

YGG-SB/SBT/oil pressure upper flange plate or speed control lever cylinder

Pressure Range

15-70kg/cm²



Three-way clamping arm

3 types of clamp arms with different installation directions are available and can be selected according to the workpiece, oil pressure piping and fixture settings.

Clamping arm

Circlip

Connecting piece

Piston

Transparent cover

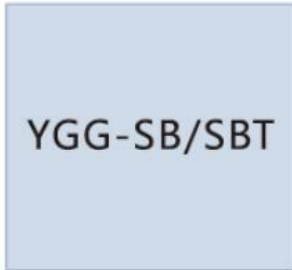
High quality seals

High quality seals are used to effectively prevent coolant and chips from entering the cylinder block.

The figure shows the sectional view of the YGG-SB/SBT clamping state

Model Representation

YGG—SB/SBT ① ② (Example: YGG-SB25)



①Dimension (refer to specification sheet)

25
32
40
50
63

②Clamping arm direction

F: forward
L: left
R: right

Oil Circuit Plate Method

Action Description

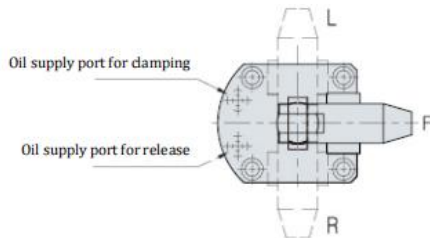
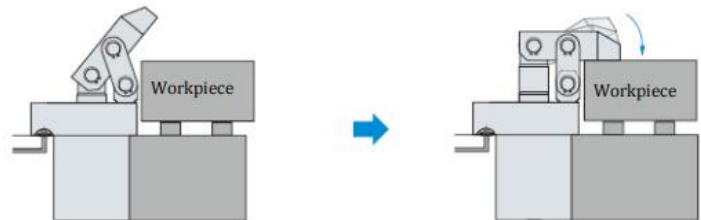


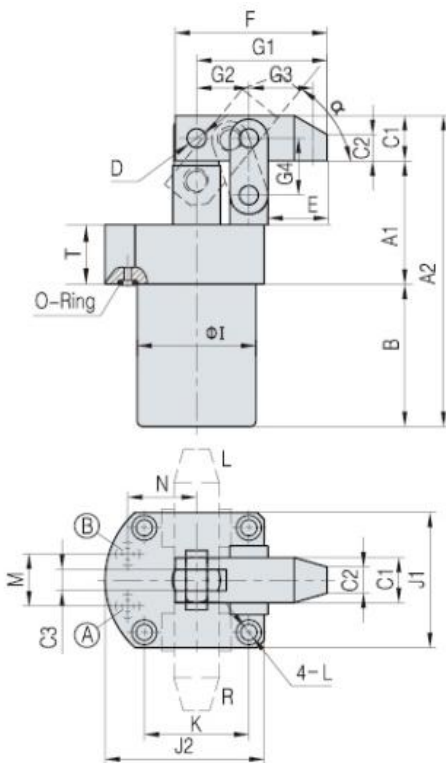
Plate type (no piping interface)
The figure shows the clamping state of YGG-SB/SBT



Released state

Clamping state

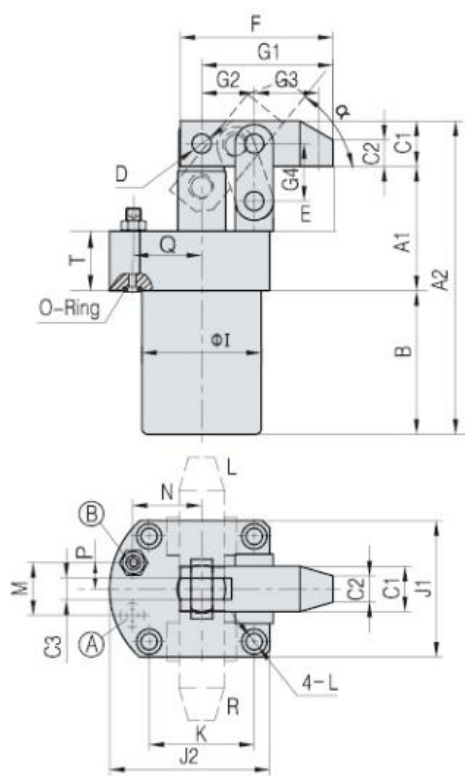
Overall Dimension



A-clamp port
B-release port
• -Optimal clamping position

Model	YGG-SB25	YGG-SB32	YGG-SB40	YGG-SB50	YGG-SB63
A1	49	52	56.9	68.3	77.1
A2	122	131	144.2	163.7	186.9
B	54	60	65	70	78
C1	□19	□19	□22.2	□25.4	□31.8
C2	11	11	13	15	19
C3	9	9	10	11	15
ΦD	Φ8	Φ8	Φ10	Φ12	Φ15
E	25	25	31	37	43
F	64	64	77	90	110
G1	55	55	66	77	94
G2	22	22	26	30	36
G3	28	28	34	39	48
G4	24	24	29	33	39
ΦI	Φ45	Φ50	Φ58	Φ68	Φ80
J1	55	57	69	75	96
J2	64	67	81	87	112
K	42	44	52	58	75
L	Φ6.8-Φ10.5*6.5D	Φ6.8-Φ10.5*7D	Φ9-Φ14*9D	Φ9-Φ14*9D	Φ11-Φ18*11D
M	20	22	26	30	36
N	28	29	34.5	39	50
T	22	25	25	30	33
O-Ring	P6	P6	P7	P7	P7
α	62°	63°	60°	66°	59°

