



YAMAKEN

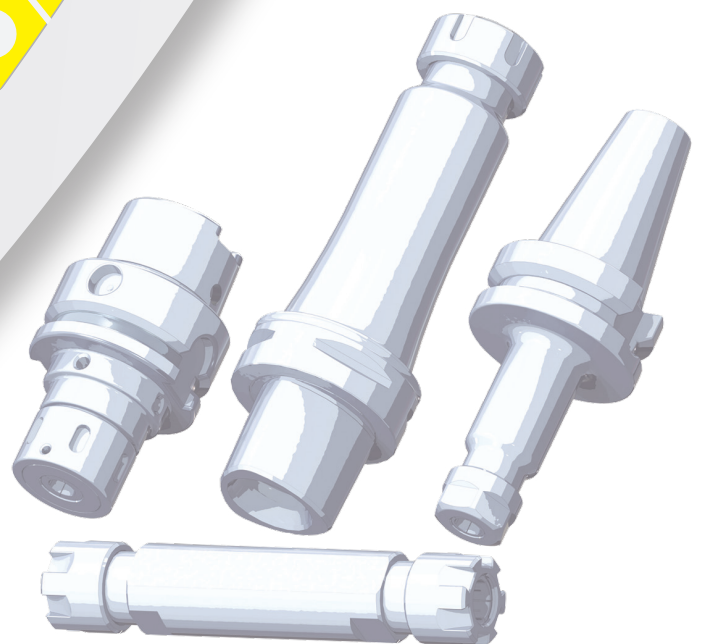
Precision Toolings for CNC Machinery

supERgrip // SGER
強力型ER筒夾刀桿

ER
ER筒夾刀桿

SWISS TYPE
AUTOMATIC LATHE EXTENSION

S-ER
走心式車床專用
直柄ER筒夾刀桿

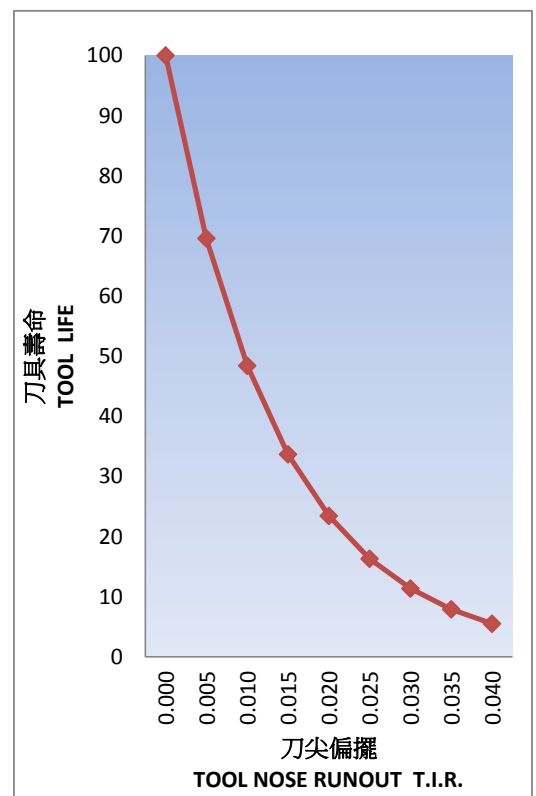


the art of toolings

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為什麼我們要投資更精度更高的刀桿?
 為了降低生產成本
 精度更高的刀桿如何降低生產成本?
 可以提升刀具的壽命
 提升的程度有多少?
 假設刀尖的偏擺是0, 刀具壽命是100
 0.003mm刀尖偏擺的刀具, 壽命是80.4
 0.005mm刀尖偏擺的刀具, 壽命是69.6
 0.010mm刀尖偏擺的刀具, 壽命是48.4
 0.020mm刀尖偏擺的刀具, 壽命是23.4
 0.003mm刀尖偏擺的刀具比0.020mm刀尖偏擺的刀具, 刀具壽命差將近4倍
 想想看這樣的差別可以降低多少刀具的成本!!!
 Why we invest on precision toolholders?
 To reduce the production cost
 How precision toolholders reduce the production cost?
 It will extend the tool life evidently
 How much is the difference?
 Let's set 0mm runout at tool nose with tool life 100.0
 0.003mm runout at tool nose, tool life is 80.4
 0.005mm runout at tool nose, tool life is 69.6
 0.010mm runout at tool nose, tool life is 48.4
 0.020mm runout at tool nose, tool life is 23.4
 Tool life for 0.003mm runout is 4 TIMES longer than 0.020mm runout
 See how much you can reduce the cost in cutting tools!!!



Introduction of ER collet chucks:

ER collet chuck is a Germany norm DIN6499 and an ISO norm ISO15488
 It is called ER series
 ER series is applied widely in tool holding system and work piece holding system
 ER collet chuck is composed of chuck body, clamping nut and ER collet
 There is an 8° taper bore at the holding part of the chuck to contact the ER collet
 There is an O.D. thread at the holding part of the chuck to contact the ER nut
 We can hold the tool with different dia. of shank by changing the ER collet

ER筒夾刀桿簡介:

ER筒夾刀桿是德國規範DIN6499也是ISO規範ISO15488
 稱為ER系列
 ER系列廣泛用於刀具夾持與工件夾持系統中
 ER筒夾刀桿是由刀桿本體加上螺帽與ER筒夾組合而成的刀桿
 刀桿的夾持端有一個8度的內錐度孔用以接合ER筒夾
 刀桿的夾持端有一段外牙用以接合ER螺帽
 更換不同孔徑的ER筒夾便能夾持不同柄徑的刀具

Technical information of ER collet chucks:

Material: SCM420/20CrMo4/20CrMo/4120
 Tensile strength: 930+ N/mm2 (Mpa)
 Hardness: Carburizing depth 0.6mm with HRC58~60
 Thread part: Carburizing free on the thread part to prevent crack happening
 Run out of T.I.R: 0.003mm

ER筒夾刀桿技術資料:

材質: SCM420/20CrMo4/20CrMo/4120
 抗拉強度: 930+ N/mm2 (Mpa)
 熱處理硬度: 滲碳深度0.6mm HRC58~60
 刀桿牙部: 防碳處理防止脆裂
 刀桿內孔偏擺精度: 0.003mm

Why use steel SCM420/20CrMo4/20CrMo/4120?

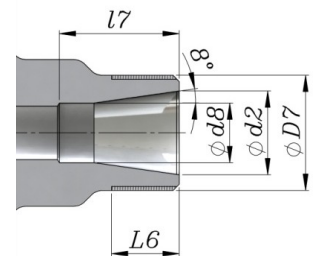
The tensile strength is 930+ N/mm2 (Mpa)
 SCM415/15CrMo5/15CrMo/4118 is only 830+ N/mm2 (Mpa)
 SNCM220/21NiCrMo3/20CrNiMo/8620 is only 830+ N/mm2 (Mpa)

為什麼材料使用SCM420/20CrMo4/20CrMo/4120?

這材料抗拉強度有930+ N/mm2 (Mpa)
 SCM415/15CrMo5/15CrMo/4118只有830+ N/mm2 (Mpa)
 SNCM220/21NiCrMo3/20CrNiMo/8620只有830+ N/mm2 (Mpa)

ER	ER11M	ER16M	ER20M	ER25M
COLLET	ER11	ER16	ER20	ER25
Ød2 +0/-0.05	11	16	20	25
ØD7 ISO4g	M13*P0.75	M19*P1.0	M24*P1.0	M30*P1.0
Ød8 +1/-0	7.5	10.5	13.5	18.0
L6 min.	7.5	12.5	12.5	12.5
l7 min.	17.0	22.0	26.5	29.0
Nut	N11MX nano	N16MX nano	N20MX nano	N25MX nano
Nut	N11MX	N16MX	N20MX	N25MX

ER	ER11	ER16	ER20	ER25	ER32	ER40
COLLET	ER11	ER16	ER20	ER25	ER32	ER40
Ød2 +0/-0.05	11	16	20	25	32	40
ØD7 ISO4g	M14*P0.75	M22*P1.5	M25*P1.5	M32*P1.5	M40*P1.5	M50*P1.5
Ød8 +1/-0	7.5	10.5	13.5	18.0	23.5	30.5
L6 min.	7.5	11.5	12.5	13.0	15.2	16.5
l7 min.	17.0	22.0	26.5	17.0	22.0	26.5
Nut	N11SX nano	N16SX nano	N20SX nano	N25SX nano	N32SX nano	N40SX nano
Nut	N11SX	N16SX	N20SX	N25SX	N32SX	N40SX



Thread part ØD7 ISO4g is the production standard of YAMAKEN
 It is much more precise than DIN6499/ISO15488 requirement ISO6g

牙部ØD7 ISO4g是山謙的生產標準
 比DIN6499/ISO15488的ISO6g更精準

8°圓錐角度公差 // 8° TAPER ANGLE TOLERANCE	
ER TAPER	ER11, ER16, ER20, ER25, ER32 & ER40
AT1 (mm)	+0.0005/+0.0008
AT2 (mm)	+0.0008/+0.0013
AT3 (mm)	+0.0013/+0.0020

8°圓錐角度直線度公差 // 8° TAPER ANGLE STRAIGHTNESS TOLERANCE	
ER TAPER	ER11, ER16, ER20, ER25, ER32 & ER40
	0.001

8°圓錐圓度公差 // 8° TAPER ANGLE STRAIGHTNESS TOLERANCE	
ER TAPER	ER11, ER16, ER20, ER25, ER32 & ER40
	0.001

AT2 taper angle tolerance is a "MUST"

AT2的錐度角度公差是必須的

ER筒夾刀桿夾持力表			Clamping torque for ER collet chuck						
鎖緊扭力 TIGHTENING TORQUE	ER螺帽 ER NUT	ER筒夾內徑 // ER COLLET BORE							
			Ø6	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25
ER16 TORQUE 55Nm	N16SX nano (UM/ER16 nano)	22Nm	31Nm	44Nm					
	N16SX (UM/ER16)	19Nm	24Nm	33Nm					
ER20 TORQUE 80Nm	N20SX nano (UM/ER20 nano)		47Nm	65Nm	75Nm				
	N20SX (UM/ER20)		39Nm	55Nm	66Nm				
ER25 TORQUE 100Nm	N25SX nano (UM/ER25 nano)			68Nm	83Nm	123Nm			
	N25SX (UM/ER25)			57Nm	69Nm	109Nm			
ER32 TORQUE 135Nm	N32SX nano (UM/ER32 nano)				91Nm	127Nm	162Nm		
	N32SX (UM/ER32)				80Nm	116Nm	147Nm		
ER40 TORQUE 170Nm	N40SX nano (UM/ER40 nano)					156Nm	210Nm	271Nm	
	N40SX (UM/ER40)					139Nm	187Nm	249Nm	

夾持力比較表		Clamping torque comparison						
刀桿種類 TYPE OF TOOLHOLDER	內徑 // BORE							
		Ø6	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25
ezShrink shrink fit chuck form YAMAKEN		20Nm	50Nm	70Nm	150Nm	300Nm	450Nm	680Nm
Hydraulic chuck from "S"		16Nm	23Nm	45Nm	90Nm	185Nm	330Nm	400Nm
Hydraulic chuck from "I"		15Nm	25Nm	50Nm	110Nm	180Nm	250Nm	310Nm

ER螺帽鎖緊力表			ER nut clamping torque chart		
ER螺帽 ER NUT	ER筒夾 ER COLLET	最大鎖緊力 MAX. TORQUE	ER螺帽 ER NUT	ER筒夾 ER COLLET	最大鎖緊力 MAX. TORQUE
N11MX nano	ER11(1.0~2.5)	10Nm	N11SX nano	ER11(1.0~2.5)	12Nm
	ER11(3.0~0.0)	12Nm		ER11(3.0~0.0)	25Nm
N16MX nano	ER16(1.0~4.5)	15Nm	N16SX nano	ER16(1.0~4.5)	30Nm
	ER16(5.0~10.0)	17Nm		ER16(5.0~10.0)	55Nm
N20MX nano	ER20(1.0~6.5)	21Nm	N20SX nano	ER20(1.0~6.5)	45Nm
	ER20(7.0~13.0)	23Nm		ER20(7.0~13.0)	80Nm
N25MX nano	ER25(1.0~6.5)	24Nm	N25SX nano	ER25(1.0~6.5)	55Nm
	ER25(7.0~16.0)	40Nm		ER25(7.0~16.0)	100Nm
			N32SX nano	ER32(2.0~6.5)	70Nm
				ER32(7.0~20.0)	135Nm
			N40SX nano	ER40(3.0~7.5)	100Nm
				ER40(8.0~26.0)	170Nm

NxxMX(SX) nano & NxxMX(SX) are with the same torque

NxxMX(SX) nano與NxxMX(SX)使用相同扭力值

From our test results we find that
ERM nut & ER nut with nano surface treatment
will increase the clamping torque by 10%~30% with the same tightening torque
YAMAKEN ER series equip with NxxMX nano or NxxSX nano as standard
It offers YAMAKEN ER series a outstanding performance

測試結果發現
ERM螺帽與ER螺帽增加表面奈米處理
在相同的鎖緊力之下有10%~30%夾持力提升
山謙ER系列都搭配NxxMX nano或NxxSX nano高速平衡奈米螺帽
讓山謙的ER系列刀桿有著優異的表現

What is nano surface treatment?

Nano surface treatment was adopted by car racing to increase the life of engine firstly
Nano surface treatment is "NOT coating", it will wear out but "NOT peel off"
It is a treatment in low temperature and high pressure
shooting the surface of workpiece with electrons in a very high speed
It will "NOT deform" the workpiece or change the accuracy
It makes the metal crystals on the surface of the workpiece smaller
A smaller metal crystals will improve the surface roughness
A brief high temperature comes from the electrons shooting
will generate the effect of heat treatment to increase the surface hardness
Better surface roughness will offer more contact area to increase the clamping torque
Higher surface hardness will increase the life of workpiece
YAMAKEN has more than 10 years experience with nano surface treatment
Workpiece with nano surface treatment always have outstanding performance

什麼是表面奈米處理?

這個製程最早使用在賽車引擎來提升引擎壽命
表面奈米處理"不是塗層"會磨損不會剝落
是一種以低溫高壓方式
高速射出電子撞擊工件的表面
不會使工件產生變形或改變精度
讓工件金屬表面的結晶變的細小
提升工件的表面粗糙度
撞擊產生的瞬間高溫
會讓工件表面產生熱處理的效果並提高表面硬度
更好的表面粗糙度讓接觸面積增加提高夾持力
更高的表面硬度讓工件使用壽命更長
山謙使用表面奈米處理超過十年
表面奈米處理過的工件總是有讓人驚豔的表現

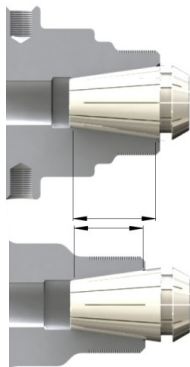
Introduction of supERgrip SGER power ER collet chucks:

supERgrip SGER is the power version of ER collet chucks
 It is a new generation ER collet chucks
 supERgrip SGER redesign the structure of clamping part
 The contact area for ER collet taper is increased by 30% more
 Enlarge the O.D. of the thread part and increase the pitched of thread contact
 It will increase the contact area of thread part by 50% more
 We adopt the nano surface treatment ball bearing nut
 It will reinforce the clamping torque by 50% more
 The combination of innovation reinforce the clamping torque for 100% more
 We also redesign the outline
 It reinforce the rigidity by 50%
 The great thing is
 Your DIN6499B/ISO15488B ER collets using currently
 will be able to use on supERgrip SGER power ER collet chuck
 It will upgrade the performance by just upgrade the collet chuck
 ER collets on supERgrip SGER power ER collet chuck will have 0.25 mm collapse
 We also add the design of balanceable thread holes
 You may do the balance after the tool is assembled
 This innovation collet chucks are called SGER series

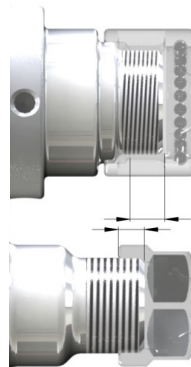
supERgrip SGER強力型ER筒夾刀桿簡介:

supERgrip SGER強力型ER筒夾刀桿是ER刀桿的加強版
 是新一代的ER筒夾刀桿
 supERgrip SGER變更了機構設計
 增加了30%以上的刀桿內錐孔與筒夾接合面積
 加大了牙部外徑與接合牙數
 增加了50%以上的牙部接合面積
 使用表面奈米處理鋼珠軸承設計的螺帽
 增加了50%以上的夾持力
 這樣創新的組合讓夾持力提升100%以上
 在外型上我們也做了設計變更
 讓剛性也提升50%以上
 最棒的是
 你目前使用中DIN6499B/ISO15488B的ER筒夾
 可以直接使用於supERgrip SGER強力型ER筒夾刀桿上
 只要升級你的筒夾刀桿就能升級加工效能
 supERgrip SGER的設計還讓ER筒夾保有0.25mm的夾持範圍
 另外還增加了可平衡螺絲孔
 讓您在刀具組合後可以再做動平衡校正
 這個創新的系列稱為SGER系列

增加錐度接合面積
MORE CONTACT AREA



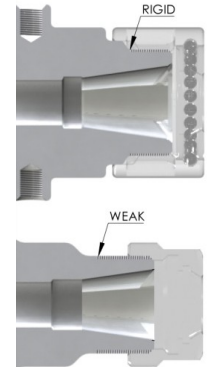
增加牙部接合面積
MORE THREAD CONTACT



使用奈米鋼珠螺帽
NANO BALL BEARING NUT



剛性提升的外觀設計
MORE RIGIDITY WITH NEW OUTLINE



Technical information of SGER collet chucks:

Material: SCM420/20CrMo4/20CrMo/4120
 Tensile strength: 930+ N/mm2 (Mpa)
 Hardness: Carburizing depth 0.6mm with HRC58~60
 Thread part: Carburizing free on the thread part to prevent crack happening
 Run out of T.I.R: 0.002mm

SGER筒夾刀桿技術資料:

材質: SCM420/20CrMo4/20CrMo/4120
 抗拉強度: 930+ N/mm2 (Mpa)
 熱處理硬度: 滲碳深度0.6mm HRC58~60
 刀桿牙部: 防碳處理防止脆裂
 刀桿內孔偏擺精度: 0.002mm

Why use steel SCM420/20CrMo4/20CrMo/4120?

The tensile strength is 930+ N/mm2 (Mpa)
 SCM415/15CrMo5/15CrMo/4118 is only 830+ N/mm2 (Mpa)
 SNCM220/21NiCrMo3/20CrNiMo/8620 is only 830+ N/mm2 (Mpa)

為什麼材料使用SCM420/20CrMo4/20CrMo/4120?

這材料抗拉強度有930+ N/mm2 (Mpa)
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 SNCM220/21NiCrMo3/20CrNiMo/8620只有830+ N/mm2 (Mpa)

8°圓錐角度公差 // 8° TAPER ANGLE TOLERANCE	
ER TAPER	ER11, ER16, ER20, ER25, ER32 & ER40
AT1 (mm)	+0.0005/+0.0008
AT2 (mm)	+0.0008/+0.0013
AT3 (mm)	+0.0013/+0.0020
8°圓錐角度直線度公差 // 8° TAPER ANGLE STRAIGHTNESS TOLERANCE	
ER TAPER	ER11, ER16, ER20, ER25, ER32 & ER40
	0.001
8°圓錐圓度公差 // 8° TAPER ANGLE STRAIGHTNESS TOLERANCE	
ER TAPER	ER11, ER16, ER20, ER25, ER32 & ER40
	0.001

AT2 taper angle tolerance is a "MUST"

傳統ER結構	SGER結構
Old Type ER Structure	SGER Structure

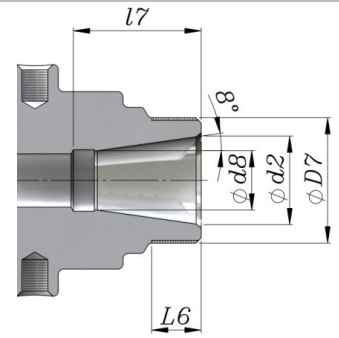


AT2的錐度角度公差是必須的

SGER COLLET	SGER16 ER16	SGER20 ER20	SGER25 ER25	SGER32 ER32	SGER40 ER40
Ød2 -0.14/-0.20	17	21	26	33	41
ØD7 ISO4g	M24*P1.0	M28*P1.0	M34*P1.0	M42*P1.0	M52*P1.0
Ød8 +0.5/-0	11.0	14.0	18.0	24.0	31.0
L6 min.	9.0	10.0	11.0	12.0	13.0
l7 min.	24.5	28.0	29.5	35.0	40.0
Nut	N16SGX nano	N20SGX nano	N25SGX nano	N32SGX nano	N40SGX nano
Nut	N16SGSX nano	N20SGSX nano	N25SGSX nano	N32SGSX nano	N40SGSX nano

Thread part ØD7 ISO4g is the production standard of YAMAKEN

It is much more precise than DIN6499/ISO15488 requirement ISO6g



牙部ØD7 ISO4g是山謙的生產標準
比DIN6499/ISO15488的ISO6g更精準

SGER & ER筒夾刀桿夾持力表

Clamping torque for SGER & ER collet chuck

鎖緊扭力 TIGHTENING TORQUE	SGER & ER螺帽 SGER & ER NUT	ER筒夾內徑 // ER COLLET BORE						
		Ø6	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25
ER16 TORQUE 55Nm	SGER N16SGX nano	40Nm	61Nm	93Nm				
	SGER N16SGSX nano	28Nm	40Nm	56Nm				
	ER N16SX nano	22Nm	31Nm	44Nm				
	ER N16SX	19Nm	24Nm	33Nm				
ER20 TORQUE 80Nm	SGER N20SGX nano		73Nm	100Nm	153Nm			
	SGER N20SGSX nano		58Nm	80Nm	87Nm			
	ER N20SX nano		47Nm	65Nm	75Nm			
	ER N20SX		39Nm	55Nm	66Nm			
ER25 TORQUE 100Nm	SGER N25SGX nano			103Nm	160Nm	231Nm		
	SGER N25SGSX nano			81Nm	88Nm	126Nm		
	ER N25SX nano			68Nm	83Nm	123Nm		
	ER N25SX			57Nm	69Nm	109Nm		
ER32 TORQUE 135Nm	SGER N32SGX nano				171Nm	242Nm	330Nm	
	SGER N32SGSX nano				101Nm	158Nm	210Nm	
	ER N32SX nano				91Nm	127Nm	162Nm	
	ER N32SX				80Nm	116Nm	147Nm	
ER40 TORQUE 170Nm	SGER N40SGX nano					276Nm	410Nm	535Nm
	SGER N40SGSX nano					180Nm	256Nm	330Nm
	ER N40SX nano					156Nm	210Nm	271Nm
	ER N40SX					139Nm	187Nm	249Nm

夾持力比較表

Clamping torque comparison

刀桿種類 TYPE OF TOOLHOLDER	內徑 // BORE						
	Ø6	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25
ezShrink shrink fit chuck form YAMAKEN	20Nm	50Nm	70Nm	150Nm	300Nm	450Nm	680Nm
Hydraulic chuck from "S"	16Nm	23Nm	45Nm	90Nm	185Nm	330Nm	400Nm
Hydraulic chuck from "I"	15Nm	25Nm	50Nm	110Nm	180Nm	250Nm	310Nm

SGER螺帽鎖緊力表

SGER nut clamping torque chart

SGER螺帽 SGER NUT	ER筒夾 ER COLLET	最大鎖緊力 MAX. TORQUE	SGER螺帽 SGER NUT	ER筒夾 ER COLLET	最大鎖緊力 MAX. TORQUE
N16SGX	ER16(1.0~4.5)	30Nm	N25SGX	ER25(1.0~6.5)	55Nm
	ER16(5.0~10.0)	55Nm		ER25(7.0~16.0)	100Nm
N20SGX	ER20(1.0~6.5)	45Nm	N32SGX	ER32(2.0~6.5)	70Nm
	ER20(7.0~13.0)	80Nm		ER32(7.0~20.0)	135Nm
			N40SGX	ER40(3.0~7.5)	100Nm
				ER40(8.0~26.0)	170Nm

NxxSGX nano & NxxSGSX nano are with the same clamping torque

NxxSGX nano與NxxSGSX nano使用相同扭力值

BT is the norm of 7/24 taper from Japan,
 It started from the norm MAS403 in 1969, called MAS403-BT.
 It was the first norm of 7/24 taper with ATC (Automatic Tool Changer)
 In 1998, Japan published norm JIS B 6339:1998 to replace MAS403-BT
 In 2007, ISO published ISO7388-2:2007 as new norm for 7/24 BT taper toolholder
 BT** was named as ISO**J
 BT**AD with coolant through center was named as ISO**JD
 BT**B with coolant through flange was named as ISO**JF
 BT**AD/B with two type coolant through was named as ISO**JD/F

BT是日本規範7/24圓錐的代號，
 始於1969年的MAS403規範，稱為MAS403-BT。
 是最早的ATC(Automatic Tool Changer)7/24圓錐規範
 1998年日本公佈JIS B 6339:1998規範代替了MAS403規範
 2007年ISO7388-2:2007是7/24 BT外圓錐新規範
 BT**刀桿命名為ISO**J
 BT**AD刀桿內帶中心貫穿冷卻孔命名為ISO**JD
 BT**B刀桿法蘭端面帶冷卻孔命名為ISO**JF
 BT**AD/B刀桿將兩種內冷卻方式整合命名為ISO**JD/F

CLAMPING FORCE	BT30	BT40	BT50
	6KN	12KN	25KN

TAPER	BT30AD	BT40AD	BT50AD
	ISO30JD	ISO40JD	ISO50JD
ØD1	31.75	44.45	69.85
Ød2 H8	12.5	17	25
d7 6H	M12*P1.75	M16*P2.0	M24*P3.0
ØD5 h8	46	63	100
v +/-0.1	13.6	16.6	23.2
y +/-0.4	2	2	3
f	20	25	35
l1 +/-0.2	48.4	65.4	101.8
l2	24	30	45
l4+0.5/0.0	7	9	13
l6	16.3 -0.3/+0.0	22.6 -0.3/+0.0	35.4 -0.4/+0.0
b +0.2/0.0	16.1	16.1	25.7

TAPER	BT30AD/B	BT40AD/B	BT50AD/B
	ISO30JD/F	ISO40JD/F	ISO50JD/F
e1	20	27	42
Ød9	2	4	6

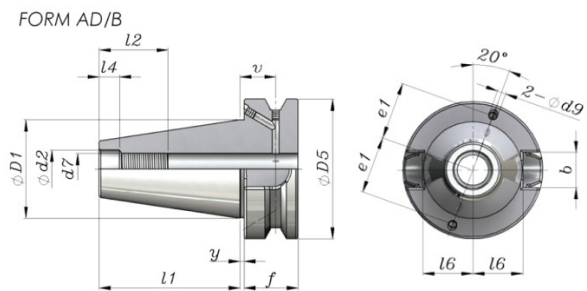
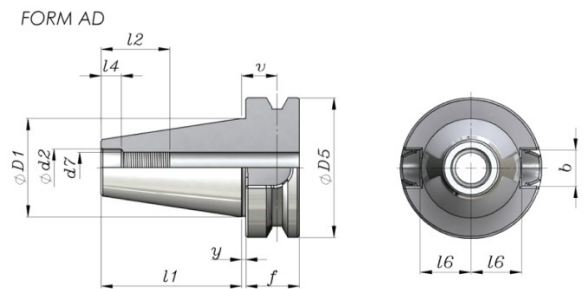
TAPER	BT30GAD
ØD1	31.75
Ød2 H8	12.50
d7 6H	M12*P1.75
ØD5 h8	46.00
v +/-0.1	13.60
y +/-0.4	2
f	20
l1 +/-0.2	48.40
l2	24
l4+0.5/0.0	7.0
l6	16.3 -0.3/+0.0

圓錐角度公差 // TAPER ANGLE TOLERANCE			
TAPER	#30 TAPER	#40 TAPER	#50 TAPER
AT1 (mm)	+0.0008/+0.0013	+0.0010/+0.0016	+0.0013/+0.0020
AT2 (mm)	+0.0013/+0.0020	+0.0016/+0.0025	+0.0020/+0.0032
AT3 (mm)	+0.0020/+0.0032	+0.0025/+0.0040	+0.0032/+0.0050

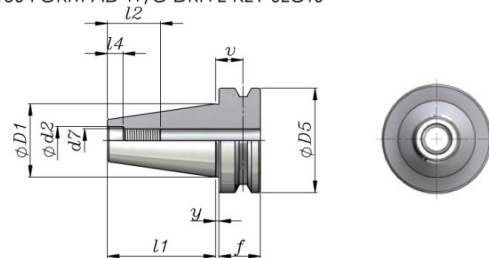
圓錐角度直線度公差 // TAPER ANGLE STRAIGHTNESS TOLERANCE			
TAPER	#30 TAPER	#40 TAPER	#50 TAPER
	0.002	0.002	0.003

圓錐圓度公差 // TAPER ROUNDNESS TOLERANCE			
TAPER	#30 TAPER	#40 TAPER	#50 TAPER
	0.001	0.001	0.002

To achieve 0.002mm runout of T.I.R 7/24 taper
 AT2 taper angle tolerance is a "MUST"



BT30G FORM AD:
 BT30 FORM AD W/O DRIVE KEY SLOTS

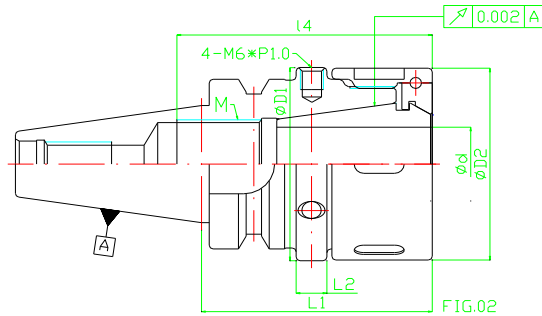
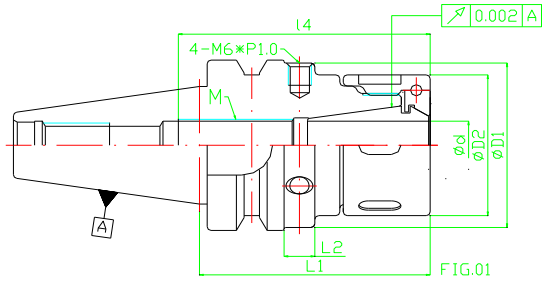


7/24圓錐刀桿要達到0.002mm的鼻端偏擺
 AT2的錐度角度公差是必須的

supERgrip SGER // BT-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT30AD-SGER16-060	1	60	9	29	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.60	B	
◎	BT30AD-SGER16-100	1	100	9	69	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.80	B	
◎	BT30AD-SGER20-060	1	60	9	29	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.70	B	
◎	BT30AD-SGER20-100	1	100	9	69	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.90	B	
◎	BT30AD-SGER25-060	1	60	9	29	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	0.90	B	
◎	BT30AD-SGER25-100	1	100	9	69	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.30	B	
◎	BT30AD-SGER32-060	2	60	8	27	47	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.00	B	
◎	BT30AD-SGER32-100	2	100	8	67	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.40	B	
◎	BT30AD-SGER32-070HAAS	2	70	8	27	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.10	B	
◎	BT30AD-SGER32-100HAAS	2	100	8	57	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.40	B	

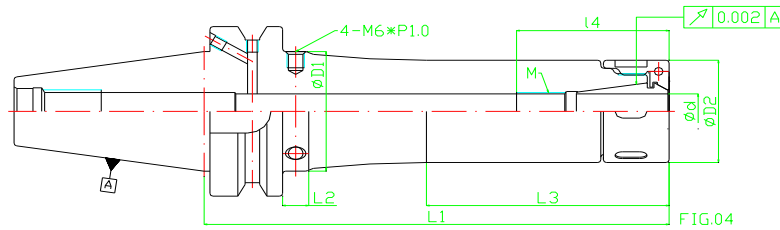
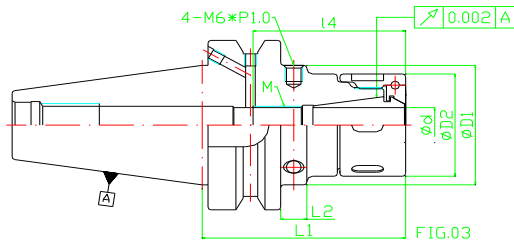
產品FIG.1, 2 出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.1, 2 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

BT30AD-SGER32-xxxHAAS的ATC干涉長為35mm // BT30AD-SGER32-xxxHAAS are with ATC interference length 35mm

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxSGX
 supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxSGX



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT40AD/B-SGER16-070	3	70	9	34	39	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.20	B	
◎	BT40AD/B-SGER16-100	3	100	9	64	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.40	B	
◎	BT40AD/B-SGER16-120	3	120	9	84	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.50	B	
◎	BT40AD/B-SGER16-160	4	160	9	86	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.90	B	
◎	BT40AD/B-SGER16-200	4	200	9	126	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	2.30	B	
◎	BT40AD/B-SGER20-070	3	70	9	34	38	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.30	B	
◎	BT40AD/B-SGER20-100	3	100	9	64	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.50	B	
◎	BT40AD/B-SGER20-120	3	120	9	84	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.60	B	
◎	BT40AD/B-SGER20-160	4	160	9	86	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.00	B	
◎	BT40AD/B-SGER20-200	4	200	9	126	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.40	B	
◎	BT40AD/B-SGER25-070	3	70	9	34	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.50	B	
◎	BT40AD/B-SGER25-100	3	100	9	64	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.80	B	
◎	BT40AD/B-SGER25-120	3	120	9	84	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.00	B	
◎	BT40AD/B-SGER25-160	3	160	9	124	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.40	B	
◎	BT40AD/B-SGER25-200	3	200	9	164	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.80	B	
◎	BT40AD/B-SGER32-070	3	70	9	34	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.60	B	
◎	BT40AD/B-SGER32-100	3	100	9	64	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.90	B	
◎	BT40AD/B-SGER32-120	3	120	9	84	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.10	B	
◎	BT40AD/B-SGER32-160	3	160	9	124	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.40	B	
◎	BT40AD/B-SGER32-200	3	200	9	164	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.90	B	
◎	BT40AD/B-SGER40-070	3	70	9	34	62	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.00	B	
◎	BT40AD/B-SGER40-100	3	100	9	64	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.30	B	
◎	BT40AD/B-SGER40-120	3	120	9	84	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.60	B	
◎	BT40AD/B-SGER40-160	3	160	9	124	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.20	B	
◎	BT40AD/B-SGER40-200	3	200	9	164	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.80	B	

產品FIG.3,4出貨附件為高速平衡奈米鋼珠螺帽NxSGX nano*1pc // PRODUCTS IN FIG.3,4 EQUIP WITH BALANCED NANO BALL BEARING NUT NxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◌=少量在庫品 // STOCK ◐=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // BT-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX

動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT50AD/B-SGER16-080	3	80	9	33	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	4.10	C	
◎	BT50AD/B-SGER16-100	3	100	9	53	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	4.20	C	
◎	BT50AD/B-SGER16-120	3	120	9	73	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	4.30	C	
◎	BT50AD/B-SGER16-160	4	160	9	70	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	4.70	C	
◎	BT50AD/B-SGER16-200	4	200	9	110	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	5.10	C	
◎	BT50AD/B-SGER20-080	3	80	9	33	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	4.20	C	
◎	BT50AD/B-SGER20-100	3	100	9	53	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	4.30	C	
◎	BT50AD/B-SGER20-120	3	120	9	73	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	4.40	C	
◎	BT50AD/B-SGER20-160	4	160	9	70	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	4.80	C	
◎	BT50AD/B-SGER20-200	4	200	9	110	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	5.20	C	
◎	BT50AD/B-SGER25-080	3	80	9	33	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	4.40	C	
◎	BT50AD/B-SGER25-100	3	100	9	53	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	4.60	C	
◎	BT50AD/B-SGER25-120	3	120	9	73	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	4.80	C	
◎	BT50AD/B-SGER25-160	4	160	9	70	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	5.20	C	
◎	BT50AD/B-SGER25-200	4	200	9	110	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	5.60	C	
◎	BT50AD/B-SGER32-080	3	80	9	33	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	4.50	C	
◎	BT50AD/B-SGER32-100	3	100	9	53	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	4.70	C	
◎	BT50AD/B-SGER32-120	3	120	9	73	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	4.90	C	
◎	BT50AD/B-SGER32-160	4	160	9	70	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	5.30	C	
◎	BT50AD/B-SGER32-200	4	200	9	110	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	5.70	C	
◎	BT50AD/B-SGER40-080	3	80	9	33	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	4.90	C	
◎	BT50AD/B-SGER40-100	3	100	9	53	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	5.10	C	
◎	BT50AD/B-SGER40-120	3	120	9	73	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	5.30	C	
◎	BT50AD/B-SGER40-160	3	160	9	113	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	5.70	C	
◎	BT50AD/B-SGER40-200	3	200	9	153	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	6.10	C	

產品FIG.3,4出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.3,4 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

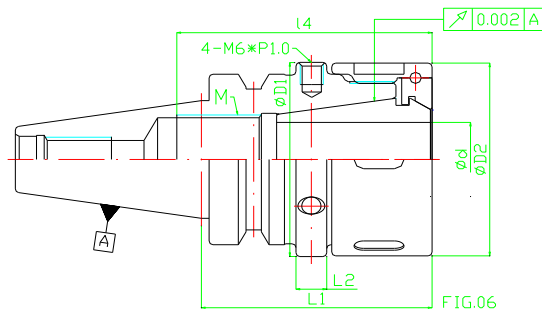
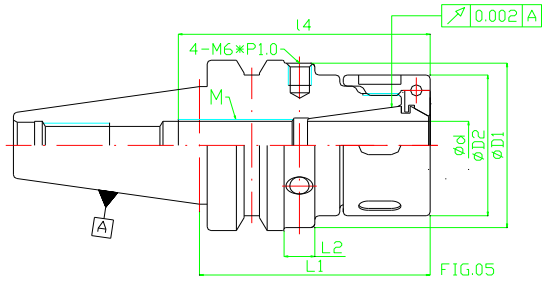
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ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER w/o drive ke slots // BT-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	BT30GAD-SGER16-060	5	60	9	29	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.60	B	
	BT30GAD-SGER16-100	5	100	9	69	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.80	B	
○	BT30GAD-SGER20-060	5	60	9	29	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.70	B	
	BT30GAD-SGER20-100	5	100	9	69	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.90	B	
○	BT30GAD-SGER25-060	5	60	9	29	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	0.90	B	
	BT30GAD-SGER25-100	5	100	9	69	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.30	B	
○	BT30GAD-SGER32-060	6	60	8	27	47	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.00	B	
	BT30GAD-SGER32-100	6	100	8	67	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.40	B	
○	BT30GAD-SGER32-070HAAS	6	70	8	27	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.00	B	
	BT30GAD-SGER32-100HAAS	6	100	8	67	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.40	B	

產品FIG.5 & 6出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.5 & 6 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ©=regular stock | STOCK ○=少量在庫品 // STOCK ◊=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

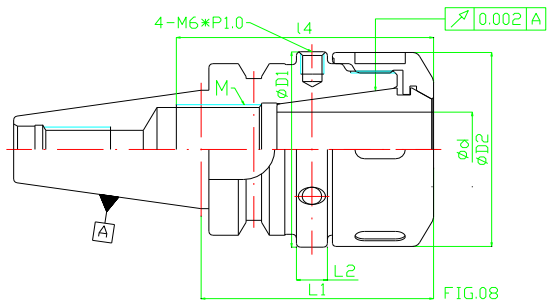
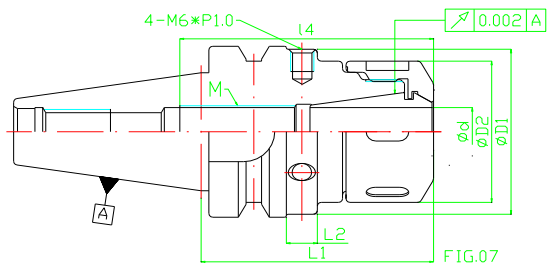
ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

BT30GAD-SGER32-xxxHAAS的ATC干涉長為35mm // BT30GAD-SGER32-xxxHAAS are with ATC interference length 35mm

supERgrip SGER & ER // BT-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX

supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

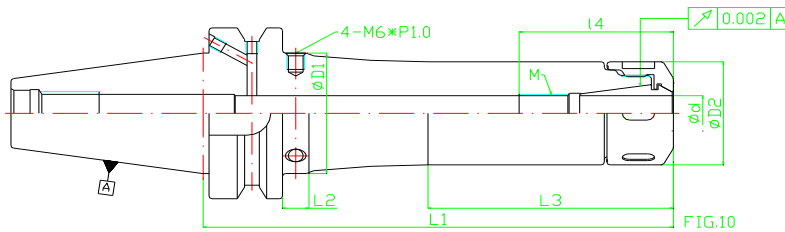
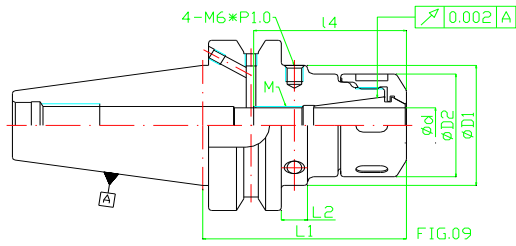
STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT30AD-SGER16SX-060	7	60	9	29	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.60	B	
◎	BT30AD-SGER16SX-100	7	100	9	69	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.80	B	
◎	BT30AD-SGER20SX-060	7	60	9	29	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	0.70	B	
◎	BT30AD-SGER20SX-100	7	100	9	69	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	0.90	B	
◎	BT30AD-SGER25SX-060	7	60	9	29	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	0.90	B	
◎	BT30AD-SGER25SX-100	7	100	9	69	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.30	B	
◎	BT30AD-SGER32SX-060	8	60	8	27	47	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.00	B	
◎	BT30AD-SGER32SX-100	8	100	8	67	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.40	B	
◎	BT30AD-SGER32SX-070HAA	8	70	8	27	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.00	B	
◎	BT30AD-SGER32SX-100HAA	8	100	8	57	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.40	B	

