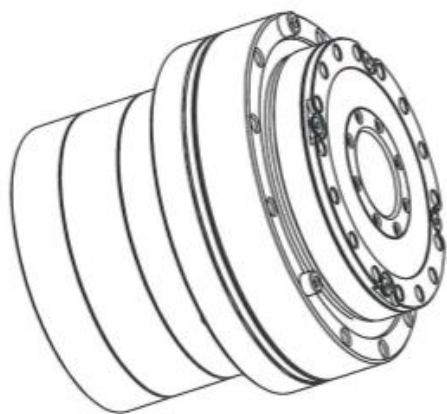
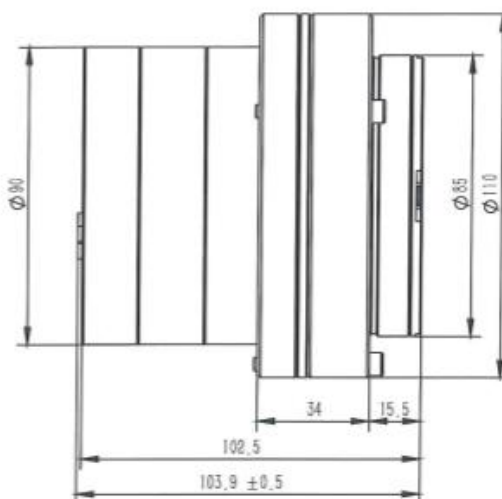
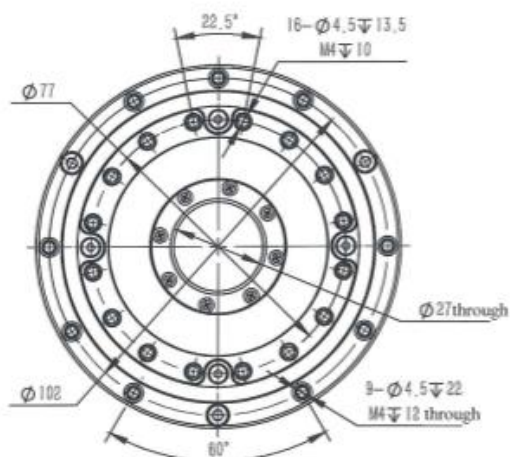


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	121	68.5	48	65	54	20
81	169	107	78	43	35	20
101	194	133	84	36	27	10
121	207	133	84	30	23	10
161	217	133	84	22	17	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
750	24-48	10.4	9	0.13	17	CAN

Torque constant(N .m/A)	Inductance(m H)	Number of pole -pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.143	0.25	8	27	83.9±0.5	2.1	1255

TD-80-110-PRO-XXB joint module(with brake)

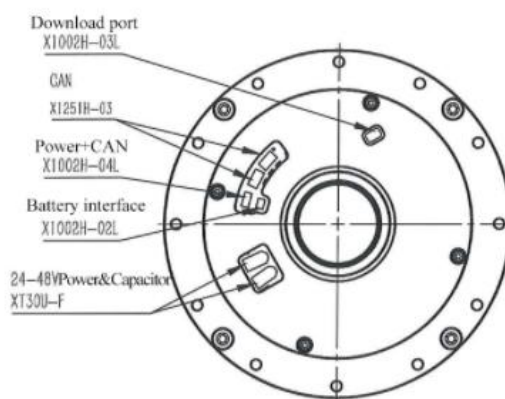
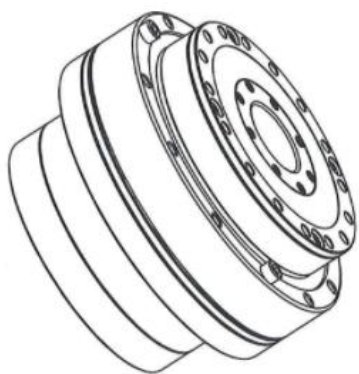
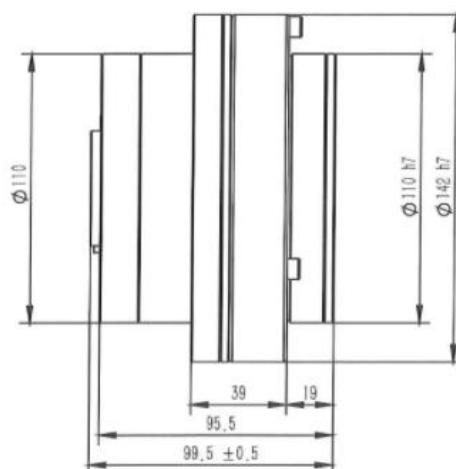
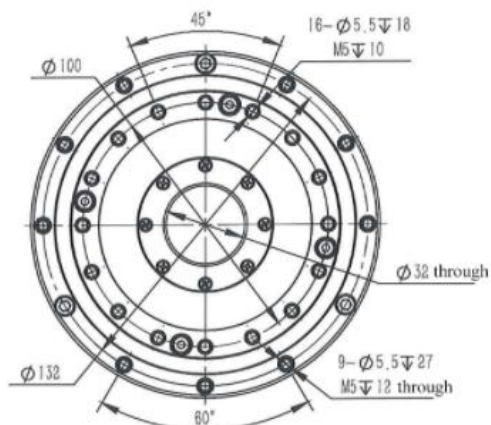


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	121	68.5	48	65	54	20
81	169	107	78	43	35	20
101	194	133	84	36	27	10
121	207	133	84	30	23	10
161	217	133	84	22	17	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
750	24-48	10.4	9	0.13	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.143	0.25	8	27	103.9±0.5	2.6	1484

TD-100-142-PRO-XX Robot Joint (without brake)

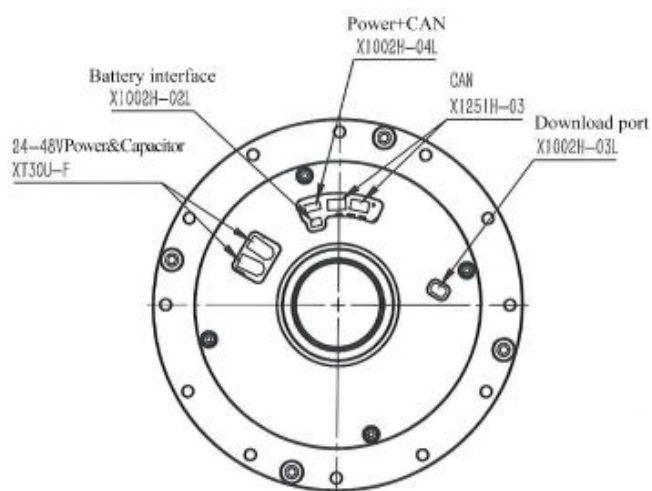
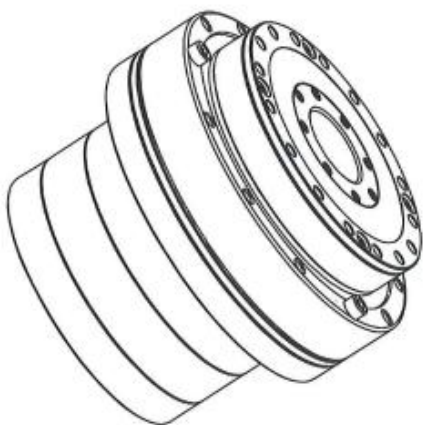
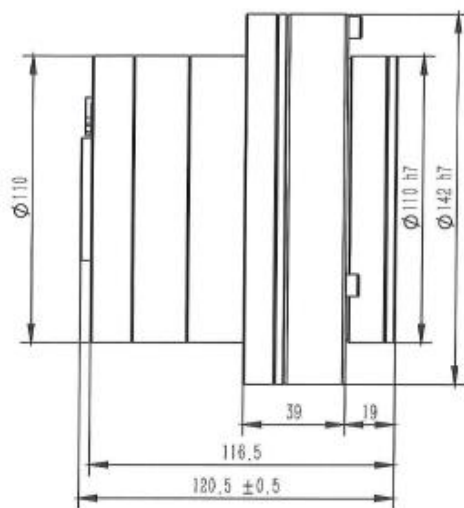
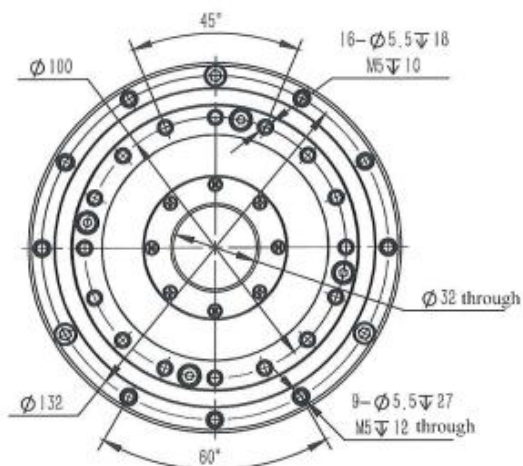


