思维转动 引领未来

Be INNOVATIVE, Lead The FUTURE

Jiangsu Swift Machinery Technology Co., Ltd

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SWIFT 思维福特

SWIFT PRODUCT CATALOGUE

思维福特产品手册 »

螺母 Precision Lock Nut / 压块 Powder Metallurgical Product / 轴承座 Support Unit / 液压螺母 Hydraulic Nut

www.jsswft.com

COMPANY PROFILE
公司简介

江苏思维福特机械科技股份有限公司，创立于 2011 年，专注于提供数控机床精密零组件解决方案。公司坐落于江苏省南通市通州区兴仁徐庄科技园，投资总额 7000 万元人民币，占地面积 16000 平方米。思维福特自成立以来先后获得国家高新技术企业、南通市思维福特数控机床精密部件工程技术研究中心、区两化融合试点企业以及民营科技企业等荣誉称号。公司拥有自主专利 26 项，通过 TS16949,ISO9001-2008 管理体系认证，2016 年 12 月已成功登陆新三板。

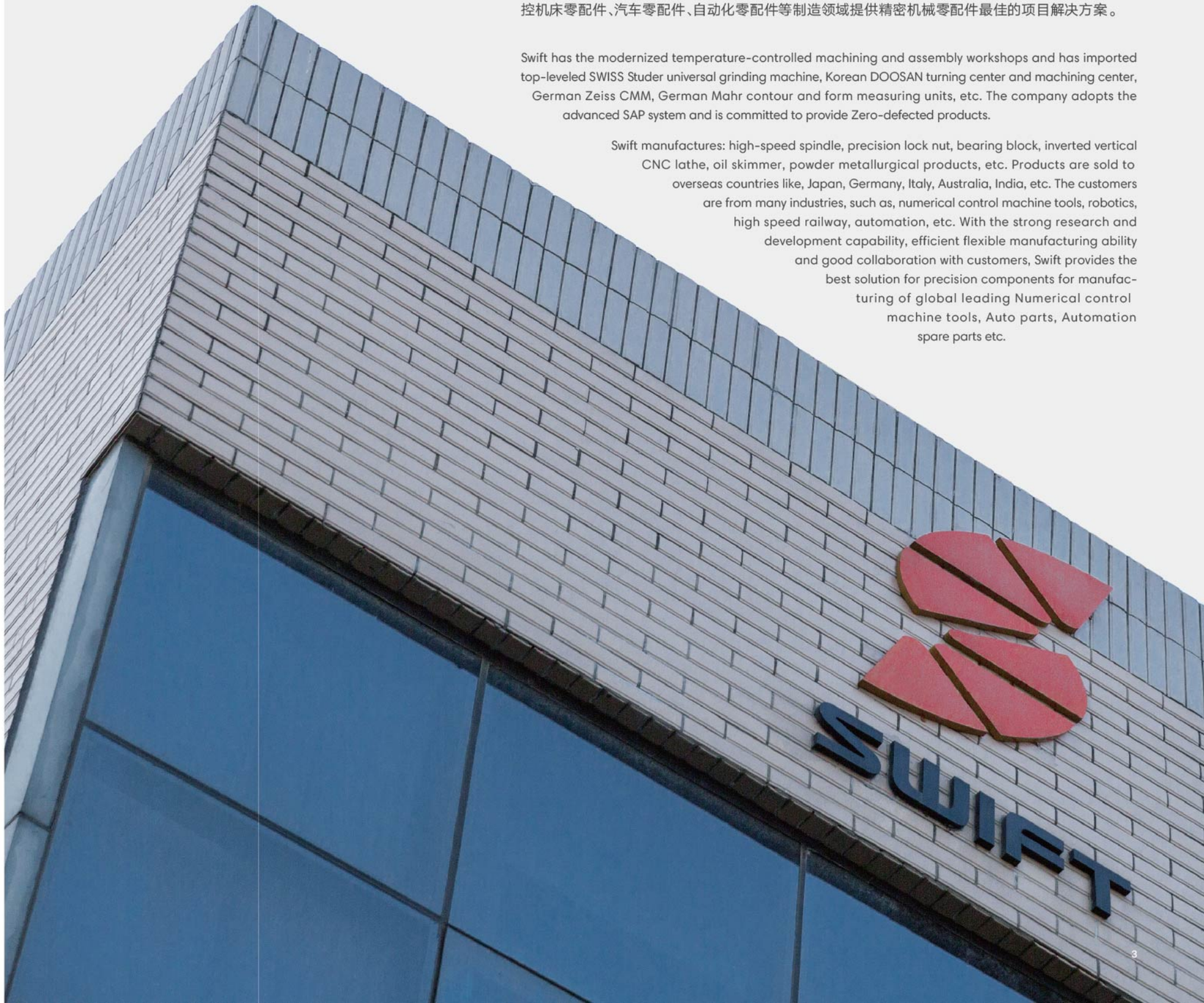
Established in 2011, Jiangsu Swift Machinery Technology Co., Ltd focuses on providing solutions for precision components for numerical control machine tools. Swift is located in Xuzhuang Technology Park, Tongzhou District, Nantong city, Jiangsu and covers an area of 16,000 square meters. Total investment is RMB70million. Since the establishment, Swift has obtained a number of honorable titles, such as, National New High-Technology Enterprise, Engineering and Technology Research Center for Precision Components for Numerical Control Machine Tools, Pilot Enterprise for Convergence of Informatization and Industrialization and Private Scientific and Technological Enterprise, etc. Swift owns 26 independent patents. The company has passed TS16949 and ISO9001-2008 and listed on National Equities Exchange and Quotations (also known as New Third Board) in December, 2016.

思维福特拥有现代化的恒温精密加工和装配车间，引进顶级瑞士 Studer 数控精密万能磨床、韩国斗山车削中心、加工中心，德国蔡司三坐标、德国马尔轮廓仪和形状测量仪等检测试验设备。公司采用先进的德国 SAP 管理系统，致力于追求产品的零缺陷。

公司自主产品有：高速主轴，精密锁紧螺母，轴承座，倒立车，浮油回收机，粉末冶金制品等。产品远销日本、德国、意大利、澳大利亚、印度等国家。涉及客户有数控机床、机器人、高铁、汽车、自动化等领域。丰富的高精密数控配件产品研发能力、高效的柔性制造能力和良好的客户协作能力，为全球领先的数控机床零配件、汽车零配件、自动化零配件等制造领域提供精密机械零配件最佳的项目解决方案。

Swift has the modernized temperature-controlled machining and assembly workshops and has imported top-leveled SWISS Studer universal grinding machine, Korean DOOSAN turning center and machining center, German Zeiss CMM, German Mahr contour and form measuring units, etc. The company adopts the advanced SAP system and is committed to provide Zero-defected products.

Swift manufactures: high-speed spindle, precision lock nut, bearing block, inverted vertical CNC lathe, oil skimmer, powder metallurgical products, etc. Products are sold to overseas countries like, Japan, Germany, Italy, Australia, India, etc. The customers are from many industries, such as, numerical control machine tools, robotics, high speed railway, automation, etc. With the strong research and development capability, efficient flexible manufacturing ability and good collaboration with customers, Swift provides the best solution for precision components for manufacturing of global leading Numerical control machine tools, Auto parts, Automation spare parts etc.



TECHNOLOGICAL INNOVATION
科技创新

在整个价值链中，我们运用科学和技术创新来发展和完善产品及服务。每天，数十名思维福特工程师和研究员都在致力于精密零组件技术的研发，为我们的客户、伙伴和零组件行业提供新的知识和更深入的了解。

作为一家以科技为核心的公司，思维福特始终依靠科技来解决发展中的各种问题和挑战。通过与研究机构以及其他领先企业的合作，思维福特不断创造新技术，并将其应用到精密零组件性能开发的解决方案中。

我们会不断寻找研发合作伙伴，以努力协助中国发展具备强大研发能力的精密机械领域。

In the whole value chain, Swift develops and improves our products and service through scientific and technological innovation. Everyday, tens of engineers are devoted to researching and developing technology of precision components and to provide updated knowledge and more in-depth understanding for our customers, partners and precision components industry.
As a company focuses on technology, Swift solves problems and deals with challenges depending on science. Through cooperation with research centers and other leading enterprises, Swift continuously creates new knowledge and apply this knowledge to the solution of developing precision components.
We will constantly looking for researching partners, so as to assist to develop and improve the whole precision machinery industry.

TECHNOLOGY SPEED UP THE DEVELOPMENT OF SWIFT

科 技 加 速　思 维 腾 飞

TECHNICAL TEAM
技术团队

深作禎夫 Fukasaku Yoshio

日本籍，1976 年 4 月至 2017 年 6 月任日本精工株式会社（世界 500 强企业）技术工程师，在职期间，参与了 268 项产品组装开发，多次派往韩国和中国分公司进行产品组装和维修技能指导工作。

其带领的技术团队，拥有硕士 2 名，高级工程师 3 名。

Fukasaku Yoshio, Japanese national, worked as technical engineer in NSK from April 1976 to June 2017. During the occupation of his post, Fukasaku Yoshio participated in development of 286 products and was dispatched to instruct on the product assembly and maintenance in NSK branch companies in China and Korea.

In the team he leads, two team members are with master’ s degree and three are senior engineers.

DETECTING
检测

思维福特拥有现代化的恒温精密加工和装配车间，德国蔡司三坐标、德国马尔轮廓仪和形状测量仪等检测试验设备。公司采用先进的德国SAP管理系统，致力于追求产品的零缺陷。

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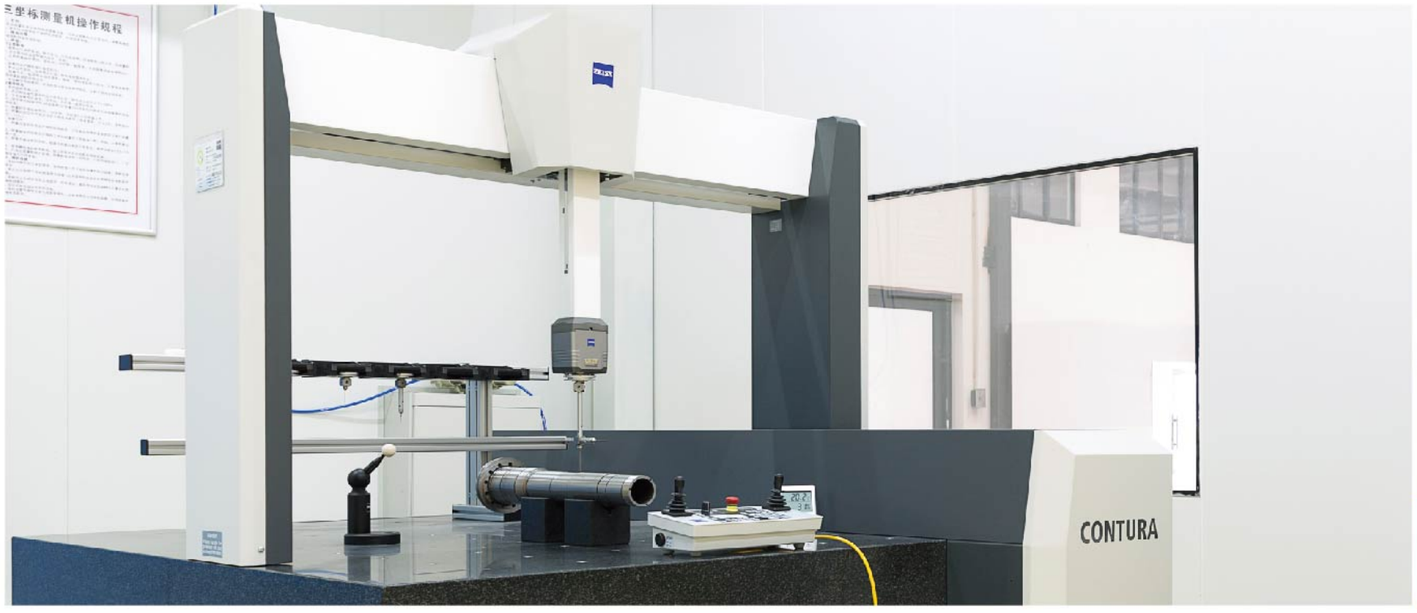
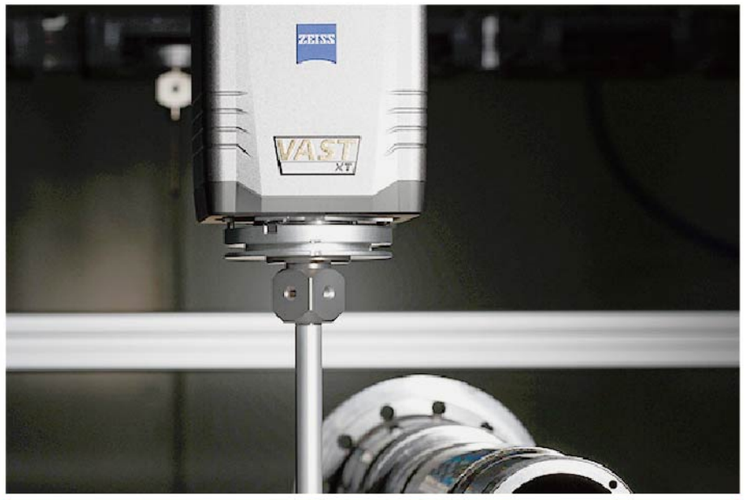




德国・蔡司 三坐标 GERMANY Zeiss CMM

① 中国・影像型万能工具显微镜
CHINESE Universal Tool Microscope

② 德国・马尔 MMQ400-2形状测量仪
GERMANY Mahr Form Tester

③ 德国・马尔 XC20 ST750D轮廓仪
GERMANY Mahr Contour Measuring Units

MACHINERY
制造

引进顶级瑞士 Studer 数控精密万能磨床、
韩国斗山车削中心、加工中心。

Swift has imported top-leveled SWISS Studer universal grinding machine,
Korean DOOSAN turning center and machining center.

▼ 韩国・斗山 数控车
Korean Doosan CNC Lathe

▲ 瑞士・斯图特超精磨床
SWITZERLAND Studer Ultra-precision Grinding Machine

▼ 韩国・斗山 车削中心
KOREAN Doosan CNC Turning Center

1

2

① 中国(台湾)・外圆磨床
CHINESE External Grinding Machine

② 中国(台湾)・内圆磨床
CHINESE Internal Grinding Machine

③ 中国・立车
CHINESE vertical lathe

Locking Device 锁紧装置 >

多种不同的设计 Multiple Designs

思维福特公司生产多种类型的带锁紧销的精密锁紧螺母。列举其中两种：R型和F型。利用这两种螺母可以将轴承和其他部件简单而可靠地轴向定位在轴上并确保精密。它们的特殊之处在于三个沿圆周均匀分布的磷青铜锁紧销。这些销通过内六角平头螺钉压在轴螺纹上，防止螺母转动。安装和设计都很简单。不需要轴中有额外的锁紧垫圈或槽。锁紧销和平头螺钉与轴线所成角度与螺纹面相同。锁紧销的端部与螺纹在一道工序中加工，因而也具有螺纹牙型，螺母完全通过锁紧销和轴螺纹之间的摩擦以及螺纹面之间的粘连摩擦锁紧到位。因此锁紧销不承受作用于螺母上的轴向负荷。当螺母锁紧时，螺纹面不会解除轴向负荷，螺母不会变形（图1）。F型螺母的另一个优点是它们可以调整。三个等间距锁紧销可以将螺母精确地定位，使螺母与轴垂直，锁紧销还可以用来调整即将装到轴上的其他部件的不精确或偏差。由于锁紧銷不会变形，R型和F型螺母无论装拆多次都仍然可以保持精密度。（图2 显示了一个F型锁紧螺母的应用示例）

Jiangsu Swift Machinery Technology Co.,Ltd manufactures diverse types of precision lock nuts with lock-pin. Here we illustrate two of them: R-type and F-type. With these two nuts, bearings and other parts can be easily and reliably positioned on the shaft axially and precision can be insured. Three phosphor bronze lock pins are uniformly distributed along the circumference. These pins are fixed on the screw thread of the shaft by inner hexagonal flat screws to prevent rotation of the nuts. Both the installation and design are simple, and no extra lock washer or groove is needed on the shaft. The lock pin and flat screw forms an angle with the axis the same as that of the thread surface. The end of lock pin is machined in the same process with that of the thread, so it also features thread form. The nut is locked in place completely by the friction between the lock pin and axial thread as well as the cohesive frictions between thread surfaces. Therefore, the lock pin does not bear the axial load forced on the nut. Once the nut is locked, the thread surface will not release axial load and the nut will not be deformed (Figure1). Another advantage of F-type nut is that it can be adjusted. Three lock pins with equal spaces can precisely position the nut, keep it perpendicular to the shaft. The lock pin can also be used to correct the inaccuracy and deviations of other parts to be installed on the shaft. Due to that the lock pin will not be deformed, R-type and F-type nuts can ensure their precision even after multiple assembly and dis-assembly. (Figure 2 displays an application demonstration of F-type lock nut.)

