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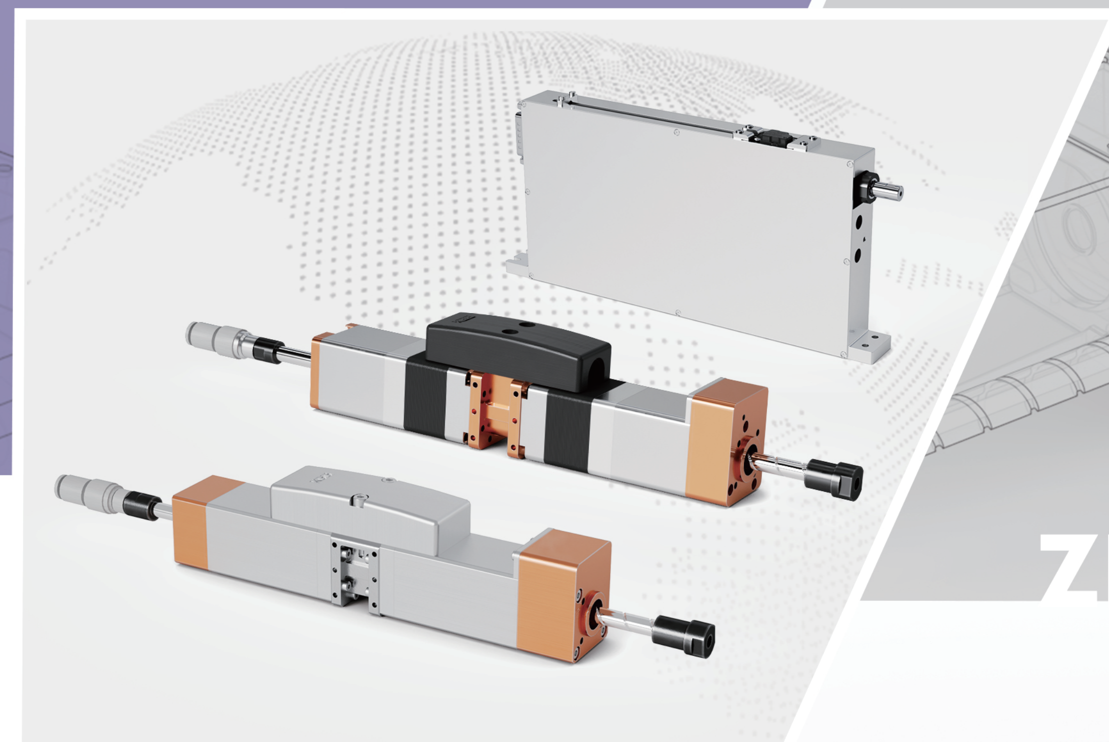
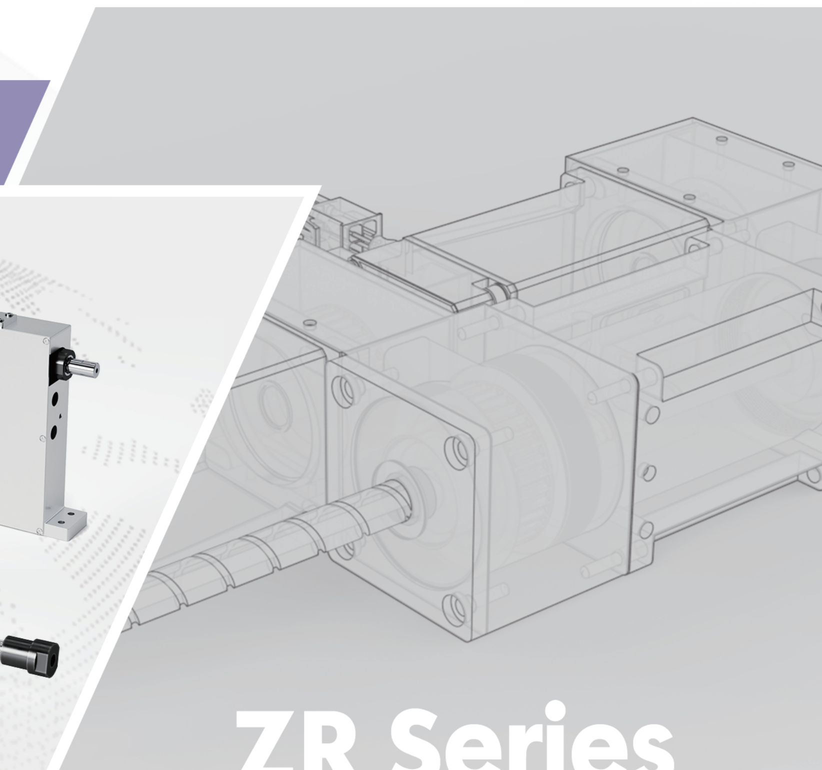
3D Selection Tool

KGG



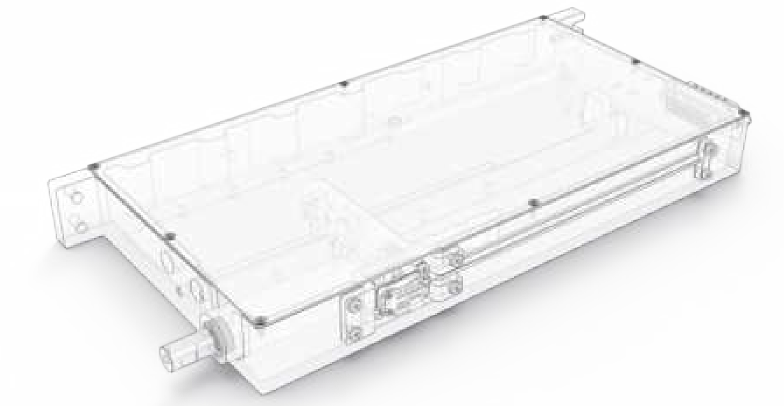


ZR Series

ZR ACTUATOR

ZR Series

Screw Driven Type



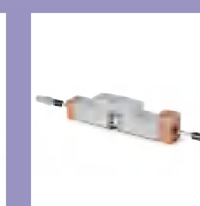
ZRCS13 Type
Body Width 13mm
Max.Travel 25mm
Max.Thrust 12.8N
Rated Speed 1500RPM

ZRCS16 Type
Body Width 16mm
Max.Travel 35mm
Max.Thrust 28N
Rated Speed 1500RPM

ZRCS20 Type
Body Width 20.5mm
Max.Travel 25mm
Max.Thrust 13.5N
Rated Speed 1500RPM

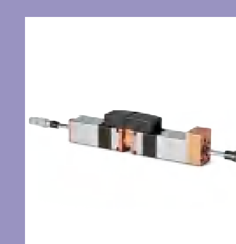
ZRCS25 Type
Body Width 25mm
Max.Travel 40mm
Max.Thrust 36.5N
Rated Speed 1500RPM

ZRES25 Type
Body Width 25mm
Max.Travel 40mm
Max.Load 150g
Resolution 4000PPR



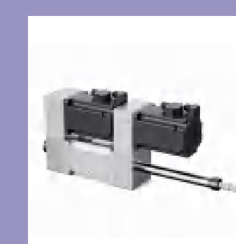
ZRIS28 Servo
Body Width 28mm
Max.Travel 50mm
Max.Thrust 25N
Screw Dia. Φ6

