

INSPECTION JIGS & FIXTURES

INSPECTION JIGS & FIXTURES



Product name Catalog No.	PRECISION CARBIDE LIMIT GAUGES VGSA VGWA	PRECISION LARGE-DIAMETER CARBIDE LIMIT GAUGES VGSB VGWB	LIMIT GAUGES SGSA SGWA	PRECISION CARBIDE PIN GAUGES VGOA
Page	1063	1064	1065	1066



PRECISION LARGE-DIAMETER CARBIDE PIN GAUGES VGOB	BGQ·BGQH·BGQT·BGQTH	BGOEH·BGOEH	PLUG GAUGES FOR CHECKING FIXTURES BGO·BGOH	BGU·BGUH	BGOPH	BGUPH
1066	1067	1068	1069			1070



REFERENCE PINS FOR CHECKING FIXTURES BGTDH·BGTAH·BGTD·BGTDH	TAPERED REFERENCE PINS FOR CHECKING FIXTURES BGMA BGMD	BUSHINGS FOR INSPECTION FIXTURES JBA JBAM JBH JBHM	BUSHINGS FOR INSPECTION FIXTURES KJBS KJBST	BUSHINGS FOR INSPECTION FIXTURES KJBKS KJBSTK
1071	1072	1073	1073	1074



BUSHINGS FOR INSPECTION FIXTURES KJBSC KJBSTC	MARKING PINS FOR CHECKING FIXTURES BGK BGKS	LOCATING BARS FOR TAPPING POSITIONS BGM	SHIM PLATES FOR CHECKING FIXTURES — ROUND TYPE — KGSPM	SHIM PLATES FOR CHECKING FIXTURES — SQUARE TYPE — KGSP
1074	1075	1075	1076	1076



SHIM PLATES FOR CHECKING FIXTURES — SQUARE TYPE WITH HOLE — KGZ
1076

INSPECTION JIGS & FIXTURES

—GUIDE—

※For some inspection jigs and fixtures, and for machining jigs, refer to “TOOL-DIRECT” and the “Mechanical Standard Components for Factory Automation Catalog.”
 ※For toggle clamps, refer to the “Mechanical Standard Components for Factory Automation Catalog.”

Limit gauges

●What are limit gauges?

These are standardized gauges used for inspection of precision press products and precision holes.

They have excellent wear resistance, and can guarantee dimensional accuracy even for inspections of mass-production products.

●Accuracy guarantee

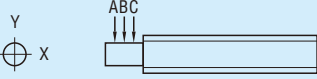
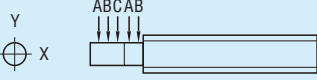
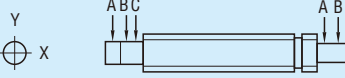
So that these products can be of reliable service to our customers, each one is measured not only during machining, but also again after machining when the product has passed a set amount of time in a constant temperature chamber. These products are delivered together with a quality assurance certificate that contains the actual outer-diameter measurements.

(A traceability system chart and measurement instrument system chart are not available.)

●Quality assurance certificate



●Measurement of the gauges

Inspection item	Measurement location	Accuracy	Measurement method
Outer diameter		GO side $+2\mu$ NO GO side $\pm 1\mu$	Measurement comparison with block gauges using measurement instruments
Roundness		1μ or less	Found from outer diameter measurements.
Cylindricity	 GO: 6 points (A, B, and C in 2 directions of X and Y) NO GO side: 4 points (A and B in 2 directions of X and Y) Not-measured area: 1mm from the either end of the gauge.	1μ or less	

●List of measurement instruments

	Measurement instrument name	Manufacturer	Model
Dimensions measurement	●Tool microscope ●All-purpose measurement instrument ●Horizontal-type measuring system	Nikon Carl Zeiss Kuroda Precision Industries Tsugami	MM—22 UHM SM—3 UL—5D
	●Digital caliper ●Micrometer ●Pin gauge ●Block gauge	Mitsutoyo Mitsutoyo Aizen Mitsutoyo	CD Series MDC Series EMC1.00 ~ 25.00 Code No.100.516 Set BM1—24SC—0/KM
Shape measurement	●Roundness measuring instrument ●All-purpose measurement microscope ●Surface roughness measuring instrument	Tokyo Seimitsu Mashprivilintorque Mitsutoyo Tokyo Seimitsu	RONDCOM 45A UIM21 Surfcotest SV400 SURFCOM 2B E—MD—S10A

PRECISION CARBIDE LIMIT GAUGES

—ONE-END STEPPED TYPE・BOTH-ENDS STEPPED TYPE—

① A quality assurance certificate is provided with these products.

VGSA1.6~6

① Handle part
M Aluminum
S Black alumite

VGSA8-10

① Handle part
M Aluminum
S Black alumite

VGWA1.6~6

① Handle part
M Aluminum
S Black alumite

VGWA8-10

① Handle part
M Aluminum
S Black alumite

RoHS

VGSA1.6 Cross-section shape of handle part

VGWA1.6 Cross-section shape of handle part

② Gauge part
M V20
H 88 ~ 89HRA

L		B	C	F	H	Catalog No.		P (Applicable nominal value)	S・T		Base unit price 1 ~ 4 pieces	
VGSA	VGWA					Type	No.	0.001mm increments	0.001mm increments	VGSA	VGWA	
40	40	3	2	35	5	VGSA VGWA	1.6	0.300 ~ 1.600	0.300 ~ 1.700			
48	48	5	3	40	8		2.0	1.601 ~ 2.000	1.501 ~ 2.100			
50	50	6	4				2.5	2.001 ~ 2.500	1.901 ~ 2.600			
							3	2.501 ~ 3.000	2.401 ~ 3.100			
57	57	10	7				50	10	4	3.001 ~ 4.000	2.901 ~ 4.100	Quotation
67	67			5	4.001 ~ 5.000				3.901 ~ 5.100			
				6	5.001 ~ 6.000				4.901 ~ 6.100			
70	73			8	6.001 ~ 8.000				5.901 ~ 8.100			
				10	8.001 ~ 10.000				7.901 ~ 10.100			

① Tolerance marking

As shown in the figure, the tolerance engraving does not indicate the S and T values, but indicates the difference from the P dimension.

