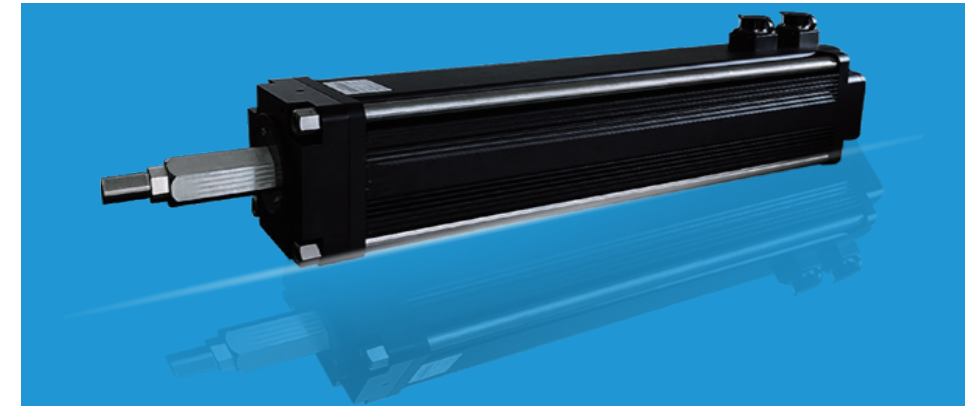




servo electric cylinder

Brand confidence, technology confidence,
quality confidence, service confidence



Customers
(part)

单台超过五千万次运行测试实验
More than 50 million test runs on a single machine

Ten years of hard work, independent R & D and production,
It is a painstaking effort to successfully break the international
technical barriers.

Servo electric cylinder has been widely used in the following industries:

- | | | |
|--|---|--|
| Servo hydraulic cylinder replacement | material handling injection molding machine | Plastic film machinery Precision valve control |
| Ball screw replacement | semiconductor device | Grasping device |
| Servo cylinder replacement robot arm simulator | Product sorting welding equipment | spooling equipment test equipment |
| Weapon equipment | packing machine recreation equipment | jacking system |
| automatic assembly machine tool industry vacuum pump | Wood machinery door-trip | Correction mechanism tension control |
| Medical equipment | Metal forming equipment | Piston pump control Riveting equipment |

Product patents (part)



What is a servo electric cylinder

TGES series servo electric cylinder is a new series of products independently developed by TIGER according to market demand

Flange range from 65MM to 220MM, power range from 0.4KW to 33KW. Servo electric cylinder adopts the design method of servo motor and planetary roller screw integration, which is suitable for the motion control system with low, medium and advanced performance requirements.

The servo electric cylinder integrates the built-in brushless servo motor with the roller screw drive structure, and the rotating motion of the servo motor rotor is directly distributed around the main screw through the roller planet, converting the rotating motion of the motor into the linear motion of the spindle or nut.

These structures make the motor have the advantages of small size, low inertia, high rigidity, low noise, low temperature rise, fast response, smooth operation, accurate control, strong overload capacity, long service life and so on. The product can replace the hydraulic, pneumatic place, hydraulic, pneumatic equipment upgrade products, all-electric multi-freedom platform, at the same time can be customized according to customer needs.

wiped off

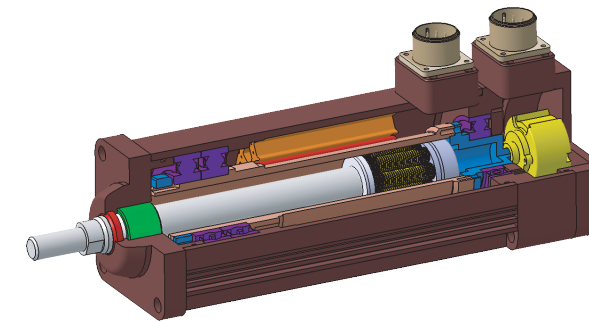
- coupler
- adapter
- conveyor
- gear
- Assembly of individual parts
- coerce

maximum stroke: 500mm
rated thrust: 15 T

overuse
30 million times

characteristic:

- compact and lightweight design
- High output
- Manual override (Optional on Type 33)
- Low inertia
- High force repetition accuracy
- high efficiency
- No forced cooling
- flexibility
- compatibility
- Roller screw



Suitable for closed loop control system

With the application of brushless servo technology, the TGES series can be used in advanced closed-loop servo systems to precisely control the speed, thrust and position required by the customer. Control accuracy up to 0.01mm. There are various ways of position feedback, including: rotary transformer, relative encoder, absolute encoder, external grating ruler, external displacement sensor. The thrust closed loop can add a built-in pressure sensor or an external pressure sensor.

Ultra-long life low maintenance sealing measures

The TGES servo motor cylinder combines all motion conversion components in a single cylinder, keeping grinding particles and numerous contaminants out of the cylinder with a simple bushing and sealing combination. Trouble-free operation in most harsh environments.

Ultra-long life, the most compact servo-electric cylinder

The TGES series integrates planetary roller screw technology and stator segment lamination technology to create a revolution in linear motion. The unique design organically combines the planetary roller lead screw with the motor rotor, the planetary roller is uniformly installed around the main lead screw, and is precisely loaded into the hollow rotor to ensure absolute synchronization with the rotor.

The stator segment lamination technology can consistently produce higher torque than conventional motors. Each segment stator of the technology has an independent coil winding, and the segmented stator combination ensures the highest performance of the motor, improves the efficiency of the motor, and effectively reduces the thermal efficiency of the motor coil. The stator end rotation is eliminated, and the traditional motor parts are replaced by thermal conductive ceramics to improve reliability.

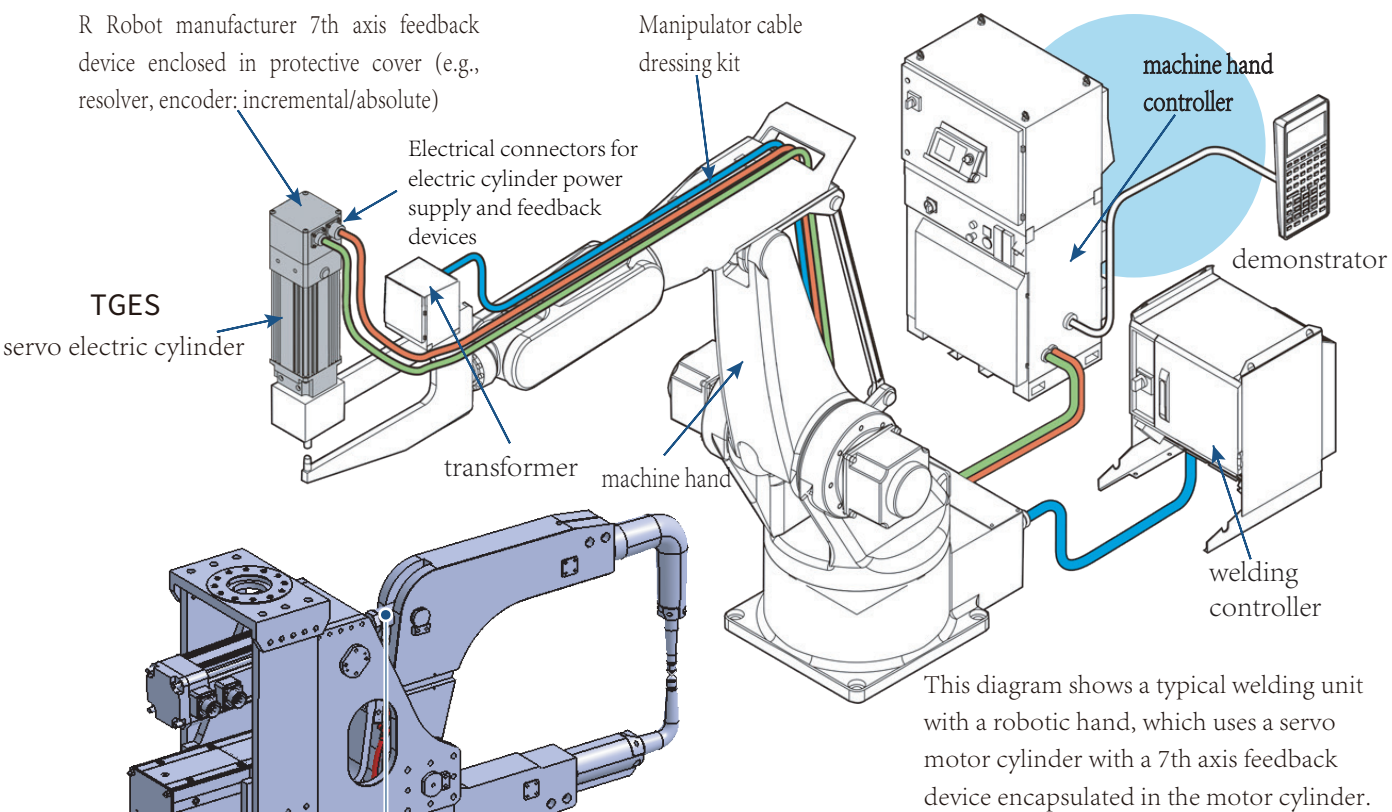
The lubrication of the TGES series servo electric cylinder can be grease lubrication and circulating oil lubrication, the interval lubrication time of grease lubrication will reach 10,000 hours, and circulating oil lubrication will eliminate all the daily maintenance of the product.