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	267	120	94	55	44	20
81	376	185	146	37	29	20
101	411	267	169	29	22	10
121	436	267	169	24	18	10
161	459	267	169	18	12	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
1000	24-48	16.9	15.8	0.12	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole -pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.175	0.3	8	32	99.5±0.5	3.8	3601

TD-100-142-PRO-XXB Robot Joint (with brake)

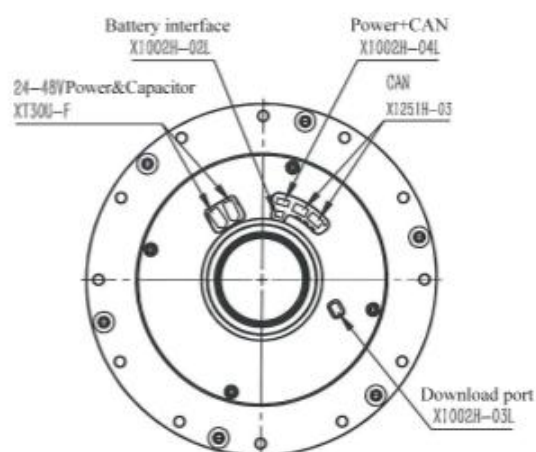
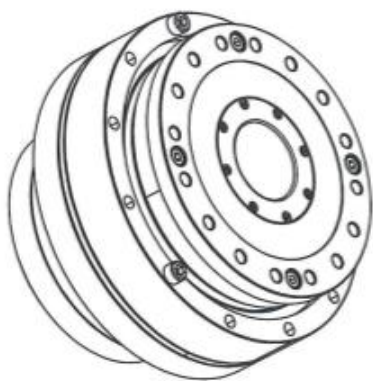
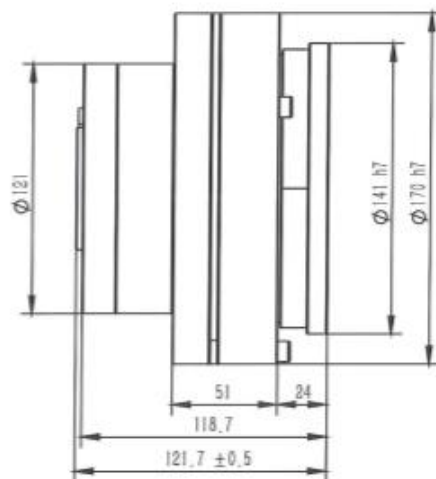
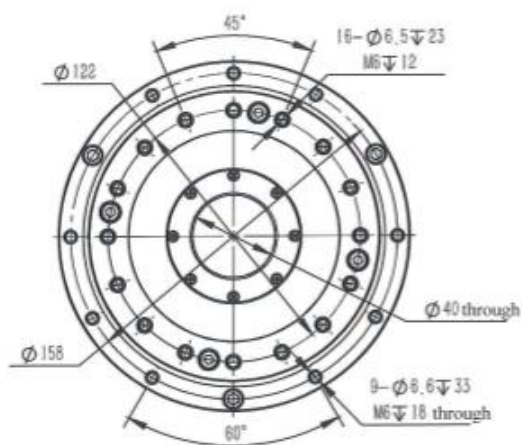


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	267	120	94	55	44	20
81	376	185	146	37	29	20
101	411	267	169	29	22	10
121	436	267	169	24	18	10
161	459	267	169	18	12	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
1000	24-48	16.9	15.8	0.12	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.175	0.3	8	32	120.5±0.5	4.5	4237

TD-110-170-PRO-XX joint module(without brake)

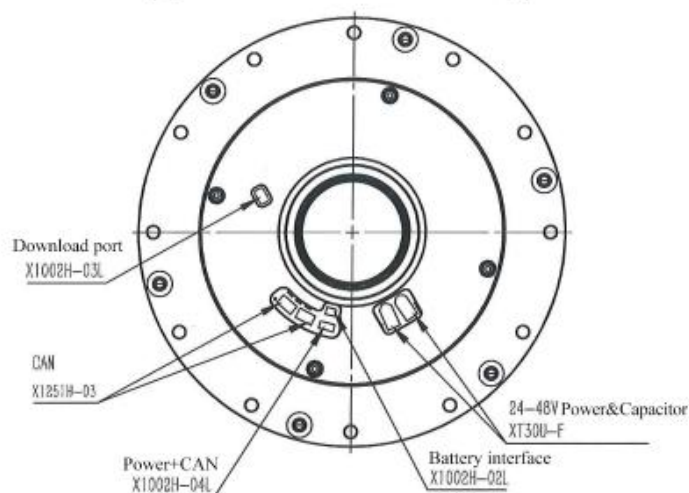
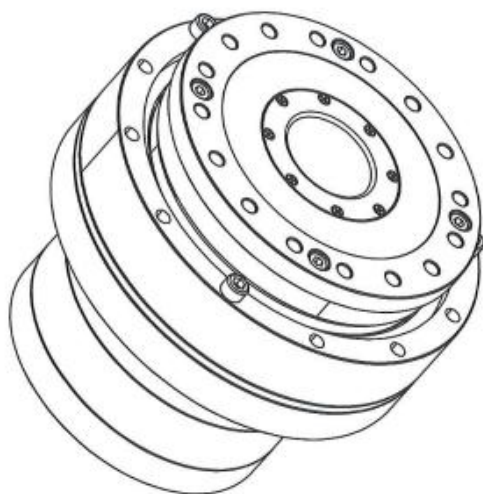
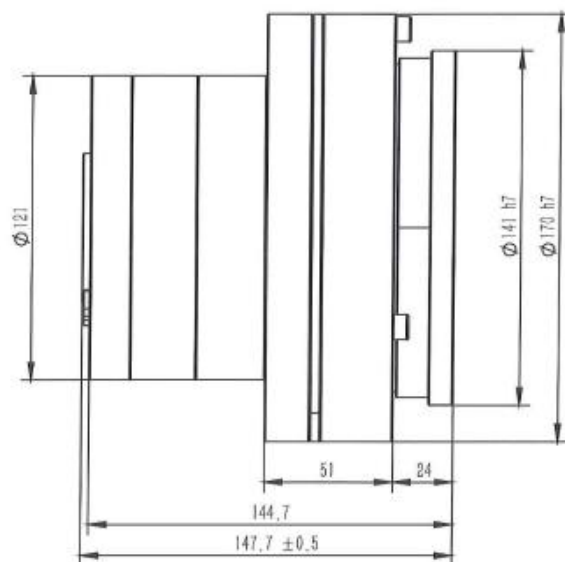
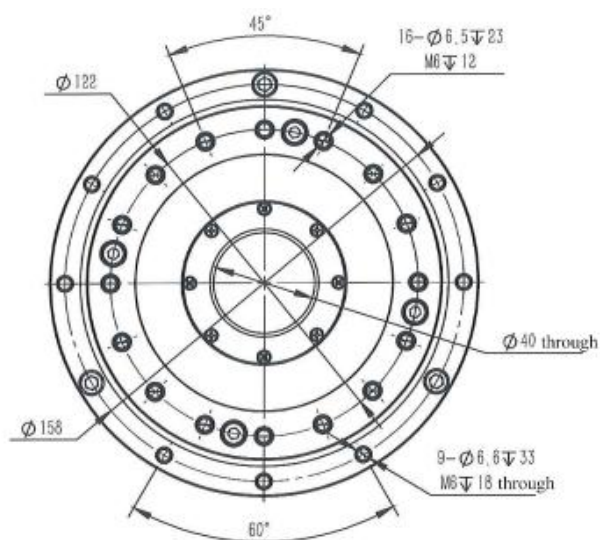


