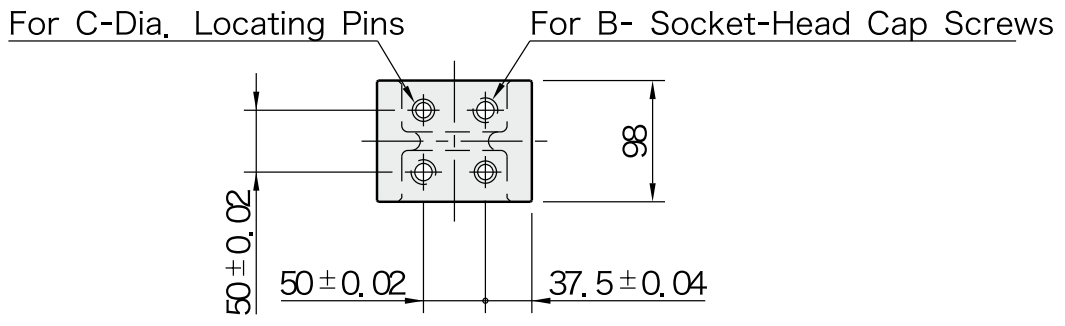
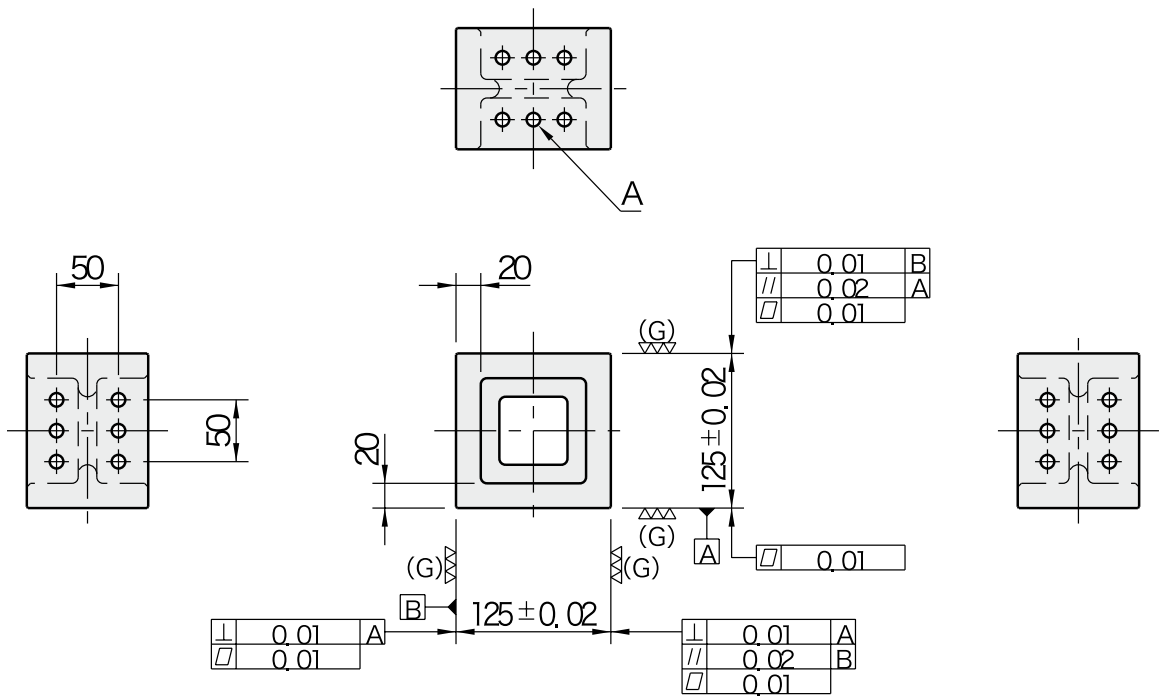




[Body]
 Material:FC300 cast iron
 Annealed
 Precision ground

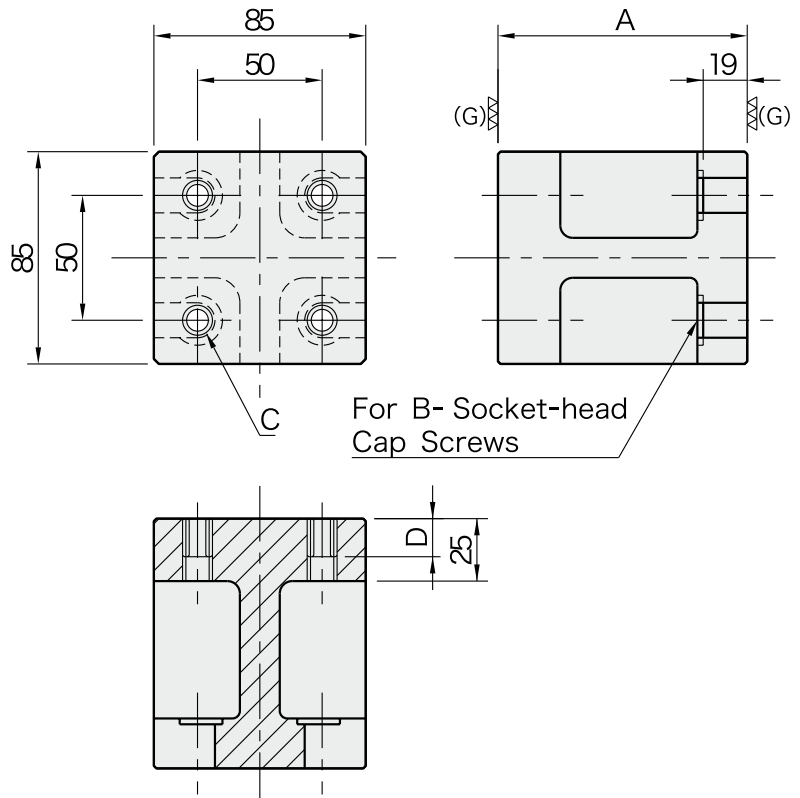
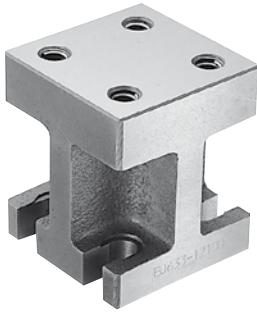
[Alignment Bushing]
 Material:SUJ2 steel
 Heat treated

[Threaded Insert]
 Material:S45C steel
 Heat treated



Part Number	A	B	C (F7)	Weight (kg)
51991539	M12x1.75	M12	12	6.3
51991540	M16x2	M16	16	6.2

·Locate on a tooling plate or block using a round pin and a diamond pin.



[Body]

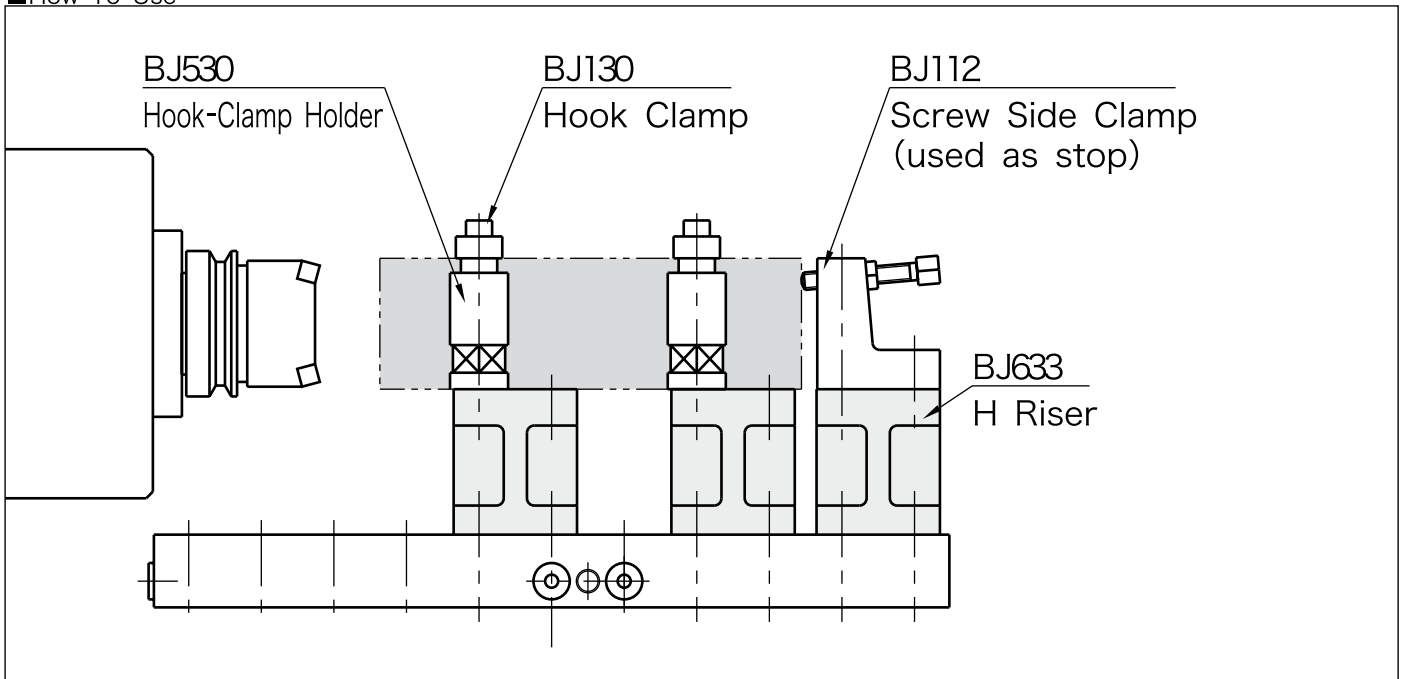
- Material : FC300 cast iron
- Annealed
- Precision ground

[Threaded Insert]

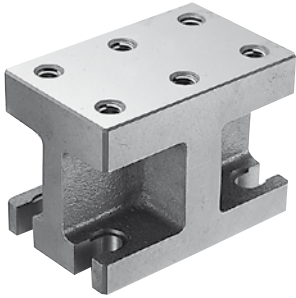
- Material : S45C steel
- Heat treated

Part Number	A (±0,01)	B	C	D	Weight (kg)
51991541	100	M12	M12×1.75	18	3.2
51991542	125				3.8
51991543	100	M16	M16×2	16	3.2
51991544	125				3.8

■ How To Use



Use to raise a workpiece or components, parallel to a tooling plate.

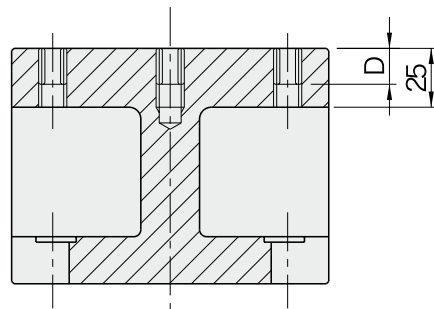
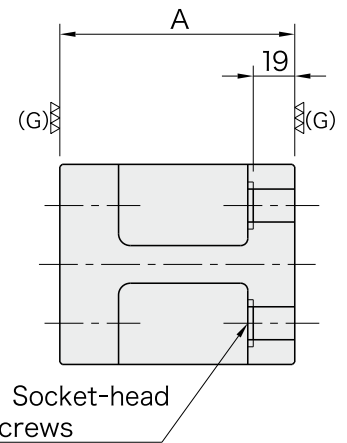
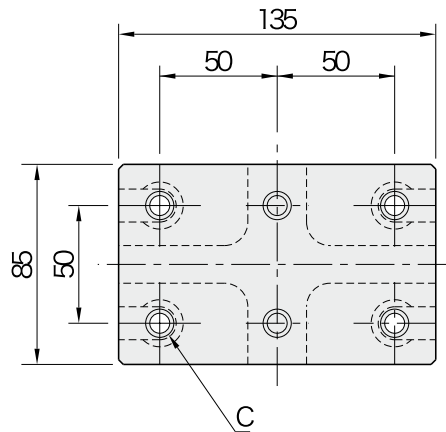


【Body】

- Material : FC300 cast iron
- Annealed
- Precision ground

【Threaded Insert】

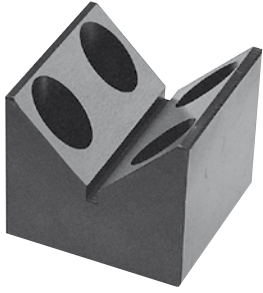
- Material : S45C steel
- Heat treated



Part Number	A (±0.01)	B	C	D	Weight (kg)
51991545	100	M12	M12×1.75	18	5.2
51991546	125				5.9
51991547	100	M16	M16×2	16	5.1
51991548	125				5.8

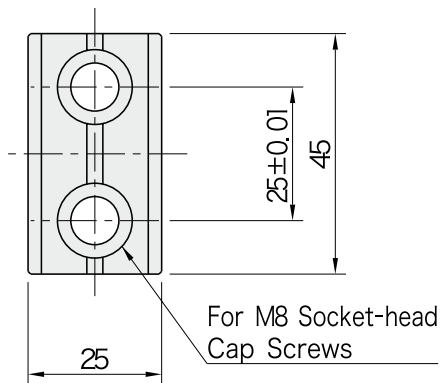
BJ440(Mini)

V BLOCKS

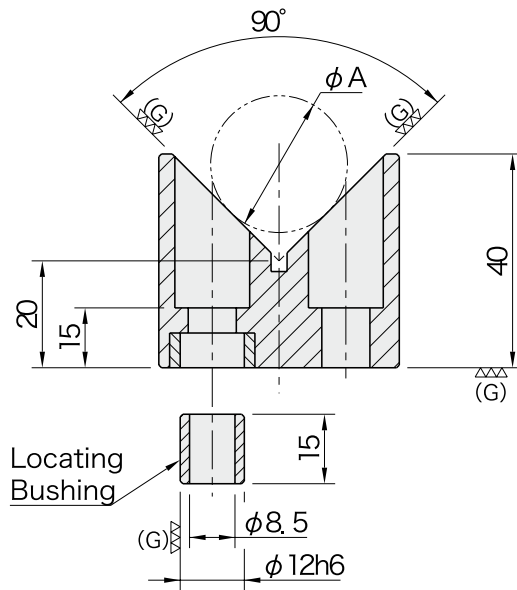
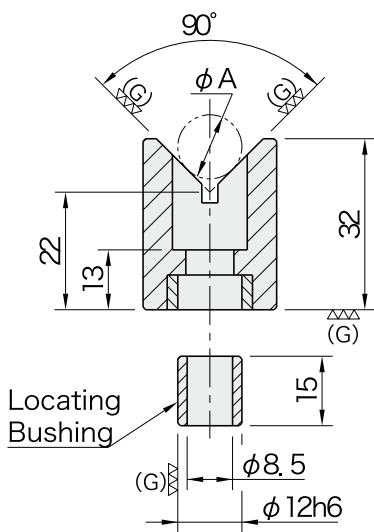
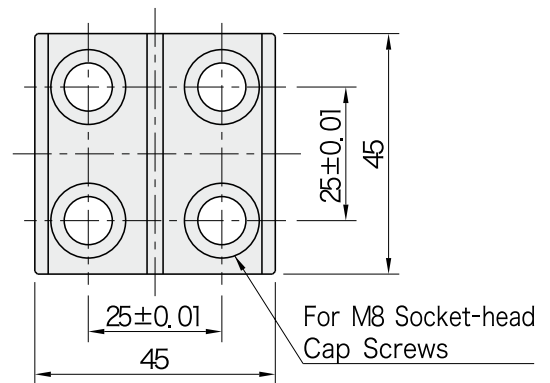


- Material : S45C steel
- Heat treated
- Black oxide finish
- Precision ground

BJ440-08032



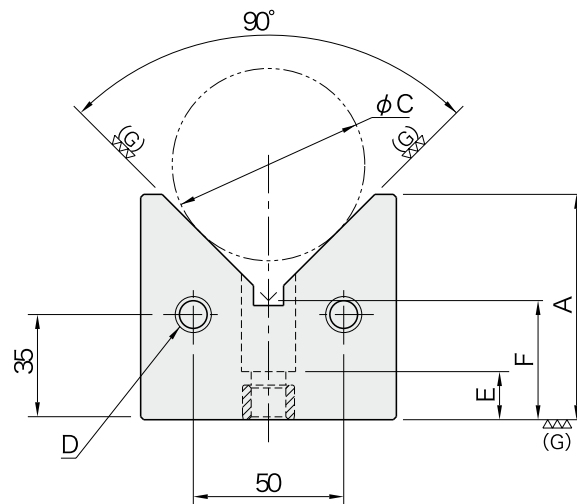
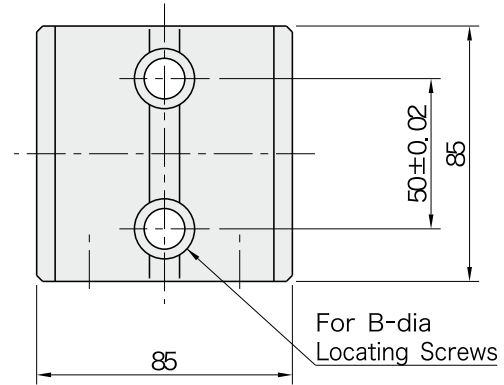
BJ440-08040



Part Number	A		Weight (g)
	min.	max.	
51991549	10	25	200
51991550	15	50	370



- Material : S45C steel
- Heat treated
- Black oxide finish
- Precision ground



Part Number	A	B (F7)	C		D	E	F
			Min.	Max.			
51991551	63	12	15	80	M12×1.75 30 deep	22	34.72
51991552	75			100			39.65
51991553	63	16	15	80	M16×2 35 deep	25	34.72
51991554	75			100			39.65

Part Number	Proper Locating Screws Cod.	Weight (kg)
51991551	51991862	2.9
51991552		3.3
51991553	51991864	2.9
51991554		3.3

BJ770

METAL PROTECTION PLUGS



51991556



51991555

Part Number	Thread	Weight (g)
51991555	M12	15
51991556	M16	20
57290020	D16/M12	18

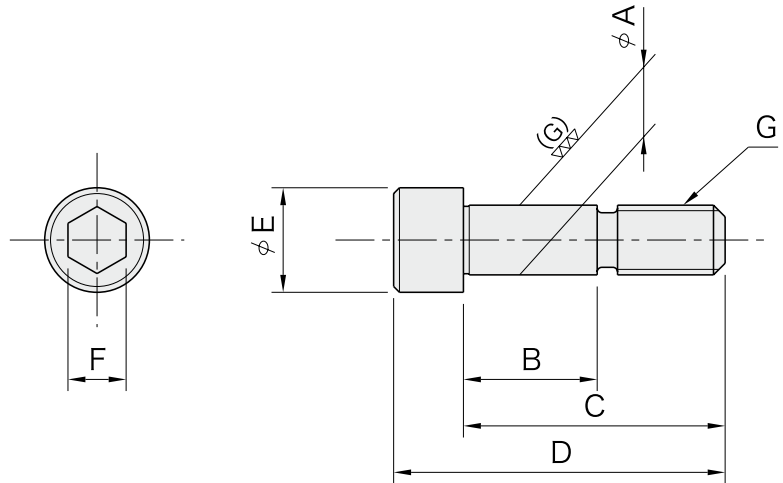
- Replacement protection plugs.
- Use to keep chips and dirt out of unused MTP holes.