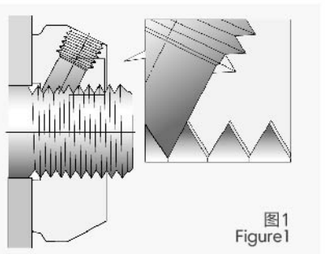


图1
Figure1

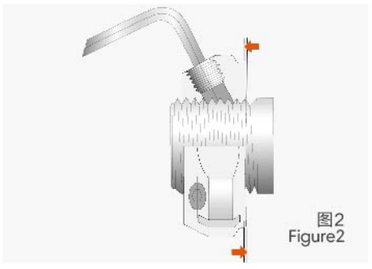


图2
Figure2

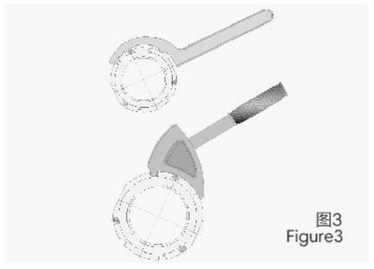


图3
Figure3

Major Data 主要数据 >

> 公差 Tolerance

螺纹按照公差4H精车级生产，垂直精度0.005mm。
Thread accuracy: ISO 4H; Manufacturing method: High precision machining; Run out: 0.005mm.

> 材料 Material

锁紧螺母由高强刚制成(42CrMo, 45#, 40Cr),硬度HRC28 ° -32 ° ：其表面镀磷酸盐层并经过润滑。锁紧销采用了磷青铜。平头螺钉为12.9级高强度螺栓。

Lock nut is made of high-strength steel (42CrMo, 45#, 40Cr), with hardness of HRC28°-32°; its surface is coated with phosphate and lubricated. Lock pin is made of phosphor bronze. Flat screw is 12.9-grade bolt with high-strength.

> 安装 Installation

R型和F型锁紧螺母非常容易安装。圆周上有槽，根据应用和螺母尺寸可以选用不同类型的扳手，包括钩形扳手和冲击扳手（图3）产品表中给出扳手和键（对于平头螺钉）的相应尺寸。要锁紧R型和F型螺母，应首先轻轻的紧固平头螺钉，直至锁紧销的螺纹与轴螺纹吻合。然后交替并均匀地将平头螺钉牢牢地拧紧，直至达到产品表中列出的拧紧扭矩。

必须矫正螺纹的支撑面和相邻元件之间的不对准，首先应松开位于最大偏差位置处的平头螺钉并将另两个螺钉拧紧至相同程度。然后应拆下松开的螺钉。如果这样矫正仍然不够，应重复该程式直至获得所需的精度。

It is quite easy to install R-type and F-type lock nuts. There are grooves around the circumference. Wrenches are selected according to applications and size of nuts, including hook wrench and impact wrench (Figure 3). Product list shows the corresponding sizes for wrenches and keys (for flat screw).

In order to securely lock the R-type or F-type lock nut, please firstly tighten the flat screw slightly until the thread of lock pin is matched with the thread of the shaft. Then alternately and evenly screw up the flat screws tightly until the tightening torque shown in the product list is reached.

Please correct the misalignment between the supporting surface of the thread with the adjacent components. First, loosen the flat screw with the maximum deviation and tighten the other two screws to the same extent. Then remove the loosened screw. If the required precision has not been reached, repeat the above steps until it is perfectly corrected.

> 拆卸 Dis-assembly

在拆卸R型和F型锁紧螺母时应记住，即使在平头螺钉已经松开后锁紧销仍然与轴螺纹吻合。在平头螺钉附近用橡皮锤轻击螺母可以使锁紧销松脱，然后就可以轻松地将螺母从轴螺纹上旋下。

In dis-assembling the R-type or F-type lock nut, please ensure that the lock pin is meshed with the thread of the shaft even after the flat screw is loosened. Strike the nut slightly around the flat screw by rubber hammer to loosen the lock pin, and then nut can be easily removed from the shaft.

螺牙 Thread	轴向负载能力 Axial Load static(kN)	平头螺钉扭紧力矩 (Nm) Flat Screw Tightening Torque (Nm)	松脱力矩 Loosening Torque (Nm)				
			SWT/F	SWT/R	SWT/K	SWT/N	SWT/A
M8	30	4.5	-	17	-	-	-
M10	35	4.5	-	18	-	-	-
M12	40	4.5	-	19	-	-	-
M15	60	4.5	-	20	-	-	-
M17	80	8.0	27	21	90	63	25
M20	90	8.0	28	24	99	69	26
M25	130	8.0	30	26	101	70	28
M30	160	8.0	32	28	102	71	29
M35	190	18	39	34	109	76	37
M40	210	18	46	36	110	77	42
M45	240	18	61	56	127	89	59
M50	300	18	70	63	137	96	66
M55	340	18	88	68	166	166	74
M60	380	18	98	96	205	205	81
M65	460	18	127	112	254	254	88
M70	490	18	147	137	313	313	96
M75	520	18	152	145	382	382	103
M80	620	18	156	149	460	460	113
M85	650	18	176	168	549	549	128
M90	680	18	186	178	656	656	137
M95	710	18	201	193	745	745	152
M100	740	18	220	210	833	833	172
M105	770	35	236	215	-	-	186
M110	800	35	252	230	1127	1127	206
M115	830	35	268	250	-	-	221
M120	860	35	279	264	1323	1323	235
M125	890	35	289	274	-	-	250
M130	920	35	313	294	-	-	265
M135	950	35	352	328	-	-	304
M140	980	35	392	372	-	-	324
M145	1010	35	436	402	-	-	353
M150	1040	35	480	421	-	-	392
M155	1070	35	519	460	-	-	422
M160	1100	35	563	509	-	-	461
M165	1130	35	598	529	-	-	495
M170	1160	35	647	558	-	-	520
M180	1220	60	686	558	-	-	559
M190	1280	60	735	627	-	-	598
M200	1340	60	794	666	-	-	637

PRODUCT CONTENT
产品目录

01
锁紧螺母
PRECISION LOCK NUT

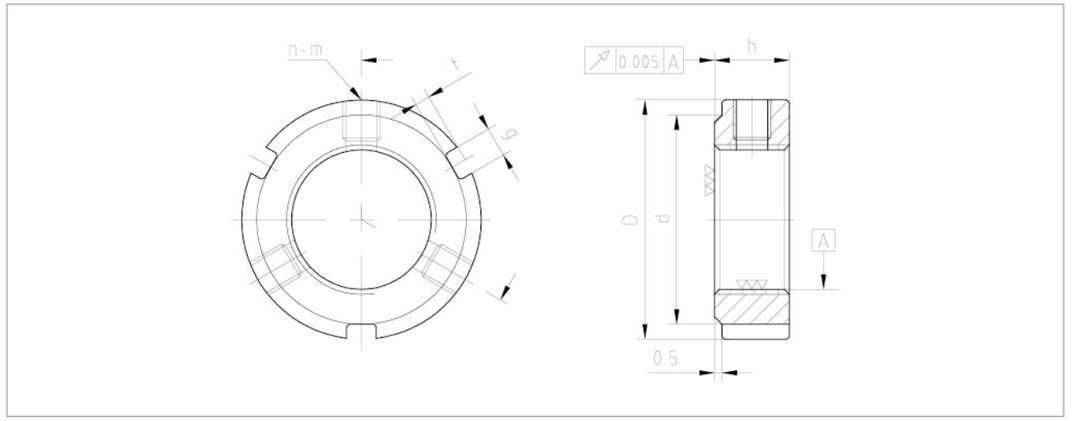
PRECISION LOCK NUT 精密锁紧螺母

SWT/R Series 系列 >

SWT/R型锁紧方式为径向三点式锁定，其厚度较薄，适用于厚度空间受到一定限制的安装环境。径向锁紧时因为锁紧铜垂直于公螺纹，锁紧铜扭紧力矩过大时容易造成螺帽轴向负荷减少。

Locking method of SWT/R series employ 3-way radial locking. It is thinner, so is suitable for the installation that is restricted by thickness. In radial locking, brass locking pin is perpendicular to the male screw thread, axial load will easily be reduced due to excessive tightening torque.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.005mm



Thread	D	h	n-g	t	d	n-m	MAX.Nm
SWT/R M8x0.75	16	8	3-3	1.6	13	2-M4	3.5
SWT/R M10x0.75	18	8	3-3	1.6	15	2-M4	3.5
SWT/R M10x1.0	18	8	3-3	1.6	15	2-M4	3.5
SWT/R M12x1.0	20	8	3-3	1.6	17	2-M4	3.5
SWT/R M12x1.25	20	8	3-3	1.6	17	2-M4	3.5
SWT/R M14x1.5	25	8	3-3	2	21	2-M4	3.5
SWT/R M15x1.0	25	8	3-3	1.8	21.5	2-M4	3.5
SWT/R M16x1.5	28	10	3-4	2	24	2-M5	4.5
SWT/R M17x1.0	28	10	3-4	2	24	2-M5	4.5
SWT/R M18x1.5	30	10	3-4	2	26	2-M5	4.5
SWT/R M20x1.0	32	10	3-4	2	28	3-M5	4.5
SWT/R M20x1.5	32	10	3-4	2	28	3-M5	4.5
SWT/R M22x1.5	35	10	3-4	2	31	3-M5	4.5
SWT/R M24x1.5	38	12	3-5	2	34	3-M6	8
SWT/R M25x1.5	38	12	3-5	2	34	3-M6	8
SWT/R M27x1.5	42	12	3-5	2	38	3-M6	8
SWT/R M30x1.0	45	12	3-5	2	41	3-M6	8
SWT/R M30x1.5	45	12	3-5	2	41	3-M6	8
SWT/R M33x1.5	52	12	3-5	2	48	3-M6	8
SWT/R M35x1.5	52	12	3-5	2	48	3-M6	8
SWT/R M36x1.5	55	14	3-6	2.5	50	3-M6	8
SWT/R M38x1.5	56	14	3-6	2.5	51	3-M6	8
SWT/R M39x1.5	58	14	3-6	2.5	53	3-M6	8
SWT/R M40x1.5	58	14	3-6	2.5	53	3-M6	8
SWT/R M42x1.5	62	14	3-6	2.5	57	3-M6	8
SWT/R M45x1.5	65	14	3-6	2.5	60	3-M6	8
SWT/R M48x1.5	68	14	3-6	2.5	63	3-M6	8
SWT/R M50x1.5	70	14	3-6	2.5	65	3-M8	18
SWT/R M52x1.5	73	16	3-7	3	67	3-M8	18
SWT/R M55x2.0	75	16	3-7	3	69	3-M8	18
SWT/R M56x2.0	77	16	3-7	3	71	3-M8	18
SWT/R M60x2.0	80	16	3-7	3	74	3-M8	18
SWT/R M64x2.0	85	16	3-7	3	79	3-M8	18
SWT/R M65x2.0	85	16	3-7	3	79	3-M8	18
SWT/R M68x2.0	92	18	3-8	3.5	85	3-M8	18
SWT/R M70x2.0	92	18	3-8	3.5	85	3-M8	18
SWT/R M72x2.0	95	18	3-8	3.5	88	3-M8	18

Thread	D	h	n-g	t	d	n-m	MAX.Nm
SWT/R M75x2.0	98	18	3-8	3.5	91	3-M8	18
SWT/R M76x2.0	100	18	3-8	3.5	93	3-M8	18
SWT/R M80x2.0	105	18	6-8	3.5	98	3-M8	18
SWT/R M85x2.0	110	18	6-8	3.5	103	3-M8	18
SWT/R M90x2.0	120	20	6-10	4	112	3-M8	18
SWT/R M95x2.0	125	20	6-10	4	117	3-M8	18
SWT/R M100x2.0	130	20	6-10	4	122	3-M8	18
SWT/R M105x2.0	140	22	6-12	5	130	3-M8	18
SWT/R M110x2.0	145	22	6-12	5	135	3-M8	18
SWT/R M115x2.0	150	22	6-12	5	140	3-M8	18
SWT/R M120x2.0	155	24	6-12	5	145	3-M8	18
SWT/R M125x2.0	160	24	6-12	5	150	3-M8	18
SWT/R M130x2.0	165	24	6-12	5	155	3-M8	18
SWT/R M135x2.0	175	26	6-14	6	163	3-M10	35
SWT/R M140x2.0	180	26	6-14	6	168	3-M10	35
SWT/R M145x2.0	190	26	6-14	6	178	3-M10	35
SWT/R M150x2.0	195	26	6-14	6	183	3-M10	35
SWT/R M155x3.0	200	28	6-16	7	186	3-M10	35
SWT/R M160x3.0	210	28	6-16	7	196	3-M10	35
SWT/R M165x3.0	210	28	6-16	7	196	3-M10	35
SWT/R M170x3.0	220	28	6-16	7	206	3-M10	35
SWT/R M180x3.0	230	30	6-18	8	214	3-M12	60
SWT/R M190x3.0	240	30	6-18	8	224	3-M12	60
SWT/R M200x3.0	250	32	6-18	8	234	3-M12	60
SWT/R M210x4.0	270	34	6-18	8	245	3-M12	85
SWT/R M220x3.0	270	34	6-18	8	245	3-M12	85
SWT/R M220x4.0	270	34	6-18	8	254	3-M12	85
SWT/R M230x3.0	280	34	6-18	8	264	3-M12	85
SWT/R M240x3.0	290	34	6-18	8	265	3-M12	85
SWT/R M240x4.0	290	34	6-18	8	274	3-M12	85
SWT/R M245x3.0	295	34	6-18	8	279	3-M12	85
SWT/R M260x3.0	310	36	6-18	8	285	3-M12	85
SWT/R M260x4.0	310	36	6-18	8	294	3-M12	85
SWT/R M275x4.0	325	36	6-18	8	309	3-M12	85
SWT/R M280x4.0	330	36	6-18	8	314	3-M12	85
SWT/R M300x4.0	350	36	6-18	8	334	3-M12	85
SWT/R M440x4.0	520	46	6-20	10	500	6-M20	85
SWT/R M460x4.0	540	46	6-20	10	520	6-M20	85

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1 NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

