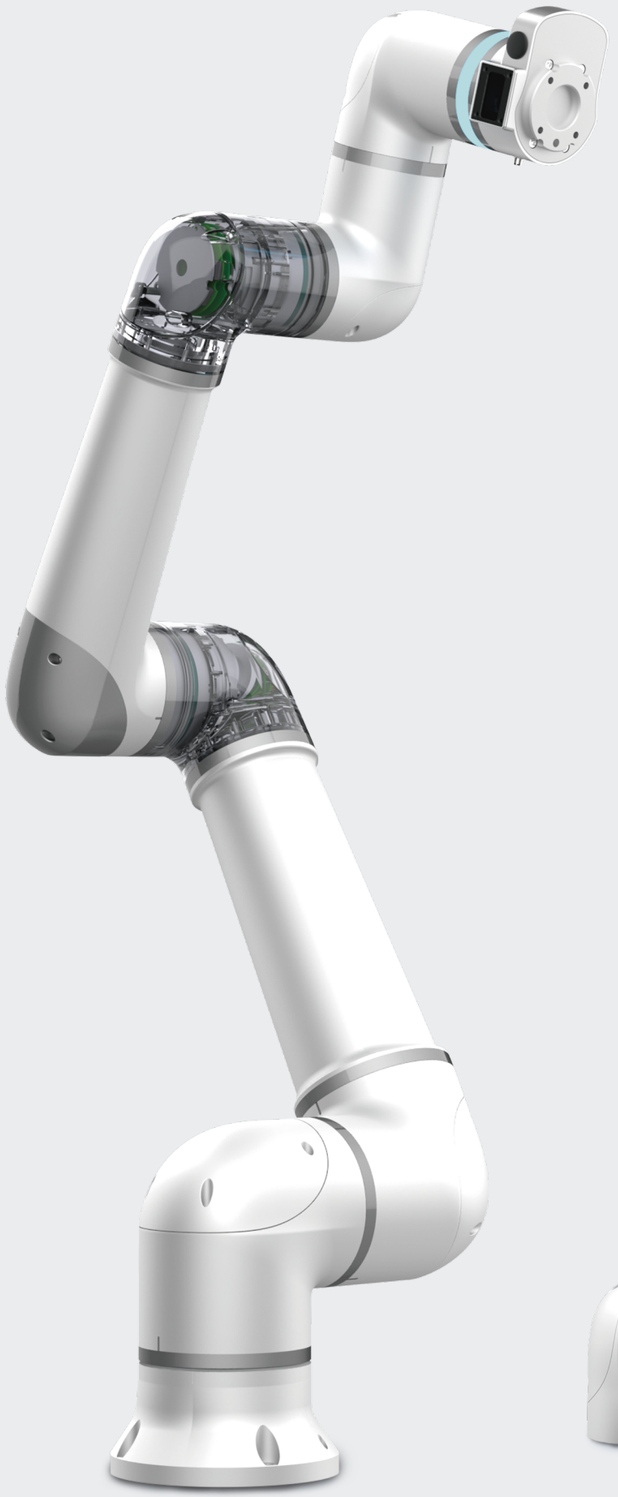
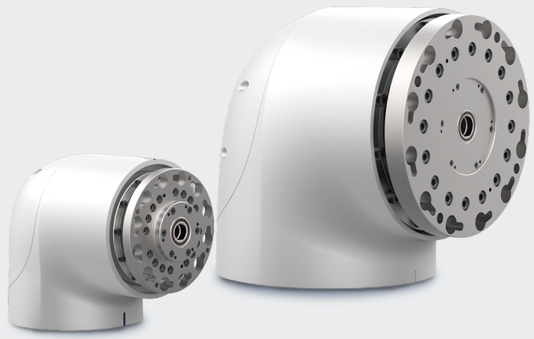


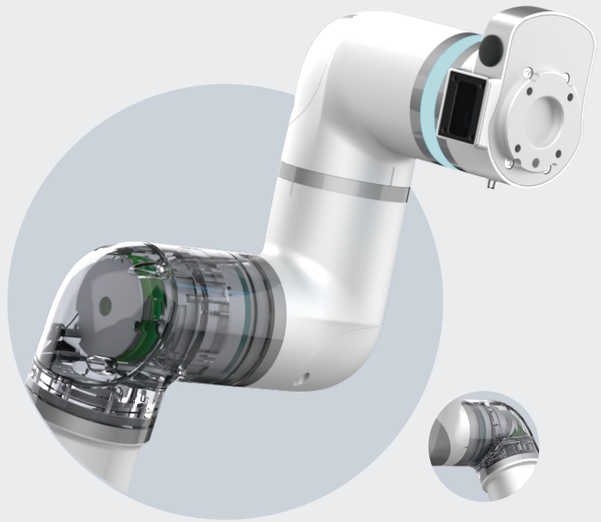
ESTUN
CODROID

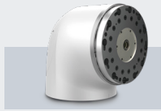
ESTUN CoDroid Robots

SA Series

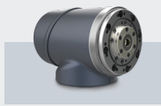


Stiff Actuator





Stiff Actuator L-Type



Stiff Actuator T-Type

Stiff Actuator I-Type

Customization

Integrated Robot Joints

Highly Personalization and Customization
Support different structures, appearances, colors, etc.
Compatible with various scenarios: industry, medical, service, etc.