VGSA

VGWA

● S+0.003<T
● P dimension is the applicable nominal value. (reference dimension for measurement)

Order

Catalog No. — P — S — T

VGSA 4 — P3.500 — S3.502 — T3.510

Alterations

Catalog No. — P — S — T — (BC・CC・MC)

VGSA 4 — P3.500 — S3.502 — T3.510 — BC8—MC—S5011

Days to Ship

Price

Quotation

Quotation

Alteration	Code	Spec.	1Code
VGSA	BC	1≤BC<B 0.1mm increments Full length L is shortened by (B-BC).	
VGWA	CC	1≤CC<C 0.1mm increments Full length L is shortened by (C-CC).	
S5011	MC	Addition of engraving on opposite side of tolerance engraving [Order code] MC—S5011 <Marking range> • Max. number of characters : 12 (Max. 8 in case of continuous number string) • Available characters : Alphabet letters and numbers — (hyphen / slash) + (plus) * (asterisk), (period)	Quotation

PRECISION LARGE CARBIDE LIMIT GAUGES

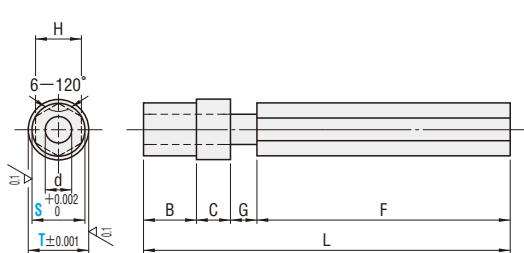
—ONE-END STEPPED TYPE・BOTH-ENDS STEPPED TYPE—

⚠ A quality assurance certificate is provided with these products.

RoHS



VGSB



⚠ $T - S \leq 1$
 ⚠ $S + 0.003 < T$
 ⚠ A relief groove of approximately 1mm is created at the location where B and C join.

① Handle part

M Aluminum

S Black alumite

② Gauge part

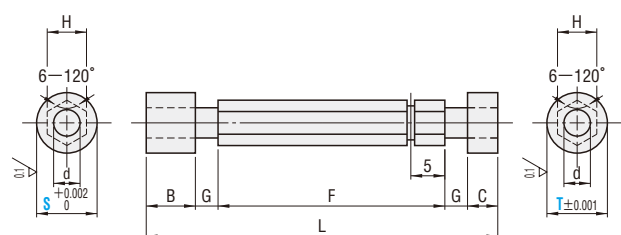
M V20

H 88 ~ 89HRA

RoHS



VGWB



⚠ $S + 0.003 < T$

① Handle part

M Aluminum

S Black alumite

② Gauge part

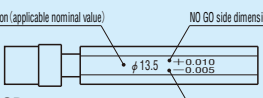
M V20

H 88 ~ 89HRA

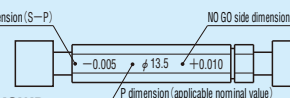
L		B	C	d	F	G	H	Catalog No.		P (Applicable nominal value)	S・T		Base unit price 1 ~ 4 pieces	
VGSB	VGWB							Type	No.	0.001mm increments	0.001mm increments	VGSB	VGWB	
86	92	12	8	7	60	6	12	VGSB VGWB	14	10.000 ~ 14.000	9.901 ~ 14.100			
104	112	16	10	9	70	8	14		18	14.001 ~ 18.000	13.901 ~ 18.100	Quotation		
108	120			12		12	17		24	18.001 ~ 24.000	17.901 ~ 24.100			

⚠ **Tolerance marking**
As shown in the figure, the tolerance engraving does not indicate the S and T values, but indicates the difference from the P dimension.

VGSB



VGWB



● $S + 0.003 < T$
 ● P dimension is the applicable nominal value. (reference dimension for measurement)

Order

Catalog No. — **P** — **S** — **T**

VGSB 14 — P13.500 — S13.495 — T13.510

Alterations

Catalog No. — **P** — **S** — **T** — (AC・MC)

VGSB 14 — P13.500 — S13.495 — T13.510 — AC-MC-S5011

Days to Ship **Quotation**

P **Price** **Quotation**

Alteration		Code	Spec.	1Code
VGSB	VGWB			
		AC	Machining of a φ2 air hole in the neck of the gauge	Quotation
		MC	Addition of engraving on opposite side of tolerance engraving [Order code] MC—S5011 <Marking range> ・Max. number of characters : 12 (Max. 8 in case of continuous number string) ・Available characters : Alphabet letters and numbers — (hyphen / slash) + (plus) * (asterisk) , (period)	

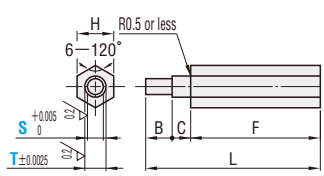
LIMIT GAUGES

— STANDARD GRADE, ONE END TYPE • STANDARD GRADE, BOTH ENDS TYPE —

① A quality assurance certificate is provided with these products.

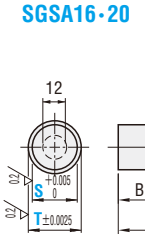


SGSA3~13

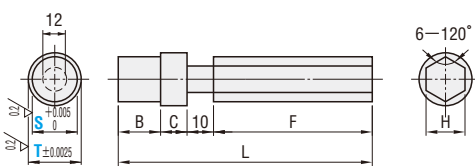


① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 58HRC ~



SGSA16~20

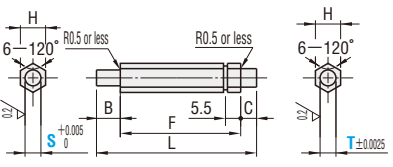


① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 58HRC ~

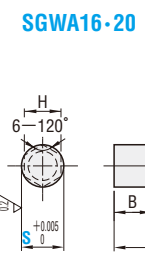


SGWA3~13

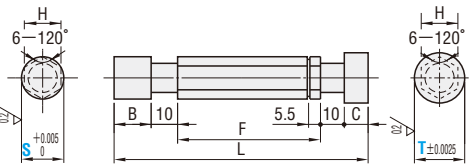


① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 58HRC ~



SGWA16~20



① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 58HRC ~

L		B	C	F	H	Catalog No.		S・T 0.001mm increments	Base unit price 1 ~ 9 pieces	
SGSA	SGWA					Type	No.		SGSA	SGWA
40	40	4	6	30	8	SGSA SGWA	3	1.000 ~ 3.000		
55	55	8		40	8		4	2.500 ~ 4.000		
65	65		7				5	3.500 ~ 5.000		
							6	4.500 ~ 6.000		
67	67	10		50	10		8	5.500 ~ 8.000	Quotation	
							10	7.500 ~ 10.000		
80	80	12	8				13	9.500 ~ 13.000		
96	106	16	10	60	16		16	12.500 ~ 16.000		
							20	15.500 ~ 20.000		