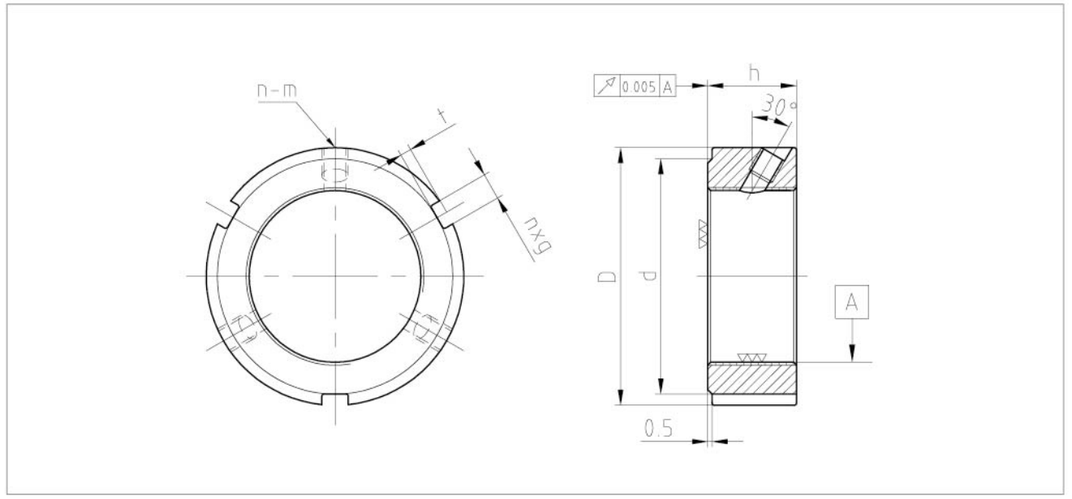
PRECISION LOCK NUT 精密锁紧螺母

SWT/F Series 系列 >

SWT/F型锁紧螺帽，其锁紧铜与螺纹呈30 ° 角设计，不承受作用于螺纹上的轴向负荷。当螺帽锁紧时，螺纹面不会解除轴向负荷，螺帽不会变形。三个等间距锁紧铜可以用来调整即将装到轴上的其它部件的偏差。由于锁紧铜不会变形，F型螺帽经多次拆装仍然可以保持精密度。

For SWT/F series locking nut, its brass locking pin forms a angle of 30 degree with the thread. It does not bear the axial load forced on the thread. Once the nut is locked, the thread surface will not release axial load and the nut will not be deformed. Three lock nuts with equal spaces can precisely position the nut, keep it perpendicular to the shaft. F-type nuts can ensure their precision even after multiple assembly and dis-assembly.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.005mm



Thread	D	h	d	n-g	t	n-m	MAX.Nm
SWT/F M12x1.5P	30	14	26	3-4	2	3-M5	4.5
SWT/F M14x1.5P	30	14	26	3-4	2	3-M5	4.5
SWT/F M15x1 0P	30	14	26	3-4	2	3-M5	4.5
SWT/F M16x1.5P	30	14	26	3-4	2	3-M5	4.5
SWT/F M17x1 0P	32	16	28	3-4	2	3-M5	4.5
SWT/F M18x1.5P	32	16	28	3-4	2	3-M5	4.5
SWT/F M20x1 0P	38	16	34	3-4	2	3-M5	4.5
SWT/F M20x1.5P	38	16	34	3-4	2	3-M6	8
SWT/F M22x1 5P	38	16	34	3-4	2	3-M6	8
SWT/F M24x1.5P	38	18	34	3-5	2	3-M6	8
SWT/F M25x1 5P	38	18	34	3-5	2	3-M6	8
SWT/F M27x1.5P	40	18	36	3-5	2	3-M6	8
SWT/F M30x1 5P	45	18	41	3-5	2	3-M6	8
SWT/F M33x1.5P	50	18	46	3-5	2	3-M6	8
SWT/F M35x1 5P	52	18	48	3-5	2	3-M8	18
SWT/F M36x1.5P	52	18	48	3-5	2	3-M8	18
SWT/F M39x1 5P	58	20	53	3-6	2.5	3-M8	18
SWT/F M40x1.5P	58	20	53	3-6	2.5	3-M8	18
SWT/F M42x1 5P	62	20	57	3-6	2.5	3-M8	18
SWT/F M45x1.5P	65	20	60	3-6	2.5	3-M8	18
SWT/F M48x1.5P	70	20	65	3-6	2.5	3-M8	18
SWT/F M50x1.5P	70	20	65	3-6	2.5	3-M8	18
SWT/F M52x1.5P	73	22	67	3-7	3	3-M8	18
SWT/F M55x1.5P	75	22	69	3-7	3	3-M8	18
SWT/F M55x2.0P	75	22	69	3-7	3	3-M8	18
SWT/F M56x1.5P	75	22	69	3-7	3	3-M8	18
SWT/F M56x2.0P	75	22	69	3-7	3	3-M8	18
SWT/F M60x2.0P	80	22	74	3-7	3	3-M8	18
SWT/F M64x1.5P	85	22	79	3-7	3	3-M8	18
SWT/F M64x2.0P	85	22	79	3-7	3	3-M8	18
SWT/F M65x2.0P	85	22	79	3-7	3	3-M8	18
SWT/F M68x2.0P	92	24	85	3-8	3.5	3-M8	18
SWT/F M70x2.0P	92	24	85	3-8	3.5	3-M8	18
SWT/F M72x2.0P	94	24	87	3-8	3.5	3-M8	18

Thread	D	h	d	n-g	t	n-m	MAX.Nm
SWT/F M75x2.0P	98	24	91	3-8	3.5	3-M8	18
SWT/F M76x2.0P	98	24	91	3-8	3.5	3-M8	18
SWT/F M80x2.0P	105	24	98	3-8	3.5	3-M8	18
SWT/F M85x2.0P	110	24	103	3-8	3.5	3-M8	18
SWT/F M90x2.0P	120	26	112	6-10	4	3-M8	18
SWT/F M95x2.0P	125	26	117	6-10	4	3-M8	18
SWT/F M100x2.0P	130	26	122	6-10	4	3-M8	18
SWT/F M105x2.0P	140	28	132	6-10	4	3-M10	35
SWT/F M110x2.0P	145	28	137	6-10	4	3-M10	35
SWT/F M115x2.0P	150	28	142	6-10	4	3-M10	35
SWT/F M120x2.0P	155	30	145	6-12	5	3-M10	35
SWT/F M125x2.0P	160	30	150	6-12	5	3-M10	35
SWT/F M130x2.0P	165	30	155	6-12	5	3-M10	35
SWT/F M135x2.0P	175	32	165	6-12	5	3-M10	35
SWT/F M140x2.0P	180	32	170	6-12	5	3-M10	35
SWT/F M145x2.0P	190	32	180	6-12	5	3-M10	35
SWT/F M150x2.0P	195	32	185	6-12	5	3-M10	35
SWT/F M155x3.0P	200	34	188	6-14	6	3-M10	35
SWT/F M160x3.0P	210	34	198	6-14	6	3-M10	35
SWT/F M165x3.0P	210	34	198	6-14	6	3-M10	35
SWT/F M170x3.0P	220	34	208	6-14	6	3-M10	35
SWT/F M180x3.0P	230	36	216	6-16	7	3-M12	60
SWT/F M190x3.0P	240	36	226	6-16	7	3-M12	60
SWT/F M200x3.0P	250	38	236	6-16	7	3-M12	60
SWT/F M210x4.0P	270	38	250	6-16	8	3-M12	85
SWT/F M220x3.0P	270	38	250	6-20	10	3-M12	85
SWT/F M220x4.0P	270	38	250	6-20	10	3-M12	85
SWT/F M240x3.0P	290	38	270	6-20	10	3-M12	85
SWT/F M240x4.0P	290	38	270	6-20	10	3-M12	85
SWT/F M260x3.0P	310	38	290	6-20	10	3-M12	85
SWT/F M260x4.0P	310	38	290	6-20	10	3-M12	85
SWT/F M270x4.0P	320	38	300	6-20	10	3-M12	85
SWT/F M280x4.0P	330	38	310	6-20	10	3-M12	85
SWT/F M300x4.0P	360	42	336	6-24	12	3-M12	85

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1 NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

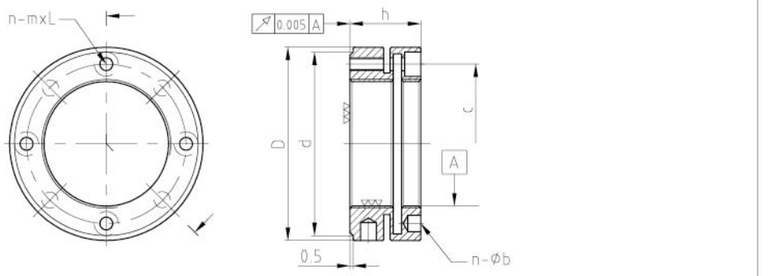
PRECISION LOCK NUT 精密锁紧螺母

SWT/K Series 系列 >

SWT/K型锁紧螺帽采用4—6颗高强度螺栓，使其螺牙通过轴向变形锁紧。适用于工作环境恶劣，易松脱，需要高扭矩的环境，可通过调整轴向螺钉的扭紧力来调整螺帽偏摆精度。

4 to 6 high-strength bolts are applied by a SWT/K series lock nut. It is locked by the axial deformation of its thread. It is suitable for severe working environment where nuts may easily been loosen and high torque is required. Run out can be adjusted by adjusting the tightening force of the axial screw.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.007mm



Thread	D	h	d	n-MxL	C	n	b	MAX.Nm
SWT/K M18x1.5P	38	18	34	4-M4x12	28	4	4	3.5
SWT/K M20x1.0P	40	18	36	4-M4x12	30	4	4	3.5
SWT/K M20x1.5P	40	18	36	4-M4x12	30	4	4	3.5
SWT/K M22x1.5P	42	18	38	4-M4x12	32	4	4	3.5
SWT/K M24x1.5P	44	18	41	4-M4x12	34	4	4	3.5
SWT/K M25x1.5P	45	20	41	4-M4x14	35	4	5	3.5
SWT/K M26x1.5P	45	20	41	4-M4x14	35	4	5	3.5
SWT/K M27x1.5P	46	20	43	4-M4x14	37	4	5	3.5
SWT/K M28x1.5P	46	20	43	4-M4x14	37	4	5	3.5
SWT/K M30x1.5P	48	20	45	4-M4x14	39	4	5	3.5
SWT/K M32x1.5P	50	20	47	4-M4x14	41	4	5	3.5
SWT/K M33x1.5P	50	22	47	4-M4x16	41	4	5	3.5
SWT/K M35x1.5P	53	22	50	4-M4x16	44	4	5	3.5
SWT/K M36x1.5P	53	22	50	4-M4x16	44	4	5	3.5
SWT/K M38x1.5P	56	22	53	4-M4x16	47	4	5	3.5
SWT/K M39x1.5P	56	22	53	4-M4x16	47	4	5	3.5
SWT/K M40x1.5P	58	22	55	4-M4x16	49	4	5	3.5
SWT/K M42x1.5P	60	22	57	4-M4x16	51	4	5	3.5
SWT/K M45x1.5P	68	22	63	6-M4x16	57	6	6	3.5
SWT/K M48x1.5P	69	25	65	6-M4x18	58	6	6	3.5
SWT/K M50x2.0P	70	25	66	6-M4x18	60	6	6	3.5
SWT/K M52x2.0P	72	25	68	6-M4x18	62	6	6	3.5
SWT/K M55x1.5P	75	25	71	6-M4x18	65	6	6	3.5
SWT/K M55x2.0P	75	25	71	6-M4x18	65	6	6	4.5
SWT/K M56x1.5P	82	26	77	6-M5x18	70	6	6	4.5
SWT/K M56x2.0P	82	26	77	6-M5x18	70	6	6	4.5
SWT/K M58x1.5P	82	26	77	6-M5x18	70	6	6	4.5
SWT/K M60x1.5P	84	26	79	6-M5x18	72	6	6	4.5
SWT/K M60x2.0P	84	26	79	6-M5x18	72	6	6	4.5
SWT/K M62x1.5P	86	28	82	6-M5x20	75	6	6	4.5
SWT/K M64x1.5P	86	28	82	6-M5x20	75	6	6	4.5
SWT/K M64x2.0P	86	28	82	6-M5x20	75	6	6	4.5
SWT/K M65x1.5P	88	28	84	6-M5x20	77	6	6	4.5
SWT/K M65x2.0P	88	28	84	6-M5x20	77	6	6	4.5
SWT/K M68x1.5P	93	28	89	6-M5x20	80	6	7	4.5
SWT/K M68x2.0P	93	28	89	6-M5x20	80	6	7	4.5
SWT/K M70x1.5P	95	28	89	6-M5x20	82	6	7	4.5
SWT/K M70x2.0P	95	28	89	6-M5x20	82	6	7	4.5
SWT/K M72x1.5P	97	28	91	6-M5x20	84	6	7	4.5
SWT/K M72x2.0P	97	28	91	6-M5x20	84	6	7	4.5

Thread	D	h	d	n-MxL	C	n	b	MAX.Nm
SWT/K M75x1.5P	100	28	94	6-M5x20	87	6	7	4.5
SWT/K M75x2.0P	100	28	94	6-M5x20	87	6	7	4.5
SWT/K M78x1.5P	110	32	102	6-M6x22	94	6	8	4.5
SWT/K M80x2.0P	110	32	103	6-M6x22	95	6	8	8
SWT/K M85x2.0P	115	32	108	6-M6x22	100	6	8	8
SWT/K M88x1.5P	120	32	112	6-M6x22	104	6	8	8
SWT/K M90x2.0P	120	32	113	6-M6x22	105	6	8	8
SWT/K M95x2.0P	125	32	118	6-M6x22	110	6	8	8
SWT/K M100x2.0P	130	32	123	6-M6x22	115	6	8	8
SWT/K M105x2.0P	135	32	128	6-M6x22	120	6	8	8
SWT/K M110x2.0P	140	32	133	6-M6x22	125	6	8	8
SWT/K M115x2.0P	145	34	138	6-M6x22	130	6	8	8
SWT/K M116x2.0P	145	34	138	6-M6x22	130	6	8	8
SWT/K M120x2.0P	155	36	146	6-M6x25	136	6	8	8
SWT/K M125x2.0P	160	36	150	6-M6x25	140	6	8	8
SWT/K M130x3.0P	165	36	156	6-M6x25	148	6	8	8
SWT/K M130x3.0P	165	36	156	6-M6x25	148	6	8	8
SWT/K M140x2.0P	180	38	168	6-M6x25	160	8	10	8
SWT/K M140x3.0P	180	38	168	8-M6x25	160	8	10	8
SWT/K M150x2.0P	190	38	178	8-M6x25	170	8	10	8
SWT/K M150x3.0P	190	38	178	8-M6x25	170	8	10	8
SWT/K M160x3.0P	205	40	193	8-M8x30	182	8	10	18
SWT/K M170x3.0P	215	40	204	8-M8x30	193	8	10	18
SWT/K M180x3.0P	230	40	216	8-M8x30	205	8	10	18
SWT/K M190x3.0P	240	40	226	8-M8x30	215	8	10	18
SWT/K M200x3.0P	245	40	234	8-M8x30	223	8	10	18
SWT/K M210x4.0P	265	40	253	8-M8x25	243	8	10	18
SWT/K M220x3.0P	265	40	255	8-M8x30	243	8	10	18
SWT/K M220x4.0P	265	40	253	8-M8x30	243	8	10	18
SWT/K M225x3.0P	275	42	260	8-M10x30	247	8	10	18
SWT/K M230x3.0P	275	42	265	8-M10x30	251	8	10	18
SWT/K M235x3.0P	285	42	270	8-M10x30	257	8	10	18
SWT/K M240x3.0P	285	42	275	8-M10x30	261	8	10	35
SWT/K M250x3.0P	295	42	285	8-M10x30	271	8	12	35
SWT/K M260x3.0P	305	42	295	8-M10x30	283	8	12	35
SWT/K M270x3.0P	315	42	305	8-M10x30	293	8	12	35
SWT/K M280x3.0P	325	42	315	8-M10x30	303	8	12	35
SWT/K M295x4.0P	340	42	331	8-M10x30	318	8	12	35
SWT/K M300x4.0P	345	42	335	8-M10x30	323	8	12	35

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1 NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

