

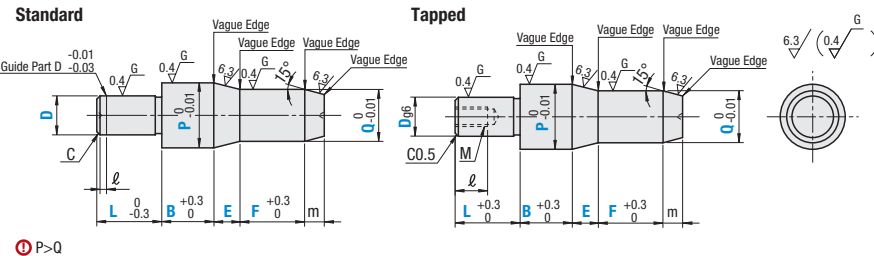
Locating Pins

Double Pilot



D	m6	p6	g6
2, 3	+0.008 +0.002	+0.012 +0.006	—
4-6	+0.012 +0.004	+0.020 +0.012	-0.004 -0.012
8, 10	+0.015 +0.006	+0.024 +0.015	-0.005 -0.014
12, 16	+0.018 +0.007	+0.029 +0.018	-0.006 -0.017
20	+0.021 +0.008	+0.035 +0.022	-0.007 -0.020

Standard		Tapped		Material	Surface Treatment	Hardness
D Tolerance m6	D Tolerance p6	D Tolerance g6				
WPM	WPP	WPG		O1 Tool Steel Equivalent	—	60-63 HRC min.
SWPM	—	SWPG		304 Stainless Steel	—	—
HWPM	HWPP	HWPG		304 Stainless Steel	Hard Chrome Plating	Plating Hardness 750 HV min.



Standard

Part Number	Type	D	P 0.01 mm Increment	Q 0.01 mm Increment	L 1 mm Increment	B 0.1 mm Increment	E 0.1 mm Increment	F 0.1 mm Increment	m	C	ℓ
D Tolerance m6 WPM SWPM HWPM	D Tolerance p6 WPP HWPP	2	2.00-4.00	1.00-3.00	2-6	2.0-6.0	1.0-3.0	2.0-6.0	1	0.3	0
		3	3.00-6.00	1.00-5.00	3-6	2.0-10.0	1.0-5.0	2.0-10.0	2	0.5	
		4	4.00-7.00	2.00-6.00	4-8	2.0-15.0	1.0-8.0	2.0-15.0	3	1	1
		5	5.00-8.00	2.00-7.00	5-10						
		6	6.00-10.00	2.00-9.00	6-12	2.0-20.0		2.0-20.0	4	2	2
		8	8.00-13.00	3.00-12.00	8-16						
		10	10.00-15.00	3.00-14.00	10-20						
		12	12.00-16.00	5.00-15.00	12-24						
		16	16.00-25.00	10.00-24.00	16-32				5	3	
		20	20.00-30.00	13.00-29.00	20-40						

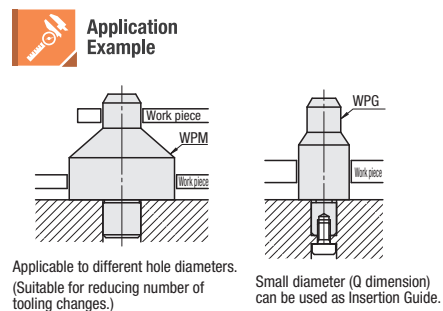
Tapped

Part Number	Type	D	P 0.01 mm Increment	Q 0.01 mm Increment	L 1 mm Increment	B 0.1 mm Increment	E 0.1 mm Increment	F 0.1 mm Increment	m	M (Coarse)	ℓ
D Tolerance g6 WPG SWPG HWPG		6	6.00-10.00	2.00-9.00	6-12	2.0-20.0	1.0-10.0	2.0-20.0	3	M3	5
		8	8.00-13.00	3.00-12.00	8-16				4	M4	8
		10	10.00-15.00	3.00-14.00	10-20				5	M8	12
		12	12.00-16.00	5.00-15.00	12-24						
		16	16.00-25.00	10.00-24.00	16-32						
		20	20.00-30.00	13.00-29.00	20-40						

Ⓢ P>Q Ⓢ Note the strength of under-head part. P.1542

* The tightening torque (ref. value) for hardened products is strength class 8.8. (See technical data on MISUMI 2019 catalog P.4015). Not applicable when using locking agents or spring washers.

Part Number Example	Part Number	P	Q	L	B	E	F
SWPM5	- P7.30 - Q5.01 - L10 - B10.5 - E5.2 - F7.8						
HWPG16	- P20.02 - Q15.30 - L18 - B12.3 - E3.1 - F5.0						



Applicable to different hole diameters. (Suitable for reducing number of tooling changes.)