① S+0.007<T

Order Catalog No. — **S** — **T**
SGSA 13 — **\$10.450** — **T10.500**

Alterations Catalog No. — **S** — **T** — (MC)
SGSA 13 — **\$10.450** — **T10.500** — **MC—\$5011**

Days to Ship **Quotation**

Price **Quotation**

Alteration		Code	Spec.	1Code
SGSA	SGWA			
		MC	Addition of engraving on opposite side of tolerance engraving [Order code] MC—S5011 <Marking range> • Max. number of characters : 12 (Max. 8 in case of continuous number string) • Available characters : Alphabet letters and numbers — (hyphen / slash) + (plus) * (asterisk), (period)	Quotation

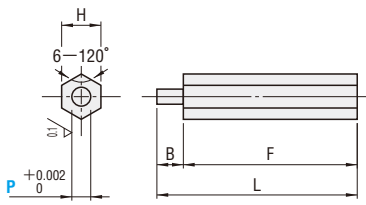
PRECISION CARBIDE PIN GAUGES

⚠ A quality assurance certificate is provided with these products.

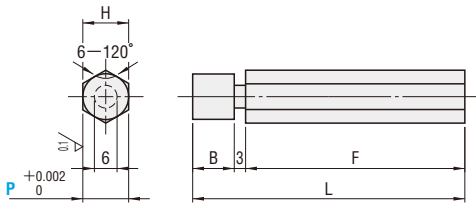


RoHS

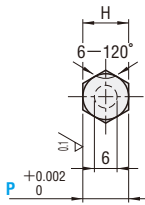
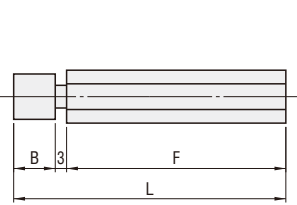
VG0A1.6~6



VG0A1.6 Cross-section shape of handle part



VG0A8~10

① Handle part

M Aluminum

S Black alumite

② Gauge part

M V20

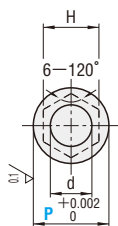
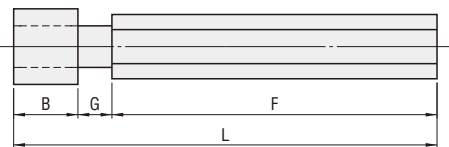
H 88 ~ 89HRA

Large diameter type



RoHS

VG0B

① Handle part

M Aluminum

S Black alumite

② Gauge part

M V20

H 88 ~ 89HRA

L	B	F	H	Catalog No.		P 0.001mm increments	Base unit price
				Type	No.		1 ~ 4 pieces
38	3	35	5	VG0A	1.6	0.300 ~ 1.600	
45	5	40	8		2.0	1.601 ~ 2.000	
46	6				2.5	2.001 ~ 2.500	Quotation
					3	2.501 ~ 3.000	
50	10	50	10		4	3.001 ~ 4.000	
60					5	4.001 ~ 5.000	
63					6	5.001 ~ 6.000	
					8	6.001 ~ 8.000	
					10	8.001 ~ 10.000	

L	B	G	d	F	H	Catalog No.		P 0.001mm increments	Base unit price 1 ~ 4 pieces
						Type	No.		
78	12	6	7	60	12	VG0B (Large diameter type)	14	10.000 ~ 14.000	
94	16	8	9	70	14		18	14.001 ~ 18.000	Quotation
98		12	12		17		24	18.001 ~ 24.000	

Order

Catalog No. — P

VG0A 4 — P3.500

VG0B 14 — P13.500

Days to Ship **Quotation**

Price **Quotation**

Alterations

Catalog No. — P — (AC·BC·MC)

VG0A 4 — P3.500 — BC8—MC—S5011

VG0B 14 — P13.500 — AC — MC—S5011

Alteration	Code	Spec.	1Code
	AC	Machining of a φ2 air hole in the neck of the gauge. ⚠ Can be used for VG0B type only.	Quotation
	BC	1 ≤ BC < B 0.1mm increments Full length L is shortened by (B-BC). ⚠ Can be used for VG0A type only.	
	MC	Addition of engraving on opposite side of tolerance engraving [Order code] MC—S5011 <Marking range> •Max. number of characters : 12 (Max. 8 in case of continuous number string) •Available characters : Alphabet letters and numbers — (hyphen / slash) + (plus) * (asterisk), (period)	

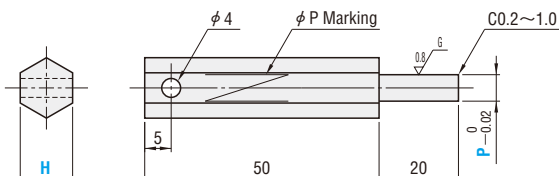
PLUG GAUGES FOR CHECKING FIXTURES

—STRAIGHT TYPE—



RoHS

BGQ
BGQH (Hardened type)



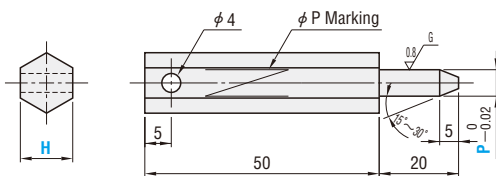
① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H (Hardened type) 40 ~ 45HRC



RoHS

BGQT (Tapered type)
BGQTH (Tapered and hardened type)



① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H (Hardened type) 40 ~ 45HRC

Catalog No.		P	Base unit price 1 ~ 9 pieces	
Type	H	0.01mm increments	BGQ	BGQH
BGQ BGQH (Hardened type)	10	1.20 ~ 8.00		
	13	8.01 ~ 10.00		
	16	10.01 ~ 13.00	Quotation	
	21	13.01 ~ 17.00		

Catalog No.		P	Base unit price 1 ~ 9 pieces	
Type	H	0.01mm increments	BGQT	BGQTH
BGQT (Tapered type) BGQTH (Tapered and hardened type)	10	4.00 ~ 8.00		
	13	8.01 ~ 10.00		
	16	10.01 ~ 13.00	Quotation	
	21	13.01 ~ 17.00		