BJ700

LOCATING SCREWS

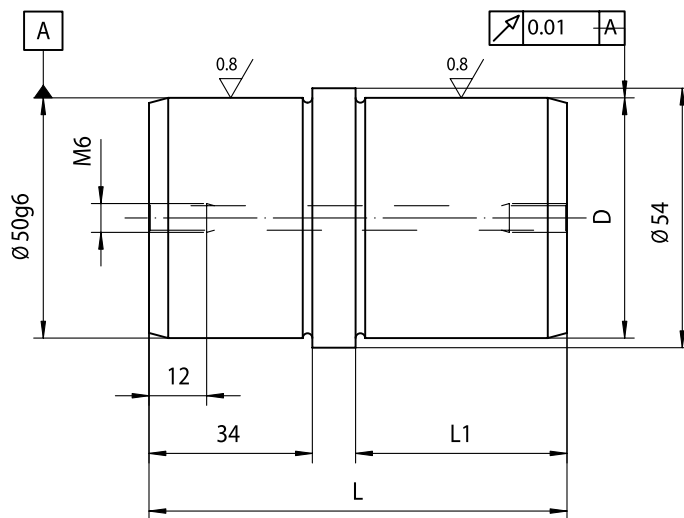


Material:SCM435 steel
Heat treated
Black oxide finish
Precision ground



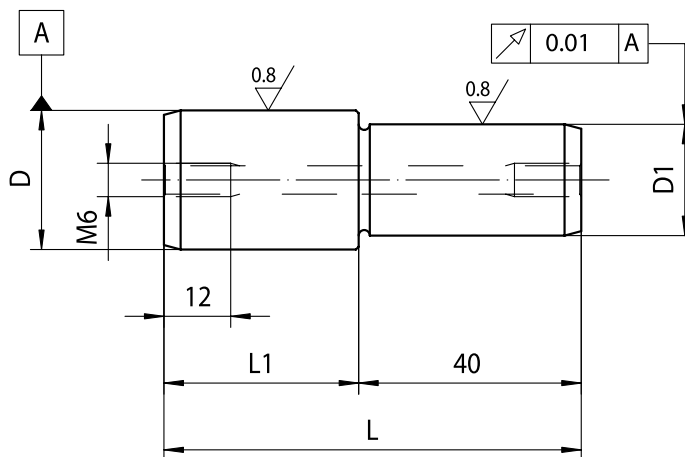
Part Number	A	B	C	D	E	F	G	Weight (g)
51991862	12	33	55	67	18	10	M12x1,75	59
51991863		43	65	77			M12x1,75	68
51991864	16	40	65	81	24	14	M16x2	134
51991865		50	75	91			M16x2	145
71113953	16	20	38	48	24	8	M12x1,75	75
71113954		25	43	53				82
71113951		30	48	58				91
71113955		35	53	63				99

CENTERING PIN



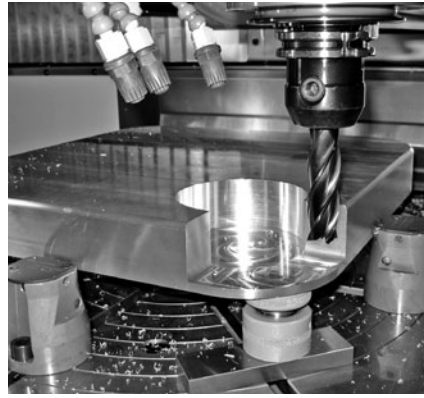
Part Number	D _{g6}	L	L1	Weight (Kg)
57001051	25	77	34	0.81
57001052	40	87	44	1.12
57001053	50	87	44	1.36

CENTERING PIN FOR ALIGNING HOLE



Part Number	D _{g6}	D1 _{g6}	L	L1	Weight (Kg)
57001061	25	20	75	35	0.23
57001062	30	20	85	45	0.34
57001063	30	35	85	45	0.40

EDGE CLAMP



Edge clamp


M12x14, complete with M12 mounting.

Body is made of case-hardened steel and blued.

Clamping hook is made of case-hardened steel and blued.

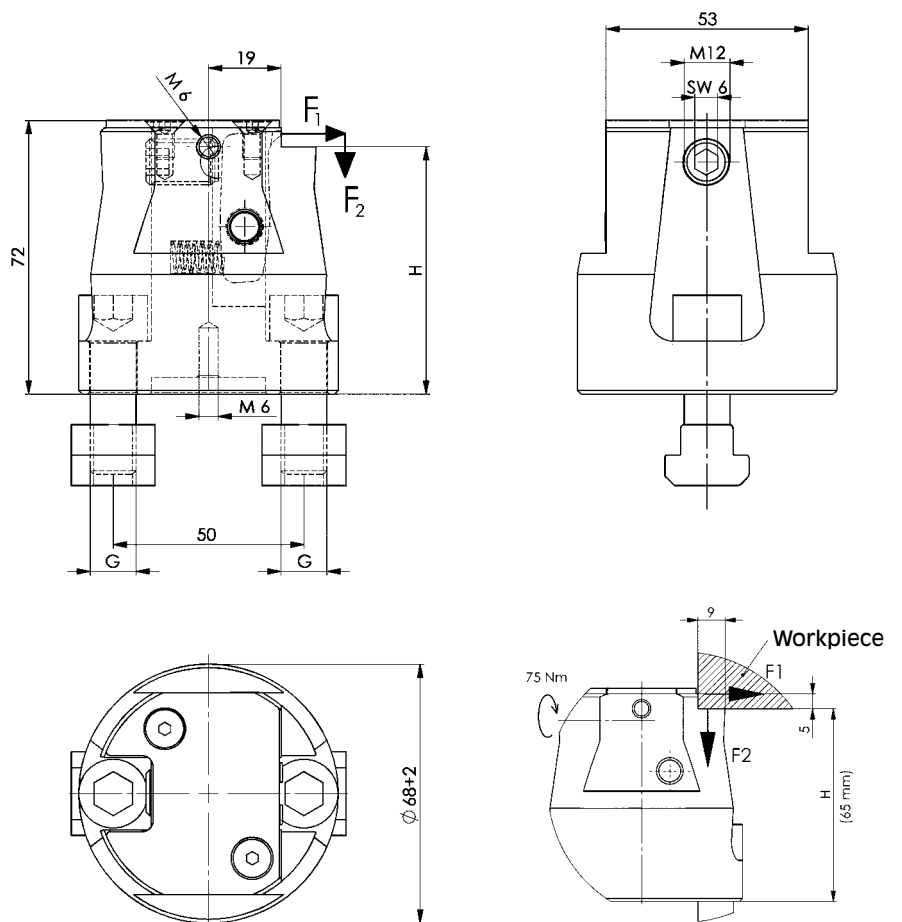
Tightening torque 75 Nm.

Mounted using strength grade 10.9 screws.

Order no.	Size		H ± 0,1	G	F1 [kN]	F2 [kN]	Weight [g]
58990101	M12x14	14	65	M12	12	5	1530

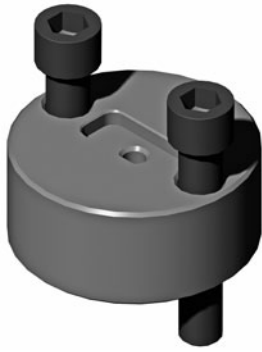
Special versions (dimension H ±0.01) are available on request

Use:Advantages>Note:



BASE PLATE, ROUND

14



Base plate, round

M12x14, complete with fixing screws.
Housing from hardened, nitride steel.
Fastened with screws of strength class 10.9.

Use:


Used in conjunction with side clamp 58990101 to clamp slot the table groove.

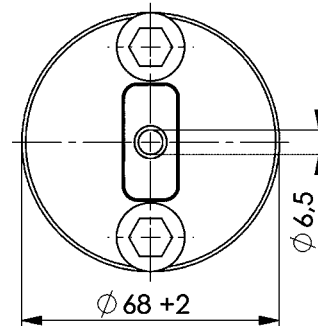
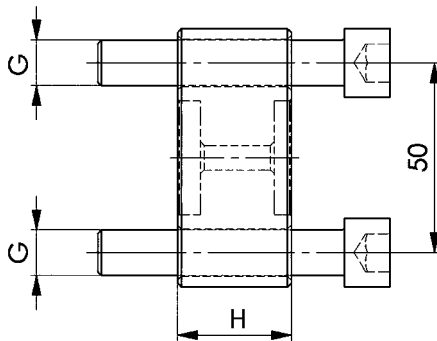
Advantages:

- clamping along the groove achieved with the side clamp only
- workpiece mounting surface increased by 30 mm.
- same external diameter as side clamp 58990101

Note:

Flat sliding block 58990104
Enables the side clamp with round base plate to be accurately positioned in the machine table groove.

Order no.	Size		H	G	Weight [g]
58990102	M12x14	14	30	M12	910



BASE PLATE



Base plate

M12x14, complete with M12 mounting.
Body is made of hardened and tempered alloy steel,
Mounted using strength grade 10.9 screws.


Use:

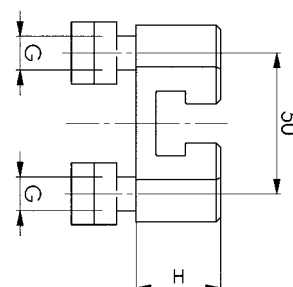
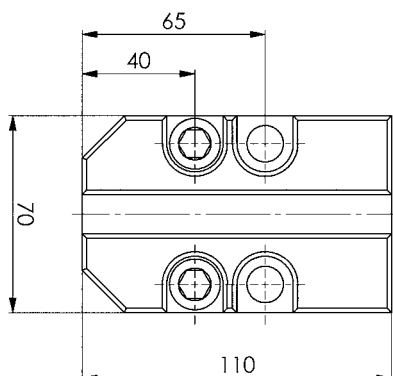
Used in conjunction with side clamp 58990101 to also clamp slot the table groove.

Advantages:

- clamping also along the groove achieved with the lateral clamp only
- workpiece mounting surface increased by 30 mm.
- side clamp can be pushed 40 mm on the base plate

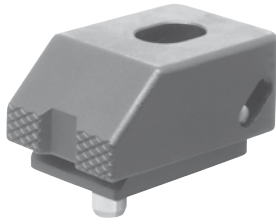
Special versions (dimension H ± 0.01) are available on request.

Order no.	Size		H	G	Weight [g]
58990103	M12x14	14	30	M12	1330

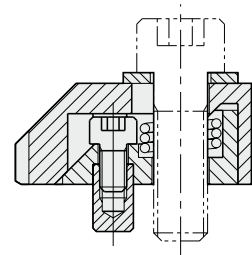
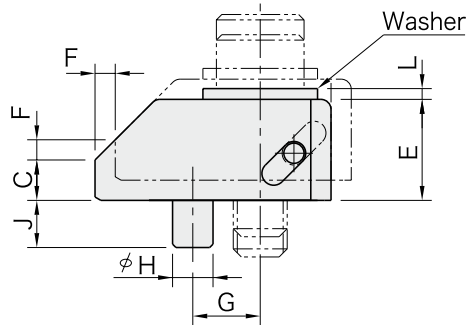
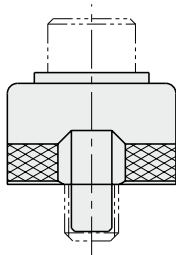
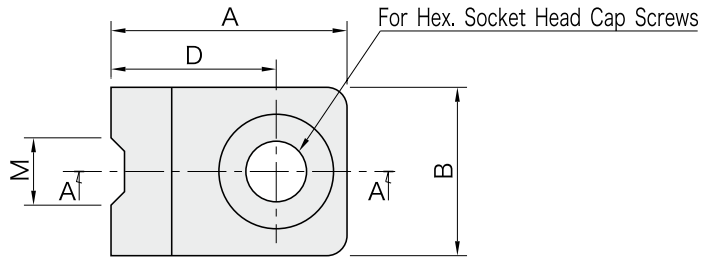


CP106

TOE CLAMPS



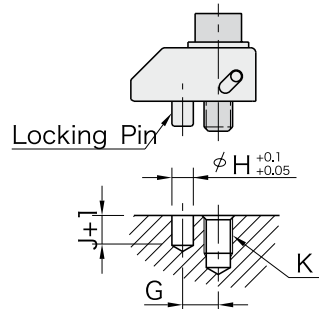
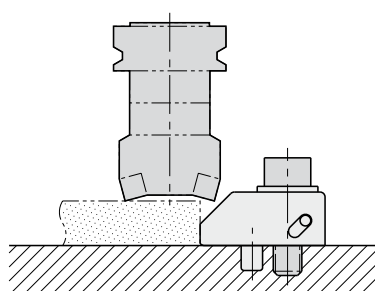
Material: S45C steel
 Finish : Black oxide
 Heat Treated



Section A-A

Part Number	A	B	C	D	E	F	G	H (h7)	J	K	L	M	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991557	35	25	6	24.5	15	3	10	6	7	M 8	1.6	10	7,000	25	100
51991558	43	30	8	29	19	4	12	6	7	M10	2	11	8,500	50	185
51991559	54	35	9	37	23	5	16	8	10	M12	2.3	12	20,000	90	320
51991560	65	40	10	45	25	6	20	10	10	M16	3.2	14	40,000	200	520

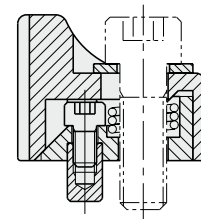
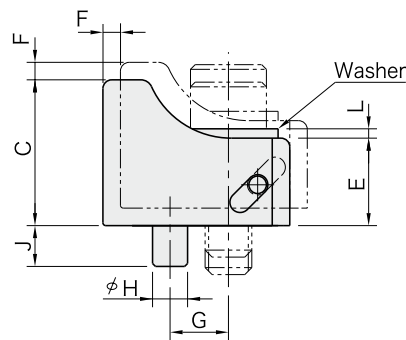
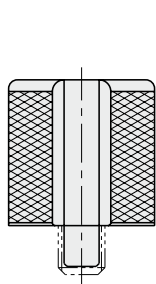
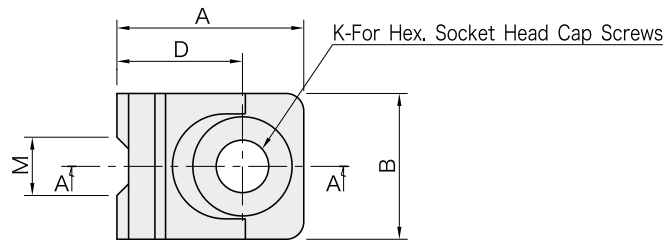
How To Use and Install



- Drill a cap-screw hole and a locking-pin hole as specified.
- One flat washer is included.



