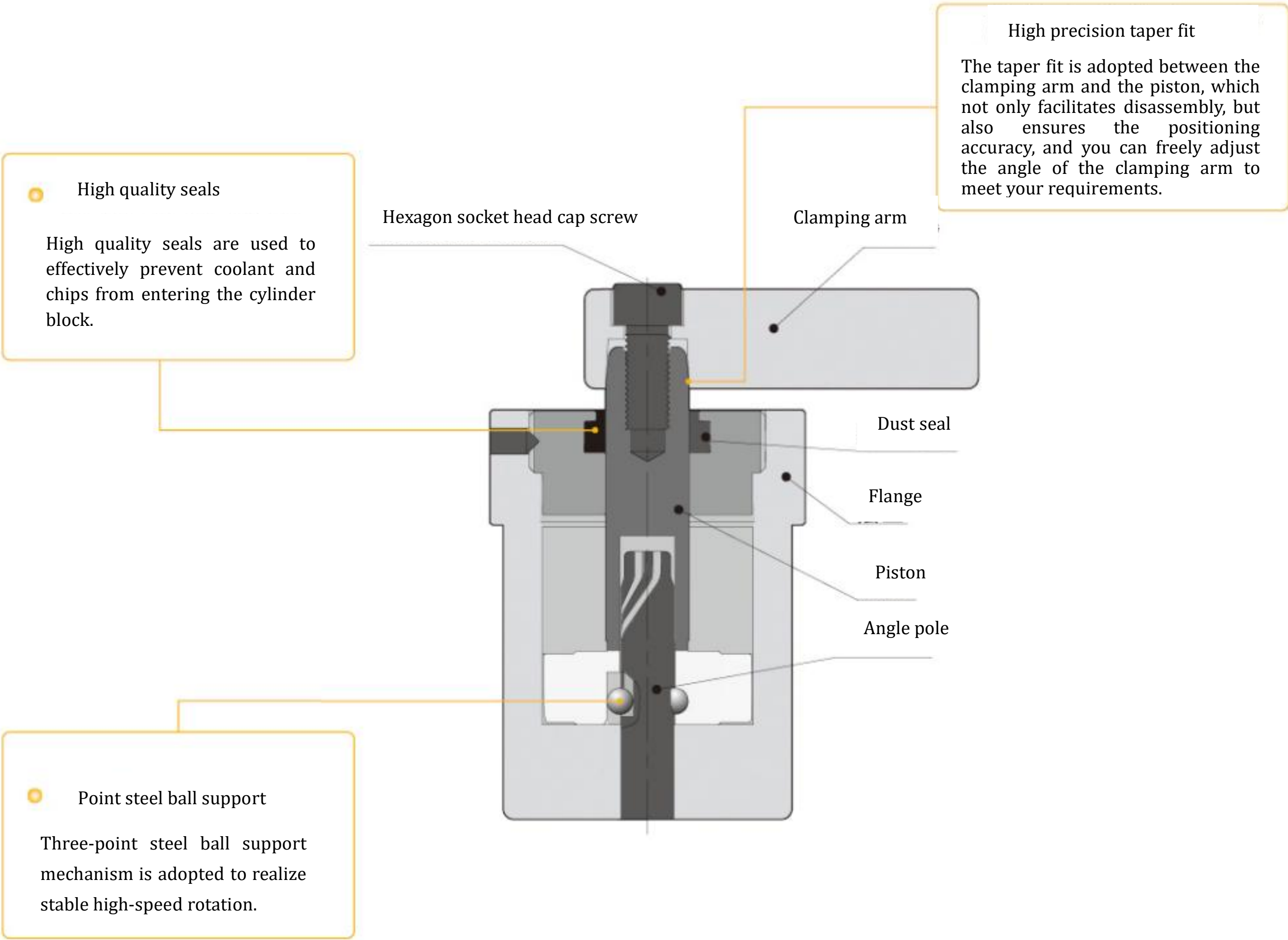
KZG-SG/pneumatic upper flange piping swing clamp cylinder

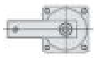
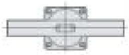
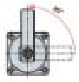
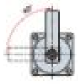
Pressure Range
2-7kg/cm^2



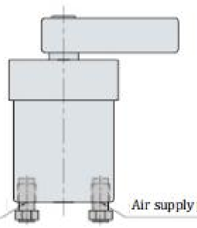
The figure shows the sectional view of the KZG-SG clamping state

Model Representation

KZG—SG ①②③*④ (Example: KZG-SG32SR*90)