 **Order**

Catalog No. — **P**

BGQ 16 — **P12.00**

 **Days to Ship**

Quotation

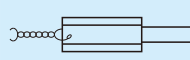
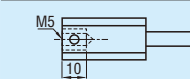
 **Price**

Quotation

 **Alterations**

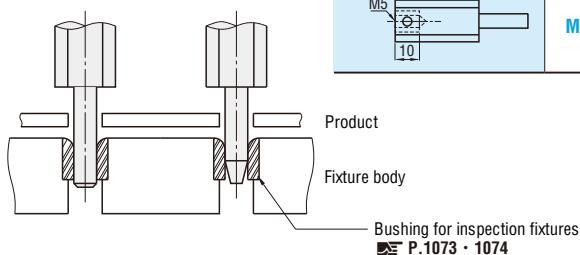
Catalog No. — **P** — (CH·MH)

BGQ 16 — **P12.00** — **CH**

Alteration	Code	Spec.	1Code
	CH	Attachment of a chain (length 600 mm) to the gauge body to prevent loss	Quotation
	MH	Addition of tap hole (M5)	



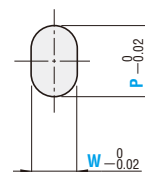
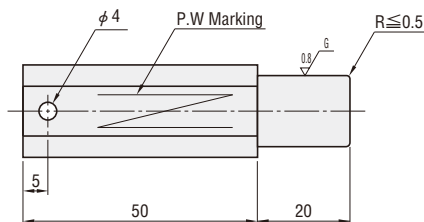
Example



—OBLONG TYPE—



A diagram of a hexagonal cross-section. The hexagon is shaded light gray. It has a vertical dashed line through its center and a horizontal dashed line through its center. Below the hexagon, there is a dimension line with arrows at both ends, labeled with the letter **H** in blue, indicating the height of the hexagon.

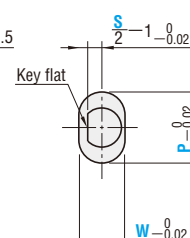
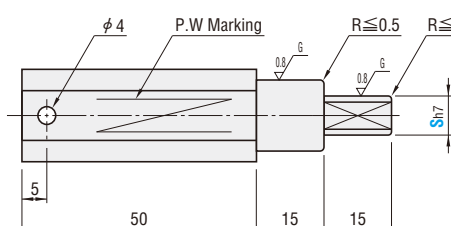


① Handle part
M SS400
S Black oxide (Fe_3O_4)

② Gauge part
M SKD11
H 60HRC ~



A diagram of a hexagonal unit cell, represented as a regular hexagon. It has a vertical dashed line through its center and a horizontal dashed line through its center. Below the hexagon is a blue letter 'H'.



① Handle part
M SS400
S Black oxide (Fe_3O_4)

② Gauge part
M SKD11
H 60HRC ~

Quotation

Quotation



BGQEH 10	—	P6.50	—	W4.00	
BGOEH 10	—	P6.50	—	W4.50	— S3.0



BGQEH 10	—	P6.50	—	W4.00	—	CH
BGOEH 10	—	P7.00	—	W4.00	—	S3.0 — CH

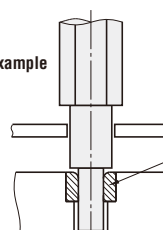
Quotation



Quotation



Quotation



Product
Bushing for inspection fixtures
 **P.1073 • 1074**
Fixture body

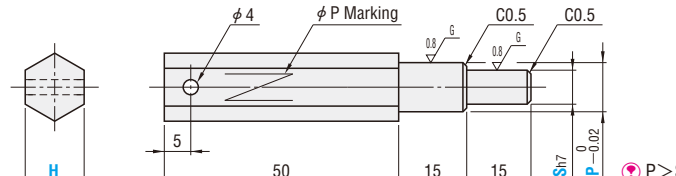
PLUG GAUGES FOR CHECKING FIXTURES

— STEPPED • FIXED GAUGE LENGTH TYPE —



RoHS

BGO
BGOH (Hardened type)



① A relief groove of approximately 1mm is created at the locations where the steps are joined.

① Handle part
M SS400
S Black oxide (Fe₃O₄)

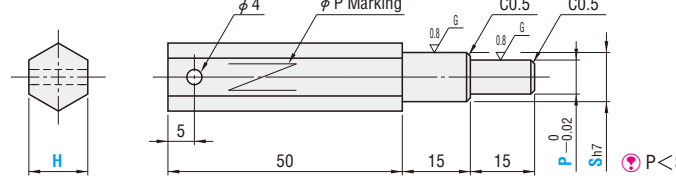
② Gauge part
M SKS3
H (Hardened type) 40 ~ 45HRC

⚠ P > S



RoHS

BGU
BGUH (Hardened type)



① A relief groove of approximately 1mm is created at the locations where the steps are joined.

① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H (Hardened type) 40 ~ 45HRC

⚠ P < S

Catalog No.		P 0.01mm increments		S 1mm increments		Base unit price 1 ~ 9 pieces			
Type	H	BGO · BGOH	BGU · BGUH	BGO · BGOH	BGU · BGUH	BGO	BGOH	BGU	BGUH
BGO BGOH (Hardened type)	10	4.00 ~ 8.00	4.00 ~ 7.00	3 ~ 7	5 ~ 8				
	13	8.01 ~ 10.00	7.01 ~ 9.00	6 ~ 9	8 ~ 10				
	16	10.01 ~ 13.00	9.01 ~ 12.00	8 ~ 12	10 ~ 13				
BGU BGUH (Hardened type)	21	13.01 ~ 17.00	12.01 ~ 15.00	10 ~ 15	14 ~ 17				
	26	17.01 ~ 21.00	15.01 ~ 17.00	10 ~ 17	18 ~ 21				
	32	21.01 ~ 28.00	17.01 ~ 24.00	10 ~ 24	21 ~ 28				