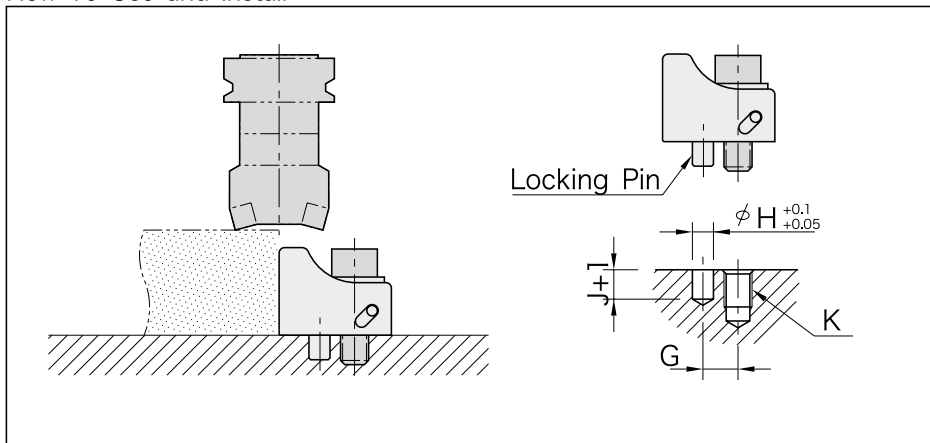
Material: S45C steel
 Finish : Black oxide
 Heat Treated



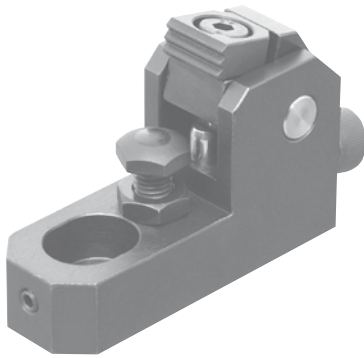
Section A-A

Part Number	A	B	C	D	E	F	G	H (h7)	J	K	L	M	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991561	32	25	25	21.5	15	3	10	6	7	M 8	1.6	10	7,000	25	115
51991562	40	30	32	26	19	4	12	6	7	M10	2	11	8,500	50	225
51991563	50	35	38	33	23	5	16	8	10	M12	2.3	12	20,000	90	390
51991564	60	40	45	40	25	6	20	10	10	M16	3.2	14	40,000	200	640

How To Use and Install



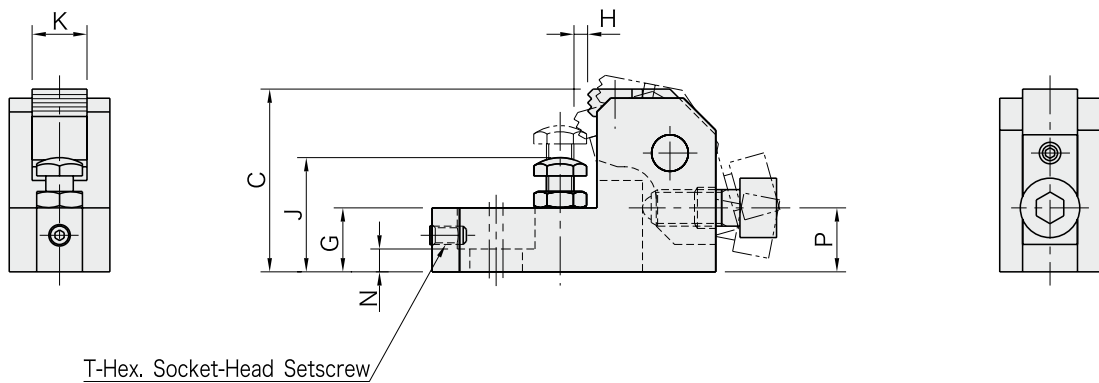
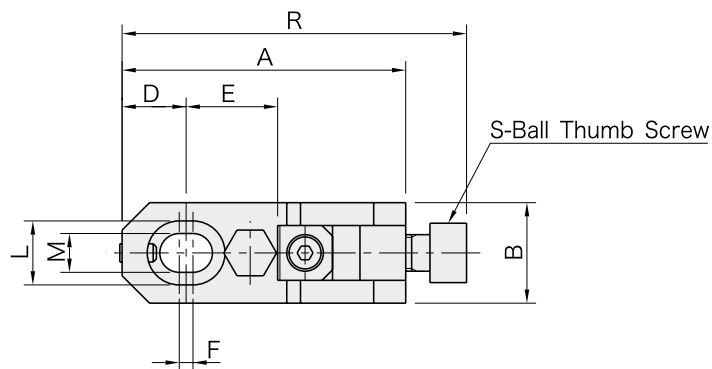
- Drill a cap-screw hole and a locking-pin hole as specified.
- One flat washer is included.



[Body]
 Material: S45C steel
 Finish : Black oxide
 Heat Treated

[Arm]
 Material: S45C steel
 Finish : Black oxide

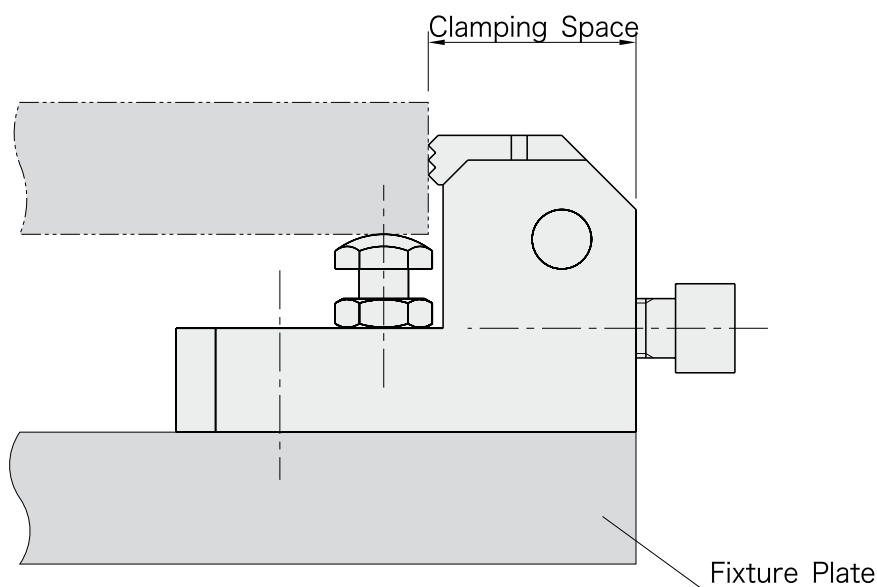
[Jaw]
 Material: SKH51 steel
 Finish : Black oxide
 Heat Treated



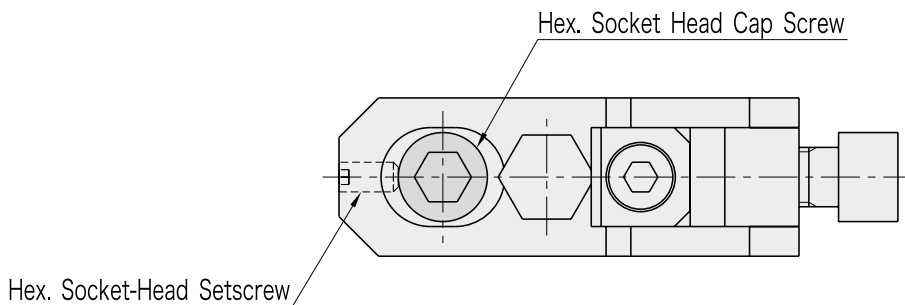
Part Number	A	B	C	D	E	F	G	H	J	K	L	M
51991565	62	22	40	14	20	3	14	3	25 to 32	12	14	8.5
51991566	78	25	50	18	25	4	18	3.7	32 to 40	16	17.5	11
51991567	93	32	60	21	30	5	21	4.5	40 to 48	20	20	13
51991568	124	38	80	28	40	6	27	6	48 to 63	25	26	17

Part Number	N	P	R	S	T	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (kg)
51991565	5	14	75.5	M 8x1.25-20L	M4x0.7-8L	6,000	15	0.23
51991566	7	17.5	95	M10x1.5-25L	M5x0.8-10L	10,000	30	0.41
51991567	8	21	113	M12x1.75-30L	M6x1-12L	17,000	65	0.75
51991568	10	28	151	M16x2-40L	M8x1.25-16L	25,000	130	1.57

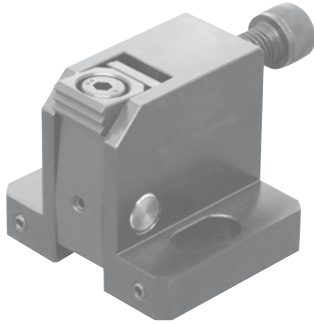
How To Use and Install



Smaller clamping space allows clamping a larger workpiece.



The hex. socket-head setscrew works to prevent the clamp from sliding back if screwed in until it contacts the cap screw.



[Body]

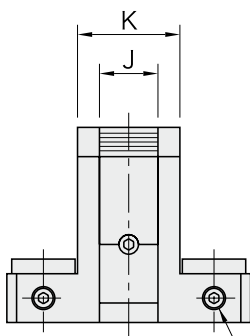
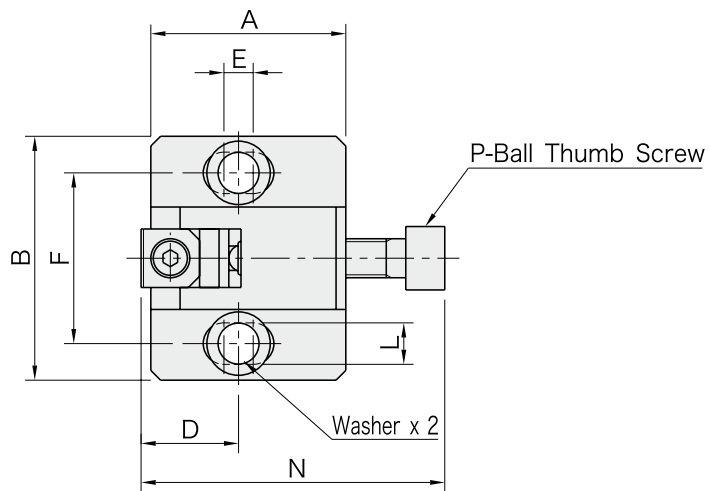
Material: S45C steel
Finish : Black oxide

[Arm]

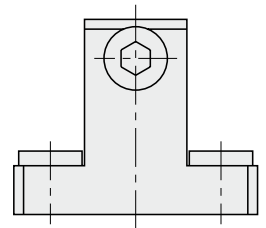
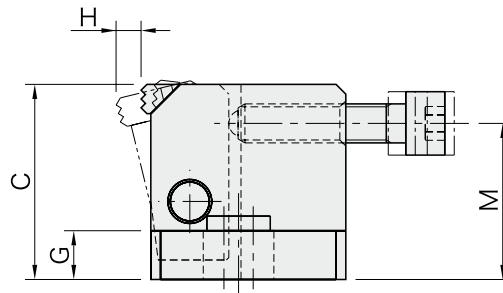
Material: S45C steel
Finish : Black oxide
Heat Treated

[Jaw]

Material: SKH51 steel
Finish : Black oxide
Heat Treated



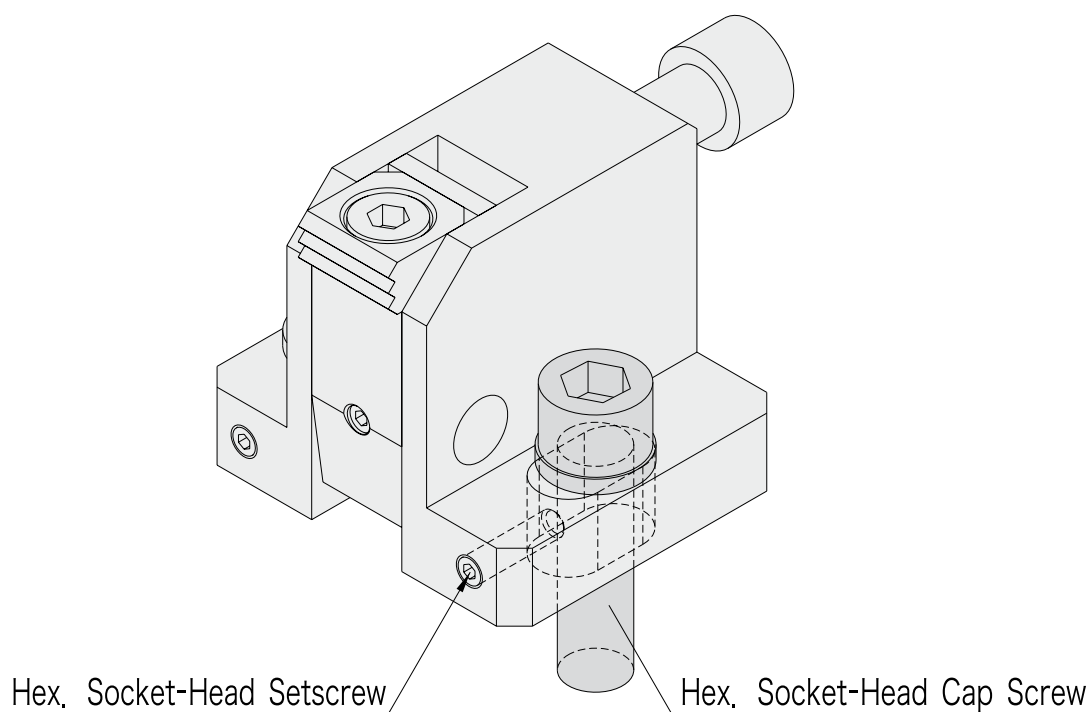
R-Hex. Socket-Head Setscrew



Part Number	A	B	C	D	E	F	G	H	J	K	L
51991569	40	50	40	20	6	35	10	5.3	12	21	8.5
51991570	50	65	50	25	8	45	12	7.1	16	27	11
51991571	60	70	60	30	10	50	15	8	20	31	13
51991572	80	90	80	40	15	65	20	10.2	25	39	17

Part Number	M	N	P	R	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (kg)
51991569	32	62.5	M 8x1.25-35L	M4x0.7-10L	11.000	25	0.33
51991570	40	74	M10x1.5-40L	M4x0.7-12L	18.000	50	0.66
51991571	48	91	M12x1.75-50L	M5x0.8-15L	25.000	90	1.06
51991572	64	115	M16x2-60L	M6x1-20L	46.000	200	2.38

How To Install

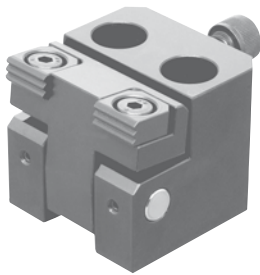


The hex. socket-head setscrew works to prevent the clamp from sliding back if screwed in until it contacts the cap screw.

*Two flat washers are included.

CP102

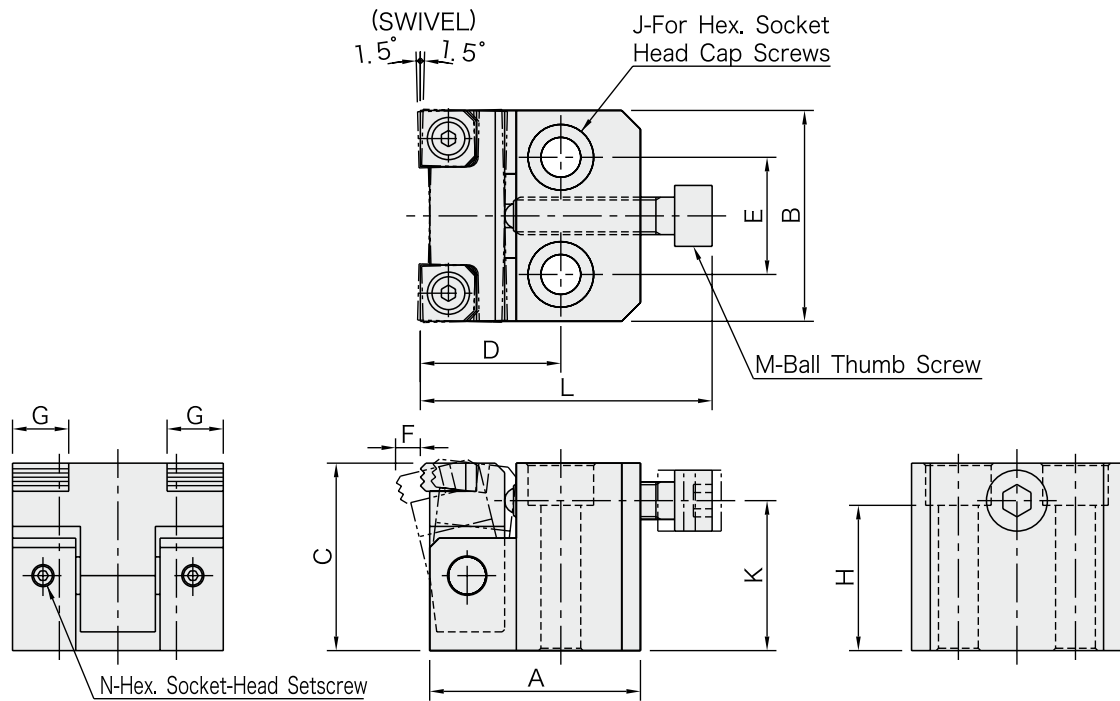
WIDE-JAW SIDE CLAMPS



[Body]
 Material: S45C steel
 Finish : Black oxide

[Arm]
 Material: S45C steel
 Finish : Black oxide
 Heat Treated

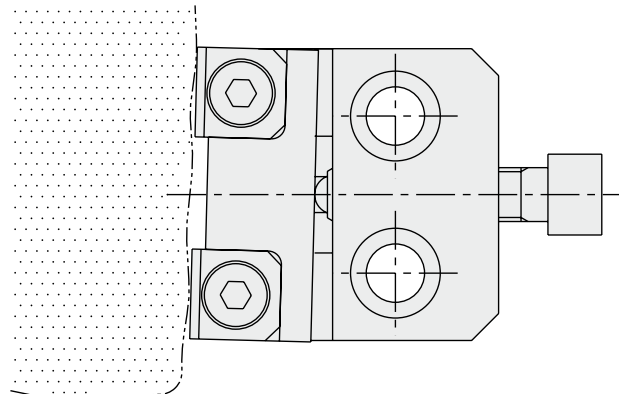
[Jaw]
 Material: SKH51 steel
 Finish : Black oxide
 Heat Treated



Part Number	A	B	C	D	E	F	G	H	J	K	L	M	N
51991573	45	45	40	30	25	5.3	12	31	M 8	32	62.5	M 8x1.25-35L	M4x0.7-4L
51991574	55	55	50	40	30	7.1	16	39	M10	40	74	M10x1.5 -40L	M4x0.7-4L
51991575	65	65	60	45	35	8	20	47	M12	48	91	M12x1.75-50L	M5x0.8-5L

Part Number	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (kg)
51991573	11.000	25	0.55
51991574	18.000	50	1
51991575	25.000	90	1.69

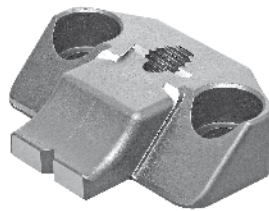
How To Use



The jaw swivels to fit an unmachined surface of the workpiece.