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	523	255	169	34	22	20
121	802	586	363	14	12	20
161	841	586	363	10	7	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
1500	24-48	30.2	14.1	0.23	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.293	0.25	15	40	121.7±0.5	6.85	9242

TD-110-170-PRO-XXB joint module(with brake)



Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	523	255	169	34	22	20
121	802	586	363	14	12	20
161	841	586	363	10	7	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
1500	24-48	30.2	14.1	0.23	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.293	0.25	15	40	147.7±0.5	7.5	11751



Avatar Intelligent Equipment Co., Ltd.

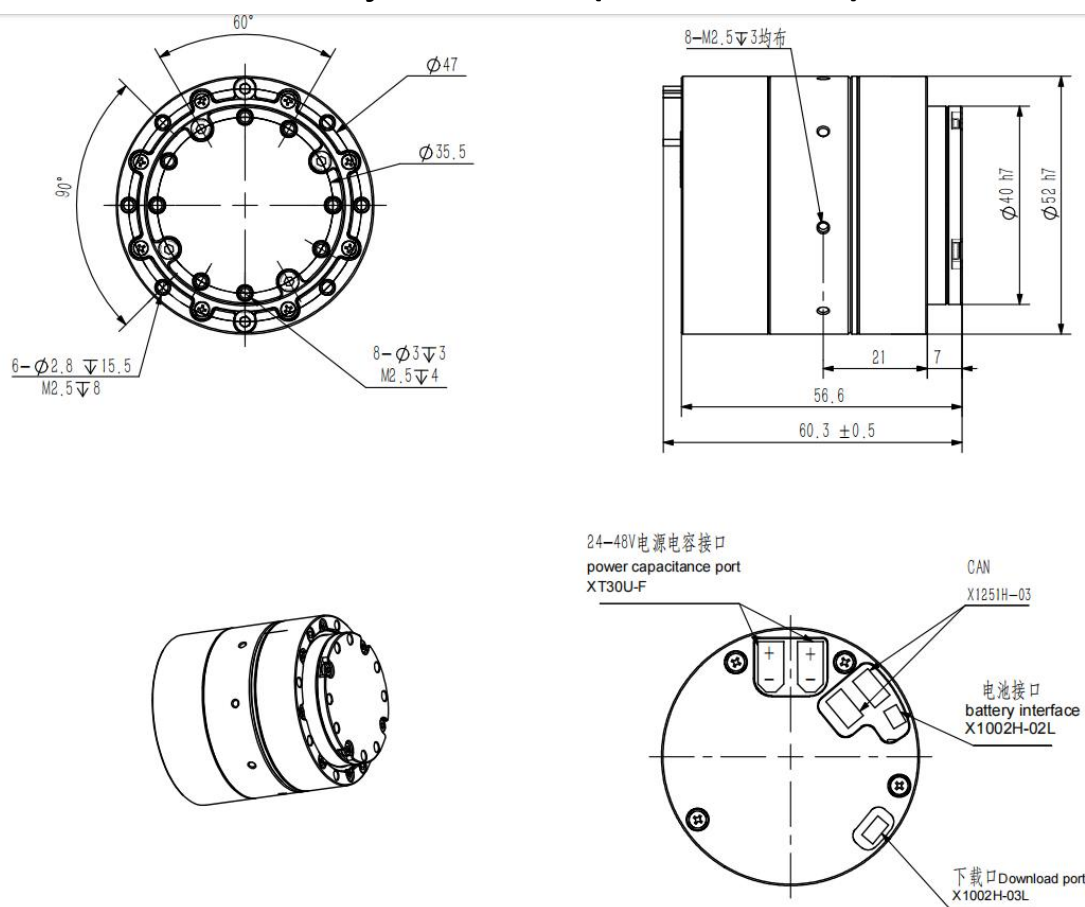
Add: No.Kinso Road, Zhengzhou, Henan Province, China

WeChat/Whatsapp: 0086 18738992232 Email: olivia@avatarroboticparts.com

SOLID TD series joint module quick selection table

Model	Ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Rated speed (RPM) (With 1/2 rated torque)
TD-40-52-NH-XX	51/101	6.0/9.0	4.5/7.5	3.6/6	80/40
TD-50-70-NH-XX	51/81/101	12/23/27	2007/11/11	5.5/8/8	75/46/37
TD-60-80-NH-XX	51/81/101/121	33/41/48/48	25/27/34/34	17/24/35/35	38/24/20/16
TD-70-90-NH-XX	51/81/101/121	49/71/80/84	29/41/43/43	26/36/40/40	61/38/30/25
TD-80-110-NH-XX	51/81/101/121/161	94/132/151/161/171	55/90/105/105/105	48/78/84/84/84	54/35/27/23/17

TD-40-52-NH-XX Robot joint module(without brake)