Product Features

Integrated Design | Highly integrated with drive, motor, brake, reducer, torque sensor, and encoder, in a compact size.

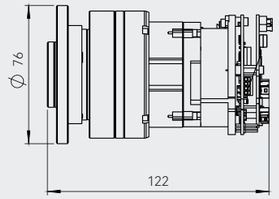
Integrated Torque Sensor	Redundancy internal physical structure, high-speed, high-precision, high-stability data sampling performance, which meet the full force control application scenarios; Since integrated sensors feature more accurate force detection of manual guide and larger joint torque detection rage, the hex torque sensor for end is meaningless; The detected input torque can be directly used for overload detection of joints, which has higher accuracy, to protect surrounding people and devices effectively.
High Torque Density	Low rotational inertia, stable torque output, high peak torque, and excellent dynamic response. Small, lightweight, high torque, great performance optimization.
High Positioning Accuracy	Features a dual feedback system with 19-bit absolute encoders at both the motor end and the reducer output end, to ensure high positioning accuracy.
Multiple Safety Protections	Equipped with over-current protection, over-voltage protection, under-voltage protection, over-temperature protection, PWM dead time protection, PWM shoot-through protection and etc., effectively reducing damage to the joint electrical components and mechanical structure.
Simplified Electrical Interface	DC 48V power supply, EtherCat communication interface, fewer electrical cables, easy connection, servo communication frequency up to 4kHz.
Control Mode Switch	Supports seamless switching between various control modes, including position mode, velocity mode, and torque mode.

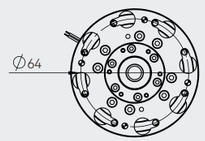
Specification

Model	SA14	SA17	SA20	SA25	SA32	SA40
Basic Performance						
Rated torque (Nm)	10	31	52	87	178	382
Allowable max torque for start/stop (Nm)	36	70	107	217	459	841
Allowable max instantaneous torque (Nm)	70	143	191	395	892	1530
Max torque at average load (Nm)	14	51	64	140	281	586
Rated speed (rpm)	37.5	34.6	34.6	28.9	24.79	18.63
Max speed (rpm)	46.5	47.4	43	32.9	31	20.5
Positioning accuracy (deg)	+/-0.01					
Electrical Performance						
Rated power (W)	159	183	366	732	1000	1257
Rated voltage (VDC)	48	48	48	48	48	48
Rated current (A)	4.4	5	9.7	16	27	27
Peak current (A)	13.6	15	29.1	48	89	72
Communication protocol	EtherCAT, CiA402					
Mechanical Performance						
Through hole diameter (mm)	8	11	8	12	16	16
Gear ratio	101	101	101	121	121	161
Encoder	Dual absolute magnetic encoder, output resolution 19 bits					
Brake	Electromagnetic friction type					
IP classification	IP54					
Weight (Kg)						
Type I	1.24	1.60	2.06	3.37	6.16	9.72
Type L	1.77	2.35	2.79	4.48	8.67	13.55
Type T	1.62	2.22	2.97	4.36	/	/
Diameter (mm)						
Type I	76	87	96	117	148	176
Type L	85	98	102	121	159	185
Type T	80	92	102	118	/	/
Length (mm)						
Type I	122	128	139	145.6	160	192
Type L	154.6	152.6	165	176	203	236
Type T	136	141	152.4	164.5	/	/

Drawings (I-Type)

I 14





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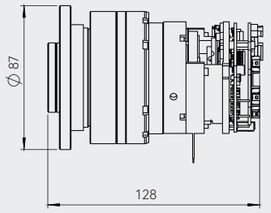

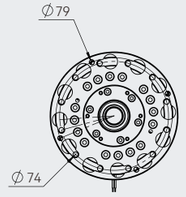

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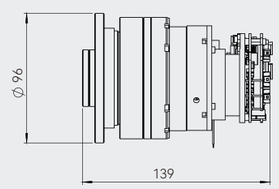

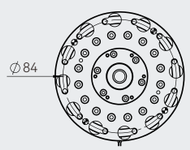

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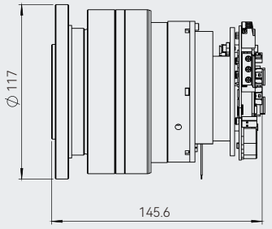

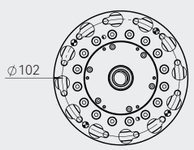

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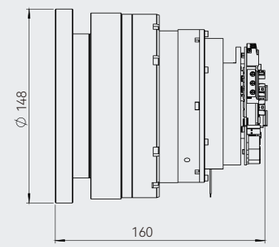