Special products: explosion-proof EL series servo electric cylinder, food safety level servo electric cylinder.

Non-standard can be customized



Application of TGES in robot servo spot welding machine



In this clamp-on torch application, TGES provides precise repeatability in a lightweight, compact package

- Thrust tube •
- Steel thrust tubes support high force performance
- The salt bath nitride treatment provides excellent corrosion resistance and surface hardness, as well as strong repulsion against welding slag, water and other potential contaminants

- Anti-rotating assembly •
- Fully packaged to protect components from harsh environments
- Provides additional side load support

The anti-rotation assembly of the TGES guided device avoids the use of external guiding mechanisms in torch applications

configuration	standard configuration	selectable
Internal anti-turning mechanism	NO	Yes
Built-in rotator	NO	Yes
cable joint	Right Angle form, rotatable	Non-standard customization according to customer requirements
Rod end form	External thread, internal thread	
way to install	Front flange, rear flange, front end tie rod, side mounting hole, trunnion, rear hinge	
method of lubrication	grease lubrication	
encoder	Live rotary transformer according to drive configuration standard rotary encoder	

Mechanical standard

flange dimensions (mm)	65、85、100、130、180
Lead of lead screw (mm)	2.5、 3、 4.5、 5
Standard stroke length (mm)	50、100、150、200、250、300
Thrust range (KN)	0.5KN-150KN
Maximum speed (mm/s)	Maximum416mm/s

Accuracy and protection level		
mechanical precision		
Lead screw positioning accuracy (mm)	0.08	
Lead screw repeated positioning accuracy (mm)	0.005	
usage environment:		
Standard operating temperature (C)	0~65	
Non-standard operating temperature (C)	-30~65	
Storage temperature (C)	-40~85	
Protection grade	IP65	
insulation grade	F级	
Anti-vibration class	5~520Hz	

Applied to resistance spot welding

Higher welding quality

- Force repetition accuracy, achieve consistent welding "soft touch" position control and speed control, achieve high repetition accuracy, and eliminate high impact effects on the workpiece and welding torch, thus reducing wear
- The position and force of each weld can be recorded
- The position data of the feedback device provides data for cap wear and cap loss detection functions

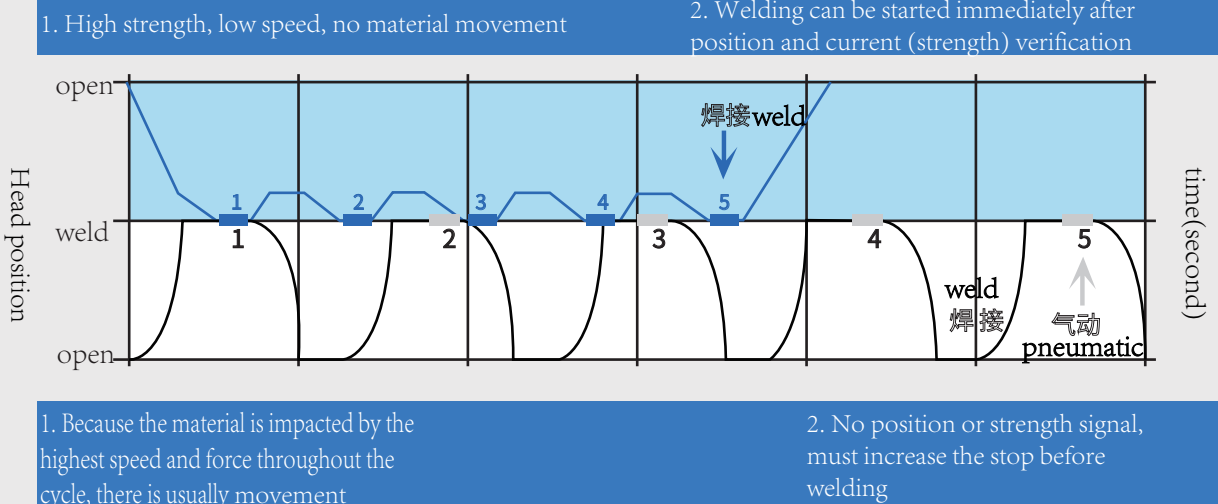
Perfect manufacturing flexibility

- TGES can be easily programmed to accommodate model or tool changes with welding or manipulator controls.
- Existing 6-axis manipulators can be retrofitted for multiple TGES servo electric cylinders to achieve all the benefits of servo welding.
- The operation can be coordinated by the axis movement of the manipulator

Fast welding cycle

"At force" indication enables instant welding (gas-operated cylinder requires downtime)

The programmable open position of the torch head reduces the movement time between welds.



TGES was able to complete this welding sequence more quickly because

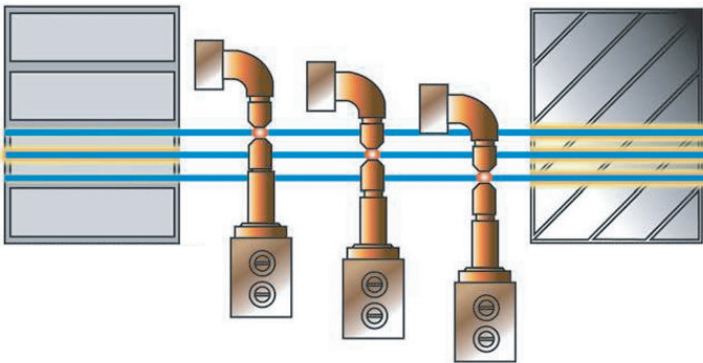
1. Once the welding strength is reached, welding begins without stopping
2. The torch is only open enough to move to the next solder joint

With the servo electric cylinder, no downtime is required, so welding begins once the welding strength is reached. The torch head is only open enough to move to the next solder joint, thereby increasing efficiency.