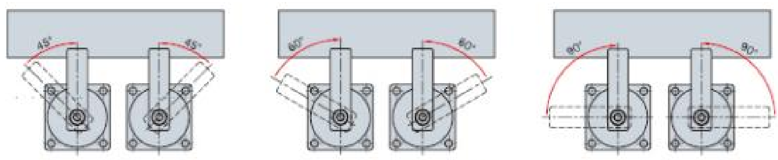
	①Dimension (refer to specification sheet)	②Clamping arm	③Rotation direction (when clamped)	④Rotation angle
KZG-SG	32 40 50 63	S: single side  D: double side 	L:turn left  R:turn right 	0: Rotation angle 0° 45: Rotation angle 45° 60: Rotation angle 60° 90: Rotation angle 90°

Piping Method



Piping type (no plate type interface)
The figure shows the clamping state of KZG-SG

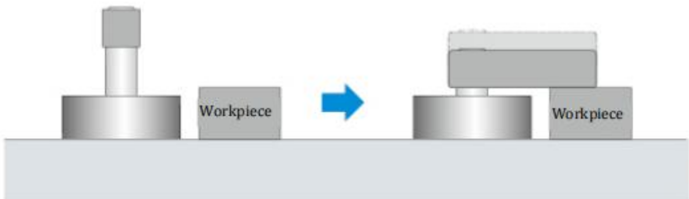
Rotation Angle (When Clamped)



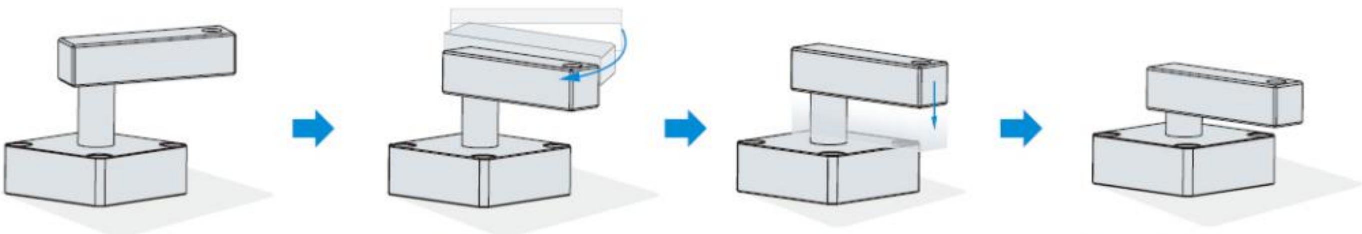
R: turn right L: turn left R: turn right L: turn left R: turn right L: turn left

Product Type

Standard type



Action Description



Before rotation (released state)

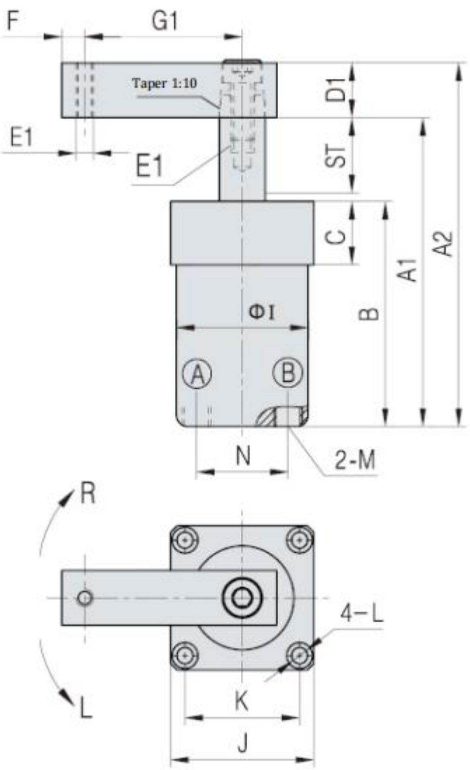
Rotate while descending

Continue to descend after rotation ends

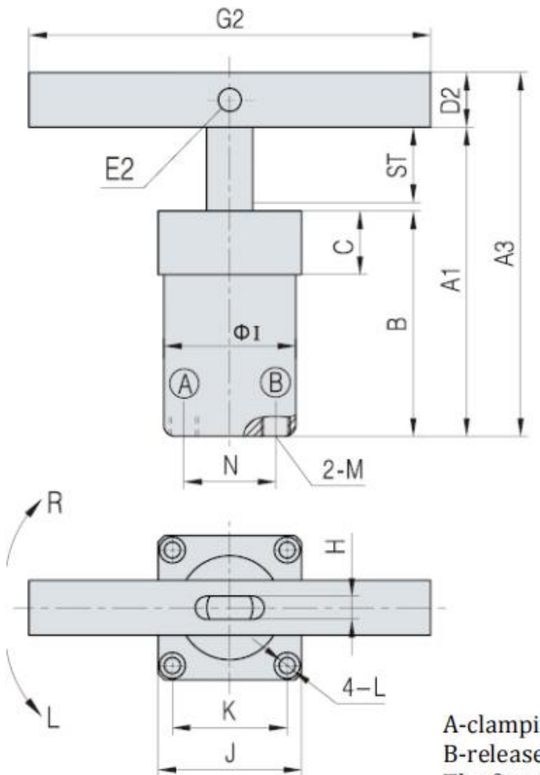
Action ends (clamping state)