⚠ BGO · BGOH : P > S BGO · BGUH : P < S



Order

Catalog No. — P — S
BGO 16 — P12.00 — S10



Price

Quotation



Days to Ship

Quotation



Example

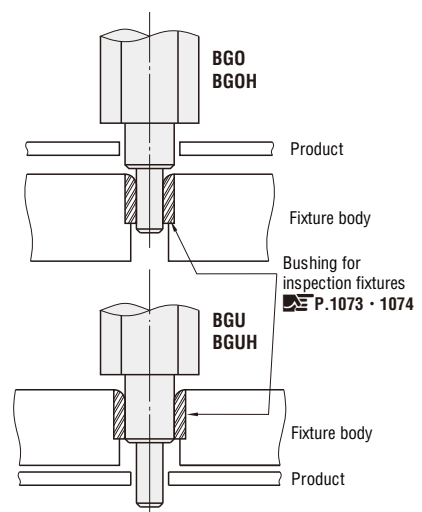


Alterations

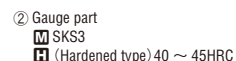
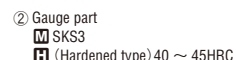
Catalog No. — P — S (SCH) — (CH · MH)
BGO 16 — P12.00 — S10 — CH
BGU 21 — P13.01 — SCH14.55 — MH

Alteration	Code	Spec.	1Code
	CH	Attachment of a chain (length 600 mm) to the gauge body to prevent loss	
	MH	Addition of tap hole (M5)	
	SCH	S dimension increment change 0.01mm increments ⚠ The allowable ranges are the same as those shown in the specification table.	

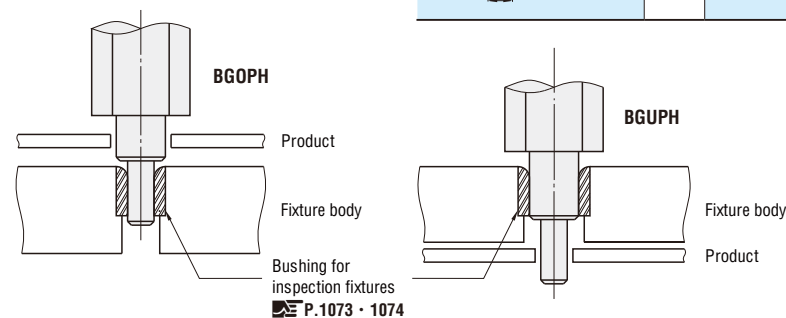
Quotation



—STEPPED • CONFIGURABLE GAUGE LENGTH TYPE—



⚠ BGOPH : $S < P$ BGUPH : $S > P$

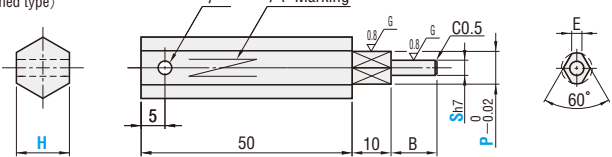


Quotation

REFERENCE PINS FOR CHECKING FIXTURES



BGTDSH (Hardened type)

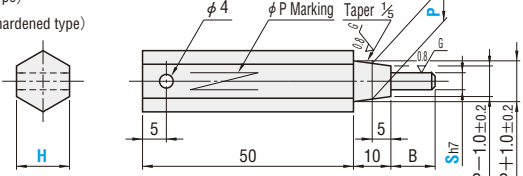


① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 40 ~ 45HRC



BGTA (Round type)
BGTAH (Round, hardened type)

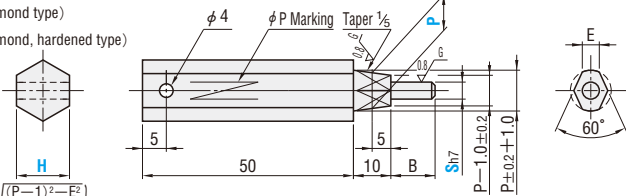


① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 40 ~ 45HRC (Hardened type)



BGTD (Diamond type)
BGTDH (Diamond, hardened type)



① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 40 ~ 45HRC (Hardened type)

B	E	Catalog No.		P		S		Base unit price 1 ~ 9 pieces
		Type	H	0.01mm increments	0.1mm increments			
15	3	BGTDSH (Hardened type)	13	6.00 ~ 9.00	3.0 ~ 6.0	Quotation		
17	4		16	9.01 ~ 12.00	5.0 ~ 8.0			
19	6		21	12.01 ~ 16.00	9.0 ~ 12.0			
24	8		26	16.01 ~ 20.00	9.0 ~ 15.0			
30	10		32	20.01 ~ 27.00	9.0 ~ 20.0			

B	E (BGTD-BGTDH only)	Catalog No.		P		S		Base unit price 1 ~ 9 pieces			
		Type	H	0.01mm increments	1mm increments			BGTA	BGTAH	BGTD	BGTDH
15	3	BGTA (Round type)	13	6.00 ~ 9.00	3 ~ 6	Quotation					
17	4		16	9.01 ~ 12.00	5 ~ 8						
19	6	BGTAH (Round, hardened type)	21	12.01 ~ 16.00	9 ~ 12						
24	8		26	16.01 ~ 20.00	9 ~ 15						
30	10	BGTD (Diamond type)	32	20.01 ~ 27.00	9 ~ 20						

	Order	Catalog No.	—	P	—	S
		BGTDSH 16	—	P10.00	—	S5.0
		BGTD 16	—	P12.00	—	S5



Price

Quotation



Days to Ship

Quotation

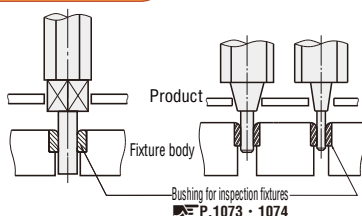


Alterations

	Catalog No.	—	P	—	S	—	(CH-MH)
		BGTDSH 16	—	P12.00	—	S6.0	— CH
		BGTA 16	—	P12.00	—	S5	— CH



Example



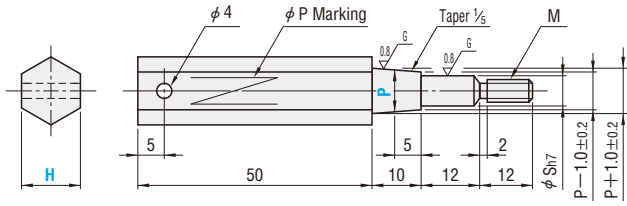
Alteration	Code	Spec.	1Code
	CH	Attachment of a chain (length 600 mm) to the gauge body to prevent loss	Quotation
	MH	Addition of tap hole (M5)	

TAPERED REFERENCE PINS FOR CHECKING FIXTURES

—THREADED TYPE—



RoHS **BGMA** (Round, hardened type)



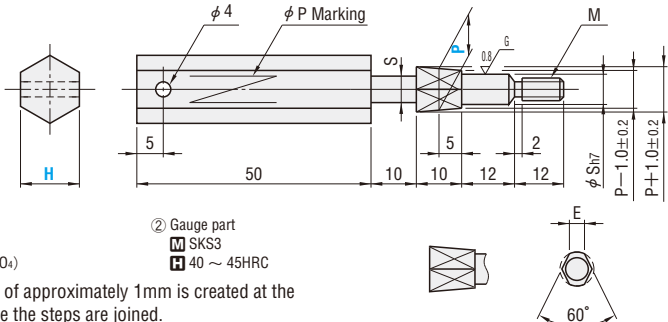
① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 40 ~ 45HRC

⚠ A relief groove of approximately 1mm is created at the locations where the steps are joined.