產品FIG.7 & 8出貨附件為高速平衡奈米螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.7 & 8 EQUIP WITH BALANCED NANO NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

BT30AD-SGER32SX-xxxHAAS的ATC干涉長為35mm // BT30AD-SGER32SX-xxxHAAS are with ATC interference length 35mm



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT40AD/B-SGER16SX-070	9	70	9	34	39	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.20	B	
◎	BT40AD/B-SGER16SX-100	9	100	9	64	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.40	B	
◎	BT40AD/B-SGER16SX-120	9	120	9	84	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.50	B	
◎	BT40AD/B-SGER16SX-160	10	160	9	86	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.90	B	
◎	BT40AD/B-SGER16SX-200	10	200	9	126	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	2.30	B	
◎	BT40AD/B-SGER20SX-070	9	70	9	34	38	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.30	B	
◎	BT40AD/B-SGER20SX-100	9	100	9	64	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.50	B	
◎	BT40AD/B-SGER20SX-120	9	120	9	84	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.60	B	
◎	BT40AD/B-SGER20SX-160	10	160	9	86	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.00	B	
◎	BT40AD/B-SGER20SX-200	10	200	9	126	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.40	B	
◎	BT40AD/B-SGER25SX-070	9	70	9	34	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.50	B	
◎	BT40AD/B-SGER25SX-100	9	100	9	64	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.80	B	
◎	BT40AD/B-SGER25SX-120	9	120	9	84	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.00	B	
◎	BT40AD/B-SGER25SX-160	9	160	9	124	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.40	B	
◎	BT40AD/B-SGER25SX-200	9	200	9	164	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.80	B	
◎	BT40AD/B-SGER32SX-070	9	70	9	34	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.60	B	
◎	BT40AD/B-SGER32SX-100	9	100	9	64	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.90	B	
◎	BT40AD/B-SGER32SX-120	9	120	9	84	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.10	B	
◎	BT40AD/B-SGER32SX-160	9	160	9	124	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.40	B	
◎	BT40AD/B-SGER32SX-200	9	200	9	164	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.90	B	
◎	BT40AD/B-SGER40SX-070	9	70	9	34	62	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.00	B	
◎	BT40AD/B-SGER40SX-100	9	100	9	64	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.30	B	
◎	BT40AD/B-SGER40SX-120	9	120	9	84	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.60	B	
◎	BT40AD/B-SGER40SX-160	9	160	9	124	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.20	B	
◎	BT40AD/B-SGER40SX-200	9	200	9	164	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.80	B	

產品FIG.9 & 10出貨附件為高速平衡奈米螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.9 & 10 EQUIP WITH BALANCED NANO NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // BT-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX

supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX

動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT50AD/B-SGER16SX-080	9	80	9	33	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	4.10	C	
◎	BT50AD/B-SGER16SX-100	9	100	9	53	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	4.20	C	
◎	BT50AD/B-SGER16SX-120	9	120	9	73	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	4.30	C	
◎	BT50AD/B-SGER16SX-160	10	160	9	70	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	4.70	C	
◎	BT50AD/B-SGER16SX-200	10	200	9	110	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	5.10	C	
◎	BT50AD/B-SGER20SX-080	9	80	9	33	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	4.20	C	
◎	BT50AD/B-SGER20SX-100	9	100	9	53	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	4.30	C	
◎	BT50AD/B-SGER20SX-120	9	120	9	73	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	4.40	C	
◎	BT50AD/B-SGER20SX-160	10	160	9	70	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	4.80	C	
◎	BT50AD/B-SGER20SX-200	10	200	9	110	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	5.20	C	
◎	BT50AD/B-SGER25SX-080	9	80	9	33	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	4.40	C	
◎	BT50AD/B-SGER25SX-100	9	100	9	53	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	4.60	C	
◎	BT50AD/B-SGER25SX-120	9	120	9	73	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	4.80	C	
◎	BT50AD/B-SGER25SX-160	10	160	9	70	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	5.20	C	
◎	BT50AD/B-SGER25SX-200	10	200	9	110	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	5.60	C	
◎	BT50AD/B-SGER32SX-080	9	80	9	33	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	4.50	C	
◎	BT50AD/B-SGER32SX-100	9	100	9	53	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	4.70	C	
◎	BT50AD/B-SGER32SX-120	9	120	9	73	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	4.90	C	
◎	BT50AD/B-SGER32SX-160	10	160	9	70	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	5.30	C	
◎	BT50AD/B-SGER32SX-200	10	200	9	110	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	5.70	C	
◎	BT50AD/B-SGER40SX-080	9	80	9	33	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	4.90	C	
◎	BT50AD/B-SGER40SX-100	9	100	9	53	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	5.10	C	
◎	BT50AD/B-SGER40SX-120	9	120	9	73	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	5.30	C	
◎	BT50AD/B-SGER40SX-160	9	160	9	113	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	5.70	C	
◎	BT50AD/B-SGER40SX-200	9	200	9	153	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	6.10	C	

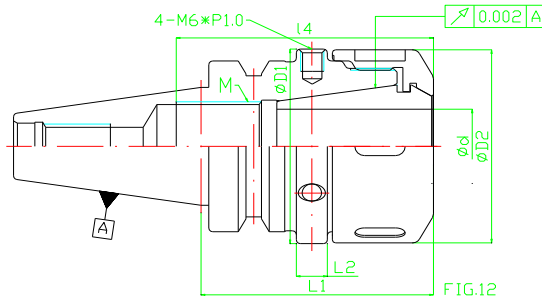
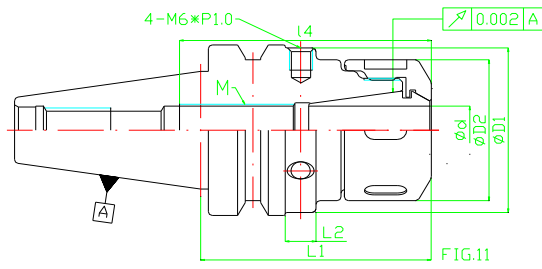
產品FIG.9 & 10出貨附件為高速平衡奈米螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.9 & 10 EQUIP WITH BALANCED NANO NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER w/o drive ke slots // BT-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX
 supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	BT30GAD-SGER16SX-060	11	60	9	29	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.60	B	
	BT30GAD-SGER16SX-100	11	100	9	69	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.80	B	
○	BT30GAD-SGER20SX-060	11	60	9	29	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	0.70	B	
	BT30GAD-SGER20SX-100	11	100	9	69	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	0.90	B	
○	BT30GAD-SGER25SX-060	11	60	9	29	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	0.90	B	
	BT30GAD-SGER25SX-100	11	100	9	69	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.30	B	
○	BT30GAD-SGER32SX-060	12	60	8	27	47	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.00	B	
	BT30GAD-SGER32SX-100	12	100	8	67	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.40	B	
○	BT30GAD-SGER32SX-070HA	12	70	8	27	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.00	B	
	BT30GAD-SGER32SX-100HA	12	100	8	67	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.40	B	

產品FIG.11 & 12出貨附件為高速平衡奈米螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.11 & 12 EQUIP WITH BALANCED NANO NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ©=regular stock | STOCK ◯=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

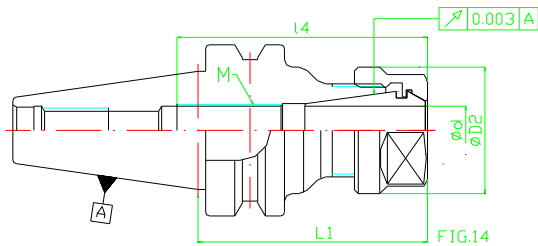
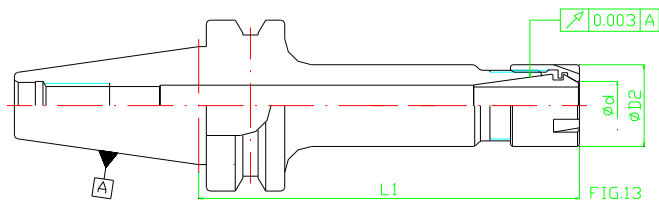
ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

BT30GAD-SGER32SX-xxxHAAS的ATC干涉長為35mm // BT30GAD-SGER32SX-xxxHAAS are with ATC interference length 35mm

supERgrip SGER & ER // BT-ERM & BT-ER

ERM型螺帽筒夾刀桿 & ER筒夾刀桿

ERM nut collet chucks & ER collet chucks



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

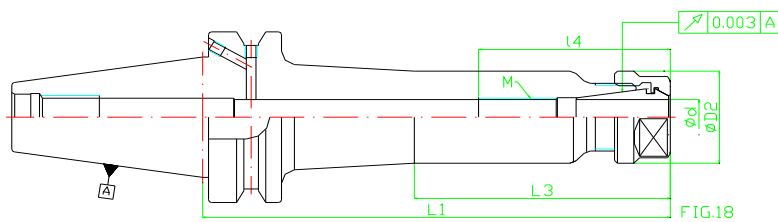
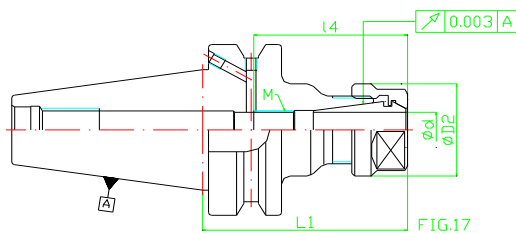
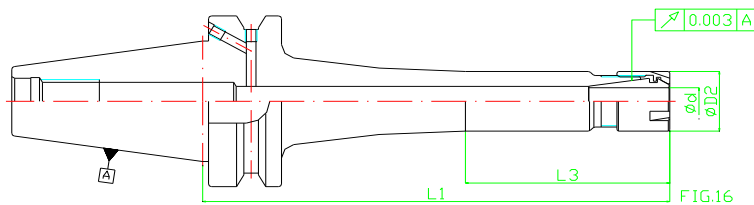
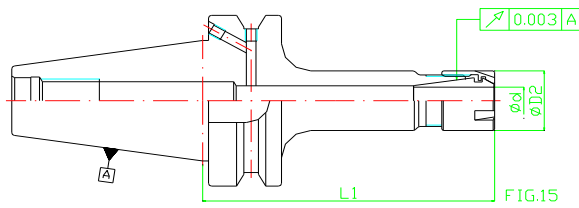
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	BT30AD-ER11M-060	13	60	-	38	-	16	0.5-7.0	-	-	ER11	N11MX nano	W-ER11M	0.40	D	
○	BT30AD-ER11M-100	13	100	-	78	-	16	0.5-7.0	-	-	ER11	N11MX nano	W-ER11M	0.60	D	
	BT30AD-ER16M-060	13	60	-	38	-	22	0.5-10.0	-	-	ER16	N16MX nano	W-ER16M	0.50	D	
○	BT30AD-ER16M-100	13	100	-	78	-	22	0.5-10.0	-	-	ER16	N16MX nano	W-ER16M	0.70	D	
	BT30AD-ER20M-060	13	60	-	38	-	28	0.5-13.0	-	-	ER20	N20MX nano	W-ER20M	0.60	D	
	BT30AD-ER20M-100	13	100	-	78	-	28	0.5-13.0	-	-	ER20	N20MX nano	W-ER20M	0.80	D	
	BT30AD-ER25M-060	13	60	-	38	-	35	0.5-16.0	-	-	ER25	N25MX nano	W-ER25M	0.80	D	
	BT30AD-ER25M-100	13	100	-	78	-	35	0.5-16.0	-	-	ER25	N25MX nano	W-ER25M	1.20	D	
◎	BT30AD-ER11-060	14	60	-	38	32	19	0.5-7.0	M8*P1.0	-	ER11	N11SX nano	W-ER11	0.50	D	
◎	BT30AD-ER11-100	14	100	-	78	32	19	0.5-7.0	M8*P1.0	-	ER11	N11SX nano	W-ER11	0.70	D	
◎	BT30AD-ER16-060	14	60	-	38	46	28	0.5-10.0	M11*P1.0	-	ER16	N16SX nano	W-ER16	0.60	D	
◎	BT30AD-ER16-100	14	100	-	78	46	28	0.5-10.0	M11*P1.0	-	ER16	N16SX nano	W-ER16	0.80	D	
◎	BT30AD-ER20-060	14	60	-	38	51	34	0.5-13.0	M14*P1.0	-	ER20	N20SX nano	W-ER20	0.70	D	
◎	BT30AD-ER20-100	14	100	-	78	51	34	0.5-13.0	M14*P1.0	-	ER20	N20SX nano	W-ER20	0.90	D	
◎	BT30AD-ER25-060	14	60	-	38	53	42	0.5-16.0	M18*P1.5	-	ER25	N25SX nano	W-FK06	0.90	D	
◎	BT30AD-ER25-100	14	100	-	78	53	42	0.5-16.0	M18*P1.5	-	ER25	N25SX nano	W-FK06	1.30	D	
◎	BT30AD-ER32-060	14	60	-	38	47	50	2.0-20.0	M24*P1.5	-	ER32	N32SX nano	W-FK08	1.00	D	
◎	BT30AD-ER32-100	14	100	-	78	57	50	2.0-20.0	M24*P1.5	-	ER32	N32SX nano	W-FK08	1.40	D	

產品FIG.13出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.13 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.14出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.14 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ○=少量在庫品 // STOCK ◊=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT40AD/B-ER11M-100	15	100	-	73	-	-	16	0.5-7.0	-	ER11	N11MX nano	W-ER11M	1.20	D	
○	BT40AD/B-ER11M-160	15	160	-	133	-	-	16	0.5-7.0	-	ER11	N11MX nano	W-ER11M	1.70	D	
◎	BT40AD/B-ER16M-100	15	100	-	73	-	-	22	0.5-10.0	-	ER16	N16MX nano	W-ER16M	1.30	D	
○	BT40AD/B-ER16M-160	16	160	-	70	-	36	22	0.5-10.0	-	ER16	N16MX nano	W-ER16M	1.80	D	
	BT40AD/B-ER20M-100	15	100	-	73	-	-	28	0.5-13.0	-	ER20	N20MX nano	W-ER20M	1.40	D	
	BT40AD/B-ER20M-160	16	160	-	70	-	42	28	0.5-13.0	-	ER20	N20MX nano	W-ER20M	1.90	D	
	BT40AD/B-ER25M-100	15	100	-	73	-	-	35	0.5-16.0	-	ER25	N25MX nano	W-ER25M	1.70	D	
	BT40AD/B-ER25M-160	16	160	-	70	-	45	35	0.5-16.0	-	ER25	N25MX nano	W-ER25M	2.30	D	

產品FIG.15 & 16出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.15 & 16 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.17 & 18出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.17 & 18 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // BT-ERM & BT-ER

ERM型螺帽筒夾刀桿 & ER筒夾刀桿

ERM nut collet chucks & ER collet chucks

動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	BT40AD/B-ER16-070	17	70	-	43	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.20	D	
◎	BT40AD/B-ER16-100	17	100	-	73	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.40	D	
○	BT40AD/B-ER16-120	17	120	-	93	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.50	D	
○	BT40AD/B-ER16-160	18	160	-	86	46	36	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.90	D	
○	BT40AD/B-ER16-200	18	200	-	126	46	36	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	2.30	D	
◎	BT40AD/B-ER20-070	17	70	-	43	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	1.30	D	
◎	BT40AD/B-ER20-100	17	100	-	73	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	1.50	D	
○	BT40AD/B-ER20-120	17	120	-	93	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	1.60	D	
○	BT40AD/B-ER20-160	18	160	-	86	51	42	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	2.00	D	
○	BT40AD/B-ER20-200	18	200	-	126	51	42	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	2.40	D	
◎	BT40AD/B-ER25-070	17	70	-	43	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.50	D	
◎	BT40AD/B-ER25-100	17	100	-	73	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.80	D	
○	BT40AD/B-ER25-120	17	120	-	93	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.00	D	
○	BT40AD/B-ER25-160	17	160	-	133	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.40	D	
○	BT40AD/B-ER25-200	17	200	-	173	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.80	D	
◎	BT40AD/B-ER32-070	17	70	-	43	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.60	D	
◎	BT40AD/B-ER32-100	17	100	-	73	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.90	D	
○	BT40AD/B-ER32-120	17	120	-	93	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.10	D	
○	BT40AD/B-ER32-160	17	160	-	133	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.40	D	
○	BT40AD/B-ER32-200	17	200	-	173	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.90	D	
◎	BT40AD/B-ER40-070	17	70	-	43	62	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	2.00	D	
◎	BT40AD/B-ER40-100	17	100	-	73	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	2.30	D	
○	BT40AD/B-ER40-120	17	120	-	93	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	2.60	D	
○	BT40AD/B-ER40-160	17	160	-	133	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	3.20	D	
○	BT40AD/B-ER40-200	17	200	-	173	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	3.80	D	

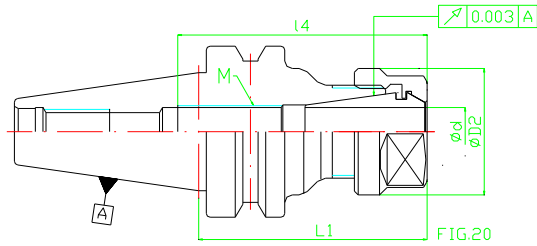
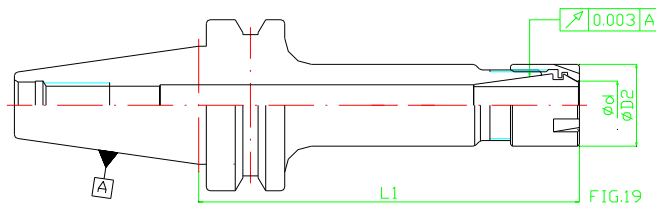
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	BT50AD/B-ER16-070	17	70	-	32	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	4.10	D	
	BT50AD/B-ER16-100	17	100	-	62	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	4.20	D	
	BT50AD/B-ER16-120	17	120	-	82	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	4.30	D	
	BT50AD/B-ER16-160	18	160	-	70	46	40	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	4.70	D	
	BT50AD/B-ER16-200	18	200	-	110	46	40	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	5.10	D	
	BT50AD/B-ER20-070	17	70	-	32	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	4.20	D	
	BT50AD/B-ER20-100	17	100	-	62	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	4.30	D	
	BT50AD/B-ER20-120	17	120	-	82	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	4.40	D	
	BT50AD/B-ER20-160	18	160	-	70	51	46	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	4.80	D	
	BT50AD/B-ER20-200	18	200	-	110	51	46	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	5.20	D	
	BT50AD/B-ER25-070	17	70	-	32	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	4.40	D	
	BT50AD/B-ER25-100	17	100	-	62	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	4.60	D	
	BT50AD/B-ER25-120	17	120	-	82	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	4.80	D	
	BT50AD/B-ER25-160	18	160	-	70	53	50	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	5.20	D	
	BT50AD/B-ER25-200	18	200	-	110	53	50	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	5.60	D	
	BT50AD/B-ER32-070	17	70	-	32	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	4.50	D	
	BT50AD/B-ER32-100	17	100	-	62	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	4.70	D	
	BT50AD/B-ER32-120	17	120	-	82	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	4.90	D	
	BT50AD/B-ER32-160	18	160	-	70	57	54	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	5.30	D	
	BT50AD/B-ER32-200	18	200	-	110	57	54	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	5.70	D	
	BT50AD/B-ER40-080	17	80	-	42	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	4.90	D	
	BT50AD/B-ER40-100	17	100	-	62	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	5.10	D	
	BT50AD/B-ER40-120	17	120	-	82	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	5.30	D	
	BT50AD/B-ER40-160	17	160	-	122	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	5.70	D	
	BT50AD/B-ER40-200	17	200	-	162	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	6.10	D	

產品FIG.15 & 16出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.15 & 16 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.17 & 18出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.17 & 18 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ○=少量在庫品 // STOCK ◌=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	BT30GAD-ER11M-060	19	60	-	38	-	-	16	0.5~7.0	-	ER11	N11MX nano	W-ER11M	0.40	D	
○	BT30GAD-ER11M-100	19	100	-	78	-	-	16	0.5~7.0	-	ER11	N11MX nano	W-ER11M	0.60	D	
	BT30GAD-ER16M-060	19	60	-	38	-	-	22	0.5~10.0	-	ER16	N16MX nano	W-ER16M	0.50	D	
○	BT30GAD-ER16M-100	19	100	-	78	-	-	22	0.5~10.0	-	ER16	N16MX nano	W-ER16M	0.70	D	
	BT30GAD-ER20M-060	19	60	-	38	-	-	28	0.5~13.0	-	ER20	N20MX nano	W-ER20M	0.60	D	
	BT30GAD-ER20M-100	19	100	-	78	-	-	28	0.5~13.0	-	ER20	N20MX nano	W-ER20M	0.80	D	
	BT30GAD-ER25M-060	19	60	-	38	-	-	35	0.5~16.0	-	ER25	N25MX nano	W-ER25M	0.80	D	
	BT30GAD-ER25M-100	19	100	-	78	-	-	35	0.5~16.0	-	ER25	N25MX nano	W-ER25M	1.20	D	
○	BT30GAD-ER11-060	20	60	-	38	32	-	19	0.5~7.0	M8*P1.0	ER11	N11SX nano	W-ER11	0.50	D	
	BT30GAD-ER11-100	20	100	-	78	32	-	19	0.5~7.0	M8*P1.0	ER11	N11SX nano	W-ER11	0.70	D	
○	BT30GAD-ER16-060	20	60	-	38	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	0.60	D	
	BT30GAD-ER16-100	20	100	-	78	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	0.80	D	
○	BT30GAD-ER20-060	20	60	-	38	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	0.70	D	
	BT30GAD-ER20-100	20	100	-	78	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	0.90	D	
○	BT30GAD-ER25-060	20	60	-	38	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	0.90	D	
	BT30GAD-ER25-100	20	100	-	78	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.30	D	
○	BT30GAD-ER32-060	20	60	-	38	47	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.00	D	
	BT30GAD-ER32-100	20	100	-	78	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.40	D	

產品FIG.19出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.19 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.20出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.20 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ©=regular stock | STOCK ○=少量在庫品 // STOCK ◊=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // SK

SK is the norm DIN69871 of 7/24 taper from Germany

JT is the norm ISO7388-1:1983 of 7/24 taper adopted by China

In 2007, ISO published ISO7388-1:2007 as new norm for 7/24 SK(JT) taper toolholder

SK**(JT**) was named as ISO**A

SK**AD(JT**AD) with coolant through center was named as ISO**AD

SK**B(JT**B) with coolant through flange was named as ISO**AF

SK**AD/B(JT**AD/B) with two type coolant through was named as ISO**AD/F

SK(JT) toolholder with IC chip hole is a standard product from us

SK是德國規範DIN69871 7/24圓錐的代號

JT是中國選用ISO7388-1:1983當成國家規範

2007年ISO7388-1:2007是7/24 SK(JT)外圓錐新規範

SK**(JT**)刀桿命名為ISO**A

SK**AD(JT**AD)刀桿內帶中心貫穿冷卻孔命名為ISO**AD

SK**B(JT**B)刀桿法蘭端面帶冷卻孔命名為ISO**AF

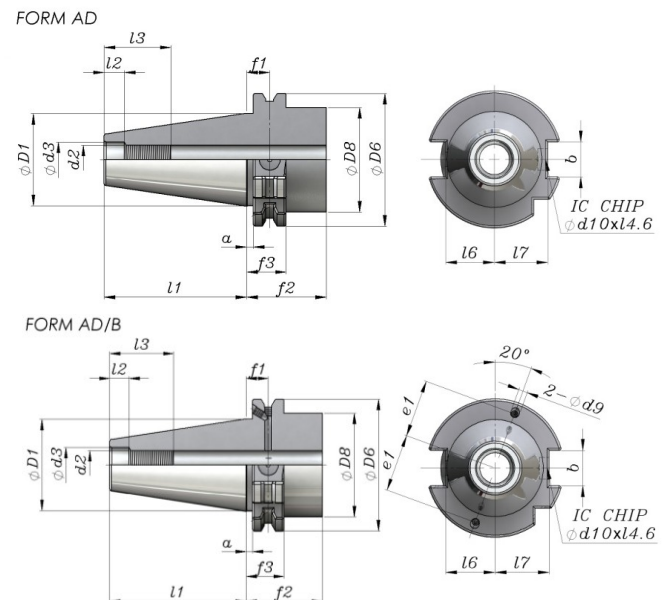
SK**AD/B(JT**AD/B)刀桿將兩種內冷卻方式整合命名為ISO**AD/F

SK刀桿上有一IC晶片孔是我們的生產標準品

CLAMPING FORCE	SK30	SK40	SK50
	6KN	12KN	25KN

TAPER	SK30AD	SK40AD	SK50AD
	JT30AD	JT40AD	JT50AD
	ISO30AD	ISO40AD	ISO50AD
ØD1	31.75	44.45	69.85
d2	M12*P1.75	M16*P2.0	M24*P3.0
Ød3 H7	13	17	25
ØD6 0.0/-0.1	50.00	63.55	97.50
ØD8 max.	45	50	80
a +/-0.1	3.2	3.2	3.2
f1 +/-0.1	11.1	11.1	11.1
f2 min.	35	35	35
f3 0.0/-0.1	19.1	19.1	19.1
l1 +/-0.3	47.80	68.40	101.75
l2 +0.5/0.0	5.5	8.2	11.5
l3	24	32	47
l6 0.0/-0.4	16.4	22.8	35.5
l7 0.0/-0.4	19.0	25.0	37.7
b H12	16.1	16.1	25.7

TAPER	SK30AD/B	SK40AD/B	SK50AD/B
	JT30AD/B	JT40AD/B	JT50AD/B
	ISO30AD/F	ISO40AD/F	ISO50AD/F
e1 +/-0.1	21	27	42
Ød9	4.0	4.0	6.0



圓錐角度公差 // TAPER ANGLE TOLERANCE			
TAPER	#30 TAPER	#40 TAPER	#50 TAPER
AT1 (mm)	+0.0008/+0.0013	+0.0010/+0.0016	+0.0013/+0.0020
AT2 (mm)	+0.0013/+0.0020	+0.0016/+0.0025	+0.0020/+0.0032
AT3 (mm)	+0.0020/+0.0032	+0.0025/+0.0040	+0.0032/+0.0050
圓錐角度直線度公差 // TAPER ANGLE STRAIGHTNESS TOLERANCE			
TAPER	#30 TAPER	#40 TAPER	#50 TAPER
	0.002	0.002	0.003
圓錐圓度公差 // TAPER ROUNDNESS TOLERANCE			
TAPER	#30 TAPER	#40 TAPER	#50 TAPER
	0.001	0.001	0.002

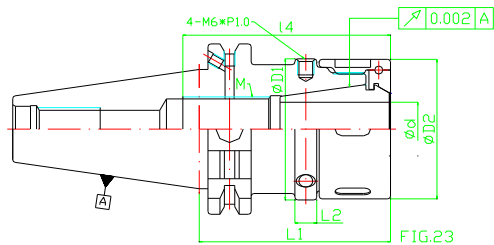
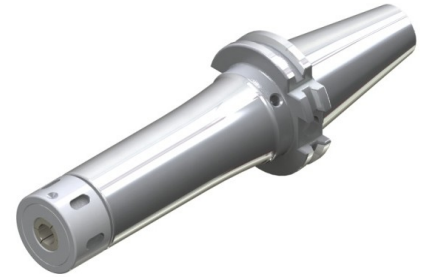
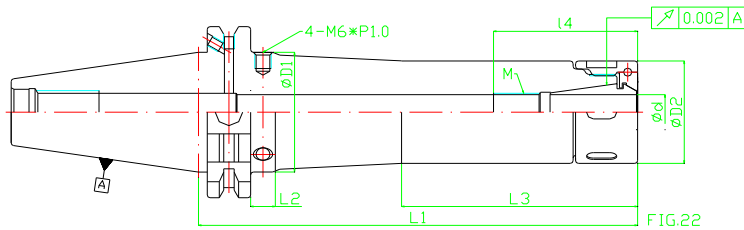
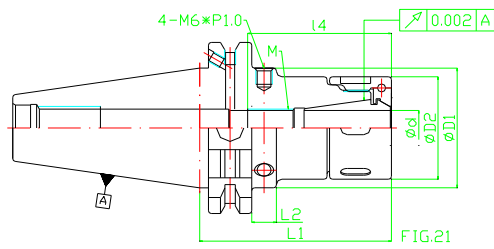
To achieve 0.002mm runout of T.I.R 7/24 taper

AT2 taper angle tolerance is a "MUST"

7/24圓錐刀桿要達到0.002mm的鼻端偏擺

AT2的錐度角度公差是必須的

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX
 supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SK40AD/B-SGER16-070	21	70	9	42	39	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.00	B	
◎	SK40AD/B-SGER16-100	21	100	9	72	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.20	B	
○	SK40AD/B-SGER16-120	21	120	9	92	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.30	B	
○	SK40AD/B-SGER16-160	22	160	9	86	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.70	B	
○	SK40AD/B-SGER16-200	22	200	9	126	46	44.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	2.10	B	
◎	SK40AD/B-SGER20-070	21	70	9	42	38	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.10	B	
◎	SK40AD/B-SGER20-100	21	100	9	73	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.30	B	
○	SK40AD/B-SGER20-120	21	120	9	92	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.40	B	
○	SK40AD/B-SGER20-160	22	160	9	86	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.80	B	
○	SK40AD/B-SGER20-200	22	200	9	126	51	44.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.20	B	
◎	SK40AD/B-SGER25-070	21	70	9	42	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.30	B	
◎	SK40AD/B-SGER25-100	21	100	9	72	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.60	B	
○	SK40AD/B-SGER25-120	21	120	9	92	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.80	B	
○	SK40AD/B-SGER25-160	21	160	9	132	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.20	B	
○	SK40AD/B-SGER25-200	21	200	9	172	53	44.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.60	B	
◎	SK40AD/B-SGER32-070	23	70	8	27	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.40	B	
◎	SK40AD/B-SGER32-100	23	100	8	57	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.70	B	
○	SK40AD/B-SGER32-120	23	120	8	77	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.90	B	
○	SK40AD/B-SGER32-160	23	160	8	117	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.20	B	
○	SK40AD/B-SGER32-200	23	200	8	157	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.70	B	
◎	SK40AD/B-SGER40-080	23	80	8	27	62	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	1.80	B	
◎	SK40AD/B-SGER40-100	23	100	8	57	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.10	B	
○	SK40AD/B-SGER40-120	23	120	8	77	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.40	B	
○	SK40AD/B-SGER40-160	23	160	8	117	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.00	B	
○	SK40AD/B-SGER40-200	23	200	8	157	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.40	B	

產品FIG.21, 22 & 23出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.21, 22 & 23 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ○=少量在庫品 // STOCK ◐=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // SK-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX

動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

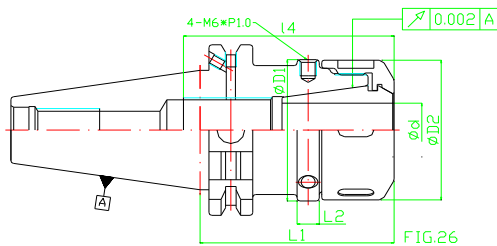
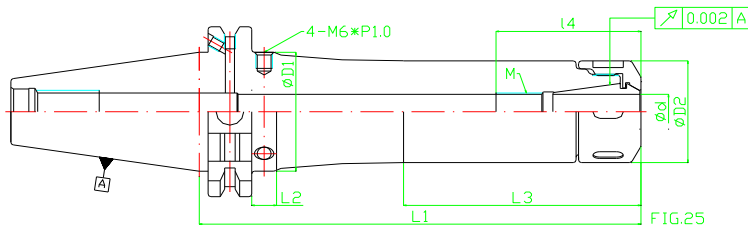
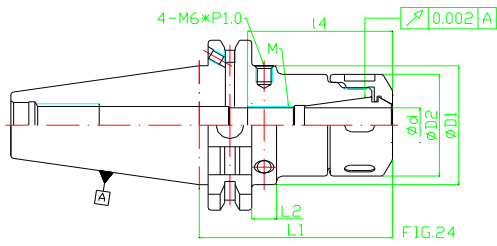
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SK50AD/B-SGER16-080	21	80	9	61	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	3.10	C	
	SK50AD/B-SGER16-100	21	100	9	81	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	3.20	C	
	SK50AD/B-SGER16-120	21	120	9	101	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	3.30	C	
	SK50AD/B-SGER16-160	22	160	9	70	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	3.70	C	
	SK50AD/B-SGER16-200	22	200	9	110	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	4.10	C	
	SK50AD/B-SGER20-080	21	80	9	61	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	3.20	C	
	SK50AD/B-SGER20-100	21	100	9	81	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	3.30	C	
	SK50AD/B-SGER20-120	21	120	9	101	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	3.40	C	
	SK50AD/B-SGER20-160	22	160	9	70	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	3.80	C	
	SK50AD/B-SGER20-200	22	200	9	110	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	4.20	C	
	SK50AD/B-SGER25-080	21	80	9	61	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	3.40	C	
	SK50AD/B-SGER25-100	21	100	9	81	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	3.60	C	
	SK50AD/B-SGER25-120	21	120	9	101	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	3.80	C	
	SK50AD/B-SGER25-160	22	160	9	70	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	4.20	C	
	SK50AD/B-SGER25-200	22	200	9	110	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	4.60	C	
	SK50AD/B-SGER32-080	21	80	9	61	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	3.50	C	
	SK50AD/B-SGER32-100	21	100	9	81	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	3.70	C	
	SK50AD/B-SGER32-120	21	120	9	101	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	3.90	C	
	SK50AD/B-SGER32-160	22	160	9	70	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	4.30	C	
	SK50AD/B-SGER32-200	22	200	9	110	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	4.70	C	
	SK50AD/B-SGER40-080	21	80	9	61	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.90	C	
	SK50AD/B-SGER40-100	21	100	9	81	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	4.10	C	
	SK50AD/B-SGER40-120	21	120	9	101	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	4.30	C	
	SK50AD/B-SGER40-160	21	160	9	141	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	4.70	C	
	SK50AD/B-SGER40-200	21	200	9	181	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	5.10	C	

產品FIG.21, 22 & 23出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.21, 22 & 23 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX
 supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SK40AD/B-SGER16SX-070	24	70	9	42	39	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.00	B	
◎	SK40AD/B-SGER16SX-100	24	100	9	72	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.20	B	
○	SK40AD/B-SGER16SX-120	24	120	9	92	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.30	B	
○	SK40AD/B-SGER16SX-160	25	160	9	86	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.70	B	
○	SK40AD/B-SGER16SX-200	25	200	9	126	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	2.10	B	
◎	SK40AD/B-SGER20SX-070	24	70	9	42	38	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.10	B	
◎	SK40AD/B-SGER20SX-100	24	100	9	73	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.30	B	
○	SK40AD/B-SGER20SX-120	24	120	9	92	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.40	B	
○	SK40AD/B-SGER20SX-160	25	160	9	86	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.80	B	
○	SK40AD/B-SGER20SX-200	25	200	9	126	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.20	B	
◎	SK40AD/B-SGER25SX-070	24	70	9	42	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.30	B	
◎	SK40AD/B-SGER25SX-100	24	100	9	72	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.60	B	
○	SK40AD/B-SGER25SX-120	24	120	9	92	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.80	B	
○	SK40AD/B-SGER25SX-160	25	160	9	132	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.20	B	
○	SK40AD/B-SGER25SX-200	25	200	9	172	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.60	B	
◎	SK40AD/B-SGER32SX-070	26	70	8	27	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.40	B	
◎	SK40AD/B-SGER32SX-100	26	100	8	57	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.70	B	
○	SK40AD/B-SGER32SX-120	26	120	8	77	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.90	B	
○	SK40AD/B-SGER32SX-160	26	160	8	117	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.20	B	
○	SK40AD/B-SGER32SX-200	26	200	8	157	57	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.70	B	
◎	SK40AD/B-SGER40SX-080	26	80	8	27	62	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	1.80	B	
◎	SK40AD/B-SGER40SX-100	26	100	8	57	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.10	B	
○	SK40AD/B-SGER40SX-120	26	120	8	77	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.40	B	
○	SK40AD/B-SGER40SX-160	26	160	8	117	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.00	B	
○	SK40AD/B-SGER40SX-200	26	200	8	157	67	62.4	62	3.0-26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.40	B	

產品FIG.24, 25 & 26出貨附件為高速平衡奈米螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.24, 25 & 26 EQUIP WITH BALANCED NANO NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ◉=regular stock | STOCK ○=少量在庫品 // STOCK ◐=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // SK-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX

supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX

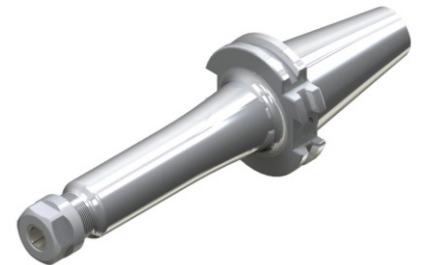
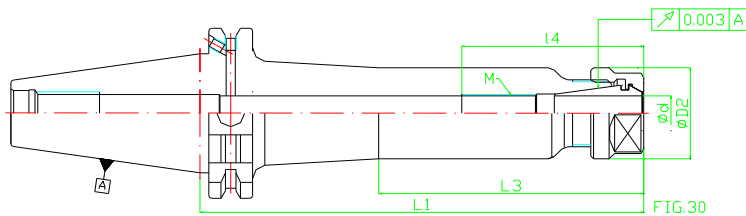
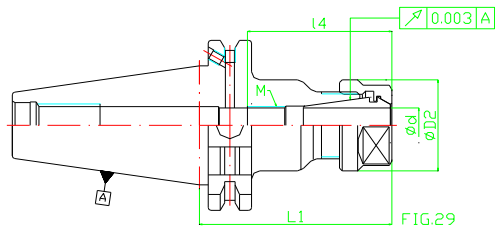
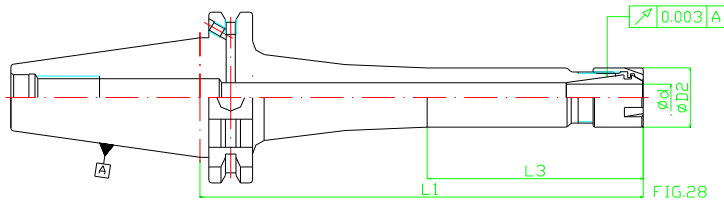
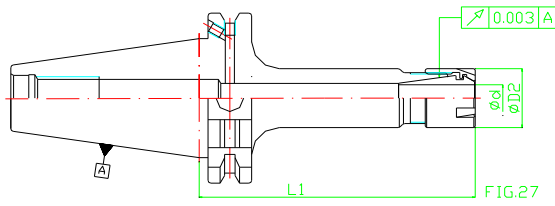
動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SK50AD/B-SGER16SX-080	24	80	9	61	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	3.10	C	
	SK50AD/B-SGER16SX-100	24	100	9	81	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	3.20	C	
	SK50AD/B-SGER16SX-120	24	120	9	101	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	3.30	C	
	SK50AD/B-SGER16SX-160	25	160	9	70	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	3.70	C	
	SK50AD/B-SGER16SX-200	25	200	9	110	46	69.8	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	4.10	C	
	SK50AD/B-SGER20SX-080	24	80	9	61	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	3.20	C	
	SK50AD/B-SGER20SX-100	24	100	9	81	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	3.30	C	
	SK50AD/B-SGER20SX-120	24	120	9	101	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	3.40	C	
	SK50AD/B-SGER20SX-160	25	160	9	70	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	3.80	C	
	SK50AD/B-SGER20SX-200	25	200	9	110	51	69.8	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	4.20	C	
	SK50AD/B-SGER25SX-080	24	80	9	61	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	3.40	C	
	SK50AD/B-SGER25SX-100	24	100	9	81	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	3.60	C	
	SK50AD/B-SGER25SX-120	24	120	9	101	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	3.80	C	
	SK50AD/B-SGER25SX-160	25	160	9	70	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	4.20	C	
	SK50AD/B-SGER25SX-200	25	200	9	110	53	69.8	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	4.60	C	
	SK50AD/B-SGER32SX-080	24	80	9	61	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	3.50	C	
	SK50AD/B-SGER32SX-100	24	100	9	81	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	3.70	C	
	SK50AD/B-SGER32SX-120	24	120	9	101	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	3.90	C	
	SK50AD/B-SGER32SX-160	25	160	9	70	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	4.30	C	
	SK50AD/B-SGER32SX-200	25	200	9	110	57	69.8	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	4.70	C	
	SK50AD/B-SGER40SX-080	24	80	9	61	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.90	C	
	SK50AD/B-SGER40SX-100	24	100	9	81	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	4.10	C	
	SK50AD/B-SGER40SX-120	24	120	9	101	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	4.30	C	
	SK50AD/B-SGER40SX-160	24	160	9	141	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	4.70	C	
	SK50AD/B-SGER40SX-200	24	200	9	181	67	69.8	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	5.10	C	

產品FIG.24, 25 & 26出貨附件為高速平衡奈米螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.24, 25 & 26 EQUIP WITH BALANCED NANO NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY



動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SK40AD/B-ER11M-100	27	100	-	81	-	-	16	0.5~7.0	-	ER11	N11MX nano	W-ER11M	1.00	D	
○	SK40AD/B-ER11M-160	27	160	-	141	-	-	16	0.5~7.0	-	ER11	N11MX nano	W-ER11M	1.50	D	
○	SK40AD/B-ER16M-100	27	100	-	81	-	-	22	0.5~10.0	-	ER16	N16MX nano	W-ER16M	1.10	D	
○	SK40AD/B-ER16M-160	28	160	-	70	-	36	22	0.5~10.0	-	ER16	N16MX nano	W-ER16M	1.60	D	
	SK40AD/B-ER20M-100	27	100	-	81	-	-	28	0.5~13.0	-	ER20	N20MX nano	W-ER20M	1.20	D	
	SK40AD/B-ER20M-160	28	160	-	70	-	42	28	0.5~13.0	-	ER20	N20MX nano	W-ER20M	1.70	D	
	SK40AD/B-ER25M-100	27	100	-	81	-	-	35	0.5~16.0	-	ER25	N25MX nano	W-ER25M	1.50	D	
	SK40AD/B-ER25M-160	28	160	-	70	-	45	35	0.5~16.0	-	ER25	N25MX nano	W-ER25M	2.10	D	

產品FIG.27 & 28出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.27 & 28 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.29 & 30出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.29 & 30 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◯=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // SK-ERM & SK-ER

ERM型螺帽筒夾刀桿 & ER筒夾刀桿

ERM nut collet chucks & ER collet chucks

動平衡G2.5/25,000RPM可以另外施作 // BALANCE TO G2.5/25,000RPM IS AVAILABLE ON REQUEST

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SK40AD/B-ER16-070	29	70	-	51	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.00	D	
○	SK40AD/B-ER16-100	29	100	-	81	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.20	D	
○	SK40AD/B-ER16-120	29	120	-	101	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.30	D	
○	SK40AD/B-ER16-160	30	160	-	86	46	36	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.70	D	
○	SK40AD/B-ER16-200	30	200	-	126	46	36	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	2.10	D	
○	SK40AD/B-ER20-070	29	70	-	51	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	1.10	D	
○	SK40AD/B-ER20-100	29	100	-	81	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	1.30	D	
○	SK40AD/B-ER20-120	29	120	-	101	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	1.40	D	
○	SK40AD/B-ER20-160	30	160	-	86	51	42	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	1.80	D	
○	SK40AD/B-ER20-200	30	200	-	126	51	42	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	2.20	D	
○	SK40AD/B-ER25-070	29	70	-	51	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.30	D	
○	SK40AD/B-ER25-100	29	100	-	81	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.60	D	
○	SK40AD/B-ER25-120	29	120	-	101	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.80	D	
○	SK40AD/B-ER25-160	29	160	-	141	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.20	D	
○	SK40AD/B-ER25-200	29	200	-	181	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.60	D	
○	SK40AD/B-ER32-070	29	70	-	51	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.40	D	
○	SK40AD/B-ER32-100	29	100	-	81	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.70	D	
○	SK40AD/B-ER32-120	29	120	-	11	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.90	D	
○	SK40AD/B-ER32-160	29	160	-	141	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.20	D	
○	SK40AD/B-ER32-200	29	200	-	181	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.70	D	
○	SK40AD/B-ER40-070	29	70	-	51	62	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	1.80	D	
○	SK40AD/B-ER40-100	29	100	-	81	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	2.10	D	
○	SK40AD/B-ER40-120	29	120	-	101	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	2.40	D	
○	SK40AD/B-ER40-160	29	160	-	141	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	3.00	D	
○	SK40AD/B-ER40-200	29	200	-	181	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	3.40	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SK50AD/B-ER16-070	29	70	-	51	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	3.10	D	
	SK50AD/B-ER16-100	29	100	-	81	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	3.20	D	
	SK50AD/B-ER16-120	29	120	-	101	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	3.30	D	
	SK50AD/B-ER16-160	30	160	-	70	46	40	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	3.70	D	
	SK50AD/B-ER16-200	30	200	-	110	46	40	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	4.10	D	
	SK50AD/B-ER20-070	29	70	-	51	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	3.20	D	
	SK50AD/B-ER20-100	29	100	-	81	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	3.30	D	
	SK50AD/B-ER20-120	29	120	-	101	51	-	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	3.40	D	
	SK50AD/B-ER20-160	30	160	-	70	51	46	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	3.80	D	
	SK50AD/B-ER20-200	30	200	-	110	51	46	34	0.5~13.0	M14*P1.0	ER20	N20SX nano	W-ER20	4.20	D	
	SK50AD/B-ER25-070	29	70	-	51	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	3.40	D	
	SK50AD/B-ER25-100	29	100	-	81	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	3.60	D	
	SK50AD/B-ER25-120	29	120	-	101	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	3.80	D	
	SK50AD/B-ER25-160	30	160	-	70	53	50	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	4.20	D	
	SK50AD/B-ER25-200	30	200	-	110	53	50	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	4.60	D	
	SK50AD/B-ER32-070	29	70	-	51	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	3.50	D	
	SK50AD/B-ER32-100	29	100	-	81	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	3.70	D	
	SK50AD/B-ER32-120	29	120	-	101	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	3.90	D	
	SK50AD/B-ER32-160	30	160	-	70	57	54	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	4.30	D	
	SK50AD/B-ER32-200	30	200	-	110	57	54	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	4.70	D	
	SK50AD/B-ER40-070	29	80	-	51	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	3.90	D	
	SK50AD/B-ER40-100	29	100	-	81	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	4.10	D	
	SK50AD/B-ER40-120	29	120	-	101	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	4.30	D	
	SK50AD/B-ER40-160	29	160	-	141	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	4.70	D	
	SK50AD/B-ER40-200	29	200	-	181	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	5.10	D	

產品FIG.27 & 28出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.27 & 28 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

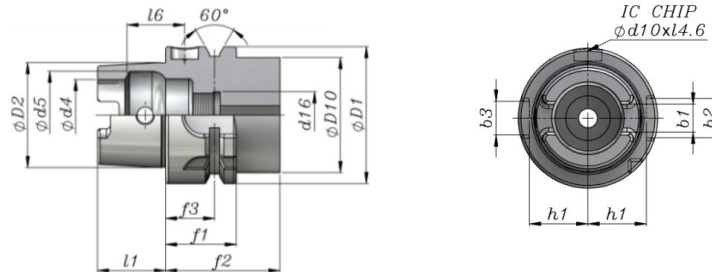
產品FIG.29 & 30出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.29 & 30 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◯=少量在庫品 // STOCK ◌=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

HSK is hollow shank short taper toolholder
 It was developed by Achen University in Germany in 1991
 In 1993, Germany published it as norm DIN69893-1~6:1993
 There are six different type of HSK: A, B, C, D, E & F
 In 2001, ISO published it as norm ISO12164-1:2001
 ISO revised the taper angle from 1:10 to 1:9.98
 It was to make sure the taper D2 will contact the spindle
 when HSK toolholder has dual contact on taper and face

HSK是中空短圓錐刀桿
 始於1991年德國阿亨大學開發
 1993年成為德國規範DIN69893-1~6:1993
 共有A, B, C, D, E & F六種錐度形式
 2001年成為ISO規範ISO12164-1:2001
 並將原本1/10的錐度改為1/9.98
 確保錐度與端面兩面接觸時
 中空短圓錐的大端能確實接觸



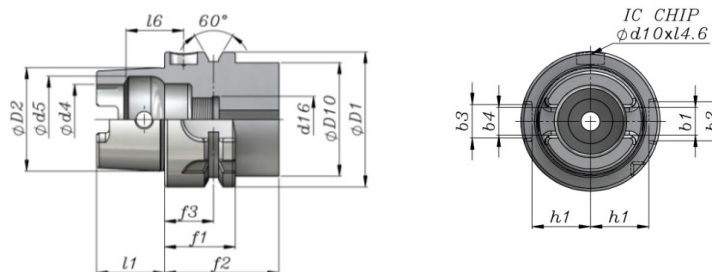
CLAMPING FORCE	HSK-A032	HSK-A040	HSK-A050	HSK-A063	HSK-A080	HSK-A100
	5KN	6.8KN	11KN	18KN	28KN	45KN

TAPER	HSK-A032	HSK-A040	HSK-A050	HSK-A063	HSK-A080	HSK-A100
ØD1 h10	32	40	50	63	80	100
ØD2	24 +0.007/+0.005	30 +0.007/+0.005	38 +0.009/+0.006	48 +0.011/+0.007	60 +0.013/+0.008	75 +0.015/+0.009
Ød4 H10	17	21	26	34	42	53
Ød5 H11	21.0	25.5	32.0	40.0	50.0	63.0
Ød10 max.	26	34	42	53	67	85
d16	M10*P1.0	M12*P1.0	M16*P1.0	M18*P1.0	M20*P1.5	M24*P1.5
f1 +0.0/-0.1	20	20	26	26	26	29
f2 min.	35	35	42	42	42	45
f3 +/-0.1	16	16	18	18	18	20
l1 +0.0/-0.2	16	20	25	32	40	50
l6 JS10	8.92	11.42	14.13	18.13	22.85	28.56
h1 +0.0/-0.2	13.0	17.0	21.0	26.5	34.0	44.0
b1 +0.04/-0.04	7.05	8.05	10.54	12.54	16.04	20.02
b2 H10	7	9	12	16	18	20
b3 H10	9	11	14	18	20	22

ezShrink EZ // HSK-T

In 2001, Japanese published HSK-ICTM
 It was a new norm of HSK toolholders for CNC mill/turn machines
 In 2008, ISO published it as norm ISO12164-4:2008
 It is called HSK-T toolholders

日本於2001年公佈HSK-ICTM
 規範車銑複合機使用的刀桿
 ISO在2008年將其納入規範ISO12164-4:2008
 稱為HSK-T刀桿



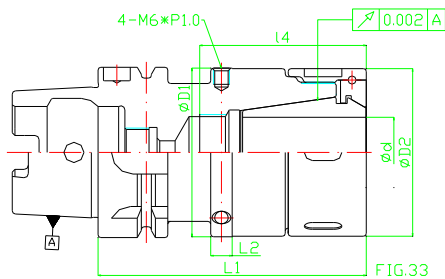
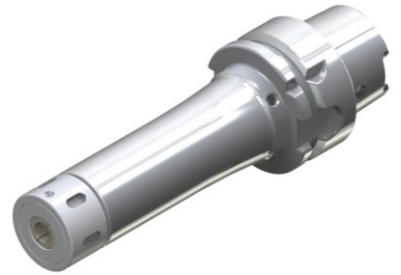
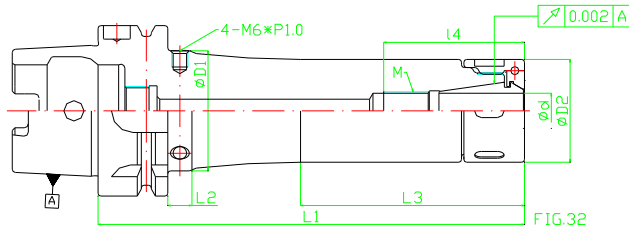
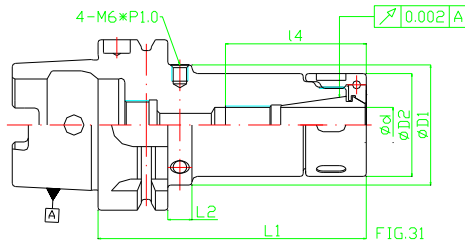
CLAMPING FORC	HSK-T032	HSK-T040	HSK-T050	HSK-T063	HSK-T080	HSK-T100
	6.5KN~7.5KN	8.84KN~10.2KN	14.3KN~16.5KN	23.4KN~28KN	36.4KN~42KN	58.5KN~67.5KN

TAPER	HSK-T032	HSK-T040	HSK-T050	HSK-T063	HSK-T080	HSK-T100
Ød10 max.	31	39	49	62	79	99
f2 min.	23	23	30	30	30	34
b1 +0.04/-0.04	7.05	8.05	10.54	12.54	16.04	20.02
b4	6.932 +0.030/-0.0	7.932 +0.030/-0.0	10.425 +0.035/-0.0	12.425 +0.035/-0.0	15.930 +0.035/-0.0	19.910 +0.035/-0.0

supERgrip SGER & ER // HSK-A-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxSGX



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A032-SGER16-070	33	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.50	D	
	HSK-A032-SGER20-070	33	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGX nano	W-FK05	0.60	D	
	HSK-A032-SGER25-070	33	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.70	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A040-SGER16-070	33	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.50	D	
	HSK-A040-SGER16-100	33	100	8	57	46	34.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.70	D	
	HSK-A040-SGER20-070	33	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGX nano	W-FK05	0.60	D	
	HSK-A040-SGER20-100	33	100	8	57	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.80	D	
	HSK-A040-SGER25-070	33	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.70	D	
	HSK-A040-SGER25-100	33	100	8	57	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	0.90	D	
	HSK-A040-SGER32-070	33	70	8	27	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	0.80	D	
	HSK-A040-SGER32-100	33	100	8	57	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.00	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A050-SGER16-070	31	70	9	35	-	38.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.70	D	
	HSK-A050-SGER16-100	31	100	9	65	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.90	D	
	HSK-A050-SGER20-070	31	70	9	35	-	38.4	34	0.5-10.0	-	ER20	N20SGX nano	W-FK04	0.80	D	
	HSK-A050-SGER20-100	31	100	9	65	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.00	D	
	HSK-A050-SGER25-080	33	80	8	30	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.90	D	
	HSK-A050-SGER25-100	33	100	8	50	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.10	D	
	HSK-A050-SGER32-080	33	80	8	30	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	1.00	D	
	HSK-A050-SGER32-100	33	100	8	50	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.20	D	
	HSK-A050-SGER40-080	33	80	8	30	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.60	D	
	HSK-A050-SGER40-100	33	100	8	50	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.90	D	

產品FIG.31, 32 & 33出貨附件為高速平衡奈米鋼珠螺帽NxSGX nano*1pc // PRODUCTS IN FIG.31, 32 & 33 EQUIP WITH BALANCED NANO BALL BEARING NUT NxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A063-SGER16-070	31	70	9	35	-	52.4	34	0.5~10.0	-	ER16	N16SGX nano	W-FK04	0.80	E	
	HSK-A063-SGER16-100	31	100	9	65	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.00	E	
	HSK-A063-SGER16-120	31	120	9	85	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.20	E	
	HSK-A063-SGER16-160	32	160	9	86	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.60	E	
	HSK-A063-SGER16-200	32	200	9	126	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	2.00	E	
	HSK-A063-SGER20-070	31	70	9	35	-	52.4	34	0.5~10.0	-	ER20	N20SGX nano	W-FK04	0.90	E	
	HSK-A063-SGER20-100	31	100	9	65	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.10	E	
	HSK-A063-SGER20-120	31	120	9	85	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.30	E	
	HSK-A063-SGER20-160	32	160	9	86	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.70	E	
	HSK-A063-SGER20-200	32	200	9	126	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.10	E	
	HSK-A063-SGER25-080	31	80	9	45	-	52.4	44	0.5~16.0	-	ER25	N25SGX nano	W-FK06	1.20	E	
	HSK-A063-SGER25-100	31	100	9	65	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.40	E	
	HSK-A063-SGER25-120	31	120	9	85	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.60	E	
	HSK-A063-SGER25-160	31	160	9	125	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.00	E	
	HSK-A063-SGER25-200	31	200	9	165	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.40	E	
	HSK-A063-SGER32-080	31	80	9	45	-	52.4	52	2.0~20.0	-	ER32	N32SGX nano	W-FK08	1.30	E	
	HSK-A063-SGER32-100	31	100	9	65	52	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.50	E	
	HSK-A063-SGER32-120	31	120	9	85	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.70	E	
	HSK-A063-SGER32-160	31	160	9	125	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.10	E	
	HSK-A063-SGER32-200	31	200	9	165	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.50	E	
	HSK-A063-SGER40-080	33	80	8	30	-	62.4	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	1.60	E	
	HSK-A063-SGER40-100	33	100	8	50	-	62.4	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	1.90	E	
	HSK-A063-SGER40-120	33	120	8	70	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.20	E	
	HSK-A063-SGER40-160	33	160	8	110	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.80	E	
	HSK-A063-SGER40-200	33	200	8	150	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.40	E	

產品FIG.31, 32 & 33出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.31, 32 & 33 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // HSK-A-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX

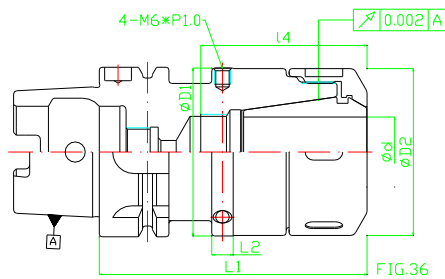
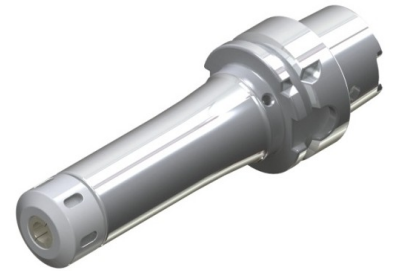
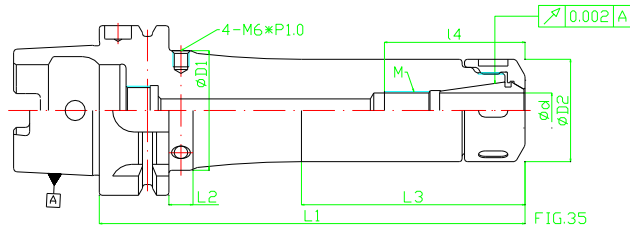
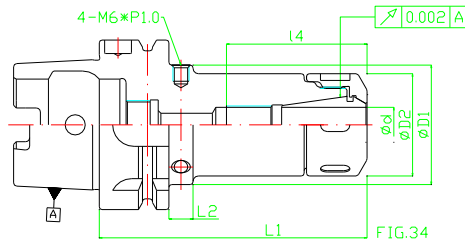
動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A080-SGER16-100	31	100	9	65	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.60	E	
	HSK-A080-SGER16-160	32	160	9	86	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	2.20	E	
	HSK-A080-SGER20-100	31	100	9	65	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.70	E	
	HSK-A080-SGER20-160	32	160	9	86	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.30	E	
	HSK-A080-SGER25-100	31	100	9	65	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.00	E	
	HSK-A080-SGER25-160	31	160	9	125	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.60	E	
	HSK-A080-SGER32-100	31	100	9	65	52	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.10	E	
	HSK-A080-SGER32-160	31	160	9	125	57	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.70	E	
	HSK-A080-SGER40-100	31	100	9	65	-	62.4	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	2.50	E	
	HSK-A080-SGER40-160	31	160	9	125	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.40	E	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A100-SGER16-100	31	100	9	62	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	2.40	E	
	HSK-A100-SGER16-120	31	120	9	82	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	2.60	E	
	HSK-A100-SGER16-160	32	160	9	70	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	3.00	E	
	HSK-A100-SGER16-200	32	200	9	110	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	3.40	E	
	HSK-A100-SGER20-100	31	100	9	62	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.50	E	
	HSK-A100-SGER20-120	31	120	9	82	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.70	E	
	HSK-A100-SGER20-160	32	160	9	70	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	3.10	E	
	HSK-A100-SGER20-200	32	200	9	110	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	3.50	E	
	HSK-A100-SGER25-100	31	100	9	62	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.80	E	
	HSK-A100-SGER25-120	31	120	9	82	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	3.00	E	
	HSK-A100-SGER25-160	32	160	9	70	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	3.40	E	
	HSK-A100-SGER25-200	32	200	9	110	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	3.80	E	
	HSK-A100-SGER32-100	31	100	9	62	52	84.0	52	2.0~20.0	-	ER32	N32SGX nano	W-FK08	2.90	E	
	HSK-A100-SGER32-120	31	120	9	82	57	84.0	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	3.10	E	
	HSK-A100-SGER32-160	32	160	9	70	57	84.0	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	3.50	E	
	HSK-A100-SGER32-200	32	200	9	110	57	84.0	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	3.90	E	
	HSK-A100-SGER40-100	31	100	9	62	-	84.0	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	3.30	E	
	HSK-A100-SGER40-120	31	120	9	82	67	84.0	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	3.60	E	
	HSK-A100-SGER40-160	31	160	9	122	67	84.0	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	4.20	E	
	HSK-A100-SGER40-200	31	200	9	162	67	84.0	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	4.80	E	

產品FIG.31, 32 & 33出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.31, 32 & 33 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

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動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A032-SGER16SX-070	36	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.50	D	
	HSK-A032-SGER20SX-070	36	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGSX nano	W-FK05	0.60	D	
	HSK-A032-SGER25SX-070	36	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	0.70	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A040-SGER16SX-070	36	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.50	D	
	HSK-A040-SGER16SX-100	36	100	8	57	46	34.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.70	D	
	HSK-A040-SGER20SX-070	36	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGSX nano	W-FK05	0.60	D	
	HSK-A040-SGER20SX-100	36	100	8	57	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	0.80	D	
	HSK-A040-SGER25SX-070	36	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	0.70	D	
	HSK-A040-SGER25SX-100	36	100	8	57	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	0.90	D	
	HSK-A040-SGER32SX-070	36	70	8	27	-	52.4	52	2.0-20.0	-	ER32	N32SGSX nano	W-FK08	0.80	D	
	HSK-A040-SGER32SX-100	36	100	8	57	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.00	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A050-SGER16SX-070	34	70	9	35	-	38.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.70	D	
	HSK-A050-SGER16SX-100	34	100	9	65	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.90	D	
	HSK-A050-SGER20SX-070	34	70	9	35	-	38.4	34	0.5-10.0	-	ER20	N20SGSX nano	W-FK04	0.80	D	
	HSK-A050-SGER20SX-100	34	100	9	65	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.00	D	
	HSK-A050-SGER25SX-080	36	80	8	30	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	0.90	D	
	HSK-A050-SGER25SX-100	36	100	8	50	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.10	D	
	HSK-A050-SGER32SX-080	36	80	8	30	-	52.4	52	2.0-20.0	-	ER32	N32SGSX nano	W-FK08	1.00	D	
	HSK-A050-SGER32SX-100	36	100	8	50	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.20	D	
	HSK-A050-SGER40SX-080	36	80	8	30	-	62.4	62	3.0-26.0	-	ER40	N40SGSX nano	W-FK09	1.60	D	
	HSK-A050-SGER40SX-100	36	100	8	50	-	62.4	62	3.0-26.0	-	ER40	N40SGSX nano	W-FK09	1.90	D	

產品FIG.34, 35 & 36出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.34, 35 & 36 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // HSK-A-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX

supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX

動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A063-SGER16SX-070	34	70	9	35	-	52.4	34	0.5~10.0	-	ER16	N16SGSX nano	W-FK04	0.80	E	
	HSK-A063-SGER16SX-100	34	100	9	65	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.00	E	
	HSK-A063-SGER16SX-120	34	120	9	85	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.20	E	
	HSK-A063-SGER16SX-160	35	160	9	86	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.60	E	
	HSK-A063-SGER16SX-200	35	200	9	126	46	52.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	2.00	E	
	HSK-A063-SGER20SX-070	34	70	9	35	-	52.4	34	0.5~10.0	-	ER20	N20SGSX nano	W-FK04	0.90	E	
	HSK-A063-SGER20SX-100	34	100	9	65	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.10	E	
	HSK-A063-SGER20SX-120	34	120	9	85	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.30	E	
	HSK-A063-SGER20SX-160	35	160	9	86	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.70	E	
	HSK-A063-SGER20SX-200	35	200	9	126	51	52.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.10	E	
	HSK-A063-SGER25SX-080	34	80	9	45	-	52.4	44	0.5~16.0	-	ER25	N25SGSX nano	W-FK06	1.20	E	
	HSK-A063-SGER25SX-100	34	100	9	65	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.40	E	
	HSK-A063-SGER25SX-120	34	120	9	85	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.60	E	
	HSK-A063-SGER25SX-160	34	160	9	125	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.00	E	
	HSK-A063-SGER25SX-200	34	200	9	165	53	52.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.40	E	
	HSK-A063-SGER32SX-080	34	80	9	45	-	52.4	52	2.0~20.0	-	ER32	N32SGSX nano	W-FK08	1.30	E	
	HSK-A063-SGER32SX-100	34	100	9	65	52	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.50	E	
	HSK-A063-SGER32SX-120	34	120	9	85	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.70	E	
	HSK-A063-SGER32SX-160	34	160	9	125	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.10	E	
	HSK-A063-SGER32SX-200	34	200	9	165	57	52.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.50	E	
	HSK-A063-SGER40SX-080	36	80	8	30	-	62.4	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	1.60	E	
	HSK-A063-SGER40SX-100	36	100	8	50	-	62.4	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	1.90	E	
	HSK-A063-SGER40SX-120	36	120	8	70	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.20	E	
	HSK-A063-SGER40SX-160	36	160	8	110	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.80	E	
	HSK-A063-SGER40SX-200	36	200	8	150	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.40	E	

產品FIG.34, 35 & 36出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.34, 35 & 36 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // HSK-A-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX
 supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX

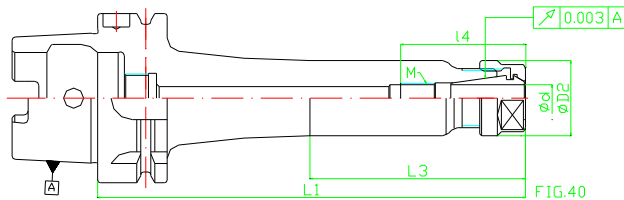
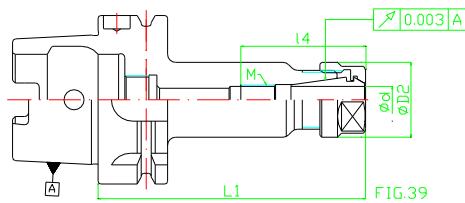
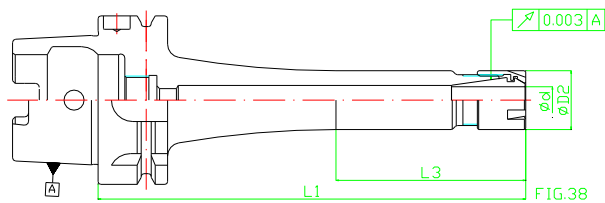
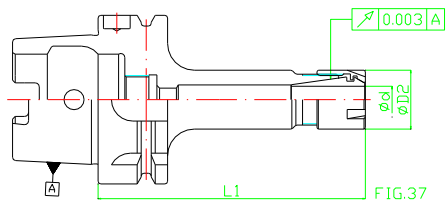
動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A080-SGER16SX-100	34	100	9	65	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.60	E	
	HSK-A080-SGER16SX-160	35	160	9	86	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	2.20	E	
	HSK-A080-SGER20SX-100	34	100	9	65	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.70	E	
	HSK-A080-SGER20SX-160	35	160	9	86	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.30	E	
	HSK-A080-SGER25SX-100	34	100	9	65	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.00	E	
	HSK-A080-SGER25SX-160	34	160	9	125	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.60	E	
	HSK-A080-SGER32SX-100	34	100	9	65	52	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.10	E	
	HSK-A080-SGER32SX-160	34	160	9	125	57	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.70	E	
	HSK-A080-SGER40SX-100	34	100	9	65	-	62.4	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	2.50	E	
	HSK-A080-SGER40SX-160	34	160	9	125	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.40	E	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A100-SGER16SX-100	34	100	9	62	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	2.40	E	
	HSK-A100-SGER16SX-120	34	120	9	82	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	2.60	E	
	HSK-A100-SGER16SX-160	35	160	9	70	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	3.00	E	
	HSK-A100-SGER16SX-200	35	200	9	110	46	84.0	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	3.40	E	
	HSK-A100-SGER20SX-100	34	100	9	62	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.50	E	
	HSK-A100-SGER20SX-120	34	120	9	82	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.70	E	
	HSK-A100-SGER20SX-160	35	160	9	70	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	3.10	E	
	HSK-A100-SGER20SX-200	35	200	9	110	51	84.0	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	3.50	E	
	HSK-A100-SGER25SX-100	34	100	9	62	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.80	E	
	HSK-A100-SGER25SX-120	34	120	9	82	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	3.00	E	
	HSK-A100-SGER25SX-160	35	160	9	70	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	3.40	E	
	HSK-A100-SGER25SX-200	35	200	9	110	53	84.0	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	3.80	E	
	HSK-A100-SGER32SX-100	34	100	9	62	52	84.0	52	2.0~20.0	-	ER32	N32SGSX nano	W-FK08	2.90	E	
	HSK-A100-SGER32SX-120	34	120	9	82	57	84.0	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	3.10	E	
	HSK-A100-SGER32SX-160	35	160	9	70	57	84.0	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	3.50	E	
	HSK-A100-SGER32SX-200	35	200	9	110	57	84.0	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	3.90	E	
	HSK-A100-SGER40SX-100	34	100	9	62	-	84.0	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	3.30	E	
	HSK-A100-SGER40SX-120	34	120	9	82	67	84.0	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	3.60	E	
	HSK-A100-SGER40SX-160	34	160	9	122	67	84.0	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	4.20	E	
	HSK-A100-SGER40SX-200	34	200	9	162	67	84.0	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	4.80	E	

產品FIG. 34, 35 & 36出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG. 34, 35 & 36 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A040-ER11-080	39	80	-	60	-	-	19	0.5-7.0	-	ER11	N11SX nano	W-ER11	0.50	G	
	HSK-A040-ER16-060	39	60	-	40	-	-	28	0.5-10.0	-	ER16	N16SX nano	W-ER16	0.50	G	
	HSK-A040-ER16-080	39	80	-	60	-	-	28	0.5-10.0	-	ER16	N16SX nano	W-ER16	0.60	G	
	HSK-A040-ER25-070	39	70	-	50	-	-	42	0.5-16.0	-	ER25	N25SX nano	W-FK06	0.70	G	
	HSK-A040-ER25-080	39	80	-	60	-	-	42	0.5-16.0	-	ER25	N25SX nano	W-FK06	0.80	G	
	HSK-A040-ER32-070	39	70	-	50	-	-	50	2.0-20.0	-	ER32	N32SX nano	W-FK08	0.80	G	
	HSK-A040-ER32-100	39	100	-	80	-	-	42	2.0-20.0	-	ER32	N32SX nano	W-FK08	1.00	G	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A050-ER16-060	39	60	-	34	-	-	28	0.5-10.0	-	ER16	N16SX nano	W-ER16	0.60	G	
	HSK-A050-ER16-100	39	100	-	74	46	-	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	0.90	G	
	HSK-A050-ER25-070	39	70	-	44	-	-	42	0.5-16.0	-	ER25	N25SX nano	W-FK06	0.80	G	
	HSK-A050-ER25-100	39	100	-	74	53	-	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.10	G	
	HSK-A050-ER32-080	39	80	-	54	-	-	50	2.0-20.0	-	ER32	N32SX nano	W-FK08	1.00	G	
	HSK-A050-ER32-100	39	100	-	74	52	-	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.20	G	

產品FIG.37 & 38出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.37 & 38 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.39 & 40出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.39 & 40 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A063-ER11M-100	37	100	-	74	-	-	16	0.5-7.0	-	ER11	N11MX nano	W-ER11M	0.80	F	
	HSK-A063-ER11M-130	37	130	-	104	-	-	16	0.5-7.0	-	ER11	N11MX nano	W-ER11M	1.10	F	
	HSK-A063-ER11M-160	37	160	-	134	-	-	16	0.5-7.0	-	ER11	N11MX nano	W-ER11M	1.40	F	
	HSK-A063-ER16M-100	37	100	-	74	-	-	22	0.5-10.0	-	ER16	N16MX nano	W-ER16M	0.90	F	
	HSK-A063-ER16M-130	37	130	-	104	-	-	22	0.5-10.0	-	ER16	N16MX nano	W-ER16M	1.20	F	
	HSK-A063-ER16M-160	38	160	-	70	-	36	22	0.5-10.0	-	ER16	N16MX nano	W-ER16M	1.50	F	
	HSK-A063-ER20M-100	37	100	-	74	-	-	22	0.5-13.0	-	ER20	N20MX nano	W-ER20M	0.90	F	
	HSK-A063-ER20M-130	37	130	-	104	-	-	22	0.5-13.0	-	ER20	N20MX nano	W-ER20M	1.20	F	
	HSK-A063-ER20M-160	38	160	-	70	-	36	22	0.5-13.0	-	ER20	N20MX nano	W-ER20M	1.50	F	
	HSK-A063-ER25M-100	37	100	-	74	-	-	35	0.5-16.0	-	ER25	N25MX nano	W-ER25M	1.30	F	
	HSK-A063-ER25M-130	37	130	-	104	-	-	35	0.5-16.0	-	ER25	N25MX nano	W-ER25M	1.60	F	
	HSK-A063-ER25M-160	38	160	-	70	-	45	35	0.5-16.0	-	ER25	N25MX nano	W-ER25M	1.90	F	
	HSK-A063-ER11-075	39	75	-	49	-	-	19	0.5-7.0	-	ER11	N11SX nano	W-ER11	0.70	F	
	HSK-A063-ER16-075	39	75	-	49	-	-	28	0.5-10.0	-	ER16	N16SX nano	W-ER16	0.80	F	
	HSK-A063-ER16-100	39	100	-	74	46	-	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.00	F	
	HSK-A063-ER16-160	40	160	-	86	46	36	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.60	F	
	HSK-A063-ER16-200	40	200	-	126	46	36	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	2.10	F	
	HSK-A063-ER25-075	39	75	-	49	-	-	42	0.5-16.0	-	ER25	N25SX nano	W-FK06	1.20	F	
	HSK-A063-ER25-100	39	100	-	74	53	-	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.40	F	
	HSK-A063-ER25-160	39	160	-	134	53	-	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.00	F	
	HSK-A063-ER25-200	39	200	-	174	53	-	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.50	F	
	HSK-A063-ER32-075	39	75	-	49	-	-	50	2.0-20.0	-	ER32	N32SX nano	W-FK08	1.30	F	
	HSK-A063-ER32-100	39	100	-	74	52	-	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.50	F	
	HSK-A063-ER32-160	39	160	-	134	57	-	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.10	F	
	HSK-A063-ER32-200	39	200	-	174	57	-	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.60	F	
	HSK-A063-ER40-085	39	85	-	59	-	-	63	3.0-26.0	-	ER40	N40SX nano	W-FK09	1.60	F	
	HSK-A063-ER40-120	39	120	-	94	67	-	63	3.0-26.0	M28*P1.5	ER40	N40SX nano	W-FK09	2.20	F	
	HSK-A063-ER40-160	39	160	-	134	67	-	63	3.0-26.0	M28*P1.5	ER40	N40SX nano	W-FK09	2.80	F	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A080-ER16-100	39	100	-	74	46	-	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.60	H	
	HSK-A080-ER16-160	40	160	-	86	46	36	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	2.20	H	
	HSK-A080-ER25-100	39	100	-	74	53	-	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.00	H	
	HSK-A080-ER25-160	39	160	-	134	53	-	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.60	H	
	HSK-A080-ER32-100	39	100	-	74	52	-	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.10	H	
	HSK-A080-ER32-160	39	160	-	134	57	-	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.70	H	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-A100-ER16-100	39	100	-	71	46	-	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	2.40	F	
	HSK-A100-ER16-160	40	160	-	70	46	40	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	3.00	F	
	HSK-A100-ER16-200	40	200	-	110	46	40	28	0.5-10.0	M11*P1.0	ER16	N16SX nano	W-ER16	3.40	F	
	HSK-A100-ER25-100	39	100	-	71	53	-	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.80	F	
	HSK-A100-ER25-160	40	160	-	70	53	50	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	3.40	F	
	HSK-A100-ER25-200	40	200	-	110	53	50	42	0.5-16.0	M18*P1.5	ER25	N25SX nano	W-FK06	3.80	F	
	HSK-A100-ER32-100	39	100	-	71	52	-	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.90	F	
	HSK-A100-ER32-160	40	160	-	70	57	54	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	3.50	F	
	HSK-A100-ER32-200	40	200	-	110	57	54	50	2.0-20.0	M24*P1.5	ER32	N32SX nano	W-FK08	3.90	F	
	HSK-A100-ER40-120	39	120	-	91	67	-	63	3.0-26.0	M28*P1.5	ER40	N40SX nano	W-FK09	3.60	F	
	HSK-A100-ER40-160	39	160	-	131	67	-	63	3.0-26.0	M28*P1.5	ER40	N40SX nano	W-FK09	4.20	F	
	HSK-A100-ER40-200	39	200	-	171	67	-	63	3.0-26.0	M28*P1.5	ER40	N40SX nano	W-FK09	4.80	F	

產品FIG.37 & 38出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.37 & 38 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.39 & 40出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.39 & 40 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◐=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // HSK-E

HSK is hollow shank short taper toolholders

It was developed by Aachen University in Germany in 1991

In 1993, Germany published it as norm DIN69893-1~6:1993

There are six different type of HSK: A, B, C, D, E & F

In 2001, ISO published it as norm ISO12164-1:2001

ISO revised the taper angle from 1:10 to 1:9.98

It was to make sure the taper D2 will contact the spindle
when HSK toolholder has dual contact on taper and face

HSK是中空短圓錐刀桿

始於1991年德國阿亨大學開發

1993年成為德國規範DIN69893-1~6:1993

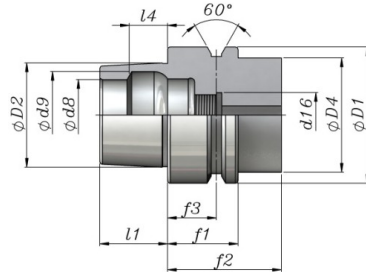
共有A, B, C, D, E & F六種錐度形式

2001年成為ISO規範ISO12164-1:2001

並將原本1/10的錐度改為1/9.98

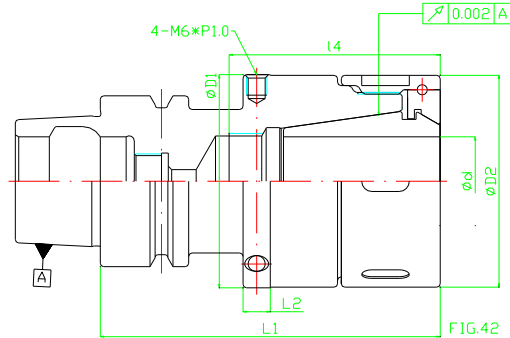
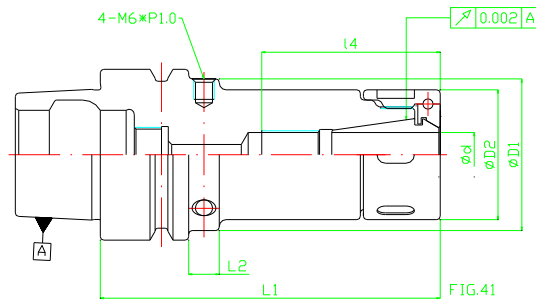
確保錐度與端面兩面接觸時

中空短圓錐的大端能確實接觸



CLAMPING FORCE	HSK-E025	HSK-E032	HSK-E040	HSK-E050	HSK-E063
	2.8KN	5KN	6.8KN	11KN	18KN

TAPER	HSK-E025	HSK-E032	HSK-E040	HSK-E050	HSK-E063
ØD1 h10	25	32	40	50	63
ØD2	19 +0.006/+0.004	24 +0.007/+0.005	30 +0.007/+0.005	38 +0.009/+0.006	48 +0.011/+0.007
ØD4 max.	20	26	34	42	53
Ød8 H10	14	17	21	26	34
Ød9 H11	16.4	21.0	25.5	32.0	40.0
d16	M10*P1.0	M10*P1.0	M12*P1.0	M16*P1.0	M18*P1.0
f1 0.0/-0.1	10	20	20	26	26
f2 min.	20	35	35	42	42
f3 +/-0.1	4.5	16.0	16.0	18.0	18.0
l1 0.0/-0.2	13	16	20	25	32
l4 JS10	7.21	8.92	11.42	14.13	18.13



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-E032-SGER16-070	42	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.50	D	
	HSK-E032-SGER20-070	42	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGX nano	W-FK05	0.60	D	
	HSK-E032-SGER25-070	42	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.70	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-E040-SGER16-070	42	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.50	D	
	HSK-E040-SGER16-100	42	100	8	57	46	34.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.70	D	
	HSK-E040-SGER20-070	42	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGX nano	W-FK05	0.60	D	
	HSK-E040-SGER20-100	42	100	8	57	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.80	D	
	HSK-E040-SGER25-070	42	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.70	D	
	HSK-E040-SGER25-100	42	100	8	57	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	0.90	D	
	HSK-E040-SGER32-070	42	70	8	27	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	0.80	D	
	HSK-E040-SGER32-100	42	100	8	57	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.00	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-E050-SGER16-070	41	70	9	44	-	38.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.70	D	
	HSK-E050-SGER16-100	41	100	9	74	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.90	D	
	HSK-E050-SGER20-070	41	70	9	44	-	38.4	34	0.5-10.0	-	ER20	N20SGX nano	W-FK04	0.80	D	
	HSK-E050-SGER20-100	41	100	9	74	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.00	D	
	HSK-E050-SGER25-080	42	80	8	30	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.90	D	
	HSK-E050-SGER25-100	42	100	8	50	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.10	D	
	HSK-E050-SGER32-080	42	80	8	30	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	1.00	D	
	HSK-E050-SGER32-100	42	100	8	50	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.20	D	
	HSK-E050-SGER40-080	42	80	8	30	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.60	D	
	HSK-E050-SGER40-100	42	100	8	50	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.90	D	

產品FIG.41 & 42出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.41 & 42 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