ZRIS42 Servo
Body Width 42mm
Max.Travel 50mm
Max. Thrust 51N
Screw Dia. Φ8

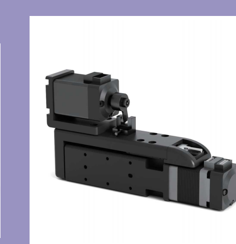


ZRIN28 Stepper
Body Width 28mm
Max.Travel 50mm
Max.Thrust 5N
Screw Dia. Φ6

ZRIN42 Stepper
Body Width 42mm
Max.Travel 50mm
Max.Thrust 19N
Screw Dia. Φ8



ZRFS60 Type
Body Width 60mm
Max.Travel 120mm
Max.Thrust 400N
Screw Dia. Φ16



ZMAC30 Type
Body Width 30mm
Max.Travel 50mm
Max.Thrust 10N
Screw Dia. Φ6

Direct Drive type

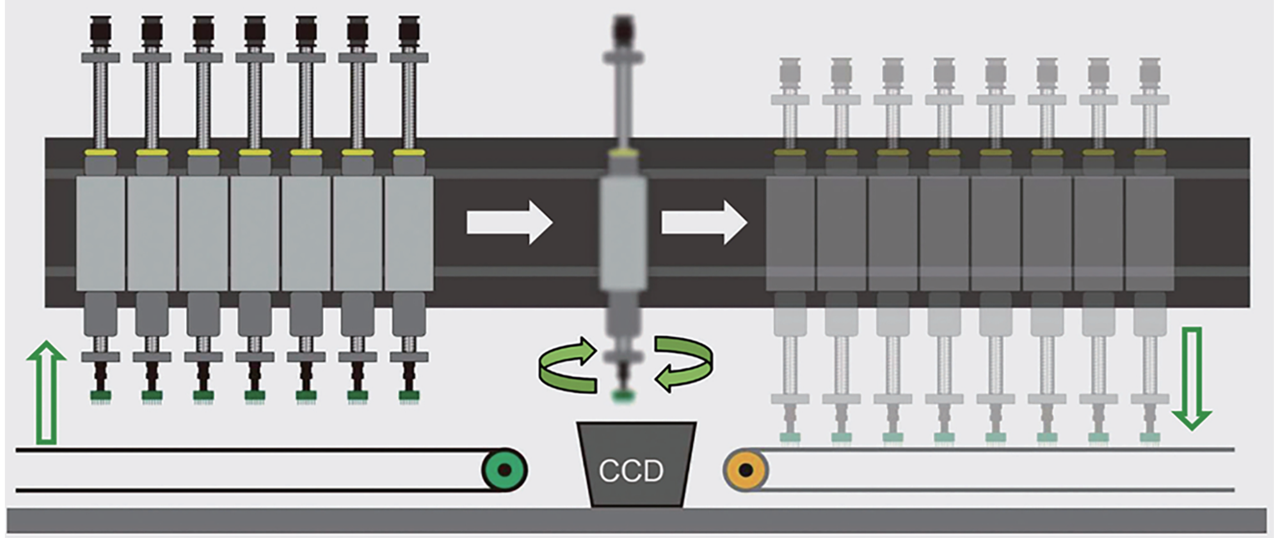
01. The hollow motor directly drives the ball screw and ball spline nut to achieve a compact appearance.
02. Drive the Z-axis motor to rotate the ball screw nut to realize linear motion. At this time, the ball spline nut acts as the stop and guide structure of the lead screw shaft.

Product advantages

01. Axial clearance is 0
02. Low noise and smooth movement
03. Hybrid compact lightweight miniaturized structure
04. Encoder closed-loop structure
05. Pressure Controllable