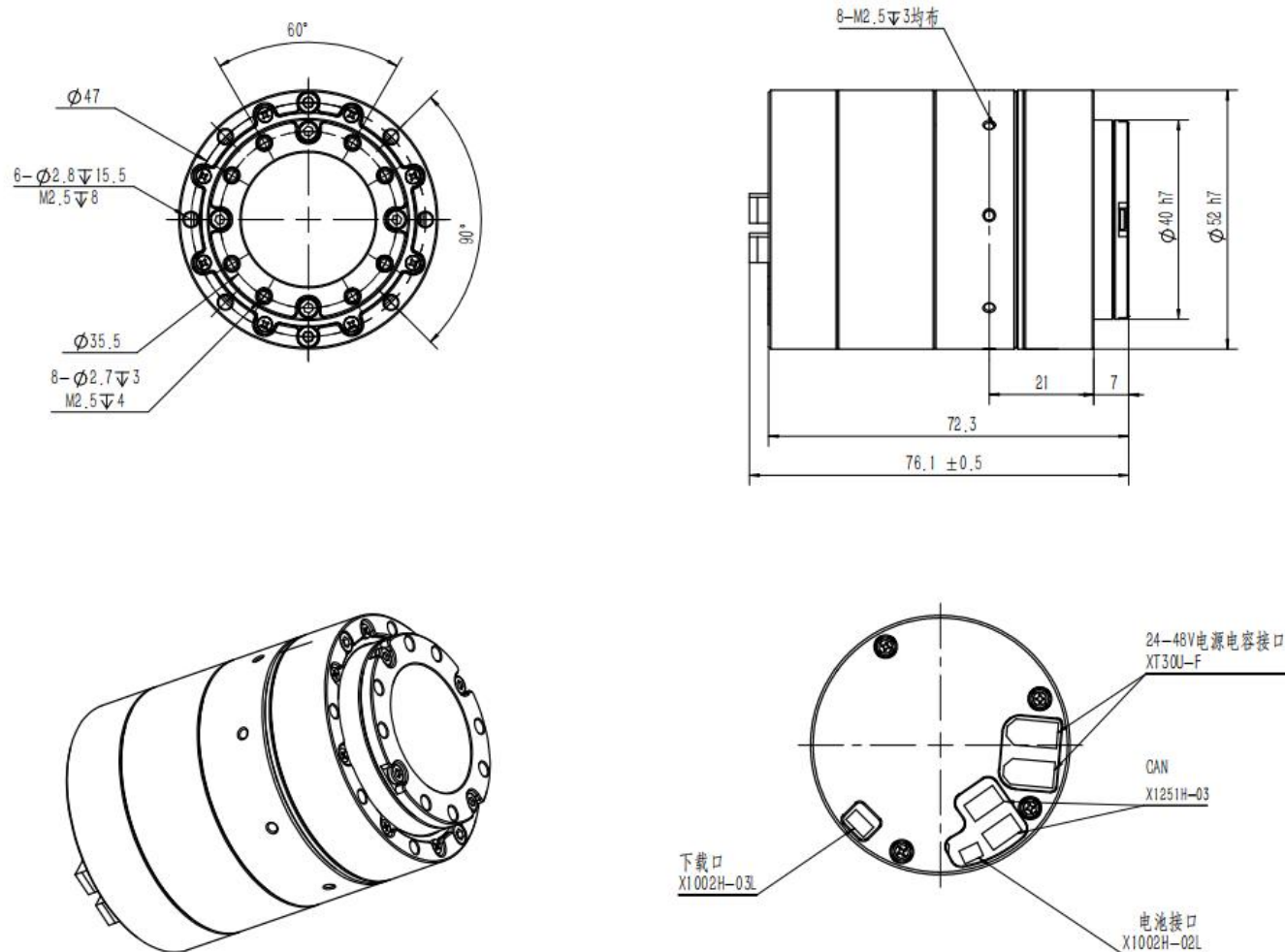


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	6	4.5	3.6	118	80	60
101	9	7.5	6	59	40	40

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
90	24-48	3	2	1.96	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole -pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.05	0.788	7	/	60.3±0.5	0.31	80

TD-40-52-NH-XXB Robot joint module(with brake)

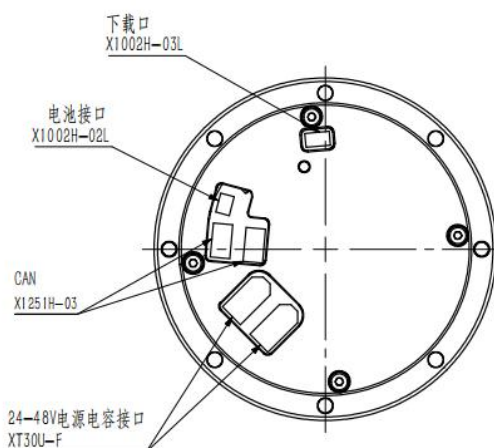
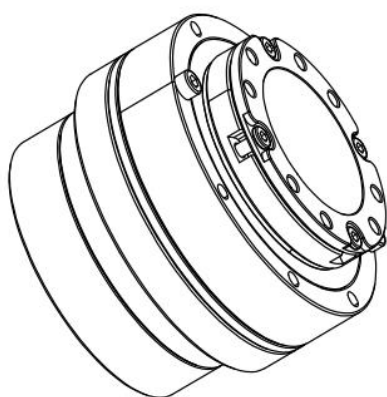
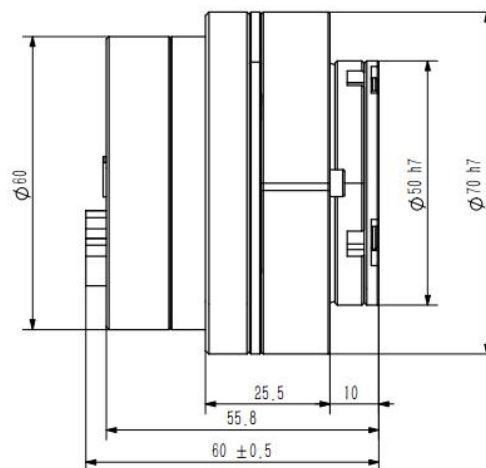
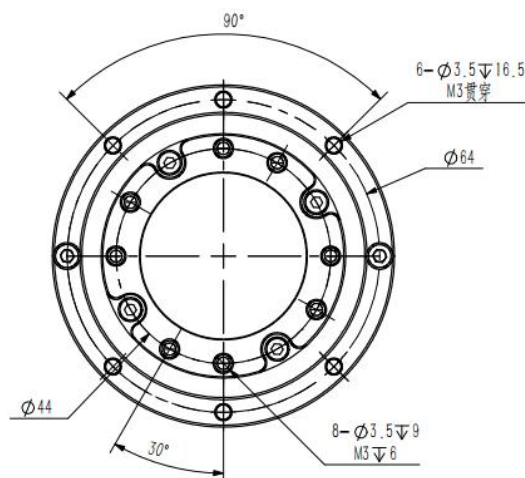


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	6	4.5	3.6	118	80	60
101	9	7.5	6	59	40	40

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
90	24-48	3	2	1.96	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.05	0.788	7	/	76.1±0.5	0.4	100

TD-50-70-NH-XX Robot joint (without brake)

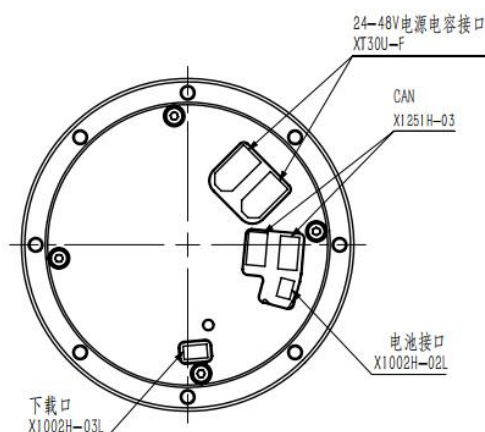
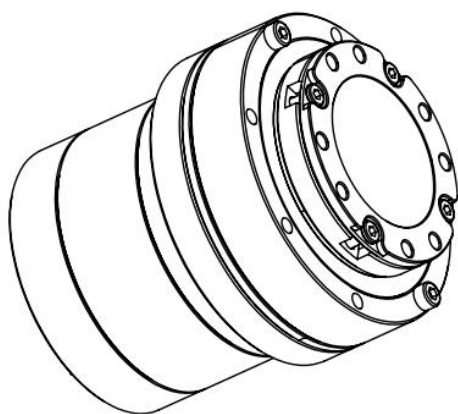
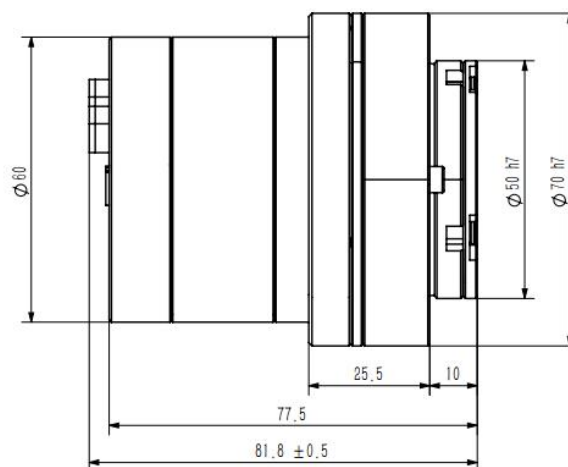
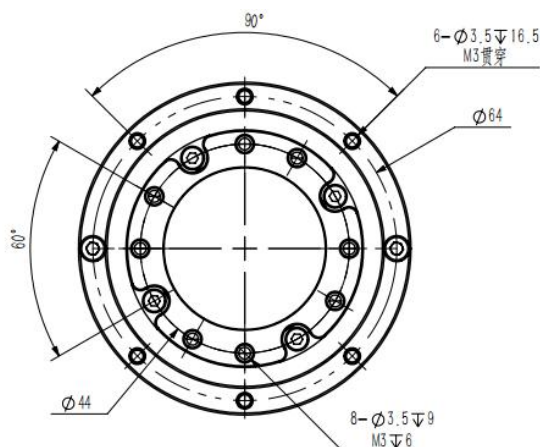


