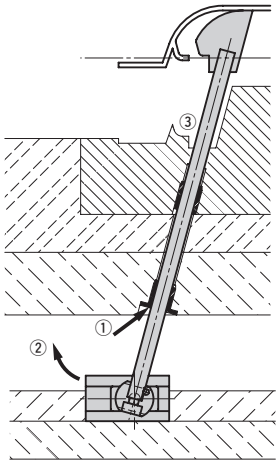
General Description of Spherical Guide Bushing Set

FOR INCLINED PIN

The spherical guide bushing set for inclined pin reduces machining and assembly hours for the core block ejection mechanism.
It absorbs excessive load applied to the inclined pin and reduces breaking of the pin.

■ Problem of undercut area structure

• When a normal bushing is used

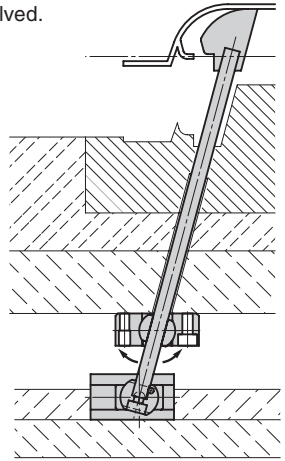


1) Concentrated load occurs at the bearing end (Fig.①) and ejection resistance increases.
2) Excessive bending moment (Fig. ②) is generated in ejection.

Breaking

3) A large number of hours is required for adjustment due to machining error. (Fig.③ and each guide hole)

• When the spherical guide bushing set is used, the problem in the left is solved.

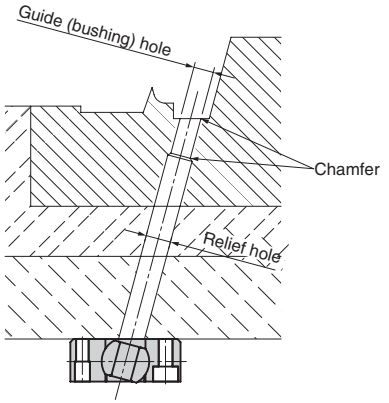


As shown in the figure in the left, load from ① and ② is absorbed and reduced by rotation of the spherical guide bushing. Problem of breaking is limited.

■ For Operation

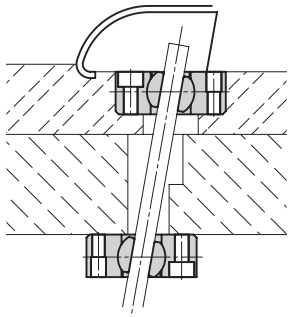
• Machining of main die

①The specification below is recommended.



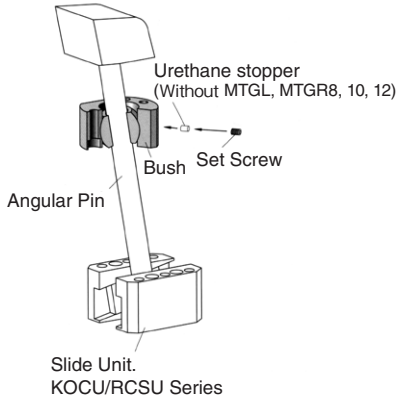
⚠Provide the guide area on the core block. (One spherical guide bushing cannot guide the pin.)

② With two guide bushing sets, oblique machining on the die is not required.
This may not be applicable depending on the core block size or the inclined pin angle.



③ Mount the bushing so that the longitudinal side of the guide bushing may match the inclined direction of the inclination pin.

• Precautions for assembly



① After locating the core block, inclined pin and slide unit and adjusting the inclined pin length, tighten the mounting bolt of the guide bushing set temporarily and move the plate several times for alignment with the inclined pin.
Then, tighten the mounting bolt finally and machine the dowel pin hole.

② In assembly or adjustment, the inclined pin is removed and inserted. In this case, the urethane stopper is available to reduce rotation of the inner wheel.
The urethane stopper is designed to be screwed in from the outer wheel. Do not screw it in without the inclined pin.

③ The inner wheel of the guide bushing set has oilless bearing. Lubrication in operation is not required.
For initial operation or assembly after maintenance, apply grease to the inner wheel of the bushing or the inclined pin.

④ Use the accompanying mounting bolts and dowel pins.