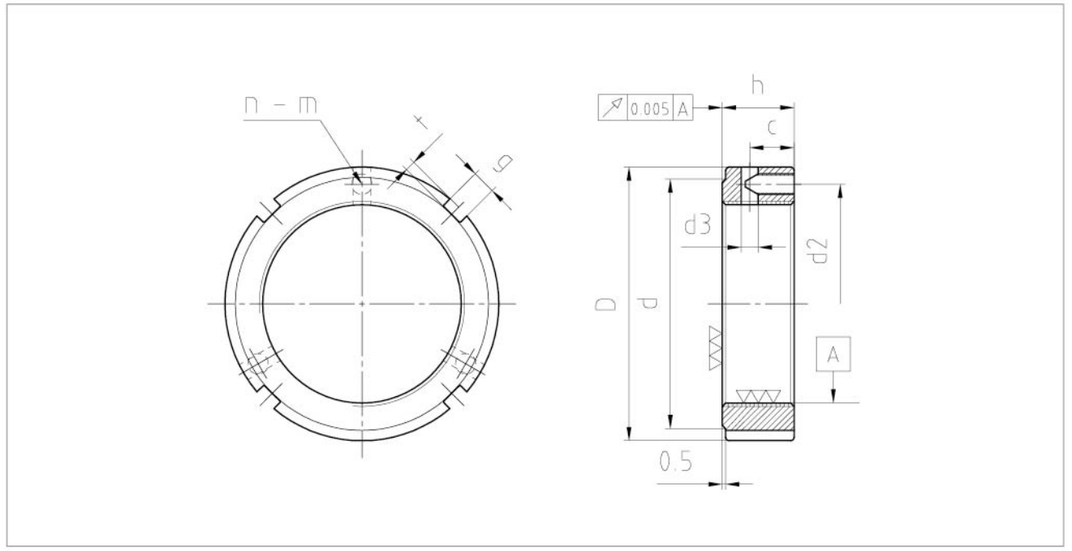
PRECISION LOCK NUT 精密锁紧螺母

SWT/A Series 系列 >

SWT/A型锁紧方式为轴向三点式锁定，其厚度与F系列相同。轴向三点式锁定为其特点，适用于装配工作的特殊环境限制。

The locking method of SWT/A series is three-point locking, with thickness the same with that of the F-type nut. Its feature is axial three-point locking and is applicable for special environment.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.005mm



Thread	D	h	n-g	t	d	n-m	MAX.Nm
SWT/A M12x1.25P	26	14	3-3	2	22	2-M4	3.5
SWT/A M14x1.5P	30	14	3-4	2	26	2-M4	3.5
SWT/A M15x1.0P	30	14	3-4	2	26	2-M4	3.5
SWT/A M16x1.5P	30	14	3-4	2	26	2-M4	3.5
SWT/A M17x1.0P	32	16	3-4	2	28	2-M4	3.5
SWT/A M18x1.5P	32	16	3-4	2	28	3-M4	3.5
SWT/A M20x1.0P	38	16	3-4	2	34	3-M4	3.5
SWT/A M20x1.5P	38	16	3-4	2	34	3-M4	3.5
SWT/A M22x1.5P	38	16	3-4	2	34	3-M4	3.5
SWT/A M24x1.5P	38	18	3-5	2	34	3-M4	3.5
SWT/A M25x1.5P	38	18	3-5	2	34	3-M4	3.5
SWT/A M27x1.5P	40	18	3-5	2	36	3-M4	3.5
SWT/A M30x1.5P	45	18	3-5	2	41	3-M4	3.5
SWT/A M33x1.5P	50	18	3-5	2	46	3-M4	3.5
SWT/A M35x1.5P	52	18	3-5	2	48	3-M6	8
SWT/A M36x1.5P	52	18	3-5	2	48	3-M6	8
SWT/A M39x1.5P	58	20	3-6	2.5	53	3-M6	8
SWT/A M40x1.5P	58	20	3-6	2.5	53	3-M6	8
SWT/A M42x1.5P	62	20	3-6	2.5	57	3-M6	8
SWT/A M45x1.5P	65	20	3-6	2.5	60	3-M6	8
SWT/A M48x1.5P	70	20	3-6	2.5	65	3-M6	8
SWT/A M50x1.5P	70	20	3-6	2.5	65	3-M6	8
SWT/A M50x2.0P	70	20	3-6	2.5	65	3-M6	8
SWT/A M52x1.5P	73	22	3-7	3	67	3-M6	8
SWT/A M55x2.0P	75	22	3-7	3	69	3-M6	8
SWT/A M56x2.0P	75	22	3-7	3	69	3-M6	8
SWT/A M60x2.0P	80	22	3-7	3	74	3-M6	8
SWT/A M64x2.0P	85	22	3-7	3	79	3-M6	8
SWT/A M65x2.0P	85	22	3-7	3	79	3-M6	8
SWT/A M68x2.0P	92	24	3-8	3.5	85	3-M8	18
SWT/A M70x2.0P	92	24	3-8	3.5	85	3-M8	18
SWT/A M72x2.0P	94	24	3-8	3.5	87	3-M8	18

Thread	D	h	n-g	t	d	n-m	MAX.Nm
SWT/A M75x2.0P	98	24	3-8	3.5	91	3-M8	18
SWT/A M76x2.0P	98	24	3-8	3.5	91	3-M8	18
SWT/A M80x2.0P	105	24	4-8	3.5	98	3-M8	18
SWT/A M85x2.0P	110	24	4-8	3.5	103	3-M8	18
SWT/A M90x2.0P	120	26	4-10	4	112	3-M8	18
SWT/A M95x2.0P	125	26	4-10	4	117	3-M8	18
SWT/A M100x2.0P	130	26	4-10	4	122	3-M8	18
SWT/A M105x2.0P	140	28	4-12	5	130	3-M8	18
SWT/A M110x2.0P	145	28	4-12	5	135	3-M8	18
SWT/A M115x2.0P	150	28	4-12	5	140	3-M8	18
SWT/A M120x2.0P	155	30	4-12	5	145	3-M8	18
SWT/A M125x2.0P	160	30	4-12	5	150	3-M8	18
SWT/A M130x2.0P	165	30	4-12	5	155	3-M8	18
SWT/A M135x2.0P	175	32	4-14	6	163	3-M10	35
SWT/A M140x2.0P	180	32	4-14	6	168	3-M10	35
SWT/A M145x2.0P	190	32	4-14	6	178	3-M10	35
SWT/A M150x2.0P	195	32	4-14	6	183	3-M10	35
SWT/A M155x3.0P	200	34	4-16	7	186	3-M10	35
SWT/A M160x3.0P	210	34	4-16	7	196	3-M10	35
SWT/A M165x3.0P	210	34	4-16	7	196	3-M10	35
SWT/A M170x3.0P	220	34	4-16	7	206	3-M10	35
SWT/A M180x3.0P	230	36	4-18	8	214	3-M12	60
SWT/A M190x3.0P	240	36	4-18	8	224	3-M12	60
SWT/A M200x3.0P	250	38	4-18	8	234	3-M12	60
SWT/A M210x4.0P	270	38	4-18	8	250	3-M12	60
SWT/A M220x3.0P	270	38	4-18	8	254	3-M12	85
SWT/A M220x4.0P	270	38	4-18	8	254	3-M12	85
SWT/A M240x4.0P	290	38	4-18	8	270	3-M12	85
SWT/A M260x3.0P	310	38	4-18	8	290	3-M12	85
SWT/A M260x4.0P	310	38	4-18	8	290	3-M12	85
SWT/A M280x4.0P	330	40	4-18	8	310	3-M12	85
SWT/A M300x4.0P	350	40	4-18	8	330	3-M12	85

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1 NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

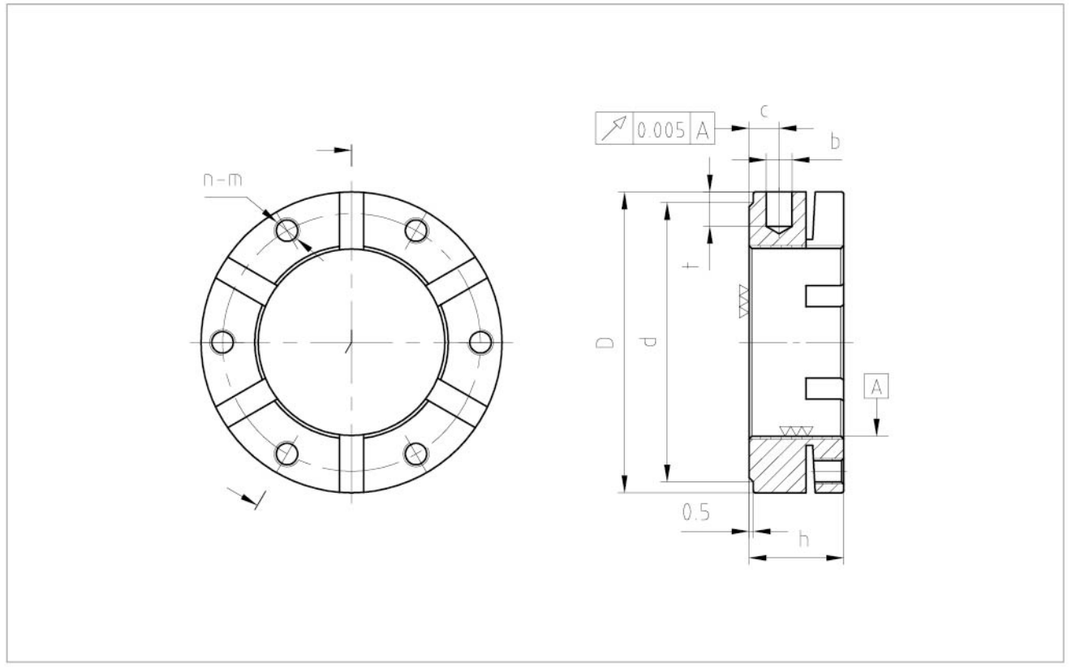
PRECISION LOCK NUT 精密锁紧螺母

SWT/N Series 系列 >

SWT/N型锁紧方式为通过4—6颗高强度平头螺钉支撑端面。利用钢材自身弹性，使螺纹变形锁定。其外部尺寸与F型接近，可互换。N型螺帽适用于易松脱或安装空装受限制的环境，且锁定能力大于F型2倍以上。

SWT/N series is locked by applying 4 to 6 high-strength flat screw to support the end surface, with the steel's elasticity, the thread is deformed to be locked. The external dimension is close to and can be interchanged with F-type nut. N-type nut is applicable for installation where the nut is easily loosened and the space is limited. Its locking capacity is larger than F-type nut by more than 2 times.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.005mm



Thread	D	h	d	n-m	t	c	b	MAX.Nm
SWT/N M16x1.5	30	18	26	4-M5	5	5.5	4	4.5
SWT/N M17x1.0	32	18	28	4-M5	5	5.5	4	4.5
SWT/N M17x1.5	32	18	28	4-M5	5	5.5	4	4.5
SWT/N M18x1.5	36	18	32	4-M5	6	5.5	4	4.8
SWT/N M20x1.5	38	18	34	4-M6	6	5.5	4	8
SWT/N M22x1.5	40	18	36	4-M6	6	5.5	4	8
SWT/N M24x1.5	45	18	41	4-M6	7	5.5	5	8
SWT/N M25x1.5	45	20	41	4-M6	7	6	5	8
SWT/N M27x1.5	46	20	42	4-M6	7	6	5	8
SWT/N M28x1.5	46	20	42	4-M6	7	6	5	8
SWT/N M30x1.5	52	20	48	4-M6	7	6	5	8
SWT/N M32x1.5	54	22	49	4-M6	7	7	6	8
SWT/N M33x1.5	54	22	49	4-M6	7	7	6	8
SWT/N M35x1.5	58	22	53	4-M6	7	7	6	8
SWT/N M36x1.5	58	22	53	4-M6	7	7	6	8
SWT/N M38x1.5	60	22	55	4-M6	8	7	6	8
SWT/N M39x1.5	60	22	55	4-M6	8	7	6	8
SWT/N M40x1.5	65	22	60	4-M6	8	7	6	8
SWT/N M42x1.5	65	22	60	4-M6	8	7	6	8
SWT/N M45x1.5	70	22	65	6-M6	8	7	6	8
SWT/N M48x1.5	75	25	70	6-M6	8	8	6	8
SWT/N M50x1.5	75	25	70	6-M6	8	8	6	8
SWT/N M52x1.5	80	25	74	6-M8	8	8	6	8
SWT/N M55x1.5	85	25	79	6-M8	8	8	6	18
SWT/N M55x2.0	85	25	79	6-M8	8	8	6	18
SWT/N M56x2.0	85	26	79	6-M8	8	8	6	18

Thread	D	h	d	n-m	t	c	b	MAX.Nm
SWT/N M60x2.0	90	26	84	6-M8	10	8	6	18
SWT/N M64x2.0	95	28	89	6-M8	10	8.5	8	18
SWT/N M65x2.0	95	28	89	6-M8	10	8.5	8	18
SWT/N M68x2.0	98	28	91	6-M8	10	8.5	8	18
SWT/N M70x2.0	100	28	93	6-M8	10	9	8	18
SWT/N M75x2.0	106	28	99	6-M10	10	9	8	35
SWT/N M80x2.0	110	30	103	6-M10	10	9.5	8	35
SWT/N M85x2.0	115	32	108	6-M10	10	10	8	35
SWT/N M90x2.0	120	32	112	6-M10	10	10	8	35
SWT/N M95x2.0	125	32	117	6-M10	10	10	8	35
SWT/N M100x2.0	130	32	122	8-M10	10	10	8	35
SWT/N M105x2.0	135	32	125	8-M10	10	10	8	35
SWT/N M110x2.0	140	32	130	8-M10	10	10.5	8	35
SWT/N M115x2.0	145	34	135	8-M10	10	10.5	8	35
SWT/N M120x2.0	150	36	140	8-M10	10	11	10	35
SWT/N M125x2.0	160	36	150	8-M10	10	11	10	35
SWT/N M130x2.0	165	36	155	8-M10	10	11	10	35
SWT/N M135x2.0	175	38	163	8-M12	10	12	10	60
SWT/N M140x2.0	180	38	168	8-M12	10	12	10	60
SWT/N M145x2.0	190	38	178	8-M12	10	11.5	10	60
SWT/N M150x2.0	195	38	183	8-M12	10	12	10	60
SWT/N M155x2.0	200	38	186	8-M12	12	11	10	60
SWT/N M160x3.0	210	40	196	8-M12	12	12.5	12	60
SWT/N M170x3.0	220	40	206	8-M12	12	12.5	12	60
SWT/N M180x3.0	230	40	214	8-M12	12	12.5	12	60
SWT/N M190x3.0	240	40	224	8-M12	12	12.5	12	60
SWT/N M200x3.0	250	40	234	8-M12	12	12.5	12	60

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

PRECISION LOCK NUT 精密锁紧螺母

SWT/FA Series 系列 >

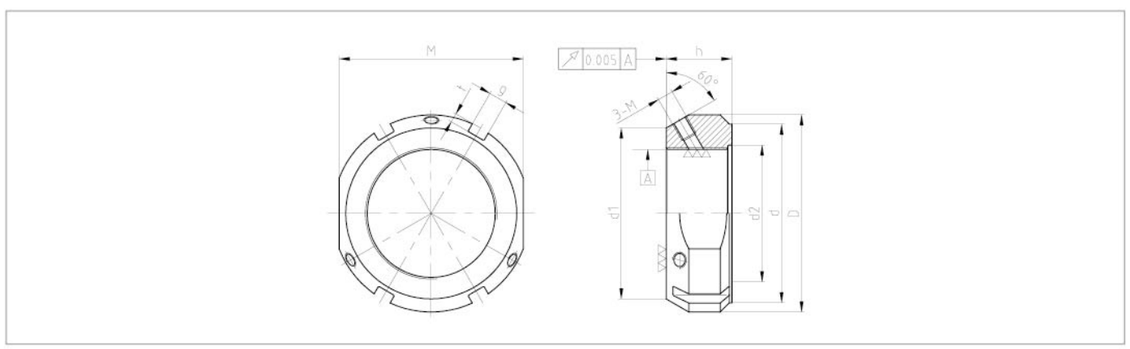
SWT/FA型锁紧螺母沿着圆周加工有四个凹槽；尺码在15或以下的螺母，加工有两个位置正对的平面，可以使用一般的扳手来将其夹紧。这种设计主要为满足高精度、安装简单和稳固的锁定等要求。

SWT/FA series lock nut has four grooves along the circumference. Nuts with size of 15 and below have two planes directly opposite each other, and can be clamped by general wrench. This design can meet requirements of high precision, easy installation and steady locking etc.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.005mm