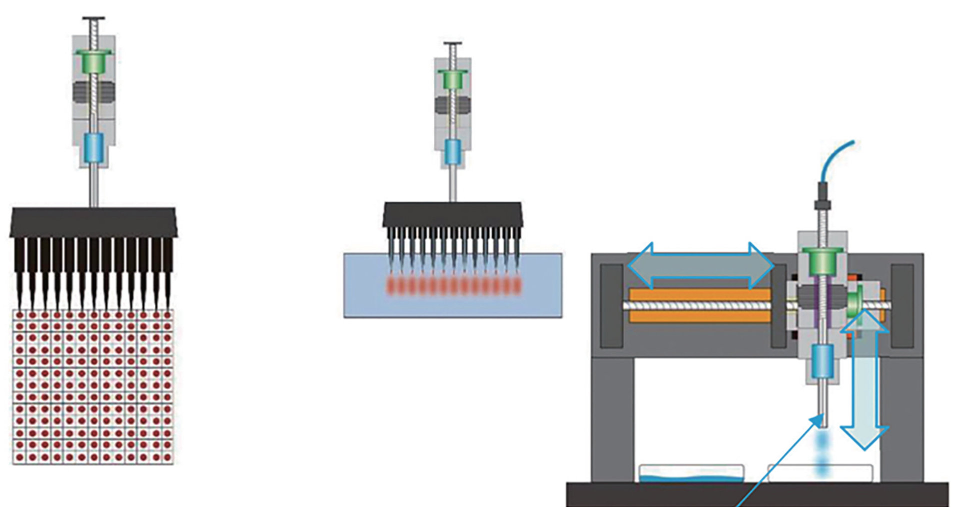
ZR axis actuator

Up and down linear motion, rotary motion /hollow adsorption function



Multi-axis combination-LED parts handling

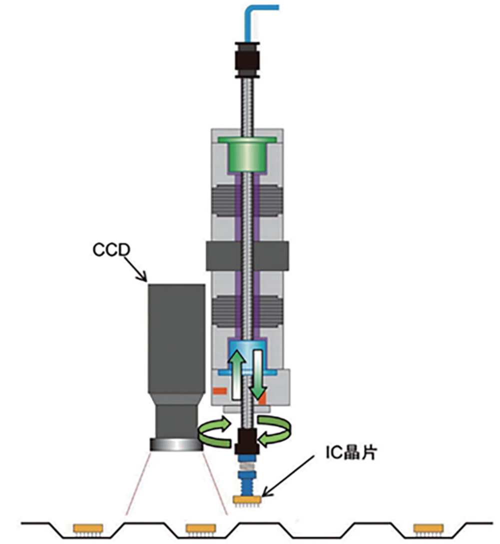
Hollow Shaft Liquid Dispensing

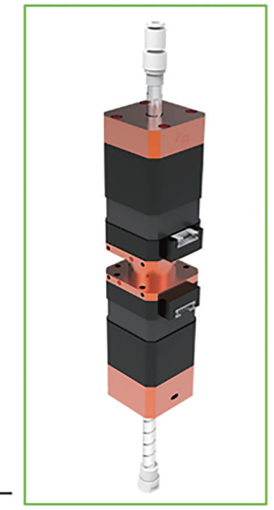


Multiple dispensing components

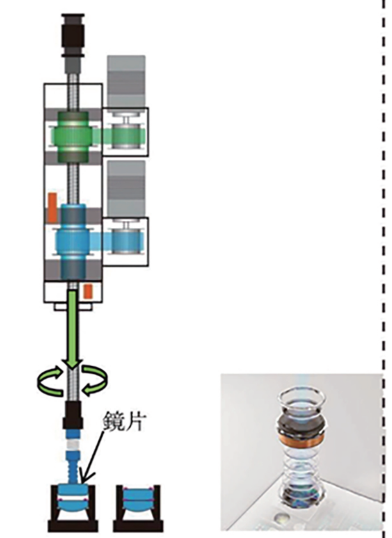
Hollow shaft liquid dispensing

IC chip angle adjustment

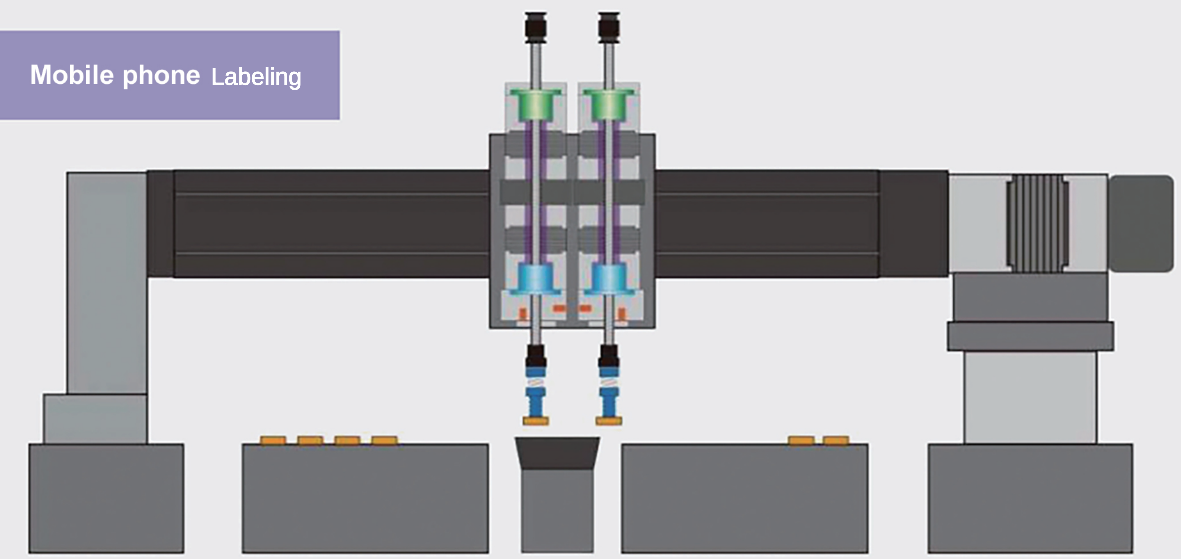




Mobile phone lens assembly



Mobile phone Labeling



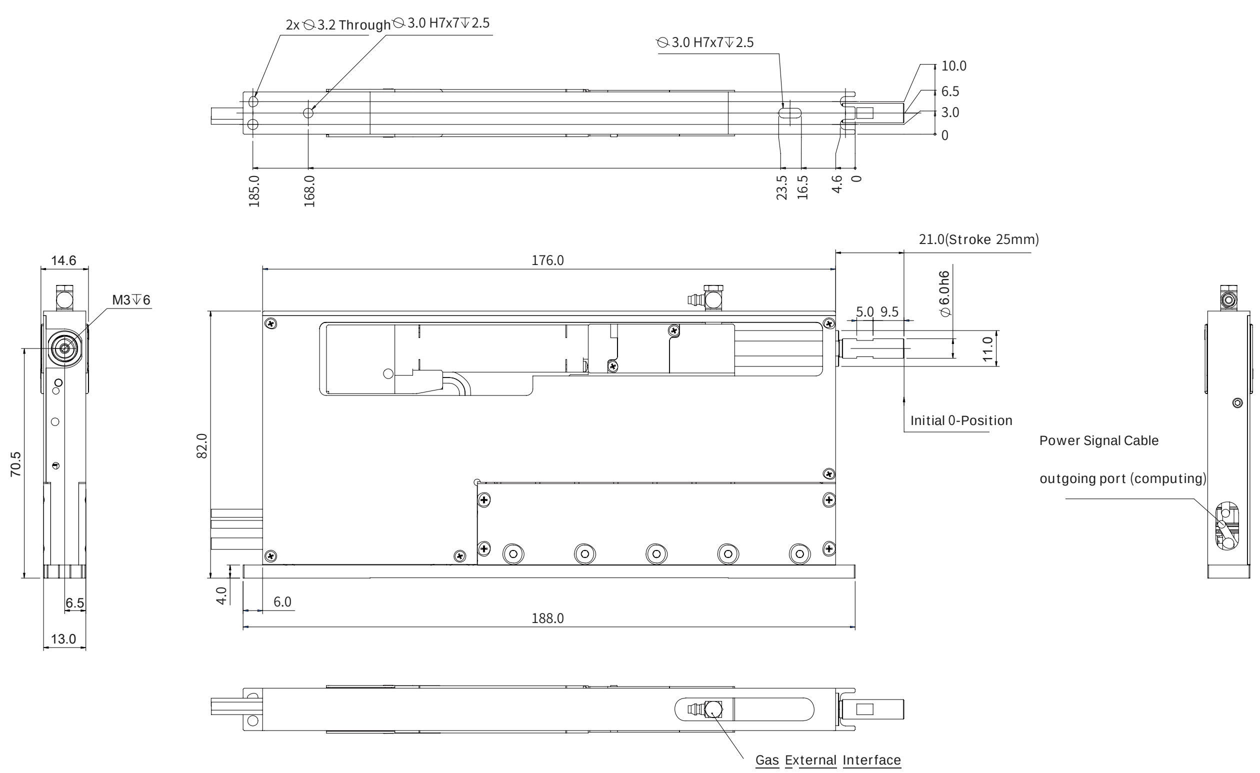
Show the DEMO machine

Test work actuators

4 axis ZR Pick&Place

Variable range 6 Pick&Place head

ZRCS13-25



Technical Parameter

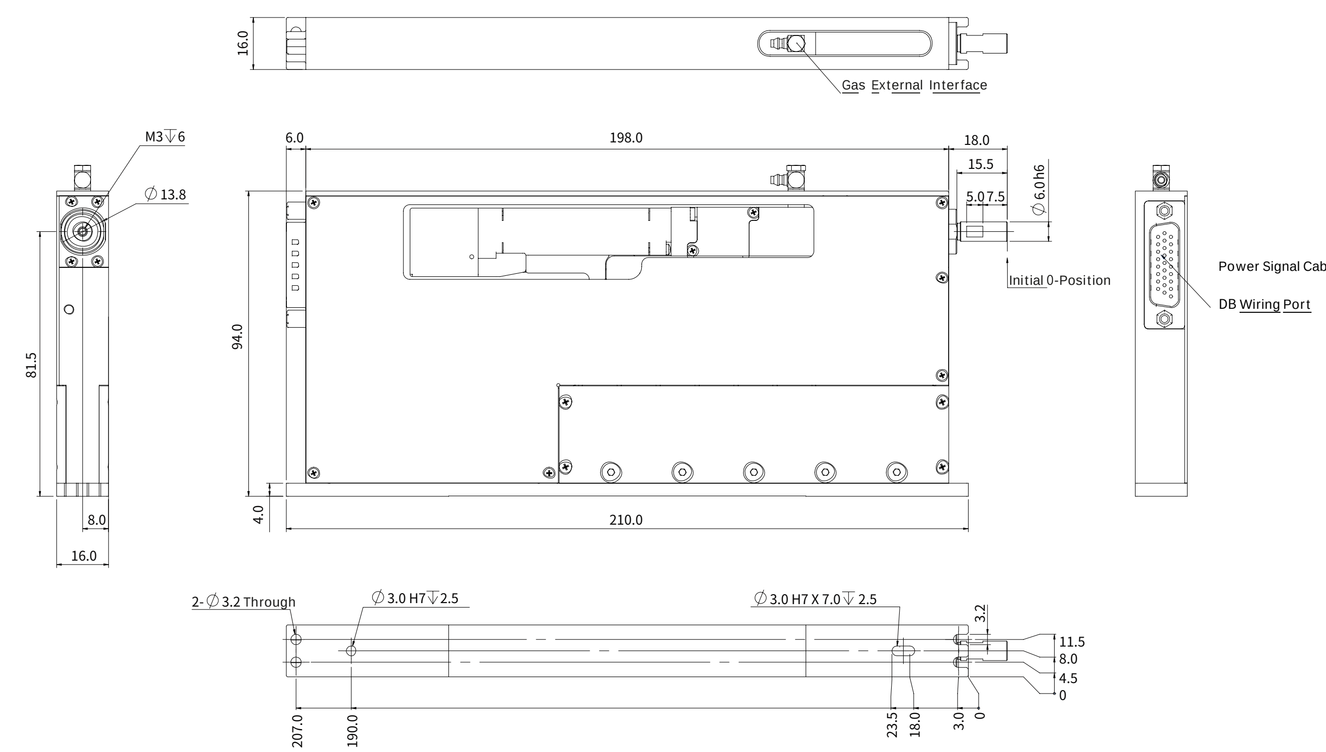
Model	ZRCS13-25	Drive Voltage	48VDC
Size	176*82*13	Weight	530g

Force Control Accuracy			
20~50g	±3g	50~300g	±10g

Linear Axis			
Effective Travel	25mm	Continuous Current	1.4Amp
Max. Thrust	12.8N	Max. Current	4.2Amp
Continuous Thrust	2.8N	Inductor	0.12mH
Force Constant	2.2N/A	Vacuum V/Spring S	V/S
Resistive	3.3Ω	Drives	Pulse/Bus
Position Repeatability	±2μm	-	-

Axis of Rotation			
Peak Torque	59.5mN.M	Rated Speed	1500RPM
Rated Torque	22.8mN.M	Drives	Pulse/Bus
Encoder	17Bit	Rotary Positional Accuracy	±0.01°
Radial Runout	±5μm (±1μmCustomizable)	-	-

ZRCS16-35



Technical Parameter

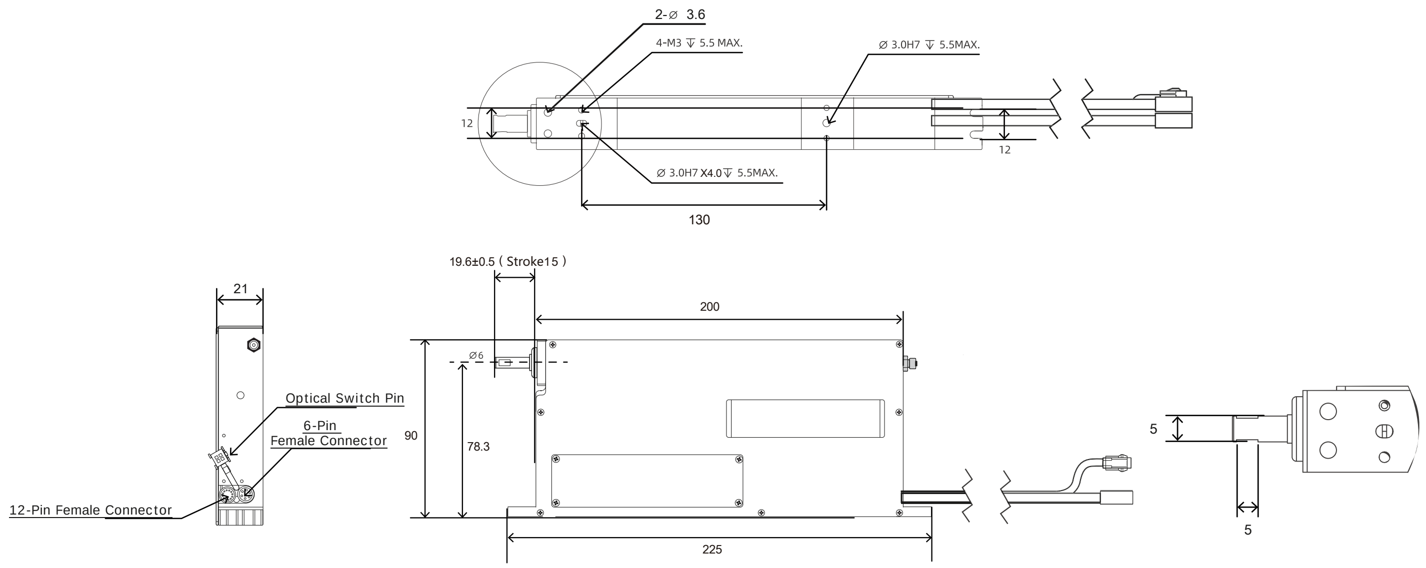
Model	ZRCS16-35	Drive Voltage	48VDC
Size	198*94*16	Weight	777g

