

粉末冶金相關選項資訊

The dimension limitation of P/M parts.

The Max. dimension		The Min. dimension	
Pressure area	25~30cm ²	Inner diameter	Ø2mm
Out diameter	Ø110mm	Height	1mm
Height	45mm	Thickness	1.5mm
It is limited by forming press or other available facility.		It is considered by tooling life and productivity.	

Available dimension accuracy for P/M parts.

The dimension accuracy is subject to the shape/outlook, material, processing.

The normal available accuracy showed as below:

Dimension (a)	Sintered products		Sized products		Heat-treated products.	
	Vertical surface	Horizontal surface	Vertical surface	Horizontal surface	Vertical surface	Horizontal surface
under10mm	0.5~1.0% of (a)	0.1~0.2	JIS7~8 grade	0.1~0.2	Under 1%of (a)	0.1~0.2
10~20mm		0.2~0.3		0.2~0.3		0.2~0.3
20~40mm		0.3~0.4		0.3~0.4		0.3~0.4
40mm up		0.3~0.4		0.3~0.4		0.3~0.4

The vertical accuracy of the formed products will be higher, but the horizontal accuracy is inferior, because of being influent by powder feeding (filling) conditions and the accuracy of forming press.

However, this horizontal accuracy may be improved and increased accuracy after sizing process or design revise.

The related characters of sintered (P/M) parts

Category	Material code	MPIF Code	Density g/cm ³	Sintered products characters				Heat-treated characters		
				Hardness HRF/B	Pull strength kg/mm ²	Extension (%)	Impact kgm/cm ³	Hardness HRC	Pull strength kg/mm ²	fatigue strength kg/mm ²
Middle density	M-1003	F0000P	6.0~6.4	F30-60	10-17	2-5	0.4-1.0	-/-	-/-	-/-
	M-1123	FC0200P		F60-90	14-20	2-4	0.4-0.7	-/-	-/-	-/-
	M-1125	FC0205P		B10-75	20-25	1-3	0.3-0.6	-/-	-/-	-/-
High Density	H-1003	F0000R	6.4~6.8	B15-50	15-25	3-7	0.8-1.5	-/-	-/-	-/-
	H-1125	FC0205R		B30-90	20-30	2-4	0.8-1.5	25-35	40-60	80-130
	H-1128	FC0208R		B50-85	32-40	<1.5	0.5-1.5	30-40	60-80	110-150
	H-1158	FC0508R		B60-90	38-45	<1.5	0.5-1.5	30-40	60-80	110-150
	SH1003	F0000S	6.8~7.2	B10-40	20-30	8-16	3.0-5.0	25-35	35-50	70-90
	SH1123	FC0200S		B30-75	24-33	5-13	2.0-5.0	25-35	40-60	80-100
	SH2223	FN0200S		B50-80	26-35	3-8	2.0-4.0	25-35	50-75	80-110
	SH2233	FN0400S		B60-90	40-48	3-8	2.0-4.0	25-35	50-75	80-110

The above characters are showed as general/normal information of P/M parts.

Some of the characters such as hardness or pull strength may be improved/ increased through our continually accumulated developed technique/ know-how

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