Thread	d1	D	d	d2	h	g	t	M	MAX.Nm
SWT/FA M12x1.0P	23	30	25	13	14	4	2.5	27	4.5
SWT/FA M15x1.0P	26	33	28	16	16	4	2.5	30	4.5
SWT/FA M17x1.0P	29	37	33	18	18	5	2.5	34	8.0
SWT/FA M20x1.0P	32	40	35	21	18	5	2.5	36	8.0
SWT/FA M25x1.5P	36	44	39	26	20	5	2.5	41	8.0
SWT/FA M30x1.5P	41	49	44	32	20	5	2.5	46	8.0
SWT/FA M35x1.5P	46	54	49	38	22	5	2.5	50	8.0
SWT/FA M40x1.5P	56	65	59	42	22	6	3	60	8.0
SWT/FA M45x1.5P	61	70	64	48	22	6	3	65	8.0
SWT/FA M50x1.5P	65	75	68	52	25	7	3.5	70	8.0
SWT/FA M55x2.0P	74	85	78	58	25	7	3.5	80	18.0
SWT/FA M60x2.0P	78	90	82	62	26	8	4	85	18.0
SWT/FA M65x2.0P	83	95	87	68	28	8	4	90	18.0
SWT/FA M70x2.0P	88	100	92	72	28	8	4	95	18.0
SWT/FA M75x2.0P	93	105	97	77	28	8	4	100	18.0

Thread	d1	D	d	d2	h	g	t	M	MAX.Nm
SWT/FA M80x2.0P	98	110	100	83	32	8	3.5	100	18.0
SWT/FA M85x2.0P	107	120	110	88	32	10	4	110	35.0
SWT/FA M90x2.0P	112	125	115	93	32	10	4	115	35.0
SWT/FA M95x2.0P	117	130	120	98	32	10	4	120	35.0
SWT/FA M100x2.0P	122	135	125	103	32	10	4	130	35.0
SWT/FA M110x2.0P	132	145	134	112	32	10	4	140	35.0
SWT/FA M120x2.0P	142	155	144	122	32	10	4	150	35.0
SWT/FA M130x2.0P	152	165	154	132	32	12	5	160	35.0
SWT/FA M140x2.0P	162	175	164	142	32	14	6	170	35.0
SWT/FA M150x2.0P	172	185	174	152	32	14	6	180	35.0
SWT/FA M160x2.0P	182	195	184	162	32	14	6	190	35.0
SWT/FA M170x2.0P	192	205	194	172	32	14	6	200	35.0
SWT/FA M180x2.0P	202	215	204	182	32	16	7	210	35.0
SWT/FA M190x2.0P	212	225	214	192	32	16	7	220	35.0
SWT/FA M200x2.0P	222	235	224	202	32	18	8	230	35.0



PRECISION LOCK NUT 精密锁紧螺母

SWT/RN Series 系列 >

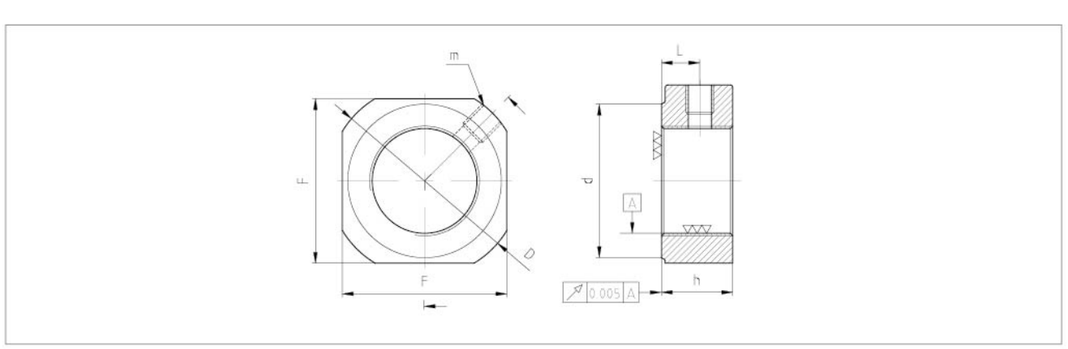
SWT/RN型锁紧螺母为方形，适用于轴承支撑座，内螺纹和端面同时加工完成，可确保组织的精度。

SWT/RN series lock nut is square, which is applicable for the bearing supporting seat. Inner thread and end surface are manufacture at the same time to ensure the precision of the composition.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.005mm

Thread	D	h	d	m	L	F	MAX.Nm
SWT/RN M8x1.0P	16	6.5	12	M4	3.5	14	0.9
SWT/RN M10x1.0P	19	8	14	M4	5	16	0.9
SWT/RN M12x1.0P	22	8	17	M4	5	19	3.5
SWT/RN M15x1.0P	25	10	20	M4	5.75	22	3.5
SWT/RN M17x1.0P	29	11	22	M5	7	24	3.5

Thread	D	h	d	m	L	F	MAX.Nm
SWT/RN M20x1.0P	35	13	28	M5	7	30	8
SWT/RN M25x1.5P	43	15	33	M6	10	35	8
SWT/RN M30x1.5P	48	20	38	M8	12	40	8
SWT/RN M35x1.5P	60	21	48	M8	13	50	8
SWT/RN M40x1.5P	62	25	48	M8	18	50	8



备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

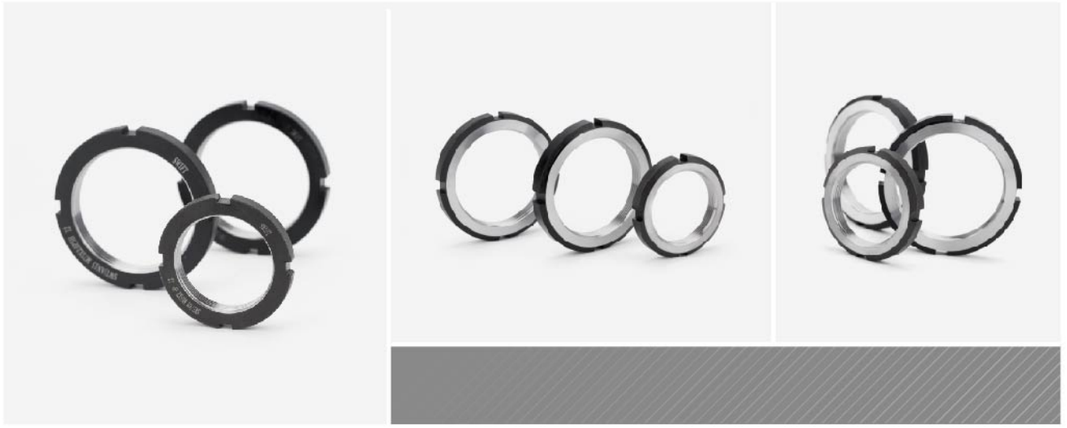
PRECISION LOCK NUT 精密锁紧螺母

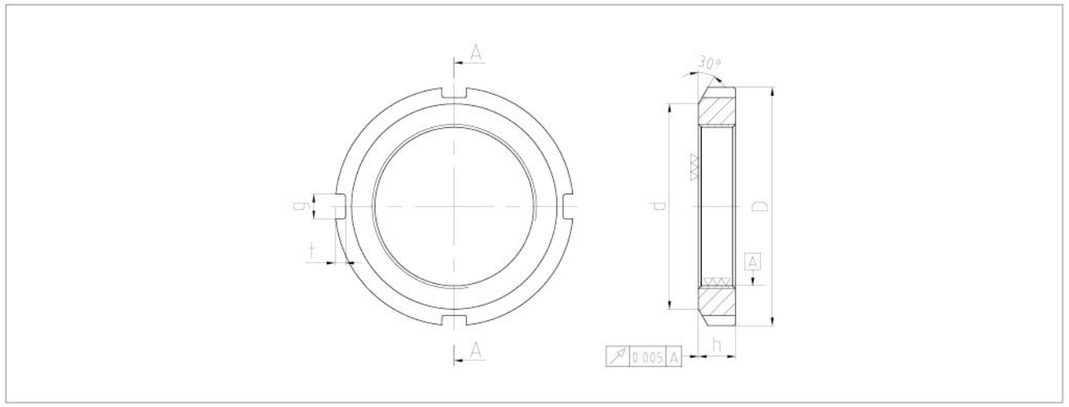
SWT/AN Series 系列 >

SWT/AN型螺母结构简单，内螺纹和端面同时加工，可确保偏摆精度要求。

The structure is simple. Inner thread and end surface are manufactured at the same time so that the Run out can be ensured.

> 材质 Material：42CrMo,45#, 40Cr
> 硬度 Hardness：HRC28°—32°
> 螺纹精度 Thread Precision：ISO4H
> 平面偏摆 Run Out：0.005mm





Thread	D	h	g	t	d
AN 0 M10x0.75P	18	4	3	2	13.5
AN 1 M12x1.0P	22	4	3	2	17
AN 2 M15x1.0P	25	5	4	2	21
AN 3 M17x1.0P	28	5	4	2	22
AN 4 M20x1.0P	32	6	4	2	26
AN 5 M25x1.5P	38	7	5	2	32
AN 6 M30x1.5P	45	7	5	2	38
AN 7 M35x1.5P	52	8	5	2	44
AN 8 M40x1.5P	58	9	6	2.5	50
AN 9 M45x1.5P	65	10	6	2.5	56
AN 10 M50x1.5P	70	11	6	2.5	61
AN 11 M55x2.0P	75	11	7	3	67
AN 12 M60x2.0P	80	11	7	3	73
AN 13 M65x2.0P	85	12	7	3	79
AN 14 M70x2.0P	92	12	8	3.5	84
AN 15 M75x2.0P	98	13	8	3.5	90
AN 16 M80x2.0P	105	15	8	3.5	95
AN 17 M85x2.0P	110	16	8	3.5	102
AN 18 M90x2.0P	120	16	10	4	108

Thread	D	h	g	t	d
AN 19 M95x2.0P	125	17	10	4	113
AN 20 M100x2.0P	130	18	10	4	120
AN 21 M105x2.0P	140	18	12	5	126
AN 22 M110x2.0P	146	19	12	5	133
AN 23 M115x2.0P	150	19	12	5	137
AN 24 M120x2.0P	155	20	12	5	138
AN 25 M125x2.0P	160	21	12	5	148
AN 26 M130x2.0P	165	21	12	5	149
AN 27 M135x2.0P	175	22	14	6	160
AN 28 M140x2.0P	180	22	14	6	160
AN 29 M145x2.0P	190	24	14	6	172
AN 30 M150x2.0P	195	24	14	6	171
AN 31 M155x2.0P	200	25	16	7	182
AN 32 M160x3.0P	210	25	16	7	182
AN 33 M165x3.0P	210	26	16	7	193
AN 34 M170x3.0P	220	26	16	7	193
AN 36 M180x3.0P	230	27	18	8	203
AN 38 M190x3.0P	240	28	18	8	214
AN 40 M200x3.0P	250	29	18	8	226

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

Solutions to the Failures of SWIFT Nuts
使用SWIFT螺母常发生问题解决方法 >

产生现象 Failures	查看原因 Reasons
SWIFT螺母与外螺纹 无法配合锁入。 SWIFT nuts can not match with and locked into the external thread. 解决方案 Solutions >	① **内、外螺纹螺距是否相符：** 检测内、外螺纹的螺纹是否一样。 ② **螺纹有效径是否符合公差：** 外螺纹使用千分尺检测是否符合公差。 ③ **内、外螺纹牙型外观是否损伤产生毛刺：** 外螺纹是否有损伤或毛刺，如果有毛刺，用三角钻石锉刀清除即可。 ④ **内、外螺纹的左、右旋是否相符：** 内、外螺纹左、右旋是否一样。 ⑤ **内、外螺纹公称外径的是否相符：** 使用游标卡尺检测其内、外径是否同一规格尺寸。 ⑥ **外螺纹的外径是否过大：** 使用分厘卡键槽齐外径尺寸。 ⑦ **外螺纹的牙型是否标准：** 利用光学投影机检查其牙型是否为60度。 ① **Whether the inner thread pitch is conforming to that of the external thread pitch :** Check whether the inner thread and external thread are the same. ② **Whether the effective diameter of the thread complies with the tolerance:** Check the external thread by the micrometer to ensure that it is accordance with the tolerance. ③ **Whether there are damages and burrs on the inner and external thread form:** Check if there is any damage or burr on the external thread. If yes, use the triangle diamond file to remove it. ④ **Whether the left and right rotations of inner and external thread are matched:** Check whether the left and right rotations of inner and external thread are matched. ⑤ **Whether the nominal outside diameter of inner and external thread are matched:** Check whether the inner and external diameter are the same in size by vernier caliper. ⑥ **Whether the outer diameter of external thread is too large:** Use micrometer key groove to check the outer diameter. ⑦ **Whether the thread form of external thread is standard:** Use optical projector to check whether the thread form is kept as 60 degree.
SWIFT螺母与外螺纹 无法配合锁入后无法拆卸。 SWIFT nuts can not match with the external thread. After locking into the nuts can not be removed. 解决方案 Solutions >	① **螺母锁定螺纹是否放松：** 拆卸SWIFT螺母应切记，即使松开螺丝后，锁紧铜仍未放松，用铜棒在靠近螺丝处轻轻敲打螺母，即可将锁紧铜松开，就可以不费力地将螺母卸下。 ② **内、外螺纹牙型是否清洗干净：** 使用前将内、外螺纹清洗干净并加上润滑油，拆卸前将外螺纹表面清洗干净，并加入润滑油。 ③ **外螺纹外观是否有损伤：** 目测牙型外观是否遭受撞击，如果有请用三角锉刀将其清除干净后，再用细砂纸抛光处理。 ① **Whether the lock screw of the nut is loosened:** Please remember that when you remove SWIFT nuts, the lock copper is not loosened even if the screw is loosened. Slightly hit the nut close to the screw with copper rod, which can help to loosen the lock copper and remove the nut without any efforts. ② **Whether the thread form of inner and external thread is clean:** Clean the inner and external thread and apply some lubrication before you use it. Before the dis-assembly, clean the surface of the external thread and apply some lubrication. ③ **Whether the appearance of external thread is damaged:** Check whether the thread form is struck by eyes. If yes, use the triangle file to remove the burr and polish it with finely abrasive paper.
SWTIFT螺母与外螺纹 配合锁入后仍容易松脱。 SWIFT nuts are easily loose after locking into the external thread. 解决方案 Solutions >	① **内、外螺纹有效径配合公差大：** 检查外螺纹有效径是否过小（建议主轴PD值约小0.01至0.07mm及滚珠螺杆PD值约小0.04至0.09mm）。 ② **选用不当型号之螺母：** 依据不同机型，使用不同型号之螺母。 ③ **螺丝是否固定：** 螺母锁入后，须将螺丝固定确认。 ① **Large tolerance of fit for the effective diameter of the inner and external thread:** Check if the effective diameter of the external thread is too small (It is recommended that the PD value of main shaft is within 0.01 to 0.07mm and the PD value of ball screw is within 0.04 to 0.09mm.) ② **The model of the nut is not correctly selected:** Select different models of nut according to the model of the equipment. ③ **Whether the screw is fixed:** After the nut is locked, confirm the screw is fixed.
SWIFT螺母与外螺纹 锁入后精度不良。 Inappropriate precision after SWITF nuts are locking into the external thread. 解决方案 Solutions >	① **外螺纹与轴心中心线是否垂直：** 外螺纹在车削或研磨时，是否注意其精度及制造过程。 ② **螺母三点螺丝铜锁定不正确：** 首先应分别轻轻锁入螺丝，直到锁紧铜与螺纹契合，然后再依序均衡地锁入各螺丝。 ③ **螺母锁定工具选用是否正确：** 不可使用不正当工具敲击，须用扭力扳手锁紧。 ④ **内、外螺纹是否清洁：** 使用前须将内、外螺纹清洗干净并加入少许润滑油。 ① **Whether the external thread is perpendicular to the central line of the shaft:** Pay attention to the precision and manufacturing process during the turning or grinding of the external thread. ② **The three-point screw copper of the nut is not correctly locked:** Firstly, lock the screw slightly until the screw copper is matched with the thread. Then evenly lock each screw in sequence. ③ **Whether the tool is correctly selected for locking the nut:** Don't strike by using wrong tools. Please fasten it with torque wrench. ④ **Whether the inner and external thread are clean:** Clean the inner and external thread and apply a little of lubrication oil.