Excellent welding quality

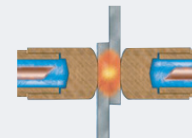
The TGES all-in-one servo cylinder uses an 8-pole hollow rotor with segmented stator laminators, which enables the magnet to stay on multiple windings throughout the welding cycle, resulting in maximum torque efficiency and consistent force output anywhere in the servo cylinder stroke. Result:

- Low slot torque allows for better repetition accuracy
- Better repetition accuracy (location independent)
- Higher welding quality
- compact structure

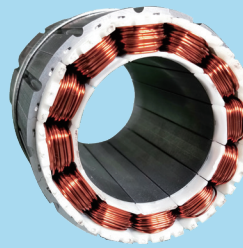


When the torch head is close to the workpiece, the final position of the servo electric cylinder push rod depends on the metal thickness and tolerance, welding cap wear, etc. When the push rod reaches its termination position and the "squeeze" is complete, the electric cylinder rotor will stop rotating. The figure above depicts the various termination positions compared to the servo motor cylinder winding (orange ovals between the solder nozzles, representing the solder core "squeeze") and the different positions of the motor cylinder rotor magnets (blue lines). The diagonal lines in the segmented stator represent the stacked motor windings used in TGES. At any point where the rotor magnets are stopped, they are always in the direction in which best performance can be achieved. In contrast, segmented stator windings only perform best when the rotor is located in the phase center of the segmented stator.

nucleation

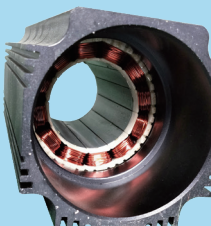


This diagram shows how the solder core is formed. The welding heads are programmed to approach quickly and then reduced to a "light touch" speed as they make contact with the workpiece to reduce workpiece impact and splashing, resulting in higher welding quality.



Skew stator

TGES uses skewed stator lamination, low slot torque, can obtain more Good repetition accuracy (independent of welding head position).



sectionalized stator

By the nature of their design, segmented stators limit the number of welding positions that provide optimal torque and repeatability.

TGES integrated servo electric cylinder

● SERVO ELECTRIC CYLINDER ●

The features of the servo electric cylinder are designed to achieve maximum durability and thus extend service life

● Optional parts ●

brake
Spring grip /24V electromagnetic release
Hexagonal thrust rod
Provides integral anti-rotation function

Overall force feedback device
Provides a linear signal for actual force verification or data acquisition

● Brushless servo motor ●
IP65, CE certified

● Straight guide bar ●

● sealing device ●
Longer life by preventing contaminants from entering the actuator

● Integral mounting ●
Four threaded holes on the front can be used for direct installation or for adding custom options

● High-thrust bearing ●
Full screw support is provided to protect the feedback device from linear forces

● Lightweight aluminum design ●
Black anodized profile design for optimum stiffness and strength!

● Multiple machine winding ●
220V or 380V rated windings directly sealed into the actuator casing skew motor windings provide minimal torque pulsation for smooth linear motion integral thermal switches for overtemperature protection

● Internal screw planetary roller lead ●

8 rollers
Special material hard treatment

Maximum durability

● connector ●

Your choice:

With numerous manipulators/drives
Manufacturer integration
Interlaced connectors make installation easier
Connector and feedback device manufacturers include:

+ABB
+Fanuc
+kawasaki
+kuka
+Nachi
+Motoman/Yaskawa

● High resolution encoder ●

Your choice:
Connector and feedback device manufacturers include:

+ABB
+Fanuc
+kawasaki
+kuka
+Nachi
+Motoman/Yaskawa
+Tamagawa

Better technology, higher performance

Cylinders and split electric cylinders compared to servo electric cylinders



air cylinder

- High cost of use
- Repairs and maintenance are
- The repetition accuracy is low, and the welding quality is reduced
- "Bang bang" welding - tooling has limited adaptability
- Different strokes and pressures make it a wide variety



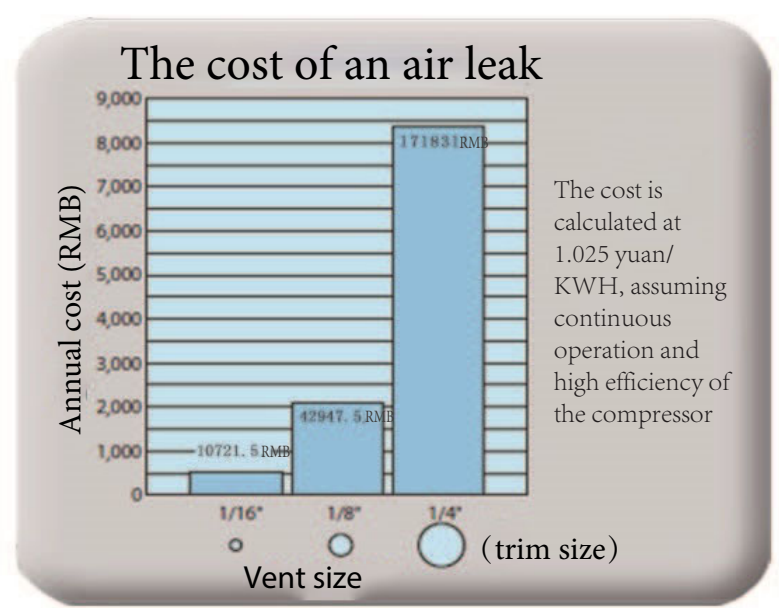
Split electric cylinder

- Size and weight cause payload problems and the interference area becomes larger.
- The response of the synchronous belt mechanical drive mechanism is not as high as direct drive.
- The synchronous belt needs to be regularly measured tension and replaced regularly, and is a high-frequency fault point.



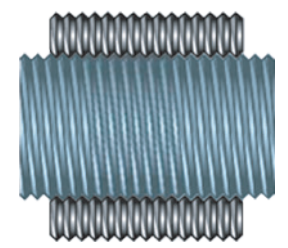
servo electric cylinder

- Cleverly avoid the shortcomings of cylinder and split electric cylinder.
- There is no need for complex systems such as valves, pumps, pipelines, filters, etc
- Small size, long life, maintenance-free, no leakage, less noise
- Flexible control is possible

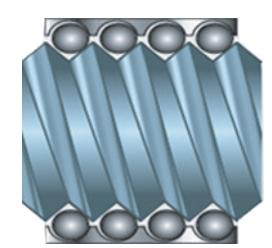


TGES — Lead screw selection

Comparison of performance of roller screw and ball screw



Roller screw



ball screw

The roller screw has a larger surface area and more contacts than the ball screw.



Can withstand heavy loads. The force is transmitted through the engagement of multiple spiral roller assemblies with a fine roller screw. The roller screw is equipped with many contact points and has excellent load capacity.



The ball screw housing contains a plurality of ball bearings. The ball screw has limited contact points compared to the roller screw design, resulting in a lower load capacity. However, when applied, it is a robust mechanical drive system.