Overall Dimension

Single-sided clamping arm SG



Double-sided clamping arm SGD



A-clamping hole
B-release hole
The figure shows the released state

Model / Dimension	KZG-SG32	KZG-SG40	KZG-SG50	KZG-SG63
ST:Swing/clamping	26(11/15)	26(11/15)	30(13/17)	30(13/17)
A1	108	108	125	125
A2	(127)	(127)	(150.4)	(150.4)
A3	127	127	147.2	147.2
B	78	78	90	90
C	22	22	25	25
D1	□19	□19	□25.4	□25.4
D2	□19	□19	□22.2	□22.2
E1	M8*1.25	M8*1.25	M10*1.5	M10*1.5
E2	Φ8	Φ8	Φ8	Φ8
F	8	8	10	10
G1	55	55	70	70
G2	140	140	160	160
H	9	9	10	10
ΦI	Φ46	Φ55	Φ65	Φ78
J	50	60	70	83
K	40	48	57	67
L	Φ5.6-Φ9*5.5D	Φ6.8-Φ10.5*6.5D	Φ6.8-Φ10.5*6.5D	Φ9-Φ14*9D
M	RP1/8	RP1/8	RP1/8	RP1/8
N	32.5	41	51	64

Note: ※□ indicates square

Performance Table

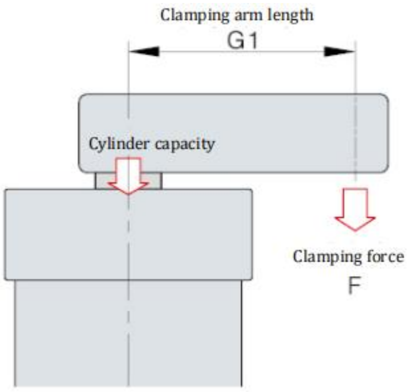
The clamping force varies depending on the length of the clamping arm (G1) and the air pressure. Please comprehensively consider the clamping arm length (G1), operating air pressure, installation size and other factors to select the appropriate swing clamp cylinder model.

Note: the longer the clamping arm of the swing clamp cylinder, the greater the force acting on the cam mechanism. Do not use a clamping arm longer than the maximum length (Max.G1)

- Interpretation of clamping force:

  When KZG-SG32 is used, the supplied air pressure is 0.5MPa and the clamping arm length is 65mm, the clamping force is about 0.22kN.

  F: clamping force (kN) P: operating air pressure (MPa) G1: clamping arm length (mm)



KZG-SG32

Air pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm)		
		55	65	75
1	0.60	0.43	0.38	
0.9	0.54	0.38	0.36	0.33
0.8	0.48	0.36	0.35	0.31
0.7	0.42	0.32	0.31	0.29
0.6	0.36	0.27	0.26	0.23
0.5	0.30	0.22	0.22	0.22
0.4	0.24	0.14	0.14	0.13
0.3	0.18	0.12	0.12	0.12
0.2	0.12	0.04	0.04	0.04
0.1	0.06	0.02	0.02	0.02

KZG-SG40

Air pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm)		
		55	65	75
1	1.06	0.58	0.55	
0.9	0.95	0.57	0.54	
0.8	0.84	0.54	0.53	0.53
0.7	0.74	0.51	0.45	0.45
0.6	0.63	0.43	0.41	0.39
0.5	0.53	0.35	0.34	0.31
0.4	0.42	0.29	0.27	0.25
0.3	0.32	0.21	0.20	0.20
0.2	0.21	0.12	0.12	0.11
0.1	0.11	0.03	0.03	0.03

KZG-SG50

Air pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm)			
		70	80	90	100
1	1.65	1.18			
0.9	1.48	1.00	0.76	0.71	
0.8	1.32	0.88	0.74	0.70	0.73
0.7	1.15	0.76	0.65	0.63	0.63
0.6	0.99	0.66	0.55	0.53	0.53
0.5	0.82	0.57	0.52	0.52	0.44
0.4	0.66	0.45	0.43	0.39	0.33
0.3	0.49	0.33	0.31	0.31	0.31
0.2	0.33	0.22	0.22	0.22	0.22
0.1	0.16	0.11	0.11	0.09	0.09