02

液压螺母
HYDRAULIC NUT

BEARING HYDRAULIC NUT 轴承液压螺母

SWT/THL Series 系列 >

主要用于连接件的无键连接，其工作原理是利用超高油压在轴上产生一个推力和轴套上产生一个张力，使轴和轴套受力均匀的连接在一起。

It is mainly used for the non-key connection of adapting pieces. Its working principle is to produce a thrust on the shaft and a tension on the shaft sleeve by extra high oil pressure, which can connect the shaft with the sleeve with uniform strength.

> 有轴向和径向注油两种方式 There are axial oil injection and radial oil injection.

> 压力均匀分布于压环 Press is uniformly distributed on the compression ring.

> 标准工作压力100MPa Standard working pressure is 100MPa.

使用范围 Application Scope

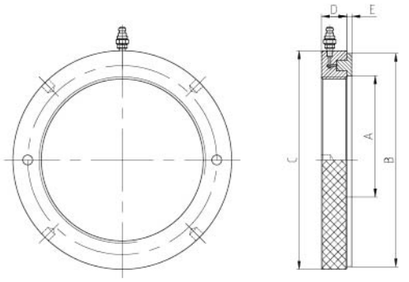
> 安装及拆卸轴承 Install and remove the bearing

> 安装及拆卸螺旋桨，舵瓦等 Install and remove the propeller, rudder tile, etc.

> 拆卸高压的接全面，如火车轮、联轴器、飞轮及齿轮等 Remove high-pressure connection surfaces, such as train wheel, coupling, flywheel and gear, etc.

螺纹 Thread	A	B	C	D	E	行程 Stroke	面积 Oil Area
SWT/THL M50x1.5P	50.5	104	114	38	4	5	2900
SWT/THL M55x2.0P	55.5	109	120	38	4	5	3150
SWT/THL M60x2.0P	60.5	115	125	38	5	5	3300
SWT/THL M65x2.0P	65.5	121	130	38	5	5	3600
SWT/THL M70x2.0P	70.5	127	135	38	5	5	3800
SWT/THL M75x2.0P	75.5	132	140	38	5	5	4000
SWT/THL M80x2.0P	80.5	137	146	38	5	5	4200
SWT/THL M85x2.0P	85.5	142	150	38	5	5	4400
SWT/THL M90x2.0P	90.5	147	156	38	5	5	4700
SWT/THL M95x2.0P	95.5	153	162	38	5	5	4900
SWT/THL M100x2.0P	100.5	158	166	38	6	5	5100
SWT/THL M105x2.0P	105.5	163	172	38	6	5	5300
SWT/THL M110x2.0P	110.5	169	178	38	6	5	5600
SWT/THL M115x2.0P	115.5	174	182	38	6	5	5800
SWT/THL M120x2.0P	120.5	179	188	38	6	5	6000
SWT/THL M125x2.0P	125.5	184	192	38	6	5	6200
SWT/THL M130x2.0P	130.5	190	198	38	6	5	6400
SWT/THL M135x2.0P	135.5	195	204	38	6	5	6600
SWT/THL M140x2.0P	140.5	200	208	38	7	5	6800
SWT/THL M145x2.0P	145.5	206	214	39	7	5	7300
SWT/THL M150x2.0P	150.5	211	220	39	7	5	7500
SWT/THL M155x3.0P	155.5	218	226	39	7	5	8100
SWT/THL M160x3.0P	160.5	224	232	40	7	6	8600
SWT/THL M165x3.0P	165.5	229	238	40	7	6	8900
SWT/THL M170x3.0P	170.5	235	244	41	7	6	9400
SWT/THL M180x3.0P	180.5	247	256	41	7	6	10300
SWT/THL M190x3.0P	191	259	270	42	8	7	11500
SWT/THL M200x3.0P	201	271	282	43	8	8	12500
SWT/THL Tr205x4.0P	207	276	288	43	8	8	12800
SWT/THL Tr210x4.0P	212	282	294	44	8	9	13400
SWT/THL Tr215x4.0P	217	287	300	44	8	9	13700
SWT/THL Tr220x4.0P	222	293	306	44	8	9	14400

螺纹 Thread	A	B	C	D	E	行程 Stroke	面积 Oil Area
SWT/THL Tr225x4.0P	227	300	312	45	8	9	15200
SWT/THL Tr230x4.0P	232	305	318	45	8	9	15500
SWT/THL Tr235x4.0P	237	311	326	46	8	10	16200
SWT/THL Tr240x4.0P	242	316	330	46	9	10	16500
SWT/THL Tr250x4.0P	252	329	342	46	9	10	17600
SWT/THL Tr260x4.0P	262	341	356	47	9	11	18800
SWT/THL Tr270x4.0P	272	352	368	48	9	12	19800
SWT/THL Tr280x4.0P	282	363	380	49	9	12	21100
SWT/THL Tr290x4.0P	292	375	390	49	9	13	22400
SWT/THL Tr300x4.0P	302	386	404	51	10	14	23600
SWT/THL Tr310x4.0P	312	397	416	52	10	14	24900
SWT/THL Tr320x4.0P	322	409	428	53	10	14	26300
SWT/THL Tr330x4.0P	332	419	438	53	10	14	27000
SWT/THL Tr340x4.0P	342	430	450	54	10	14	28400
SWT/THL Tr345x4.0P	347	436	456	54	10	14	29400
SWT/THL Tr350x4.0P	352	442	464	56	10	14	29900
SWT/THL Tr360x4.0P	362	455	472	56	10	15	31300
SWT/THL Tr365x4.0P	367	460	482	57	11	15	31700
SWT/THL Tr370x4.0P	372	466	486	57	11	16	32800
SWT/THL Tr380x4.0P	382	476	498	58	11	16	33500
SWT/THL Tr385x4.0P	397	483	504	58	11	16	34700
SWT/THL Tr400x4.0P	402	499	522	60	11	17	36700
SWT/THL Tr410x4.0P	412	510	534	61	11	17	38300
SWT/THL Tr420x4.0P	422	522	546	61	11	17	40000
SWT/THL Tr430x4.0P	432	532	556	62	11	17	40800
SWT/THL Tr440x4.0P	442	543	566	62	12	17	42500
SWT/THL Tr450x4.0P	452	554	580	64	12	17	44100
SWT/THL Tr460x4.0P	462	565	590	64	12	17	45100
SWT/THL Tr470x4.0P	472	576	602	65	12	18	46900
SWT/THL Tr480x4.0P	482	587	612	65	12	19	48600
SWT/THL Tr490x4.0P	492	597	624	66	12	19	49500
SWT/THL Tr500x4.0P	502	609	636	67	12	19	51500



SWT/THL

SWT/YTC Series 系列 >

> 由于采用超高压液压系统，尺寸与原有传统螺母匹配，无需修改原有螺栓副设计
With extra high hydraulic system, the dimension can be matched with original nut, and there is no need to change the original design.

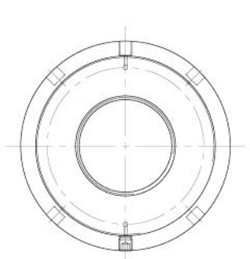
> 无需扳手及套筒的空间，螺栓副的尺寸更紧凑
No need to consider space for wrench and socket, and the design of bolt is more compact.

> 通过淬压拉伸螺栓，预定载荷更精确，紧固更可靠
Stretch the bolt through quenching pressure to ensure more precise preload and more reliable tightening.

> 适用于油田/矿山/电厂/石化/船舶/钢铁/电力
Applicable to oil field/mine/power plant/ petrochemical/ship/steel/electric power.

螺纹 Thread	Inch	A	H	行程 Stroke	面积 Oil Area	MAX.Mpa
SWT/YTC M22	7/8 "	57	57/45	4	1280	192
SWT/YTC M39	1-1/2 "	87	87/58	5	1995	300
SWT/YTC M52	2-1/8 "	117	117/67	8	3665	550
SWT/YTC M56	2-1/4 "	128	128/67	8	4371	656
SWT/YTC M105	4-1/8 "	243	243/125	15	16061	2410
SWT/YTC M115	4-1/2 "	267	267/145	15	19324	2899

螺纹 Thread	Inch	A	H	行程 Stroke	面积 Oil Area	MAX.Mpa
SWT/YTC M125	5 "	295	295/152	15	24247	3637
SWT/YTC M130	5-1/8 "	303	303/155	15	25104	3766
SWT/YTC M140	5-1/2 "	328	328/170	15	29145	4372
SWT/YTC M150	6 "	356	356/185	15	35124	5269
SWT/YTC M170	6-3/4 "	400	400/208	15	43922	6588



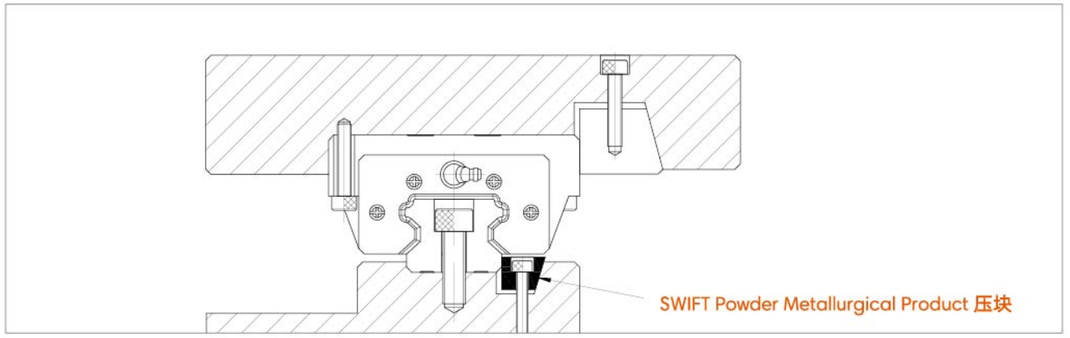
SWT/YTC

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

03

压块

POWDER METALLURGICAL PRODUCT



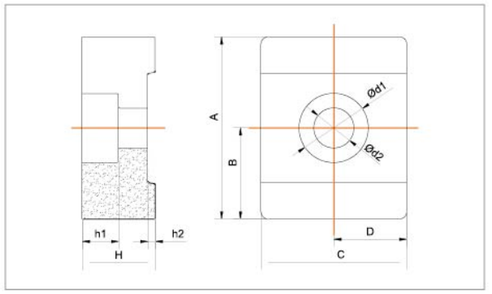
楔块主要用于调整精密线轨的平行度

现在机械制造厂家使用的经过铣削钻孔等工序完成的线轨楔块，因加工工序非一次装夹完成而导致楔块的尺寸不一致，同样因使用数量少而分散使楔块的成本相对较高。江苏思维福特机械科技股份有限公司生产的楔块使用粉末冶金和高精度磨具一次冲压完成，批量生产有效地降低了成本，其加工工艺保证了所有同规格线轨楔块的尺寸百分之百一致，因使用粉末冶金材料，楔块不易变形断裂，当床台受到振动、冲击力的作用时，滑轨很可能偏离原来的固定位置，而影响精度。为避免发生类似的状况，建议使用上图所示的固定方式固定滑轨，以确保机台的运行精度。

Nowadays, linear guide rail block manufactured through procedures such as milling and drilling etc, are different in sizes due to that single clamping cannot be realized. Likewise, due to small and dispersed demands, the manufacturing cost of the wedge block remains at a relatively high level. Jiangsu Swift Machinery Technology Co, Ltd produces wedge block by powder metallurgy and high-precision mold and with only single punching. The mass production has effectively reduce the cost and the machining process has guaranteed that all the wedge blocks with the same specification are 100 % the same in the size. Thanks to the powder metallurgy material, the wedge block will not easily be deformed and cracked. When the machine platform is vibrated and affected by the impact force, the slide rail is likely to deviate from the original position, which will affect the original precision. To avoid such case, it is recommended to use the method shown in the above photo to fix the slide rail so that the operation precision can be ensured for the tool machine.

POWDER METALLURGICAL PRODUCT 压块

Bridge-type Powder Metallurgical Product 桥式压块 >

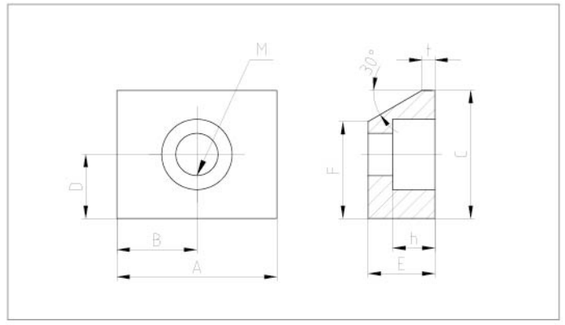


Model	A	B	C	D	H	h1	h2	¢ d1	¢ d2
TS3	25	12.5	20	10	10	5	1	9.5	5.5
TS30	20	7	15	7.5	10	8.5	1.5	6.9	—

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

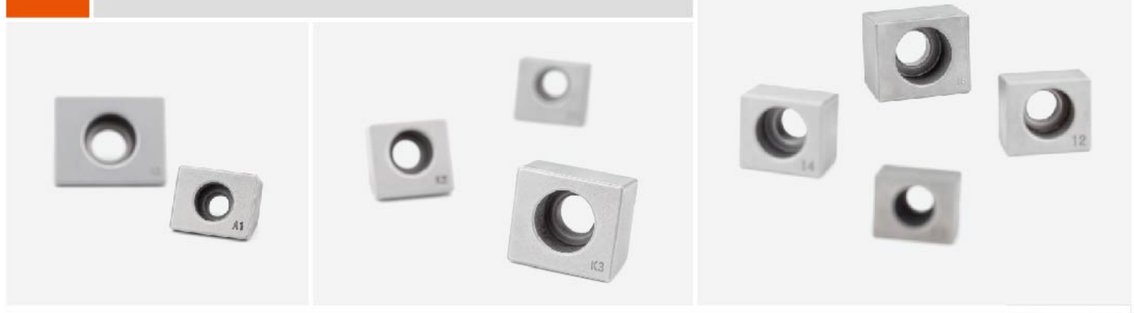
POWDER METALLURGICAL PRODUCT 压块

30° Series Powder Metallurgical Product 系列 >



Model	A	B	C	D	E	F	M	h	t
T1	20	10	16	7	9.4	11.73	Φ5.5×Φ9.5	5.4	2
T2	25	12.5	20	8	10.5	15.09	Φ6.6×Φ11	5.5	2
T3	30	15	24	9	13.6	17.3	Φ9×Φ14	8.6	2
T4	30	15	28	11	14	21.07	Φ11×Φ18	10	2
T5	40	20	35	11.5	20	24.61	Φ11×Φ18	11	2
K1	20	10	17.5	7	7.5	14.32	Φ5.5×Φ9.5	5	2
K2	20	10	18.5	8	9.5	15	Φ6.5×Φ11	6	3.45
A1	20	10	16	8	9.4	11.73	Φ5.5×Φ9.5	5.45	2
A2	25	12.5	20	10	10.45	15.12	Φ6.6×Φ11	6.6	2
A3	30	15	24	12	13.65	17.27	Φ9×Φ14	8.5	2
ZJ3	35	17.5	34.4	13.5	20	23.43	Φ11×Φ18	11	1

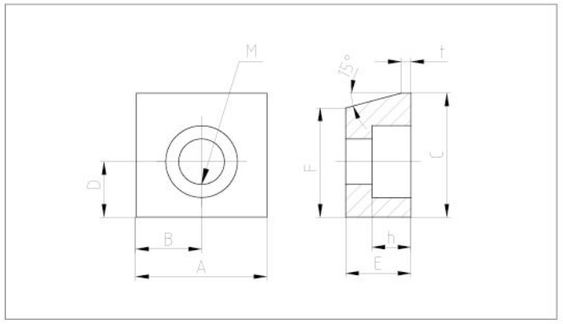
▸ **8°** 系列压块 **8°** Series Powder Metallurgical Product