RoHS **BGMD** (Diamond, hardened type)



① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 40 ~ 45HRC

⚠ A relief groove of approximately 1mm is created at the locations where the steps are joined.

S	E (BGMD only)	M×P	Catalog No.		P 0.01mm increments	Base unit price 1 ~ 9 pieces	
			Type	H		BGMA	BGMD
6	3	5×0.8	BGMA (Round, hardened type) BGMD (Diamond, hardened type)	13	7.20 ~ 9.00		
8	4	6×1.0		16	9.01 ~ 12.00		
10	6	8×1.25		21	12.01 ~ 16.00	Quotation	
	8			26	16.01 ~ 20.00		
	10			32	20.01 ~ 27.00		

Quotation



Order

Catalog No. — P
BGMD 16 — P10.00



Days to Ship

Quotation



Price

Quotation



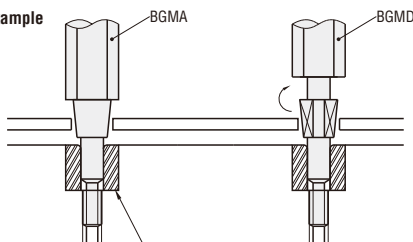
Alterations



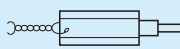
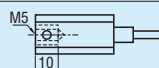
Catalog No. — P — (CHT·MH)
BGMD 13 — P8.00 — CHT



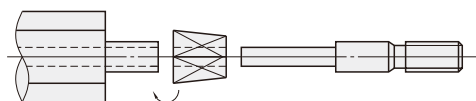
Example



※Diamond part rotates.
 Bushing for inspection fixtures
P.1073-1074

Alteration	Code	Spec.	1Code
	CHT	Attachment of a chain (length 600 mm) to the gauge body to prevent loss. A rotating mechanism is included to prevent twisting of the chain.	Quotation
	MH	Addition of tap hole (M5)	

■BGMD structure Diamond part rotates.



BUSHINGS FOR INSPECTION FIXTURES

Round, fixed dimensions type

RoHS

JBA (p6)
JBAM (m6)

JBH (p6, flange type)
JBHM (m6, flange type)

Ⓛ L dimension of flange type does not include flange thickness (T dimension). Ⓜ SKS3 Ⓜ 60HRC ~

R	H	T	D	tolerance		Catalog No.		L	Base unit price 1 ~ 49 pieces
				p6	m6	Type	G6		
0.8	9	2.5	5	+0.020	+0.012	JBA (p6) JBAM (m6)	2	+0.008	5 6 8 10 12
	11		7	+0.012	+0.004		3	+0.002	
1.0	12	3	8	+0.024	+0.015		4	+0.012	5 6 8 10 12 15 16 20
	14		10	+0.015	+0.006		5	+0.004	
2.0	16	4	12	+0.029	+0.018	(Flange type) JBH (p6) JBHM (m6)	6	+0.014	5 6 8 10 12 15 16 20 25
	19		15	+0.018	+0.007		8	+0.005	
	22		18				10	+0.005	
	26	5	22				12		6 8 10 12 15 16 20 25 30
	30		25	+0.035	+0.021		13	+0.017	
	35		30	+0.022	+0.008		15	+0.006	
3.0	40	6	35	+0.042	+0.025		16		12 15 16 20 25 30
				+0.026	+0.009		20	+0.020	
							25	+0.007	16 20 25 30 35

Order

Catalog No. — **L**

JBA 10 — **16**

JBH 8 — **12**

Days to Ship **Quotation**

Price **Quotation**

Round, configurable dimensions type

RoHS

KJBS

KJBST (Flange type)

Ⓜ SKS93 Ⓜ 50 ~ 60HRC

R	H	Catalog No. Type	D	P		L	T selection	Base unit price 1 ~ 19 pieces
				0.01mm increments	1mm increments			
1.0	D+4	KJBS KJBST	8	2.00 ~ 6.00	5 ~ 40 <KJBS> <KJBST> If P<5: If P<4: L≤P×4 L≤P×4 If P≥5: If P≥4: L≤P×3 L≤P×3	2 3 5	Quotation	
			10	2.00 ~ 8.00				
			12	4.00 ~ 10.00				
			16	8.00 ~ 14.00				
			20	10.00 ~ 18.00				
			25	15.00 ~ 23.00				
			30	20.00 ~ 27.00				
			35	25.00 ~ 32.00				

Ⓛ If (D-P)/2 ≤ 2, then R=0.5.

Alterations **Catalog No.** — **P** — **L** — **T** — (FC-NC, etc.)

KJBST10 — **P3.00** — **L6** — **FC**

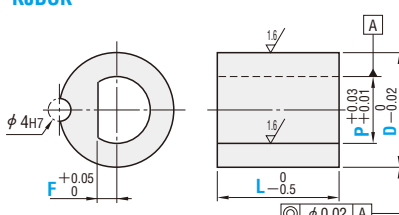
Alteration	Code	Spec.	1Code
	FC	Addition of groove for adhesive accumulation Ⓛ D ≥ P+3 Ⓛ Can be used for L ≥ 10 with straight types, and L ≥ 15 with flange types only.	Quotation
	NC	Addition of fall-off prevention groove Ⓛ D ≥ P+3 Ⓛ Can be used for L ≥ 10 with straight types, and L ≥ 15 with flange types only.	
	RN	Chamfering of R (0.5 or less)	
	CRN	Elimination of R and use of the right angle Ⓛ Burs may occur in some cases. Ⓛ Cannot be combined with alteration TKC.	
	STC	Addition of black oxide (Fe ₃ O ₄) coating	Quotation
	TKC	Flange thickness tolerance change to ±0.01 Ⓛ Can be used for KJBST only. Ⓛ Cannot be combined with alterations CRN, LKC.	
	LKC	L dimension tolerance change to 0.05 Ⓛ Cannot be combined with alteration TKC.	
	HT	Addition of flat machining to bushing Ⓛ Flat machining is not applied to the flange.	