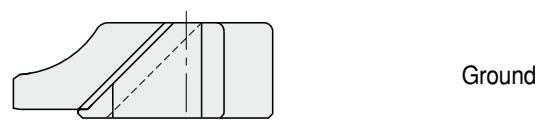
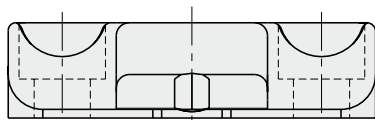
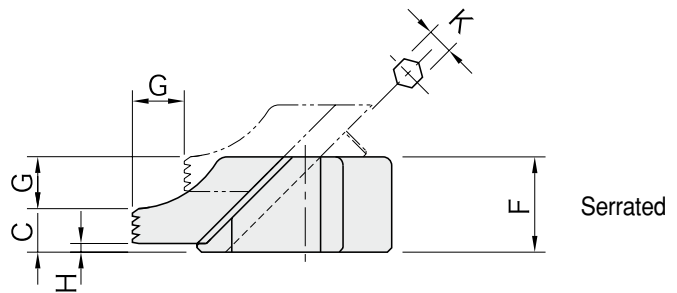
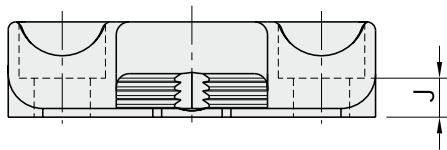
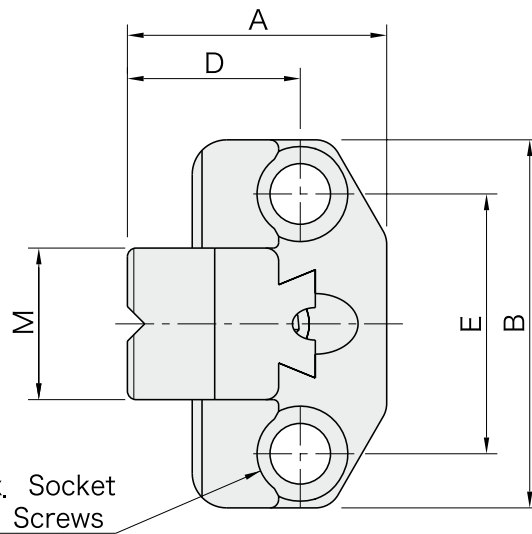
Serrated



Ground

[Body]
 Material: SCM440 steel
 Finish : Black oxide
 Heat Treated

[Jaw]
 Material: SCM440 steel
 Finish : Black oxide
 Heat treated on edge

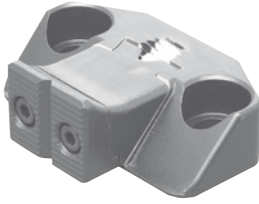


Serrated	A	B	C	D	E	F	G	H	J	K	L	M	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991576	39.5	65	7.5	25	45	16	7	1.5	7	4	M 8	25	4.000	8	160
51991578	60	85	10	40	60	22	12	2	9	6	M12	35	9.000	26	450
51991580	77	100	14	50	70	30	14	2	13	8	M16	40	17.000	60	900

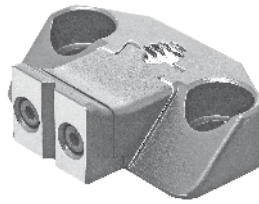
Ground	A	B	C	D	E	F	G	H	J	K	L	M	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991577	39.5	65	7.5	25	45	16	7	1.5	7	4	M 8	25	4.000	8	160
51991579	60	85	10	40	60	22	12	2	9	6	M12	35	9.000	26	450
51991581	77	100	14	50	70	30	14	2	13	8	M16	40	17.000	60	900

CP105

SIDE CLAMPS



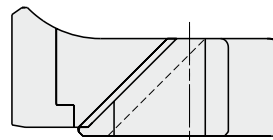
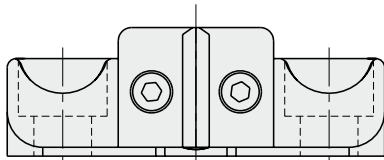
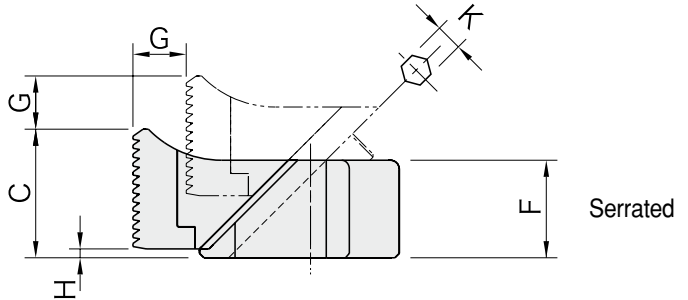
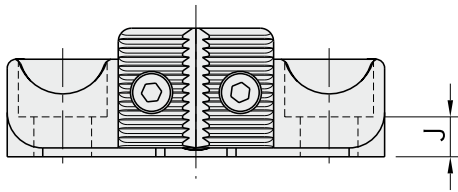
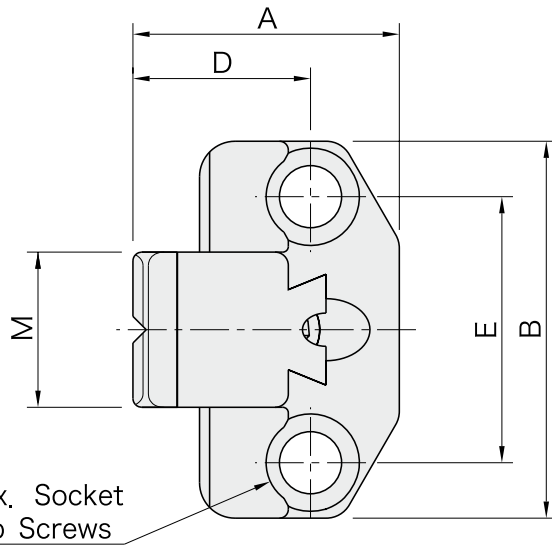
Serrated



Ground

[Body & Jaw Carrier]
 Material: SCM440 steel
 Finish : Black oxide
 Heat treated

[Jaw]
 Material: SCM440 steel
 Finish : Black oxide
 Heat treated on edge



Serrated

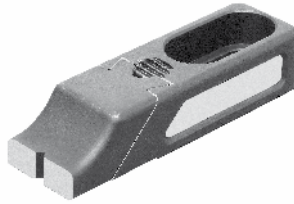
Ground

Serrated															
Part Number	A	B	C	D	E	F	G	H	J	K	L	M	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991582	39.5	65	19.5	25	45	16	7	1.5	7	4	M 8	25	4.000	8	180
51991584	60	85	29	40	60	22	12	2	9	6	M12	35	9.000	26	500
51991586	77	100	38	50	70	30	14	2	13	8	M16	40	17.000	60	1.010

Ground															
Part Number	A	B	C	D	E	F	G	H	J	K	L	M	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991583	39.5	65	19.5	25	45	16	7	1.5	7	4	M 8	25	4.000	8	180
51991585	60	85	29	40	60	22	12	2	9	6	M12	35	9.000	26	500
51991587	77	100	38	50	70	30	14	2	13	8	M16	40	17.000	60	1.010



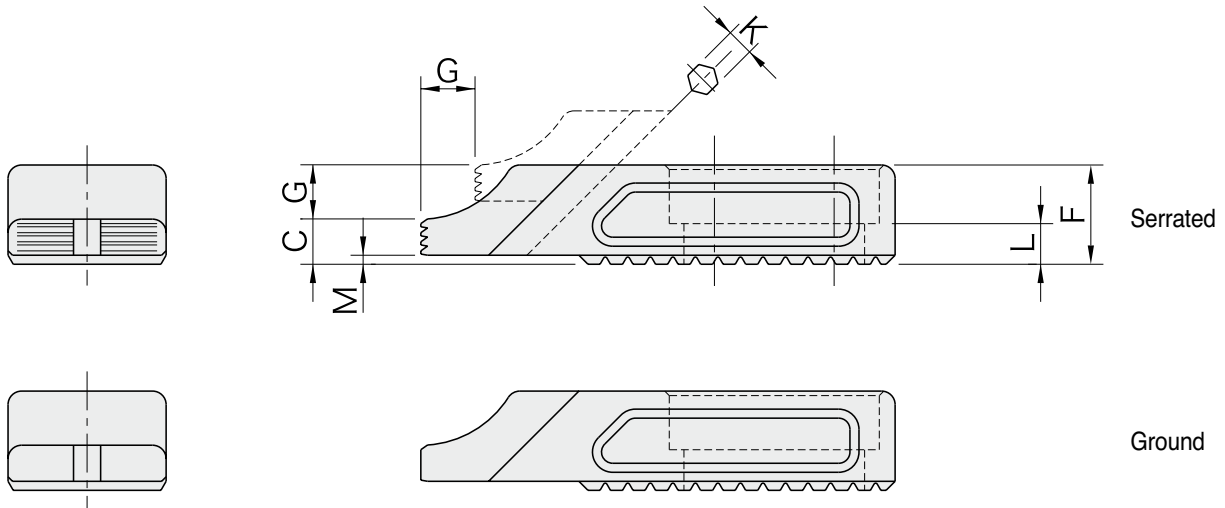
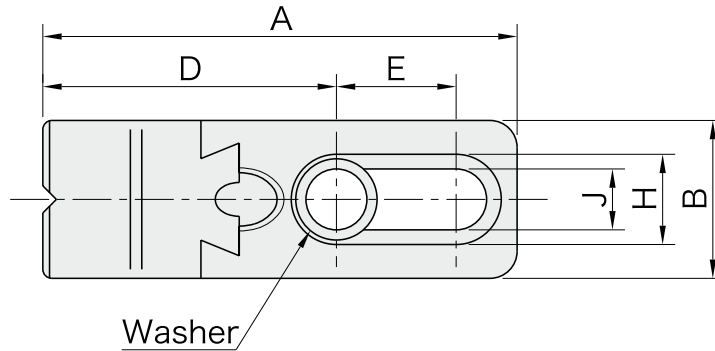
Serrated



Ground

[Body]
 Material:FCM440 steel
 Heat treated
 Black oxide finish

[Sliding Nose]
 Material:SCM440 steel
 Heat treated (on edge)
 Black oxide finish
 Precision ground or serrated



Serrated	A	B	C	D	E	F	G	H	J	K	L	M	Weight (g)
Part Number													
51991588	72	25	7.5	45.5	16.5	16	7	14	8.5	4	7	1.5	150
51991590	105	35	10	65	26.5	22	12	20	13	6	9	2	400
51991592	137	40	14	89.5	30	30	14	26	17	8	13	2	830

Ground	A	B	C	D	E	F	G	H	J	K	L	M	Weight (g)
Part Number													
51991589	72	25	7.5	45.5	16.5	16	7	14	8.5	4	7	1.5	150
51991591	105	35	10	65	26.5	22	12	20	13	6	9	2	400
51991593	137	40	14	89.5	30	30	14	26	17	8	13	2	830

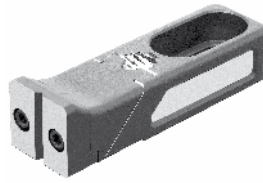
Part Number	When Used Singularly		When Used with Slide Stop		Weight (g)
	Clamping Force (N)	Allowable Screw Torque (N·m)	Clamping Force (N)	Allowable Screw Torque (N·m)	
51991588	3,600	6,5	4,000	8	150
51991589					
51991590	7,400	19	10,400	26	400
51991591					
51991592	11,700	32	24,000	60	830
51991593					

BJ102

ADJUSTABLE SIDE CLAMPS



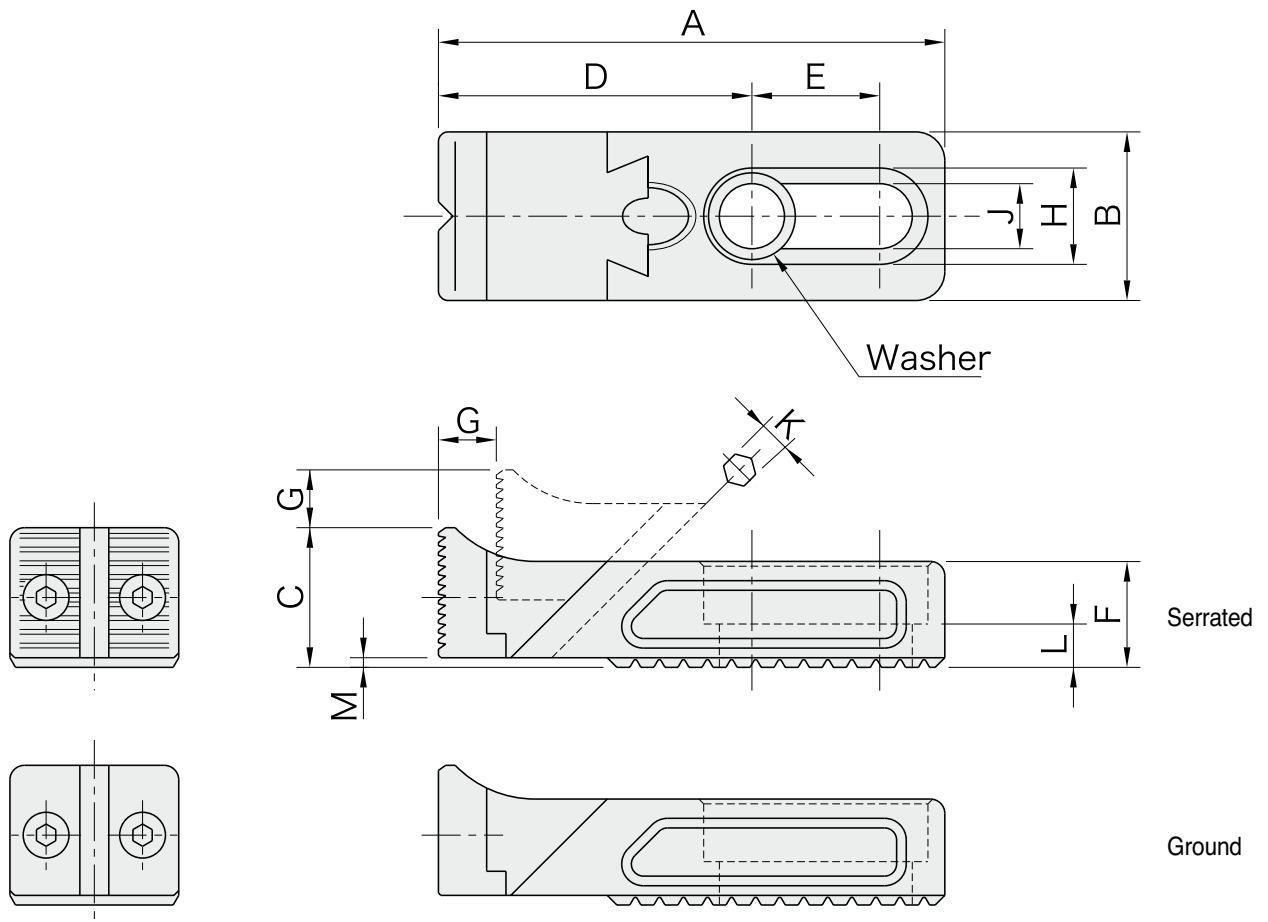
Serrated



Ground

[Body & Jaw Carrier]
Material:FCM440 steel
Heat treated
Black oxide finish

[Jaw]
Material:SCM440 steel
Heat treated
Black oxide finish
Precision ground or serrated



Serrated													
Part Number	A	B	C	D	E	F	G	H	J	K	L	M	Weight (g)
51991594	72	25	19.5	45.5	16.5	16	7	14	8.5	4	7	1.5	160
51991596	105	35	29	65	26.5	22	12	20	13	6	9	2	440
51991598	137	40	38	89.5	30	30	14	26	17	8	13	2	920

Ground													
Part Number	A	B	C	D	E	F	G	H	J	K	L	M	Weight (g)
51991595	72	25	19.5	45.5	16.5	16	7	14	8.5	4	7	1.5	160
51991597	105	35	29	65	26.5	22	12	20	13	6	9	2	440
51991599	137	40	38	89.5	30	30	14	26	17	8	13	2	920

Part Number	Clamping Force (N) *	Allowable Screw Torque (N·m) *	Weight (g)
51991594	3,600	6,5	160
51991595			
51991596	7,400	19	440
51991597			
51991598	11,700	32	920
51991599			

Note *) The stated values are effective when used singularly (not mounted on a serrated adaptor).