- High force repetition accuracy achieves more than 30 million welds
- $\pm 3\%$ force repetition accuracy
- Up to 150 KN
- Up to 416mm per second
- Rated force repetition accuracy to achieve more than 5 million times of welding
- $\pm 5\%$ force repetition accuracy
- Up to 50KN
- Speeds up to 292 millimeters per second

category	Roller screw	ball screw
rated load	extra-high	High
Service life	Extremely long	medium
speed	medium	medium
accelerated speed	extra-high	medium
rigidity	extra-high	medium
impact load	extra-high	medium
Relative space requirement	minimum	medium
preserve	None or very little	minimum

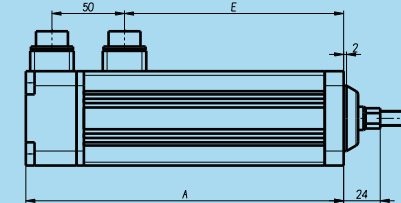
Servo electric cylinder TGES series parameter table

	TGES060	TGES080	TGES100		TGES130	TGES180
机械参数 MACHINERY PARAMETERS						
Lead of lead screw (mm)	2.5	3	3	5	6	7.5
Rated thrust (N)	3500	7000 (8900)	15000	10000	30000	50000
Maximum thrust (N)	5250	10500	22500	15000	45000	75000
Rated speed (mm/s)	125	150	150	250	100	125
Travel (mm)	80-100	80-150	100-250	100-250	150-250	150-300
Conventional stroke (mm)	100	150	150/200	150/200	150	150/230
Moment of inertia (kg.cm ²)	1.1	3.2	14	14	45	129
Weight (kg)	2.7	7.5	11	11	32	55
ELECTRICAL PARAMETERS						
Voltage (V)	220	220	220	380	380	380
Rated speed (rpm))	3000	3000	3000	3000	1000	1000
Rated current (A)	3.2	6.4	10.7	6.5	14	17
Peak current (A)	6.4	12.8	21.4	13	28	34
Rated power (KW)	0.55	1.5	2.8	1.5	4	7
Rated torque (N.m)	1.75	4.78	8.91	8.91	38	66.87
Peak torque (N.m)	3.5	9.54	17.82	17.82	57	133.74
Back potential (mv/rpm)	52	55	56	95	230	276
Torque coefficient (N.m/A)	0.55	0.75	0.83	1.37	3.8	4.31
Electrical time constant (te), ms	3.75	7	7	6.72	8.98	33
Mechanical time constant (tm), ms	1.27	0.75	2.29	2.59	1.66	1.55
Line resistance (Ω)	3.76	1.01	0.75	3.84	1.81	0.87
Line inductance (mH)	14.1	8.4	5.3	24.4	31.3	23.3

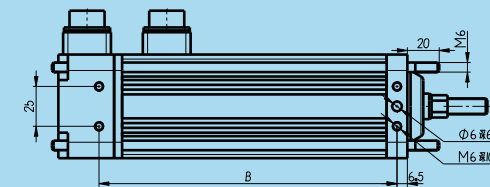
Ca rated dynamic load: dynamic load constant of the lead screw.

TGES servo electric cylinderTGES060 Series installation method:

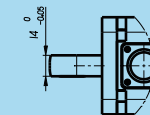
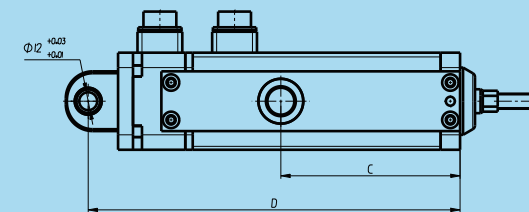
TGES060 elementary unit
unit of size:mm



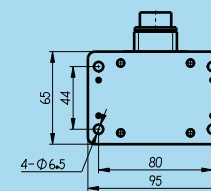
TGES060 Side face or front pull rod mounting



TGES060 Double trunnion or rear U-fork mounting



TGES060 Front or rear flange mounting



size	Stroke 50mm	Stroke 70mm	Travel 100mm
A	169	194	219
B	137	162	187
C	70	95	120
D	199	224	249
E	119	144	169

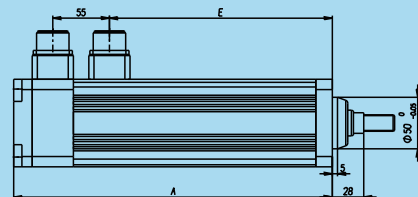
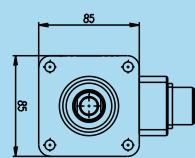
Note: 1. If you choose brake motor size A.D and size 1 increase 37mm

2. The cylinder body size will vary depending on the plug form and feedback form, subject to the final confirmation drawing.

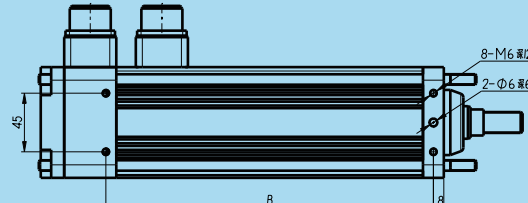
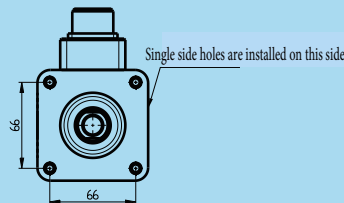
TGES servo electric cylinder TGES080 Series installation method:

TGES080 elementary unit

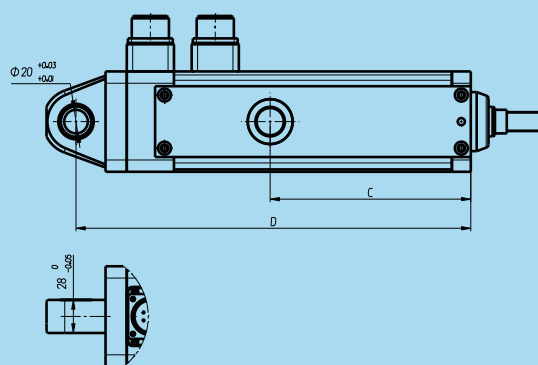
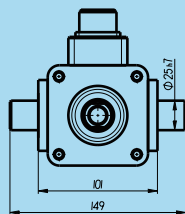
unit of size: mm



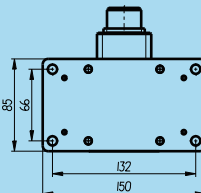
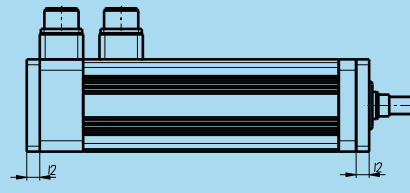
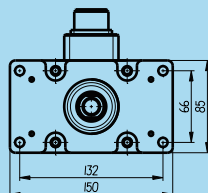
TGES080 Side face or front pull rod mounting



TGES080 Double trunnion or rear U-fork mounting



TGES080 Front or rear flange mounting



SIZE	Stroke 50mm	Stroke 100mm	Stroke 150mm	Stroke 200mm
A	209.5	259.5	309.5	359.5
B	151.5	201.5	251.5	301.5
C	70	120	170	220
D	234.5	284.5	334.5	384.5
E	116.5	166.5	216.5	266.5

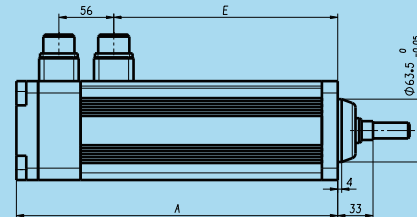
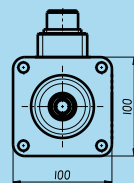
Note: 1. If the brake motor size A.D and size 1 are selected, 47mm is increased

2. The cylinder body size will vary depending on the plug form and feedback form, subject to the final confirmation drawing

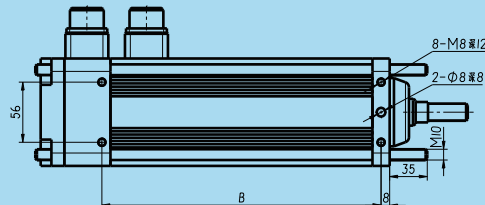
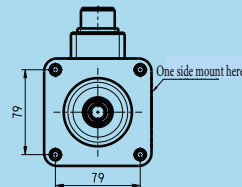
TGES servo electric cylinder TGES100S eries installation method:

TGES100 elementary unit

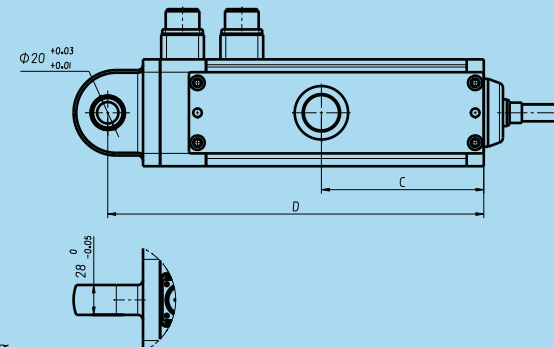
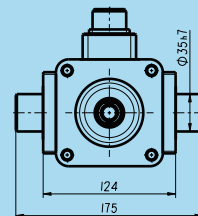
unit of size: mm



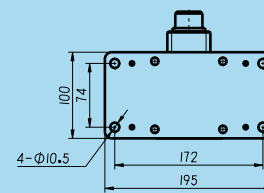
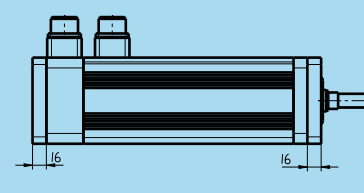
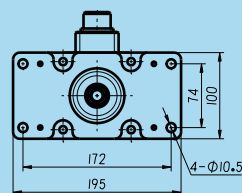
TGES100 Side face or front pull rod mounting



TGES100 Double trunnion or rear U-fork mounting



TGES100 Front or rear flange mounting



SIZE	Stroke 100mm	Stroke 150mm	Stroke 175mm	Stroke 200mm	Stroke 250mm
A	275	325	350	375	425
B	210	260	285	310	360
C	102	152	177	202	252
D	302	352	377	402	452
E	176.5	226.5	251.5	276.5	326.5

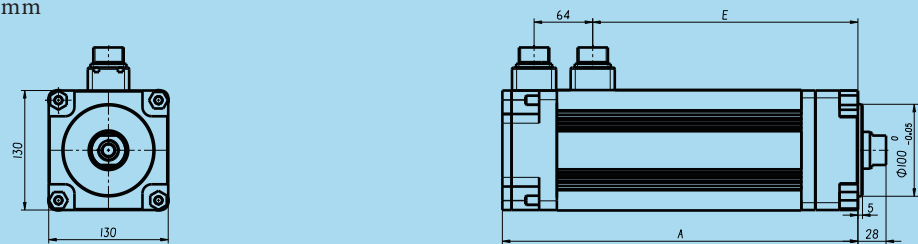
Note: 1. If the brake motor size A.D and size 1 are selected, 54mm is increased

2. The cylinder body size will vary depending on the plug form and feedback form, subject to the final confirmation drawing

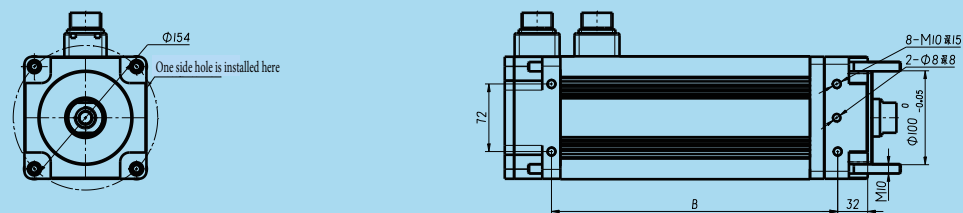
TGES servo electric cylinder TGES 130 Series installation method:

TGES130 elementary unit

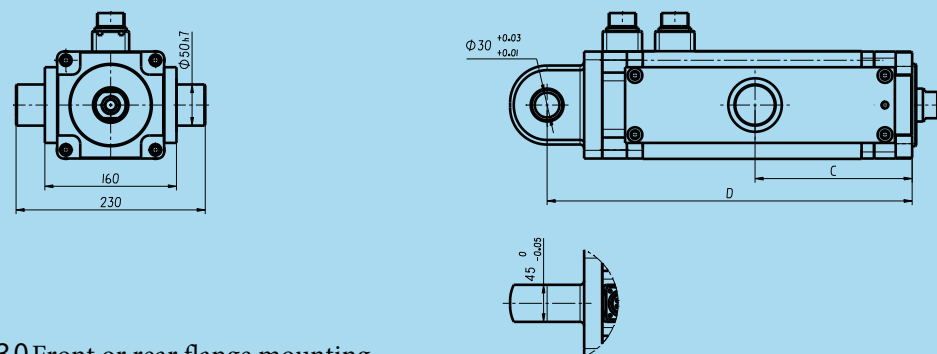
Size unit: mm



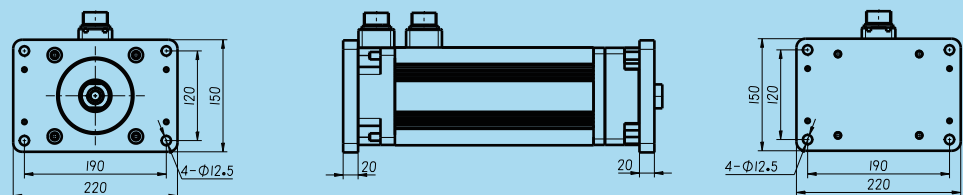
TGES130 Side face or front pull rod mounting



TGES130 Double trunnion or rear U-fork mounting



TGES130 Front or rear flange mounting



SIZE	Travel 150mm	Stroke200mm	Stroke250mm	Stroke300mm
A	387	437	487	537
B	305	355	405	455
C	191	241	291	341
D	444	494	544	594
E	288.5	338.5	388.5	438.5

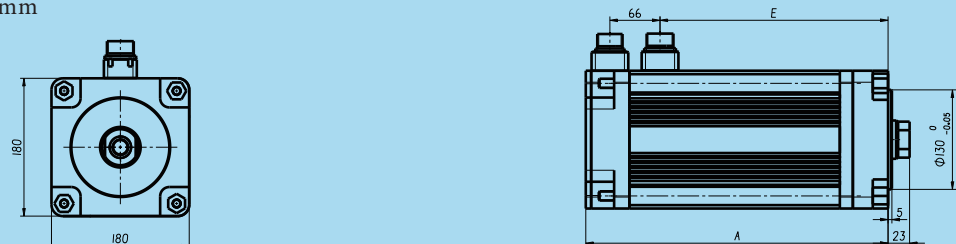
Note: 1. If you select brake motor size A.D and size 1 increase by 70mm

2. The cylinder size will vary depending on the plug type and feedback form, subject to the final confirmation drawing

TGES servo electric cylinder TGES 180 Series installation method:

TGES180 elementary unit

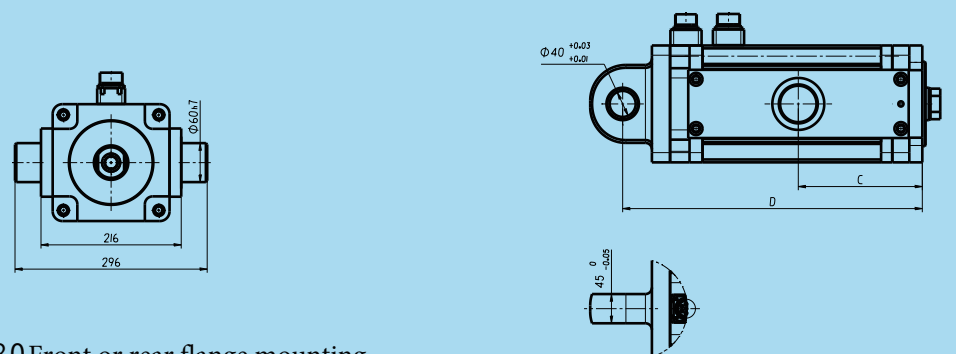
Size unit: mm



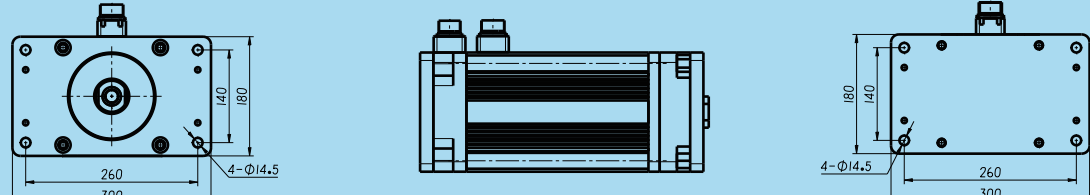
TGES180 Side face or front pull rod mounting



TGES180 Double trunnion or rear U-fork mounting



TGES180 Front or rear flange mounting



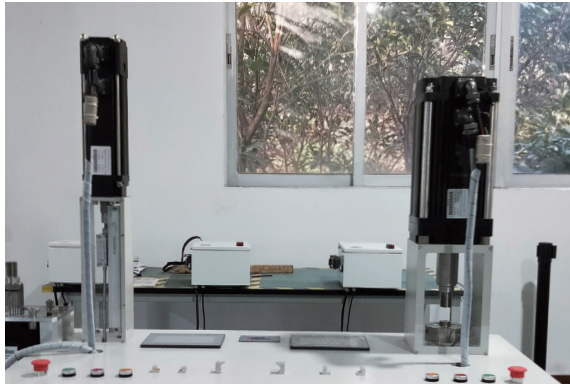
SIZE	Stroke150mm	Stroke200mm	Stroke250mm	Stroke300mm
A	395	445	495	545
B	315.5	365.5	415.5	465.5
C	191	241	291	341
D	461.5	511.5	561.5	611.5
E	298	348	398	448

Note: 1. If the brake motor size A.D and size 1 are selected, 85mm is increased

2. The cylinder body size will vary depending on the plug form and feedback form, subject to the final confirmation drawing

Each actuator has undergone a complete validation test

Guaranteed millions of maintenance-free or minimal maintenance runs for each TGES servo motor cylinder shipped.



The functional test runs 350 cycles, quantifying the following parameters: stroke length, torque without load, input current specific force standard deviation.



Test parameters to advance the progress of the functional test program,



The final system test ensures that the feedback device is aligned with the most positive and negative TGES terminals

We inspect the performance of each unit before delivery to ensure that it meets the high performance standards of the product.

1, high POT (high potential/high voltage test)

This standard servo motor cylinder test program is divided into 3 parts and checks the total insulation system to verify the correct insulation of the armature and thermal conductors.

2. Servo electric cylinder and feedback device (encoder, resolver, feedback device)

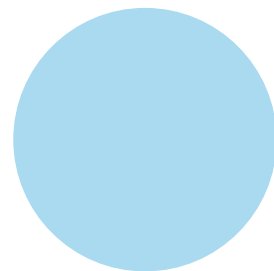
Electronic phase Using a fixed current and a specially designed fixture, the feedback device is physically and electronically tuned with reference to the phase of the servo motor cylinder.

3.Functional test help

Servo electric cylinder motion control components and special data acquisition equipment. The test ran 350 cycles using electronic load sensors and data acquisition equipment to quantify the following parameters: stroke length, torque without load, average input current specific force, and standard deviation of input current specific force.

4.Servo electric cylinder system test

Single-axis control is used to ensure that the feedback device is correctly aligned with the poles of the ZGIES servo electric cylinder.



Brand confidence, technology confidence, quality confidence, service confidence

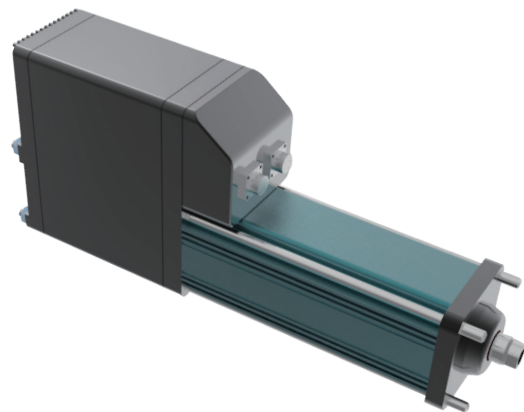
TGES Serial ordering information: TGESAA-BB-CC-DD-EEFF-GG-II-JJ

AA=flange dimensions	060=65mm、080=85mm、100=100mm、130=130mm、180=180mm
BB=stroke length	50=50mm、80=80mm、100=100mm、150=150mm、200=200mm
CC=Lead length	2.5=2.5mm、3=3mm、5=5mm、7.5=7.5mm
DD=power	0.4=0.4kw、0.75=0.75kw、1=1kw、1.5=1.5kw、2.0=2.0kw 2.5=2.5kw 11=11kw
EE=voltage	G=220V、H=380V
FF=Rated motor speed	10=1000rpm、15=1500rpm、30=3000rpm、60=6000rpm
GG=sensor	FA=Fanuc encoder YW=Yaskawa encoderTG=Tamagawa encoder ABB=ABB encoder ETE=KUKA encoder NA=Nazhi encoder
II=connection type	J=Front flange、K=Tail hinge、L=Lateral trunnion、O=Back flange、P=side mounting
JJ=With or without brake	M=without brake、N=with brake

TGES Serial coding specification:

for example	TGES080-150-3-1.5-G30-FA-J-M
TG	TIGER
ES	Expressed as an integrated cylinder series
080	Expressed as a whole series of columns
150	Indicates a maximum stroke of 150mm
3	Indicates that the lead is 3mm/rev
1.5	The indicated power is 1.5kw
G	It indicates that the operating voltage is 220V
30	Indicates that the rated motor speed is 3000rpm
FA	Indicates that the Fanuc encoder
J	Front flange mounting
M	Without brake

● INTEGRATED SERVO ELECTRIC CYLINDER ●



■ product brief introduction

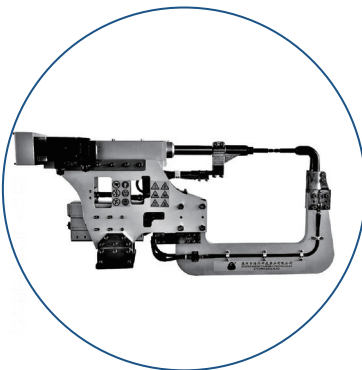
TGIDEC series integrated linear AC servo electric cylinder is an integrated high-performance linear servo electric cylinder independently developed by Zhige Robot System Co., Ltd. for: narrow field space, poor control accuracy of traditional cylinder and hydraulic cylinder.

The servo electric cylinder integrates the built-in brushless servo motor with the roller screw transmission structure, and the rotating motion of the servo motor rotor is directly distributed around the main screw through the roller planet, avoiding the transmission error caused by the elastic deformation, wear, clearance, heating and other factors of the intermediate link.