Force Control Accuracy			
20~50g	±3g	50~300g	±10g

Linear Axis			
Effective Travel	35mm	Continuous Current	1.2Amp
Max. Thrust	28N	Max. Current	3.6Amp
Continuous Thrust	8.58N	Inductor	0.80mH
Force Constant	8N/A	Vacuum V/Spring S	V/S
Resistive	6.6Ω	Drives	Pulse/Bus
Position Repeatability	±2μm	-	-

Axis of Rotation			
Peak Torque	60mN.M	Rated Speed	1500RPM
Rated Torque	23mN.M	Drives	Pulse/Bus
Encoder	17Bit	Rotary Positional Accuracy	±0.01°
Radial Runout	±5μm (±1μmCustomizable)	-	-

ZRCS20-15



Technical Parameter

Model	ZRCS20-15	Drive Voltage	48VDC
Size	220*90*21	Weight	892g

Force Control Accuracy			
20~50g	±3g	50~300g	±10g

Linear Axis			
Effective Travel	15mm	Continuous Current	0.8Amp
Max. Thrust	9.8N	Max. Current	1.8Amp
Continuous Thrust	5.8N	Inductor	5mH
Force Constant	7N/A	Vacuum V/Spring S	V/S
Resistive	29.8Ω	Drives	Pulse/Bus
Position Repeatability	±2μm	-	-

Axis of Rotation			
Peak Torque	59.5mN.M	Rated Speed	1000RPM
Rated Torque	22.8mN.M	Drives	Pulse/Bus
Encoder	17Bit	Rotary Positional Accuracy	±0.01°
Radial Runout	±5μm (±1μmCustomizable)	-	-

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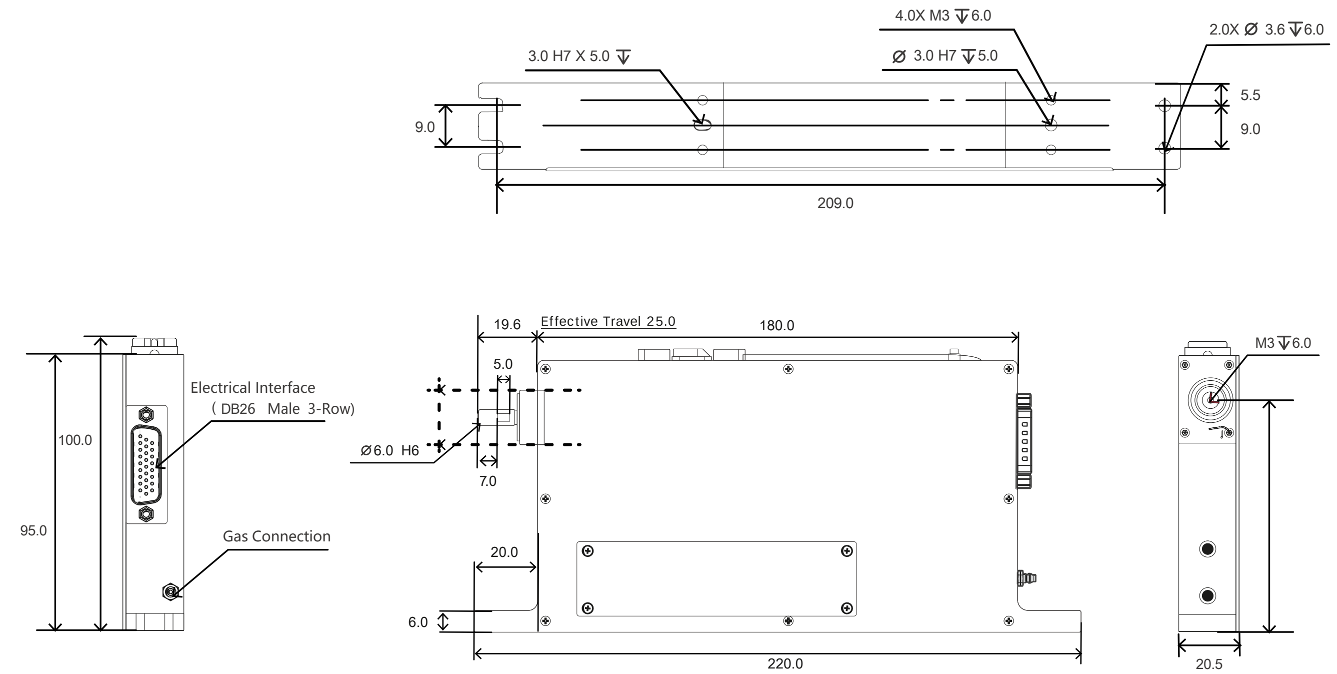
ZRCS20-25



Technical Parameter

Model	ZRCS20-25	Drive Voltage	48VDC
Size	180*95*20.5	Weight	915g

Force Control Accuracy			
20~50g	±3g	50~300g	±10g

Linear Axis			
Effective Travel	25mm	Continuous Current	1.2Amp
Max. Thrust	13.5N	Max. Current	3Amp
Continuous Thrust	8.1N	Inductor	3.68mH
Force Constant	6.6N/A	Vacuum V/Spring S	V/S
Resistive	16.4Ω	Drives	Pulse/Bus
Position Repeatability	±2μm	-	-

Axis of Rotation			
Peak Torque	59.5mN.M	Rated Speed	1500RPM
Rated Torque	22.8mN.M	Drives	Pulse/Bus
Encoder	17Bit	Rotary Positional Accuracy	±0.01°
Radial Runout	±5μm (±1μmCustomizable)	-	-

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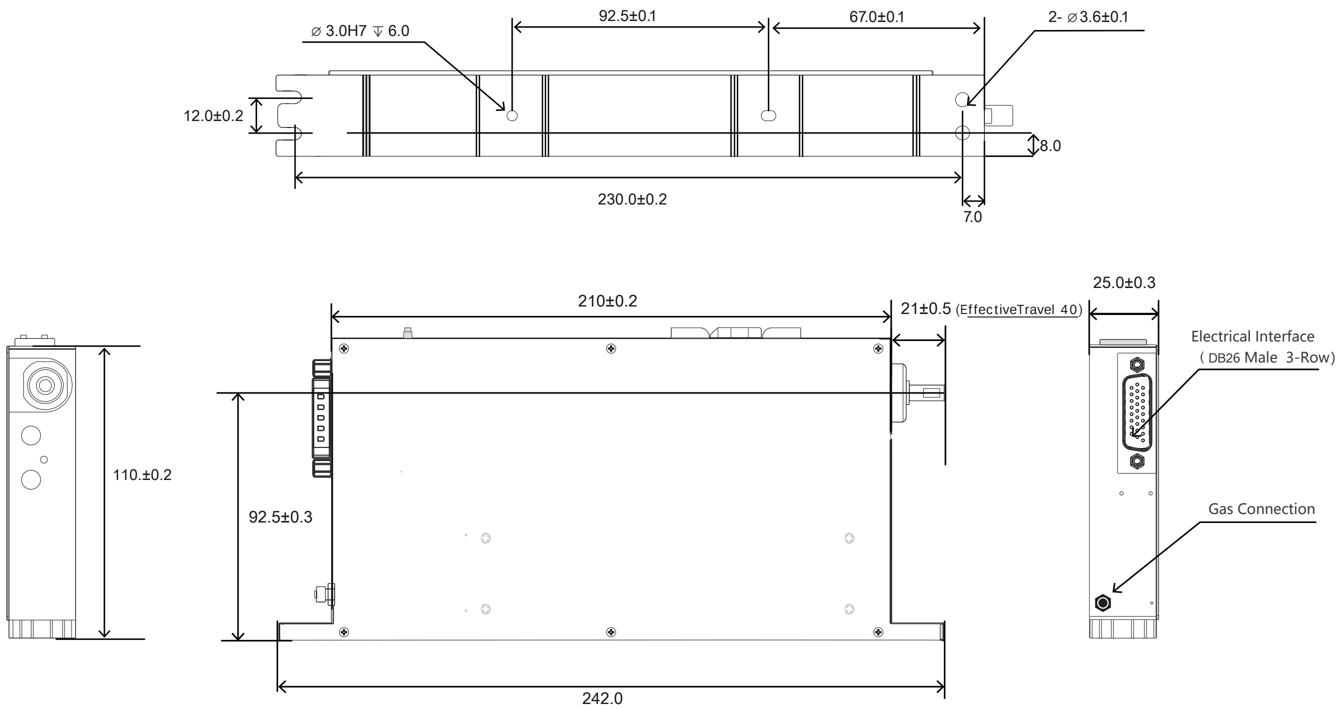
ZRCS25-40