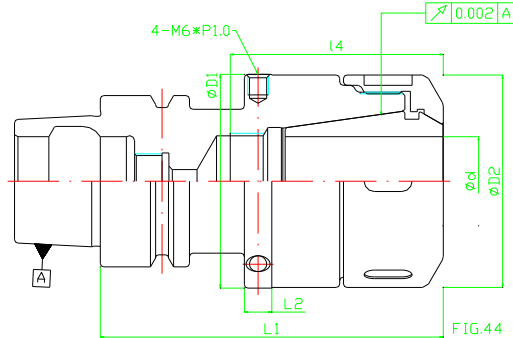
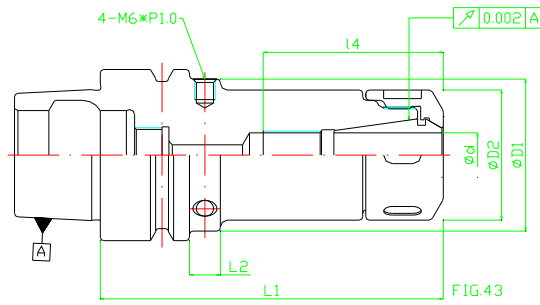
STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // HSK-E-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX

supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-E032-SGER16SX-070	44	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.50	D	
	HSK-E032-SGER20SX-070	44	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGSX nano	W-FK05	0.60	D	
	HSK-E032-SGER25SX-070	44	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	0.70	D	
STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-E040-SGER16SX-070	44	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.50	D	
	HSK-E040-SGER16SX-100	44	100	8	57	46	34.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.70	D	
	HSK-E040-SGER20SX-070	44	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGSX nano	W-FK05	0.60	D	
	HSK-E040-SGER20SX-100	44	100	8	57	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	0.80	D	
	HSK-E040-SGER25SX-070	44	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	0.70	D	
	HSK-E040-SGER25SX-100	44	100	8	57	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	0.90	D	
	HSK-E040-SGER32SX-070	44	70	8	27	-	52.4	52	2.0-20.0	-	ER32	N32SGSX nano	W-FK08	0.80	D	
	HSK-E040-SGER32SX-100	44	100	8	57	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.00	D	
STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-E050-SGER16SX-070	43	70	9	44	-	38.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.70	D	
	HSK-E050-SGER16SX-100	43	100	9	74	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.90	D	
	HSK-E050-SGER20SX-070	43	70	9	44	-	38.4	34	0.5-10.0	-	ER20	N20SGSX nano	W-FK04	0.80	D	
	HSK-E050-SGER20SX-100	43	100	9	74	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.00	D	
	HSK-E050-SGER25SX-080	44	80	8	30	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	0.90	D	
	HSK-E050-SGER25SX-100	44	100	8	50	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.10	D	
	HSK-E050-SGER32SX-080	44	80	8	30	-	52.4	52	2.0-20.0	-	ER32	N32SGSX nano	W-FK08	1.00	D	
	HSK-E050-SGER32SX-100	44	100	8	50	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.20	D	
	HSK-E050-SGER40SX-080	44	80	8	30	-	62.4	62	3.0-26.0	-	ER40	N40SGSX nano	W-FK09	1.60	D	
	HSK-E050-SGER40SX-100	44	100	8	50	-	62.4	62	3.0-26.0	-	ER40	N40SGSX nano	W-FK09	1.90	D	

產品FIG.43 & 44出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.43 & 44 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◯=少量在庫品 // STOCK ◌=few stock | STOCK無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

HSK is hollow shank short taper toolholders

It was developed by Aachen University in Germany in 1991

In 1993, Germany published it as norm DIN69893-1~6:1993

There are six different type of HSK: A, B, C, D, E & F

In 2001, ISO published it as norm ISO12164-1:2001

ISO revised the taper angle from 1:10 to 1:9.98

It was to make sure the taper D2 will contact the spindle

when HSK toolholder has dual contact on taper and face

HSK是中空短圓錐刀桿

始於1991年德國阿亨大學開發

1993年成為德國規範DIN69893-1~6:1993

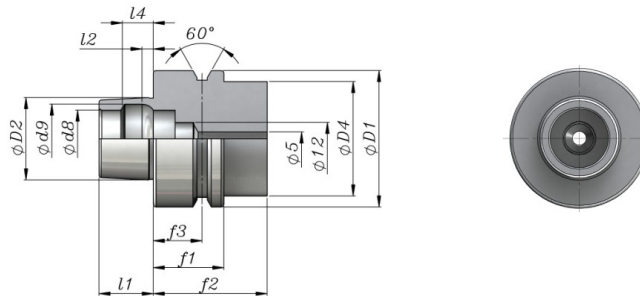
共有A, B, C, D, E & F六種錐度形式

2001年成為ISO規範ISO12164-1:2001

並將原本1/10的錐度改為1/9.98

確保錐度與端面兩面接觸時

中空短圓錐的大端能確實接觸



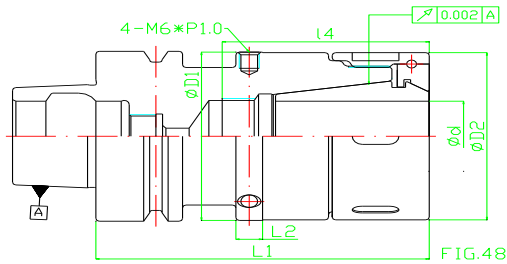
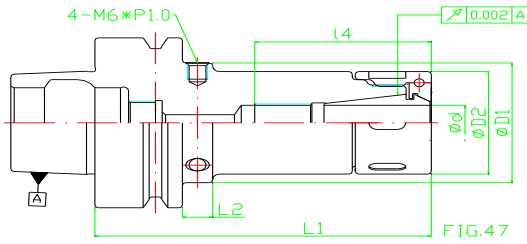
CLAMPING FORCE	HSK-F032	HSK-F040	HSK-F050	HSK-F063
	5KN	6.8KN	11KN	18KN

TAPER	HSK-F32	HSK-F40	HSK-F50	HSK-F63
ØD1 h10	32	40	50	63
ØD2	24 +0.007/+0.005	24 +0.007/+0.005	30 +0.007/+0.005	38 +0.009/+0.006
ØD4 max.	26	34	42	53
Ød8 H10	17	17	21	26
Ød9 H11	21.0	21.0	25.5	32.0
f1 0.0/-0.1	20.0	20.0	26.0	26.0
f2 min.	35	35	42	42
f3 +/-0.1	16	16	18	18
f3 +/-0.1	16.0	16.0	18.0	18.0
l1 0.0/-0.2	16	16	20	25
l2	3	4	5	6
l4 JS10	8.92	8.92	11.42	14.13

supERgrip SGER & ER // HSK-F-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX



動平衡G2.5/25,000RPM或小于1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-F040-SGER16-070	48	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.50	D	
	HSK-F040-SGER16-100	48	100	8	57	46	34.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.70	D	
	HSK-F040-SGER20-070	48	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGX nano	W-FK05	0.60	D	
	HSK-F040-SGER20-100	48	100	8	57	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.80	D	
	HSK-F040-SGER25-070	48	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.70	D	
	HSK-F040-SGER25-100	48	100	8	57	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	0.90	D	
	HSK-F040-SGER32-070	48	70	8	27	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	0.80	D	
	HSK-F040-SGER32-100	48	100	8	57	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.00	D	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-F063-SGER16-070	47	70	9	44	-	38.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.80	D	
	HSK-F063-SGER16-100	47	100	9	74	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.00	D	
	HSK-F063-SGER20-070	47	70	9	44	-	38.4	34	0.5-10.0	-	ER20	N20SGX nano	W-FK04	0.90	D	
	HSK-F063-SGER20-100	47	100	9	74	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.10	D	
	HSK-F063-SGER25-080	48	80	8	30	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	1.20	D	
	HSK-F063-SGER25-100	48	100	8	50	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.40	D	
	HSK-F063-SGER32-080	48	80	8	30	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	1.30	D	
	HSK-F063-SGER32-100	48	100	8	50	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.50	D	
	HSK-F063-SGER40-080	48	80	8	30	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.60	D	
	HSK-F063-SGER40-100	48	100	8	50	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.90	D	

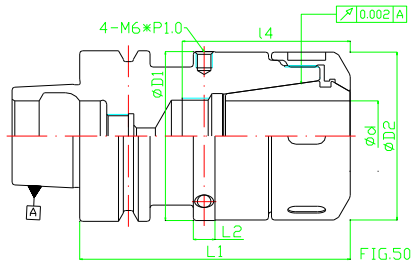
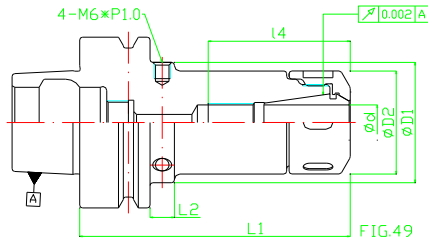
產品FIG.47 & 48出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.47 & 48 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ©=標準在庫品 // STOCK ©=regular stock | STOCK ◯=少量在庫品 // STOCK ◯=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // HSK-F-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX
 supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-F040-SGER16SX-070	50	70	8	27	-	34.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.50	D	
	HSK-F040-SGER16SX-100	50	100	8	57	46	34.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	0.70	D	
	HSK-F040-SGER20SX-070	50	70	8	27	-	38.4	38	0.5-13.0	-	ER20	N20SGSX nano	W-FK05	0.60	D	
	HSK-F040-SGER20SX-100	50	100	8	57	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	0.80	D	
	HSK-F040-SGER25SX-070	50	70	8	27	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	0.70	D	
	HSK-F040-SGER25SX-100	50	100	8	57	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	0.90	D	
	HSK-F040-SGER32SX-070	50	70	8	27	-	52.4	52	2.0-20.0	-	ER32	N32SGSX nano	W-FK08	0.80	D	
	HSK-F040-SGER32SX-100	50	100	8	57	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.00	D	
STOCK	CODE	FIG.	L1	L2	L3	L4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	HSK-F063-SGER16SX-070	49	70	9	44	-	38.4	34	0.5-10.0	-	ER16	N16SGSX nano	W-FK04	0.80	D	
	HSK-F063-SGER16SX-100	49	100	9	74	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.00	D	
	HSK-F063-SGER20SX-070	49	70	9	44	-	38.4	34	0.5-10.0	-	ER20	N20SGSX nano	W-FK04	0.90	D	
	HSK-F063-SGER20SX-100	49	100	9	74	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.10	D	
	HSK-F063-SGER25SX-080	50	80	8	30	-	44.4	44	0.5-16.0	-	ER25	N25SGSX nano	W-FK06	1.20	D	
	HSK-F063-SGER25SX-100	50	100	8	50	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.40	D	
	HSK-F063-SGER32SX-080	50	80	8	30	-	52.4	52	2.0-20.0	-	ER32	N32SGSX nano	W-FK08	1.30	D	
	HSK-F063-SGER32SX-100	50	100	8	50	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.50	D	
	HSK-F063-SGER40SX-080	50	80	8	30	-	62.4	62	3.0-26.0	-	ER40	N40SGSX nano	W-FK09	1.60	D	
	HSK-F063-SGER40SX-100	50	100	8	50	-	62.4	62	3.0-26.0	-	ER40	N40SGSX nano	W-FK09	1.90	D	

產品FIG.49 & 50出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.49 & 50 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

PSC is hollow polygon shank short taper toolholders

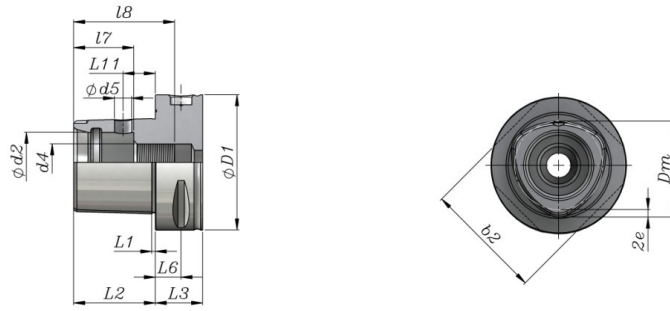
In 2008, ISO published it as norm ISO26623-1:2008

It is called PSC toolholders

PSC是三角中空短圓錐刀桿

2008年成為ISO規範ISO26623-1:2008

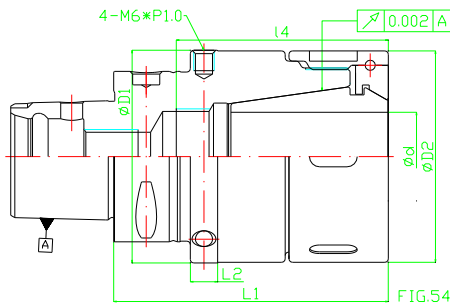
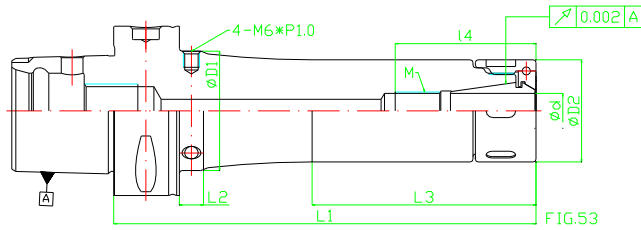
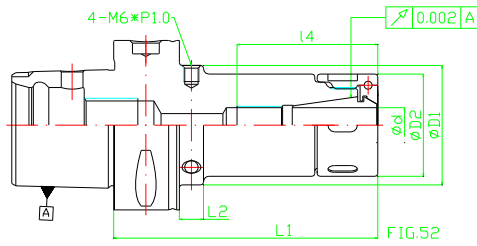
稱為PSC刀桿



CLAMPING FORCE	PSC032	PSC040	PSC050	PSC063	PSC080	PSC100
	-	-	32KN	41KN	50KN	70KN

TAPER	PSC032	PSC040	PSC050	PSC063	PSC080	PSC100
ØD1 +/-0.1	32	40	50	63	80	100
ØD2	15	18	21	28	32	43
d4	M12*P1.5	M14*P1.5	M16*P1.5	M20*P2.0	M20*P2.0	M24*P2.0
Ød5 +/-0.1	3.6	4.6	6.1	8.1	9.1	12.0
L1	2.5	2.5	3.0	3.0	3.0	3.0
L2 +/-0.1	19	24	30	38	48	60
L3 min.	15	20	20	22	30	36
L6 +/-0.15	6	8	10	12	12	16
L7 +/-0.15	13	15	20	27	28	40
L8 min.	25	30	37	47	48	70
L11 +/-0.1	8.0	11.5	14.0	15.5	25.0	26.5

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX
 supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC040-SGER16-060	52	60	9	40	-	38.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.50	E	
	PSC040-SGER16-100	52	100	9	80	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.70	E	
	PSC040-SGER20-060	52	60	9	40	-	38.4	38	0.5-13.0	-	ER20	N20SGX nano	W-FK05	0.60	E	
	PSC040-SGER20-100	52	100	9	80	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	0.80	E	
	PSC040-SGER25-060	54	60	8	40	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.70	E	
	PSC040-SGER25-100	54	100	8	80	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	0.90	E	
	PSC040-SGER32-060	54	60	8	40	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	0.80	E	
	PSC040-SGER32-100	54	100	8	80	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.00	E	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC050-SGER16-060	52	60	9	40	-	44.4	34	0.5-10.0	-	ER16	N16SGX nano	W-FK04	0.70	E	
	PSC050-SGER16-100	52	100	9	80	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	0.90	E	
	PSC050-SGER20-060	52	60	9	40	-	44.4	34	0.5-10.0	-	ER20	N20SGX nano	W-FK04	0.80	E	
	PSC050-SGER20-100	52	100	9	80	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.00	E	
	PSC050-SGER25-060	52	60	9	40	-	44.4	44	0.5-16.0	-	ER25	N25SGX nano	W-FK06	0.90	E	
	PSC050-SGER25-100	52	100	9	80	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.10	E	
	PSC050-SGER32-060	54	60	8	40	-	52.4	52	2.0-20.0	-	ER32	N32SGX nano	W-FK08	1.00	E	
	PSC050-SGER32-100	54	100	8	80	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.20	E	
	PSC050-SGER40-070	54	70	8	40	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.60	E	
	PSC050-SGER40-100	54	100	8	80	-	62.4	62	3.0-26.0	-	ER40	N40SGX nano	W-FK09	1.90	E	

產品FIG.52, 46 & 54出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.52, 46 & 54 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // PSC-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER power ER collet chucks+balanced nano ball bearing nut NxxSGX

動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

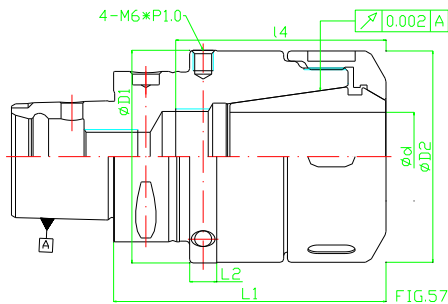
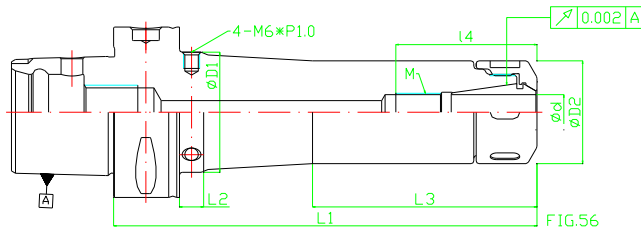
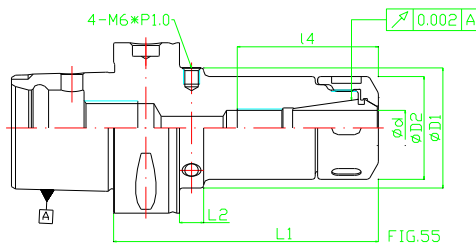
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	
	PSC063-SGER16-060	52	60	9	38	-	62.4	34	0.5~10.0	-	ER16	N16SGX nano	W-FK04	0.80	E	
	PSC063-SGER16-100	52	100	9	78	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.00	E	
	PSC063-SGER16-120	52	120	9	98	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.20	E	
	PSC063-SGER16-160	53	160	9	86	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	1.60	E	
	PSC063-SGER20-060	52	60	9	38	-	62.4	34	0.5~10.0	-	ER20	N20SGX nano	W-FK04	0.90	E	
	PSC063-SGER20-100	52	100	9	78	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.10	E	
	PSC063-SGER20-120	52	120	9	98	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.30	E	
	PSC063-SGER20-160	53	160	9	86	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	1.70	E	
	PSC063-SGER25-060	52	60	9	38	-	62.4	44	0.5~16.0	-	ER25	N25SGX nano	W-FK06	1.20	E	
	PSC063-SGER25-100	52	100	9	78	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.40	E	
	PSC063-SGER25-120	52	120	9	98	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	1.60	E	
	PSC063-SGER25-160	52	160	9	138	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.00	E	
	PSC063-SGER32-060	52	60	9	38	-	62.4	52	2.0~20.0	-	ER32	N32SGX nano	W-FK08	1.30	E	
	PSC063-SGER32-100	52	100	9	78	52	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.50	E	
	PSC063-SGER32-120	52	120	9	98	57	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	1.70	E	
	PSC063-SGER32-160	52	160	9	138	57	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.10	E	
	PSC063-SGER40-070	52	70	9	48	-	62.4	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	1.60	E	
	PSC063-SGER40-100	52	100	9	78	-	62.4	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	1.90	E	
	PSC063-SGER40-120	52	120	9	98	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.20	E	
	PSC063-SGER40-160	52	160	9	138	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGX nano	W-FK09	2.80	E	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC080-SGER16-070	52	70	9	40	-	62.4	34	0.5~10.0	-	ER16	N16SGX nano	W-FK04	1.60	E	
	PSC080-SGER16-100	52	100	9	70	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGX nano	W-FK04	2.20	E	
	PSC080-SGER20-070	52	70	9	40	-	62.4	38	0.5~13.0	-	ER20	N20SGX nano	W-FK05	1.70	E	
	PSC080-SGER20-100	52	100	9	70	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGX nano	W-FK05	2.30	E	
	PSC080-SGER25-070	52	70	9	40	-	62.4	44	0.5~16.0	-	ER25	N25SGX nano	W-FK06	2.00	E	
	PSC080-SGER25-100	52	100	9	70	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGX nano	W-FK06	2.60	E	
	PSC080-SGER32-070	52	70	9	40	-	62.4	52	2.0~20.0	-	ER32	N32SGX nano	W-FK08	2.10	E	
	PSC080-SGER32-100	52	100	9	70	52	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGX nano	W-FK08	2.70	E	
	PSC080-SGER40-080	52	80	9	50	-	62.4	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	2.50	E	
	PSC080-SGER40-100	52	100	9	70	-	62.4	62	3.0~26.0	-	ER40	N40SGX nano	W-FK09	3.40	E	

產品FIG.52, 53 & 54出貨附件為高速平衡奈米鋼珠螺帽NxxSGX nano*1pc // PRODUCTS IN FIG.52, 53 & 54 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX
 supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC040-SGER16SX-060	55	60	9	40	-	38.4	34	0.5-10.0	-	ER16	N16SGSX	nano W-FK04	0.50	E	
	PSC040-SGER16SX-100	55	100	9	80	46	38.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX	nano W-FK04	0.70	E	
	PSC040-SGER20SX-060	55	60	9	40	-	38.4	38	0.5-13.0	-	ER20	N20SGSX	nano W-FK05	0.60	E	
	PSC040-SGER20SX-100	55	100	9	80	51	38.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX	nano W-FK05	0.80	E	
	PSC040-SGER25SX-060	57	60	8	40	-	44.4	44	0.5-16.0	-	ER25	N25SGSX	nano W-FK06	0.70	E	
	PSC040-SGER25SX-100	57	100	8	80	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX	nano W-FK06	0.90	E	
	PSC040-SGER32SX-060	57	60	8	40	-	52.4	52	2.0-20.0	-	ER32	N32SGSX	nano W-FK08	0.80	E	
	PSC040-SGER32SX-100	57	100	8	80	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX	nano W-FK08	1.00	E	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC050-SGER16SX-060	55	60	9	40	-	44.4	34	0.5-10.0	-	ER16	N16SGSX	nano W-FK04	0.70	E	
	PSC050-SGER16SX-100	55	100	9	80	46	44.4	34	0.5-10.0	M11*P1.0	ER16	N16SGSX	nano W-FK04	0.90	E	
	PSC050-SGER20SX-060	55	60	9	40	-	44.4	34	0.5-10.0	-	ER20	N20SGSX	nano W-FK04	0.80	E	
	PSC050-SGER20SX-100	55	100	9	80	51	44.4	38	0.5-13.0	M14*P1.0	ER20	N20SGSX	nano W-FK05	1.00	E	
	PSC050-SGER25SX-060	55	60	9	40	-	44.4	44	0.5-16.0	-	ER25	N25SGSX	nano W-FK06	0.90	E	
	PSC050-SGER25SX-100	55	100	9	80	53	44.4	44	0.5-16.0	M18*P1.5	ER25	N25SGSX	nano W-FK06	1.10	E	
	PSC050-SGER32SX-060	57	60	8	40	-	52.4	52	2.0-20.0	-	ER32	N32SGSX	nano W-FK08	1.00	E	
	PSC050-SGER32SX-100	57	100	8	80	52	52.4	52	2.0-20.0	M24*P1.5	ER32	N32SGSX	nano W-FK08	1.20	E	
	PSC050-SGER40SX-070	57	70	8	40	-	62.4	62	3.0-26.0	-	ER40	N40SGSX	nano W-FK09	1.60	E	
	PSC050-SGER40SX-100	57	100	8	80	-	62.4	62	3.0-26.0	-	ER40	N40SGSX	nano W-FK09	1.90	E	

產品FIG.55, 46 & 57出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.55, 46 & 57 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // PSC-SGER

supERgrip SGER強力型ER筒夾刀桿+高速平衡奈米螺帽NxxSGSX

supERgrip SGER power ER collet chucks+balanced nano nut NxxSGSX

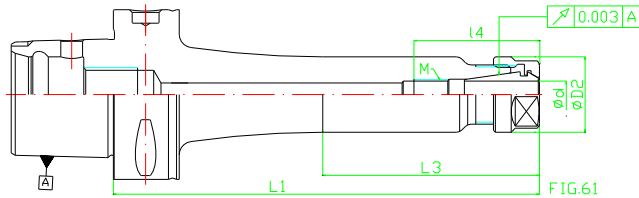
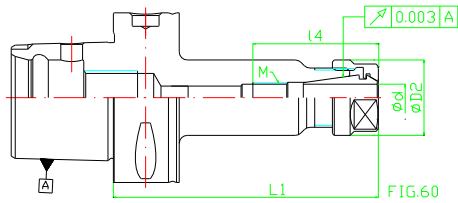
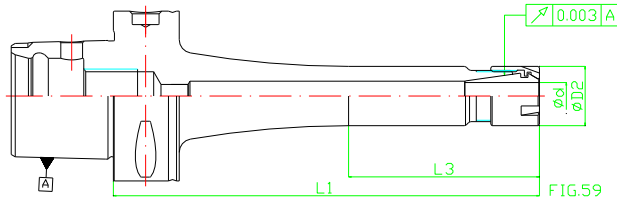
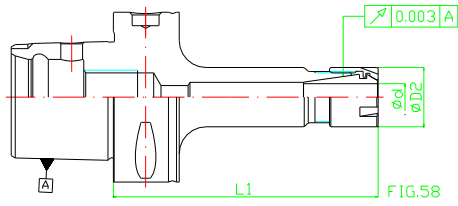
動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC063-SGER16SX-060	55	60	9	38	-	62.4	34	0.5~10.0	-	ER16	N16SGSX nano	W-FK04	0.80	E	
	PSC063-SGER16SX-100	55	100	9	78	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.00	E	
	PSC063-SGER16SX-120	55	120	9	98	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.20	E	
	PSC063-SGER16SX-160	56	160	9	86	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	1.60	E	
	PSC063-SGER20SX-060	55	60	9	38	-	62.4	34	0.5~10.0	-	ER20	N20SGSX nano	W-FK04	0.90	E	
	PSC063-SGER20SX-100	55	100	9	78	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.10	E	
	PSC063-SGER20SX-120	55	120	9	98	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.30	E	
	PSC063-SGER20SX-160	56	160	9	86	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	1.70	E	
	PSC063-SGER25SX-060	55	60	9	38	-	62.4	44	0.5~16.0	-	ER25	N25SGSX nano	W-FK06	1.20	E	
	PSC063-SGER25SX-100	55	100	9	78	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.40	E	
	PSC063-SGER25SX-120	55	120	9	98	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	1.60	E	
	PSC063-SGER25SX-160	55	160	9	138	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.00	E	
	PSC063-SGER32SX-060	55	60	9	38	-	62.4	52	2.0~20.0	-	ER32	N32SGSX nano	W-FK08	1.30	E	
	PSC063-SGER32SX-100	55	100	9	78	52	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.50	E	
	PSC063-SGER32SX-120	55	120	9	98	57	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	1.70	E	
	PSC063-SGER32SX-160	55	160	9	138	57	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.10	E	
	PSC063-SGER40SX-070	55	70	9	48	-	62.4	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	1.60	E	
	PSC063-SGER40SX-100	55	100	9	78	-	62.4	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	1.90	E	
	PSC063-SGER40SX-120	55	120	9	98	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.20	E	
	PSC063-SGER40SX-160	55	160	9	138	67	62.4	62	3.0~26.0	M28*P1.5	ER40	N40SGSX nano	W-FK09	2.80	E	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC080-SGER16SX-070	55	70	9	40	-	62.4	34	0.5~10.0	-	ER16	N16SGSX nano	W-FK04	1.60	E	
	PSC080-SGER16SX-100	55	100	9	70	46	62.4	34	0.5~10.0	M11*P1.0	ER16	N16SGSX nano	W-FK04	2.20	E	
	PSC080-SGER20SX-070	55	70	9	40	-	62.4	38	0.5~13.0	-	ER20	N20SGSX nano	W-FK05	1.70	E	
	PSC080-SGER20SX-100	55	100	9	70	51	62.4	38	0.5~13.0	M14*P1.0	ER20	N20SGSX nano	W-FK05	2.30	E	
	PSC080-SGER25SX-070	55	70	9	40	-	62.4	44	0.5~16.0	-	ER25	N25SGSX nano	W-FK06	2.00	E	
	PSC080-SGER25SX-100	55	100	9	70	53	62.4	44	0.5~16.0	M18*P1.5	ER25	N25SGSX nano	W-FK06	2.60	E	
	PSC080-SGER32SX-070	55	70	9	40	-	62.4	52	2.0~20.0	-	ER32	N32SGSX nano	W-FK08	2.10	E	
	PSC080-SGER32SX-100	55	100	9	70	52	62.4	52	2.0~20.0	M24*P1.5	ER32	N32SGSX nano	W-FK08	2.70	E	
	PSC080-SGER40SX-080	55	80	9	50	-	62.4	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	2.50	E	
	PSC080-SGER40SX-100	55	100	9	70	-	62.4	62	3.0~26.0	-	ER40	N40SGSX nano	W-FK09	3.40	E	

產品FIG.55, 56 & 57出貨附件為高速平衡奈米鋼珠螺帽NxxSGSX nano*1pc // PRODUCTS IN FIG.55, 56 & 57 EQUIP WITH BALANCED NANO BALL BEARING NUT NxxSGSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ©=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY



動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC040-ER16-070	60	70	-	50	-	-	28	0.5~10.0	-	ER16	N16SX nano	W-ER16	0.50	G	
	PSC040-ER25-055	60	55	-	35	-	-	42	0.5~16.0	-	ER25	N25SX nano	W-FK06	0.60	G	
	PSC040-ER32-055	60	55	-	35	-	-	50	2.0~20.0	-	ER32	N32SX nano	W-FK08	0.70	G	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC050-ER16-055	60	55	-	35	-	-	28	0.5~10.0	-	ER16	N16SX nano	W-ER16	0.60	G	
	PSC050-ER25-055	60	55	-	35	-	-	42	0.5~16.0	-	ER25	N25SX nano	W-FK06	0.70	G	
	PSC050-ER32-060	60	60	-	40	-	-	50	2.0~20.0	-	ER32	N32SX nano	W-FK08	0.80	G	

產品FIG.48 & 49出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.48 & 49 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.60 & 51出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.60 & 51 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // PSC-ERM & PSC-ER

ERM型螺帽筒夾刀桿 & ER筒夾刀桿

ERM nut collet chucks & ER collet chucks

動平衡G2.5/25,000RPM或小於1gmm // BALANCE TO G2.5/25,000RPM OR UNDER 1gmm

STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC063-ER11M-100	58	100	-	78	-	-	16	0.5~7.0	-	ER11	N11MX nano	W-ER11M	0.80	G	
	PSC063-ER11M-160	58	160	-	138	-	-	16	0.5~7.0	-	ER11	N11MX nano	W-ER11M	1.40	G	
	PSC063-ER16M-100	58	100	-	78	-	-	22	0.5~10.0	-	ER16	N16MX nano	W-ER16M	0.90	G	
	PSC063-ER16M-160	59	160	-	70	-	36	22	0.5~10.0	-	ER16	N16MX nano	W-ER16M	1.50	G	
	PSC063-ER16-060	60	60	-	38	-	-	28	0.5~10.0	-	ER16	N16SX nano	W-ER16	0.70	G	
	PSC063-ER16-100	60	100	-	78	46	-	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.00	G	
	PSC063-ER16-160	61	160	-	86	46	36	28	0.5~10.0	M11*P1.0	ER16	N16SX nano	W-ER16	1.60	G	
	PSC063-ER25-060	60	60	-	38	-	-	42	0.5~16.0	-	ER25	N25SX nano	W-FK06	1.10	G	
	PSC063-ER25-100	60	100	-	78	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.40	G	
	PSC063-ER25-130	60	130	-	108	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	1.70	G	
	PSC063-ER25-160	60	160	-	138	53	-	42	0.5~16.0	M18*P1.5	ER25	N25SX nano	W-FK06	2.00	G	
	PSC063-ER32-060	60	60	-	38	-	-	50	2.0~20.0	-	ER32	N32SX nano	W-FK08	1.20	G	
	PSC063-ER32-100	60	100	-	78	52	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.50	G	
	PSC063-ER32-130	60	130	-	108	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.80	G	
	PSC063-ER32-160	60	160	-	138	57	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	2.10	G	
	PSC063-ER40-065	60	65	-	43	-	-	63	3.0~26.0	-	ER40	N40SX nano	W-FK09	1.40	G	
	PSC063-ER40-100	60	100	-	78	67	-	63	3.0~26.0	M28*P1.5	ER40	N40SX nano	W-FK09	1.90	G	
STOCK	CODE	FIG.	L1	L2	L3	I4	ØD1	ØD2	Ød	M	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	PSC080-ER16-065	60	65	-	35	-	-	28	0.5~10.0	-	ER16	N16SX nano	W-ER16	1.40	G	
	PSC080-ER25-070	60	70	-	40	-	-	42	0.5~16.0	-	ER25	N25SX nano	W-FK06	1.80	G	
	PSC080-ER32-070	60	70	-	40	52	-	50	2.0~20.0	M24*P1.5	ER32	N32SX nano	W-FK08	1.90	G	
	PSC080-ER40-070	60	70	-	40	-	-	63	3.0~26.0	-	ER40	N40SX nano	W-FK09	2.10	G	

產品FIG.58 & 59出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.58 & 59 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.60 & 61出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.60 & 61 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

Straight shank collet chuck extensions are used frequently
 However, it is never easy to produce an accurate one
 There are some points to notice

直柄筒夾刀桿的使用頻率很高
 但是要生產精準的直柄延長桿並不是很簡單
 需要注意的有:

1. Tolerance of shank	1. 直柄的尺寸公差
Most makers produce it in h6	一般廠商生產的多數是h6公差
YAMAKEN produce it more precise than h5	山謙生產的低於h5公差
2. Roundness of shank	2. 直柄的真圓度
Most makers produce it in 0.002mm~0.004mm	一般廠商生產的是0.0020mm~0.0040mm
YAMAKEN produce it in 0.0005mm~0.0015mm	山謙生產的是0.0005~0.0015mm
3. Straightness of shank	3. 直柄的真直度
Most makers produce it in 0.003mm~0.006mm@300mm	一般廠商生產的是0.0030mm~0.0060mm@300mm長
YAMAKEN produce it in 0.0010mm~0.0030mm@300mm	山謙生產的是0.0010mm~0.0030mm@300mm長
4. Roughness of shank	4. 直柄的表面粗糙度
Most makers produce it in Ra0.8~Ra0.4	一般廠商生產的是Ra0.8~Ra0.4
YAMAKEN produce it Ra0.2	山謙生產的是Ra0.2
5. Runout of the bore	5. 孔徑的偏擺
Most makers produce it in 0.005mm~0.020mm	一般廠商生產的是0.005mm~0.020mm
YAMAKEN produce it 0.003mm	山謙生產的是0.003mm

柄徑公差			柄徑公差				
Shank tolerance	h6	h5	YAMAKEN h5	Shank tolerance	h6	h5	YAMAKEN h5
3mm	0.000/-0.006	0.000/-0.004	-0.001/-0.004	1/8" 3.175mm	0.000/-0.008	0.000/-0.005	-0.002/-0.005
4mm	0.000/-0.008	0.000/-0.005	-0.002/-0.005	3/16" 4.7625mm	0.000/-0.008	0.000/-0.005	-0.002/-0.005
5mm	0.000/-0.008	0.000/-0.005	-0.002/-0.005	1/4" 6.35mm	0.000/-0.009	0.000/-0.006	-0.003/-0.006
6mm	0.000/-0.008	0.000/-0.005	-0.002/-0.005	5/16" 7.9375mm	0.000/-0.009	0.000/-0.006	-0.003/-0.006
8mm	0.000/-0.009	0.000/-0.006	-0.003/-0.006	3/8" 9.525mm	0.000/-0.009	0.000/-0.006	-0.003/-0.006
10mm	0.000/-0.009	0.000/-0.006	-0.003/-0.006	7/16" 11.1125mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008
12mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008	1/2" 12.7mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008
14mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008	9/16" 14.2875mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008
16mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008	5/8" 15.875mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008
18mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008	11/16" 17.4625mm	0.000/-0.011	0.000/-0.008	-0.003/-0.008
20mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009	3/4" 19.05mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009
22mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009	13/16" 20.6375mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009
25mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009	7/8" 22.225mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009
32mm	0.000/-0.016	0.000/-0.011	-0.003/-0.011	15/16" 23.8125mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009
40mm	0.000/-0.016	0.000/-0.011	-0.003/-0.011	1" 25.4mm	0.000/-0.013	0.000/-0.009	-0.003/-0.009
42mm	0.000/-0.016	0.000/-0.011	-0.003/-0.011	1 1/4" 31.75mm	0.000/-0.016	0.000/-0.011	-0.003/-0.011

直柄筒夾刀桿種類:

Type of straight shank collet chuck extensions:

直柄筒夾刀桿種類:

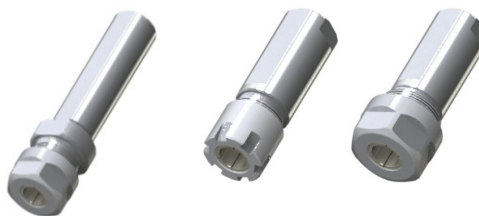
Type of straight shank collet chuck extensions:

S-ERM & S-ER

SL-ER

SSL-ERM & SSL-ER

SSLD-ERM & SSLD-ER

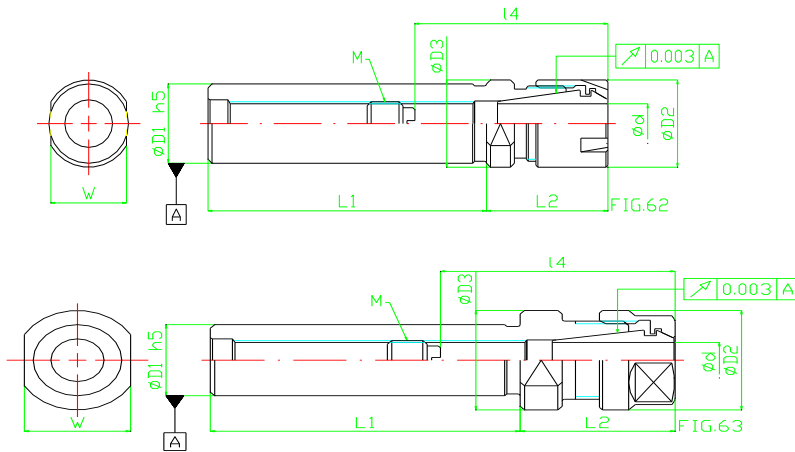


S=直柄
S=Straight shank

SL=側固直柄
SL=Straight shank with flat

SSL=短鼻側固直柄
SSL=Short nose straight shank with flat

SSLD=雙頭短鼻側固直柄
SSLD=Double heads short nose straight shank with flat



STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	S16-ER11M-150	62	150	24	63	16	16	16	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.20	B	
	S16-ER11-150	63	150	24	63	16	16	19	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.20	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	S20-ER16M-070	62	70	31	84	20	22	22	0.5~10.0	M11.P1.0	19	ER16	N16MX nano	W-ER16M	0.25	B	
○	S20-ER16M-150	62	150	31	60	20	22	22	0.5~10.0	M11.P1.0	19	ER16	N16MX nano	W-ER16M	0.50	B	
	S20-ER20M-070	62	70	33	85	20	28	28	0.5~13.0	M14.P1.0	25	ER20	N20MX nano	W-ER20M	0.30	B	
○	S20-ER20M-150	62	150	33	60	20	28	28	0.5~13.0	M14.P1.0	25	ER20	N20MX nano	W-ER20M	0.55	B	
	S20-ER16-070	63	70	35	88	20	28	28	0.5~10.0	M11.P1.0	24	ER16	N16SX nano	W-ER16	0.30	B	
	S20-ER20-070	63	70	36	88	20	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.35	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	S25-ER16M-070	62	70	24	77	25	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.35	B	
○	S25-ER16M-150	62	150	24	58	25	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.70	B	
	S25-ER20M-070	62	70	33	85	25	28	28	0.5~13.0	M14.P1.0	25	ER20	N20MX nano	W-ER20M	0.35	B	
○	S25-ER20M-150	62	150	33	58	25	28	28	0.5~13.0	M14.P1.0	25	ER20	N20MX nano	W-ER20M	0.70	B	
	S25-ER25M-070	62	70	35	85	25	35	35	0.5~16.0	M18.P1.5	32	ER25	N25MX nano	W-ER25M	0.40	B	
	S25-ER25M-150	62	150	35	58	25	35	35	0.5~16.0	M18.P1.5	32	ER25	N25MX nano	W-ER25M	0.70	B	
○	S25-ER16-070	63	70	35	88	25	28	32	0.5~10.0	M11.P1.0	27	ER16	N16SX nano	W-ER16	0.35	B	
○	S25-ER16-150	63	150	35	58	25	28	32	0.5~10.0	M11.P1.0	27	ER16	N16SX nano	W-ER16	0.70	B	
○	S25-ER20-070	63	70	36	88	25	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.40	B	
○	S25-ER25-070	63	70	40	91	25	42	40	0.5~16.0	M18.P1.5	36	ER25	N25SX nano	W-FK06	0.45	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	S32-ER20-080	63	80	36	98	32	34	36	0.5~13.0	M14.P1.0	32	ER20	N20SX nano	W-ER20	0.65	B	
○	S32-ER25-080	63	80	40	101	32	42	40	0.5~16.0	M18.P1.5	36	ER25	N25SX nano	W-FK06	0.70	B	
○	S32-ER32-080	63	80	48	107	32	50	50	2.0~20.0	M24.P1.5	46	ER32	N32SX nano	W-FK08	0.80	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	S3/4-ER16M-070	62	70	31	79	19.05	22	22	0.5~10.0	M11.P1.0	19	ER16	N16MX nano	W-ER16M	0.20	B	
	S3/4-ER11-070	63	70	24	79	19.05	19	22	0.5~7.0	M8*P1.0	19	ER11	N11SX nano	W-ER11	0.20	B	
	S3/4-ER16-070	63	70	35	88	19.05	28	28	0.5~10.0	M11.P1.0	24	ER16	N16SX nano	W-ER16	0.20	B	
	S3/4-ER20-070	63	70	36	88	19.05	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.25	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	S1-ER16M-070	62	70	24	77	25.4	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.35	B	
	S1-ER20M-070	62	70	33	85	25.4	28	28	0.5~13.0	M14.P1.0	24	ER20	N20MX nano	W-ER20M	0.35	B	
	S1-ER16-070	63	70	35	88	25.4	28	32	0.5~10.0	M11.P1.0	27	ER16	N16SX nano	W-ER16	0.35	B	
	S1-ER20-070	63	70	36	88	25.4	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.40	B	
	S1-ER25-070	63	70	40	91	25.4	42	40	0.5~16.0	M18.P1.5	36	ER25	N25SX nano	W-FK06	0.45	B	