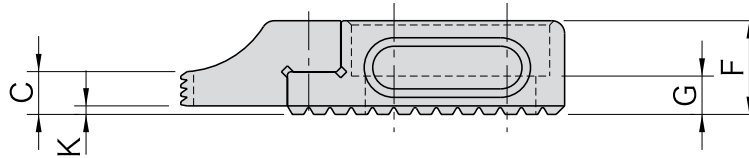
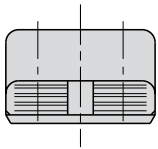
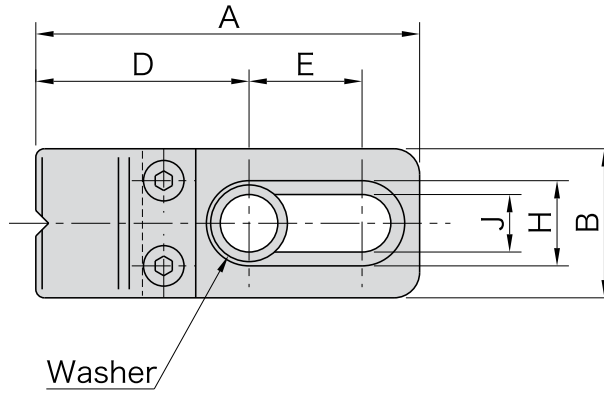
Serrated

【Body】

- Material : FCM440 steel
- Black oxide finish

【Jaw】

- Material : SCM440 steel
- Heat treated
- Black oxide finish
- Precision serrated



Serrated

Part Number	A	B	C	D	E	F	G	H	J	K	Weight (g)
51991600	60	25	7.5	33.5	16.5	16	7	14	8.5	1.5	120
51991601	90	35	10	50	26.5	22	9	20	13	2	330
51991602	115	40	14	67.5	30	30	13	26	17	2	660

Note *) The stated values are effective when used singularly (not mounted on a serrated adaptor).

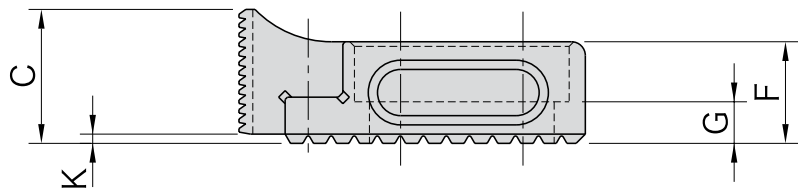
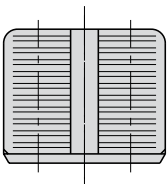
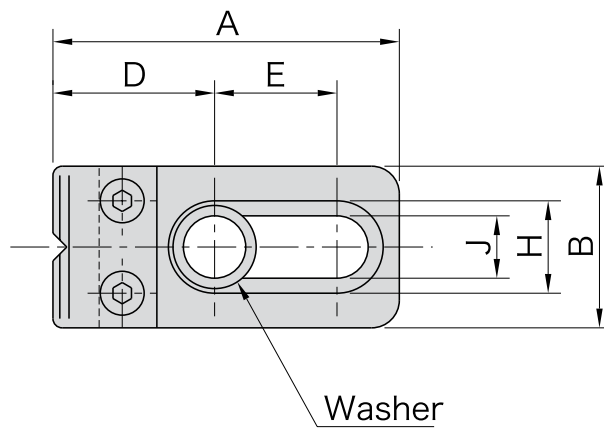
· Stop that mounts on a BJ500. Rack Block to prevent backslide.

BJ202

ADJUSTABLE SIDE STOPS

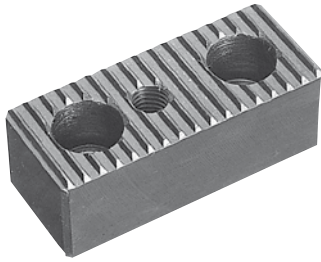


- 【Body】**
- Material : FCM440 steel
 - Black oxide finish
- 【Jaw】**
- Material : SCM440 steel
 - Heat treated
 - Black oxide finish
 - Precision serrated

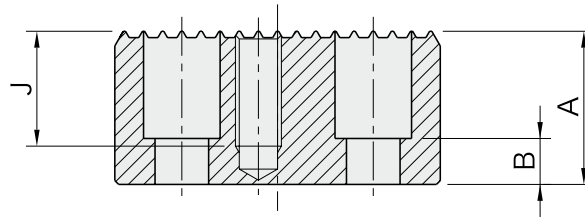
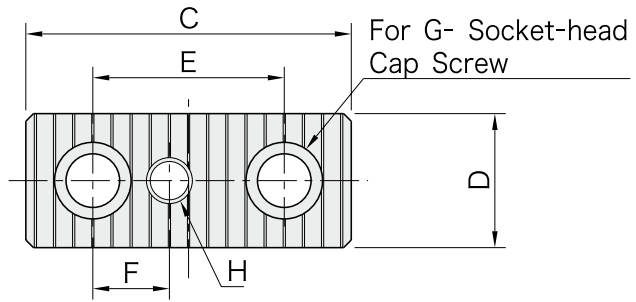


Part Number	A	B	C	D	E	F	G	H	J	K	Weight (g)
51991603	50	25	19.5	23.5	16.5	16	7	14	8.5	1.5	100
51991604	75	35	29	35	26.5	22	9	20	13	2	310
51991605	95	40	38	47.5	30	30	13	26	17	2	625

Note *) The stated values are effective when used singularly (not mounted on a serrated adaptor).
 · Stop that mounts on a BJ500, Rack Block to prevent backslide.

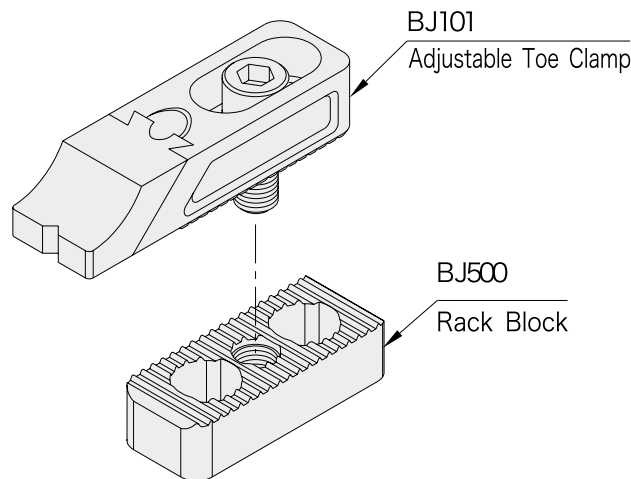


- Material : S45C steel
- Black oxide finish



Part Number	A	B	C	D	E	F	G	H	J	Weight (kg)
51991606	16	7	50	25	25	12.5	M 8	M 8×1.25	Through	0.13
51991607	20	9								0.17
51991608	25	13								0.21
51991609	32	20								0.27
51991610	40	28								0.33
51991611	50	38								0.42
51991612	20	5	85	35	50	20	M12	M12×1.75	Through	0.34
51991613	25	10								0.45
51991614	32	12								0.57
51991615	40									0.71
51991616	50								35	0.9
51991617	25	6	90	40	50	25	M16	M16×2	Through	0.46
51991618	32	13								0.62
51991619	40	15								0.78
51991620	50									0.98
51991621	63									1.24

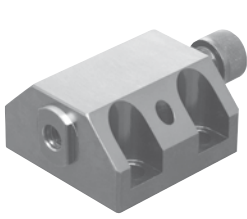
■ How To Use



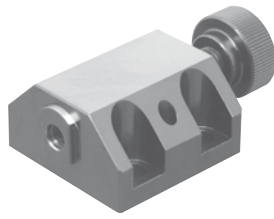
Serrated riser that prevents BJ101/BJ102 clamps and BJ201/BJ202 stops from slipping backward.

CP110/CP111

BLOCK PUSH CLAMPS



CP110
(Cap Screw Style)

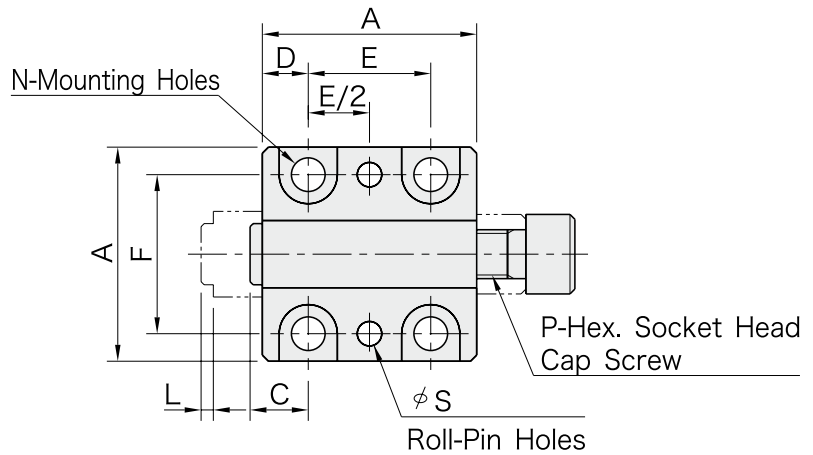


CP111
(Knurled-Head Screw Style)

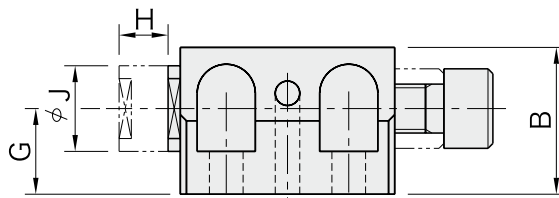
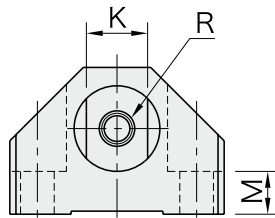
[Body]
Material: S45C steel
Finish : Black oxide

[Piston]
Material: S45C steel
Finish : Black oxide
Heat Treated

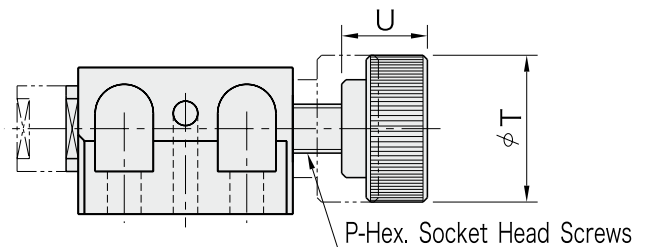
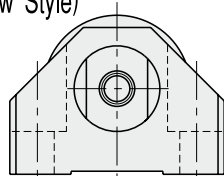
[Knurled Knob]
Material: S45C steel
Finish : Black oxide



CP110
(Cap Screw Style)



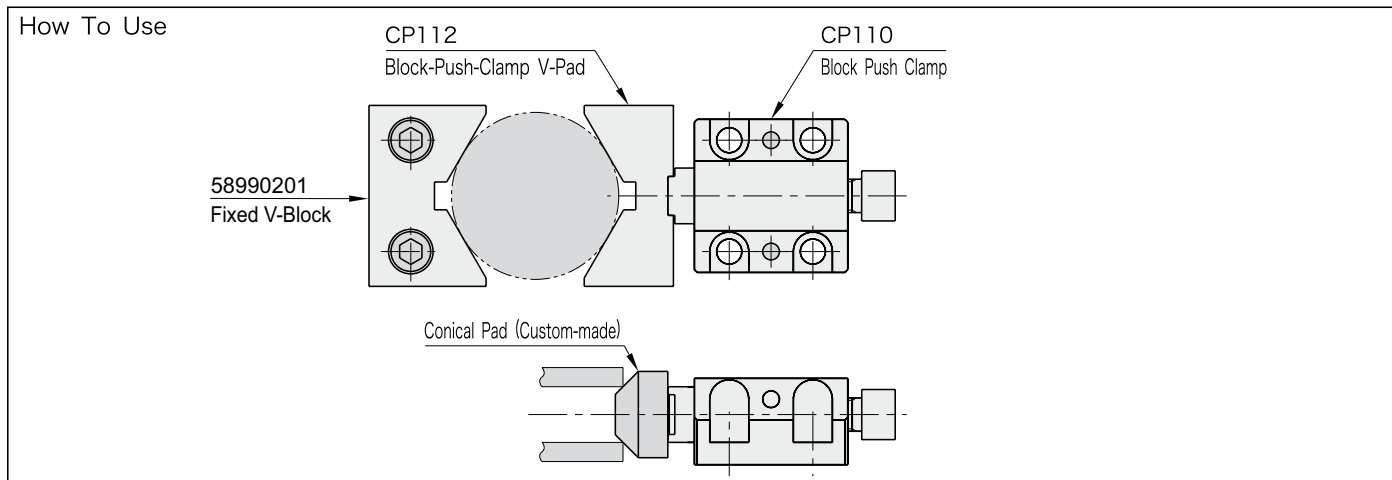
CP111
(Knurled-Head Screw Style)



Part Number		A	B	C	D	E	F	G	H	J	K ($\frac{R}{3}$)	L	M	N	P	R		S	T	U
51991622	51991626	35	24	9.5	7.5	20	26	14	8	14	10	2	7	M 5	M 8x1.25	M 5x0.8	8 deep	4	24	14
51991623	51991627	45	29	12	10	25	35	16	10	18	12	2	8	M 6	M10x1.5	M 6x1	10 deep	4	24	14
51991624	51991628	55	31	15	12.5	30	40	18	12	20	14	2.5	8	M 8	M12x1.75	M 8x1.25	12 deep	6	30	17
51991625	51991629	70	37	18	15	40	50	20	16	25	19	3	8	M10	M16x2	M10x1.5	15 deep	8	36	20

Cap Screw Style				Knurled-Head Screw Style			
Part Number	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)	Part Number	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991622	6,200	10	160	51991626	600	1	180
51991623	11,000	22	340	51991627	500	1	360
51991624	20,000	48	540	51991628	600	1.5	570
51991625	37,000	121	1,050	51991629	600	2	1,100

Note : The stated values of both "Clamping Force" and "Allowable Screw Torque" are based on the manual operation of the knob.



Depending on workpiece shapes, a custom pad can mount on the Block Push Clamp.

CP112

MOVABLE BLOCK PUSH CLAMP V-PADS

Material: S45C steel
Finish : Black oxide
Heat treated

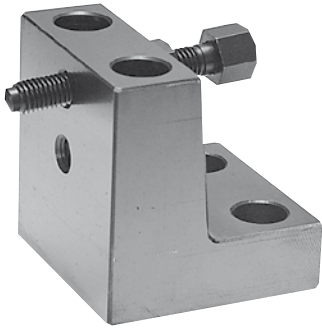
Part Number	A	B	C	D (°)	E	F	G	H		J	Weight (g)
								min.	max.		
51991630	38	19	16	10	1.5	3.5	9.2	15	60	M 5	65
51991631	50	24	19	12	1.5	4.5	11	20	80	M 6	125
51991632	65	32	22	14	2	5.5	15	25	100	M 8	250
51991633	75	38	25	19	2.5	7.5	18.7	30	120	M10	390

CP112 F

FIXED V-BLOCK PUSH CLAMP

Material: S45C steel
Finish : Black oxide
Heat treated

Part Number	A	B	C	D	E	F	H		Weight (Kg)
							min	max	
58990201	38	25	16	8	8	M6	15	60	0.09
58990202	50	35	19	10	10	M8	20	80	0.19
58990203	65	40	22	12	12	M10	25	100	0.30
58990204	75	50	25	20	15	M12	30	120	0.52

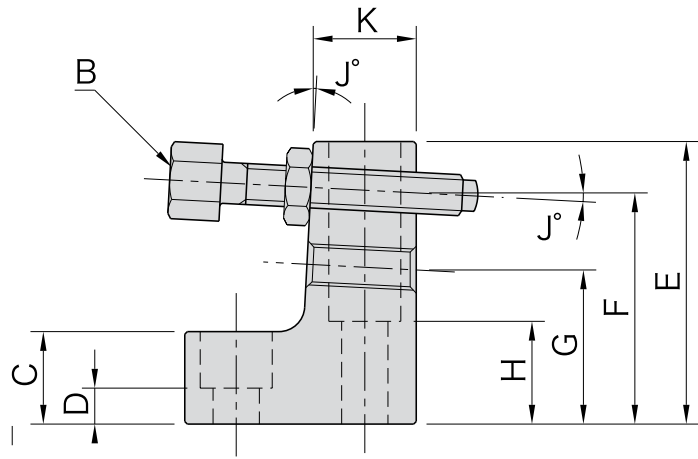
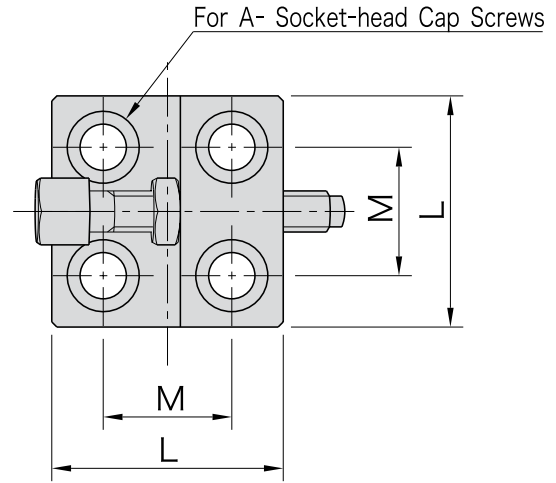


[Body]