Technical Parameter

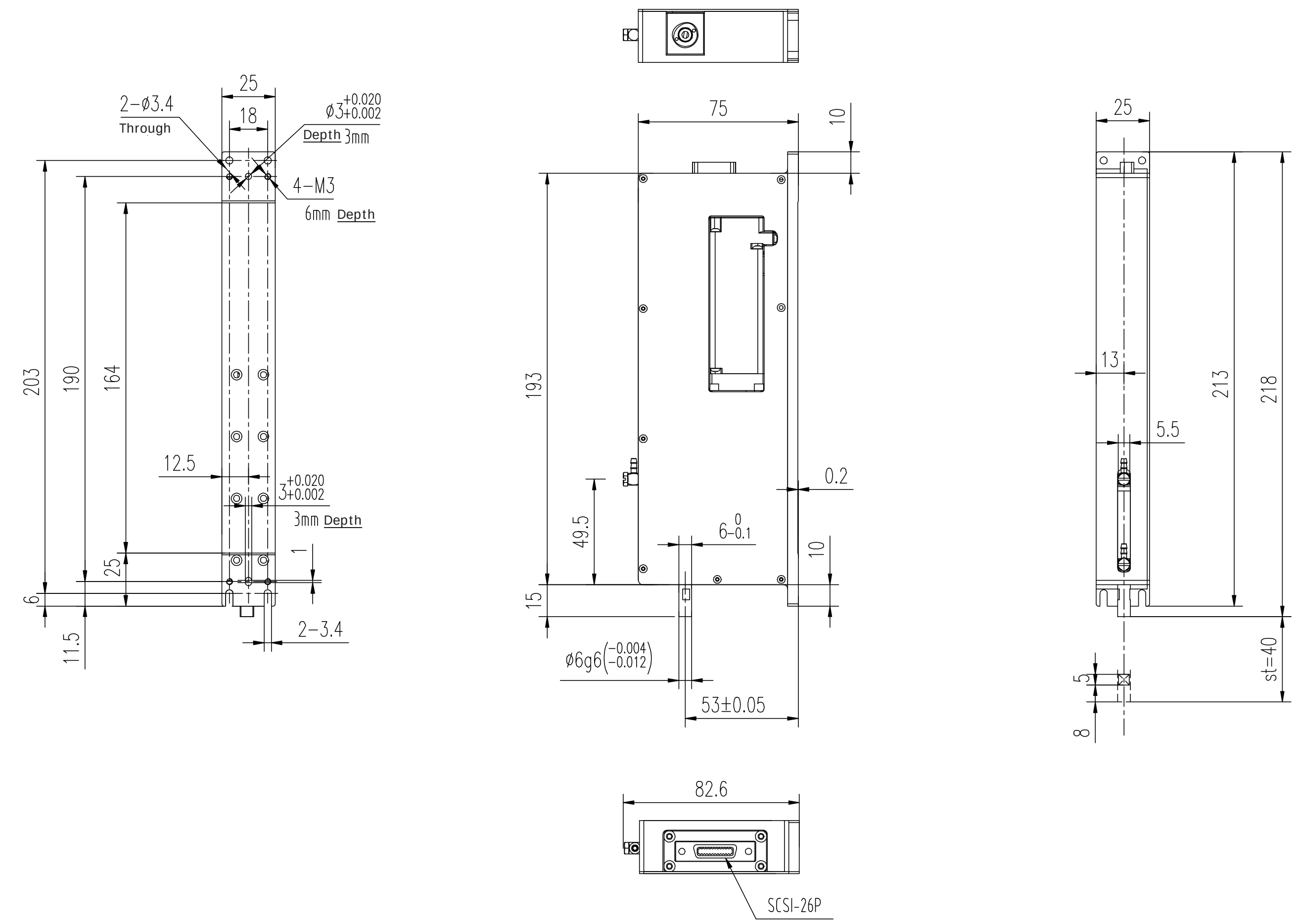
Model	ZRCS25-40	Drive Voltage	48VDC
Size	210*110*25	Weight	1030g

Force Control Accuracy			
20~50g	±3g	50~300g	±10g

Linear Axis			
Effective Travel	40mm	Continuous Current	1.7Amp
Max. Thrust	36.5N	Max. Current	6.8Amp
Continuous Thrust	8.7N	Inductor	0.44mH
Force Constant	5.25N/A	Vacuum V/Spring S	V/S
Resistive	3.18Ω	Drives	Pulse/Bus
Position Repeatability	±2μm	-	-

Axis of Rotation			
Peak Torque	59.5mN.M	Rated Speed	1500RPM
Rated Torque	22.8mN.M	Drives	Pulse/Bus
Encoder	17Bit	Rotary Positional Accuracy	±0.01°
Radial Runout	±5μm (±1μmCustomizable)	-	-

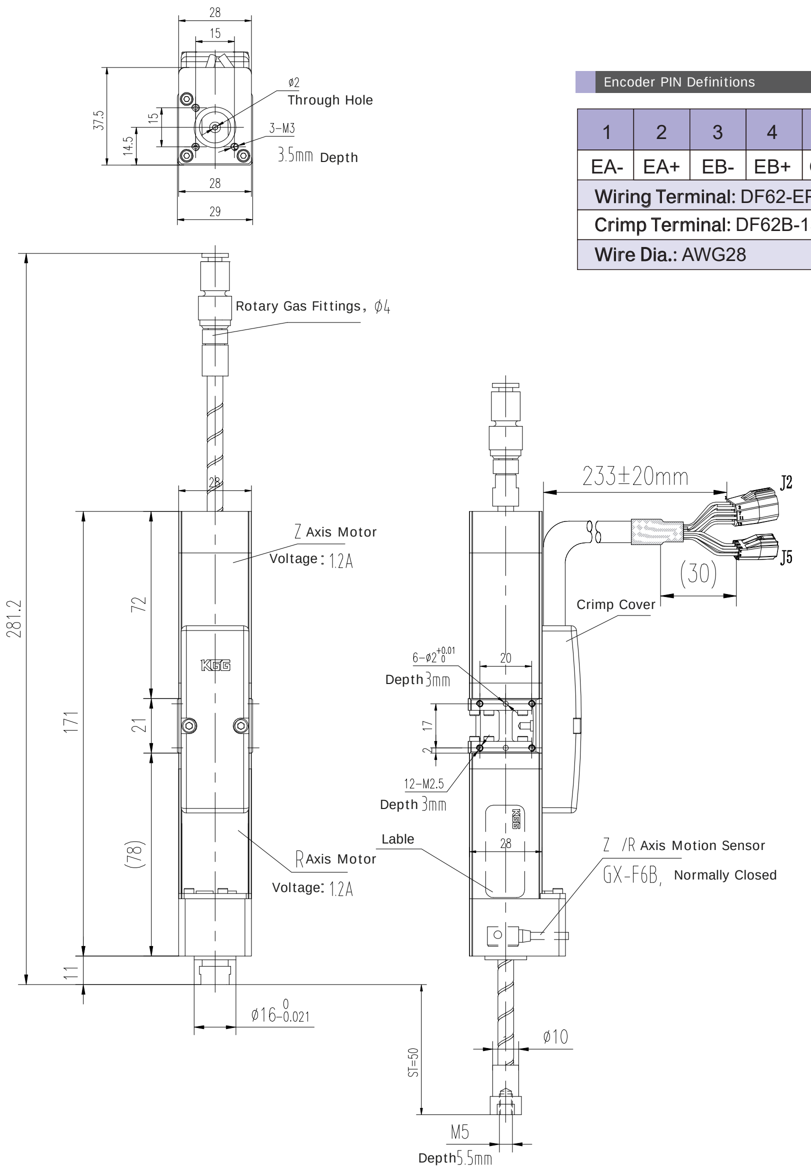
ZRES25-R10-40P



Technical Parameter

Items	Z Axis	X Axis
Motion Range	40mm	±360°
Repeat Positioning Accuracy	±0.005mm	±0.03°
Max. Speed / RPM	500mm/sec	600RPM
Max. Load	150g	Load object inertia under 15 times the motor inertia
Rated Torque	0.105N.M	
Motor Type	30W Servo	20 Closed-Loop Step Servo
Encoder Resolution	17hit Absolute Value	4000PPR
Moment of Inertia	66.8×10^{-7}kg.m²	2.9×10^{-7}kg.m²
Body Wt.	0.8KG(with motor)	

ZRIS28E-G10-50P-N0M3-C1(Servo)

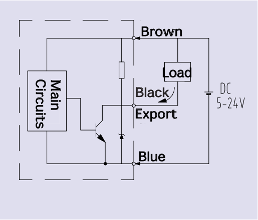


Encoder PIN Definitions												
1	2	3	4	5	6	7	8	9	10	11	12	13
EA-	EA+	EB-	EB+	GND	VCC	Shield	EA-	EA+	EB-	EB+	GND	VCC
Wiring Terminal: DF62-EP2428PCF												
Crimp Terminal: DF62B-13EP-2.2C												
Wire Dia.: AWG28												

Motor(Z/R Axis)

Pin No.	Feature	Color
B1	U	White /Brown
B2	V	White /Green
B3	W	White /Brown
C1	U	Red
C2	V	Green
C3	W	Brown

Sensor(Z/R Axis)