YGG-SBT Overall Dimension

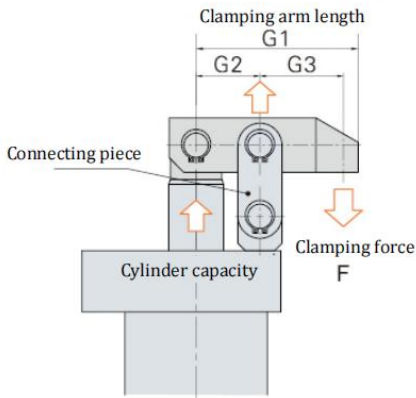


A-clamp port
 B-release port
 • -Optimal clamping position
 The figure shows the clamping state

Model	YGG-SBT25	YGG-SBT32	YGG-SBT40	YGG-SBT50	YGG-SBT63
Dimension					
A1	49	52	56.9	68.3	77.1
A2	122	131	144.1	163.7	186.9
B	54	60	65	70	78
C1	□19	□19	□22.2	□25.4	□31.8
C2	11	11	13	15	19
C3	9	9	10	11	15
ΦD	Φ8	Φ8	Φ10	Φ12	Φ15
E	25	25	31	38	43
F	64	64	77	90	110
G1	55	55	66	77	94
G2	22	22	26	30	36
G3	28	28	34	39	48
G4	24	24	29	33	39
ΦI	Φ45	Φ50	Φ58	Φ68	Φ80
J1	55	57	69	75	96
J2	64	67	81	87	112
K	42	44	52	58	75
L	Φ6.8-Φ10.5*6.5D	Φ6.8-Φ10.5*6.5D	Φ9-Φ14*9D	Φ9-Φ14*9D	Φ11-Φ18*11D
M	20	22	26	30	36
N	28	29	34.5	39	50
P	8	10	13	15	18
Q	26	28	34.5	37	48
T	22	25	25	30	33
O-Ring	P6	P6	P7	P7	P7
α	62°	63°	60°	66°	59°

Note: □ indicates square

Performance curve



The clamping force varies depending on the length of the clamping arm (G1) and the oil pressure. Please comprehensively consider the clamping arm length (G1), operating oil pressure, installation size and other factors to select the appropriate swing clamp cylinder model.(for values not in the performance table, please refer to the overall dimension.)

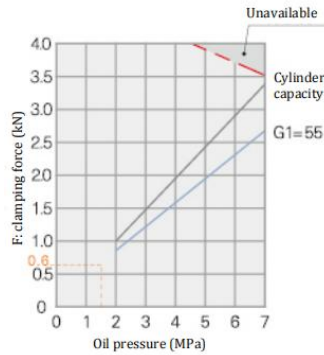
Note: the longer the clamping arm of the swing clamp cylinder, the greater the force acting on the cam mechanism. Do not use it in the non-use range.

Interpretation of clamping force

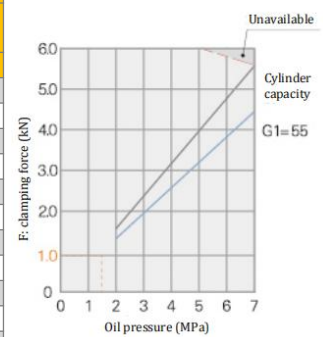
When KGG-SB25 is used, the supplied air pressure is 2.0MPa and the clamping arm length is 55mm, the clamping force is about 0.8kN.

- F: clamping force (KN) P: operating oil pressure (MPa) G1: clamping arm length (mm)
- G2: Distance from piston rod center point to lever support point (mm)
- G3: Distance from piston support point to clamping point of clamping arm (mm)

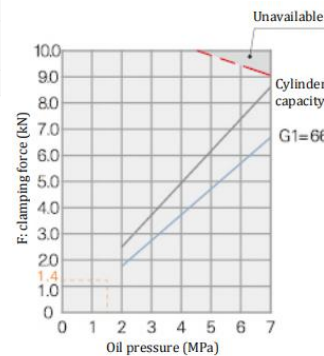
YGG-SB/SBT25		
Oil pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm) 55
7.0	3.4	2.7
6.5	3.2	2.5
6.0	2.9	2.3
5.5	2.7	2.1
5.0	2.5	1.9
4.5	2.2	1.7
4.0	2.0	1.5
3.5	1.7	1.3
3.0	1.5	1.2
2.5	1.2	1.0
2.0	1.0	0.8
1.5	0.7	0.6