- Material : S45C steel
- Black oxide finish

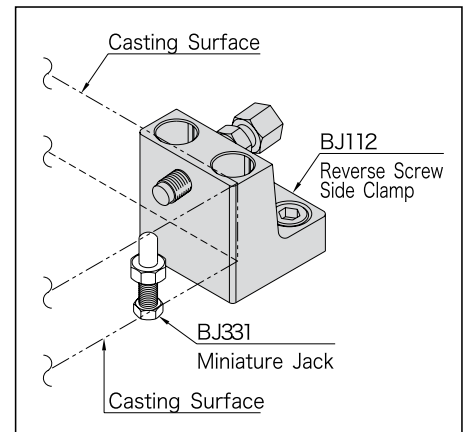
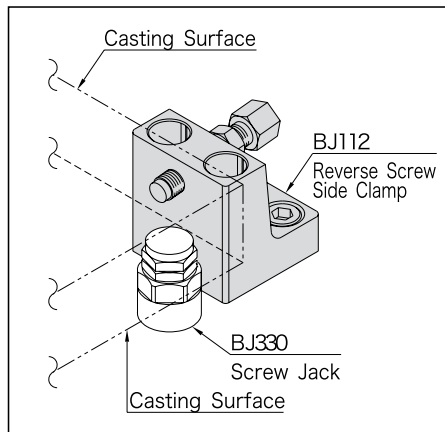
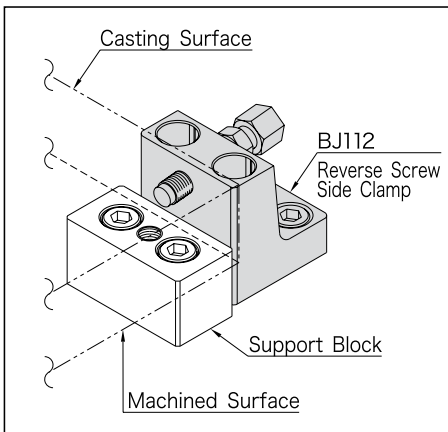
[Screw]

- Material : SCM435 steel
- Heat treated
- Black oxide finish



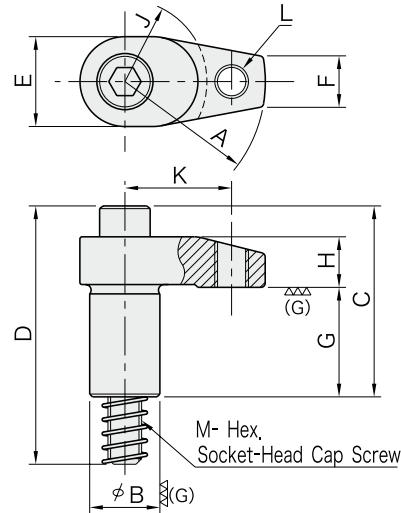
Part Number	A	B	C	D	E	F	G	H	J	K	L	M	Weight (kg)
51991634	M 8	M 8×1.25-50L	18	7	55	45	30	20	3	20	45	25	0.45
51991635	M12	M12×1.75-80L	27	14	90	75	50	37	5	33	85	50	2.5
51991636	M16	M16×2 -80L	27	10	90	75	50	33	5	33	85	50	2.3

Application Examples



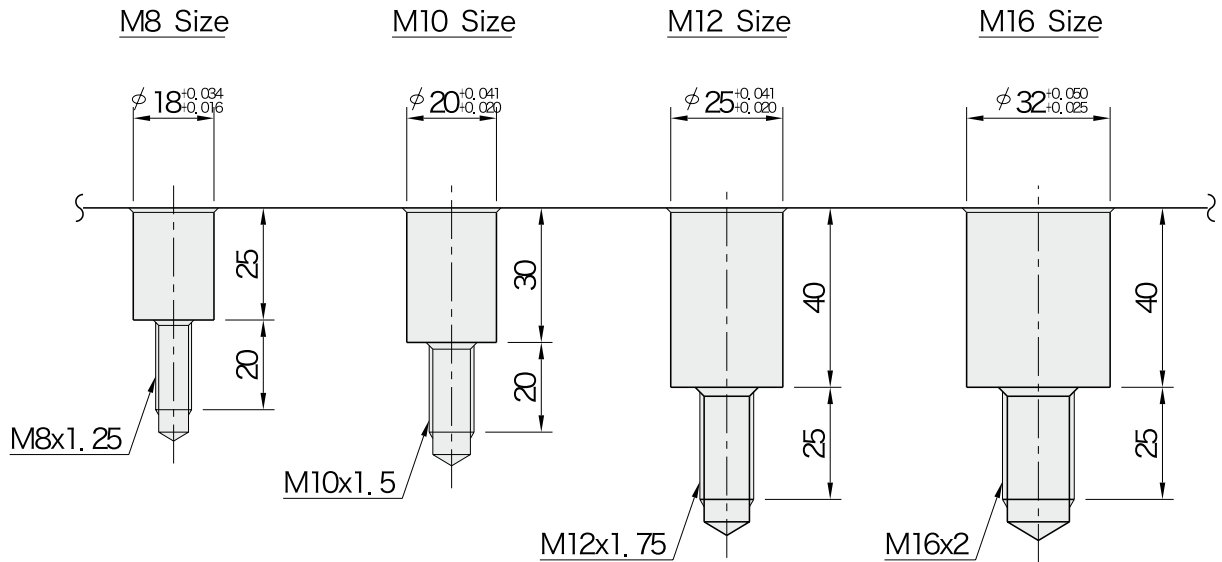


Material:SCM435 steel
Heat treated
Black oxide finish
Precision ground



·Use with a BJ530 Hook-Clamp Holder.

How To Use
(Reference)



Hook Clamps can be plugged directly into custom blocks with receiving holes as specified above.

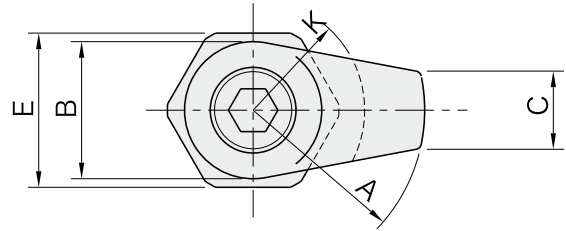
Part Number	A	B (h7)	C	D	E	F	G	H	J	K	L	M	Allowable Screw Torque (N·m)	Weight (Kg)
51991637	20	18	37	58	22	10	23	12	15	-	-	M8x1.25 - 50L	38	90
51991638	25								33				95	
51991639	30								30				105	
51991640	30	20	54	75	24	12	30	15	20	-	-	M10x1.5 - 65L	38	200
51991641	40							25					32	210
51991642	40	25	66	92	32	18	39	16	25	-	-	M12x1.75 - 80L	60	280
51991643	50							18					50	310
51991644	60							46					350	
51991645	40	25	66	92	32	18	39	16	25	31	M12x1.75	M12x1.75 - 80L	60	280
51991646	50							18					50	310
51991647	60							46					350	
51991648	40	32	75	101	36	22	39	21	25	-	-	M16x2 - 85L	170	420
51991649	50												150	470
51991650	60												130	530
51991651	50	32	75	101	36	22	39	21	25	38	M12x1.75	M16x2 - 85L	150	470
51991652	60												46	130

BJ131

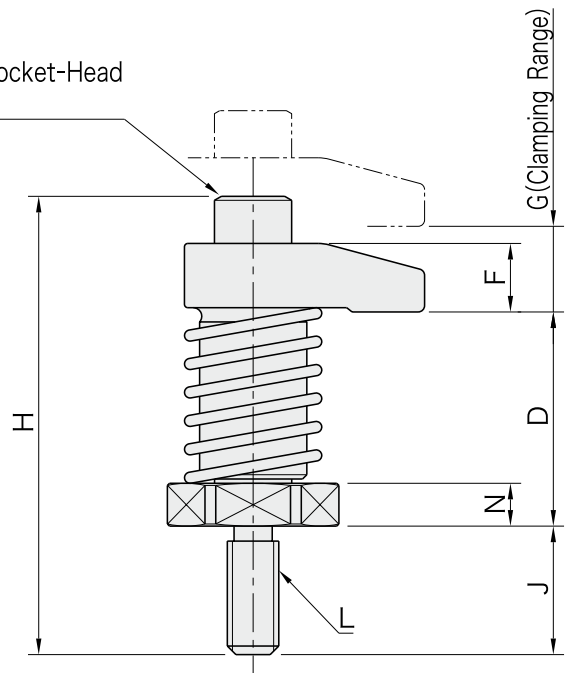
HOOK CLAMPS WITH SPRING



Material:SCM435 steel
Heat treated
Black oxide finish
Precision ground



M- Hex. Socket-Head
Cap Screw

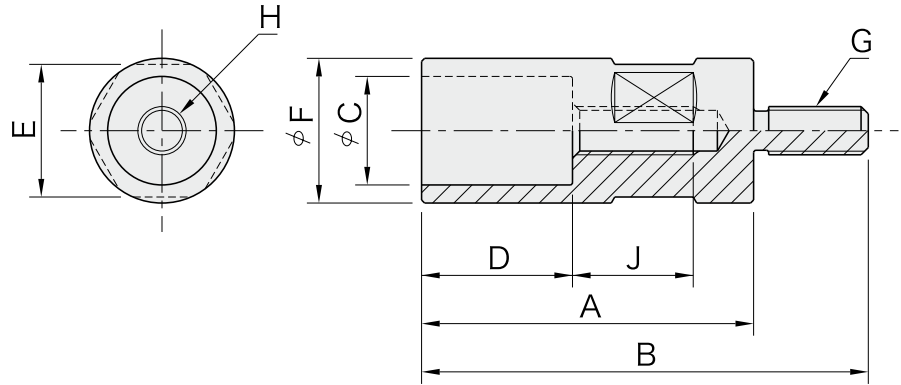


Part Number	A	B	C	D	E	F	G	H	J	K	L
51991655	30	22	10	35	22	12	10	68	19	20	M 8x1.25
51991659	40	32	18	50	36	16	15	107	30	25	M12x1.75
51991660	50					18		109			
51991661	60										
51991665	40	36	22	50	36	21	15	116	30	25	M16x2
51991666	50										
51991667	60										

Part Number	M	N	Clamping Force (N)	Allowable Screw Torque (N·m)	Weight (g)
51991655	M 8x1.25-30L	6	6.700	20	135
51991659	M12x1.75-45L	10	13.500	45	450
51991660			12.600		480
51991661			11.700		520
51991665	M16x2 -55L	10	13.400	60	630
51991666			12.400		680
51991667			12.000		740



Material: S45C steel
Black oxide finish



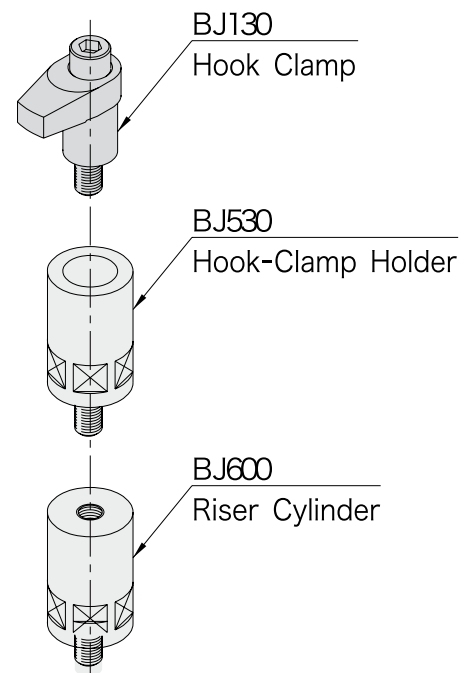
Part Number	A	B	C (F7)	D	E	F	G	H	J	Allowable Screw Torque (N·m) *)	Weight (g)
51991671	55	74	18	25	22	24	M 8x1.25	M 8x1.25	20	30	140
51991672	63	93	20	30	30	32	M12x1.75	M10x1.5	21	40	400
51991673	80	110	20	30	30	32	M12x1.75	M10x1.5	23	40	500
51991674	80	110	25	40	36	40	M12x1.75	M12x1.75	25	50	1,080
51991675	100	130	25	40	36	40	M12x1.75	M12x1.75	25	50	1,280
51991676	80	110	32	40	46	50	M16x2	M16x2	25	80	1,690
51991677	100	130	32	40	46	50	M16x2	M16x2	25	80	2,000

*) The above screw torque values are effective for installation of Hook Clamps.

How To Use



Holder that is specifically designed to receive a BJ130 Hook Clamp.

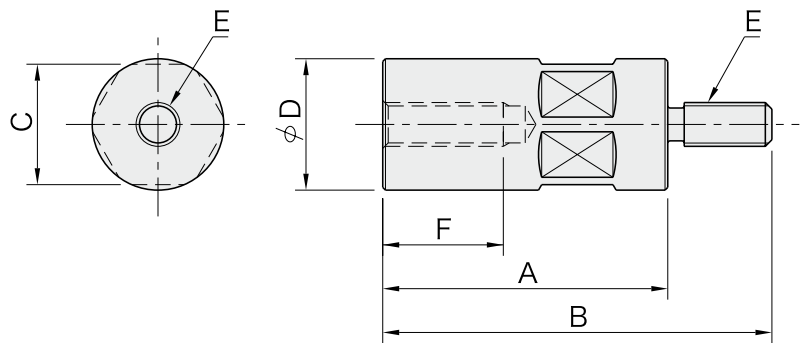


BJ600

RISER CYLINDERS



Material: SCM435 steel(Mini)
 S45C steel(Standard&heavy)
 Heat treated(Mini)
 Black oxide finish

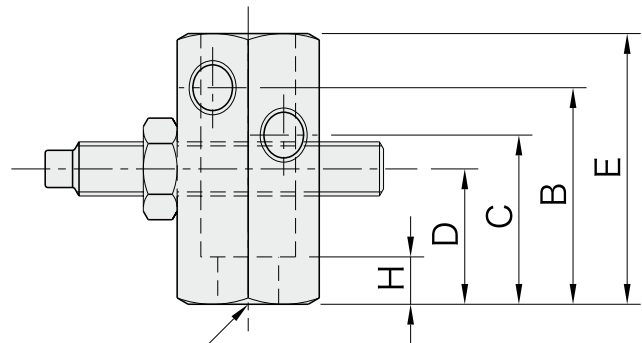
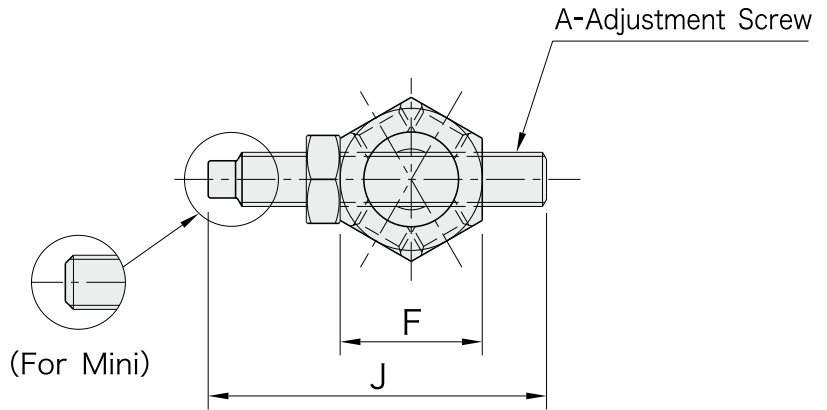


Part Number	A	B	C	D	E	F	Weight (g)
51991678	32	51	22	24	M 8x1.25	20	105
51991679	40	59					135
51991680	50	69					170
51991681	65	84					220
51991682	80	99					275
51991683	100	119	36	40	M12x1.75	35	345
51991684	50	80					480
51991685	65	95					640
51991686	80	110					780
51991687	100	130					980
51991688	125	155	46	50	M16x2	35	1,230
51991691	50	80					770
51991692	65	95					1,000
51991693	80	110					1,230
51991694	100	130					1,540
51991695	125	155					1,920



[Body]
 Material:S45C steel
 Black oxide finish

[Adjustment Screw]
 Material:Steel
 Heat treated
 Black oxide finish



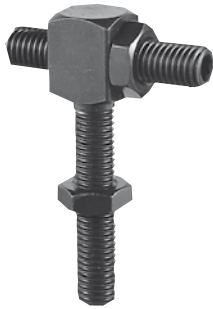
For G- Socket-Head
 Cap Screw

Part Number	A	B	C	D	E	F	G	H	J	Weight (g)
51991698	M 8x1.25	32	25	20	40	21	M 8	7	50	95
51991699	M12x1.75	50	40	32	60	36	M12	12	100	500
51991700	M16x2	63	50	40	80	46	M16	14	100	1,200

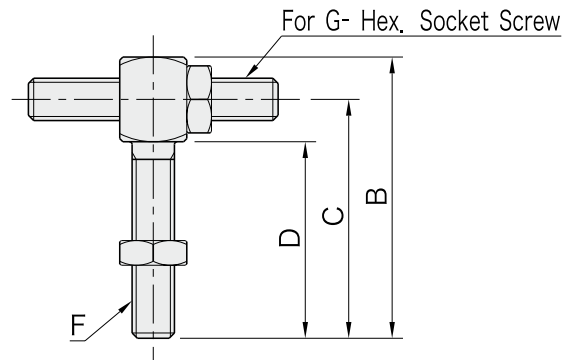
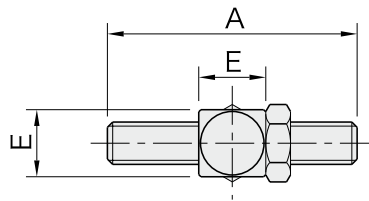
·Side stop that offers three options of screw height.
 ·Can also be used as auxiliary clamps.