Technical Parameter

Item	Z Axis	R Axis
Motor Type	28 Servo	
Effective Travel	50mm	-
Repeatable Positioning	±0.01mm	±0.015°
Single-turn Resolution	32000 Count/Rev	
Weight	650g	
Rated Speed	3000 RPM	
Max. RPM	5000 RPM	
Max.Speed	800mm/sec	900°/sec
Continuous Torque	0.03N.M	
Peak Current	3.6A	
Rated Current	1.2A	
Max. Thrust	25N	
Drive Screw	Ball Screw Φ6(Lead:10mm)	

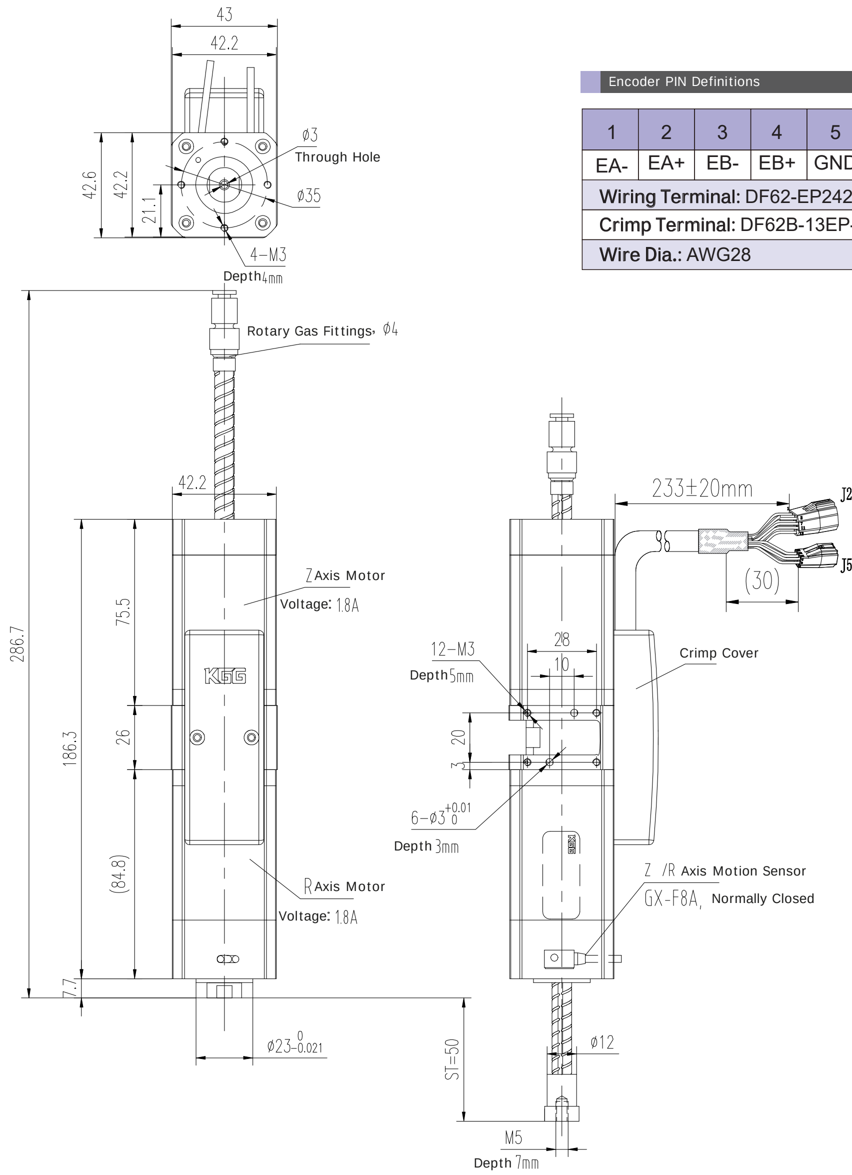
For the θ-axis max. allowable load torque, please refer to (Load Torque Reference Table)

Allowable Torque

Load Torque Reference Table		
Dia.	Height	
	Aluminum	Steel
φ20	340mm(300g)	120mm(300g)
φ30	65mm(130g)	25mm(130g)
φ40	20mm(75g)	7.5mm(75g)

Note:
1) The Z-axis is not braked, so the Z-axis may fall when the power is turned off. Please kindly be careful.
2)The load torque reference table is a theoretical value.
It is recommended to check the operating conditions on the actual load torque before use.

ZRIS42E-G10-50P-N0M3-C1(Servo)

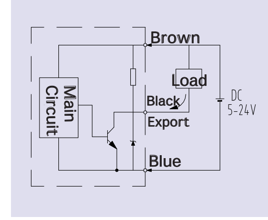


Encoder PIN Definitions												
1	2	3	4	5	6	7	8	9	10	11	12	13
EA-	EA+	EB-	EB+	GND	VCC	Shield	EA-	EA+	EB-	EB+	GND	VCC
Wiring Terminal: DF62-EP2428PCF												
Crimp Terminal: DF62B-13EP-2.2C												
Wire Dia.: AWG28												

Motor(Z/R Axis)

Pin No.	Feature	Color
B1	U	White /Brown
B2	V	White / Green
B3	W	White /Brown
C1	U	Red
C2	V	Green
C3	W	Brown

Sensor(Z/R Axis)



Technical Parameter

Item	Z Axis	R Axis
Motor Type	42 Servo	
Effective Travel	50mm	-
Repeatable Positioning	±0.01mm	±0.015°
Single-turn Resolution	40000Count/rev	
Weight	1200g	
Rated Speed	3000RPM	
Max. RPM	4500RPM	
Max.Speed	750mm/sec	1440°/sec
Continuous Torque	0.16N.M	
Peak Current	5.4A	
Rated Current	1.8A	
Max. Thrust	51N	
Drive Screw	Ball Screw Φ8(Lead:10mm)	

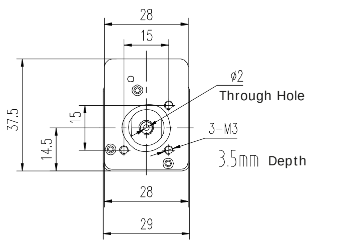
For the θ-axis max. allowable load torque, please refer to (Load Torque Reference Table)

Allowable Torque

Load Torque Reference Table		
Dia.	Height	
	Aluminum	Steel
φ20	340mm(300g)	120mm(300g)
φ30	65mm(130g)	25mm(130g)
φ40	20mm(75g)	7.5mm(75g)

Note:
1) The Z-axis is not braked, so the Z-axis may fall when the power is turned off. Please kindly be careful.
2)The load torque reference table is a theoretical value.
It is recommended to check the operating conditions on the actual load torque before use.

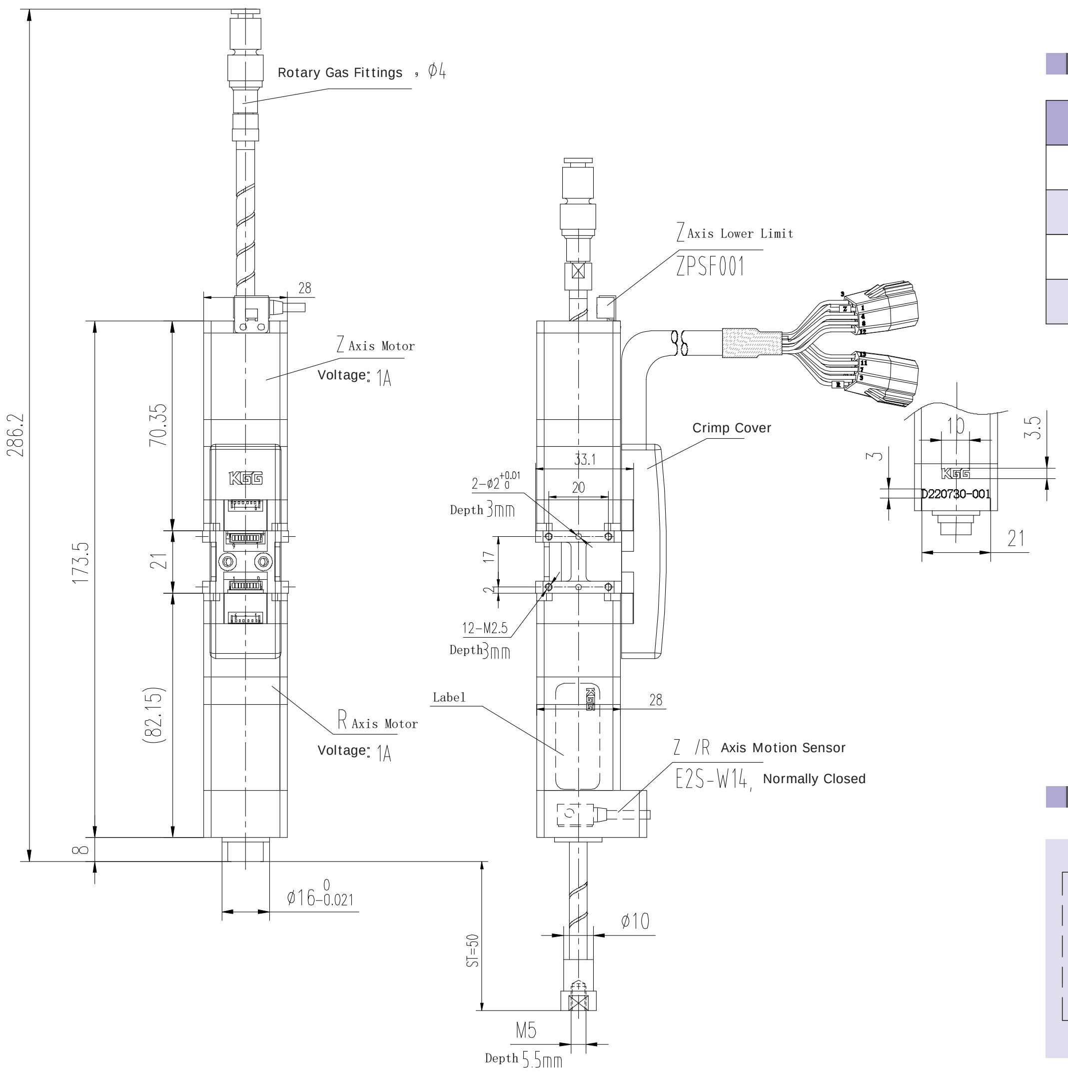
ZRIN28E-G10-50P-N0M3-C1(Stepper)