▲ **30°** 系列压块
30 ° Series Powder Metallurgical Product

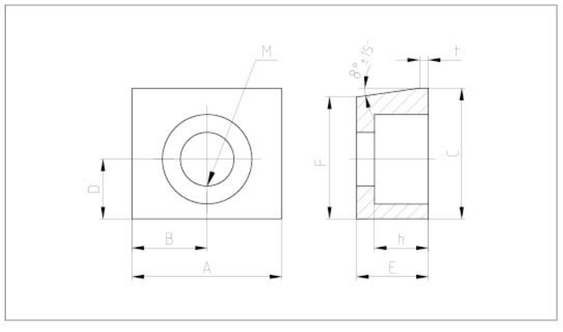
▲ **15°** 系列压块
15° Series Powder Metallurgical Product

15° Series Powder Metallurgical Product 系列 >



Model	A	B	C	D	E	F	M	h	t
Y1	30	15	39.7	18	12	36.89	Φ9×Φ15	8	1.5
Y2	30	15	36.2	15	20	31.24	Φ9×Φ15	8	1.5
Y3	30	15	19	8.5	11	16.45	Φ7×Φ12	6	1.5
Y4	20	10	19	8.5	10	16.72	Φ7×Φ11	6	1.5
ZJ1	35	17.5	29.5	13.5	18	24.94	Φ11×Φ18	10	1
ZJ2	35	17.5	29.7	13.5	20	23.86	Φ11×Φ18	11	1
ZJ4	30	15	22.72	10	13	19.5	Φ9×Φ15	8.5	1
SY1	35	17.5	34.73	15	25	28.3	Φ11×Φ18	11	1
SY2	20	10	21.46	10	18	17.35	Φ9×Φ15	9	2
K3	25	12.5	22	10.5	12	19.32	Φ9×Φ14	8	2

8° Series Powder Metallurgical Product 系列 >



Model	A	B	C	D	E	F	M	h	t
Z×10	22	11	17.95	8.5	10	16.69	Φ6.6×Φ11	6.8	1
Z×12	25	12.5	21.90	10	12	20.18	Φ9×Φ15	8	1
Z×14	25	12.5	21.89	10	14	20.06	Φ9×Φ15	9	1
Z×16	30	15	24.89	12	16	22.78	Φ11×Φ18	11	1

备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
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04

轴承座
SUPPORT UNIT

Schematic Diagram of Installation and Combination for the Supporting Bearing of SWT Ball Screw
SWT滚珠丝杆支撑单元轴承安装组合方式示意图 >

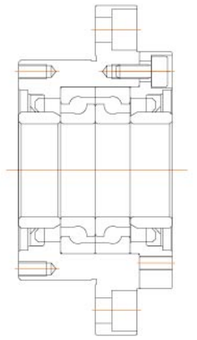
高负荷机床用支撑单元采用的支撑轴承.是具有最佳性能与构造的高精度，高刚度滚珠丝杆支撑用推力角接触球轴承（TAC 系列）。组合方式有下图所示的 3 种。

Supporting bearing applied in the high-load machine tool is angular contact thrust ball bearing (TAC series). TAC series are used for the supporting of the ball screw with high precision and rigidity, and can ensure the best performance and structure. There are three combinations shown as below.

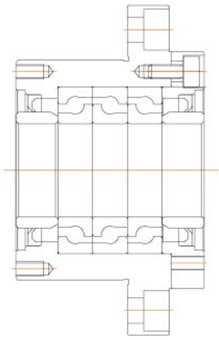
特点 Features

> 因为具有防尘盖设计，所以可以简化用户的滚珠丝杆支撑部设计。
With dust-proof design, design for the supporting part of the ball screw can be simplified.

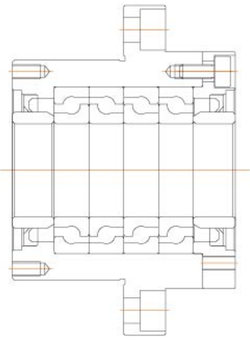
> 由于对轴承的预紧进行预先管理并安装完成，故可以省掉轴承安装的工序。
Bearing preload is managed and installed in advance, some steps can be omitted for installation.



DF 组合 Combination
WBK..DF



DFD 组合 Combination
WBK..DFD



DFF 组合 Combination
WBK..DFF

Support Unit 轴承座

SWT-WBK Series 系列 >

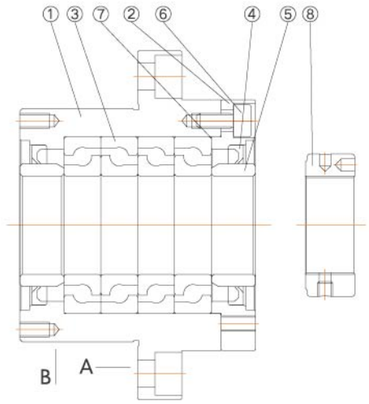
型号举例 Model Example

SWT-WBK20 DFD

支撑单元记号
Mark of the support unit

公称轴承内径
Inner diameter of the nominal bearing

组合方式 Combination
DF: 2列轴承组 Columns of bearing
DFD: 3列轴承组 Columns of bearing
DFF: 4列轴承组 Columns of bearing



支撑单元的型号构成
Model Composition of the Support Unit

1. 在机械安装时，以 A 、B 为基准。
2. SWT的支撑单元采用了高精度预紧调节，零件①②③④⑤⑥⑦⑧为一体设计，故请不要分解。
3. 轴承内已填润滑脂。
4. 锁紧螺母为严格控制了对三角螺纹的端面垂直度的滚珠丝杆专用锁紧螺母。为避免松动，请拧紧防滑小螺丝滚珠丝杆。支撑用推力角接触球轴承为TAC系列。

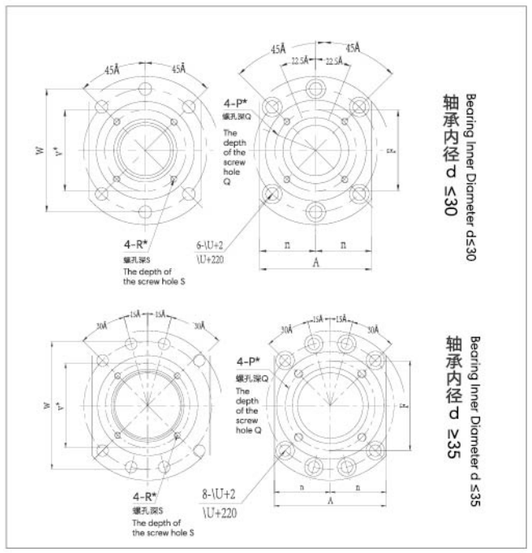
1. Install based on A and B.
2. High-precision preload adjustment is used in SWT support unit. The components ① to ⑧ constitute an integrated design. Do not disassemble them.
3. Lubricating grease is filled in the bearing.
4. The lock nut is specially designed for the ball screw, which can strictly control the perpendicularity to the end surfaces of the triangle thread. To avoid any loose, please securely tighten the ball screw of the anti-skid screw. TAC series of the thrust angular contact ball bearing is applied for support.

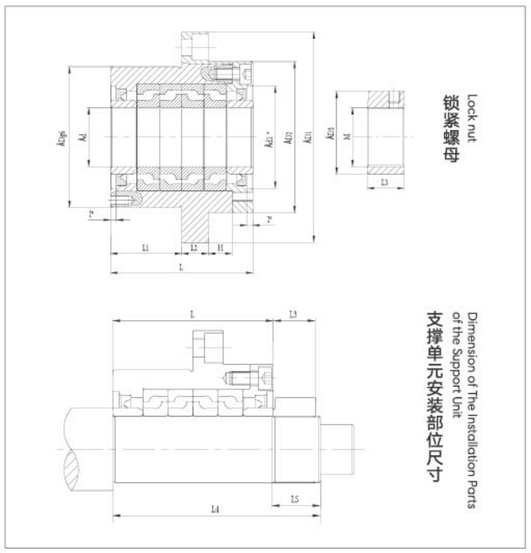
序号 (Ref)	零件名称 (Name of the Component)	数量 (Qty)
①	轴承座 Support Unit	1
②	压盖 Press Cover	1
③	滚珠丝杆支撑用推力角接触球轴承 Thrust Angular Contact Ball Bearing for the Support The Ball Screw	1套 Set
④	防尘密封盖 Dust-proof Sealing Cover	2
⑤	轴环 Shaft Collar	2
⑥	预压固定螺栓 Pre-pressed Fixed Bolt	8
⑦	垫圈 Washer	1套 Set
⑧	锁紧螺母 Lock Nut	1

LIST OF SWT SUPPORT UNIT
SWT 轴承座清单

支撑单元型号 Model of the Support Unit	支撑单元参数 Parameters of the Support Unit																		
	d	D	D_1	D_2	L	L_1	L_2	H*	A	W	X	Y	Z	d1*	I*	V*	P*	Q*	R*	S*
SWT-WBK17DF	17	70	106	72	60	32	15	1	80	88	9	14	8.5	45	3	58	M5	10	M5	10
SWT-WBK20DF	20	70	106	72	60	32	15	1	80	88	9	14	8.5	45	3	58	M5	10	M5	10
SWT-WBK25DF	25	85	130	90	66	33	18	1	100	110	11	17.5	11	57	4	75	M6	12	M6	12
SWT-WBK25DFD	25	85	130	90	81	48	18	1	100	110	11	17.5	11	57	4	75	M6	12	M6	12
SWT-WBK30DF	30	85	130	90	66	33	18	1	100	110	11	17.5	11	57	4	75	M6	12	M6	12
SWT-WBK30DFD	30	85	130	90	81	48	18	1	100	110	11	17.5	11	57	4	75	M6	12	M6	12
SWT-WBK35DF	35	95	142	102	66	33	18	1	106	121	11	17.5	11	69	4	85	M8	12	M6	12
SWT-WBK35DFD	35	95	142	102	81	48	18	1	106	121	11	17.5	11	69	4	85	M8	12	M6	12
SWT-WBK35DFF	35	95	142	102	96	48	18	16	106	121	11	17.5	11	69	4	85	M8	12	M6	12
SWT-WBK40DF	40	95	142	102	66	33	18	1	106	121	11	17.5	11	69	4	85	M8	12	M6	12
SWT-WBK40DFD	40	95	142	102	81	48	18	1	106	121	11	17.5	11	69	4	85	M8	12	M6	12
SWT-WBK40DFF	40	95	142	102	96	48	18	16	106	121	11	17.5	11	69	4	85	M8	12	M6	12

基本额定动负荷 Ca(N) Basic Dynamic Load Ca	极限轴向负荷 (N) Permissible Axial Load	预负荷 (N) Pre-Load	轴向刚度 (N/μm) Axial Rigidity	起动力矩 (N.cm) Starting Torque	锁紧螺母 Lock Nut			支撑单元安装部位 Support Unit Position		
						D3	L3	d	L4	L5
21900	26600	2150	750	14.0	M17×1	37	18	17	81	23
21900	26600	2150	750	14.0	M20×1	40	18	20	81	23
28500	40500	3150	1000	23.0	M25×1.5	45	20	25	89	26
46500	81500	4300	1470	31.0	M25×1.5	45	20	25	104	26
29200	43000	3350	1030	24.0	M30×1.5	50	20	30	89	26
47500	86000	4500	1520	33.0	M30×1.5	50	20	30	104	26
31000	50000	3800	1180	28.0	M35×1.5	55	22	35	92	30
50500	100000	5200	1710	37.0	M35×1.5	55	22	35	107	30
50500	100000	7650	2350	55.0	M35×1.5	55	22	35	122	30
31500	52000	3900	1230	28.0	M40×1.5	60	22	40	92	30
51500	104000	5300	1810	38.0	M40×1.5	60	22	40	107	30
51500	104000	7800	2400	57.0	M40×1.5	60	22	40	122	30





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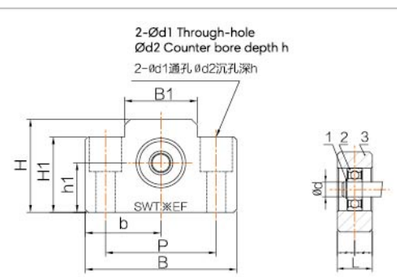
Support Unit 轴承座

SWT-EF Series 系列 >

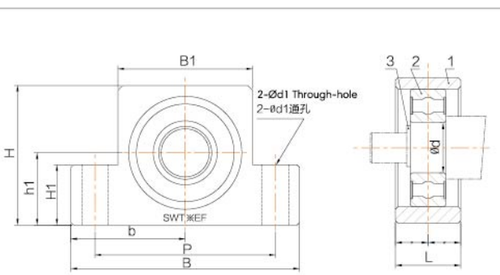
PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

部件编号 No.	部件名 Name of the Component	个数 Qty
1	支撑座 Supporting Seat	1
2	轴承 Bearing	1
3	止动环 Snap Ring	1

支撑侧角型支撑单元(方形) Supported Side Support Unit (Square)	SWT-EF 型支撑单元参数 Parameters of the SWT-EF Support Unit													单位(mm)
公称型号 Nominal Model	轴径d Diameter of the Shaft d	L	B	H	b±0.02	hi ±0.02	B1	H1	P	d1	d2	h	使用轴承 Applied Bearing	使用止动环 Applied Snap Ring	质量 Weight (kg)
SWT-EF 10	8	20	70	43	35	25	36	24	52	9	-	-	608ZZ	C8	0.33
SWT-EF 12	10	20	70	43	35	25	36	24	52	9	-	-	6000ZZ	C10	0.32
SWT-EF 15	15	20	80	49	40	30	41	25	60	9	-	-	6002ZZ	C15	0.38
SWT-EF 20	20	26	95	58	47.5	30	56	25	75	11	-	-	6204ZZ	C20	0.63



SWT-EF 6-8



SWT-EF 10-20

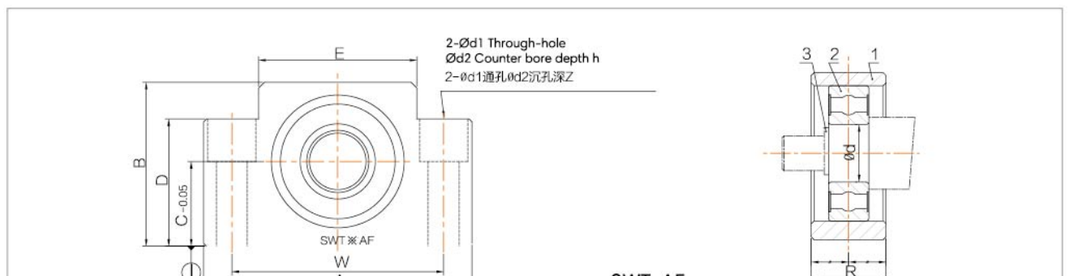
SWT-AF Series 系列 >

PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

部件编号 No.	部件名 Name of the Component	个数 Qty
1	支撑座 Supporting Seat	1
2	轴承 Bearing	1
3	止动环 Snap Ring	1

注意：请以I面为基准安装在底座 Note: Installation based on datum I

支撑侧角型支撑单元(方形) Supported Side Support Unit (Square)	SWT-AF 型支撑单元参数 Parameters of the SWT-EF Support Unit												单位(mm)
公称型号 Nominal Model	轴径¢ d Diameter of the Shaft ¢ d	A	B	C	D	E	R	W	¢ d1	¢ d2	Z	重量 Weight (kg)	用途 Application	使用轴承 Applied Bearing
SWT-AF 10	8	70	43	25	35	36	20	52	9	14	11	0.4	一般 General	608ZZ
SWT-AF 12	10	70	43	25	35	36	20	52	9	14	11	0.35	一般 General	6000ZZ
SWT-AF 15	15	80	50	30	40	41	20	60	9	14	11	0.45	一般 General	6002ZZ
SWT-AF 20	20	95	58	30	45	56	26	75	11	17	15	0.8	一般 General	6204ZZ
SWT-AF 25	25	105	68	35	25	66	30	85	11	-	-	0.9	一般 General	6205ZZ