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	12	7	5.5	97	75	30
81	23	11	8	61	46	30
101	27	11	8	49	37	20

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
150	24-48	5	3.6	0.47	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm^2)
0.089	0.215	10	/	60 ± 0.5	0.63	124

TD-50-70-NH-XXB Robot joint (with brake)

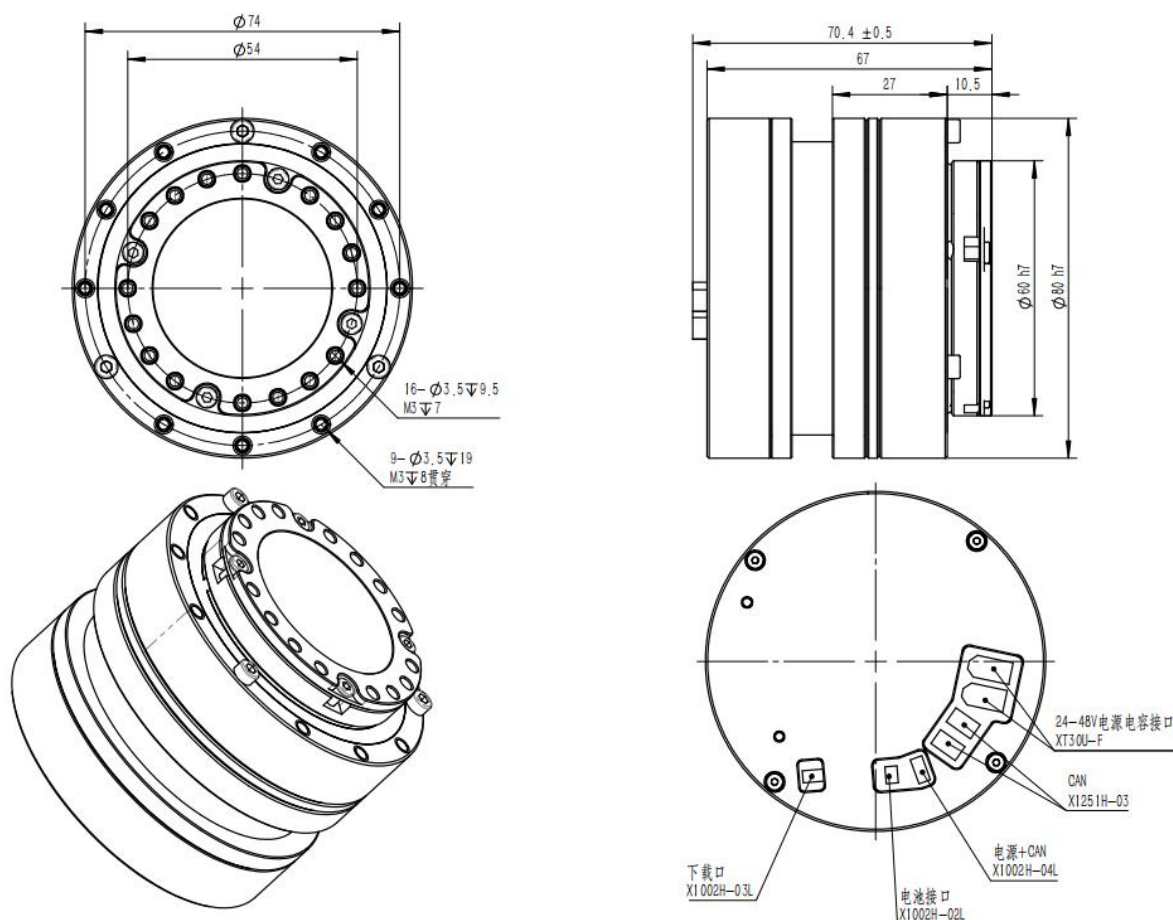


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	12	7	5.5	97	75	30
81	23	11	8	61	46	30
101	27	11	8	49	37	20

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
150	24-48	5	3.6	0.47	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.089	0.215	10	/	81.8 $\pm$ 0.5	0.8	147

TD-60-80-NH-XX Robot Joint (without brake)

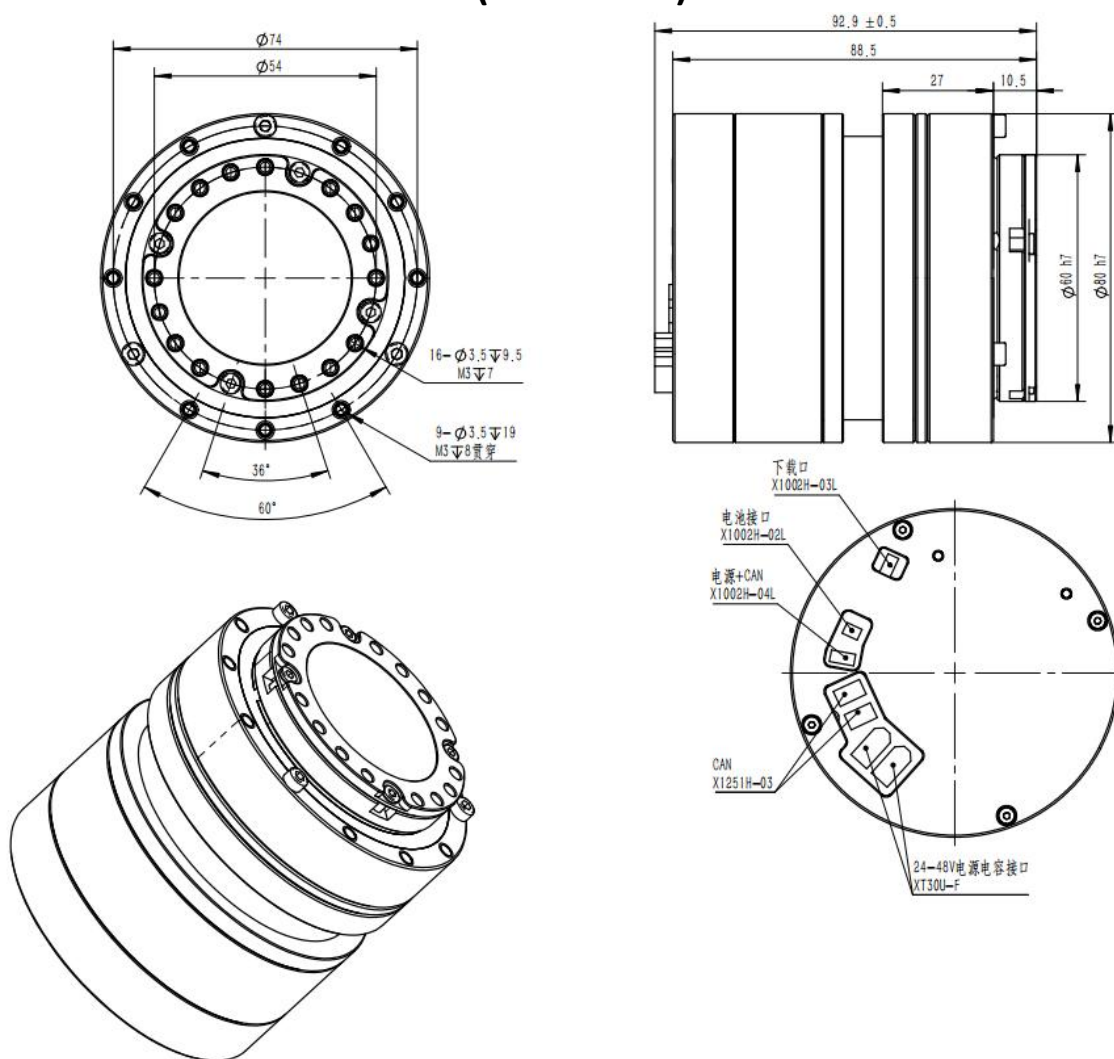


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	33	25	17	68	38	30
81	41	27	24	43	24	30
101	48	34	35	34	20	20
121	48	34	35	27	16	20