Encoder PIN Definitions

1	2	3	4	5	6	7	8	9
+5V	GND	EA+	EA-	Z+	Z-	PE	EB+	EB-

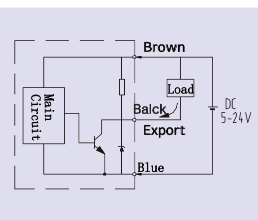
Wiring Terminal: JST SHR-09V-S
Crimp Terminal: JST SSH-003T-P0.2-H
Wire Dia.: AWG28



Motor(Z/R Axis)

Pin No.	Feature	Color
1	A+	Red
3	A-	Red/White
4	B+	Green
6	B-	Green/White

Sensor(Z/R Axis)



Technical Parameter

Item	Z Axis	R Axis
Motor Type	28 Stepper，Voltage1A	
Effective Travel	50mm	±360°
Repeatable Positioning	±0.01mm	±0.03°
Encode Resolution	4000PPR	
Max.Speed	400mm/sec	900°/sec
Reference Thrust	5N	
Operating Temperature	0-40 °C (no frost)	0-40 °C (no frost)
Weight	460g	
Drive Screw	Ball Screw Φ6(Lead:10mm)	

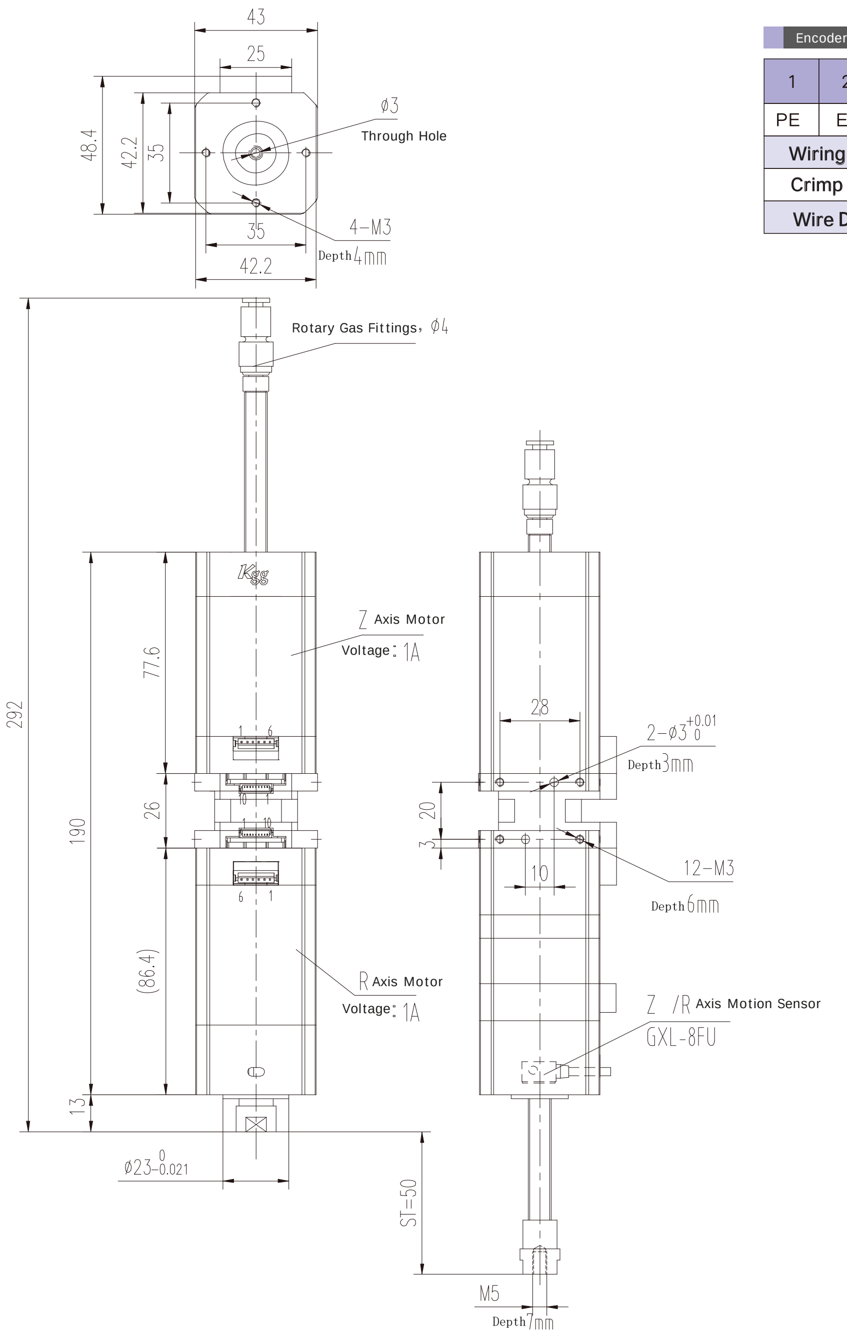
Allowable Torque

Load Torque Reference Table

Dia.	Height	
	Aluminum	Steel
φ20	340mm(300g)	120mm(300g)
φ30	65mm(130g)	25mm(130g)
φ40	20mm(75g)	7.5mm(75g)

For the θ-axis max. allowable load torque, please refer to (Load Torque Reference Table)

ZRIN42E-G10-50P(Stepper)



Encoder PIN Definitions

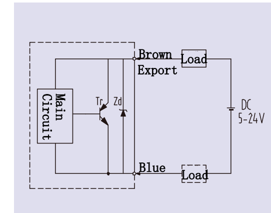
1	2	3	4	5	6	7	8	9	10
PE	EA-	EA+	EB-	EB+	Z-	Z+	GND	VCC	PE

Wiring Terminal: JST GHR-10V-S
Crimp Terminal: JST SSHL-002T-P0.2
Wire Dia.: AWG28

Motor(Z/R Axis)

Pin No.	Feature	Color
1	A+	Green
3	A-	Black
4	B+	Red
6	B-	Blue

Sensor(Z/R Axis)



Technical Parameter

Item	Z Axis	R Axis
Motor Type	42 Stepper，Voltage1A	
Effective Travel	50mm	±360°
Repeatable Positioning	±0.01mm	±0.03°
Encode Resolution	2500PPR	
Max.Speed	400mm/sec	900°/sec
Reference Thrust	19N	
Operating Temperature	0-40 °C (no frost)	0-40 °C (no frost)
Weight	990g	
Drive Screw	Ball Screw Φ8(Lead:10mm)	