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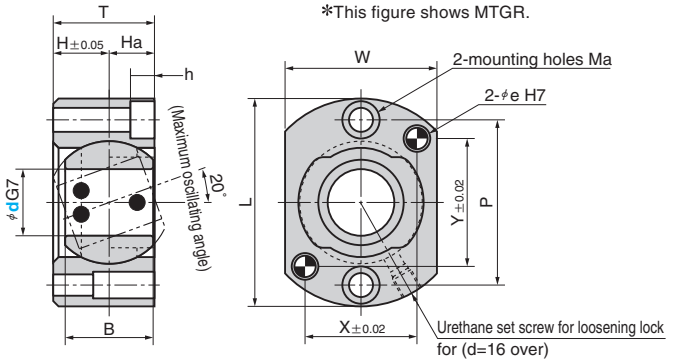
Spherical Guide Bushing Set

FOR INCLINED PIN

RoHS

Standard Type
MTGL (Left handed)
MTGR(Right handed)



The operation temperature is from 0˚C to 170˚C.

Inner wheel : Copper Alloy Oilless Type
Outer wheel: S45C-H(I C45 A 1045)

L	W	T	H	Ha	B	Mounting Holes Ma	Mounting Holes P	Mounting Holes h	Dowel Pin Hole e	Dowel Pin Hole X	Dowel Pin Hole Y	Catalog No.	d
44	28	17	9	8	14	M5	32		5	20	28		8
46	30	20	11	9	16		34	6		22	28		10
50	32	22	12	10	18		36			22	30	MTGL MTGR	12
58	45	29	16	13	25	M6	45	7	6	30	35		16
65	50	33	18	15	28		52			35	40		20
78	57	38	21	17	33	M8	62	9	8	40	50		25
86	65	43	24	19	37		70			48	55		30

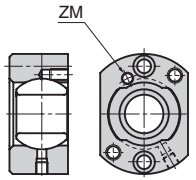
■Accessory

d	Hexagonal Socket Head Bolt	Dowel Pin
8	M5×20	φ5×20
10	M5×25	
12	M6×25	
16	M6×35	φ6×25
20	M6×40	
25	M8×45	φ8×30
30	M8×50	

Order

Catalog No.	d
MTGR	16

⚠ Urethane Stopper is attached for d=16 over

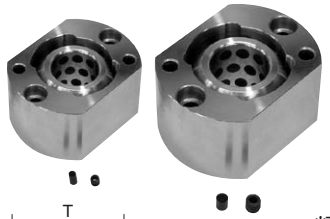


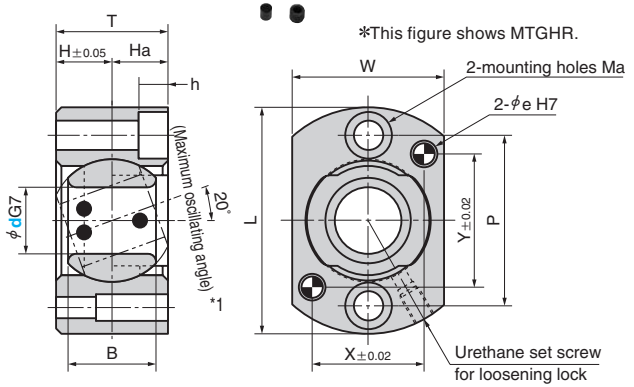
Option

Option Code	Specification
ZM	Position of Urethane Stopper is on the front face as per left skech. (For d≧16)

Order MTGR 25− ZM

Strong Type
MTGHL (Left handed)
MTGHR(Right handed)





*1 d=30, 35, 40: Maximum oscillating angle 18˚.
The operation temperature is from 0˚C to 170˚C.

Inner wheel: Copper Alloy Oilless Type
Outer wheel: S45C-H(I C45 A 1045)

L	W	T	H	Ha	B	Mounting Holes Ma	Mounting Holes P	Mounting Holes h	Dowel Pin Hole e	Dowel Pin Hole X	Dowel Pin Hole Y	Catalog No.	d
85	57	42	21		33		64	11		42	50		25
94	65	48	24		37	M10	72	13	8	48	55	MTGHL	30
98	72	54	27		40		78			52	60	MTGHR	35
106	77	58	29		44		84	12		55	65		40
124	88	66	33		48	M12	102	18	10	65	78		50

■Accessory

d	Hexagonal Socket Head Bolt	Dowel Pin
25	M10×45	
30	M10×55	φ8×30
35	M10×60	
40	M10×65	
50	M12×65	φ10×40

Order

Catalog No.	d
MTGHL	30

⚠ Left handed type is added, Catalog No. is also changed.

Old Catalog No.	New Catalog No.
MTG (Only Left handed)	MTGL (Only Left handed)
	MTGR (Only Right handed)
MTGH (Only Right handed)	MTGHL (Only Left handed)
	MTGHR (Only Right handed)

Loose Core Related Parts

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