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
300	24-48	6.7	5	0.45	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.096	0.43	14	/	70.4±0.5	0.95	213

TD-60-80-NH-XXB Robot Joint (with brake)

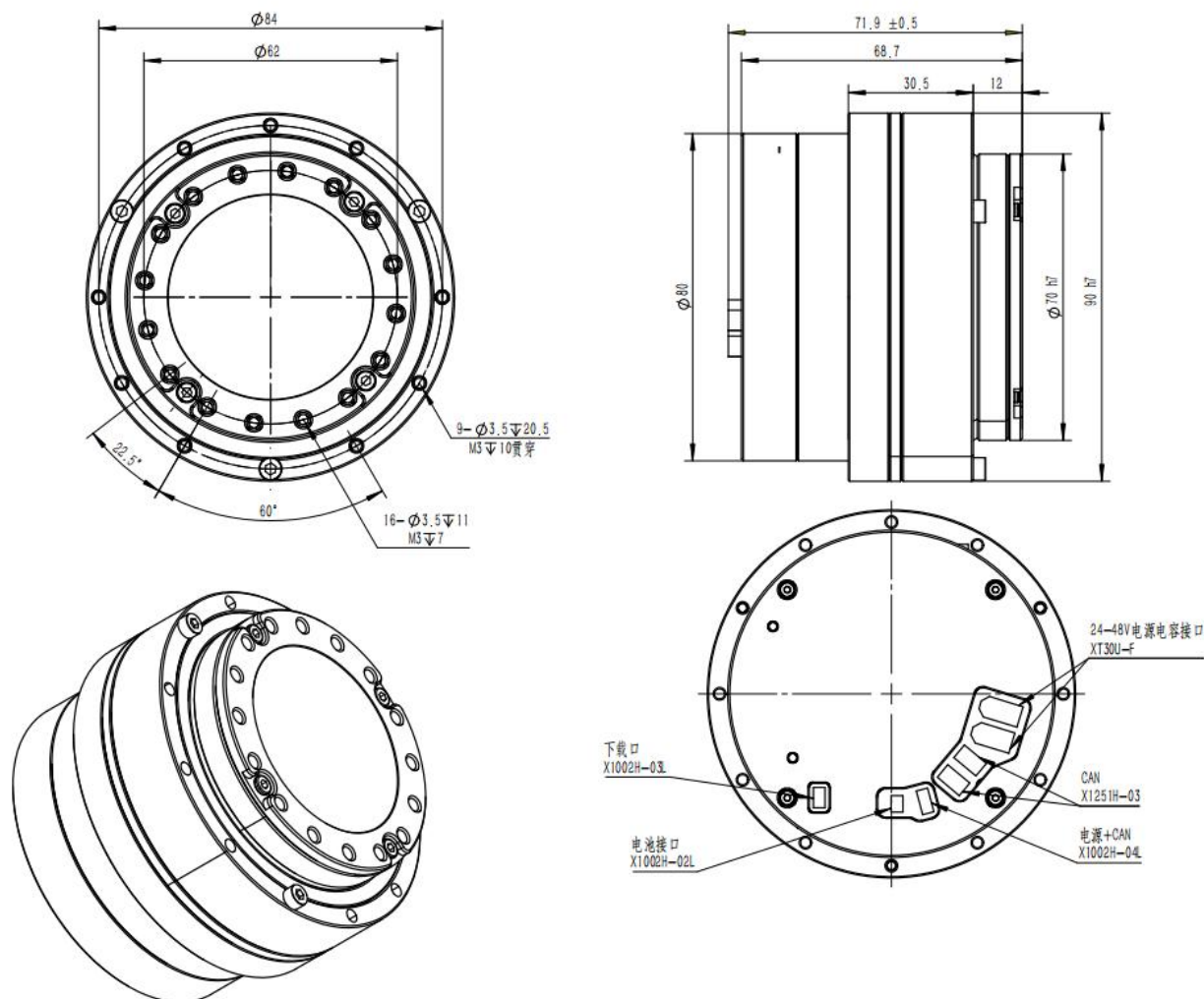


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	33	25	17	68	38	30
81	41	27	24	43	24	30
101	48	34	35	34	20	20
121	48	34	35	27	16	20

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
300	24-48	6.7	5	0.45	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.096	0.43	14	/	92.9±0.5	1.2	299

TD-70-90-NH-XX Robot Joint (without brake)

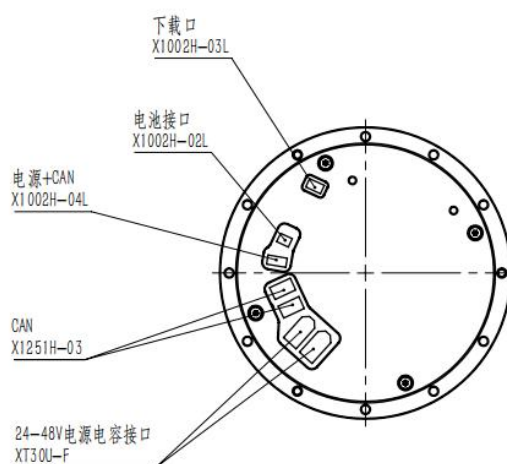
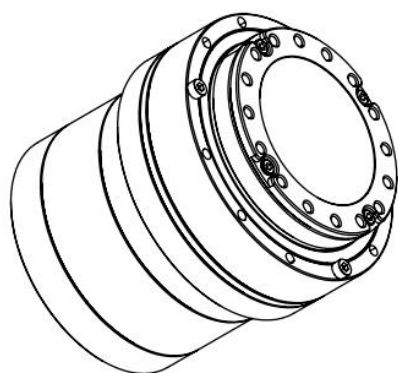
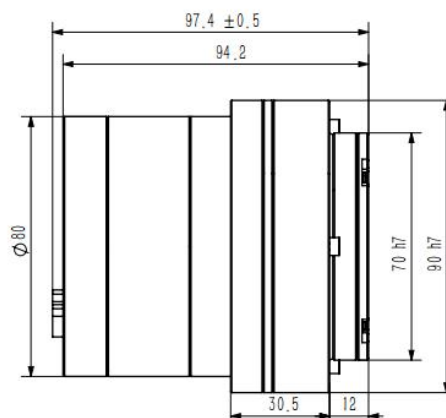
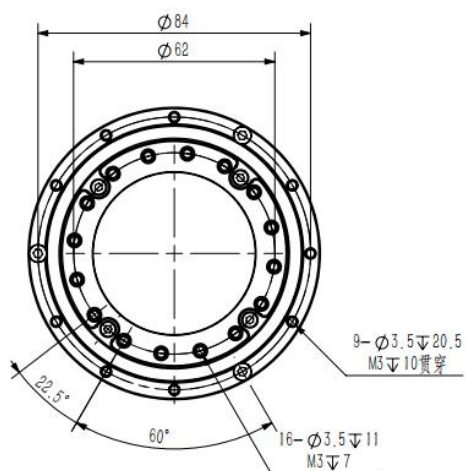


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	49	29	26	74	61	30
81	71	41	36	46	38	30
101	80	43	40	37	30	20
121	84	43	40	31	25	20

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
500	24-48	8.4	6.1	0.38	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(m)	Weight(kg)	Inertia(g * cm ²)
0.118	0.33	10	/	71.9±0.5	1.3	594

TD-70-90-NH-XXB Robot Joint (with brake)