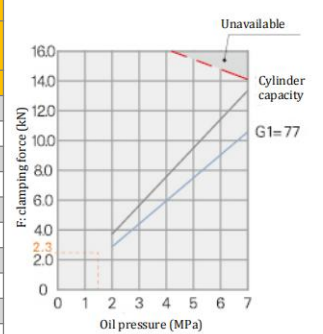
YGG-SB/SBT32		
Oil pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm) 55
7.0	5.6	4.4
6.5	5.2	4.1
6.0	4.8	3.8
5.5	4.4	3.5
5.0	4.0	3.2
4.5	3.6	2.8
4.0	3.2	2.5
3.5	2.8	2.2
3.0	2.4	1.9
2.5	2.0	1.6
2.0	1.6	1.3
1.5	1.2	0.9



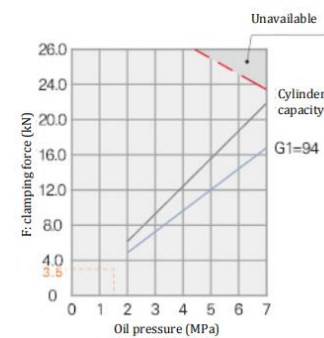
YGG-SB/SBT40		
Oil pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm) 66
7.0	8.8	6.7
6.5	8.2	6.2
6.0	7.5	5.8
5.5	6.9	5.3
5.0	6.3	4.8
4.5	5.7	4.3
4.0	5.0	3.8
3.5	4.4	3.4
3.0	3.8	2.9
2.5	3.1	2.4
2.0	2.5	1.9
1.5	1.9	1.4



YGG-SB/SBT50		
Oil pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm) 77
7.0	13.7	10.6
6.5	12.8	9.8
6.0	11.8	9.1
5.5	10.8	8.3
5.0	9.8	7.5
4.5	8.8	6.8
4.0	7.9	6.0
3.5	6.9	5.3
3.0	5.9	4.5
2.5	4.9	3.8
2.0	3.9	3.0
1.5	2.9	2.3



YGG-SB/SBT63		
Oil pressure (MPa)	Cylinder capacity (kN)	Clamping force (kN) Clamping arm length G1 (mm) 94
7.0	21.8	16.4
6.5	20.3	15.2
6.0	18.7	14.0
5.5	17.1	12.9
5.0	15.6	11.7
4.5	14.0	10.5
4.0	12.5	9.3
3.5	10.9	8.2
3.0	9.3	7.0
2.5	7.8	5.8
2.0	6.2	4.7
1.5	4.7	3.5

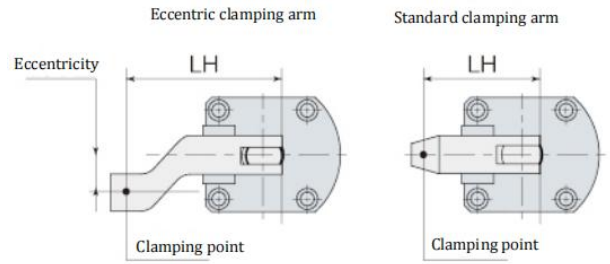


*Precautions:

1. This figure shows the relationship between clamping force and supplied oil pressure.
2. The clamping force indicates the clamping capacity of the clamping arm when it is clamped in the horizontal position.
3. Please use it under the supplied air pressure suitable for the length of the clamping arm.

Allowable Eccentricity of Clamping Arm

When the clamping point at the front end of the clamping arm of YGG connecting rod lever cylinder is not on the center line of the piston rod and the clamping arm due to the shape of the workpiece, the eccentric clamping arm shown in the right figure can be used. However, the eccentricity shall not exceed the allowable eccentricity in the following table. If a clamping arm exceeding the allowable eccentricity is used, the connecting rod mechanism and the piston rod will bear a large eccentric load, resulting in fault.



YGG-SB/SBT25	
Oil pressure (MPa)	Allowable eccentricity (mm)
	Clamping arm length G2+G3 (mm)
	50
7	35
6.5	40
6	45
5.5	52
5	57
4.5	↑
4	↑
3.5	↑
3	↑
2.5	57

YGG-SB/SBT32	
Oil pressure (MPa)	Allowable eccentricity (mm)
	Clamping arm length G2+G3 (mm)
	50
7	13
6.5	16
6	19
5.5	23
5	28
4.5	34
4	42
3.5	52
3	57
2.5	57

YGG-SB/SBT40	
Oil pressure (MPa)	Allowable eccentricity (mm)
	Clamping arm length G2+G3 (mm)
	60
7	7
6.5	15
6	24
5.5	35
5	49
4.5	57
4	67
3.5	↑
3	↑
2.5	67

YGG-SB/SBT50	
Oil pressure (MPa)	Allowable eccentricity (mm)
	Clamping arm length G2+G3 (mm)
	69
7	23
6.5	30
6	35
5.5	42
5	50
4.5	57
4	70
3.5	↑
3	↑
2.5	70

YGG-SB/SBT63	
Oil pressure (MPa)	Allowable eccentricity (mm)
	Clamping arm length G2+G3 (mm)
	84
7	34
6.5	44
6	55
5.5	69
5	87
4.5	↑
4	↑
3.5	↑
3	↑
2.5	87