BJ211

ADJUSTABLE MINIATURE STOPS

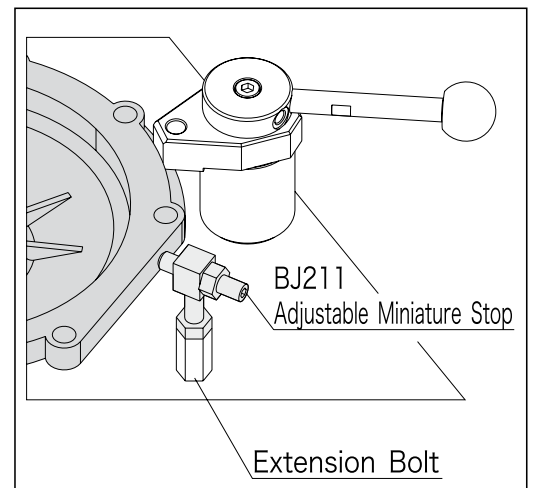
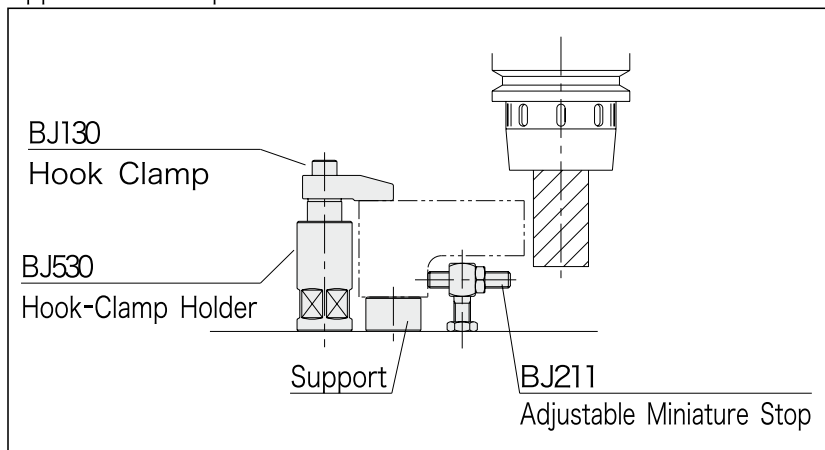


Material: S45C steel
Heat treated
Black oxide finish

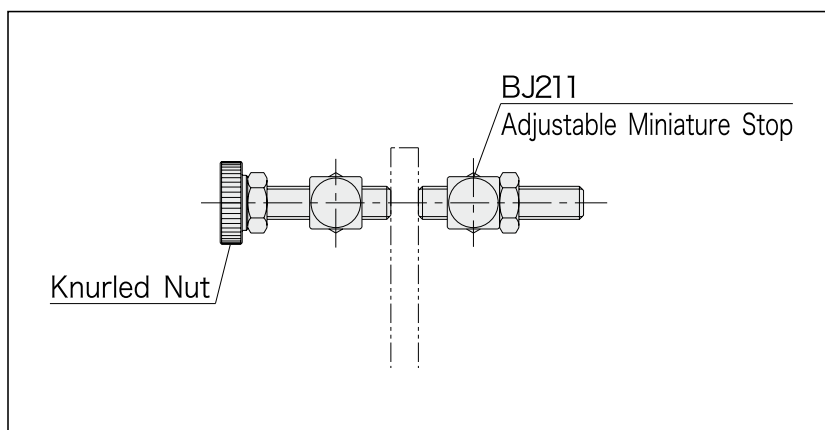


Part Number	A	B	C	D	E	F	G	Weight (g)
51991213	40	56	48	40	13	M 8x1.25	M 8x1.25	60
51991214	50	70	60	50	17	M10x1.5	M10x1.5	120
51991215	60	84	72	60	19	M12x1.75	M12x1.75	190
51991216	80	112	96	80	24	M16x2	M16x2	410

Application Examples



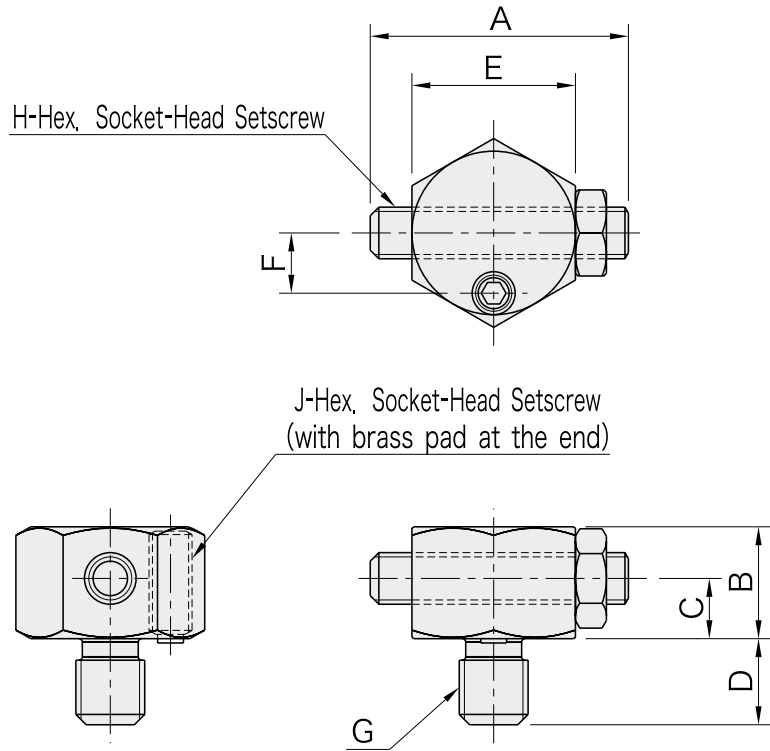
Miniature size allows use in small space.



Can be used as auxiliary clamps.

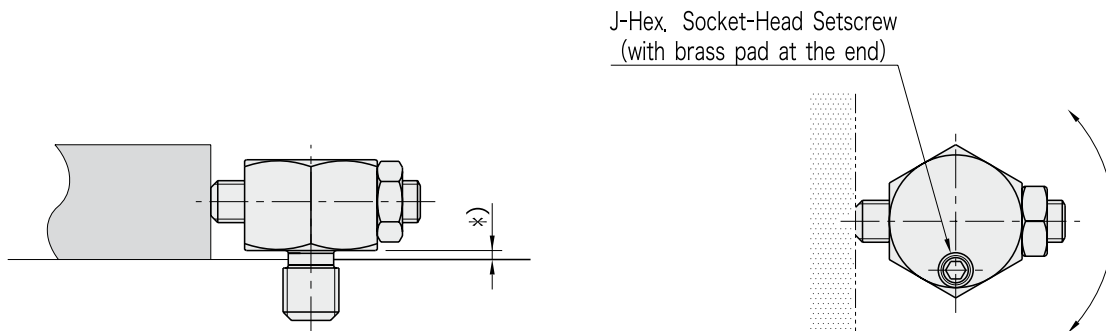


Material: S45C steel
 Finish : Black oxide
 Heat treated



Part Number	A	B	C	D	E	F	G	H	J	Weight (g)
51991701	30	13	7	10	19	7	M 8x1.25	M 6x1	M5x0.8-12L	40
51991702	40	16.5	8.5	12	22	8	M10x1.5	M 8x1.25	M5x0.8-12L	75
51991703	50	21	11	15	24	9	M12x1.75	M10x1.5	M6x1 -20L	120
51991704	60	23	12	20	30	12	M16x2	M12x1.75	M6x1 -20L	210

How To Use



*) Minimize this clearance when installing.

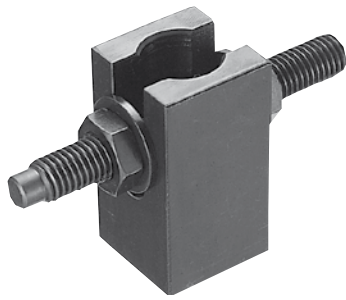
Installation Information

1. Screw in the body completely.
2. Screw back the body and set the adjustment screw.
3. Tighten up the hex, socket-head setscrew to lock the body.

·Use to stop a low-profile workpiece.

BJ212

ADJUSTABLE STOPS

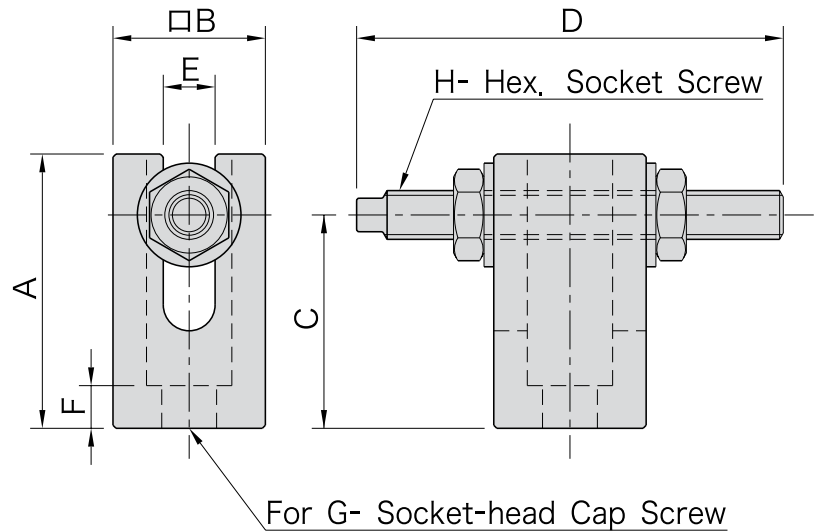


[Body]

- Material : S45C steel
- Black oxide finish

[Bolt]

- Material : SCM435 steel
- Heat treated
- Black oxide finish



Part Number	A	B	C	D	E	F	G	H	Weight (g)
51991705	45	25	20~35	70	8.5	7	M 8	M 8×1.25	180
51991706	55	30	25~45	90	10.5	9	M10	M10×1.5	315
51991707	60	32	30~50	100	12.5	11	M12	M12×1.75	400
51991708	80	38	40~65	100	16.5	15	M16	M16×2	630

· Side stop that provides fine adjustment of bolt height.

BJ360

COMPACT WORK SUPPORTS

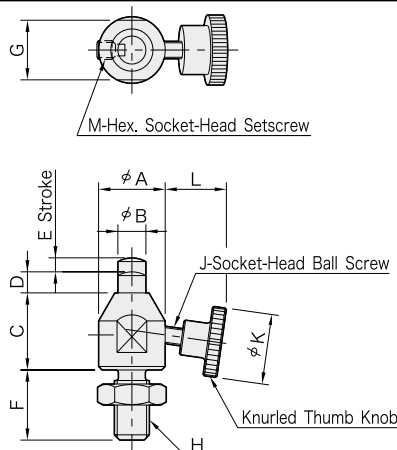


[Body]

Material: S45C steel
Finish : Black oxide

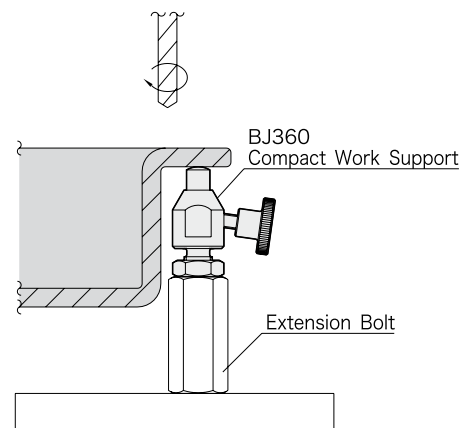
[Piston]

Material: SK4 steel
Finish : Black oxide
Heat treated



Note) The socket-head ball screw is glued to the knurled thumb knob.

How To Use



Part Number	A	B	C	D	E	F	G	H	J	K
51991148	15	6	18	5	3	16	13	M 8x1.25	M4x0.7-16L	16
51991149	19	8	22	6	4	20	17	M10x1.5	M5x0.8-20L	20
51991150	22	10	25			24	19	M12x1.75	M6x1 -25L	24

Part Number	L	M	Piston Spring Force (N)	Support Capacity (N)	Weight (g)
51991148	13.2	M4x0.7-6L	1.5 to 3.0	200	36
51991149	16.3		1.8 to 3.0	300	72
51991150	22.3		400	150	

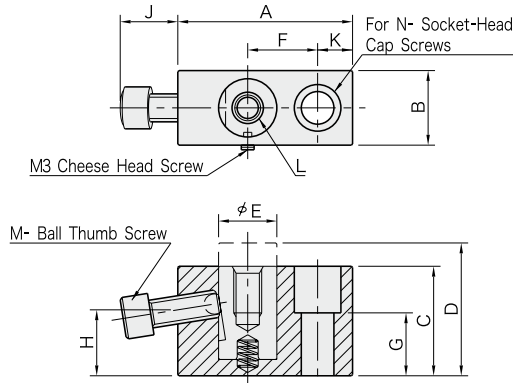
BJ350

WORK SUPPORTS

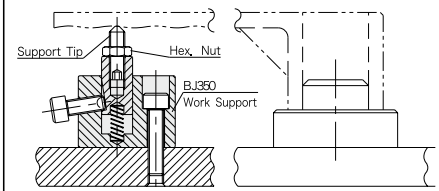


[Body]
Material:S45C steel
Black oxide finish

[Piston]
Material:SK4 steel
Heat treated
Black oxide finish



Application Example



Ideal for preventing the workpiece from chattering and deflecting.

- The positive locking mechanism offers high support capacities.
- The above support capacity values are reached when the ball thumb screw is fully tightened.

Part Number	A	B	C	D	E	F	G	H	J	K
51991152	38	19	29	35	12	15	15	17.6	13	8
51991153	50	22	37	47	16	20	20	21.1	16	10
51991154	65	25	42	52	19	25	20	24.6	18.5	15
51991155	75	32	47	57	25	30	27	28.3	25	15

Part Number	L		M		N	Support Capacity (N)	Piston Spring Force (N)	Weight (g)
51991152	M 6x1	10 deep	M 6x1	-16L	M 6	4,000	0 to 6	150
51991153	M 8x1.25	15 deep	M 8x1.25	-20L	M 8	6,000	0 to 7	285
51991154	M10x1.5	15 deep	M10x1.5	-25L	M10	7,500	1 to 11	480
51991155	M12x1.75	20 deep	M12x1.75	-30L	M12	9,000	1 to 11	800

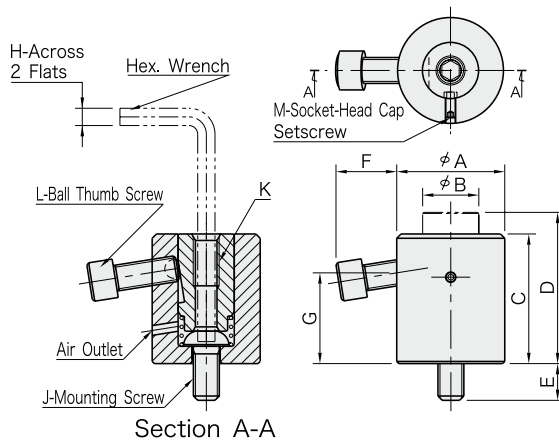
BJ351

WORK SUPPORT CYLINDERS



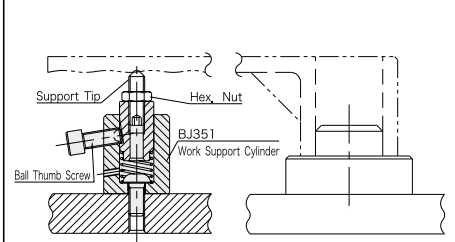
[Body]
Material:S45C steel
Black oxide finish

[Piston]
Material:SK4 steel
Heat treated
Black oxide finish



To install, insert a hex. wrench through the piston into the mounting screw.

Application Example

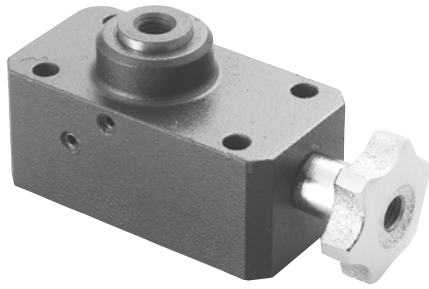


Ideal for preventing the workpiece from chattering and deflecting.

- The positive locking mechanism offers high support capacities.
- The above support capacity values are reached when the ball thumb screw is fully tightened.