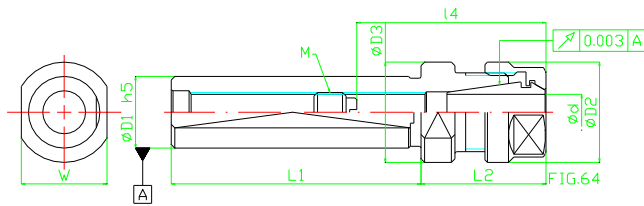
產品FIG.62 & 63有M的出貨附件為長度調整螺絲BK-ERxx-Mxx*1pc // PRODUCTS IN FIG.62 & 63 WITH M EQUIP WITH BACK UP SCREW BK-ERxx-Mxx*1pc

產品FIG.62出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.62 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.63出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.63 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK ◒=無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY



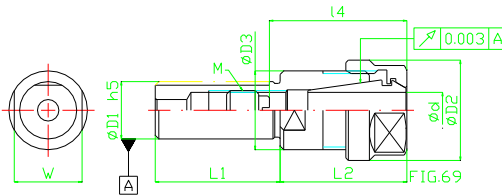
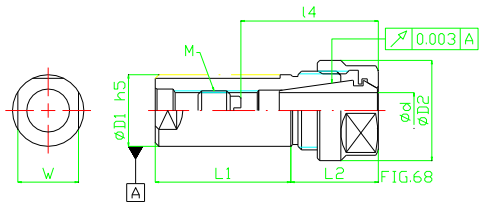
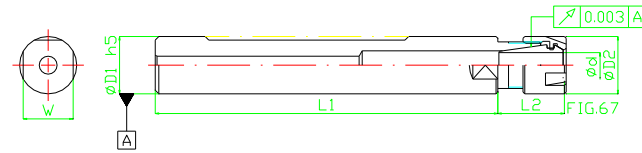
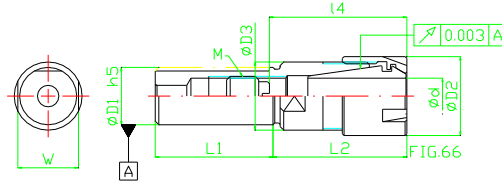
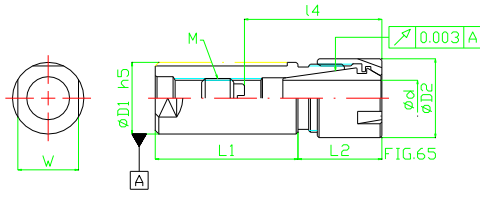
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SL16-ER11-070	64	70	24	79	16	19	22	0.5~7.0	M8*P1.0	19	ER11	N11SX nano	W-ER11	0.20	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SL20-ER11-070	64	70	24	79	20	19	22	0.5~7.0	M8*P1.0	19	ER11	N11SX nano	W-ER11	0.20	B	
○	SL20-ER11-105	64	105	24	79	20	19	22	0.5~7.0	M8*P1.0	19	ER11	N11SX nano	W-ER11	0.25	B	
◎	SL20-ER16-070	64	70	35	88	20	28	28	0.5~10.0	M11.P1.0	24	ER16	N16SX nano	W-ER16	0.25	B	
◎	SL20-ER20-070	64	70	36	88	20	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.30	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SL22-ER11-105	64	105	24	79	22	19	27	0.5~7.0	M8*P1.0	24	ER11	N11SX nano	W-ER11	0.35	B	
○	SL22-ER16-105	64	105	35	93	22	28	28	0.5~10.0	M11.P1.0	24	ER16	N16SX nano	W-ER16	0.40	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SL25-ER16-070	64	70	28	81	25	28	32	0.5~10.0	M11.P1.0	27	ER16	N16SX nano	W-ER16	0.35	B	
○	SL25-ER16-105	64	105	28	86	25	28	32	0.5~10.0	M11.P1.0	27	ER16	N16SX nano	W-ER16	0.50	B	
◎	SL25-ER20-070	64	70	34	88	25	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.40	B	
◎	SL25-ER25-070	64	70	42	91	25	42	40	0.5~16.0	M18.P1.5	36	ER25	N25SX nano	W-FK06	0.45	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SL32-ER20-080	64	80	36	116	32	34	36	0.5~13.0	M14.P1.0	32	ER20	N20SX nano	W-ER20	0.65	B	
◎	SL32-ER25-080	64	80	40	120	32	42	40	0.5~16.0	M18.P1.5	36	ER25	N25SX nano	W-FK06	0.70	B	
◎	SL32-ER32-080	64	80	48	128	32	50	50	2.0~20.0	M24.P1.5	46	ER32	N32SX nano	W-FK08	0.80	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SL40-ER32-110	64	110	48	112	40	50	50	2.0~20.0	M24.P1.5	46	ER32	N32SX nano	W-FK08	1.20	B	
◎	SL40-ER40-110	64	110	54	118	40	63	58	3.0~26.0	M28.P1.5	50	ER40	N40SX nano	W-FK09	1.40	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SL3/4-ER11-070	64	70	24	79	19.05	19	22	0.5~7.0	M8*P1.0	19	ER11	N11SX nano	W-ER11	0.20	B	
	SL3/4-ER16-070	64	70	35	88	19.05	28	28	0.5~10.0	M11.P1.0	24	ER16	N16SX nano	W-ER16	0.20	B	
	SL3/4-ER20-070	64	70	36	88	19.05	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.25	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SL1-ER16-070	64	70	35	88	25.4	28	32	0.5~10.0	M11.P1.0	27	ER16	N16SX nano	W-ER16	0.35	B	
○	SL1-ER16-105	64	105	35	123	25.4	28	32	0.5~10.0	M11.P1.0	27	ER16	N16SX nano	W-ER16	0.50	B	
	SL1-ER20-070	64	70	36	88	25.4	34	32	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.40	B	
	SL1-ER25-070	64	70	40	91	25.4	42	40	0.5~16.0	M18.P1.5	36	ER25	N25SX nano	W-FK06	0.45	B	

產品FIG.64有M的出貨附件為長度調整螺絲BK-ERxx-Mxx*1pc // PRODUCTS IN FIG.64 WITH M EQUIP WITH BACK UP SCREW BK-ERxx-Mxx*1pc

產品FIG.64出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.64 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY



STOCK	CODE	FIG.	L1	L2	L4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSL16-ER11M-035	65	35	17	37	16	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.10	B	
○	SSL16-ER11M-070	65	70	17	57	16	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.15	B	
◎	SSL16-ER11M-151	67	151	20	-	16	16	-	0.5~7.0	-	14	ER11	N11MX nano	W-ER11M	0.25	B	
	SSL16-ER16M-035	66	35	35	43	16	22	19	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.10	B	
◎	SSL16-ER16M-070	66	70	35	43	16	22	19	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.15	B	
	SSL16-ER20M-035	66	35	40	48	16	28	24	0.5~13.0	M11.P1.0	22	ER20	N20MX nano	W-ER20M	0.15	B	
	SSL16-ER11-035	68	35	16	36	16	19	-	0.5~7.0	M8*P1.0	14	ER11	N11SX nano	W-ER11	0.10	B	
◎	SSL16-ER11-070	68	70	16	56	16	19	-	0.5~7.0	M8*P1.0	14	ER11	N11SX nano	W-ER11	0.15	B	
	SSL16-ER16-035	69	35	35	43	16	28	22	0.5~10.0	M11.P1.0	19	ER16	N16SX nano	W-ER16	0.15	B	
	SSL16-ER16-070	69	70	35	43	16	28	22	0.5~10.0	M11.P1.0	19	ER16	N16SX nano	W-ER16	0.20	B	
○	SSL16-ER20-035T	69	35	40	48	16	34	25	0.5~13.0	M11.P1.0	22	ER20	N20SX nano	W-ER20	0.20	B	

產品FIG.65, 66, 67, 68 & 69有M的出貨附件為長度調整螺絲BK-ERxx-Mxx*1pc // PRODUCTS IN FIG.65, 66, 67, 68 & 69 WITH M EQUIP WITH BACK UP SCREW BK-ERxx-Mxx*1pc

產品FIG.65, 66 & 67出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.65, 66 & 67 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.68 & 69出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.68 & 69 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSL20-ER11M-040	65	40	17	37	20	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.15	B	
	SSL20-ER11M-070	65	70	17	57	20	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.20	B	
	SSL20-ER11M-105	65	105	17	67	20	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.25	B	
	SSL20-ER16M-040	65	40	24	47	20	22	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.15	B	
◎	SSL20-ER16M-070	65	70	24	72	20	22	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.20	B	
	SSL20-ER16M-105	65	105	24	82	20	22	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.30	B	
◎	SSL20-ER16M-137	67	137	27	-	20	22	-	0.5~10.0	-	17	ER16	N16MX nano	W-ER16M	0.35	B	
	SSL20-ER20M-040	66	40	30	44	20	28	24	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.15	B	
◎	SSL20-ER20M-070	66	70	30	44	20	28	24	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.20	B	
	SSL20-ER20M-105	66	105	30	44	20	28	24	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.30	B	
○	SSL20-ER11-040	68	40	16	41	20	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.15	B	
○	SSL20-ER11-068 (Y1751#0100)	68	68	18	-	20	19	-	0.5~7.0	-	17	ER11	N11SX nano	W-ER11	0.20	B	
◎	SSL20-ER11-070	68	70	16	61	20	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.20	B	
○	SSL20-ER11-105	68	105	16	76	20	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.30	B	
○	SSL20-ER16-040	69	40	22	45	20	28	-	0.5~10.0	M11.P1.0	17	ER16	N16SX nano	W-ER16	0.15	B	
◎	SSL20-ER16-070	69	70	22	70	20	28	-	0.5~10.0	M11.P1.0	17	ER16	N16SX nano	W-ER16	0.20	B	
	SSL20-ER16-105	69	105	22	80	20	28	-	0.5~10.0	M11.P1.0	17	ER16	N16SX nano	W-ER16	0.30	B	
	SSL20-ER20-040	69	40	30	70	20	34	25	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.20	B	
	SSL20-ER20-070	69	70	30	100	20	34	25	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.25	B	
○	SSL20-ER20-105	69	105	30	135	20	34	25	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.35	B	
○	SSL20-ER25-060	69	60	35	52	20	42	32	0.5~16.0	M14.P1.0	27	ER25	N25SX nano	W-FK06	0.35	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SSL22-ER16M-071 (#301-25)	65	71	32	-	22	22	-	0.5~10.0	-	19	ER16	N16MX nano	W-ER16M	0.25	B	
◎	SSL22-ER16M-098 (#301-24)	65	98	32	-	22	22	-	0.5~10.0	-	19	ER16	N16MX nano	W-ER16M	0.30	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SSL23-ER16M-075 (#3200359)	65	75	24	82	23	22	-	0.5~10.0	-	19	ER16	N16MX nano	W-ER16M	0.25	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSL25-ER16M-050	65	50	24	57	25	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.20	B	
○	SSL25-ER16M-070	65	70	24	72	25	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.25	B	
○	SSL25-ER16M-105	65	105	24	82	25	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.35	B	
	SSL25-ER20M-050	65	50	26	58	25	28	-	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.20	B	
◎	SSL25-ER20M-070	65	70	26	78	25	28	-	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.25	B	
○	SSL25-ER20M-105	65	105	26	83	25	28	-	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.35	B	
◎	SSL25-ER20M-137.5	67	138	29	-	25	28	-	0.5~13.0	-	22	ER20	N20MX nano	W-ER20M	0.45	B	
	SSL25-ER11-050	68	50	16	66	25	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.20	B	
○	SSL25-ER11-062T	68	62	18	-	25	19	-	0.5~7.0	-	22	ER11	N11SX nano	W-ER11	0.25	B	
◎	SSL25-ER11-070	68	70	16	86	25	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.30	B	
	SSL25-ER11-105	68	105	16	121	25	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.35	B	
○	SSL25-ER16-050	68	50	23	73	25	28	-	0.5~10.0	M11.P1.0	22	ER16	N16SX nano	W-ER16	0.20	B	
○	SSL25-ER16-062T	68	62	23	-	25	28	-	0.5~10.0	-	22	ER16	N16SX nano	W-ER16	0.30	B	
◎	SSL25-ER16-070	68	70	23	93	25	28	-	0.5~10.0	M11.P1.0	22	ER16	N16SX nano	W-ER16	0.30	B	
○	SSL25-ER16-105	68	105	23	128	25	28	-	0.5~10.0	M11.P1.0	22	ER16	N16SX nano	W-ER16	0.40	B	
○	SSL25-ER20-050	68	50	24	56	25	34	-	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.25	B	
◎	SSL25-ER20-070	68	70	24	76	25	34	-	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.35	B	
○	SSL25-ER20-105	68	105	24	81	25	34	-	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.40	B	
◎	SSL25-ER25-050	69	50	35	52	25	42	32	0.5~16.0	M18.P1.5	27	ER25	N25SX nano	W-FK06	0.35	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SSL32-ER20-060	68	60	24	68	32	34	-	0.5~13.0	M14.P1.0	27	ER20	N20SX nano	W-ER20	0.40	B	
○	SSL32-ER25-060	68	60	27	68	32	42	-	0.5~16.0	M18.P1.5	27	ER25	N25SX nano	W-FK06	0.45	B	
	SSL32-ER32-060	69	60	40	79	32	50	40	2.0~20.0	M24.P1.5	36	ER32	N32SX nano	W-FK08	0.50	B	

產品FIG.65, 66, 67, 68 & 69有M的出貨附件為長度調整螺絲BK-ERxx-Mxx*1pc // PRODUCTS IN FIG.65, 66, 67, 68 & 69 WITH M EQUIP WITH BACK UP SCREW BK-ERxx-Mxx*1pc

產品FIG.65, 66 & 67出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.65, 66 & 67 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.68 & 69出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.68 & 69 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◦=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // SSL-ERM & SSL-ER

短鼻型側固直柄ERM型螺帽筒夾刀桿 & 短鼻型側固直柄ER筒夾刀桿

Short nose type straight shank with flat ERM nut collet chucks & Short nose type straight shank with flat ER collet chucks

STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSL5/8-ER11M-035	65	35	17	37	15.875	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.10	B	
	SSL5/8-ER11M-070	65	70	17	57	15.875	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.15	B	
	SSL5/8-ER16M-035	66	35	35	43	15.875	22	19	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.10	B	
	SSL5/8-ER16M-070	66	70	35	43	15.875	22	19	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.15	B	
	SSL5/8-ER20M-035	66	35	40	48	15.875	28	24	0.5~13.0	M11.P1.0	22	ER20	N20MX nano	W-ER20M	0.15	B	
	SSL5/8-ER11-035	68	35	16	36	15.875	19	-	0.5~7.0	M8*P1.0	14	ER11	N11SX nano	W-ER11	0.10	B	
◎	SSL5/8-ER11-070	68	70	16	56	15.875	19	-	0.5~7.0	M8*P1.0	14	ER11	N11SX nano	W-ER11	0.15	B	
○	SSL5/8-ER16-035T	69	35	27	-	15.875	28	22	0.5~10.0	-	19	ER16	N16SX nano	W-ER16	0.15	B	
	SSL5/8-ER16-070	69	70	35	43	15.875	28	22	0.5~10.0	M11.P1.0	19	ER16	N16SX nano	W-ER16	0.15	B	
○	SSL5/8-ER20-035T	69	35	44	47	15.875	34	25	0.5~13.0	M11.P1.0	22	ER20	N20SX nano	W-ER20	0.20	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSL3/4-ER11M-040	65	40	17	37	19.05	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.10	B	
	SSL3/4-ER11M-070	65	70	17	57	19.05	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.15	B	
	SSL3/4-ER11M-105	65	105	17	67	19.05	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.20	B	
◎	SSL3/4-ER16M-040	65	40	24	47	19.05	22	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.15	B	
◎	SSL3/4-ER16M-070	65	70	24	72	19.05	22	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.20	B	
◎	SSL3/4-ER16M-105	65	105	24	82	19.05	22	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.25	B	
	SSL3/4-ER20M-040	66	40	30	44	19.05	28	24	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.15	B	
○	SSL3/4-ER20M-070	66	70	30	44	19.05	28	24	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.20	B	
	SSL3/4-ER20M-105	66	105	30	44	19.05	28	24	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.25	B	
○	SSL3/4-ER11-040	68	40	16	41	19.05	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.15	B	
◎	SSL3/4-ER11-070	68	70	16	61	19.05	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.20	B	
○	SSL3/4-ER11-105	68	105	16	76	19.05	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.25	B	
○	SSL3/4-ER16-040	69	40	22	45	19.05	28	-	0.5~10.0	M11.P1.0	17	ER16	N16SX nano	W-ER16	0.15	B	
◎	SSL3/4-ER16-040 (#561-130)	69	40	25	-	19.05	28	-	0.5~10.0	-	17	ER16	N16SX nano	W-ER16	0.15	B	
○	SSL3/4-ER16-070	69	70	22	70	19.05	28	-	0.5~10.0	M11.P1.0	17	ER16	N16SX nano	W-ER16	0.20	B	
○	SSL3/4-ER16-105	69	105	22	80	19.05	28	-	0.5~10.0	M11.P1.0	17	ER16	N16SX nano	W-ER16	0.25	B	
	SSL3/4-ER20-040	69	40	30	44	19.05	34	25	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.20	B	
	SSL3/4-ER20-070	69	70	30	44	19.05	34	25	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.25	B	
	SSL3/4-ER20-105	69	105	30	44	19.05	34	25	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.30	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SSL1-ER16M-050	65	50	24	57	25.4	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.25	B	
◎	SSL1-ER16M-070	65	70	24	72	25.4	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.30	B	
◎	SSL1-ER16M-105	65	105	24	82	25.4	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.40	B	
○	SSL1-ER20M-050	65	50	26	58	25.4	28	-	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.25	B	
○	SSL1-ER20M-070	65	70	26	78	25.4	28	-	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.30	B	
○	SSL1-ER20M-105	65	105	26	83	25.4	28	-	0.5~13.0	M14.P1.0	22	ER20	N20MX nano	W-ER20M	0.45	B	
	SSL1-ER11-050	68	50	16	51	25.4	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.25	B	
	SSL1-ER11-070	68	70	16	71	25.4	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.30	B	
○	SSL1-ER11-085T	68	85	18	-	25.4	19	-	0.5~7.0	-	22	ER11	N11SX nano	W-ER11	0.35	B	
	SSL1-ER11-105	68	105	16	76	25.4	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.40	B	
	SSL1-ER16-050	68	50	23	56	25.4	28	-	0.5~10.0	M11.P1.0	22	ER16	N16SX nano	W-ER16	0.25	B	
	SSL1-ER16-070	68	70	23	76	25.4	28	-	0.5~10.0	M11.P1.0	22	ER16	N16SX nano	W-ER16	0.35	B	
○	SSL1-ER16-074 (#562-166)	68	74	26	-	25.4	28	-	0.5~10.0	-	22	ER16	N16SX nano	W-ER16	0.40	B	
	SSL1-ER16-105	68	105	23	81	25.4	28	-	0.5~10.0	M11.P1.0	22	ER16	N16SX nano	W-ER16	0.45	B	
	SSL1-ER20-050	68	50	24	56	25.4	34	-	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.30	B	
	SSL1-ER20-070	68	70	24	76	25.4	34	-	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.40	B	
	SSL1-ER20-105	68	105	24	81	25.4	34	-	0.5~13.0	M14.P1.0	22	ER20	N20SX nano	W-ER20	0.45	B	
	SSL1-ER25-050	68	50	35	52	25.4	42	32	0.5~16.0	M18.P1.5	27	ER25	N25SX nano	W-FK06	0.30	B	

產品FIG.65, 66, 67, 68 & 69有M的出貨附件為長度調整螺絲BK-ERxx-Mxx*1pc // PRODUCTS IN FIG.65, 66, 67, 68 & 69 WITH M EQUIP WITH BACK UP SCREW BK-ERxx-Mxx*1pc

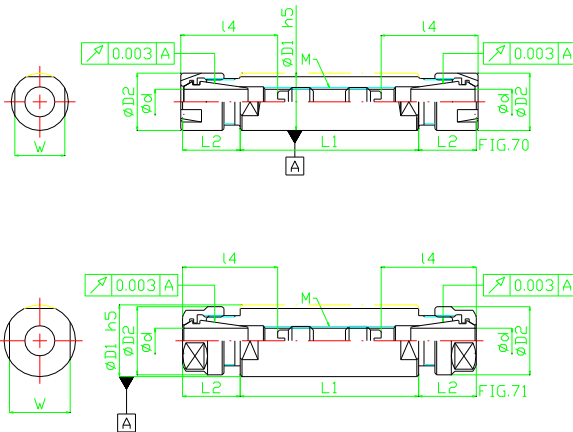
產品FIG.65, 66 & 67出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.65, 66 & 67 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

產品FIG.68 & 69出貨附件為高速平衡奈米螺帽NxxSX nano*1pc // PRODUCTS IN FIG.68 & 69 EQUIP WITH BALANCED NANO NUT NxxSX nano*1pc

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ○=少量在庫品 // STOCK ○=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

Double heads short nose type straight shank with flat ERM nut collet chucks & Double heads short nose type straight shank with flat ER collet chucks



STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SSLD16-ER11M-030	70	30	17	-	16	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.10	B	
	SSLD16-ER11M-050	70	50	17	-	16	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.15	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSLD20-ER11M-030	70	30	17	-	20	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.10	B	
	SSLD20-ER11M-050	70	50	17	-	20	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.15	B	
○	SSLD20-ER16M-055	70	55	24	-	20	19	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.20	B	
◎	SSLD20-ER11-033	71	33	16	-	20	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.15	B	
◎	SSLD20-ER11-053	71	53	16	-	20	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.20	B	
◎	SSLD20-ER11-082 (Y1752#0100)	71	82	18	-	20	19	-	0.5~7.0	-	17	ER11	N11SX nano	W-ER11	0.20	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SSLD22-ER16M-067 (#421-22)	70	67	24	-	22	22	-	0.5~10.0	-	19	ER16	N16MX nano	W-ER16M	0.25	B	
◎	SSLD22-ER16M-080 (#421-27)	70	80	24	-	22	22	-	0.5~10.0	-	19	ER16	N16MX nano	W-ER16M	0.30	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
○	SSLD23-ER16M-040 (#3110511)	70	40	26	-	23	22	-	0.5~10.0	-	16	ER16	N16MX nano	W-ER16M	0.25	B	
○	SSLD23-ER16M-060 (#3110510)	70	60	26	-	23	22	-	0.5~10.0	-	16	ER16	N16MX nano	W-ER16M	0.30	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SSLD25-ER16M-062	70	62	24	-	25	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.30	B	
	SSLD25-ER16M-080	70	80	24	-	25	22	-	0.5~10.0	M11.P1.0	22	ER16	N16MX nano	W-ER16M	0.35	B	
○	SSLD25-ER11-050	71	50	16	-	25	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.30	B	
◎	SSLD25-ER11-082T	71	82	16	-	25	19	-	0.5~7.0	M8*P1.0	22	ER11	N11SX nano	W-ER11	0.35	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSLD32-ER20M-055	70	55	26	-	32	28	-	0.5~13.0	M14.P1.0	27	ER20	N20MX nano	W-ER20M	0.40	B	
○	SSLD32-ER20M-085	70	85	26	-	32	28	-	0.5~13.0	M14.P1.0	27	ER20	N20MX nano	W-ER20M	0.55	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSLD5/8-ER11M-030	70	30	17	-	15.875	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.10	B	
	SSLD5/8-ER11M-050	70	50	17	-	15.875	16	-	0.5~7.0	M8*P1.0	14	ER11	N11MX nano	W-ER11M	0.15	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
	SSLD3/4-ER11M-030	70	30	17	-	19.05	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.10	B	
	SSLD3/4-ER11M-050	70	50	17	-	19.05	16	-	0.5~7.0	M8*P1.0	17	ER11	N11MX nano	W-ER11M	0.15	B	
◎	SSLD3/4-ER16M-055	70	55	24	-	19.05	19	-	0.5~10.0	M11.P1.0	17	ER16	N16MX nano	W-ER16M	0.20	B	
◎	SSLD3/4-ER11-033	71	33	16	-	19.05	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.10	B	
◎	SSLD3/4-ER11-053	71	53	16	-	19.05	19	-	0.5~7.0	M8*P1.0	17	ER11	N11SX nano	W-ER11	0.15	B	
STOCK	CODE	FIG.	L1	L2	l4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	SSLD1-ER16M-045	70	45	24	-	25.4	22	-	0.5~10.0	M11.P1.0	19	ER16	N16MX nano	W-ER16M	0.25	B	
◎	SSLD1-ER16M-062	70	62	24	-	25.4	22	-	0.5~10.0	M11.P1.0	19	ER16	N16MX nano	W-ER16M	0.30	B	
◎	SSLD1-ER16M-080	70	80	24	-	25.4	22	-	0.5~10.0	M11.P1.0	19	ER16	N16MX nano	W-ER16M	0.35	B	

產品FIG.70 & 71有M的長度調整螺絲BK-ERxx-Mxx*2pc是另購品 // PRODUCTS IN FIG.70 & 71 WITH M EQUIP WITH BACK UP SCREW BK-ERxx-Mxx*2pc TO BE ORDERED SEPARATELY

產品FIG.70出貨附件為高速平衡奈米螺帽NxMX nano*2pc // PRODUCTS IN FIG.70 EQUIP WITH BALANCED NANO NUT NxMX nano*2pc

產品FIG.71出貨附件為高速平衡奈米螺帽NxSX nano*2pc // PRODUCTS IN FIG.71 EQUIP WITH BALANCED NANO NUT NxSX nano*2pc

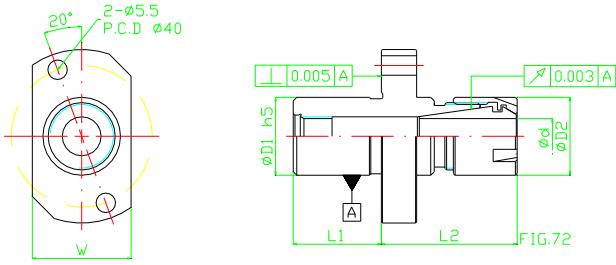
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ○=少量在庫品 // STOCK ○=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

supERgrip SGER & ER // S-ERM

副主軸用短鼻型直柄ERM型螺帽筒夾刀桿

Sub-spindle short nose type straight shank ERM nut collet chucks



STOCK	CODE	FIG.	L1	L2	I4	ØD1	ØD2	ØD3	Ød	M	W	COLLET	NUT	WRENCH	W(KG)	GROUP	Remark
◎	STAR-S22-ER16M-025 (#541-21)	72	25	33	-	22	22	-	0.5-10.0	-	28	ER16	N16MX nano	W-ER16M	0.25	B	

產品FIG.72出貨附件為高速平衡奈米螺帽NxxMX nano*1pc // PRODUCTS IN FIG.72 EQUIP WITH BALANCED NANO NUT NxxMX nano*1pc

STOCK ◎=標準在庫品 // STOCK ©=regular stock | STOCK ◦=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

ER筒夾是另購品 // ER COLLET TO BE ORDERED SEPARATELY

ER nut is in the norm DIN6499/ISO15488
 It assembles with form A & form B ER collet in the norm of DIN6499/ISO15488
 Nut is one of the main parts for collet chuck
 It tightens the collet with tool on the collet chuck
 However, it is never easy to produce an accurate one
 There are some points to notice

ER螺帽是DIN6499/ISO15488規範
 與DIN6499/ISO15488規範的A型&B型ER筒夾組合使用
 螺帽是筒夾刀桿的主要部件之一
 用於將夾持刀具的筒夾鎖固於筒夾刀桿上
 但是要生產精準的螺帽並不是很簡單
 需要注意的有:

1. Material

It will easily crack if produce the nut with carburizing material
 YAMAKEN produce ERM nut & ER nut with through hardening steel
 YAMAKEN produce SGER nut with bearing steel
 It will not crack easily with such material

1. 材質的選用

使用滲碳用鋼材生產的螺帽容易脆裂
 山謙使用調質鋼生產ERM螺帽&ER螺帽
 山謙使用軸承鋼生產SGER螺帽
 這類的鋼材生產出來的螺帽不易脆裂

2. Roundness of nut

Nut with poor roundness will reduce the accuracy when assemble with the chuck
 YAMAKEN produce the nut with roundness 0.002mm

2. 螺帽的真圓度

真圓度不佳的螺帽組合刀桿會降低組合精度
 山謙生產的螺帽真圓度是0.002mm

3. Concentricity

Nut with poor concentricity will reduce the accuracy when assemble with the chuck
 YAMAKEN produce the nut with concentricity 0.002mm

3. 螺帽的同心率

同心度不佳的螺帽組合刀桿會降低組合精度
 山謙生產的螺帽同心度是0.002mm

4. Tolerance of internal thread

Accuracy of nut at thread part in the norm DIN6499/ISO15488 is ISO6H
 YAMAKEN produce it ISO5H

4. 螺帽內牙的公差

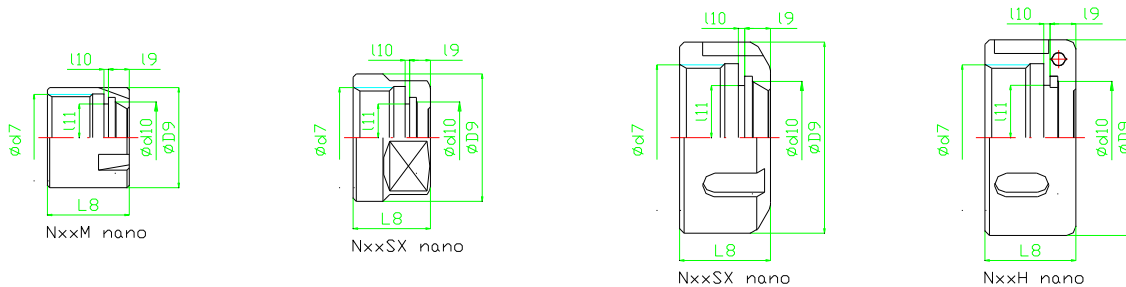
螺帽牙部精度要求在DIN6499/ISO15488規範是ISO6H
 山謙生產的標準是ISO5H

5. Assembly accuracy of nut with chuck and collet

SGER nut + SUS ER collet assembly runout 0.005mm @3*d
 ERM nut & ER nut + SUS ER collet assembly runout 0.008mm @3*d
 SGER nut + AA grade ER collet assembly runout 0.003mm @3*d
 ERM nut & ER nut + AA grade ER collet assembly runout 0.005mm @3*d
 SGER nut + ER collet assembly runout 0.006mm @3*d
 ERM nut & ER nut + ER collet assembly runout 0.010mm @3*d

5. 螺帽組合刀桿與筒夾的組合精度

SGER螺帽+SUS ER筒夾組合精度0.005mm @3*d
 ERM螺帽&ER螺帽+SUS ER筒夾組合精度0.008mm @3*d
 SGER螺帽+AA級ER筒夾組合精度0.003mm @3*d
 ERM螺帽&ER螺帽+AA級ER筒夾組合精度0.005mm @3*d
 SGER螺帽+ER筒夾組合精度0.006mm @3*d
 ERM螺帽&ER螺帽+ER筒夾組合精度0.010mm @3*d



ER	ER11M	ER16M	ER20M	ER25M
NUT	N11MX nano	N16MX nano	N20MX nano	N25MX nano
	N11MX	N16MX	N20MX	N25MX
Ød7 ISO5H	M13*P0.75	M19*P1.0	M24*P1.0	M30*P1.0
ØD9	16	22	28	35
Ød10 +0.1/0	12.3	17.7	21.7	27.0
L8	12	18	19	20
l9	3.6	4.6	5.6	5.8
l10 0/-0.2	1.0	1.1	1.2	1.3
l11 max.	5.0	7.2	9.2	11.5

ER	ER11	ER16	ER20	ER25	ER32	ER40
NUT	N11SX nano	N16SX nano	N20SX nano	N25SX nano	N32SX nano	N40SX nano
	N11SX	N16SX	N20SX	N25SX	N32SX	N40SX
Ød7 ISO5H	M14*P0.75	M22*P1.5	M25*P1.5	M32*P1.5	M40*P1.5	M50*P1.5
ØD9	19	28	34	42	50	63
Ød10 +0.1/0	12.3	17.7	21.7	27.0	34.0	42.0
L8	11.5	17.0	19.0	20.0	23.0	26.0
l9	3.1	4.6	5.6	5.8	6.3	7.5
l10 0/-0.2	1.0	1.1	1.2	1.3	1.6	2.1
l11 max.	5.0	7.2	9.2	11.5	14.9	18.5
W 0/-0.2	17	25	30			
NUT		N16H	N20H	N25H	N32H	N40H
ØD9		32	36	43	51	63

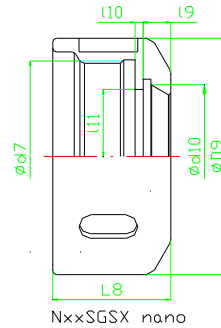
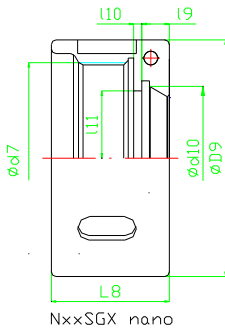
ER螺帽鎖緊力表

ER nut clamping torque chart

ER螺帽 ER NUT	ER筒夾 ER COLLET	最大鎖緊力 MAX. TORQUE	ER螺帽 ER NUT	ER筒夾 ER COLLET	最大鎖緊力 MAX. TORQUE
N11MX nano	ER11(1.0~2.5)	10Nm	N11SX nano	ER11(1.0~2.5)	12Nm
	ER11(3.0~0.0)	12Nm		ER11(3.0~0.0)	25Nm
N16MX nano	ER16(1.0~4.5)	15Nm	N16SX nano	ER16(1.0~4.5)	30Nm
	ER16(5.0~10.0)	17Nm		ER16(5.0~10.0)	55Nm
N20MX nano	ER20(1.0~6.5)	21Nm	N20SX nano	ER20(1.0~6.5)	45Nm
	ER20(7.0~13.0)	23Nm		ER20(7.0~13.0)	80Nm
N25MX nano	ER25(1.0~6.5)	24Nm	N25SX nano	ER25(1.0~6.5)	55Nm
	ER25(7.0~16.0)	40Nm		ER25(7.0~16.0)	100Nm
			N32SX nano	ER32(2.0~6.5)	70Nm
				ER32(7.0~20.0)	135Nm
			N40SX nano	ER40(3.0~7.5)	100Nm
				ER40(8.0~26.0)	170Nm

NxxMX(SX) nano與NxxMX(SX)使用相同扭力值

NxxMX(SX) nano & NxxMX(SX) are with the same torque



SGER NUT	SGER16 N16SGX nano N16SGSX nano	SGER20 N20SGX nano N20SGSX nano	SGER25 N25SGX nano N25SGSX nano	SGER32 N32SGX nano N32SGSX nano	SGER40 N40SGX nano N40SGSX nano
Ød7 ISO5H	M24*P1.0	M28*P1.0	M34*P1.0	M42*P1.0	M52*P1.0
ØD9	34	38	44	52	62
Ød10 +0.1/0	17.7	21.7	27.0	34.0	42.0
L8	20.6	22.5	24.0	26.0	29.0
I9	4.6	5.6	5.8	6.3	7.5
I10 0/-0.2	1.1	1.2	1.3	1.6	2.1
I11 max.	7.2	9.2	11.5	14.9	18.5

SGER螺帽鎖緊力表 // SGER nut clamping torque chart

SGER螺帽 SGER NUT	ER筒夾 ER COLLET	最大鎖緊力 MAX. TORQUE
N16SGX	ER16(1.0~4.5)	30Nm
	ER16(5.0~10.0)	55Nm
N20SGX	ER20(1.0~6.5)	45Nm
	ER20(7.0~13.0)	80Nm
N25SGX	ER25(1.0~6.5)	55Nm
	ER25(7.0~16.0)	100Nm
N32SGX	ER32(2.0~6.5)	70Nm
	ER32(7.0~20.0)	135Nm
N40SGX	ER40(3.0~7.5)	100Nm
	ER40(8.0~26.0)	170Nm

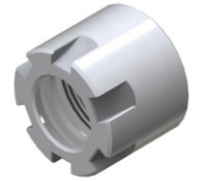
NxxSGX nano與NxxSGSX nano使用相同扭力值

NxxSGX nano & NxxSGSX nano are with the same torque

ERM高速平衡奈米螺帽NxxMX nano // ERM balanced nano nut NxxMX nano

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N08MX nano	M10*P0.75	12	10.8	5Nm	0.004	C	
◎	N11MX nano	M13*P0.75	16	12.0	12Nm	0.008	C	
◎	N16MX nano	M19*P1.0	22	18.0	17Nm	0.016	C	
◎	N20MX nano	M24*P1.0	28	19.0	23Nm	0.030	C	
◎	N25MX nano	M30*P1.0	35	20.0	40Nm	0.050	C	

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



ERM高速平衡螺帽NxxMX // ERM balanced nut NxxMX

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N08MX	M10*P0.75	12	10.8	5Nm	0.004	C	
◎	N11MX	M13*P0.75	16	12.0	12Nm	0.008	C	
◎	N16MX	M19*P1.0	22	18.0	17Nm	0.016	C	
◎	N20MX	M24*P1.0	28	19.0	23Nm	0.030	C	
◎	N25MX	M30*P1.0	35	20.0	40Nm	0.050	C	

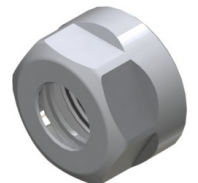
STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



ER高速平衡奈米螺帽NxxSX nano // ER balanced nano nut NxxSX nano

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N11SX nano	M14*P0.75	19	11.5	25Nm	0.012	C	
◎	N16SX nano	M22*P1.5	28	17.0	55Nm	0.035	C	
◎	N20SX nano	M25*P1.5	34	19.0	80Nm	0.060	C	
◎	N16MN nano	M19*P1.0	24	18.0	17Nm	0.020	C	
◎	N16CC nano	M22*P1.5	28	13.0	55Nm	0.030	C	

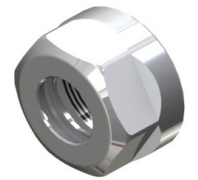
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ER高速平衡螺帽NxxSX // ER balanced nut NxxSX

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N11SX	M14*P0.75	19	11.5	25Nm	0.012	C	
◎	N16SX	M22*P1.5	28	17.0	55Nm	0.035	C	
◎	N20SX	M25*P1.5	34	19.0	80Nm	0.060	C	
◎	N16MN	M19*P1.0	24	18.0	17Nm	0.020	C	
◎	N16CC	M22*P1.5	28	13.0	55Nm	0.030	C	

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



ER高速平衡奈米螺帽NxxSX nano // ER balanced nano nut NxxSX nano

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N25SX nano	M32*P1.5	42	20.0	100Nm	0.090	C	
◎	N32SX nano	M40*P1.5	50	23.0	135Nm	0.150	C	
◎	N40SX nano	M50*P1.5	63	26.0	170Nm	0.260	C	

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



ER高速平衡螺帽NxxSX // ER balanced nut NxxSX

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N25SX	M32*P1.5	42	20.0	100Nm	0.090	C	
◎	N32SX	M40*P1.5	50	23.0	135Nm	0.150	C	
◎	N40SX	M50*P1.5	63	26.0	170Nm	0.260	C	

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



ER高速平衡鋼珠螺帽NxxH // ER ball bearing nut NxxH

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N16H	M22*P1.5	34	17.0	55Nm	0.10	B	
◎	N20H	M25*P1.5	36	19.0	80Nm	0.15	B	
◎	N25H	M32*P1.5	43	20.0	100Nm	0.20	B	
◎	N32H	M40*P1.5	51	23.0	135Nm	0.25	B	
◎	N40H	M50*P1.5	63	26.0	170Nm	0.40	B	

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request





supERgrip SGER高速平衡奈米鋼珠螺帽NxxSGX

supERgrip SGER balanced nano ball bearing nut NxxSGX

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N16SGX nano	M24*P1.0	34	20.6	55Nm	0.10	B	
◎	N20SGX nano	M28*P1.0	38	22.5	80Nm	0.15	B	
◎	N25SGX nano	M34*P1.0	44	24.0	100Nm	0.20	B	
◎	N32SGX nano	M42*P1.0	52	26.0	135Nm	0.25	B	
◎	N40SGX nano	M52*P1.0	62	29.0	170Nm	0.40	B	

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



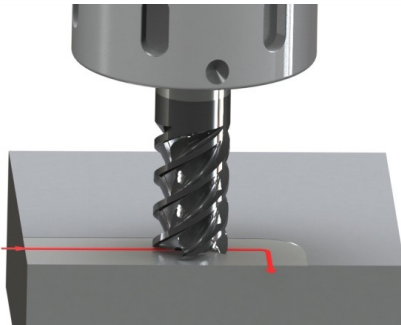
supERgrip SGER高速平衡奈米螺帽NxxSGSX

supERgrip SGER balanced nano nut NxxSGSX

STOCK	CODE	Ød7 ISO5H	Ød9	l8	max. Nm	W(KG)	GROUP	Remark
◎	N16SGSX nano	M24*P1.0	34	20.6	55Nm	0.10	C	
◎	N20SGSX nano	M28*P1.0	38	22.5	80Nm	0.15	C	
◎	N25SGSX nano	M34*P1.0	44	24.0	100Nm	0.20	C	
◎	N32SGSX nano	M42*P1.0	52	26.0	135Nm	0.25	C	
◎	N40SGSX nano	M52*P1.0	62	29.0	170Nm	0.40	C	