Allowable Torque

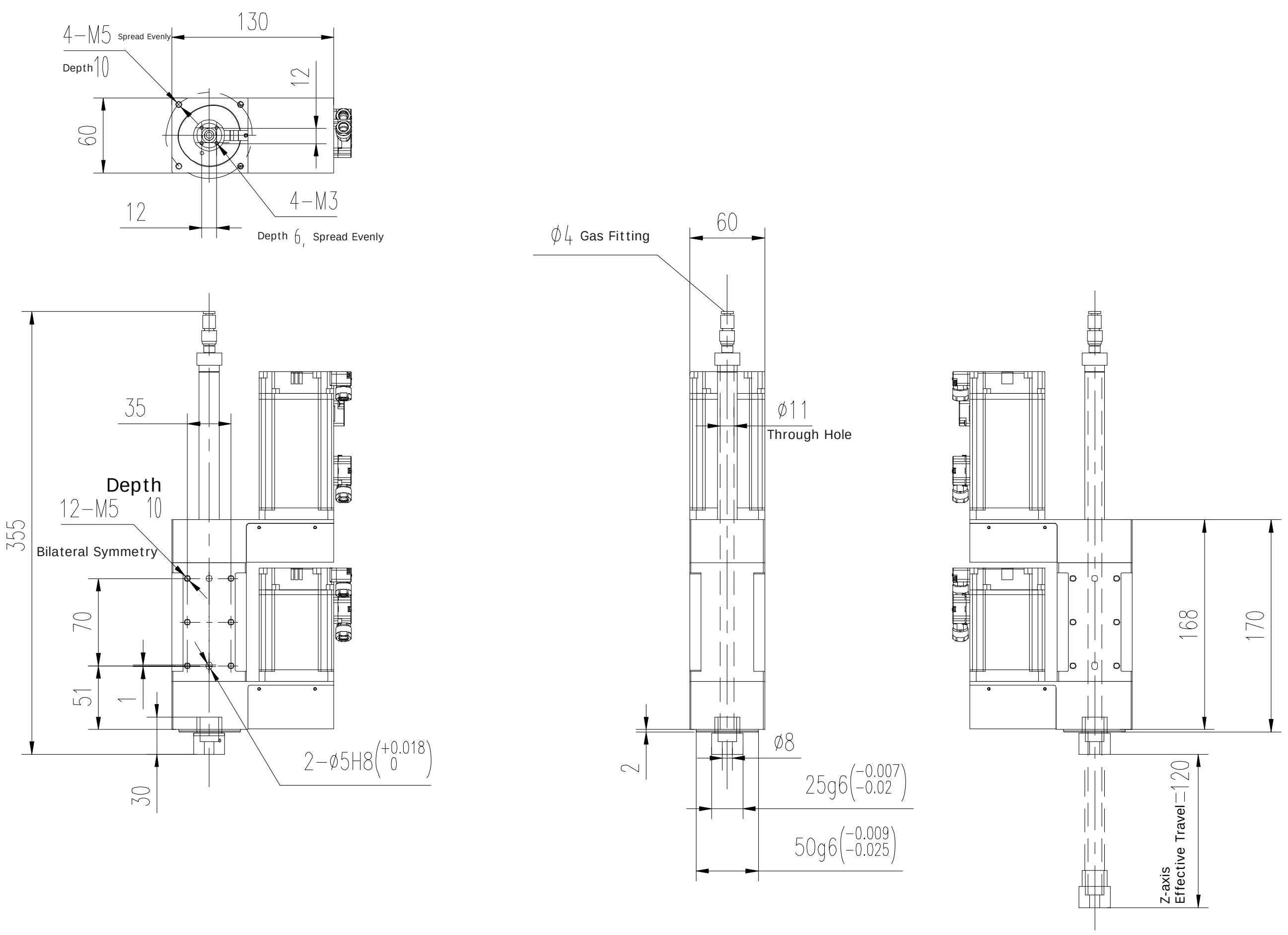
Load Torque Reference Table

Dia.	Height	
	Aluminum	Steel
Φ30	600mm(1140g)	205mm(1140g)
Φ50	80mm(450g)	29mm(450g)
Φ100	5mm(110g)	1.5mm(90g)

Note:
1) The Z-axis is not braked, so the Z-axis may fall when the power is turned off. Please kindly be careful.
2)The load torque reference table is a theoretical value.
It is recommended to check the operating conditions on the actual load torque before use.

For the θ-axis max. allowable load torque, please refer to (Load Torque Reference Table)

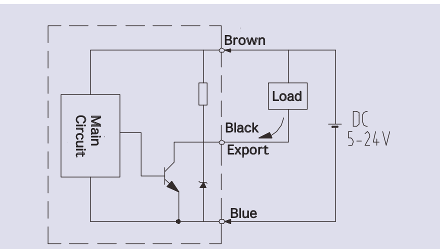
ZRFS60-G16-120L-C1-C01N



Technical Parameter

Item	Z Axis	R Axis
Effective Travel	120mm	±360°
Repeatable Positioning	±0.01mm	±0.03°
Max.Speed/RPM	800mm/sec	900°/sec
Rated Torque	1.29N.M	1.29N.M
Max.Load	3kg	
Continuous Thrust (Theory)	400N	-
Operating Temperature	0-40°(no frost)	
Motor Type	400W Servo	
Drive Screw	Ball Screw Φ16(Lead:16mm)	

Sensor(Z/R Axis)

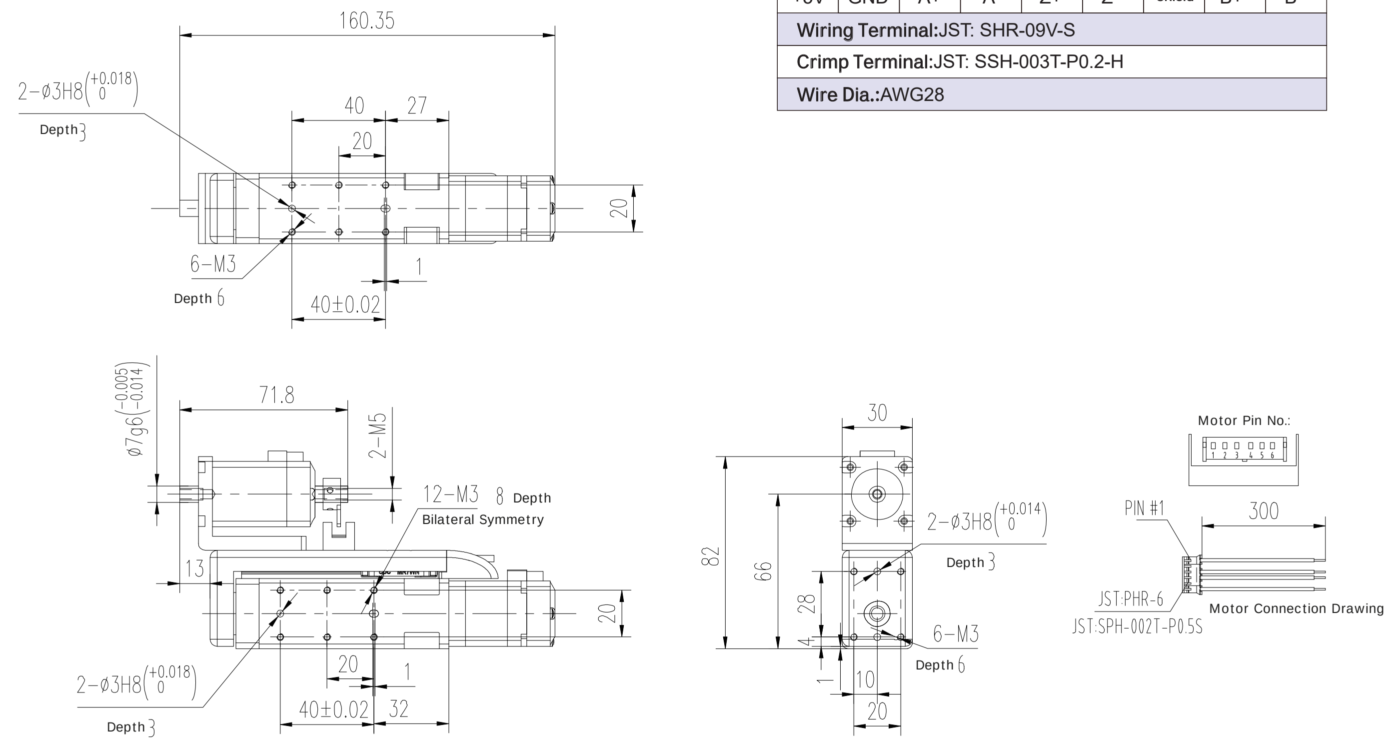


For the θ-axis max. allowable load torque, please refer to (Load Torque Reference Table)

ZMAC30-R10-50L-SE28H-C02N(ZR轴)

Encoder PIN Definitions

1	2	3	4	5	6	7	8	9
+5V	GND	A+	A-	Z+	Z-	Shield	B+	B-
Wiring Terminal:JST: SHR-09V-S								
Crimp Terminal:JST: SSH-003T-P0.2-H								
Wire Dia.:AWG28								



Technical Parameter

Item	Z Axis	R Axis
Effective Travel	50mm	±360°
Repeatable Positioning	±0.01mm	±0.03mm
Max.Speed/RPM	300mm/sec	500RPM
Max.Thrust	10N	-
Motor Rated Voltage	2.1V	-
Phase Inductance	1.3mH	4.7mH±20%
Phase Resistance	2.1Ω	10.5Ω±10%
Motor Rated Current	1A	
Encoder Resolution	2000PPR	4000PPR
Holding Torque	-	0.053N.M
Weight	-	118g
Drive Screw	Ball Screw Φ6(Lead:10mm)	

Allowable Torque

Load Torque Reference Table

Dia.	Height	
	Aluminum	Steel
φ20	340mm(300g)	120mm(300g)
φ30	65mm(130g)	25mm(130g)
φ40	20mm(75g)	7.5mm(75g)

Note:
1) The Z-axis is not braked, so the Z-axis may fall when the power is turned off. Please kindly be careful.
2)The load torque reference table is a theoretical value.
It is recommended to check the operating conditions on the actual load torque before use.

For the θ-axis max. allowable load torque, please refer to (Load Torque Reference Table)