■ product feature

- 1. A servo cylinder is a workstation;
- 2. High control precision and low calorific value;
- 3. Powerful kernel and its own algorithm;
- 4. Rich communication interfaces
- 5. Low maintenance cost and wide application range

■ product application



SERVO GUN



AUTOMATIC PRESS
FITTING WORKSTATION



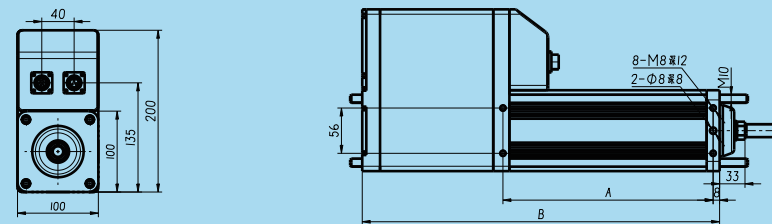
INJECTION MOLDING MACHINE

■ Host performance parameters

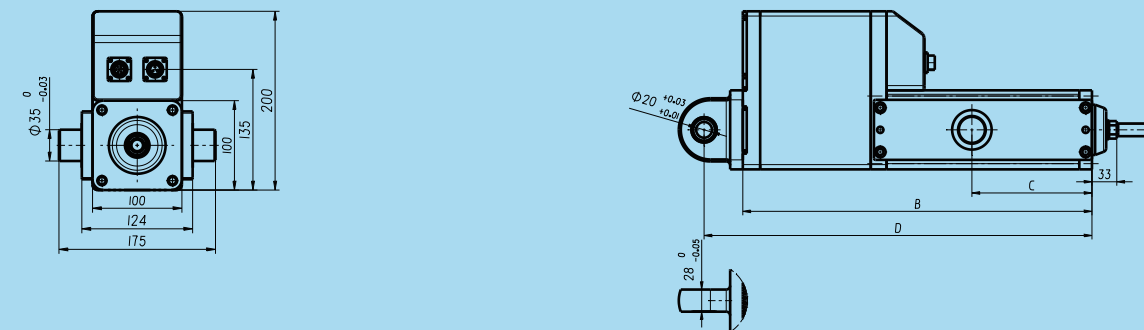
type		specification	explain
electric parameter	model	rated voltage	1P 220V AC
		rated current	10.7 A
		peak current	21.4 A
	work pattern	rated power	2.8 kw
		rated speed	3000 rpm/min
		rated torque	8.91 N.m
		peak torque	17.8 N.m
		counter emf	55 mv/rpm
		line resistance	0.75 Ω
		Line inductance	5.3 mH
		Number of motor poles	8
		Encoder type	absolute encoder
		brake	match
mechanical parameter	moment	rated thrust	16700 N
		maximum thrust	25050N
		rated speed	150-250mm/s
		torque coefficient	0.83 N.m/A
	precision	positional accuracy	0.08(mm/300mm)
		repeated positioning accuracy	±0.01 mm
		rotational inertia	14kg.cm ²
	lead screw	Push stroke	100-250mm
		lead	3-5mm
control mode	Controls (modes can be intercut) are interchangeable	speed control	
		position control	
		torque control	
		DLL dynamic-link library	
external communication	communication	RS485、RS232	
protect function	hardware protection	Overvoltage, undervoltage, overcurrent, overspeed, overload, drive overload, encoder failure, etc Memory failure, initialization failure, I/O allocation exception, location deviation is too large	
	software protection		
work environment	environment	operating temperature	-10~55 °C
		storage temperature	-10~80 °C
		environment humidity	≤ 90% RH (without condensation)
		elevation	Below 1000 m

TGIDEC Integrated servo electric cylinder size

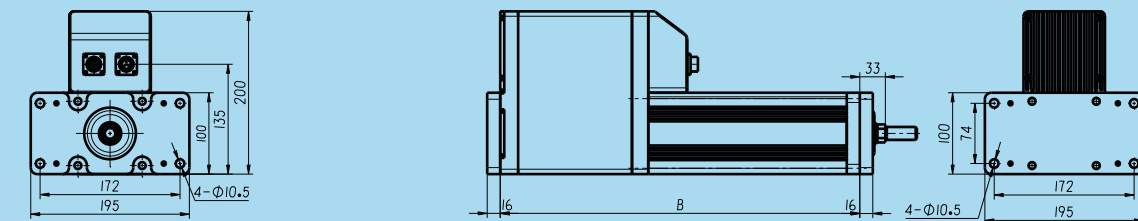
Size unit: mm
Integrated servo electric cylinder side mounting hole or front pull rod



Integrated servo motor cylinder side trunnion or rear hinged mounting



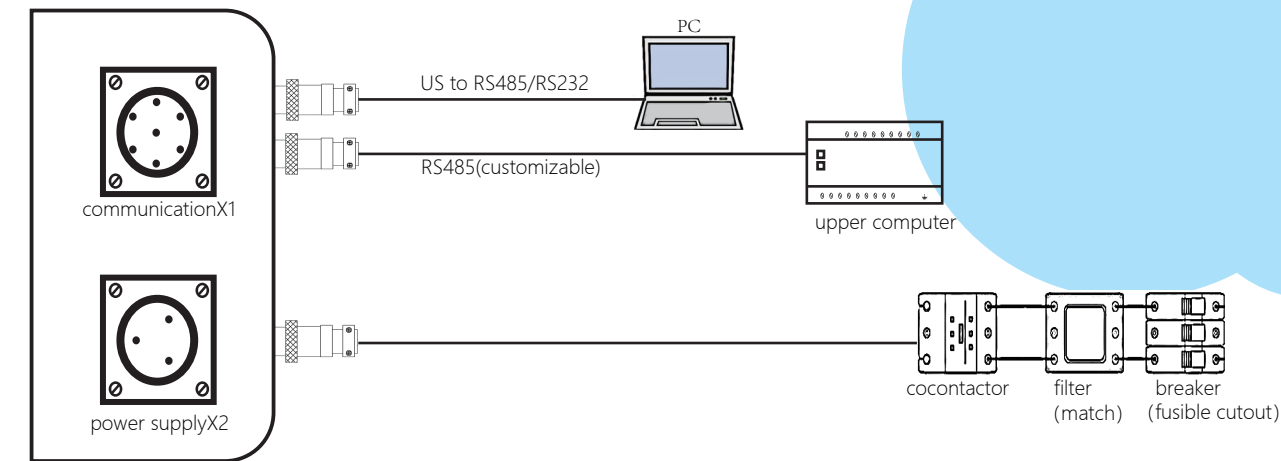
Integrated servo electric cylinder front or rear flange mounting



SIZE	stroke100mm	stroke150mm	stroke200mm	stroke250mm
A	210	260	310	360
B	392	442	492	542
C	102	152	202	252
D	341	491	541	591

Note: 1. Integrated servo electric cylinder size can be customized according to requirements.
2. The cylinder body size will vary depending on the plug form and feedback form, subject to the final confirmation drawing

connection schematic diagram



demonstration of the type

for example	TGIDEC100-150-3-2.8-G30-TG-J-M
TG	TIGER
IDEC	Expressed as an integrated cylinder series
100	Indicates that the flange size is 100mm
150	Indicates a maximum stroke of 150mm
3	Indicates that the lead is 3mm/rev
2.8	The indicated power is 2.8kw
G	It indicates that the operating voltage is 220V
30	Indicates that the rated motor speed is 3000rpm
TG	Indicates that theTamagawa encoder
J	Front flange mounting
M	Without brake