STOCK ◎=標準在庫品 // STOCK ⊙=regular stock | STOCK ◦=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

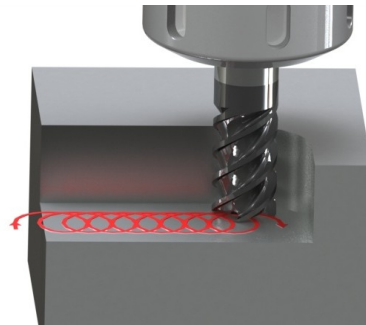
SGX



適用範圍:仕上精修 Finishing



SGSX



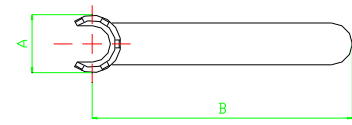
適用範圍:擺線粗銑 HPM roughing



ERM螺帽扳手NxxMX nano & NxxMX // ERM nut wrench for NxxMX nano & NxxMX

STOCK	CODE	A	B	W(KG)	GROUP	Remark
	W-ER08M (N08M nano, N08M)	12.4	70	0.03	C	
◎	W-ER11M (N11M nano, N11M)	16.8	90	0.04	C	
◎	W-ER16M (N16M nano, N16M)	22.8	110	0.06	C	
◎	W-ER20M (N20M nano, N20M)	29.0	120	0.07	C	
	W-ER25M (N25M nano, N25M)	36.0	130	0.12	C	

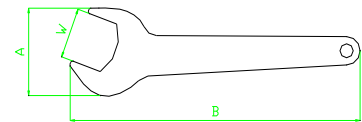
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ER螺帽扳手NxxSX nano & NxxSX // ER nut wrench for NxxSX nano & NxxSX

STOCK	CODE	W	A	B	W(KG)	GROUP	Remark
	W-ER11 (N11SX nano, N11S)	17	32	95	0.13	C	
◎	W-ER16 (N16SX nano, N16S)	25	44	145	0.15	C	
◎	W-ER20 (N20SX nano, N20S)	30	52	170	0.20	C	

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

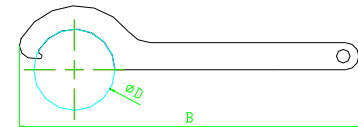


ER螺帽&ER鋼珠螺帽扳手NxxSX nano & NxxSX & NxxH

ER nut wrench for NxxSX nano & NxxSX & NxxH

STOCK	CODE	ØD	B	W(KG)	GROUP	Remark
◎	W-FK04 (N16H)	32	170	0.07	C	
◎	W-FK05 (N20H)	36	170	0.10	C	
◎	W-FK06 (N25H, N25SX nano, N25SX)	43	170	0.11	C	
◎	W-FK08 (N32H, N32SX nano, N32SX)	51	210	0.19	C	
◎	W-FK09 (N40H, N40SX nano, N40SX)	63	230	0.27	C	

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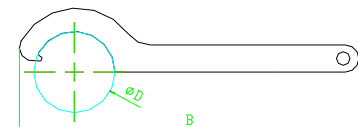


supERgrip SGER奈米鋼珠螺帽 & SGER奈米螺帽扳手 NxxSGX & NxxSGSX

supERgrip SGER nut wrench for NxxSGX & NxxSGSX

STOCK	CODE	ØD	B	W(KG)	GROUP	Remark
◎	W-FK04 (N16SGX nano) (N16SGSX nano)	32	170	0.07	C	
◎	W-FK05 (N20SGX nano) (N20SGSX nano)	36	170	0.10	C	
◎	W-FK06 (N25SGX nano) (N25SGSX nano)	43	170	0.11	C	
◎	W-FK08 (N32SGX nano) (N32SGSX nano)	51	210	0.19	C	
◎	W-FK09 (N40SGX nano) (N40SGSX nano)	63	230	0.27	C	

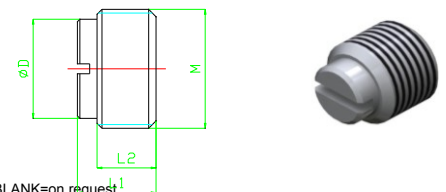
STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



止動螺絲 // Backup screw

STOCK	CODE	ØD	L1	L2	W(KG)	GROUP	Remark
◎	BK-ER11-M08*P1.0	6	10	7	0.01	C	
◎	BK-ER16-M11*P1.0	8	12	9	0.01	C	
◎	BK-ER20-M14*P1.0	11	13	9	0.02	C	
◎	BK-ER25-M18*P1.5	15	14	10	0.02	C	
◎	BK-ER32-M24*P1.5	20	16	12	0.03	C	
◎	BK-ER40-M28*P1.5	25	18	14	0.04	C	

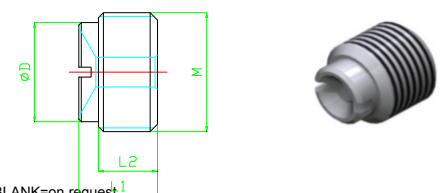
STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



中心出水止動螺絲 // Coolant though backup screw

STOCK	CODE	ØD	L1	L2	W(KG)	GROUP	Remark
◎	BK-ER11C-M08*P1.0	6	10	7	0.01	C	
◎	BK-ER16C-M11*P1.0	8	12	9	0.01	C	
◎	BK-ER20C-M14*P1.0	11	13	9	0.02	C	
◎	BK-ER25C-M18*P1.5	15	14	10	0.02	C	
◎	BK-ER32C-M24*P1.5	20	16	12	0.03	C	
◎	BK-ER40C-M28*P1.5	25	18	14	0.04	C	

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



supERgrip SGER & ER // COLLET

Collet is one of the main parts for collet chuck
It holds the tool for nut to tighten it on the collet chuck
However, it is never easy to produce an accurate one
There are some points to notice

1. Material

Life of collet will be shortened if produced with WRONG material
YAMAKEN produce collet with bearing steel
Life of collet with such steel is longer and repeat accuracy is good

2. Roundness of collet

Collet with poor roundness will reduce the accuracy when assemble with the chuck
YAMAKEN produce the collet with roundness 0.001mm

3. Concentricity

Collet with poor concentricity will reduce the accuracy when assemble with the chuck
YAMAKEN produce the SUS stainless collet with concentricity 0.002mm
YAMAKEN produce the AA grade collet with concentricity 0.001mm
YAMAKEN produce collet with concentricity 0.003mm

4. Assembly accuracy of collet with chuck and nut

SGER nut + SUS ER collet assembly runout 0.005mm @3*d
ERM nut & ER nut + SUS ER collet assembly runout 0.008mm @3*d
AA grade ER collet + SGER nut assembly runout 0.003mm @3*d
AA grade ER collet + ERM nut & ER nut assembly runout 0.005mm @3*d
ER collet + SGER nut assembly runout 0.006mm @3*d
ER collet + ERM nut & ER nut assembly runout 0.010mm @3*d

5. Surface treatment of collet

To prevent the rust damaging the collet
all ER collets produced in YAMAKEN are with "RUSTPROOF" coating

5. Stainless collet

To prevent the rust damaging the collet
YAMAKEN start to adopt stainless material to produce collet

筒夾是筒夾刀桿的主要部件之一
用於夾持刀具讓螺帽鎖固於筒夾刀桿上
但是要生產精準的筒夾並不是很簡單
需要注意的有:

1. 材質的選用

使用材質不正確會減短筒夾壽命
山謙使用軸承鋼生產筒夾
這類的材料生產出來的筒夾有較長的壽命與穩定的重複精度

2. 筒夾的真圓度

真圓度不佳的筒夾組合刀桿會降低組合精度
山謙生產的筒夾真圓度是0.001mm

3. 筒夾的同心率

同心度不佳的筒夾組合刀桿會降低組合精度
山謙生產的SUS不鏽鋼筒夾同心度是0.002mm
山謙生產的AA級筒夾同心度是0.001mm
山謙生產的筒夾同心度是0.003mm

4. 筒夾組合刀桿與螺帽的組合精度

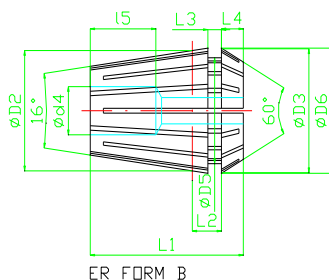
SGER螺帽+SUS ER筒夾組合精度0.005mm @3*d
ERM螺帽&ER螺帽+SUS ER筒夾組合精度0.008mm @3*d
AA級ER筒夾+SGER螺帽組合精度0.003mm @3*d
AA級ER筒夾+ERM螺帽&ER螺帽組合精度0.005mm @3*d
ER筒夾+SGER螺帽組合精度0.006mm @3*d
ER筒夾+ERM螺帽&ER螺帽組合精度0.010mm @3*d

5. 筒夾的表面處理

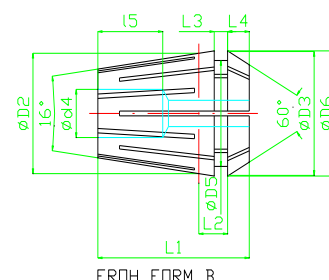
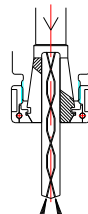
為了避免生鏽而造成筒夾的毀損
山謙生產的ER筒夾全面做防鏽鍍層處理

5. 筒夾的表面處理

為了避免生鏽而造成筒夾的毀損
山謙開始採用不鏽鋼生產的ER筒夾



ER FORM B



ERDH FORM B

ER COLLET	ER11	ER16	ER20	ER25	ER32	ER40						
FORM B	1.0~2.5	3.0~7.0	1.0~4.5	5.0~10.0	1.0~6.5	7.0~13.0	1.0~7.5	8.0~16.0	2.0~7.5	8.0~20.0	3.0~8.5	9.0~26.0
ØD2		11		16		20		25		32		40
ØD3 0/-0.2		11.5		17.0		21.0		26.0		33.0		41.0
Ød4	5.0	-	7.5	-	10.0	-	12.0	-	15.0	-	20.0	-
ØD5		9.5		13.8		17.4		22.0		29.2		36.2
ØD6		11.70		17.25		21.30		26.30		33.35		41.40
L1 max.		18.0		27.5		31.5		34.0		40.0		46.0
L2		3.80		6.26		6.36		6.66		7.16		7.66
L3		2.0		2.7		2.8		3.1		3.6		4.1
L4 +/-0.2		2.5		4.0		4.8		5.0		5.5		7.0
l5 min.	9	-	9.0	-	12.0	-	13.0	-	15	-	18	-

不鏽鋼ER筒夾 DIN6499B/ISO15488B

Stainless SUS ER collet DIN6499B/ISO15488B

不鏽鋼ER筒夾+SGER螺帽組合精度0.005mm @3*d

Stainless SUS ER collet + SGER nut assembly runout 0.005mm @3*d

不鏽鋼ER筒夾+ERM螺帽&ER螺帽組合精度0.008mm @3*d

Stainless SUS ER collet + ERM nut & ER nut assembly runout 0.008mm @3*d

SUS ER11 (0.01kg/pc)					SUS ER16 (0.03kg/pc)					SUS ER20 (0.04kg/pc)				
Ød range	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark		
3.0~2.5	SUS ER11-030	◎	E		SUS ER16-030	◎	E		SUS ER20-030	◎	E			
3.5~3.0	SUS ER11-035	◎	E		SUS ER16-035	◎	E		SUS ER20-035	◎	E			
4.0~3.5	SUS ER11-040	◎	E		SUS ER16-040	◎	E		SUS ER20-040	◎	E			
4.5~4.0	SUS ER11-045	◎	E		SUS ER16-045	◎	E		SUS ER20-045	◎	E			
5.0~4.5	SUS ER11-050	◎	E		SUS ER16-050	◎	E		SUS ER20-050	◎	E			
5.5~5.0	SUS ER11-055	◎	E		SUS ER16-055	◎	E		SUS ER20-055	◎	E			
6.0~5.5	SUS ER11-060	◎	E		SUS ER16-060	◎	E		SUS ER20-060	◎	E			
6.5~6.0	SUS ER11-065	◎	E		SUS ER16-065	◎	E		SUS ER20-065	◎	E			
7.0~6.5	SUS ER11-070	◎	E		SUS ER16-070	◎	E		SUS ER20-070	◎	E			
7.5~7.0					SUS ER16-075	◎	E		SUS ER20-075	◎	E			
8.0~7.5					SUS ER16-080	◎	E		SUS ER20-080	◎	E			
8.5~8.0					SUS ER16-085	◎	E		SUS ER20-085	◎	E			
9.0~8.5					SUS ER16-090	◎	E		SUS ER20-090	◎	E			
9.5~9.0					SUS ER16-095	◎	E		SUS ER20-095	◎	E			
10.0~9.5					SUS ER16-100	◎	E		SUS ER20-100	◎	E			
10.5~10.0									SUS ER20-105	◎	E			
11.0~10.5									SUS ER20-110	◎	E			
11.5~11.0									SUS ER20-115	◎	E			
12.0~11.5									SUS ER20-120	◎	E			
12.5~12.0									SUS ER20-125	◎	E			
13.0~12.5									SUS ER20-130	◎	E			
inch	SUS ER11 (0.01kg/pc)				SUS ER16 (0.03kg/pc)				SUS ER20 (0.04kg/pc)					
Ød range	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark		
(3.175) 1/8"~7/64"	SUS ER11-I08	◎	E		SUS ER16-I08	◎	E		SUS ER20-I08	◎	E			
(4.7625) 3/16"~11/64"	SUS ER11-I12	◎	E		SUS ER16-I12	◎	E		SUS ER20-I12	◎	E			
(6.35) 1/4"~15/64"	SUS ER11-I16	◎	E		SUS ER16-I16	◎	E		SUS ER20-I16	◎	E			
(7.9375) 5/16"~19/64"					SUS ER16-I20	◎	E		SUS ER20-I20	◎	E			
(9.525) 3/8"~23/64"					SUS ER16-I24	◎	E		SUS ER20-I24	◎	E			
(11.1125) 7/16"~27/64"									SUS ER20-I28	◎	E			
(12.7) 1/2"~31/64"									SUS ER20-I32	◎	E			

不鏽鋼ER筒夾 DIN6499B/ISO15488B

不鏽鋼ER筒夾+SGER螺帽組合精度0.005mm @3*d

不鏽鋼ER筒夾+ERM螺帽&ER螺帽組合精度0.008mm @3*d

Stainless SUS ER collet DIN6499B/ISO15488B

Stainless SUS ER collet + SGER nut assembly runout 0.005mm @3*d

Stainless SUS ER collet + ERM nut & ER nut assembly runout 0.008mm @3*d

		SUS ER25 (0.09kg/pc)				SUS ER32 (0.16kg/pc)			
Ød range	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	
3.0~2.5	SUS ER25-030	◎	E		SUS ER32-030	◎	E		
3.5~3.0	SUS ER25-035	◎	E		SUS ER32-035	◎	E		
4.0~3.5	SUS ER25-040	◎	E		SUS ER32-040	◎	E		
4.5~4.0	SUS ER25-045	◎	E		SUS ER32-045	◎	E		
5.0~4.5	SUS ER25-050	◎	E		SUS ER32-050	◎	E		
5.5~5.0	SUS ER25-055	◎	E		SUS ER32-055	◎	E		
6.0~5.5	SUS ER25-060	◎	E		SUS ER32-060	◎	E		
6.5~6.0	SUS ER25-065	◎	E		SUS ER32-065	◎	E		
7.0~6.5	SUS ER25-070	◎	E		SUS ER32-070	◎	E		
7.5~7.0	SUS ER25-075	◎	E		SUS ER32-075	◎	E		
8.0~7.5	SUS ER25-080	◎	E		SUS ER32-080	◎	E		
8.5~8.0	SUS ER25-085	◎	E		SUS ER32-085	◎	E		
9.0~8.5	SUS ER25-090	◎	E		SUS ER32-090	◎	E		
9.5~9.0	SUS ER25-095	◎	E		SUS ER32-095	◎	E		
10.0~9.5	SUS ER25-100	◎	E		SUS ER32-100	◎	E		
10.5~10.0	SUS ER25-105	◎	E		SUS ER32-105	◎	E		
11.0~10.5	SUS ER25-110	◎	E		SUS ER32-110	◎	E		
11.5~11.0	SUS ER25-115	◎	E		SUS ER32-115	◎	E		
12.0~11.5	SUS ER25-120	◎	E		SUS ER32-120	◎	E		
12.5~12.0	SUS ER25-125	◎	E		SUS ER32-125	◎	E		
13.0~12.5	SUS ER25-130	◎	E		SUS ER32-130	◎	E		
13.5~13.0	SUS ER25-135	◎	E		SUS ER32-135	◎	E		
14.0~13.5	SUS ER25-140	◎	E		SUS ER32-140	◎	E		
14.5~14.0	SUS ER25-145	◎	E		SUS ER32-145	◎	E		
15.0~14.5	SUS ER25-150	◎	E		SUS ER32-150	◎	E		
15.5~15.0	SUS ER25-155	◎	E		SUS ER32-155	◎	E		
16.0~15.5	SUS ER25-160	◎	E		SUS ER32-160	◎	E		
16.5~16.0					SUS ER32-165	◎	E		
17.0~16.5					SUS ER32-170	◎	E		
17.5~17.0					SUS ER32-175	◎	E		
18.0~17.5					SUS ER32-180	◎	E		
18.5~18.0					SUS ER32-185	◎	E		
19.0~18.5					SUS ER32-190	◎	E		
19.5~19.0					SUS ER32-195	◎	E		
20.0~19.5					SUS ER32-200	◎	E		
inch	SUS ER25 (0.09kg/pc)				SUS ER32 (0.16kg/pc)				
Ød range	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	
(3.175) 1/8"~7/64"	SUS ER25-I08	◎	E		SUS ER32-I08	◎	E		
(4.7625) 3/16"~11/64"	SUS ER25-I12	◎	E		SUS ER32-I12	◎	E		
(6.35) 1/4"~15/64"	SUS ER25-I16	◎	E		SUS ER32-I16	◎	E		
(7.9375) 5/16"~19/64"	SUS ER25-I20	◎	E		SUS ER32-I20	◎	E		
(9.525) 3/8"~23/64"	SUS ER25-I24	◎	E		SUS ER32-I24	◎	E		
(11.1125) 7/16"~27/64"	SUS ER25-I28	◎	E		SUS ER32-I28	◎	E		
(12.7) 1/2"~31/64"	SUS ER25-I32	◎	E		SUS ER32-I32	◎	E		
(14.2825) 9/16"~35/64"	SUS ER25-I36	◎	E		SUS ER32-I36	◎	E		
(15.875) 5/8"~39/64"	SUS ER25-I40	◎	E		SUS ER32-I40	◎	E		
(17.4626) 11/16"~43/64"					SUS ER32-I44	◎	E		
(19.05) 3/4"~47/64"					SUS ER32-I48	◎	E		

防鏽鍍層AA級ER筒夾 DIN6499B/ISO15488B

AA級ER筒夾+SGER螺帽組合精度0.003mm @3*d

AA級ER筒夾+ERM螺帽&ER螺帽組合精度0.005mm @3*d

Rustproof coating AA grade ER collet DIN6499B/ISO15488B

AA grade ER collet + SGER nut assembly runout 0.003mm @3*d

AA grade ER collet + ERM nut & ER nut assembly runout 0.005mm @3*d

Ød range	ER11AA (0.01kg/pc)				ER16AA (0.03kg/pc)				ER20AA (0.04kg/pc)			
	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark
1.0~0.5	RF JA ER11AA-010	◎	G		RF JA ER16AA-010	◎	G		RF JA ER20AA-010	◎	G	
1.5~1.0	RF JA ER11AA-015	◎	G									
2.0~1.5	RF JA ER11AA-020	◎	G									
2.5~2.0	RF JA ER11AA-025	◎	G									
3.0~2.5	RF JA ER11AA-030	◎	G									
3.5~3.0	RF JA ER11AA-035	◎	G									
4.0~3.5	RF JA ER11AA-040	◎	G									
4.5~4.0	RF JA ER11AA-045	◎	G									
5.0~4.5	RF JA ER11AA-050	◎	G									
5.5~5.0	RF JA ER11AA-055	◎	G									
6.0~5.5	RF JA ER11AA-060	◎	G									
6.5~6.0	RF JA ER11AA-065	◎	G									
7.0~6.5	RF JA ER11AA-070	◎	G									
2.0~1.0					RF JA ER16AA-020	◎	G		RF JA ER20AA-020	◎	G	
3.0~2.0					RF JA ER16AA-030	◎	G		RF JA ER20AA-030	◎	G	
4.0~3.0					RF JA ER16AA-040	◎	G		RF JA ER20AA-040	◎	G	
5.0~4.0					RF JA ER16AA-050	◎	G		RF JA ER20AA-050	◎	G	
6.0~5.0					RF JA ER16AA-060	◎	G		RF JA ER20AA-060	◎	G	
7.0~6.0					RF JA ER16AA-070	◎	G		RF JA ER20AA-070	◎	G	
8.0~7.0					RF JA ER16AA-080	◎	G		RF JA ER20AA-080	◎	G	
9.0~8.0					RF JA ER16AA-090	◎	G		RF JA ER20AA-090	◎	G	
10.0~9.0					RF JA ER16AA-100	◎	G		RF JA ER20AA-100	◎	G	
11.0~10.0									RF JA ER20AA-110	◎	G	
12.0~11.0									RF JA ER20AA-120	◎	G	
13.0~12.0									RF JA ER20AA-130	◎	G	
Ød range	ER25AA (0.09kg/pc)				ER32AA (0.16kg/pc)				ER40AA (0.30kg/pc)			
	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark
1.0~0.5	RF JA ER25AA-010	◎	G									
2.0~1.0	RF JA ER25AA-020	◎	G									
3.0~2.0	RF JA ER25AA-030	◎	G		RF JA ER32AA-030	◎	G					
4.0~3.0	RF JA ER25AA-040	◎	G		RF JA ER32AA-040	◎	G		RF JA ER40AA-040	◎	G	
5.0~4.0	RF JA ER25AA-050	◎	G		RF JA ER32AA-050	◎	G		RF JA ER40AA-050	◎	G	
6.0~5.0	RF JA ER25AA-060	◎	G		RF JA ER32AA-060	◎	G		RF JA ER40AA-060	◎	G	
7.0~6.0	RF JA ER25AA-070	◎	G		RF JA ER32AA-070	◎	G		RF JA ER40AA-070	◎	G	
8.0~7.0	RF JA ER25AA-080	◎	G		RF JA ER32AA-080	◎	G		RF JA ER40AA-080	◎	G	
9.0~8.0	RF JA ER25AA-090	◎	G		RF JA ER32AA-090	◎	G		RF JA ER40AA-090	◎	G	
10.0~9.0	RF JA ER25AA-100	◎	G		RF JA ER32AA-100	◎	G		RF JA ER40AA-100	◎	G	
11.0~10.0	RF JA ER25AA-110	◎	G		RF JA ER32AA-110	◎	G		RF JA ER40AA-110	◎	G	
12.0~11.0	RF JA ER25AA-120	◎	G		RF JA ER32AA-120	◎	G		RF JA ER40AA-120	◎	G	
13.0~12.0	RF JA ER25AA-130	◎	G		RF JA ER32AA-130	◎	G		RF JA ER40AA-130	◎	G	
14.0~13.0	RF JA ER25AA-140	◎	G		RF JA ER32AA-140	◎	G		RF JA ER40AA-140	◎	G	
15.0~14.0	RF JA ER25AA-150	◎	G		RF JA ER32AA-150	◎	G		RF JA ER40AA-150	◎	G	
16.0~15.0	RF JA ER25AA-160	◎	G		RF JA ER32AA-160	◎	G		RF JA ER40AA-160	◎	G	
17.0~16.0					RF JA ER32AA-170	◎	G		RF JA ER40AA-170	◎	G	
18.0~17.0					RF JA ER32AA-180	◎	G		RF JA ER40AA-180	◎	G	
19.0~18.0					RF JA ER32AA-190	◎	G		RF JA ER40AA-190	◎	G	
20.0~19.0					RF JA ER32AA-200	◎	G		RF JA ER40AA-200	◎	G	
21.0~20.0									RF JA ER40AA-210	◎	G	
22.0~21.0									RF JA ER40AA-220	◎	G	
23.0~22.0									RF JA ER40AA-230	◎	G	
24.0~23.0									RF JA ER40AA-240	◎	G	
25.0~24.0									RF JA ER40AA-250	◎	G	
26.0~25.0									RF JA ER40AA-260	◎	G	

防鏽鍍層ER筒夾 DIN6499B/ISO15488B

ER筒夾+SGER螺帽組合精度0.006mm @3*d

ER筒夾+ERM螺帽&ER螺帽組合精度0.010mm @3*d

Rustproof coating ER collet DIN6499B/ISO15488B

ER collet + SGER nut assembly runout 0.006mm @3*d

ER collet + ERM nut & ER nut assembly runout 0.010mm @3*d

ER11 (0.01kg/pc)					ER16 (0.03kg/pc)					ER20 (0.04kg/pc)				
Ød range	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark		
1.0~0.5	RF GF ER11-010	◎	G		RF GF ER16-010	◎	G		RF GF ER20-010	◎	G			
1.5~1.0	RF GF ER11-015	◎	G											
2.0~1.5	RF GF ER11-020	◎	G											
2.5~2.0	RF GF ER11-025	◎	G											
3.0~2.5	RF GF ER11-030	◎	G											
3.5~3.0	RF GF ER11-035	◎	G											
4.0~3.5	RF GF ER11-040	◎	G											
4.5~4.0	RF GF ER11-045	◎	G											
5.0~4.5	RF GF ER11-050	◎	G											
5.5~5.0	RF GF ER11-055	◎	G											
6.0~5.5	RF GF ER11-060	◎	G											
6.5~6.0	RF GF ER11-065	◎	G											
7.0~6.5	RF GF ER11-070	◎	G											
2.0~1.0					RF GF ER16-020	◎	G		RF GF ER20-020	◎	G			
3.0~2.0					RF GF ER16-030	◎	G		RF GF ER20-030	◎	G			
4.0~3.0					RF GF ER16-040	◎	G		RF GF ER20-040	◎	G			
5.0~4.0					RF GF ER16-050	◎	G		RF GF ER20-050	◎	G			
6.0~5.0					RF GF ER16-060	◎	G		RF GF ER20-060	◎	G			
7.0~6.0					RF GF ER16-070	◎	G		RF GF ER20-070	◎	G			
8.0~7.0					RF GF ER16-080	◎	G		RF GF ER20-080	◎	G			
9.0~8.0					RF GF ER16-090	◎	G		RF GF ER20-090	◎	G			
10.0~9.0					RF GF ER16-100	◎	G		RF GF ER20-100	◎	G			
11.0~10.0									RF GF ER20-110	◎	G			
12.0~11.0									RF GF ER20-120	◎	G			
13.0~12.0									RF GF ER20-130	◎	G			
ER25 (0.09kg/pc)					ER32 (0.16kg/pc)					ER40 (0.30kg/pc)				
Ød range	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark		
1.0~0.5	RF GF ER25-010	◎	G											
1.5~1.0	RF GF ER25-015	◎	G											
2.0~1.0	RF GF ER25-020	◎	G		RF GF ER32-020	◎	G							
2.5~2.0	RF GF ER25-025	◎	G		RF GF ER32-025	◎	G							
3.0~2.0	RF GF ER25-030	◎	G		RF GF ER32-030	◎	G							
4.0~3.0	RF GF ER25-040	◎	G		RF GF ER32-040	◎	G		RF GF ER40-040	◎	G			
5.0~4.0	RF GF ER25-050	◎	G		RF GF ER32-050	◎	G		RF GF ER40-050	◎	G			
6.0~5.0	RF GF ER25-060	◎	G		RF GF ER32-060	◎	G		RF GF ER40-060	◎	G			
7.0~6.0	RF GF ER25-070	◎	G		RF GF ER32-070	◎	G		RF GF ER40-070	◎	G			
8.0~7.0	RF GF ER25-080	◎	G		RF GF ER32-080	◎	G		RF GF ER40-080	◎	G			
9.0~8.0	RF GF ER25-090	◎	G		RF GF ER32-090	◎	G		RF GF ER40-090	◎	G			
10.0~9.0	RF GF ER25-100	◎	G		RF GF ER32-100	◎	G		RF GF ER40-100	◎	G			
11.0~10.0	RF GF ER25-110	◎	G		RF GF ER32-110	◎	G		RF GF ER40-110	◎	G			
12.0~11.0	RF GF ER25-120	◎	G		RF GF ER32-120	◎	G		RF GF ER40-120	◎	G			
13.0~12.0	RF GF ER25-130	◎	G		RF GF ER32-130	◎	G		RF GF ER40-130	◎	G			
14.0~13.0	RF GF ER25-140	◎	G		RF GF ER32-140	◎	G		RF GF ER40-140	◎	G			
15.0~14.0	RF GF ER25-150	◎	G		RF GF ER32-150	◎	G		RF GF ER40-150	◎	G			
16.0~15.0	RF GF ER25-160	◎	G		RF GF ER32-160	◎	G		RF GF ER40-160	◎	G			
17.0~16.0					RF GF ER32-170	◎	G		RF GF ER40-170	◎	G			
18.0~17.0					RF GF ER32-180	◎	G		RF GF ER40-180	◎	G			
19.0~18.0					RF GF ER32-190	◎	G		RF GF ER40-190	◎	G			
20.0~19.0					RF GF ER32-200	◎	G		RF GF ER40-200	◎	G			
21.0~20.0									RF GF ER40-210	◎	G			
22.0~21.0									RF GF ER40-220	◎	G			
23.0~22.0									RF GF ER40-230	◎	G			
24.0~23.0									RF GF ER40-240	◎	G			
25.0~24.0									RF GF ER40-250	◎	G			
26.0~25.0									RF GF ER40-260	◎	G			

防鏽鍍層AA級EROH止水筒夾 DIN6499B/ISO15488BRustproof coating AA grade EROH coolant collet DIN6499B/ISO15488B
 AA級EROH筒夾+SGER螺帽組合精度0.003mm @3*d AA grade EROH collet + SGER nut assembly runout 0.003mm @3*d
 AA級EROH筒夾+ERM螺帽&ER螺帽組合精度0.005mm @3*d AA grade EROH collet + ERM nut & ER nut assembly runout 0.005mm @3*d

Ød range	ER11OHAA (0.01kg/pc)				ER16OHAA (0.03kg/pc)				ER20OHAA (0.04kg/pc)			
	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark
3.0~2.9	RF JA ER11OHAA-030		G		RF JA ER16OHAA-030		G					
3.5~3.4	RF JA ER11OHAA-035		G		RF JA ER16OHAA-035		G					
4.0~3.9	RF JA ER11OHAA-040		G		RF JA ER16OHAA-040		G					
4.5~4.4	RF JA ER11OHAA-045		G		RF JA ER16OHAA-045		G					
5.0~4.9	RF JA ER11OHAA-050		G		RF JA ER16OHAA-050		G		RF JA ER20OHAA-050			G
5.5~5.4	RF JA ER11OHAA-055		G									
6.0~5.9	RF JA ER11OHAA-060		G									
6.5~6.4	RF JA ER11OHAA-065		G									
7.0~6.9	RF JA ER11OHAA-070		G									
5.5~5.0					RF JA ER16OHAA-055		G		RF JA ER20OHAA-055			G
6.0~5.5					RF JA ER16OHAA-060		G		RF JA ER20OHAA-060			G
6.5~6.0					RF JA ER16OHAA-065		G		RF JA ER20OHAA-065			G
7.0~6.5					RF JA ER16OHAA-070		G		RF JA ER20OHAA-070			G
7.5~7.0					RF JA ER16OHAA-075		G		RF JA ER20OHAA-075			G
8.0~7.5					RF JA ER16OHAA-080		G		RF JA ER20OHAA-080			G
8.5~8.0					RF JA ER16OHAA-085		G		RF JA ER20OHAA-085			G
9.0~8.5					RF JA ER16OHAA-090		G		RF JA ER20OHAA-090			G
9.5~9.0					RF JA ER16OHAA-095		G		RF JA ER20OHAA-095			G
10.0~9.5					RF JA ER16OHAA-100		G		RF JA ER20OHAA-100			G
10.5~10.0									RF JA ER20OHAA-105			G
11.0~10.5									RF JA ER20OHAA-110			G
11.5~11.0									RF JA ER20OHAA-115			G
12.0~11.5									RF JA ER20OHAA-120			G
12.5~12.0									RF JA ER20OHAA-125			G
13.0~12.5									RF JA ER20OHAA-130			G

STOCK ◎=標準在庫品 // STOCK ◉=regular stock | STOCK ◊=少量在庫品 // STOCK ◌=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

防鏽鍍層AA級EROH止水筒夾 DIN6499B/ISO15488BRustproof coating AA grade EROH coolant collet DIN6499B/ISO15488B
 AA級EROH筒夾+SGER螺帽組合精度0.003mm @3*d AA grade EROH collet + SGER nut assembly runout 0.003mm @3*d
 AA級EROH筒夾+ERM螺帽&ER螺帽組合精度0.005mm @3*d AA grade EROH collet + ERM nut & ER nut assembly runout 0.005mm @3*d

Ød range	ER25OHAA (0.09kg/pc)				ER32OHAA (0.16kg/pc)				ER40OHAA (0.30kg/pc)			
	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark
6.0~5.5	RF JA ER25OHAA-060		G									
6.5~6.0	RF JA ER25OHAA-065		G									
7.0~6.5	RF JA ER25OHAA-070		G									
7.5~7.0	RF JA ER25OHAA-075		G									
8.0~7.5	RF JA ER25OHAA-080		G		RF JA ER32OHAA-080		G					
8.5~8.0	RF JA ER25OHAA-085		G		RF JA ER32OHAA-085		G					
9.0~8.5	RF JA ER25OHAA-090		G		RF JA ER32OHAA-090		G					
9.5~9.0	RF JA ER25OHAA-095		G		RF JA ER32OHAA-095		G					
10.0~9.5	RF JA ER25OHAA-100		G		RF JA ER32OHAA-100		G		RF JA ER40OHAA-100		G	
10.5~10.0	RF JA ER25OHAA-105		G		RF JA ER32OHAA-105		G		RF JA ER40OHAA-105		G	
11.0~10.5	RF JA ER25OHAA-110		G		RF JA ER32OHAA-110		G		RF JA ER40OHAA-110		G	
11.5~11.0	RF JA ER25OHAA-115		G		RF JA ER32OHAA-115		G		RF JA ER40OHAA-115		G	
12.0~11.5	RF JA ER25OHAA-120		G		RF JA ER32OHAA-120		G		RF JA ER40OHAA-120		G	
12.5~12.0	RF JA ER25OHAA-125		G		RF JA ER32OHAA-125		G		RF JA ER40OHAA-125		G	
13.0~12.5	RF JA ER25OHAA-130		G		RF JA ER32OHAA-130		G		RF JA ER40OHAA-130		G	
13.5~13.0	RF JA ER25OHAA-135		G		RF JA ER32OHAA-135		G		RF JA ER40OHAA-135		G	
14.0~13.5	RF JA ER25OHAA-140		G		RF JA ER32OHAA-140		G		RF JA ER40OHAA-140		G	
14.5~14.0	RF JA ER25OHAA-145		G		RF JA ER32OHAA-145		G		RF JA ER40OHAA-145		G	
15.0~14.5	RF JA ER25OHAA-150		G		RF JA ER32OHAA-150		G		RF JA ER40OHAA-150		G	
15.5~15.0	RF JA ER25OHAA-155		G		RF JA ER32OHAA-155		G		RF JA ER40OHAA-155		G	
16.0~15.5	RF JA ER25OHAA-160		G		RF JA ER32OHAA-160		G		RF JA ER40OHAA-160		G	
16.5~16.0					RF JA ER32OHAA-165		G		RF JA ER40OHAA-165		G	
17.0~16.5					RF JA ER32OHAA-170		G		RF JA ER40OHAA-170		G	
17.5~17.0					RF JA ER32OHAA-175		G		RF JA ER40OHAA-175		G	
18.0~17.5					RF JA ER32OHAA-180		G		RF JA ER40OHAA-180		G	
18.5~18.0					RF JA ER32OHAA-185		G		RF JA ER40OHAA-185		G	
19.0~18.5					RF JA ER32OHAA-190		G		RF JA ER40OHAA-190		G	
19.5~19.0					RF JA ER32OHAA-195		G		RF JA ER40OHAA-195		G	
20.0~19.5					RF JA ER32OHAA-200		G		RF JA ER40OHAA-200		G	
20.5~20.0									RF JA ER40OHAA-205		G	
21.0~20.5									RF JA ER40OHAA-210		G	
21.5~21.0									RF JA ER40OHAA-215		G	
22.0~21.5									RF JA ER40OHAA-220		G	
22.5~22.0									RF JA ER40OHAA-225		G	
23.0~22.5									RF JA ER40OHAA-230		G	
23.5~23.0									RF JA ER40OHAA-235		G	
24.0~23.5									RF JA ER40OHAA-240		G	
24.5~24.0									RF JA ER40OHAA-245		G	
25.0~24.5									RF JA ER40OHAA-250		G	
25.5~25.0									RF JA ER40OHAA-255		G	
26.0~25.5									RF JA ER40OHAA-260		G	

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防鏽鍍層EROH止水筒夾 DIN6499B/ISO15488B
 EROH筒夾+SGER螺帽組合精度0.006mm @3*d
 EROH筒夾+ERM螺帽&ER螺帽組合精度0.010mm @3*d

Rustproof coating EROH coolant collet DIN6499B/ISO15488B
 EROH collet + SGER nut assembly runout 0.006mm @3*d
 EROH collet + ERM nut & ER nut assembly runout 0.010mm @3*d

Ød range	ER110H (0.01kg/pc)				ER160H (0.03kg/pc)				ER200H (0.04kg/pc)			
	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark
3.0~2.9	RF JA ER110H-030		G		RF JA ER160H-030		G					
3.5~3.4	RF JA ER110H-035		G		RF JA ER160H-035		G					
4.0~3.9	RF JA ER110H-040		G		RF JA ER160H-040		G					
4.5~4.4	RF JA ER110H-045		G		RF JA ER160H-045		G					
5.0~4.9	RF JA ER110H-050		G		RF JA ER160H-050		G		RF JA ER200H-050		G	
5.5~5.4	RF JA ER110H-055		G									
6.0~5.9	RF JA ER110H-060		G									
6.5~6.4	RF JA ER110H-065		G									
7.0~6.9	RF JA ER110H-070		G									
5.5~5.0					RF JA ER160H-055		G		RF JA ER200H-055		G	
6.0~5.5					RF JA ER160H-060		G		RF JA ER200H-060		G	
6.5~6.0					RF JA ER160H-065		G		RF JA ER200H-065		G	
7.0~6.5					RF JA ER160H-070		G		RF JA ER200H-070		G	
7.5~7.0					RF JA ER160H-075		G		RF JA ER200H-075		G	
8.0~7.5					RF JA ER160H-080		G		RF JA ER200H-080		G	
8.5~8.0					RF JA ER160H-085		G		RF JA ER200H-085		G	
9.0~8.5					RF JA ER160H-090		G		RF JA ER200H-090		G	
9.5~9.0					RF JA ER160H-095		G		RF JA ER200H-095		G	
10.0~9.5					RF JA ER160H-100		G		RF JA ER200H-100		G	
10.5~10.0									RF JA ER200H-105		G	
11.0~10.5									RF JA ER200H-110		G	
11.5~11.0									RF JA ER200H-115		G	
12.0~11.5									RF JA ER200H-120		G	
12.5~12.0									RF JA ER200H-125		G	
13.0~12.5									RF JA ER200H-130		G	

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防鏽鍍層EROH止水筒夾 DIN6499B/ISO15488B
 EROH筒夾+SGER螺帽組合精度0.006mm @3*d
 EROH筒夾+ERM螺帽&ER螺帽組合精度0.010mm @3*d

Rustproof coating EROH coolant collet DIN6499B/ISO15488B
 EROH collet + SGER nut assembly runout 0.006mm @3*d
 EROH collet + ERM nut & ER nut assembly runout 0.010mm @3*d

Ød range	ER25OH (0.09kg/pc)				ER32OH (0.16kg/pc)				ER40OH (0.30kg/pc)			
	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark	CODE	STOCK	GROUP	Remark
6.0~5.5	RF JA ER25OH-060		G									
6.5~6.0	RF JA ER25OH-065		G									
7.0~6.5	RF JA ER25OH-070		G									
7.5~7.0	RF JA ER25OH-075		G									
8.0~7.5	RF JA ER25OH-080		G		RF JA ER32OH-080		G					
8.5~8.0	RF JA ER25OH-085		G		RF JA ER32OH-085		G					
9.0~8.5	RF JA ER25OH-090		G		RF JA ER32OH-090		G					
9.5~9.0	RF JA ER25OH-095		G		RF JA ER32OH-095		G					
10.0~9.5	RF JA ER25OH-100		G		RF JA ER32OH-100		G		RF JA ER40OH-100		G	
10.5~10.0	RF JA ER25OH-105		G		RF JA ER32OH-105		G		RF JA ER40OH-105		G	
11.0~10.5	RF JA ER25OH-110		G		RF JA ER32OH-110		G		RF JA ER40OH-110		G	
11.5~11.0	RF JA ER25OH-115		G		RF JA ER32OH-115		G		RF JA ER40OH-115		G	
12.0~11.5	RF JA ER25OH-120		G		RF JA ER32OH-120		G		RF JA ER40OH-120		G	
12.5~12.0	RF JA ER25OH-125		G		RF JA ER32OH-125		G		RF JA ER40OH-125		G	
13.0~12.5	RF JA ER25OH-130		G		RF JA ER32OH-130		G		RF JA ER40OH-130		G	
13.5~13.0	RF JA ER25OH-135		G		RF JA ER32OH-135		G		RF JA ER40OH-135		G	
14.0~13.5	RF JA ER25OH-140		G		RF JA ER32OH-140		G		RF JA ER40OH-140		G	
14.5~14.0	RF JA ER25OH-145		G		RF JA ER32OH-145		G		RF JA ER40OH-145		G	
15.0~14.5	RF JA ER25OH-150		G		RF JA ER32OH-150		G		RF JA ER40OH-150		G	
15.5~15.0	RF JA ER25OH-155		G		RF JA ER32OH-155		G		RF JA ER40OH-155		G	
16.0~15.5	RF JA ER25OH-160		G		RF JA ER32OH-160		G		RF JA ER40OH-160		G	
16.5~16.0					RF JA ER32OH-165		G		RF JA ER40OH-165		G	
17.0~16.5					RF JA ER32OH-170		G		RF JA ER40OH-170		G	
17.5~17.0					RF JA ER32OH-175		G		RF JA ER40OH-175		G	
18.0~17.5					RF JA ER32OH-180		G		RF JA ER40OH-180		G	
18.5~18.0					RF JA ER32OH-185		G		RF JA ER40OH-185		G	
19.0~18.5					RF JA ER32OH-190		G		RF JA ER40OH-190		G	
19.5~19.0					RF JA ER32OH-195		G		RF JA ER40OH-195		G	
20.0~19.5					RF JA ER32OH-200		G		RF JA ER40OH-200		G	
20.5~20.0									RF JA ER40OH-205		G	
21.0~20.5									RF JA ER40OH-210		G	
21.5~21.0									RF JA ER40OH-215		G	
22.0~21.5									RF JA ER40OH-220		G	
22.5~22.0									RF JA ER40OH-225		G	
23.0~22.5									RF JA ER40OH-230		G	
23.5~23.0									RF JA ER40OH-235		G	
24.0~23.5									RF JA ER40OH-240		G	
24.5~24.0									RF JA ER40OH-245		G	
25.0~24.5									RF JA ER40OH-250		G	
25.5~25.0									RF JA ER40OH-255		G	
26.0~25.5									RF JA ER40OH-260		G	

STOCK ◎=標準在庫品 // STOCK ©=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產 // STOCK BLANK=on request

The bitterness of poor quality remains long after the sweetness of low price is forgotten.