Key flat type

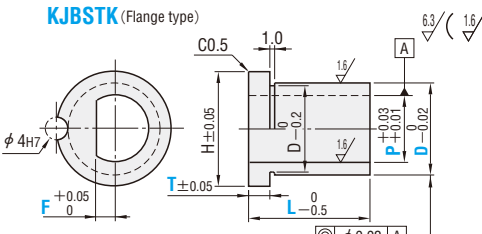


RoHS

KJBBSK



KJBSTK (Flange type)



SKS93 H 50 ~ 60HRC

H	Catalog No.		P		F		L		T		Base unit price 1~19 pieces	
	Type	D	0.01mm increments	0.1mm increments	0.1mm increments	1mm increments	1mm increments	selection	KJBBSK	KJBSTK	KJBBSK	KJBSTK
D+4	KJBBSK KJBSTK	8	3.00 ~ 5.00	0.3 ~ 3.0	0.3 ~ 3.0	5 ~ 25		2				
		10	3.00 ~ 7.00	0.3 ~ 3.0	0.3 ~ 3.0			3				
		12	3.00 ~ 9.00	0.5 ~ 4.0	0.5 ~ 4.0			4				
		16	4.00 ~ 13.00	0.5 ~ 6.0	0.5 ~ 6.0			5				
		20	6.00 ~ 17.00	1.0 ~ 8.0	1.0 ~ 8.0							
		25	8.00 ~ 21.00	2.0 ~ 10.0	2.0 ~ 10.0							

KJBBSK: D/2—F $\geq$ 3

Alterations Catalog No. — P — F — L — T — (FC-NC-STC-TKC-LKC)
KJBBSK12 — P8.00 — F2.0 — L10 — FC

Order

Days to Ship

Price

Catalog No. — P — F — L — T

KJBBSK12 — P8.00 — F2.0 — L10

KJBSTK12 — P8.00 — F3.0 — L10 — T3

Quotation

Quotation

Quotation

Alteration	Code	Spec.	1Code
	FC	Addition of groove for adhesive accumulation ⚡ D $\geq$ P+3 ⚡ L $\geq$ 15	Quotation
	NC	Addition of fall-off prevention groove ⚡ D $\geq$ P+3 ⚡ L $\geq$ 15	

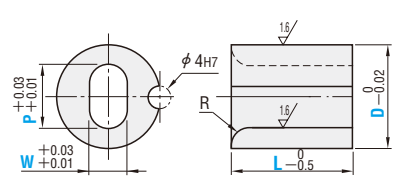
Alteration	Code	Spec.	1Code
Addition of surface treatment	STC	Addition of black oxide (Fe ₃ O ₄) coating	Quotation
	TKC	Flange thickness tolerance change to ± 0.01 ⚡ Can be used for KJBSTK only. ⚡ Cannot be combined with alteration LKC.	
	LKC	L dimension tolerance change to $0_{-0.05}$ ⚡ Cannot be combined with alteration TKC.	

Oblong type

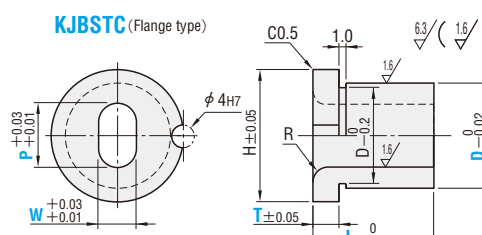


RoHS

KJBBSK



KJBSTK (Flange type)



SKS93 H 50 ~ 60HRC

R	H	Catalog No.		P		W		L		T		Base unit price 1~19 pieces	
		Type	D	0.01mm increments	0.01mm increments	0.01mm increments	1mm increments	1mm increments	selection	KJBBSK	KJBSTK	KJBBSK	KJBSTK
2.0	D+4	KJBBSK KJBSTK	(8)	4.00 ~ 6.00	P>W (W $\geq$ 3.00)		5 ~ 20	10 ~ 20 (Flange type only)	2				
			10	4.00 ~ 8.00					3				
			12	4.00 ~ 10.00					4				
			16	6.00 ~ 14.00					5				
			20	10.00 ~ 18.00									
			25	14.00 ~ 22.00									

⚡ If (D—P)/2 $\leq$ 2, then R=0.5. ⚡ ((D—W)/2)—2 $\geq$ 1 (KJBBSK only)

⚡ D8 is a specification available for KJBSTK only. ⚡ D30 is a specification available for KJBBSK only.

Alterations Catalog No. — P — W — L — T — (FC-NC, etc.)
KJBBSK12 — P8.00 — W3.00 — L15 — FC

Alteration	Code	Spec.	1Code
	FC	Addition of groove for adhesive accumulation ⚡ D $\geq$ P+3 ⚡ Can be used for L $\geq$ 8 with straight types, and L $\geq$ 15 with flange types only.	Quotation
	NC	Addition of fall-off prevention groove ⚡ D $\geq$ P+3 ⚡ Can be used for L $\geq$ 8 with straight types, and L $\geq$ 15 with flange types only.	

Order

Days to Ship

Price

Catalog No. — P — W — L — T

KJBBSK12 — P8.50 — W3.50 — L15

KJBSTK12 — P9.50 — W4.50 — L15 — T2

Quotation

Quotation

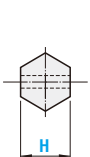
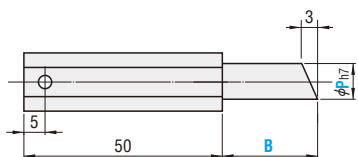
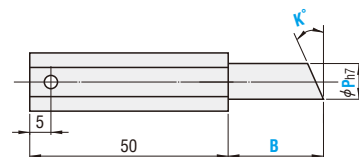
Alteration	Code	Spec.	1Code
	TKC	Flange thickness tolerance change to ± 0.01 ⚡ Can be used for KJBSTK only.	Quotation
	RN	Chamfering of R (0.1 or less)	
	LKC	L dimension tolerance change to $0_{-0.05}$ ⚡ Can be used for L $\leq$ 19 only.	