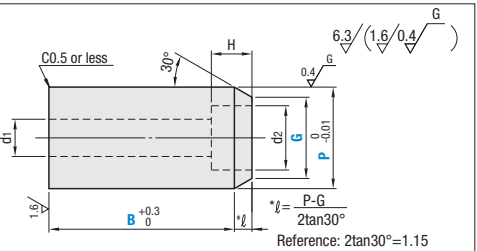
Small diameter (Q dimension) can be used as Insertion Guide.

Locating Pins

Bolt Fixing / With Pilot / Large Bolt Fixing



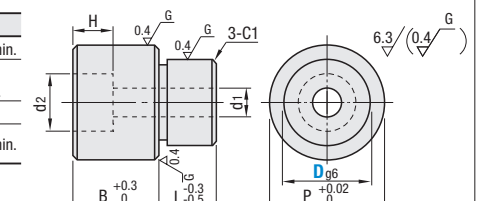
Type	Material	Surface Treatment	Hardness
LPZ	1045 Carbon Steel or Equivalent	—	Treated Hardness: 45-50 HRC min.
LPZB		Black Oxide	Treated Hardness: 45-50 HRC min.
LPZR		Hard Chrome Plating	Plating Hardness :750 HV min.
LPZS	304 Stainless Steel	—	—
LPZH		Hard Chrome Plating	Plating Hardness :750 HV min.
LPZC	440C or 420 Stainless Steel	—	Treated Hardness: 50-55 HRC min.



Part Number	Type	No.	P 0.01 mm Increment	B 0.1 mm Increment	G 1 mm Increment	d ₁	d ₂	H	Applicable Screw
LPZB	LPZS	3	11.00-15.00	10.0-25.0	9≤G<P	3.5	6.5	4	M3
		4	12.00-20.00	10.0-25.0	10≤G<P	4.5	8	5	M4
		5	14.00-20.00	10.0-30.0	12≤G<P	5.5	9.5	6	M5
		6	15.00-25.00	12.0-40.0	13≤G<P	6.5	11	7	M6
LPZR	LPZC	8	18.00-25.00	14.0-50.0	16≤G<P	9	14	9	M8



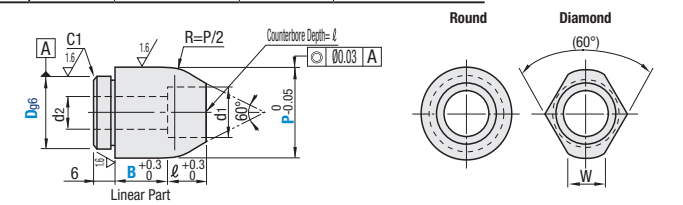
Type	Material	Surface Treatment	Hardness
JPMA	O1 Tool Steel or Equivalent	—	Treated Hardness: 60-63 HRC min.
GJPMA		Hard Chrome Plating	Hardness: 50-55 HRC min. Plating Hardness :750 HV min.
SJPMA	304 Stainless Steel	—	—
CJPMA	440C or 420 Stainless Steel	—	Treated Hardness: 50-55 HRC min.



Type	Part Number	D _{g6}	P	d ₁	d ₂	H	B	L	Applicable Screw
JPMA GJPMA SJPMA CJPMA	6	-0.004 -0.012	10	3.5	6.5	4	10	5	M3
	8	-0.005 -0.014	12	4.5	8	5			M4
	10	-0.006 -0.017	15	5.5	9.5	6			M5
	12	-0.006 -0.017	16	6.5	11	7	15	10	M6
	15	-0.007 -0.020	15	6.5	11	7			M7
	16	-0.007 -0.020	20	9	14	9			M8
	20	-0.007 -0.020	20	11	17.5	11			M10
	25	-0.007 -0.020	30	14	20	13			M12



Type	Shape	Material	Surface Treatment	Hardness
LBNA	Round	4137 Alloy Steel	—	Treated Hardness: 35-40 HRC min.
LBND	Diamond			



Part Number	Type	D _{g6}	P 0.1 mm Increment	B 1 mm Increment	ℓ	W	d ₁	d ₂	Applicable Screw
LBNA Round		16	-0.006 -0.017	22.0-24.9	7.5	7	11	6.6	M6
		20	-0.007 -0.020	25.0-29.9					
LBND Diamond		10	-0.006 -0.017	30.0-37.9	11	10	14	9	M8
		15	-0.007 -0.020	38.0-39.9					
LBNA Round		20	-0.007 -0.020	40.0-49.9	20	12	17.5	11	M10
		25	-0.007 -0.020	50.0-59.9					
		30	-0.007 -0.020	60.0-80.0					
		35	-0.007 -0.020						

Ⓢ D dimension 16 is applicable to LBNA and LBND only.

Part Number Example	Part Number	P	B	G	Application
LPZ5	- P16.00 - B25.5 - G15				(Screw Mounted)
JPMA15	- P30.0 - B10				(Pilot)
LBNA20	- P30.0 - B10				(Large Screw Mounted)