SWT-AF

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Support Unit 轴承座

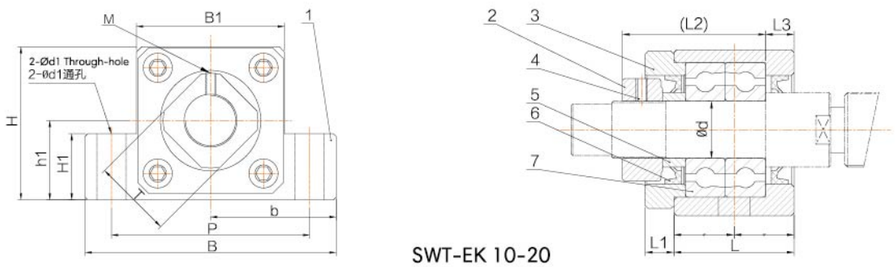
SWT-EK Series 系列 >

PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

部件编号 No.	部件名 Name of the Component	个数 Qty
1	支撑座 Supporting Seat	1
2	锁紧螺母 Lock Nut	1
3	固定盖 Fixed Cover	1
4	内六角固定螺丝（配有压块） Hexagonal Socket-head Set Screw (With Cushion Block)	1

部件编号 No.	部件名 Name of the Component	个数 Qty
5	套环 Shrink-ring	2
6	密封圈 Seal Ring	2
7	轴承 Bearing	1套 Set

固定端支撑单元(方形) Fixed Side Support Unit (Square)	SWT-EK 型支撑单元参数 Parameters of the SWT-EK Support Unit																单位(mm)
公称型号 Nominal Model	轴径d Diameter of the Shaft d	L	L1	L2	L3	B	H	b±0.02	h1±0.02	B1	H1	P	d1	d2	h	M	T	使用轴承 Applied Bearing	质量 Weight (kg)
SWT-EK 10	10	24	6	29.5	6	70	43	35	25	36	24	52	9	-	-	M3	16	相当于 Equivalent to 7000(DF P5)	0.46
SWT-EK 12	12	24	6	29.5	6	70	43	35	25	36	24	52	9	-	-	M3	19	相当于 Equivalent to 7001(DF P5)	0.44
SWT-EK 15	15	25	6	36	5	80	49	40	30	41	25	60	11	-	-	M3	22	相当于 Equivalent to 7002(DF P5)	0.55
SWT-EK 20	20	42	10	50	10	95	58	47.5	30	56	25	75	11	-	-	M4	30	相当于 Equivalent to 7204(DF P5)	1.35



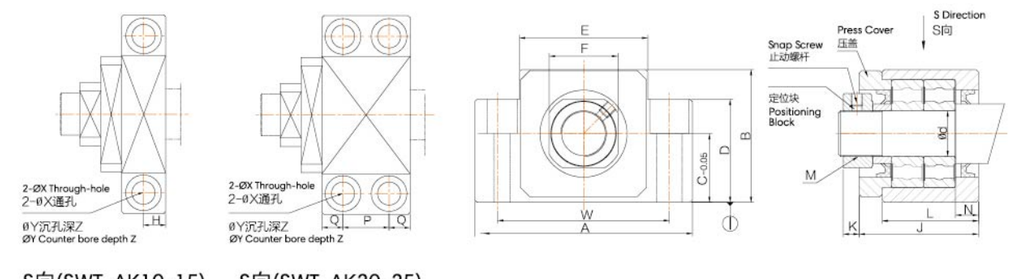
SWT-EK 10-20

SWT-AK Series 系列 >

PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

公称型号 Nominal Model	参考招紧扭矩(Nxcm) Tightening Torque for Reference	
	锁定螺母 Lock Nut	定位止动螺丝 Positioning and Snap Screw
SWT-AK 10	280	147 (M4)
SWT-AK 12	630	147(M4)
SWT-AK 15	790	147(M4)
SWT-AK 20	1670	147 (M4)
SWT-AK 25	2060	490 (M6)

固定侧角型支撑单元(方形) Fixed Side Support Unit (Square)	SWT-AK 型支撑单元参数 Parameters of the SWT-AK Support Unit																			重量 Weight (kg)	锁定螺母螺纹段M Thread Section of Lock Nut M	附属支撑端轴承 Bearing of the Auxiliary Supporting End
公称型号 Nominal Model	用途 Application	¢d	A	B	C	D	E	F	L	J	K	N	沉孔尺寸 Size of the Counter Bore									
													H	P	Q	W	X	Y	Z			
SWT-AK10	一般 General	10	70	43	25	35	36	17	24	30	5.5	6	12	-	-	52	9	14	11	0.5	M10 ×1	608ZZ
SWT-AK12	一般 General	12	70	43	25	35	36	19	24	30	5.5	6	12	-	-	52	9	14	11	0.5	M12 ×1	6000ZZ
SWT-AK15	一般 General	15	80	50	30	40	41	22	25	31	12	5	12.5	-	-	60	11	17	15	0.7	M15 ×1	6002ZZ
SWT-AK20	一般 General	20	95	58	30	45	56	30	42	52	10	10	-	22	10	75	11	17	15	1.4	M20 ×1	6204ZZ
SWT-AK25	一般 General	25	105	68	35	25	66	36	45	61	13	14	-	30	9	85	11	-	-	1.9	M25 ×1.5	6205ZZ



S向(SWT-AK10-15) S向(SWT-AK20-25)

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Support Unit 轴承座

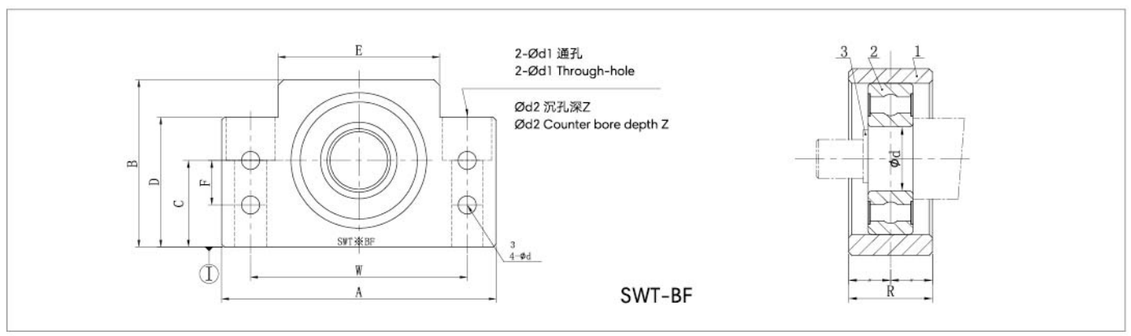
SWT-BF Series 系列 >

PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

部件编号 No.	部件名 Name of the Component	个数 Qty
1	支撑座 Supporting Seat	1
2	轴承 Bearing	1
3	止动环 Snap Ring	1

注意：请以面为基准安装在底座 Note: Installation based on datum I

支撑侧角型支撑单元(方形) Supported Side Support Unit (Square)	SWT-BF 型支撑单元参数 Parameters of the SWT-BF Support Unit														单位(mm)
公称型号 Nominal Model	轴径¢ d Diameter of the Shaft ¢ d	A	B	C	D	F	E	R	W	¢ d1	¢ d2	¢ d3	z	质量 Weight (kg)	使用止动环 Applied Snap Ring	使用轴承 Applied Bearing
SWT-BF 10	8	60	39	22	32.5	15	34	20	46	6.6	10.8	5.5	5	0.29	CB	60822
SWT-BF 12	10	60	43	25	32.5	18	35	20	46	6.6	10.8	55	1.5	0.3	C10	6000zz
SWT-BF 15	15	70	48	28	38	18	40	20	54	6.6	11	5.5	6.5	0.38	C15	6002zz
SWT-BF 17	17	86	64	39	55	28	50	23	68	9	14	6.6	8.5	0.74	C17	620322
SWT-BF 20	20	88	60	34	50	22	52	26	70	9	14	66	8.5	0.76	C20	6004zz
SWT-BF 25	25	106	80	48	70	33	64	30	85	11	17.5	9	11	1.42	C25	620522
SWT-BF 30	30	128	89	51	78	33	76	32	102	14	20	11	13	1.97	C30	620622
SWT-BF 35	35	140	96	52	79	35	88	32	114	14	20	11	13	2.22	C35	6207zz
SWT-BF 40	40	160	110	60	90	37	100	37	130	18	26	14	17.5	3.27	C40	620822



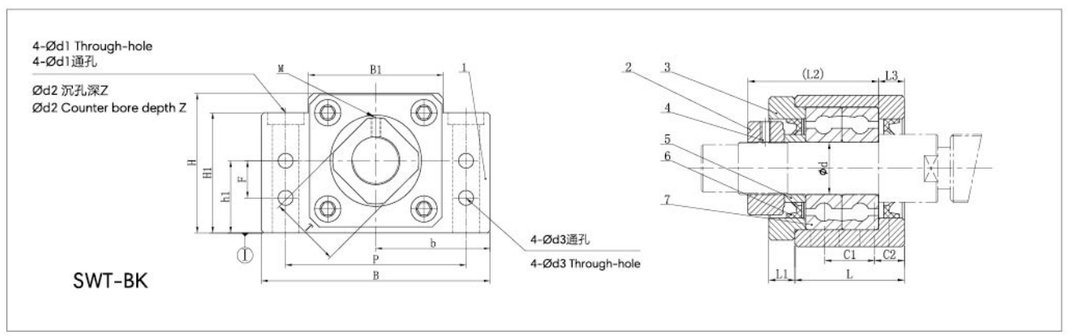
SWT-BK Series 系列 >

PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

部件编号 No.	部件名 Name of the Component	个数 Qty
1	支撑座 Supporting Seat	1
2	锁紧螺母 Lock Nut	1
3	固定盖 Fixed Cover	1
4	内六角固定螺丝（配有压块） Inner Hexagonal Socket-head Set Screw (With Cushion Block)	1

部件编号 No.	部件名 Name of the Component	个数 Qty
5	套环 Shrink-ring	2
6	密封圈 Seal Ring	2
7	轴承 Bearing	1套 Set

固定侧角型支撑单元(方形) Fixed Side Support Unit (Square)	SWT-BK 型支撑单元参数 Parameters of the SWT-BK Support Unit																					单位(mm)
公称型号 Nominal Model	轴径¢ d Diameter of the Shaft ¢ d	H	H1	h1 ±0.02	B	P	b ±0.02	B1	M	¢ d1	¢ d2	¢ d3	Z	L	L1	L2	L3	C1	C2	使用轴承 Applied Bearing	重量 Weight (kg)
SWT-BK 10	10	39	32.5	22	60	46	30	34	M3	6.6	10.8	5.5	5	25	5	29	5	13	6	7000	0.39
SWT-BK 12	12	43	32.5	25	60	46	30	35	M3	6.6	10.8	55	1.5	25	5	29	5	13	6	7001	0.41
SWT-BK 15	15	48	38	28	70	54	35	40	M3	6.6	11	5.5	6.5	27	6	32	6	15	6	7002	0.57
SWT-BK 17	17	64	55	39	86	68	43	50	M4	9	14	6.6	8.5	35	9	44	7	19	8	7203	1.27
SWT-BK 20	20	60	50	34	88	70	44	52	M4	9	14	66	8.5	35	8	43	8	19	8	7004	1.19
SWT-BK 25	25	80	70	48	106	85	53	64	M5	11	17.5	9	11	42	12	54	9	22	10	7205	2.3
SWT-BK 30	30	89	78	51	128	102	64	76	M6	14	20	11	13	45	14	61	9	23	11	7206	3.32
SWT-BK 35	35	96	79	52	140	114	70	88	M8	14	20	11	13	50	14	67	12	26	12	7207	4.33
SWT-BK 40	40	110	90	60	160	130	80	100	M8	18	26	14	17.5	61	18	76	15	33	14	7208	6.5



备注：①以上数据仅供参考，思维福特公司拥有修改权利 ②1NM=10.2kgf.cm=0.73lb.ft ③可定制非标螺母
Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.

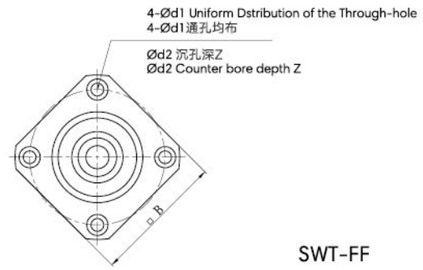
Support Unit 轴承座

SWT-FF Series 系列 >

PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

部件编号 No.	部件名 Name of the Component	个数 Qty
1	支撑座 Supporting Seat	1
2	轴承 Bearing	1
3	止动环 Snap Ring	1

支撑侧角型支撑单元(方形) Supported Side Support Unit (Square)	SWT-FF 型支撑单元参数 Parameters of the SWT-FF Support Unit												单位(mm)
公称型号 Nominal Model	轴径¢ d Diameter of the Shaft ¢ d	¢A	¢D	F	H	L	¢d1	¢d2	Z	B	重量 Weight (kg)	使用止动环 Applied Snap Ring	使用轴承 Applied Bearing
SWT-FF 10	8	43	28	5	7	12	3.4	6.5	4	35	0.07	C8	608zz
SWT-FF 12	10	52	34	8	7	15	4.5	8	4	42	0.11	C10	6000zz
SWT-FF 15	15	63	40	8	9	17	5.5	9.5	5.5	52	0.2	C15	6002zz
SWT-FF 20	20	85	57	9	11	20	6.6	11	6.5	68	0.27	C20	6204zz
SWT-FF 25	25	98	63	10	14	24	9	14	8.5	79	0.67	C25	6205zz
SWT-FF 30	30	117	75	9	18	27	11	17.5	11	93	1.07	C30	6206ZZ



SWT-FF

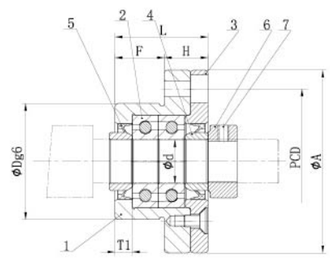
SWT-FK Series 系列 >

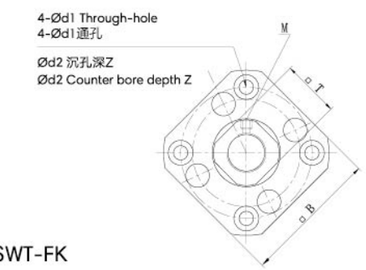
PARAMETERS OF THE SWT SQUARE SUPPORT UNIT
方形支撑单元参数

部件编号 No.	部件名 Name of the Component	个数 Qty
1	支撑座 Supporting Seat	1
2	轴承 Bearing	1套 Set
3	固定盖 Fixed Cover	1
4	套环 Shrink-ring	2

部件编号 No.	部分名 Name of the Component	个数 Qty
5	密封圈 Seal Ring	2
6	锁紧螺母 Lock Nut	1
7	内六角固定螺丝（塞铜） Supporting Seat Hexagonal Socket-head Setscrew (With Plug Copper)	1

固定侧角型支撑单元(方形) Fixed Side Support Unit (Square)	SWT-FK 型支撑单元参数 Parameters of the SWT-FK Support Unit											单位(mm)
公称型号 Nominal Model	轴径¢ d Diameter of the Shaft ¢ d	¢A	¢D	F	H	L	¢d1	¢d2	Z	B	T1	使用轴承 Applied Bearing	重量 Weight (kg)
SWT-FK 10	10	52	34	17	10	27	4.5	8	4	42	5	7000	0.21
SWT-FK 12	12	54	36	17	10	27	4.5	8	4	44	5	7001	0.22
SWT-FK 15	15	63	40	17	15	32	5.5	9.5	6	52	6	7002	0.39
SWT-FK 20	20	85	57	30	22	52	6.6	11	10	68	10	7204	1.09
SWT-FK 25	25	98	63	30	27	57	9	15	13	79	10	7205	1.49
SWT-FK 30	30	117	75	32	30	62	11	17.5	15	93	12	7206	2.32





SWT-FK

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Remark: ①The above data is just provided for reference, Jiangsu Swift Machinery Technology Co, Ltd reserves the right to resive it. ②1NM=10.2kgf.cm=0.73lb.ft ③Non-standard nut can be customized.