MARKING PINS FOR CHECKING FIXTURES / LOCATING BARS FOR TAPPING POSITIONS

Marking pins RoHS



BGK **BGKS** (Configurable P dimension)

① Handle part
M SS400
S Black oxide (Fe₃O₄)

② Gauge part
M SKS3
H 58HRC ~

Catalog No.	H	P	B	Base unit price
Type			1mm increments	1 ~ 9 pieces
BGK	16	10	20 ~ 50	Quotation
	21	16		
	26	20		
	32	25		

Catalog No.	H	P	B	K°	Base unit price
Type		0.1mm increments	1mm increments	selection	1 ~ 9 pieces
BGKS (Configurable P dimension)	16	6.0 ~ 14.0	20 ~ 50	10	Quotation
	21	14.1 ~ 18.0		20	
	26	18.1 ~ 20.0		30	
	32	20.1 ~ 25.0			



Order

Catalog No. — P — B — K°

BGK 16 — P10 — B30

BGKS 21 — P16.0 — B40 — K20



Alterations

Catalog No. — P — B — K° — (CH·MH)

BGKS 16 — P10.0 — B30 — K10 — CH



Days to Ship

Quotation

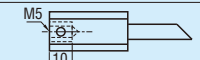


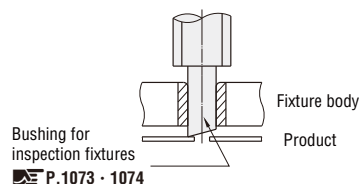
Price

Quotation



Example

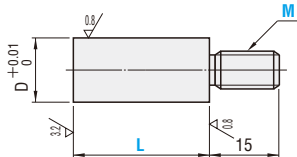
Alteration	Code	Spec.	1Code
	CH	Attachment of a chain (length 600 mm) to the gauge body to prevent loss	Quotation
	MH	Addition of tap hole (M5) Order code MH	



Locating bars for tapping positions RoHS



BGM




Concentricity of threaded section with respect to shank is 0.1 or less.

M SKS3
H 55 ~ 60HRC

D	M×P	Catalog No.		L	Base unit price 1 ~ 9 pieces
		Type	M		
8	3×0.5	BGM	3	10 20 30	Quotation
	4×0.7		4		
	5×0.8		5		
14	6×1.0		6		
	8×1.25		8		
	10×1.5		10		
	12×1.75		12		



Order

Catalog No. — L

BGM 4 — L20



Example



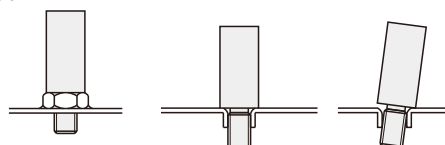
Days to Ship

Quotation



Price

Quotation



※Verify that the nut and burring screw are perpendicular to the surface.

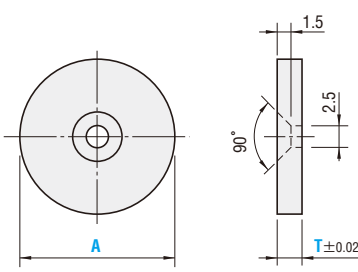
SHIM PLATES FOR INSPECTION FIXTURES (ZERO PLATES)

—ROUND • SQUARE • SQUARE WITH HOLE—

RoHS



KGSPM (Round type)



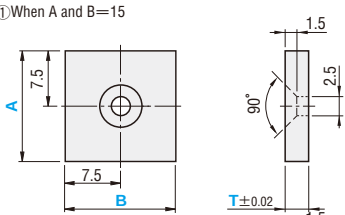
M SS400
S Black oxide (Fe₃O₄)
A Cross-recessed countersunk screw (M2×15) 1 screw

RoHS

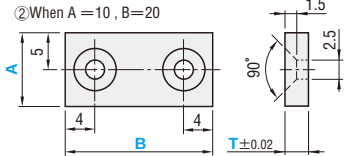


KGSP (Square type)

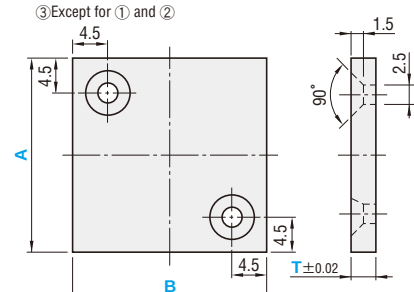
① When A and B=15



② When A=10, B=20



③ Except for ① and ②

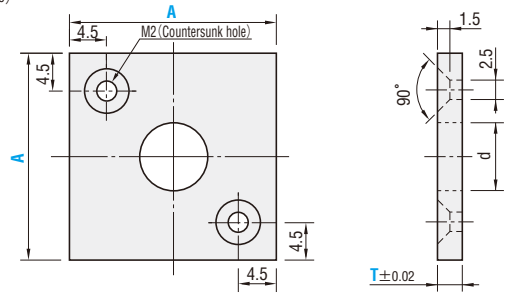


M SS400
S Black oxide (Fe₃O₄)
A Cross-recessed countersunk screw (M2×15) 2 screws 1 screw when A and B=15

RoHS



KGZ (Square type with hole)



M SS400
S Black oxide (Fe₃O₄)

Catalog No.		T	Base unit price 1 ~ 29 pieces
Type	A		
KGSPM	20	2・3・5	Quotation

Order	Catalog No.	B	T
	KGSPM20	—	3
	KGSP15	20	3
	KGZ25	—	5

Catalog No.		B	T	Base unit price 1 ~ 29 pieces
Type	A			
KGSP	10	20	2	
	15	* 15	3	
		20		
	20	25	5	Quotation
		20		
	25	25		

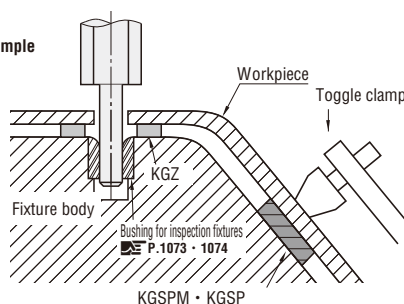
* For 15—15, there is only 1 countersunk hole.

d	Catalog No.		T	Base unit price 1 ~ 29 pieces
	Type	A		
8	KGZ	20	2	
12		25	3	Quotation
18		30	5	

Days to Ship **Quotation**

Price **Quotation**

Example



KGSPM・KGSP