在低價的甜蜜被遺忘之後 低劣品質造成的痛苦會一直持續



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價格高的不一定貴 價格低的不一定便宜 買入價格不是成本 單位平均成本才是成本

ER-V04-201709



YAMAKEN

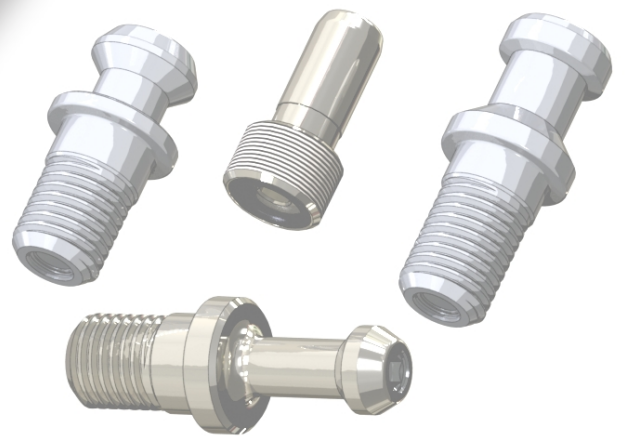
Precision Toolings for CNC Machinery

Retension Knobs/Pull Studs

RK拉桿螺栓

HSK Coolant Tube

HSK中心出水導管

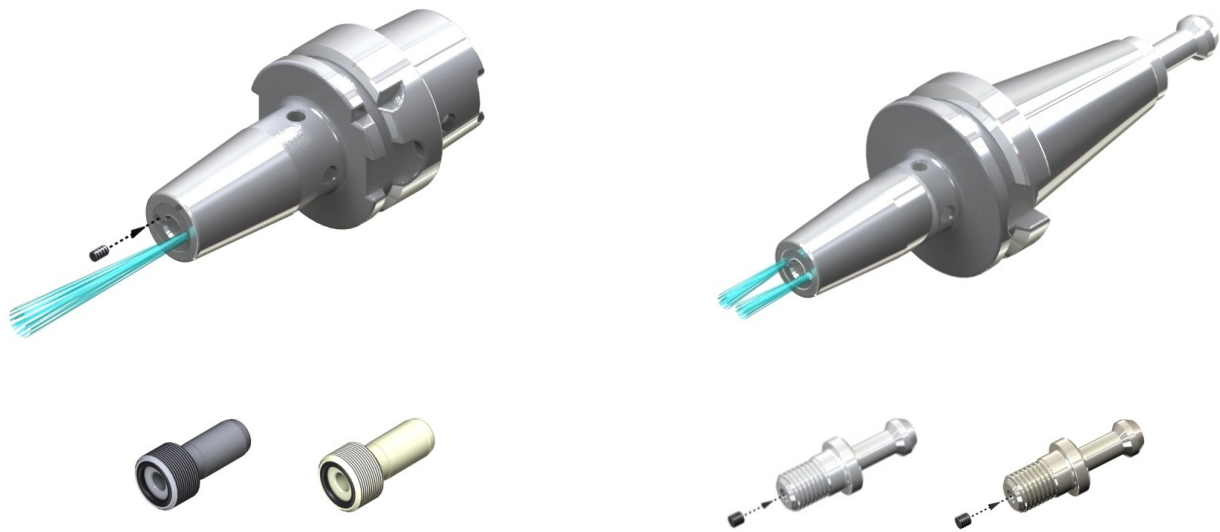


the art of toolings

RK-V05-201707

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- P01 // RK & CT // 拉桿螺栓簡介 // Introduction of PULLSTUD//RETENSION KNOB
- P02 // RK & CT // 拉桿螺栓使用說明 // PULLSTUD//RETENSION KNOB operation manual
- P03 // RK & CT // 拉桿螺栓技術資料 // PULLSTUD//RETENSION KNOB technical information
- P04 // RK & CT // 拉桿螺栓測試報告 // PULLSTUD//RETENSION KNOB test report
- P05~16 // RK & CT // RK拉桿螺栓// RK pullstuds / retension knobs
- P05~06 // RK & CT // BT-RK // BT-RK拉桿螺栓
- P07~08 // RK & CT // BT-RF RK // BT-RF防鏽鍍層RK拉桿螺栓
- P09~10 // RK & CT // SK-RK // SK-RK拉桿螺栓
- P11~12 // RK & CT // SK-RF RK // SK-RF防鏽鍍層RK拉桿螺栓
- P13~14 // RK & CT // CAT-RK // CAT-RK拉桿螺栓
- P15~16 // RK & CT // CAT-RF RK // CAT-RF防鏽鍍層RK拉桿螺栓
- P17 // RK & CT // HSK中心出水導管及附件 / HSK Coolant tube and accessories



為什麼我們要投資更精度更高的刀桿?

為了降低生產成本

精度更高的刀桿如何降低生產成本?

可以提升刀具的壽命

提升的程度有多少?

假設刀尖的偏擺是0, 刀具壽命是100

0.003mm刀尖偏擺的刀具, 壽命是80.4

0.005mm刀尖偏擺的刀具, 壽命是69.6

0.010mm刀尖偏擺的刀具, 壽命是48.4

0.020mm刀尖偏擺的刀具, 壽命是23.4

0.003mm刀尖偏擺的刀具比0.020mm刀尖偏擺的刀具, 刀具壽命差將近4倍

想想看這樣的差別可以降低多少刀具的成本!!!

Why we invest on precision toolholders?

To reduce the production cost

How precision toolholders reduce the production cost?

It will extend the tool life evidently

How much is the difference?

Let's set 0mm runout at tool nose with tool life 100.0

0.003mm runout at tool nose, tool life is 80.4

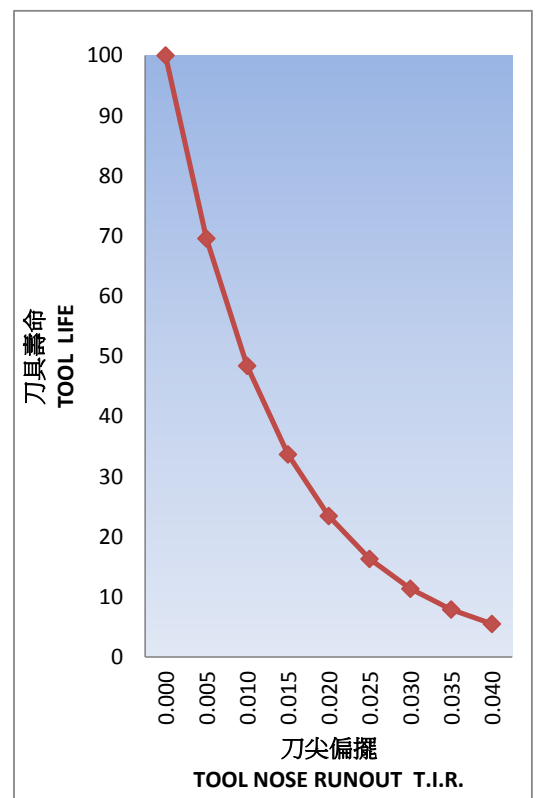
0.005mm runout at tool nose, tool life is 69.6

0.010mm runout at tool nose, tool life is 48.4

0.020mm runout at tool nose, tool life is 23.4

Tool life for 0.003mm runout is 4 TIMES longer than 0.020mm runout

See how much you can reduce the cost in cutting tools!!!



Introduction of PULLSTUD//RETENSION KNOB:

Quality of pullstud//retension knob is very important.
 It is the connecting part of the toolholder and the spindle of machine.
 With the wrong material or heat treatment process,
 it will damage the spindle of machine and toolholder seriously.
 The main reason of pullstud//retension breakage comes from low shear resistance strength.
 There are three keys to promote shear resistance:
 Correct material,
 Proper heat treatment process,
 Improvement in structure of design.

拉桿螺栓簡介:

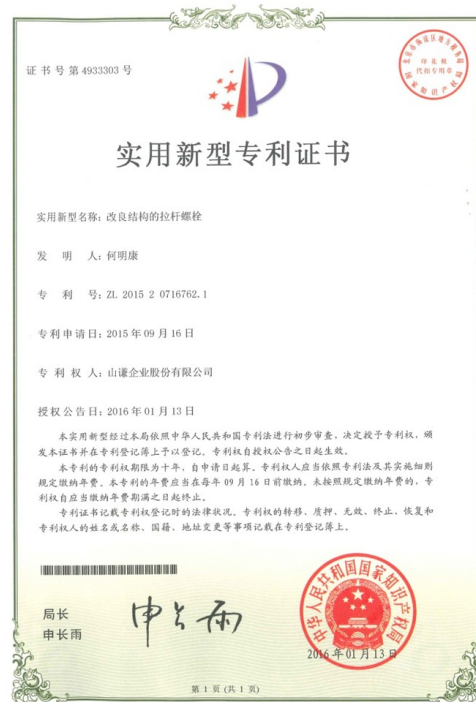
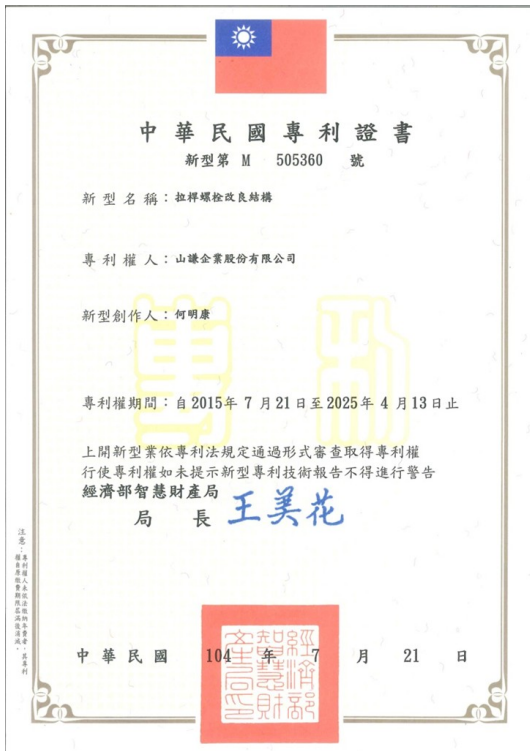
拉桿螺栓品質非常重要
 它是刀桿與機床主軸結合的重要零件
 當拉桿螺栓因材料選用或熱處理方式不當
 就會為機床主軸及刀桿帶來重大的損害
 造成拉桿螺栓斷裂的關鍵在於抗剪力不足
 抗剪力的強度的提升來自於三個方面
 選用正確的材料
 適當的熱處理程序
 機構設計的改善

PULLSTUD//RETENSION KNOB patent:

Low tightening torque with specialized screw glue to reach high clamping torque.
 Low tightening torque will maintain the accuracy of toolholder from deformation.
 No more slip when tightening with hex wrench.
 Dual function design for with and without coolant through.
 Improvement in structure of design to promote shear resistance.

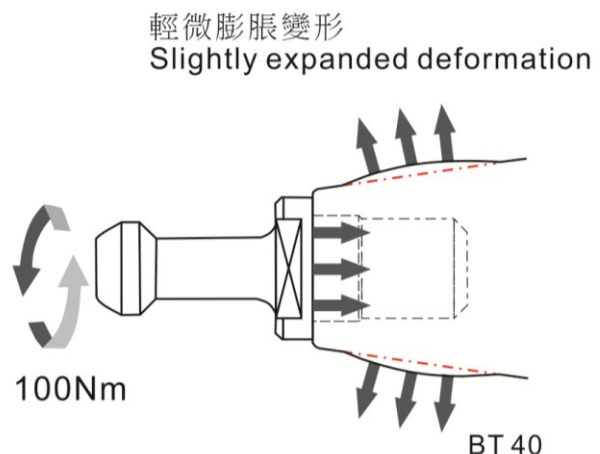
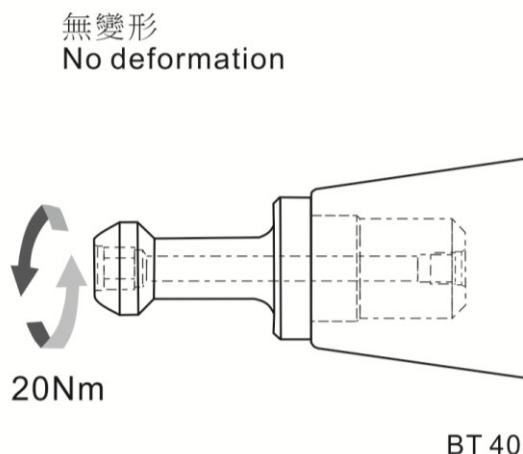
拉桿螺栓專利:

低扭力鎖緊加上專用的螺絲固定劑達到高扭力鎖固
 低扭力鎖緊可以讓刀桿保持原有精度使其錐度不變形
 六角扳手鎖固時不會有滑脫的狀況
 中心出水與中心止水兩用式整合的設計
 抗剪力提升的機構設計



PULLSTUD//RETENSION KNOB deformation with high tighten torque:

拉桿螺栓大鎖緊扭力鎖固造成錐度膨脹變形:



STEP1

清潔拉桿螺栓與刀桿的牙部及接觸端面
Cleaning pullstud and toolholder of thread and contact face.

STEP2

山謙的專利拉桿螺栓為出水/止水共用型設計
若加工機床為非中心出水型式請鎖上內附的止水螺絲
YAMAKEN's pullstud//retension knob is of dual function design.
You can use it with and without coolant through.
If your machine is without coolant through or coolant through frange,
lock the attached seal screw up before tighten it on toolholder.



STEP 3

使用LOCTITE#243螺絲固定劑
於拉桿螺栓底部第二牙處環繞塗布三點共約0.5ml
LOCTITE#243將會漫開於牙間
Use LOCTITE#243 screw glue on the thread part as following picture.
Put 0.5ml glue on the last the last two pitch of thread.
The screw glue will spread out in last few thread pitches.



STEP 4

將拉桿螺栓以手旋入刀桿
Screwing the pullstud//retension knob into the toolholder by hand.

****注意****

將造成鎖緊扭力過強而無法拆卸
****Caution****
Too much screw glue will bring too high clamping torque.
It may bring some difficulty to loosen it.



STEP 5

以扭力扳手鎖緊拉桿螺栓
鎖緊扭力為#30-10Nm//#40-20Nm//#50-40Nm
Use torque wrench to tighten pullstud//retension knob.
Tightening torque #30-10Nm//#40-20Nm//#50-40Nm.



STEP 6

LOCTITE#243螺絲固定劑初固時間五分鐘，全固時間24小時
全固化後再上線使用
LOCTITE#243 needs 5 minutes to solidify.
To solidify completely will take 24 hours.
Use it after it solidified completely.



PULLSTUD//RETENSION KNOB technical information :
拉桿螺栓技術資料:

ITEM: RKBTP40T1-45
BT40-45°coolant through pullstud//retension knob

品名: RKBTP40T1-45
BT40-45度中心出水拉桿螺栓

MATERIAL: SNCM420/4320/20CrNi2Mo/
HEAT TREATMENT: CARBURIZING
HARDNESS: HRC 58~60
TENSILE RESISTANT STRENGTH: 9,800kgf
SHEAR RESISTANT STRENGTH : 1,510kgf

材料: SNCM420/4320/20CrNi2Mo/
熱處理: 滲碳
硬度: HRC 58~60
抗拉力: 9,800kgf
抗剪力: 1,510kgf

1kgf=9.8N

1kgf=9.8N

Tensile resistant strength is resistant force of material in axial direction.
The bigger the cross-sectional area, the higher the tensile resistant strength.

抗拉力是材料對於軸向的抵抗力
截面積越大者抗拉力就會越大

If we want to calculate the tensile resistant strength (N/mm²),
we need to calculate the cross-sectional area first.

如果我們要計算材料的抗拉強度(N/mm²)
則需要先算出斷面截面積

RKBTP40T1-45
BT40-45 °coolant though pullstud//retension knob

RKBTP40T1-45
BT40-45度中心出水拉桿螺栓

The neck is 10mm, coolant hole is 4mm.
Cross-sectional area is $(10 \times 10 / 4 - 4 \times 4 / 4) \times \pi = 21 \times 3.1416 = 65.97 \text{mm}^2$

這項產品的頸部是10mm 水孔是4mm
斷面截面積是 $(10 \times 10 / 4 - 4 \times 4 / 4) \times \pi = 21 \times 3.1416 = 65.97 \text{mm}^2$

Tensile resistant strength is 9,800kgf=96,040N
Average tensile resistant strength is $96,040\text{N} / 65.97 \text{mm}^2 = 1,456 \text{N/mm}^2$

抗拉力是9,800kgf=96,040N
成品材料的抗拉強度是 $96,040\text{N} / 65.97 \text{mm}^2 = 1,456 \text{N/mm}^2$

Shear resistant strength is resistant force of material in radial direction.
Different structure in design with the same cross-sectional area
will generate different shear resistant strength.

抗剪力是材料對徑向的抵抗力
相同的截面積加上不同的機構設計
會產生不同的抗剪力

Shear resistant strength is 1,510kgf=14,798N
Average shear resistant strength is $14,798\text{N} / 65.97 \text{mm}^2 = 224 \text{N/mm}^2$

抗剪力是1,510kgf=14,798N
成品材料抗剪強度是 $14,798\text{N} / 65.97 \text{mm}^2 = 224 \text{N/mm}^2$

#40 spindle pulling force
International standard is 1200kgf(11,760N)
The tensile and shear resistant strength of pullstud//retension knob
should be high enough to resist spindle pulling force.
Pullstud//retension knob may break with low shear resistant strength.
The breakage will detroy the spindle of machine and toolholder.

#40主軸的拉力
國際標準是1200kgf(11,760N)
拉桿螺栓的抗拉力與抗剪力需要達到足夠對抗主軸拉力強度
抗剪力不足的拉桿螺栓會產生斷裂
加工中斷裂的拉桿螺栓會讓運作中的主直軸直接損毀

PULLSTUD//RETENSION KNOB comparison :
拉桿螺栓強度比較:

Pullstud//retension knob that made in Japan are with
tensile resistant strength 11,360kgf=111,328N
shear resistant strength 1,300kgf=12,740N

日本製的實心拉桿螺栓
抗拉力是11,360kgf=111,328N
抗剪力是1,300kgf=12,740N

It is solid with cross-sectional area $10 \times 10 / 4 \times \pi = 78.54 \text{mm}^2$

實心拉桿螺栓的斷面截面積是 $10 \times 10 / 4 \times \pi = 78.54 \text{mm}^2$

Average tensile resistant strength is $111,328\text{N} / 78.54 \text{mm}^2 = 1,417 \text{N/mm}^2$
Average shear resistant strength is $12,740\text{N} / 78.54 \text{mm}^2 = 162 \text{N/mm}^2$

成品材料的抗拉強度是 $111,328\text{N} / 78.54 \text{mm}^2 = 1,417 \text{N/mm}^2$
成品材料抗剪強度是 $12,740\text{N} / 78.54 \text{mm}^2 = 162 \text{N/mm}^2$

YAMAKEN's pullstud//retension knob are with 16% higher
in shear resistant strength than those made in Japan.

山謙製的拉桿螺栓比日本製的在抗剪力上多了16%



PULLSTUD//RETENSION KNOB test report : 拉桿螺栓測試報告:

Tensile test

Shear test

金屬工業研究發展中心區域研發服務處(中區)
 METAL INDUSTRIES RESEARCH & DEVELOPMENT CENTRE
 REGIONAL R&D SERVICE DEPARTMENT (TAICHUNG)
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 機械測試實驗室



Mechanical Testing Laboratory

委託者: 山謙企業股份有限公司
 Applicant: YAMAKEN TOOL CO., LTD.
 取樣者: ---
 Sampler: ---
 工程名稱: ---
 Source of Sample: ---

檢測編號: E1001002-T01
 Application No: ---
 收件日期: 2015/11/03
 Received Date: ---
 簽發日期: 2015/11/04
 Date Issued: ---
 Page 1 of 1

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 取樣者: ---
 Sampler: ---
 工程名稱: ---
 Source of Sample: ---

檢測編號: E1001002-T04
 Application No: ---
 收件日期: 2015/11/03
 Received Date: ---
 簽發日期: 2015/11/04
 Date Issued: ---
 Page 1 of 1

(1).Name of Article : PSBT4045-P40T1
 (2). Test Item : Tensile Test
 (3). Testing method : According to the applicant
 (4).Testing Instrument : Universal Testing Machine (No.TG0101)
 (5).Result :
 Max. Load : 9,800 kgf
 --- End ---





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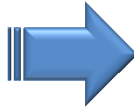
(1) Name of Article : PSBT4045-P40T1
 (2) Test Item : Bending Strength Test
 (3) Testing method : According to the applicant
 (4).Testing Instrument : Universal Testing Machine (No.TG0101)
 (5) Result :
 Max. Load : 1,510 kgf
 --- End ---



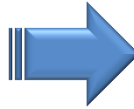

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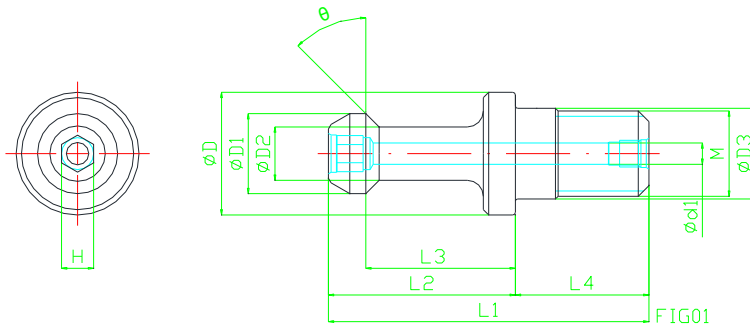
報告簽署人: 
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PULLSTUD//RETENSION KNOB tensile test : 拉桿螺栓抗拉力測試:



PULLSTUD//RETENSION KNOB shear test: 拉桿螺栓抗剪力測試:

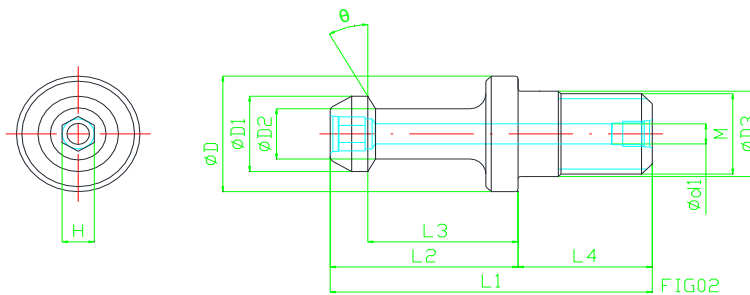




STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
◎	RKBTP30T1-45	1	43.00	23.00	18.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	45°	2.5	4	0.05	D	
◎	RKBTP40T1-45	1	60.00	35.00	28.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	45°	4.0	6	0.10	D	
◎	RKBTP50T1-45	1	85.00	45.00	35.00	40.00	38.00	23.00	17.00	25.00	M24*P3.00	45°	6.0	10	0.30	D	
◎	RKBTP30T1-45F	1	43.00	23.00	18.00	20.00	16.50	11.00	8.00	12.50	M12*P1.75	45°	3.8	4	0.05	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

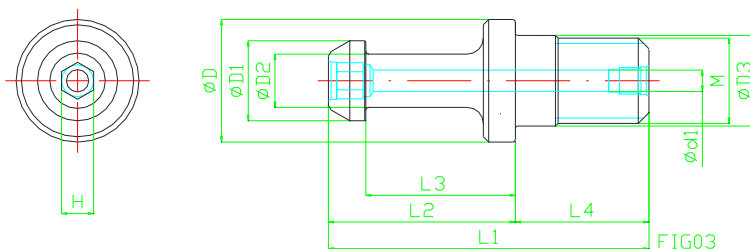
STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
◎	RKBTP30T2-30	2	43.00	23.00	18.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	30°	2.5	4	0.05	D	
◎	RKBTP40T2-30	2	60.00	35.00	28.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	30°	4.0	6	0.10	D	
◎	RKBTP50T2-30	2	85.00	45.00	35.00	40.00	38.00	23.00	17.00	25.00	M24*P3.00	30°	6.0	10	0.30	D	
◎	RKBTP30T2-30B	2	43.00	23.00	18.00	20.00	16.50	11.00	7.50	12.50	M12*P1.75	30°	2.5	4	0.05	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKBTP30T3-90	3	43.00	23.00	18.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	90°	2.5	4	0.05	D	
◎	RKBTP40T3-90	3	60.00	35.00	28.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	90°	4.0	6	0.10	D	
◎	RKBTP50T3-90	3	85.00	45.00	35.00	40.00	38.00	23.00	17.00	25.00	M24*P3.00	90°	6.0	10	0.30	D	

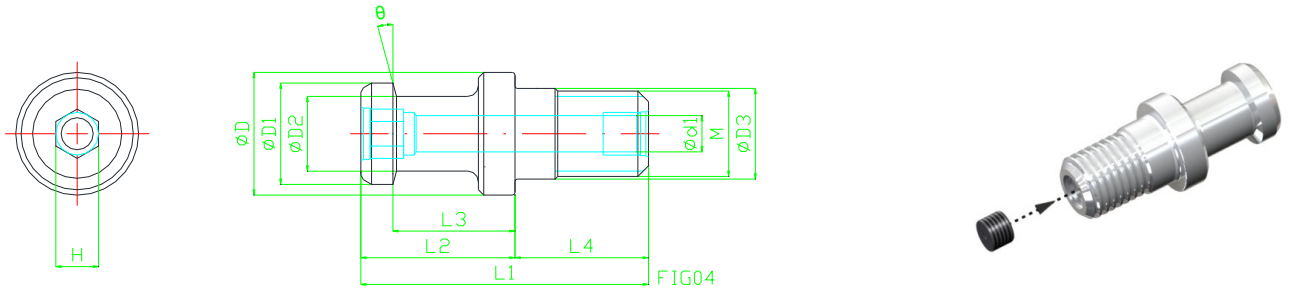
出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ○=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

RK & CT // BT-RK

RK拉桿螺栓

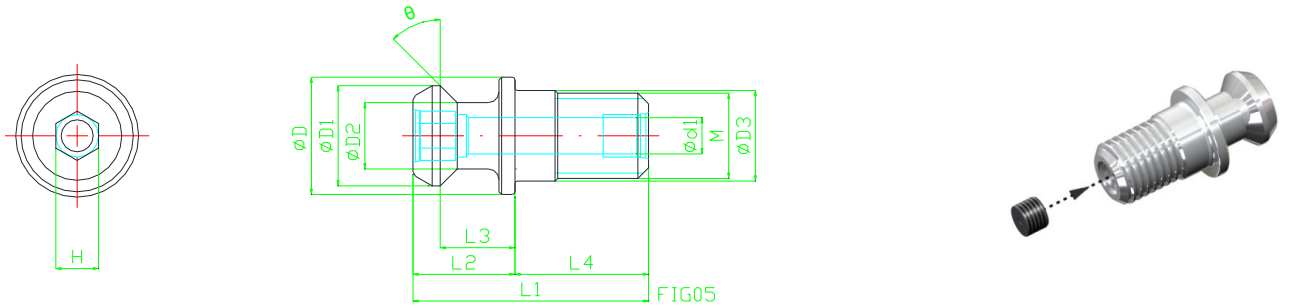
RK pullstuds / retention knobs



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
◎	RKBT30JISB6339-15	4	42.85	23.25	18.25	20.00	16.50	12.00	8.00	12.50	M12*P1.75	15°	3.8	4	0.05	D	
◎	RKBT40JISB6339-15	4	53.85	28.85	22.85	25.00	23.00	19.00	14.00	17.00	M16*P2.00	15°	6.8	8	0.10	D	
◎	RKBT50JISB6339-15	4	73.80	33.80	24.80	40.00	38.00	28.00	21.00	24.00	M24*P3.00	15°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

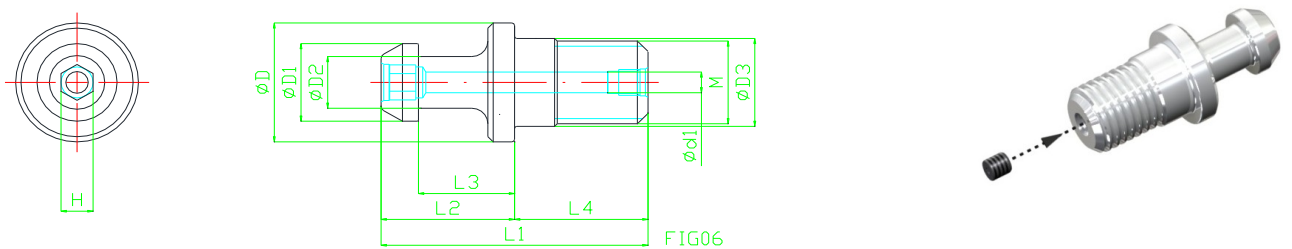
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKBT30ANSI-45YM	5	30.95	10.95	7.40	20.00	16.25	13.20	9.78	12.50	M12*P1.75	45°	3.8	4	0.05	D	
◎	RKBT40ANSI-45YM	5	44.10	19.10	14.00	25.00	22.00	18.80	12.45	17.00	M16*P2.00	45°	6.8	8	0.10	D	
◎	RKBT50ANSI-45YM	5	65.20	25.20	17.60	40.00	36.00	28.95	20.83	25.00	M24*P3.00	45°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

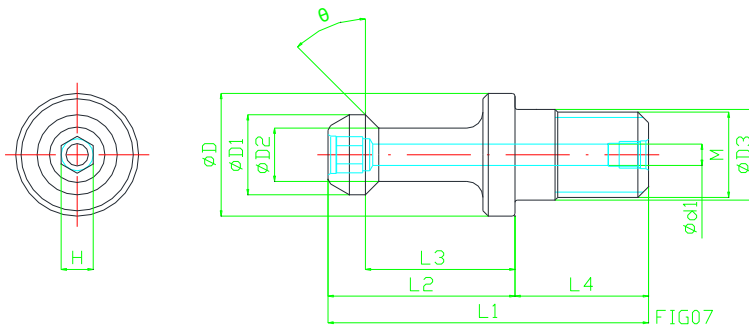
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKBTMP30-90MI	6	40.00	20.00	15.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	90°	2.5	4	0.05	D	
	RKBTMP40-90MI	6	50.00	25.00	18.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	90°	4.0	6	0.10	D	
	RKBTMP50-90MI	6	71.00	31.00	21.00	40.00	38.00	24.00	18.00	25.00	M24*P3.00	90°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

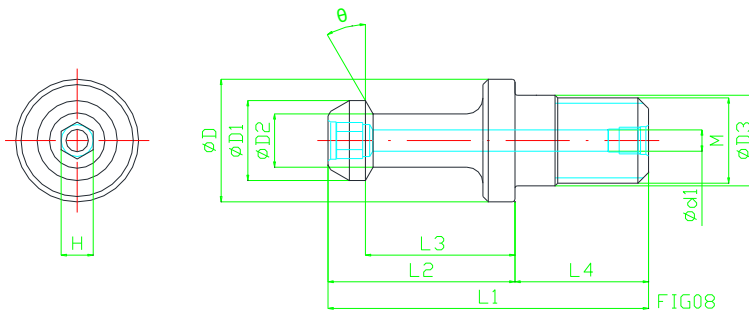
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
◎	RF RKBTP30T1-45	7	43.00	23.00	18.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	45°	2.5	4	0.50	D	
◎	RF RKBTP40T1-45	7	60.00	35.00	28.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	45°	4.0	6	0.10	D	
◎	RF RKBTP50T1-45	7	85.00	45.00	35.00	40.00	38.00	23.00	17.00	25.00	M24*P3.00	45°	6.0	10	0.30	D	
◎	RF RKBTP30T1-45F	7	43.00	23.00	18.00	20.00	16.50	11.00	8.00	12.50	M12*P1.75	45°	3.8	4	0.05	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

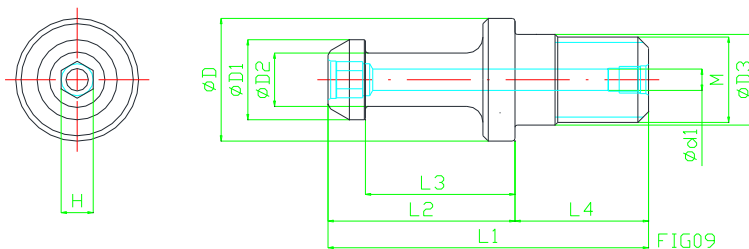
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ○=少量在庫品 // STOCK ○=few stock | STOCK ○=無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
◎	RF RKBTP30T2-30	8	43.00	23.00	18.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	30°	2.5	4	0.05	D	
◎	RF RKBTP40T2-30	8	60.00	35.00	28.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	30°	4.0	6	0.10	D	
◎	RF RKBTP50T2-30	8	85.00	45.00	35.00	40.00	38.00	23.00	17.00	25.00	M24*P3.00	30°	6.0	10	0.30	D	
◎	RF RKBTP30T2-30B	8	43.00	23.00	18.00	20.00	16.50	11.00	7.50	12.50	M12*P1.75	30°	2.5	4	0.05	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ○=少量在庫品 // STOCK ○=few stock | STOCK ○=無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKBTP30T3-90	9	43.00	23.00	18.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	90°	2.5	4	0.05	D	
◎	RF RKBTP40T3-90	9	60.00	35.00	28.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	90°	4.0	6	0.10	D	
◎	RF RKBTP50T3-90	9	85.00	45.00	35.00	40.00	38.00	23.00	17.00	25.00	M24*P3.00	90°	6.0	10	0.30	D	

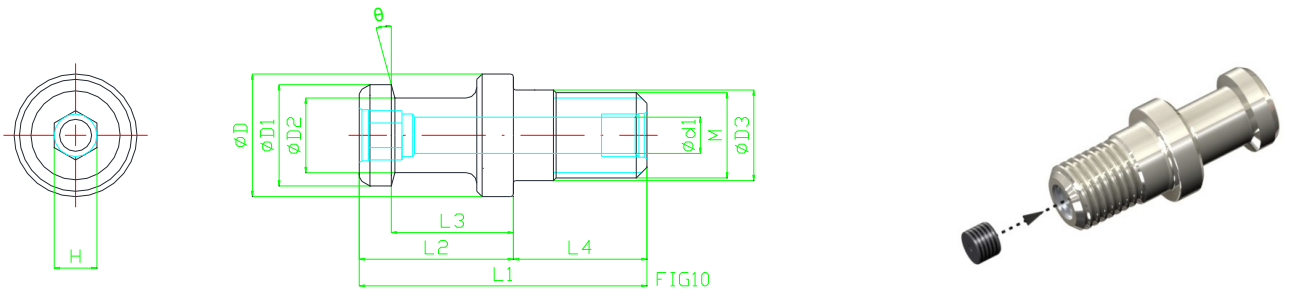
出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ○=少量在庫品 // STOCK ○=few stock | STOCK ○=無標示=接單生產品 // STOCK BLANK=on request

RK & CT // BT-RF RK

RF防鏽鍍層RK拉桿螺栓

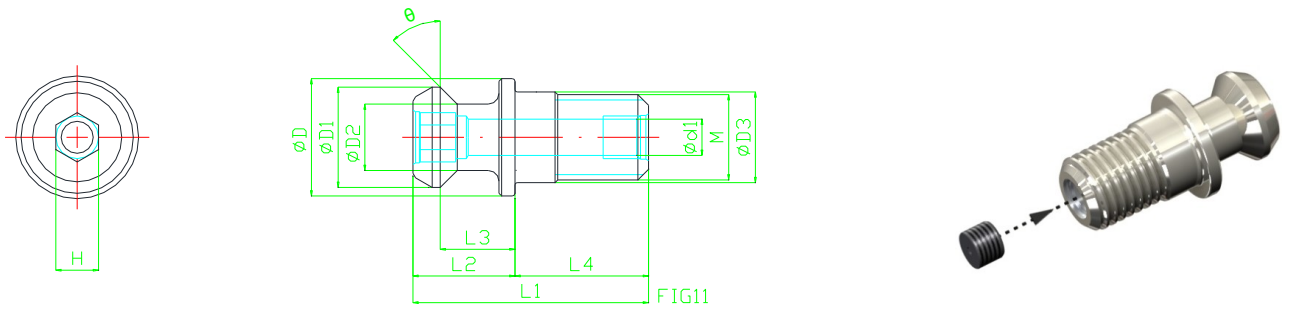
RF rust proof coating RK pullstuds / retention knobs



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
◎	RF RKBT30JISB6339-15	10	42.85	23.25	18.25	20.00	16.50	12.00	8.00	12.50	M12*P1.75	15°	3.8	4	0.05	D	
◎	RF RKBT40JISB6339-15	10	53.85	28.85	22.85	25.00	23.00	19.00	14.00	17.00	M16*P2.00	15°	6.8	8	0.10	D	
◎	RF RKBT50JISB6339-15	10	73.80	33.80	24.80	40.00	38.00	28.00	21.00	24.00	M24*P3.00	15°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

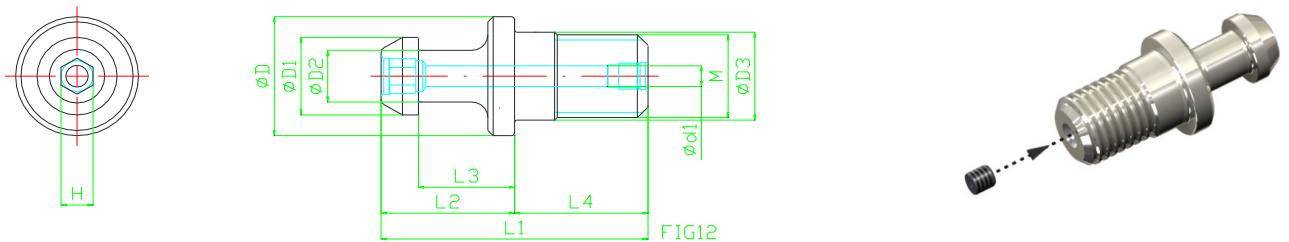
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKBT30ANSI-45YM	11	30.95	10.95	7.40	20.00	16.25	13.20	9.78	12.50	M12*P1.75	45°	3.8	4	0.05	D	
◎	RF RKBT40ANSI-45YM	11	44.10	19.10	14.00	25.00	22.00	18.80	12.45	17.00	M16*P2.00	45°	6.8	8	0.10	D	
◎	RF RKBT50ANSI-45YM	11	65.20	25.20	17.60	40.00	36.00	28.95	20.83	25.00	M24*P3.00	45°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

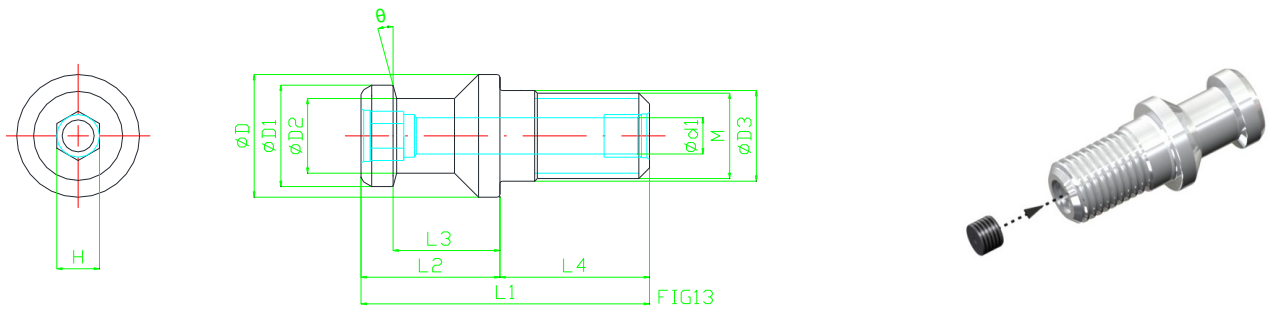
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKBTMP30-90MI	12	40.00	20.00	15.00	20.00	16.50	11.00	7.00	12.50	M12*P1.75	90°	2.5	4	0.05	D	
	RF RKBTMP40-90MI	12	50.00	25.00	18.00	25.00	23.00	15.00	10.00	17.00	M16*P2.00	90°	4.0	6	0.10	D	
	RF RKBTMP50-90MI	12	71.00	31.00	21.00	40.00	38.00	24.00	18.00	25.00	M24*P3.00	90°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