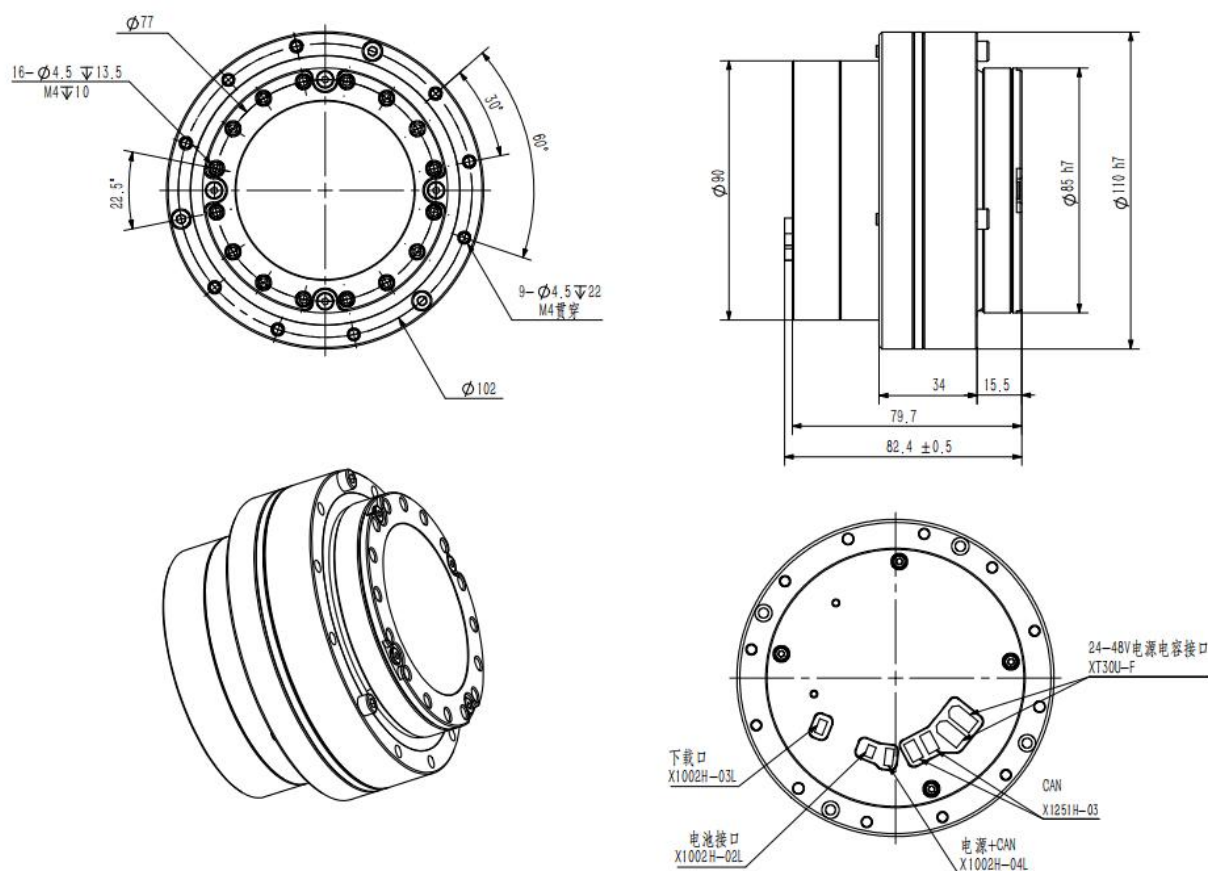


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/(reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	49	29	26	74	61	30
81	71	41	36	46	38	30
101	80	43	40	37	30	20
121	84	43	40	31	25	20

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
500	24-48	8.4	6.1	0.38	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.118	0.33	10	/	97.4±0.5	1.6	682

TD-80-110-NH-XX Robot Joint (without brake)

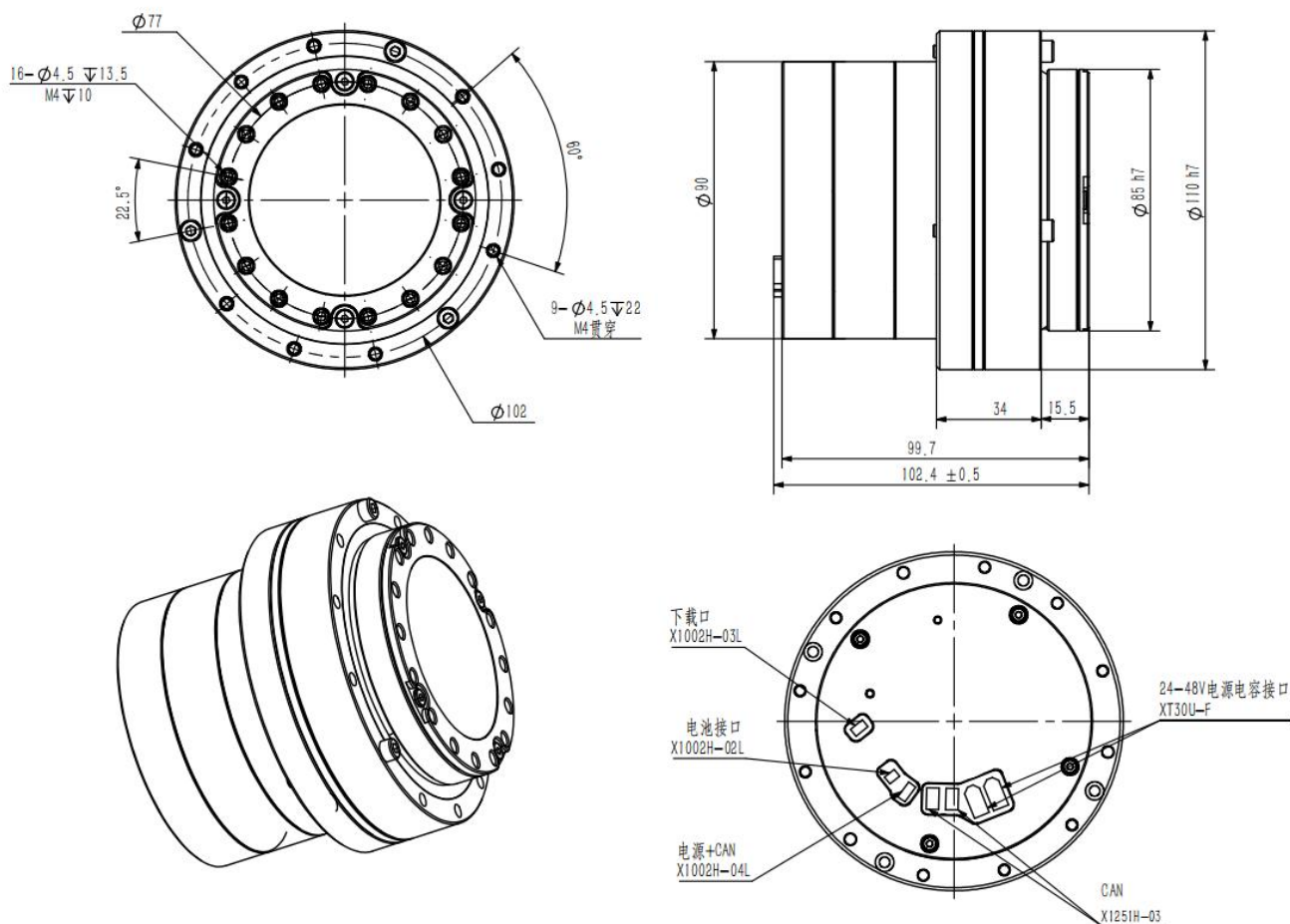


Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	94	55	48	65	54	20
81	132	90	78	43	35	20
101	151	105	84	36	27	10
121	161	105	84	30	23	10
161	171	105	84	22	17	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
750	24-48	10.4	9	0.21	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.143	0.3	10	/	82.4±0.5	2.05	1255

TD-80-110-NH-XXB Robot Joint (with brake)



Reduction ratio	Start-stop peak Torque (N.m)	Max. allowable torque at average load (N.m)	Rated torque at 2000rpm/ (reduction ratio)(Nm)	Output Peak Speed (RPM)	Rated speed (RPM) (With 1/2 rated torque)	Backlash (arcsec)
51	94	55	48	65	54	20
81	132	90	78	43	35	20
101	151	105	84	36	27	10
121	161	105	84	30	23	10
161	171	105	84	22	17	10