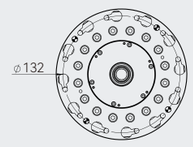

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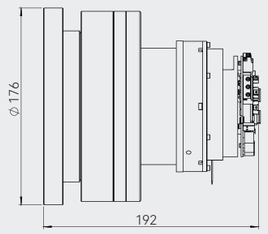
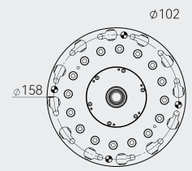
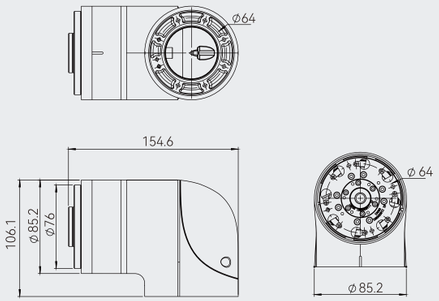


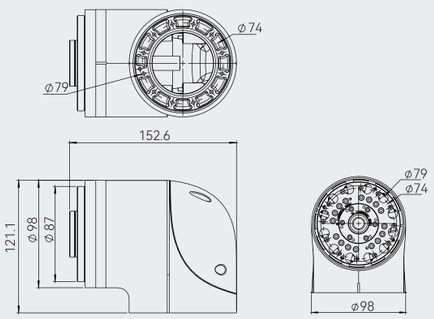


Drawings (L-Type)

L 14



L 17



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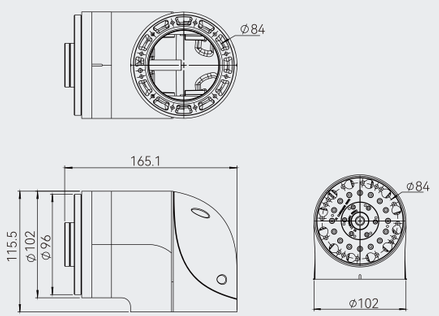

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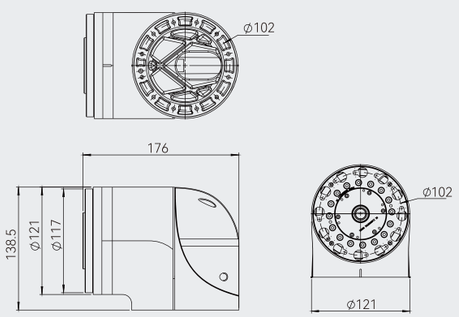

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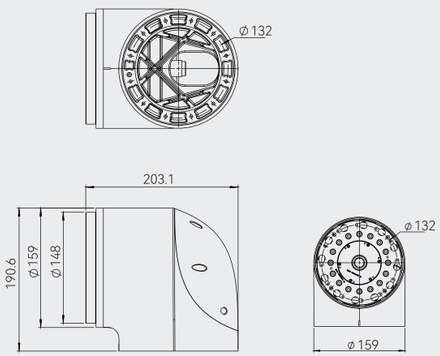

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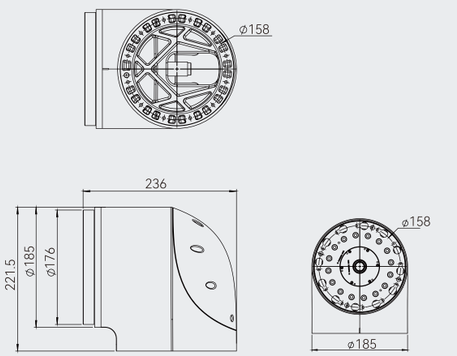
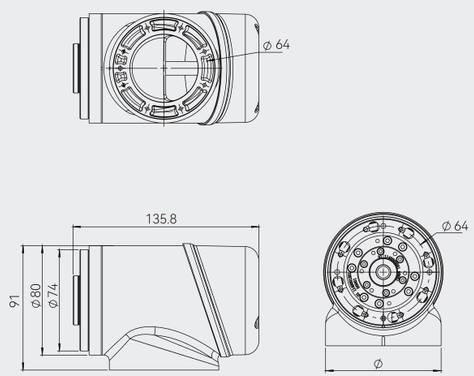


Drawings (T-Type)

T 14



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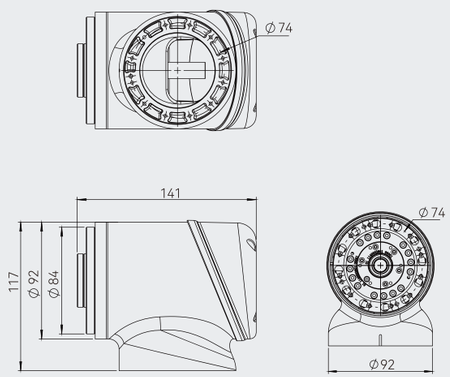

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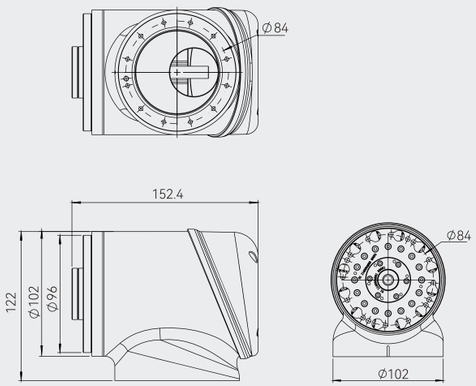

T 25