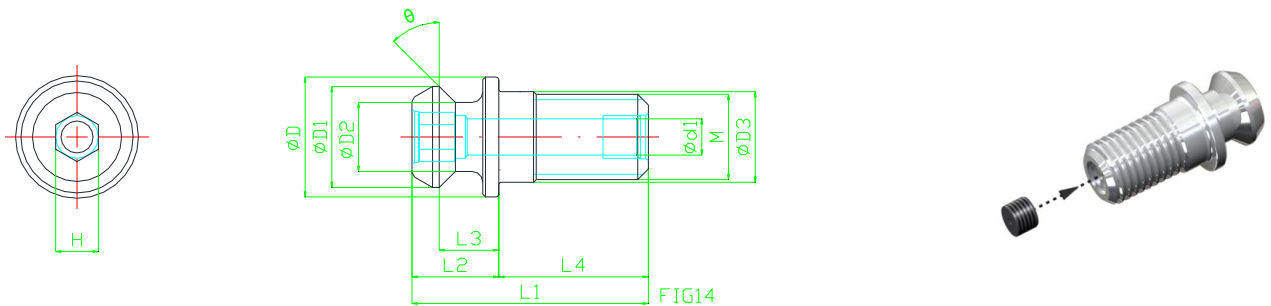
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKSK30DIN69872-15	13	44.00	24.00	19.00	20.00	17.00	13.00	9.00	13.00	M12*P1.75	15°	3.8	4	0.05	D	
◎	RKSK40DIN69872-15	13	54.00	26.00	20.00	28.00	23.00	19.00	14.00	17.00	M16*P2.00	15°	6.8	8	0.10	D	
◎	RKSK50DIN69872-15	13	74.00	34.00	25.00	40.00	36.00	28.00	21.00	25.00	M24*P3.00	15°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

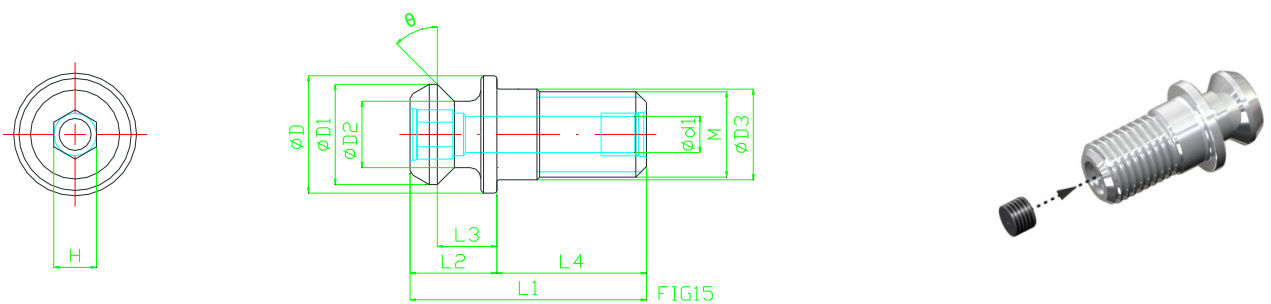
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKSK30ISO7388U-45	14	31.70	11.70	8.15	20.00	16.25	13.20	9.15	13.00	M24*P3.00	45°	3.8	4	0.05	D	
◎	RKSK40ISO7388U-45	14	44.25	16.25	11.15	28.00	22.00	18.80	12.80	17.00	M16*P2.00	45°	6.8	8	0.10	D	
◎	RKSK50ISO7388U-45	14	65.40	25.40	17.80	40.00	36.00	28.95	19.45	25.00	M24*P3.00	45°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKSK30ANSI-45YM	15	31.70	11.70	8.15	20.00	16.25	13.20	9.78	13.00	M12*P1.75	45°	3.8	4	0.05	D	
	RKSK40ANSI-45YM	15	44.25	16.25	11.15	28.00	22.00	18.80	12.45	17.00	M16*P2.00	45°	6.8	8	0.10	D	
	RKSK50ANSI-45YM	15	65.40	25.40	17.80	40.00	36.00	28.95	20.83	25.00	M24*P3.00	45°	10.0	12	0.30	D	

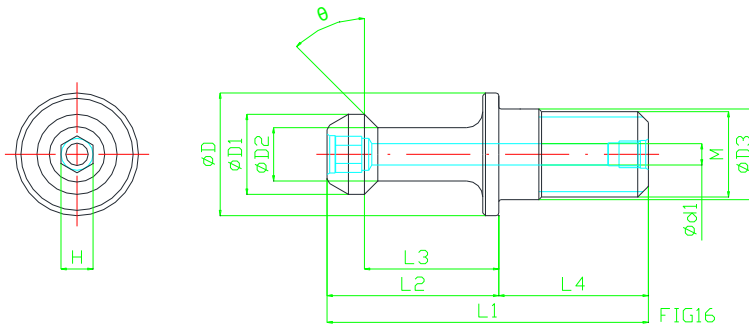
出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

RK & CT // SK-RK

RK拉桿螺栓

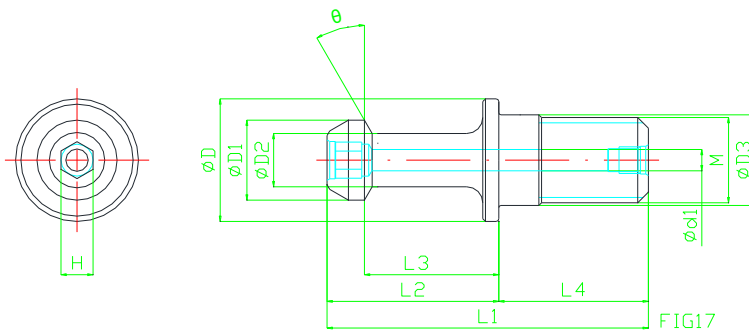
RK pullstuds / retention knobs



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKSKP30T1-45	16	43.75	23.75	18.75	20.00	16.50	11.00	7.00	12.50	M12*P1.75	45°	2.5	4	0.50	D	
◎	RKSKP40T1-45	16	60.15	32.15	25.15	28.00	23.00	15.00	10.00	17.00	M16*P2.00	45°	4.0	6	0.50	D	
	RKSKP50T1-45	16	85.20	45.20	35.20	40.00	38.00	23.00	17.00	25.00	M24*P3.00	45°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

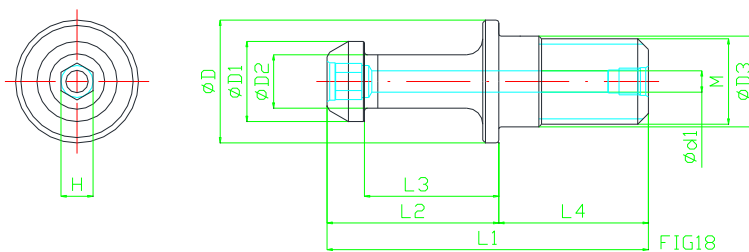
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKSKP30T2-30	17	43.75	23.75	18.75	20.00	16.50	11.00	7.00	12.50	M12*P1.75	30°	2.5	4	0.05	D	
◎	RKSKP40T2-30	17	60.15	32.15	25.15	28.00	23.00	15.00	10.00	17.00	M16*P2.00	30°	4.0	6	0.10	D	
	RKSKP50T2-30	17	85.20	45.20	35.20	40.00	38.00	23.00	17.00	25.00	M24*P3.00	30°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

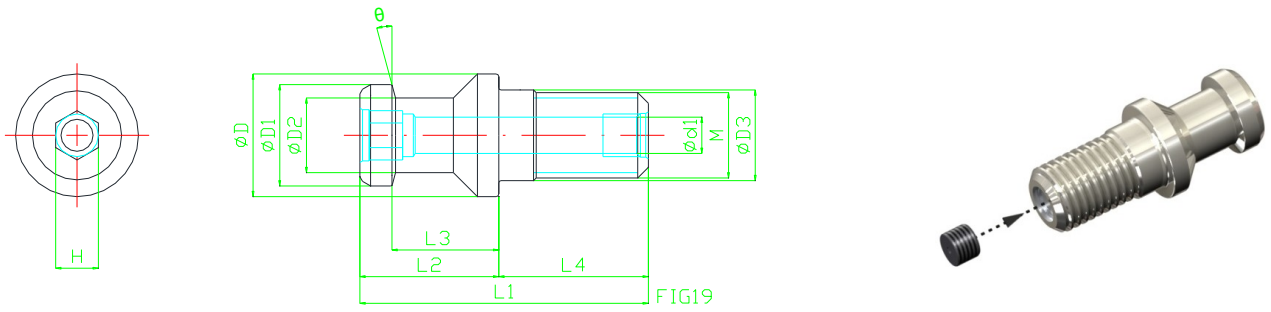
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKSKP30T3-90	18	43.75	23.75	18.75	20.00	16.50	11.00	7.00	12.50	M12*P1.75	90°	2.5	4	0.05	D	
◎	RKSKP40T3-90	18	60.15	32.15	25.15	28.00	23.00	15.00	10.00	17.00	M16*P2.00	90°	4.0	6	0.10	D	
	RKSKP50T3-90	18	85.20	45.20	35.20	40.00	38.00	23.00	17.00	25.00	M24*P3.00	90°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

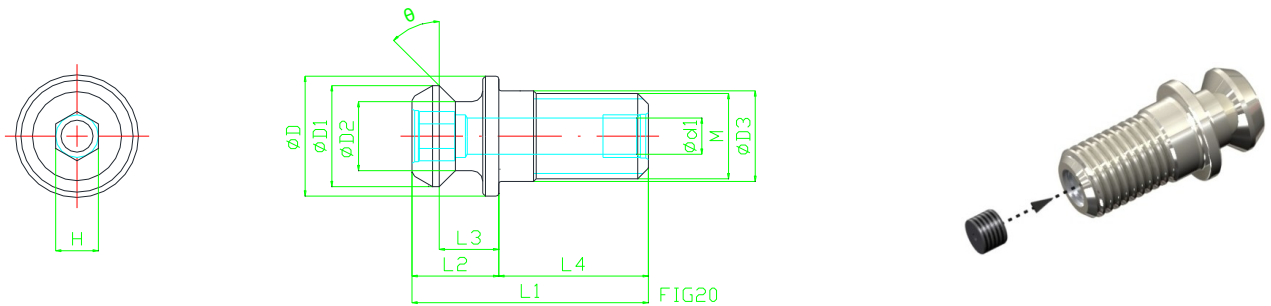
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STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKSK30DIN69872-15	19	44.00	24.00	19.00	20.00	17.00	13.00	9.00	13.00	M12*P1.75	15°	3.8	4	0.05	D	
◎	RF RKSK40DIN69872-15	19	54.00	26.00	20.00	28.00	23.00	19.00	14.00	17.00	M16*P2.00	15°	6.8	8	0.10	D	
◎	RF RKSK50DIN69872-15	19	74.00	34.00	25.00	40.00	36.00	28.00	21.00	25.00	M24*P3.00	15°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

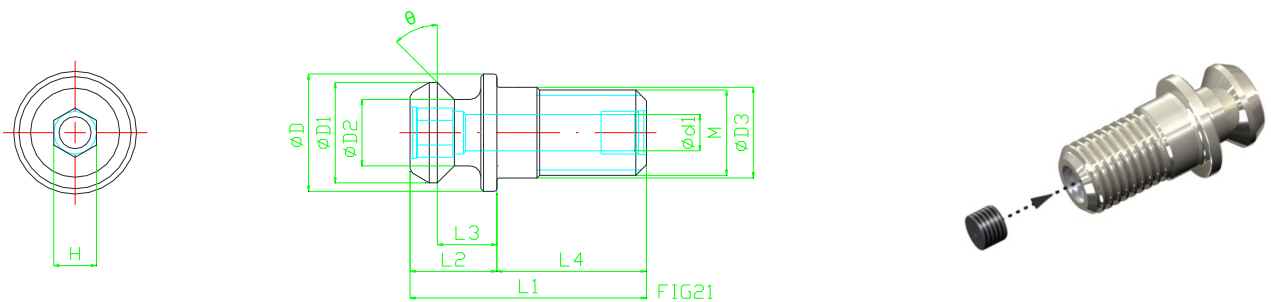
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKSK30ISO7388U-45	20	31.70	11.70	8.15	20.00	16.25	13.20	9.15	13.00	M24*P3.00	45°	3.8	4	0.05	D	
◎	RF RKSK40ISO7388U-45	20	44.25	16.25	11.15	28.00	22.00	18.80	12.80	17.00	M16*P2.00	45°	6.8	8	0.10	D	
◎	RF RKSK50ISO7388U-45	20	65.40	25.40	17.80	40.00	36.00	28.95	19.45	25.00	M24*P3.00	45°	10.0	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKSK30ANSI-45YM	21	31.70	11.70	8.15	20.00	16.25	13.20	9.78	13.00	M12*P1.75	45°	3.8	4	0.05	D	
	RF RKSK40ANSI-45YM	21	44.25	16.25	11.15	28.00	22.00	18.80	12.45	17.00	M16*P2.00	45°	6.8	8	0.10	D	
	RF RKSK50ANSI-45YM	21	65.40	25.40	17.80	40.00	36.00	28.95	20.83	25.00	M24*P3.00	45°	10.0	12	0.30	D	

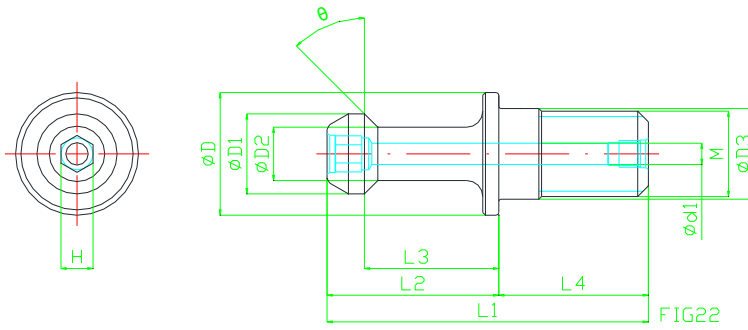
出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

RK & CT // SK-RF RK

RF防鏽鍍層RK拉桿螺栓

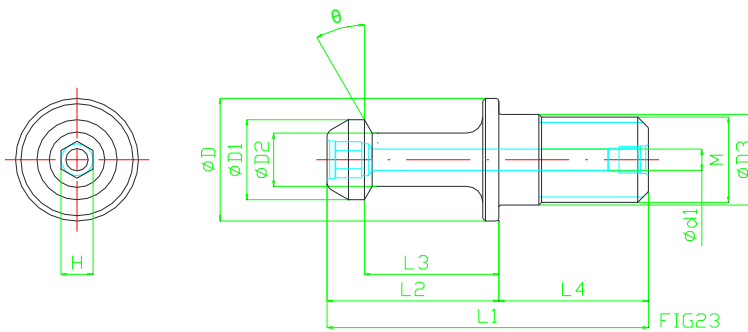
RF rust proof coating RK pullstuds / retention knobs



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKSKP30T1-45	22	43.75	23.75	18.75	20.00	16.50	11.00	7.00	12.50	M12*P1.75	45°	2.5	4	0.05	D	
◎	RF RKSKP40T1-45	22	60.15	32.15	25.15	28.00	23.00	15.00	10.00	17.00	M16*P2.00	45°	4.0	6	0.10	D	
	RF RKSKP50T1-45	22	85.20	45.20	35.20	40.00	38.00	23.00	17.00	25.00	M24*P3.00	45°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

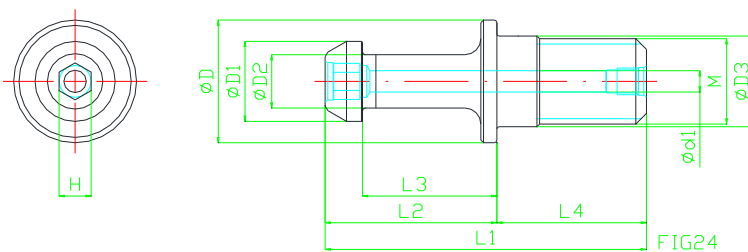
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◯=少量在庫品 // STOCK ◯=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKSKP30T2-30	23	43.75	23.75	18.75	20.00	16.50	11.00	7.00	12.50	M12*P1.75	30°	2.5	4	0.05	D	
◎	RF RKSKP40T2-30	23	60.15	32.15	25.15	28.00	23.00	15.00	10.00	17.00	M16*P2.00	30°	4.0	6	0.10	D	
	RF RKSKP50T2-30	23	85.20	45.20	35.20	40.00	38.00	23.00	17.00	25.00	M24*P3.00	30°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

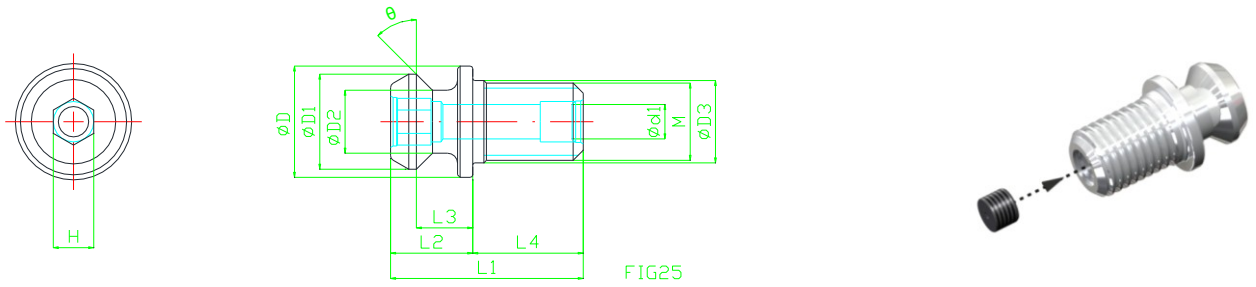
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◯=少量在庫品 // STOCK ◯=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKSKP30T3-90	24	43.75	23.75	18.75	20.00	16.50	11.00	7.00	12.50	M12*P1.75	90°	2.5	4	0.05	D	
◎	RF RKSKP40T3-90	24	60.15	32.15	25.15	28.00	23.00	15.00	10.00	17.00	M16*P2.00	90°	4.0	6	0.10	D	
	RF RKSKP50T3-90	24	85.20	45.20	35.20	40.00	38.00	23.00	17.00	25.00	M24*P3.00	90°	6.0	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

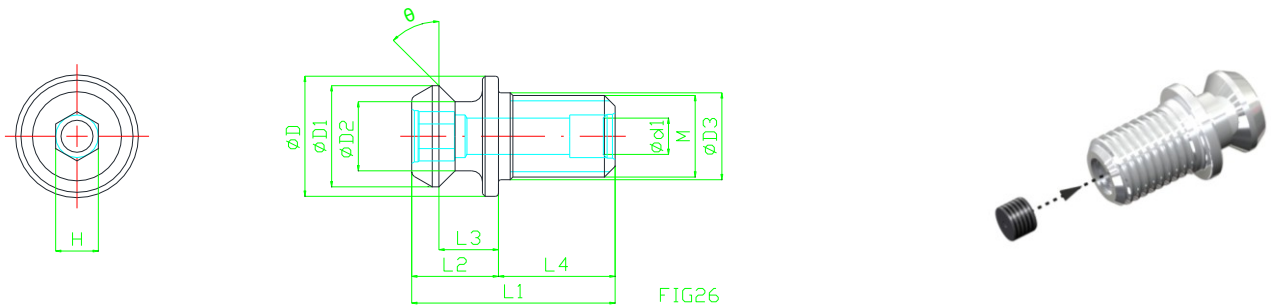
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◯=少量在庫品 // STOCK ◯=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKCAT30ANSI-45	25	1.10"	0.46"	0.32"	0.64"	0.65"	0.52"	0.39"	0.52"	UNC1/2"-13	45°	0.15"	4	0.05	D	
◎	RKCAT40ANSI-45	25	1.50"	0.64"	0.44"	0.86"	0.87"	0.74"	0.49"	0.64"	UNC5/8"-11	45°	0.27"	8	0.10	D	
◎	RKCAT50ANSI-45	25	2.23"	1.00"	0.70"	1.30"	1.42"	1.14"	0.82"	1.03"	UNC1"-8	45°	0.39"	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

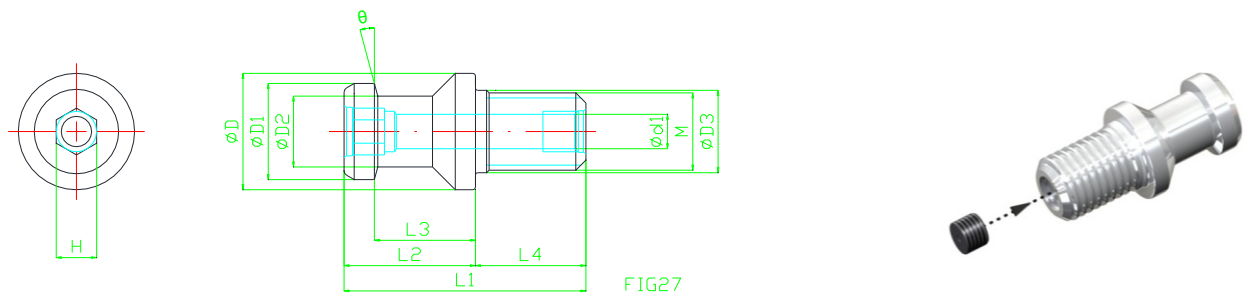
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKCAT30ISO7388U-45	26	1.10"	0.46"	0.32"	0.64"	0.65"	0.52"	0.36"	0.52"	UNC1/2"-13	45°	0.15"	4	0.05	D	
	RKCAT40ISO7388U-45	26	1.50"	0.64"	0.44"	0.86"	0.87"	0.74"	0.50"	0.64"	UNC5/8"-11	45°	0.27"	8	0.10	D	
	RKCAT50ISO7388U-45	26	2.23"	1.00"	0.70"	1.30"	1.42"	1.14"	0.77"	1.03"	UNC1"-8	45°	0.39"	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RKCAT30DIN69872-15	27	1.58"	0.94"	0.75"	0.64"	0.67"	0.51"	0.35"	0.52"	UNC1/2"-13	15°	0.15"	4	0.05	D	
◎	RKCAT40DIN69872-15	27	1.88"	1.02"	0.79"	0.86"	0.89"	0.75"	0.51"	0.64"	UNC5/8"-11	15°	0.27"	8	0.10	D	
◎	RKCAT50DIN69872-15	27	2.64"	1.34"	0.98"	1.30"	1.46"	1.15"	0.77"	1.03"	UNC1"-8	15°	0.39"	12	0.30	D	

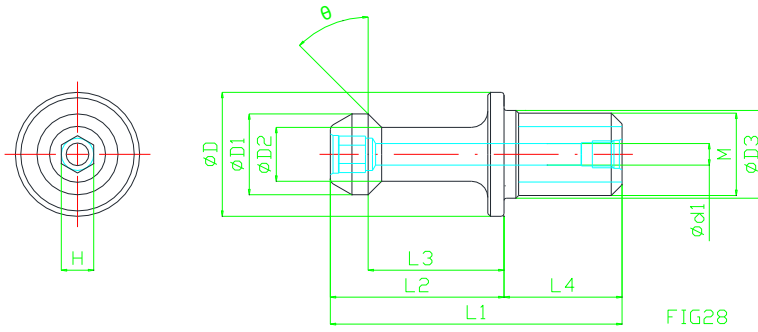
出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

RK & CT // CAT RK

RK拉桿螺栓

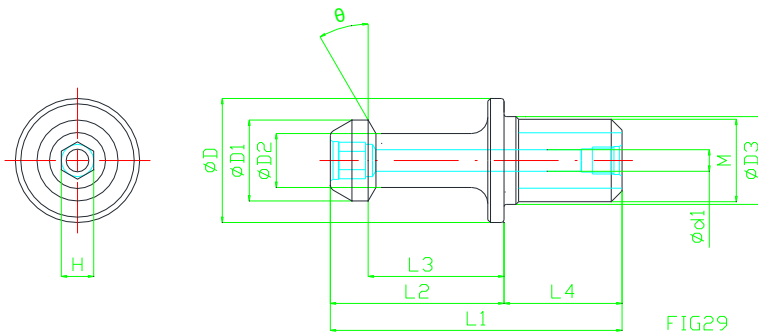
RK pullstuds / retention knobs



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	ød1	H	W(KG)	GROUP	REMARK
	RKCATP30T1-45	28	1.57"	0.94"	0.74"	0.64"	0.65"	0.43"	0.28"	0.52"	UNC1/2"-13	45°	0.10"	4	0.05	D	
◎	RKCATP40T1-45	28	2.13"	1.27"	0.99"	0.86"	0.91"	0.59"	0.39"	0.64"	UNC5/8"-11	45°	0.16"	6	0.10	D	
◎	RKCATP50T1-45	28	3.08"	1.78"	1.39"	1.30"	1.50"	0.91"	0.67"	1.03"	UNC1"-8	45°	0.24"	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

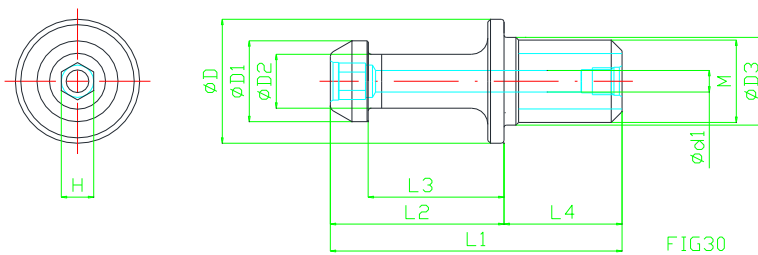
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	ød1	H	W(KG)	GROUP	REMARK
	RKCATP30T2-30	29	1.57"	0.94"	0.74"	0.64"	0.65"	0.43"	0.28"	0.52"	UNC1/2"-13	45°	0.10"	4	0.05	D	
◎	RKCATP40T2-30	29	2.13"	1.27"	0.99"	0.86"	0.91"	0.59"	0.39"	0.64"	UNC5/8"-11	45°	0.16"	6	0.10	D	
◎	RKCATP50T2-30	29	3.08"	1.78"	1.39"	1.30"	1.50"	0.91"	0.67"	1.03"	UNC1"-8	45°	0.24"	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	ød1	H	W(KG)	GROUP	REMARK
	RKCATP30T3-90	30	1.57"	0.94"	0.74"	0.64"	0.65"	0.43"	0.28"	0.52"	UNC1/2"-13	90°	0.10"	4	0.05	D	
◎	RKCATP40T3-90	30	2.13"	1.27"	0.99"	0.86"	0.91"	0.59"	0.39"	0.64"	UNC5/8"-11	90°	0.16"	6	0.10	D	
◎	RKCATP50T3-90	30	3.08"	1.78"	1.39"	1.30"	1.50"	0.91"	0.67"	1.03"	UNC1"-8	90°	0.24"	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

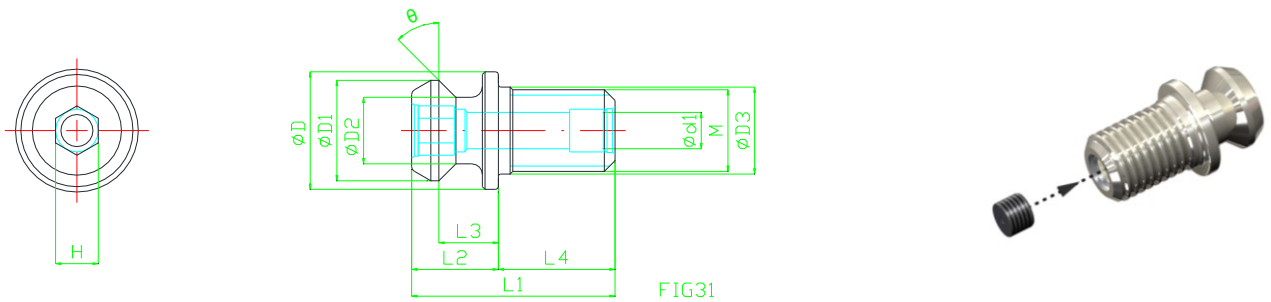


FIG31

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKCAT30ANSI-45	31	1.10"	0.46"	0.32"	0.64"	0.65"	0.52"	0.39"	0.52"	UNC1/2"-13	45°	0.15"	4	0.05	D	
◎	RF RKCAT40ANSI-45	31	1.50"	0.64"	0.44"	0.86"	0.87"	0.74"	0.49"	0.64"	UNC5/8"-11	45°	0.27"	8	0.10	D	
◎	RF RKCAT50ANSI-45	31	2.23"	1.00"	0.70"	1.30"	1.42"	1.14"	0.82"	1.03"	UNC1"-8	45°	0.39"	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

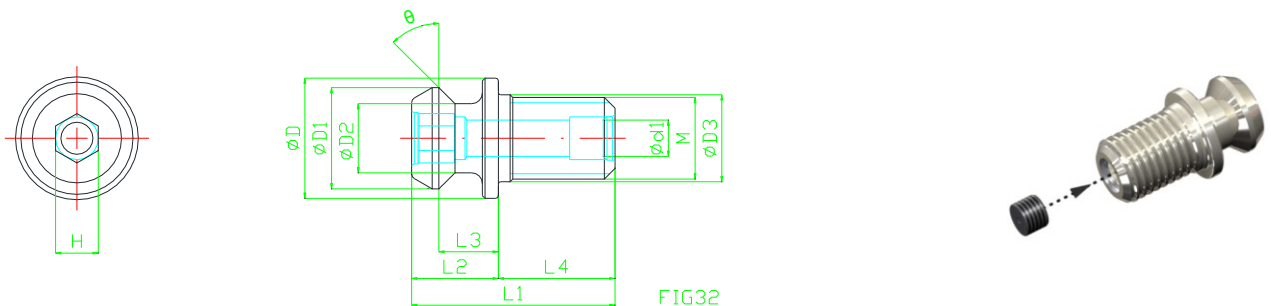


FIG32

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKCAT30ISO7388U-45	32	1.10"	0.46"	0.32"	0.64"	0.65"	0.52"	0.36"	0.52"	UNC1/2"-13	45°	0.15"	4	0.05	D	
	RF RKCAT40ISO7388U-45	32	1.50"	0.64"	0.44"	0.86"	0.87"	0.74"	0.50"	0.64"	UNC5/8"-11	45°	0.27"	8	0.10	D	
	RF RKCAT50ISO7388U-45	32	2.23"	1.00"	0.70"	1.30"	1.42"	1.14"	0.77"	1.03"	UNC1"-8	45°	0.39"	12	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

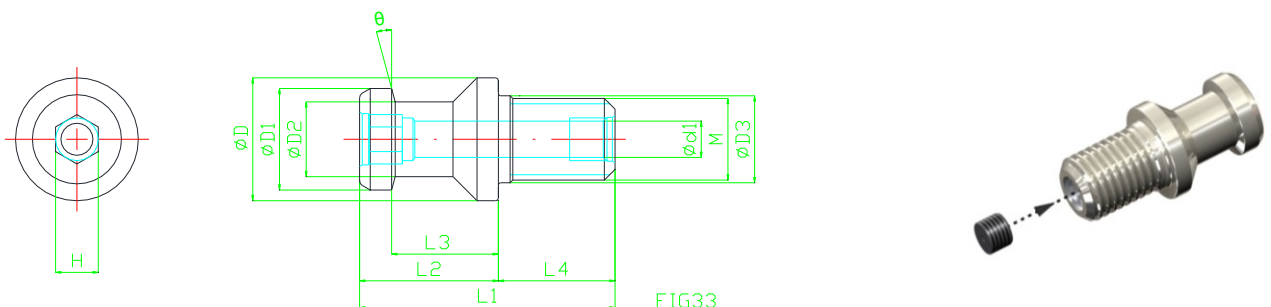


FIG33

STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKCAT30DIN69872-15	33	1.58"	0.94"	0.75"	0.64"	0.67"	0.51"	0.35"	0.52"	UNC1/2"-13	15°	0.15"	4	0.05	D	
◎	RF RKCAT40DIN69872-15	33	1.88"	1.02"	0.79"	0.86"	0.89"	0.75"	0.51"	0.64"	UNC5/8"-11	15°	0.27"	8	0.10	D	
◎	RF RKCAT50DIN69872-15	33	2.64"	1.34"	0.98"	1.30"	1.46"	1.15"	0.77"	1.03"	UNC1"-8	15°	0.39"	12	0.30	D	

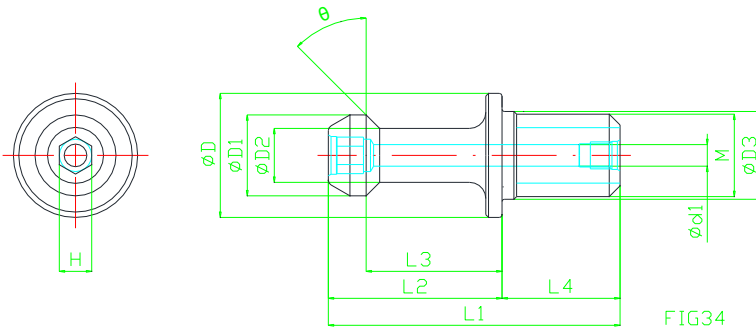
出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request

RK & CT // CAT-RF RK

RF防鏽鍍層RK拉桿螺栓

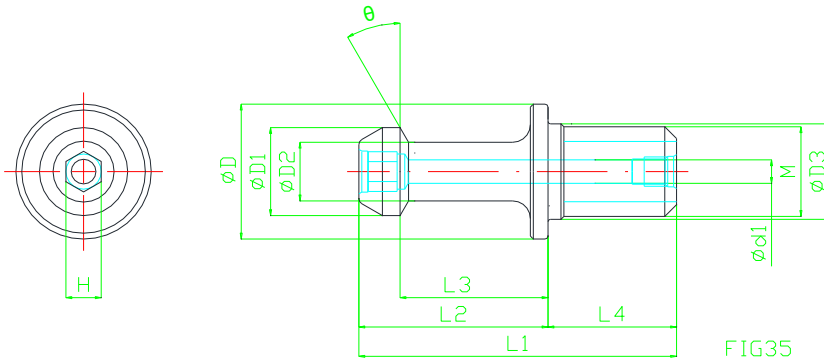
RF rust proof coating RK pullstuds / retention knobs



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKCATP30T1-45	34	1.57"	0.94"	0.74"	0.64"	0.65"	0.43"	0.28"	0.52"	UNC1/2"-13	45°	0.10"	4	0.05	D	
◎	RF RKCATP40T1-45	34	2.13"	1.27"	0.99"	0.86"	0.91"	0.59"	0.39"	0.64"	UNC5/8"-11	45°	0.16"	6	0.10	D	
◎	RF RKCATP50T1-45	34	3.08"	1.78"	1.39"	1.30"	1.50"	0.91"	0.67"	1.03"	UNC1"-8	45°	0.24"	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

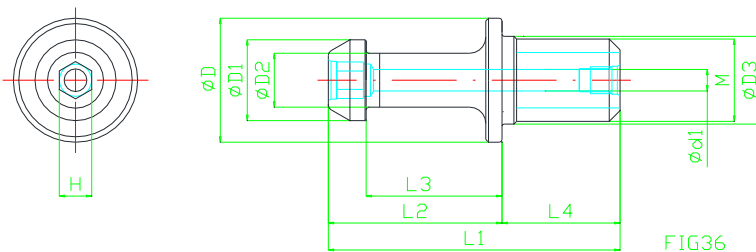
STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKCATP30T2-30	35	1.57"	0.94"	0.74"	0.64"	0.65"	0.43"	0.28"	0.52"	UNC1/2"-13	30°	0.10"	4	0.05	D	
◎	RF RKCATP40T2-30	35	2.13"	1.27"	0.99"	0.86"	0.91"	0.59"	0.39"	0.64"	UNC5/8"-11	30°	0.16"	6	0.10	D	
◎	RF RKCATP50T2-30	35	3.08"	1.78"	1.39"	1.30"	1.50"	0.91"	0.67"	1.03"	UNC1"-8	30°	0.24"	10	0.30	D	

出貨附件為止水螺絲BK-RK-Mxx*1pc // PRODUCTS EQUIP WITH SEAL SCREW BK-RK-Mxx*1PC

STOCK ◎=標準在庫品 // STOCK ◎=regular stock | STOCK ◐=少量在庫品 // STOCK ◑=few stock | STOCK 無標示=接單生產品 // STOCK BLANK=on request



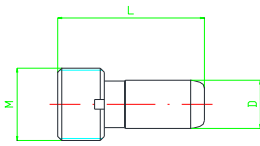
STOCK	CODE	FIG.	L1	L2	L3	L4	ØD	ØD1	ØD2	ØD3	M	θ	Ød1	H	W(KG)	GROUP	REMARK
	RF RKCATP30T3-90	36	1.57"	0.94"	0.74"	0.64"	0.65"	0.43"	0.28"	0.52"	UNC1/2"-13	90°	0.10"	4	0.05	D	
◎	RF RKCATP40T3-90	36	2.13"	1.27"	0.99"	0.86"	0.91"	0.59"	0.39"	0.64"	UNC5/8"-11	90°	0.16"	6	0.10	D	
◎	RF RKCATP50T3-90	36	3.08"	1.78"	1.39"	1.30"	1.50"	0.91"	0.67"	1.03"	UNC1"-8	90°	0.24"	10	0.30	D	

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HSK中空短圓錐刀桿用出水導管與扳手
Coolant tube for HSK hollow shank short taper and wrench

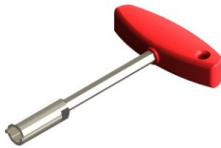
HSK中心出水導管 / HSK Coolant tube



STOCK	CODE	HSK	M	D	L	W(KG)	GROUP	REMARK
	HSK-CT-A032	32	M10*1.0	6	26.0	0.04	G	
	HSK-CT-A040	40	M12*1.0	8	29.0	0.04	G	
	HSK-CT-A050	50	M16*1.0	10	33.0	0.04	G	
	HSK-CT-A063	63	M18*1.0	12	36.5	0.04	G	
	HSK-CT-A080	80	M20*1.5	14	39.5	0.05	G	
	HSK-CT-A100	100	M24*1.5	16	43.5	0.05	G	

STOCK ◎=標準在庫品 // STOCK ○=regular stock

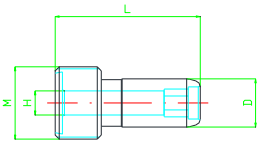
HSK出水導管扳手 / HSK wrench for coolant tube



STOCK	CODE	HSK	W(KG)	GROUP	REMARK
	W-HSK-CT-A032	32	0.15	G	
	W-HSK-CT-A040	40	0.15	G	
	W-HSK-CT-A050	50	0.15	G	
	W-HSK-CT-A063	63	0.15	G	
	W-HSK-CT-A080	80	0.20	G	
	W-HSK-CT-A100	100	0.20	G	

STOCK ◎=標準在庫品 // STOCK ○=regular stock

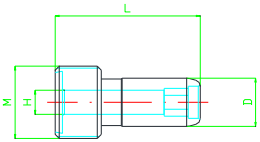
固定式HSK高壓中心出水導管 / Solid type HSK hi pressure coolant tube



STOCK	CODE	HSK	M	D	L	H	W(KG)	GROUP	REMARK
	HSK-CTSH-A032	32	M10*1.0	6	26.0	3	0.04	D	
	HSK-CTSH-A040	40	M12*1.0	8	29.0	4	0.04	D	
	HSK-CTSH-A050	50	M16*1.0	10	33.0	5	0.04	D	
	HSK-CTSH-A063	63	M18*1.0	12	36.5	6	0.04	D	
	HSK-CTSH-A080	80	M20*1.5	14	39.5	6	0.05	D	
	HSK-CTSH-A100	100	M24*1.5	16	43.5	8	0.05	D	

STOCK ◎=標準在庫品 // STOCK ○=regular stock

RF防鏽鍍層固定式HSK高壓中心出水導管 / RF rust proof coating solid type HSK hi pressure coolant tube



STOCK	CODE	HSK	M	D	L	H	W(KG)	GROUP	REMARK
	RF HSK-CTSH-A032	32	M10*1.0	6	26.0	3	0.04	D	
	RF HSK-CTSH-A040	40	M12*1.0	8	29.0	4	0.04	D	
	RF HSK-CTSH-A050	50	M16*1.0	10	33.0	5	0.04	D	
	RF HSK-CTSH-A063	63	M18*1.0	12	36.5	6	0.04	D	
	RF HSK-CTSH-A080	80	M20*1.5	14	39.5	6	0.05	D	
	RF HSK-CTSH-A100	100	M24*1.5	16	43.5	8	0.05	D	

STOCK ◎=標準在庫品 // STOCK ○=regular stock

RK拉桿螺栓止水螺絲 / RK seal screw



STOCK	CODE	W(KG)	GROUP	REMARK
	BK-NY-M03	0.001	D	
	BK-NY-M04	0.001	D	
	BK-NY-M05	0.001	D	
	BK-NY-M06	0.001	D	
	BK-NY-M08	0.001	D	
	BK-NY-M10	0.003	D	
	BK-NY-M12	0.005	D	

RK拉桿螺栓螺絲固定膠 / RK seal glu



STOCK	CODE	W(KG)	GROUP	REMARK
	RK-GLU243005	0.01	D	
	RK-GLU243100	0.15	D	

The bitterness of poor quality remains long after the sweetness of low price is forgotten.

在低價的甜蜜被遺忘之後 低劣品質造成的痛苦會一直持續



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價格高的不一定貴 價格低的不一定便宜 買入價格不是成本 單位平均成本才是成本

RK-V05-201707