Part Number	A	B	C	D	E	F	G	H	J	K
51991156	28	14	33	39	10	13.1	22.2	4	M 6x1	M 6x1 12 deep
51991157	35	19	42	52	14	17.2	27.5	5	M 8x1.25	M 8x1.25 16 deep
51991159	50	26	60	70	16	28.1	42.1	8	M12x1.75	M12x1.75 24 deep
51991160	60	33	70	80	22	26.6	47.4	10	M16x2	M16x2 32 deep

Part Number	L		M	Support Capacity (N)	Piston Spring Force (N)	Weight (g)
51991156	M 6x1	-16L	M4x0.7 - 8L	4000	10 to 22	150
51991157	M 8x1.25	-20L	M4x0.7 - 8L	6000	10 to 27	300
51991159	M12x1.75	-30L	M5x0.8 -12L	9000	15 to 30	865
51991160	M12x1.75	-30L	M5x0.8 -15L	9000	15 to 35	1390

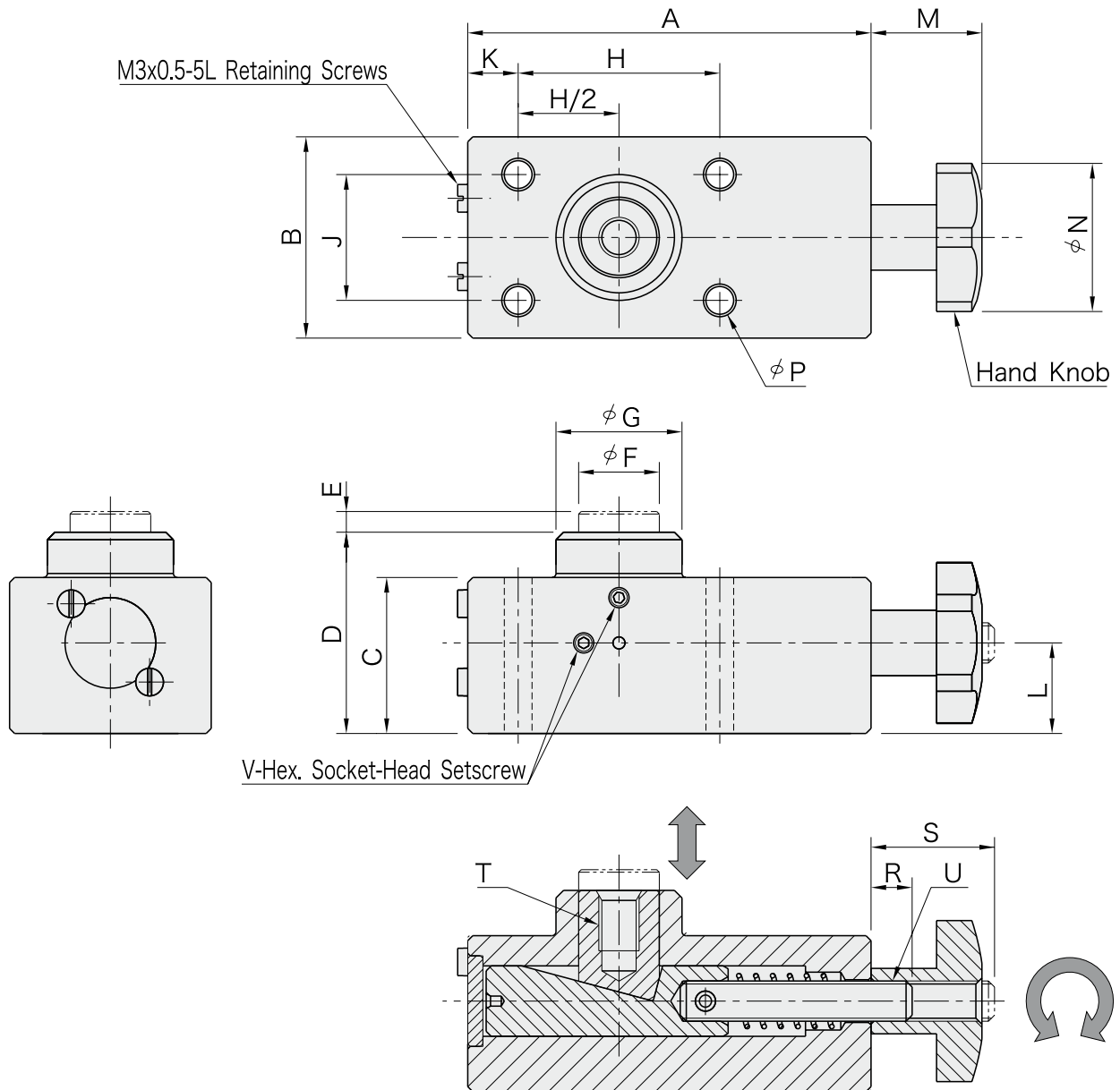


[Body]
 Material: S45C steel
 Finish : Black oxide
 [Piston & Locking Pin]
 Material: SK4 steel
 Finish : Black oxide
 Heat Treated

[Spindle]
 Material: S45C steel
 Finish : Black oxide
 Heat Treated

[Piston Plug]
 Material: S45C steel
 Finish : Black oxide

[Knob]
 Material: FC200 cast iron
 Finish : Chrome plated



Turning the hand knob clockwise lets the locking pin move upward and turning it counterclockwise lets the locking pin move downward.

Part Number	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
51991709	80	40	31	40	4	16	25	40	25	10	18	22	32	5.5	8	23.5
51991710	95	50	39	50	5	20	32	50	30	10	23	25	40	6.5	9	28
51991711	115	60	47	60	6	24	38	60	40	15	28	32	50	9	12	35.5

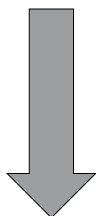
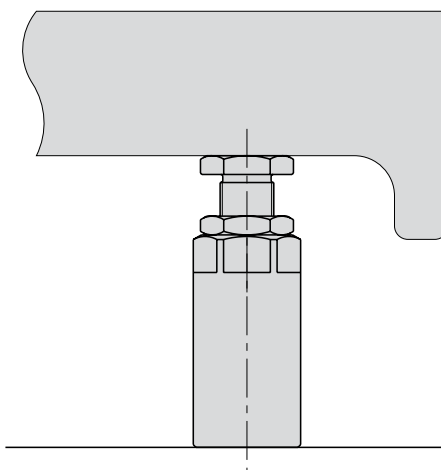
Part Number	T	U	V	Support Capacity (N)	Allowable Screw Torque (N·m)	Weight (kg)
51991709	M 8x1.25 12 deep	M 8x1.25	M4x0.7-10L	700	1	0.82
51991710	M10x1.5 15 deep	M10x1.5	M4x0.7-10L	800	1.5	1.52
51991711	M12x1.75 18 deep	M12x1.75	M5x0.8-16L	900	2	2.67

Note : The stated values of both "Support Capacity" and "Allowable Screw Torque" are based on the manual operation of the hand knob.

How To Use

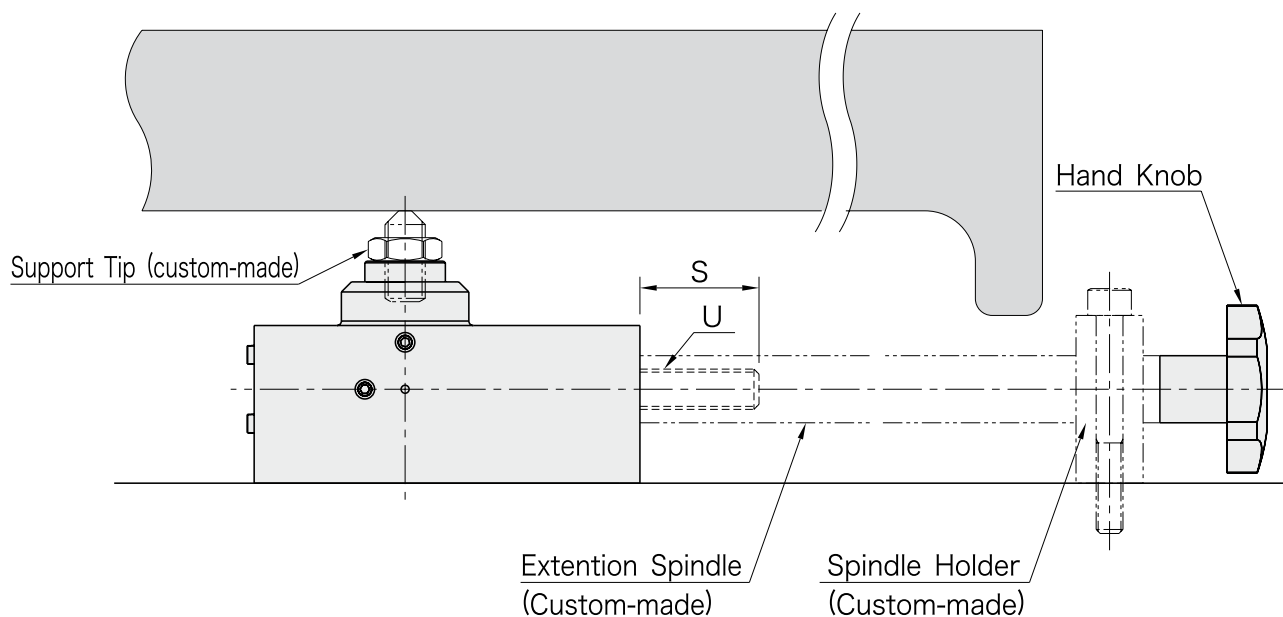
Conventional Method

Cumbersome height adjustment with a wrench
Limited positioning area



Extendable Work Support Method

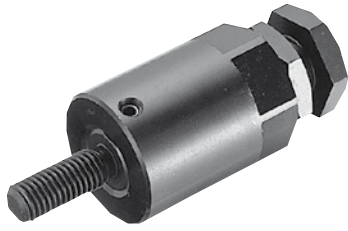
Easy height adjustment with a hand knob
Flexible positioning



- Connecting an extension spindle allows adjusting the part height with ease.
- Provide a tapped hole for the extension spindle for connection, as specified in chart above.

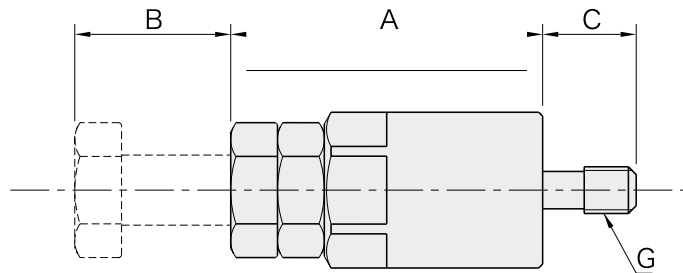
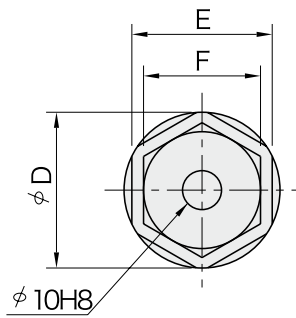
BJ330

SCREW JACKS



[Body]
 Material:S45C steel
 Black oxide finish

[Bolt]
 Material:SCM435 steel
 Heat treated
 Black oxide finish



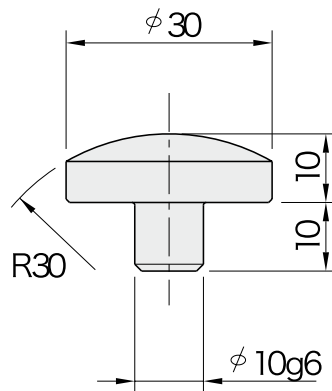
Part Number	A	B	C	D	E	F	G	Load Capacity (N)	Weight (g)
51991712	40	10	30	40	36	30	M12x1.75	31,800	350
51991713	50	20							420
51991714	70	40							570
51991718	50	20	30	40	36	30	M16x2	31,800	430
51991719	70	40							580

BJ733

SCREW-JACK TIP



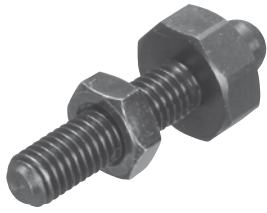
Material:S45C steel
 Heat treated
 Black oxide finish



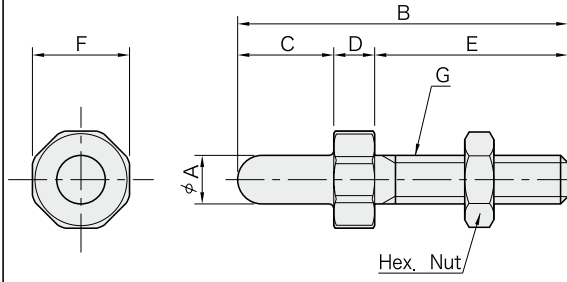
Part Number	Weight (g)
51991722	50

BJ331

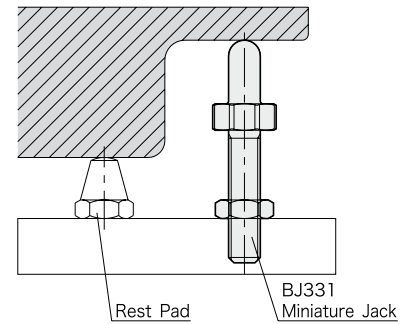
MINIATURE JACKS



Material: S45C steel
Heat treated
Black oxide finish
Hardness: RC33 - 39



How To Use



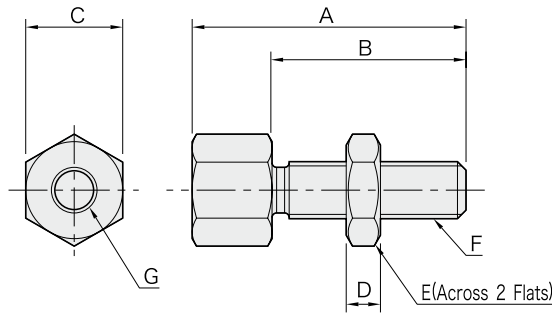
Part Number	A	B	C	D	E	F	G	Weight (g)
51991161	6	37	6	6	25	13	M 6x1	11
51991162		43	12					13
51991163	8	45	8	7	30	17	M 8x1.25	40
51991164		53	16					45
51991165	10	58	10	8	40	19	M10x1.5	60
51991166		68	20					65
51991167	12	72	12	10	50	24	M12x1.75	110
51991168		84	24					120
51991169	16	89	16	13	60	30	M16x2	240
51991170		105	32					265

BJ332

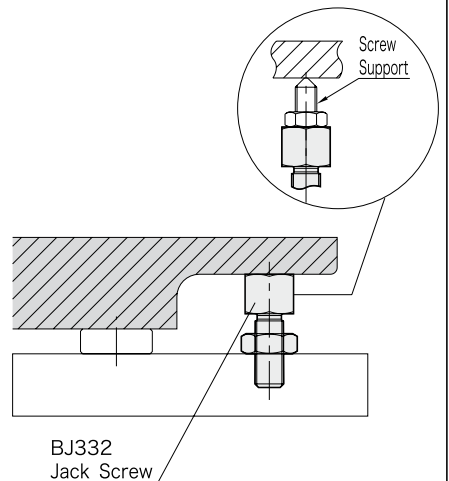
JACK SCREWS



Material: S45C steel
Finish : Black oxide



How To Use



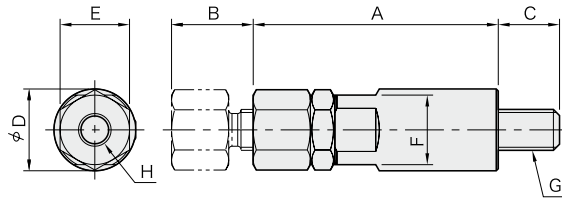
Part Number	A	B	C	D	E	F	G	Weight (g)
51991173	30	20	13	5	13	M 8x1.25	M 6x1 6 deep	20
51991174	40	30						25
51991175	38	24	17	6	17	M10x1.5	M 8x1.25 8 deep	45
51991176	48	34						50
51991177	51	33	22	7	22	M12x1.75	M10x1.5 10 deep	95
51991178	66	48						110
51991179	62	40	27	10	27	M16x2	M12x1.75 12 deep	185
51991180	77	55						210

BJ333

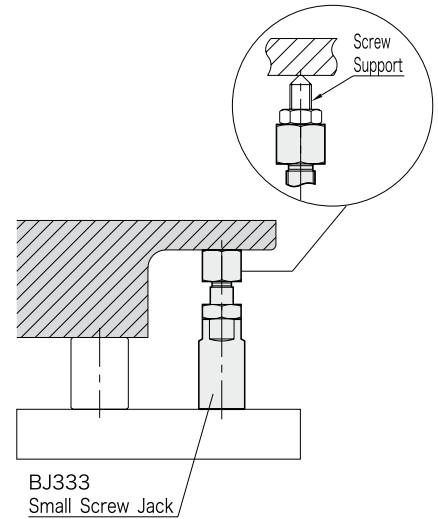
SMALL SCREW JACKS



Material: S45C steel
Finish : Black oxide



How To Use



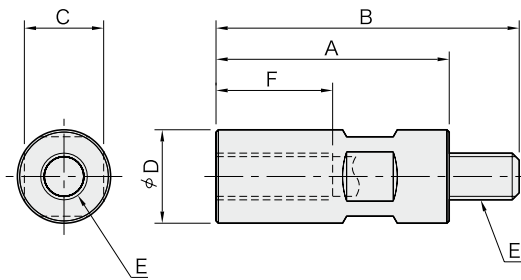
Part Number	A	B	C	D	E	F	G	H	Weight (g)
51991181	40	10	12	16	13	13	M 8 x1.25	M 6x1 6 deep	55
51991182	50	20							70
51991183	50	10	14	20	17	17	M10x1.5	M 8x1.25 8 deep	110
51991184	60	20							135
51991185	65	15	19	24	22	22	M12x1.75	M10x1.5 10 deep	220
51991186	80	30							275
51991187	80	15	24	32	27	27	M16x2	M12x1.75 12 deep	460
51991188	95	30							555

BJ601

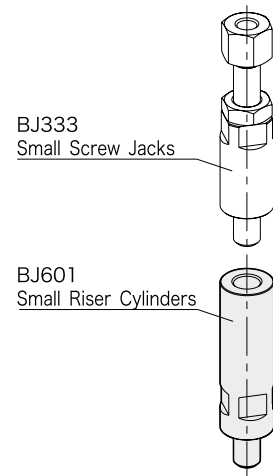
SMALL RISER CYLINDERS



Material: S45C steel
Finish : Black oxide



How To Use



Part Number	A	B	C	D	E	F	Weight (g)
51991189	32	44	13	16	M 8X1.25	18	45
51991190	40	52				55	
51991191	50	62				70	
51991192	65	77				90	
51991193	80	92				115	
51991194	100	112				145	
51991195	40	54	17	20	M10X1.5	23	85
51991196	50	64				105	
51991197	65	79				145	
51991198	80	94				180	
51991199	100	114				230	
51991200	125	139				290	

Part Number	A	B	C	D	E	F	Weight (g)
51991201	50	69	22	24	M12X1.75	30	160
51991202	65	84					200
51991203	80	99					255
51991204	100	119					325
51991205	125	144					415
51991206	160	179					540
51991207	50	74	27	32	M16X2	32	280
51991208	65	89				350	
51991209	80	104				430	
51991210	100	124				560	
51991211	125	149				715	
51991212	160	184				935	