KZG-SG63

Air pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm)			
		70	80	90	100
1	2.80	1.58	1.51	1.41	
0.9	2.52	1.53	1.39	1.28	1.37
0.8	2.24	1.41	1.37	1.24	1.19
0.7	1.96	1.28	1.27	1.19	1.14
0.6	1.68	1.09	1.02	1.00	0.93
0.5	1.40	0.88	0.84	0.78	0.78
0.4	1.12	0.75	0.67	0.65	0.63
0.3	0.84	0.54	0.51	0.45	0.44
0.2	0.56	0.34	0.34	0.34	0.34
0.1	0.28	0.21	0.15	0.13	0.13

*Precautions:

1. This figure shows the actual measured values. The clamping force at the clamping point of the clamping arm of the standard cylinder is about 65% of the theoretical value.
2. The clamp arm with a large moment of inertia may not be able to rotate due to the supply air pressure, flow rate, and installation state of the clamp arm.
3. This figure shows the relationship between clamping force and supplied air pressure.
4. The clamping force indicates the clamping energy when the clamping arm is clamped at the horizontal position.
5. The clamping force varies with the length of the clamping arm. Use it with the supplied air pressure suitable for the length of the clamp arm.
6. If you need a clamping arm other than our standard, please contact us.

Adjustment of Rotation Speed

Since the camshaft bears the load when rotating at 90°, the action time will be limited according to the length and mass (inertia torque) of the clamping arm.

1. Calculate the moment of inertia according to the length and mass of the clamping arm.
2. In order to make the 90° rotation time within the shortest rotation interval in the figure below, please use the speed control valve to adjust the flow.

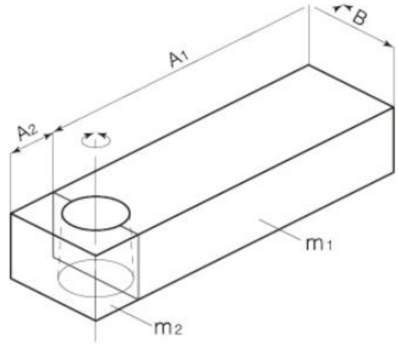
The camshaft may be damaged if it is used within the non-use scope.

Calculation example of inertia torque:

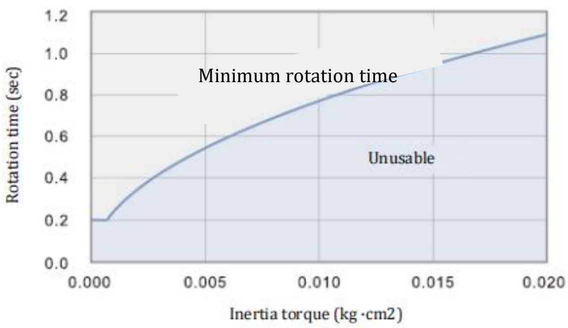
$$I = \frac{1}{12} m_1(4A_1^2+B^2)+\frac{1}{12} m_2(4A_2^2+B^2)$$

I: Inertia torque (kg • m^2)

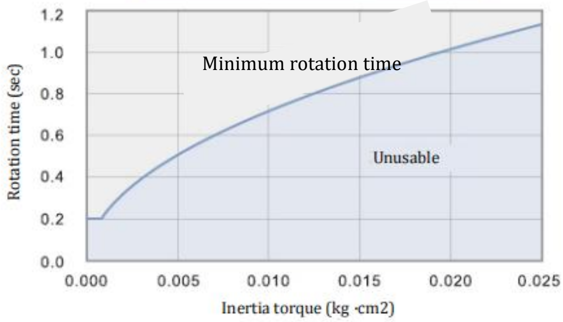
m: Mass (kg)



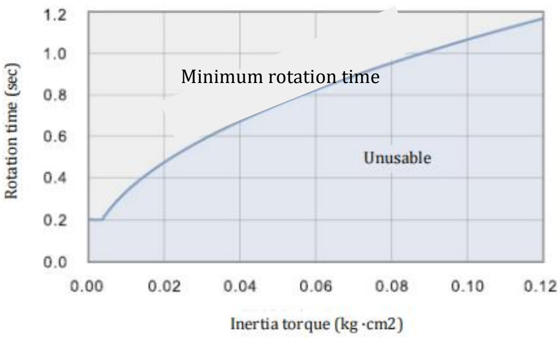
KZG-SG32



KZG-SG40



KZG-SG50



KZG-SG63