Single axis drive and control integrated controller

● UNIAXIAL INTEGRATED DRIVE CONTROLLER ●



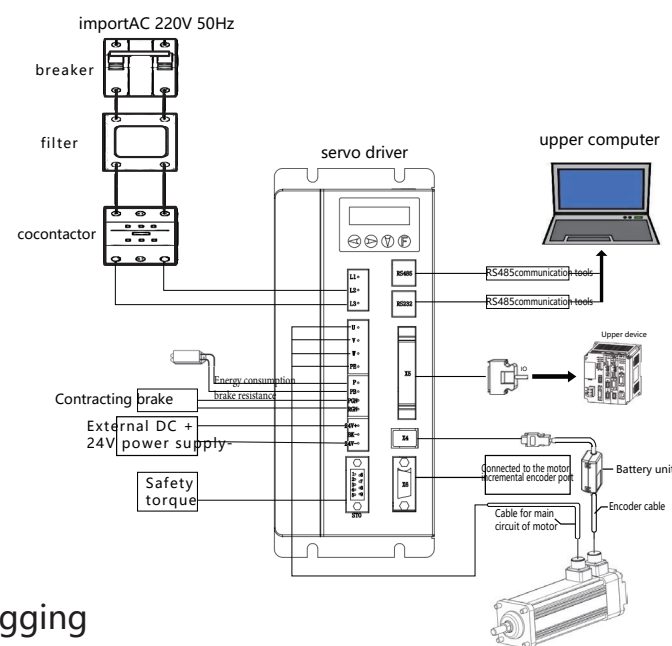
■ product brief introduction

The single-axis drive controller is a product that integrates industrial PC, motion control and servo drive, with a wide range of power coverage. The highly integrated system architecture greatly simplifies the customer's electrical design and improves equipment performance and reliability. The software platform for the development ability of machinery manufacturers and system integrators, using the second development of the system architecture, for customers to customize the process, algorithm to provide solutions.

■ main feature

- 01 Precision force position control
- 02 Support multiple encoders
- 03 Humanized upper computer debugging tool, easy to use
- 04 Support secondary development
- 05 Simple wiring and convenient debugging

■ system architecture



SPECIFICATIONS			
model		SDVA20T40series	
Appearance dimensions (L X W X H, mm)		230 X 190 X 92	
rated power		2 KW	
Continuous output current		15 A	
input power		Three-phase/single-phase AC220V±10% 50Hz	
Encoder type		Incremental encoder/Rotary transformer/Absolute encoder/Second encoder (A/B/Z)	
work pattern		torque control	
		speed control	
		positioning control	
Regenerative resistance		circumscribed	
Control formula		Analog signal: pulse + direction	
		Digital signal: The digital quantity is given	
Mounted square type		In-cabinet installation	
performance	speed control range		1 ~ 6000 RPM
	speed fluctuation ratio	fluctuation of load	0 ~ 100% load: Maximum ±0.01% (rated speed)
		voltage fluctuation	Rated voltage: ±10% : 0% (rated speed)
		temperature fluctuation	25±25℃ : Max. ±0.1% (rated speed)
	Torque control repeatable accuracy		1%
communication	RS-485 communication	communication protocol	MODBUS
		1: Ncommunication	The maximum value is N=127
	standard bus	communication protocol	Standard industrial bus
Upper computer communication interface		RS-232	
indicate		CHARG Eindicator light	
retexture		External regenerative resistor (optional)	
protect function		Overcurrent, overvoltage, undervoltage, overspeed, overload, etc	
Panel operation	show	Five digit red seven section nixie tube	
	key	4 light touch keys	
input/output signal	Assignable input signal	8 inputs (including 2 high-speed)	
	Assignable output signal	4 Damage output	
environmental conditions	Service temperature/storage temperature		0~50[℃]/-20~+70[℃]
	Use humidity/save humidity		90[%] a bit (no condensation)
	vibration resistance		Below 4.9[m/s ²]
other	automatic adjustment		
	End jitter suppression		

Dual axis drive and control integrated controller

● BIAxIAL INTEGRATED DRIVE CONTROLLER ●



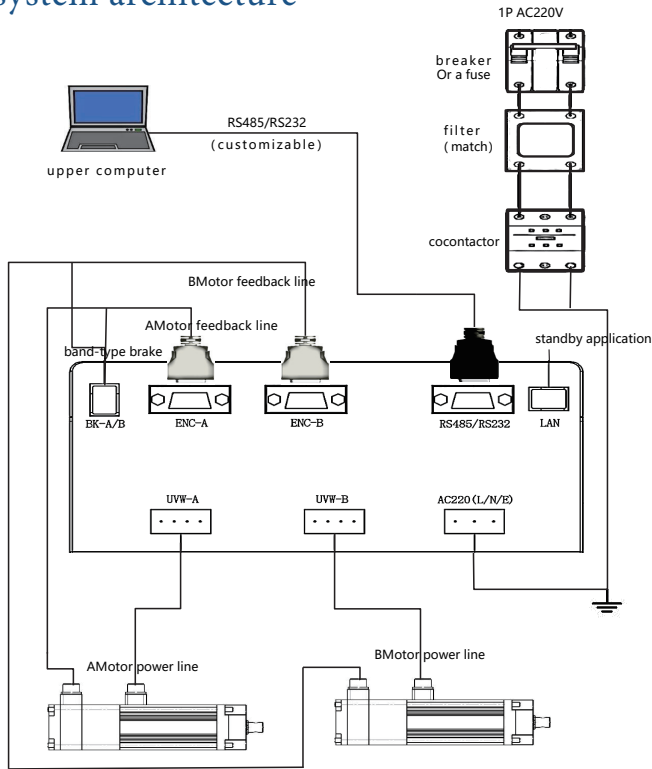
■ product brief introduction

MDVD20N50RR-0001 Dual axis drive and control integrated controller is specially developed for dual axis use scenario
 Performance AC servo drive, can be paired with TGSM series permanent magnet
 Service motor, TGES series servo electric cylinder and other brands
 The motor, electric cylinder and other products are used.

■ main feature

- 01 One for two, easy debugging
- 02 Self control and excellent control performance
- 03 Powerful database, better synchronization
- 04 Strong kernel and load capacity
- 05 There are many kinds of products and rich communication interfaces

■ system architecture



SPECIFICATIONS			
model	MDVD2series		
Appearance dimensions (L X W X H, mm)	200 X 165 X 130		
control motor	Total output 3KW, single channel maximum 2KW		
Maximum number of control axes	2		
input power	single phase AC220V±10% 50Hz		
Encoder type	Rotary transformer/Absolute encoder/Second encoder (A/B/Z)		
applied range	Two axis independent servo control, planar robot control, other two axis joint control		
Servo control mode	Position control, speed control, torque control		
Control formula	Bus, IO		
way to install	Installing + Heat sink inside the cabinet		
performance	speed control range	1 ~ 6000 RPM	
	speed fluctuation ratio	fluctuation of load	0 ~ 100% load: Maximum ±0.01% (rated speed)
		voltage fluctuation	Rated voltage: ±10% : 0% (rated speed)
		temperature fluctuation	25±25℃ : Max. ±0.1% (rated speed)
	Torque control repeatable accuracy		1%
communication	Ethernet	communication protocol	TCP/IP UDP
	other	communication protocol	RS232C/RS485/CAN2.0B
Upper computer communication interface		RS232C	
indicate		Nixie tube	
protect function		Overcurrent, overvoltage, undervoltage, overload, overspeed, motion safety, etc	
Panel operation	show	Nixie tube	
	key	External keyless	
input/output signal	Assignable input signal	4 Input IO	
	Assignable output signal	4 Output IO	
environmental conditions	Service temperature/storage temperature	0~50[℃]/-20~+70[℃]	
	Use humidity/save humidity	90[%] a bit (no condensation)	
	vibration resistance	Below 4.9[m/s²]	
environmental conditions	Velocity planning mode	Trigonometric function, double S type, spline, trapezoid	
	Motion interpolation mode	Joint interpolation, plane straight line, plane arc, plane helix, plane spline	
	Interpolation period	1ms	
	improve performance	Velocity feedforward, torque feedforward, resonance suppression	
Function integration		Other special functions, etc	