Motor power (W)	Supply voltage (V)	Max. continuous current(A)	Rated current (A)	Resistance(Ω)	Encoder Resolution (Bit)	Communication bus
750	24-48	10.4	9	0.21	17	CAN

Torque constant(N.m/A)	Inductance(mH)	Number of pole-pairs	Through hole(mm)	Length(mm)	Weight(kg)	Inertia(g * cm ²)
0.143	0.3	10	/	102.4±0.5	2.6	1484



(30-40)

OD: 40mm
Length: 53.9mm
Weight: 0.16kg
Rated torque: 3.3Nm
Max. Speed: 90RPM
Hole dia.: 4mm



(40-52)

OD: 52mm
Length: 57mm
Weight: 0.30kg
Rated torque: 8.9Nm
Max. Speed: 80RPM
Hole dia.: 11.5mm



(50-60)

OD: 60mm
Length: 58.4mm
Weight: 0.41kg
Rated torque: 13.5Nm
Max. Speed: 75RPM
Hole dia.: 12mm



(60-80)

OD: 80mm
Length: 68.1mm
Weight: 0.95kg
Rated torque: 49Nm
Max. Speed: 68RPM
Hole dia.: 14mm



(70-90)

OD: 90mm
Length: 72.6mm
Weight: 1.25kg
Rated torque: 91Nm
Max. Speed: 61RPM
Hole dia.: 14mm



(80-110)

OD: 110mm
Length: 80.6mm
Weight: 2.04kg
Rated torque: 133Nm
Max. Speed: 52RPM
Hole dia.: 14mm



(100-142)

OD: 142mm
Length: 88.1mm
Weight: 4.49kg
Rated torque: 169Nm
Max. Speed: 58RPM
Hole dia.: 19mm

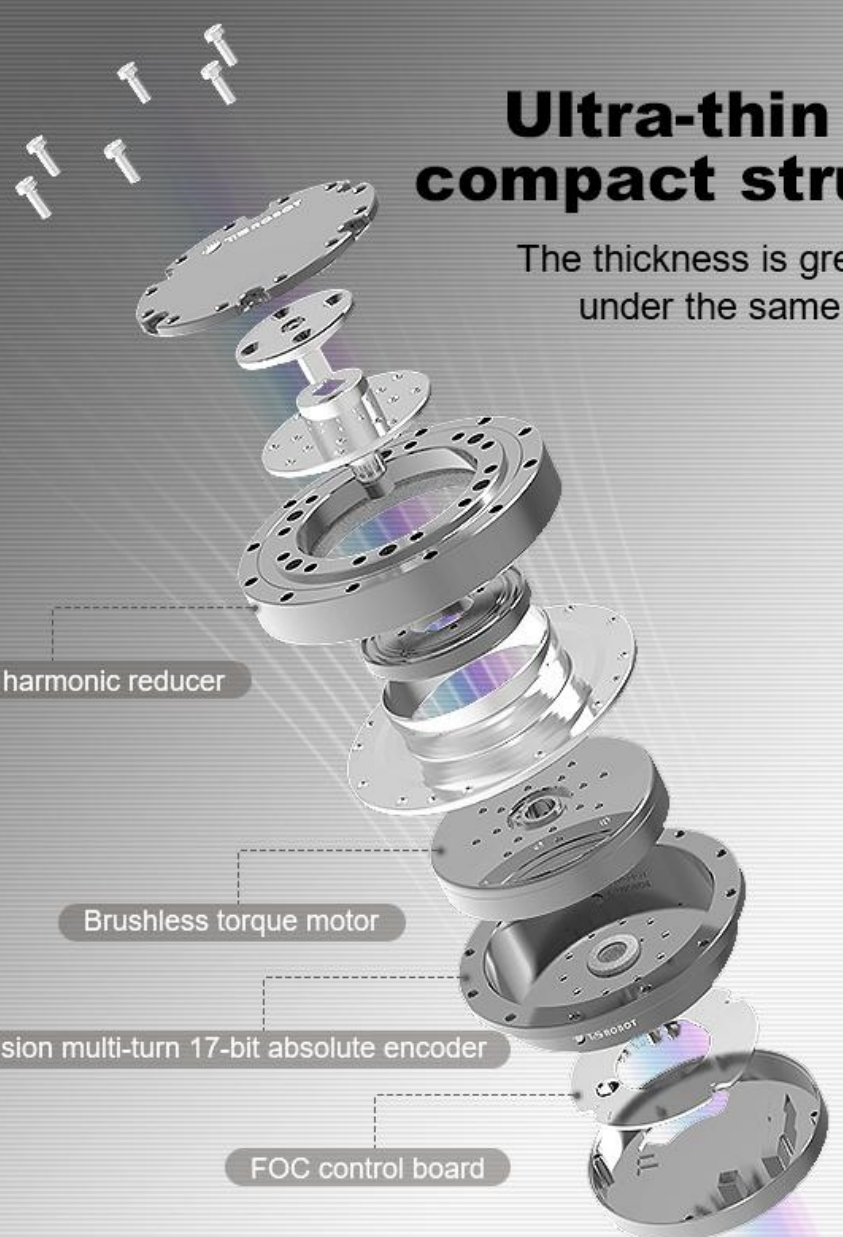


(132-170)

OD: 170mm
Length: 110.1mm
Weight: 6.5kg
Rated torque: 586Nm
Max. Speed: 48RPM
Hole dia.: 24mm

Ultra-thin shape compact structure

The thickness is greatly reduced
under the same torque index



Ultra-thin harmonic reducer

Brushless torque motor

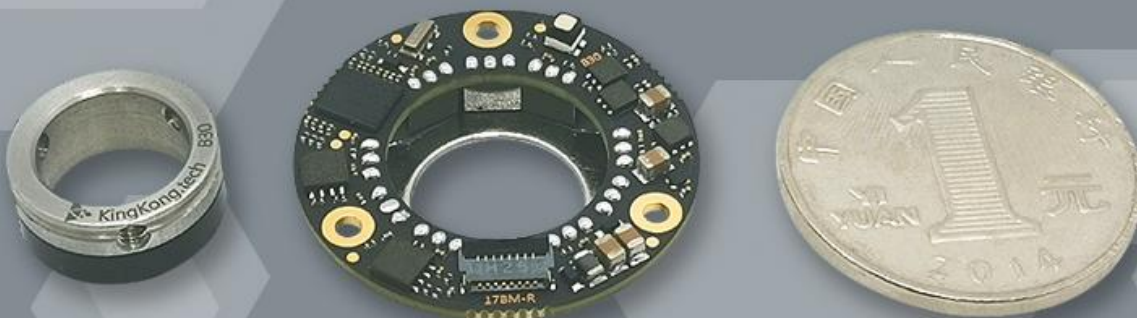
High-precision multi-turn 17-bit absolute encoder

FOC control board

17-bit multi-turn absolute value encoder at the motor end which can memorize the position when power off



Low-power encoder with only 46 μ A standby current



Application



Medical Surgery Robot



Medical rehabilitation robot



Industrial robot arm



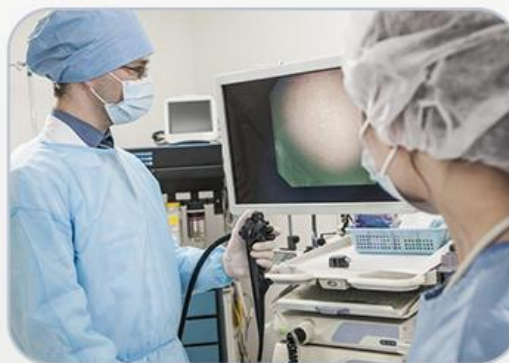
**Application
in Bigdog**



**Motion Control Scheme for
Exoskeleton Robot**



Industrial robot arm



**Application in Medical Devices
Gastrointestinal Endoscopic**

Product delivery And sale service

